Xcel Energy®

2018

Status Report & Associated Compliance Filings

Minnesota Electric and Natural Gas
Conservation Improvement Program

Docket No. E,G002/CIP-16-115

414 Nicollet Mall
Minneapolis, MN 55401

April 1, 2019

—Via Electronic Filing—

Joseph Sullivan
Deputy Commissioner
Minnesota Department of Commerce
85 7th Place East, Suite 500
St. Paul, MN 55101-2198

RE: 2018 Status Report & Associated Compliance Filings – Corrected Filing
Minnesota Electric and Natural Gas Conservation Improvement Program
Docket No. E,G002/CIP-16-115.07

Dear Deputy Commissioner Sullivan:

Pursuant to Minnesota R.7690.0550, Northern States Power Company doing business as Xcel Energy electronically submits to the Minnesota Department of Commerce – Division of Energy Resources this 2018 Status Report and Associated Compliance Filings for its Minnesota Electric and Natural Gas Conservation Improvement Program. Please note that this filing contains several corrections to an earlier version.

We have electronically filed this document through the eDockets system maintained by the Minnesota Department of Commerce and the Minnesota Public Utilities Commission. By copy of this transmittal letter, Xcel Energy is notifying persons on the attached service list of this filing.

Parties wishing to access our 2018 CIP Status Report can access the eDockets system through the websites of the Department of Commerce, the Public Utilities Commission, or by going to the eDockets homepage and searching for docket E,G002/CIP-16-115.07. We provide a direct link to the eDockets website: https://www.edockets.state.mn.us/EFiling/home.jsp.

We request parties to address any questions regarding the report to Aaron Tinjum at (612) 342-8967 or aaron.j.tinjum@xcelenergy.com.

SINCERELY,

/s/

SHAWN WHITE
MANAGER
DSM REGULATORY STRATEGY & PLANNING

Enclosures
c: Service Lists

CERTIFICATE OF SERVICE

I, Lynnette Sweet, hereby certify that I have this day served copies of the foregoing document on the attached list of persons.

xx by depositing a true and correct copy thereof, properly enveloped with postage paid in the United States mail at Minneapolis, Minnesota; or

xx by electronic filing.

Docket No.: E,G002/CIP-16-115.07 & CIP Special Service List

Dated this 1st day of April 2019.

/s/

_____

Lynnette Sweet
Regulatory Administrator

First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
Tom	Balster	tombalster@alliantenergy.com	Interstate Power & Light Company	PO Box 351 200 1st St SE Cedar Rapids, IA 524060351	Electronic Service	No	OFF_SL_16-115_G002,E002.CIP-16-115
Lisa	Beckner	lbeckner@mnpower.com	Minnesota Power	30 W Superior St Duluth, MN 55802	Electronic Service	No	OFF_SL_16-115_G002,E002.CIP-16-115
William	Black	bblack@mmua.org	MMUA	Suite 400 3025 Harbor Lane North Plymouth, MN 554475142	Electronic Service	No	OFF_SL_16-115_G002,E002.CIP-16-115
Christina	Brusven	cbrusven@fredlaw.com	Fredrikson Byron	200 S 6th St Ste 4000 Minneapolis, MN 554021425	Electronic Service	No	OFF_SL_16-115_G002,E002.CIP-16-115
Ray	Choquette	rchoquette@agp.com	Ag Processing Inc.	12700 West Dodge Road PO Box 2047 Omaha, NE 68103-2047	Electronic Service	No	OFF_SL_16-115_G002,E002.CIP-16-115
Generic Notice	Commerce Attorneys	commerce.attorneys@ag.state.mn.us	Office of the Attorney General-DOC	445 Minnesota Street Suite 1800 St. Paul, MN 55101	Electronic Service	Yes	OFF_SL_16-115_G002,E002.CIP-16-115
George	Crocker	gwillc@nawo.org	North American Water Office	PO Box 174 Lake Elmo, MN 55042	Electronic Service	No	OFF_SL_16-115_G002,E002.CIP-16-115
Ian	Dobson	residential.utilities@ag.state.mn.us	Office of the Attorney General-RUD	1400 BRM Tower 445 Minnesota St St. Paul, MN 551012131	Electronic Service	Yes	OFF_SL_16-115_G002,E002.CIP-16-115
Steve	Downer	sdowner@mmua.org	MMUA	3025 Harbor Ln N Ste 400 Plymouth, MN 554475142	Electronic Service	No	OFF_SL_16-115_G002,E002.CIP-16-115
Charles	Drayton	charles.drayton@enbridge.com	Enbridge Energy Company, Inc.	7701 France Ave S Ste 600 Edina, MN 55435	Electronic Service	No	OFF_SL_16-115_G002,E002.CIP-16-115

First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
Jim	Erchul	jerchul@dbnhs.org	Daytons Bluff Neighborhood Housing Sv.	823 E 7th St St. Paul, MN 55106	Electronic Service	No	OFF_SL_16-115_G002,E002.CIP-16-115
Greg	Ernst	gaernst@q.com	G. A. Ernst & Associates, Inc.	2377 Union Lake Trl Northfield, MN 55057	Electronic Service	No	OFF_SL_16-115_G002,E002.CIP-16-115
Melissa S	Feine	melissa.feine@semcac.org	SEMCAC	PO Box 549 204 S Elm St Rushford, MN 55971	Electronic Service	No	OFF_SL_16-115_G002,E002.CIP-16-115
Sharon	Ferguson	sharon.ferguson@state.mn.us	Department of Commerce	85 7th Place E Ste 280 Saint Paul, MN 551012198	Electronic Service	No	OFF_SL_16-115_G002,E002.CIP-16-115
Angela E.	Gordon	angela.e.gordon@lmco.com	Lockheed Martin	1000 Clark Ave. St. Louis, MO 63102	Electronic Service	No	OFF_SL_16-115_G002,E002.CIP-16-115
Pat	Green	N/A	N Energy Dev	City Hall 401 E 21st St Hibbing, MN 55746	Paper Service	No	OFF_SL_16-115_G002,E002.CIP-16-115
Jason	Grenier	jgrenier@otpco.com	Otter Tail Power Company	215 South Cascade Street Fergus Falls, MN 56537	Electronic Service	No	OFF_SL_16-115_G002,E002.CIP-16-115
Tony	Hainault	anthony.hainault@co.hennepin.mn.us	Hennepin County DES	701 4th Ave S Ste 700 Minneapolis, MN 55415-1842	Electronic Service	No	OFF_SL_16-115_G002,E002.CIP-16-115
Tyler	Hamman	tylerh@bepc.com	Basin Electric Power Cooperative	1717 E Interstate Ave Bismarck, ND 58501	Electronic Service	No	OFF_SL_16-115_G002,E002.CIP-16-115
Patty	Hanson	phanson@rpu.org	Rochester Public Utilities	4000 E River Rd NE Rochester, MN 55906	Electronic Service	No	OFF_SL_16-115_G002,E002.CIP-16-115

First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
Norm	Harold	N/A	NKS Consulting	5591 E 180th St Prior Lake, MN 55372	Paper Service	No	OFF_SL_16-115_G002,E002.CIP-16-115
Scott	Hautala	scotth@hpuc.com	Hibbing Public Utilities	1902 E 6th Ave Hibbing, MN 55746	Electronic Service	No	OFF_SL_16-115_G002,E002.CIP-16-115
Kimberly	Hellwig	kimberly.hellwig@stoel.com	Stoel Rives LLP	33 South Sixth Street Suite 4200 Minneapolis, MN 55402	Electronic Service	No	OFF_SL_16-115_G002,E002.CIP-16-115
Jared	Hendricks	hendricksj@owatonnautilities.com	Owatonna Public Utilities	PO Box 800 208 S Walnut Ave Owatonna, MN 55060-2940	Electronic Service	No	OFF_SL_16-115_G002,E002.CIP-16-115
Holly	Hinman	holly.r.hinman@xcelenergy.com	Xcel Energy	414 Nicollet Mall, 7th Floor Minneapolis, MN 55401	Electronic Service	No	OFF_SL_16-115_G002,E002.CIP-16-115
Karolanne	Hoffman	kmh@dairynet.com	Dairyland Power Cooperative	PO Box 817 La Crosse, WI 54602-0817	Electronic Service	No	OFF_SL_16-115_G002,E002.CIP-16-115
Dave	Johnson	dave.johnson@aeoa.org	Arrowhead Economic Opportunity Agency	702 3rd Ave S Virginia, MN 55792	Electronic Service	No	OFF_SL_16-115_G002,E002.CIP-16-115
Deborah	Knoll	dknoll@mnpower.com	Minnesota Power	30 W Superior St Duluth, MN 55802	Electronic Service	No	OFF_SL_16-115_G002,E002.CIP-16-115
Tina	Koecher	tkoecher@mnpower.com	Minnesota Power	30 W Superior St Duluth, MN 558022093	Electronic Service	No	OFF_SL_16-115_G002,E002.CIP-16-115
Kelly	Lady	kellyl@austinutilities.com	Austin Utilities	400 4th St NE Austin, MN 55912	Electronic Service	No	OFF_SL_16-115_G002,E002.CIP-16-115

First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
Martin	Lepak	Martin.Lepak@aeoa.org	Arrowhead Economic Opportunity	702 S 3rd Ave Virginia, MN 55792	Electronic Service	No	OFF_SL_16-115_G002,E002.CIP-16-115
Nick	Mark	nick.mark@centerpointenergy.com	CenterPoint Energy	505 Nicollet Mall Minneapolis, MN 55402	Electronic Service	No	OFF_SL_16-115_G002,E002.CIP-16-115
Pam	Marshall	pam@energycents.org	Energy CENTS Coalition	823 7th St E St. Paul, MN 55106	Electronic Service	No	OFF_SL_16-115_G002,E002.CIP-16-115
Scot	McClure	scotmcclure@alliantenergy.com	Interstate Power And Light Company	4902 N Biltmore Ln PO Box 77007 Madison, WI 537071007	Electronic Service	No	OFF_SL_16-115_G002,E002.CIP-16-115
John	McWilliams	jmm@dairynet.com	Dairyland Power Cooperative	3200 East Ave SPO Box 817 La Crosse, WI 54601-7227	Electronic Service	No	OFF_SL_16-115_G002,E002.CIP-16-115
Brian	Meloy	brian.meloy@stinson.com	Stinson,Leonard, Street LLP	50 S 6th St Ste 2600 Minneapolis, MN 55402	Electronic Service	No	OFF_SL_16-115_G002,E002.CIP-16-115
David	Moeller	dmoeller@allete.com	Minnesota Power	30 W Superior St Duluth, MN 558022093	Electronic Service	No	OFF_SL_16-115_G002,E002.CIP-16-115
Andrew	Moratzka	andrew.moratzka@stoel.com	Stoel Rives LLP	33 South Sixth St Ste 4200 Minneapolis, MN 55402	Electronic Service	No	OFF_SL_16-115_G002,E002.CIP-16-115
Carl	Nelson	cnelson@mncee.org	Center for Energy and Environment	212 3rd Ave N Ste 560 Minneapolis, MN 55401	Electronic Service	No	OFF_SL_16-115_G002,E002.CIP-16-115

First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
Samantha	Norris	samanthanorris@alliantenergy.com	Interstate Power and Light Company	200 1st Street SE PO Box 351 Cedar Rapids, IA 524060351	Electronic Service	No	OFF_SL_16-115_G002,E002.CIP-16-115
Audrey	Partridge	apartridge@mncee.org	Center for Energy and Environment	212 3rd Ave. N. Suite 560 Minneapolis, Minnesota 55401	Electronic Service	No	OFF_SL_16-115_G002,E002.CIP-16-115
Joyce	Peppin	joyce@mrea.org	Minnesota Rural Electric Association	11640 73rd Ave N Maple Grove, MN 55369	Electronic Service	No	OFF_SL_16-115_G002,E002.CIP-16-115
Lisa	Pickard	lseverson@minnkota.com	Minnkota Power Cooperative	5301 32nd Ave S Grand Forks, ND 58201	Electronic Service	No	OFF_SL_16-115_G002,E002.CIP-16-115
Bill	Poppert	info@technologycos.com	Technology North	2433 Highwood Ave St. Paul, MN 55119	Electronic Service	No	OFF_SL_16-115_G002,E002.CIP-16-115
Dave	Reinke	dreinke@dakotaelectric.com	Dakota Electric Association	4300 220th St W Farmington, MN 55024-9583	Electronic Service	No	OFF_SL_16-115_G002,E002.CIP-16-115
Christopher	Schoenherr	cp.schoenherr@smmpa.org	SMMPA	500 First Ave SW Rochester, MN 55902-3303	Electronic Service	No	OFF_SL_16-115_G002,E002.CIP-16-115
Ken	Smith	ken.smith@districtenergy.com	District Energy St. Paul Inc.	76 W Kellogg Blvd St. Paul, MN 55102	Electronic Service	No	OFF_SL_16-115_G002,E002.CIP-16-115
Russ	Stark	Russ.Stark@ci.stpaul.mn.us	City of St. Paul	390 City Hall 15 West Kellogg Boulevard Saint Paul, MN 55102	Electronic Service	No	OFF_SL_16-115_G002,E002.CIP-16-115

First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
Lynnette	Sweet	Regulatory.records@xcelenergy.com	Xcel Energy	414 Nicollet Mall FL 7 Minneapolis, MN 554011993	Electronic Service	No	OFF_SL_16-115_G002,E002.CIP-16-115
Michael	Volker	mvolker@eastriver.coop	East River Electric Power Coop	211 S. Harth Ave Madison, SD 57042	Electronic Service	No	OFF_SL_16-115_G002,E002.CIP-16-115
Sharon N.	Walsh	swalsh@shakopeeutilities.com	Shakopee Public Utilties	255 Sarazin St Shakopee, MN 55379	Electronic Service	No	OFF_SL_16-115_G002,E002.CIP-16-115
Robyn	Woeste	robynwoeste@alliantenergy.com	Interstate Power and Light Company	200 First St SE Cedar Rapids, IA 52401	Electronic Service	No	OFF_SL_16-115_G002,E002.CIP-16-115
Daniel P	Wolf	dan.wolf@state.mn.us	Public Utilities Commission	121 7th Place East Suite 350 St. Paul, MN 551012147	Electronic Service	Yes	OFF_SL_16-115_G002,E002.CIP-16-115

First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
Tom	Balster	tombalster@alliantenergy.com	Interstate Power & Light Company	PO Box 351 200 1st St SE Cedar Rapids, IA 524060351	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
Lisa	Beckner	lbeckner@mnpower.com	Minnesota Power	30 W Superior St Duluth, MN 55802	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
William	Black	bblack@mmua.org	MMUA	Suite 400 3025 Harbor Lane North Plymouth, MN 554475142	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
Christina	Brusven	cbrusven@fredlaw.com	Fredrikson Byron	200 S 6th St Ste 4000 Minneapolis, MN 554021425	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
Charlie	Buck	charlie.buck@oracle.com	Oracle	760 Market St FL 4 San Francisco, CA 94102	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
Ray	Choquette	rchoquette@agp.com	Ag Processing Inc.	12700 West Dodge Road PO Box 2047 Omaha, NE 68103-2047	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
Generic Notice	Commerce Attorneys	commerce.attorneys@ag.state.mn.us	Office of the Attorney General-DOC	445 Minnesota Street Suite 1800 St. Paul, MN 55101	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
George	Crocker	gwillc@nawo.org	North American Water Office	PO Box 174 Lake Elmo, MN 55042	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
Ian	Dobson	residential.utilities@ag.state.mn.us	Office of the Attorney General-RUD	1400 BRM Tower 445 Minnesota St St. Paul, MN 551012131	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
Steve	Downer	sdowner@mmua.org	MMUA	3025 Harbor Ln N Ste 400 Plymouth, MN 554475142	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST

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Charles	Drayton	charles.drayton@enbridge.com	Enbridge Energy Company, Inc.	7701 France Ave S Ste 600 Edina, MN 55435	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
Jim	Erchul	jerchul@dbnhs.org	Daytons Bluff Neighborhood Housing Sv.	823 E 7th St St. Paul, MN 55106	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
Greg	Ernst	gaernst@q.com	G. A. Ernst & Associates, Inc.	2377 Union Lake Trl Northfield, MN 55057	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
Melissa S	Feine	melissa.feine@semcac.org	SEMCAC	PO Box 549 204 S Elm St Rushford, MN 55971	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
Sharon	Ferguson	sharon.ferguson@state.mn.us	Department of Commerce	85 7th Place E Ste 280 Saint Paul, MN 551012198	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
Rob	Friend	rfriend@mnchamber.com	Minnesota Chamber of Commerce	400 Robert St N Ste 1500 Saint Paul, MN 55101	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
Angela E.	Gordon	angela.e.gordon@lmco.com	Lockheed Martin	1000 Clark Ave. St. Louis, MO 63102	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
Pat	Green	N/A	N Energy Dev	City Hall 401 E 21st St Hibbing, MN 55746	Paper Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
Jason	Grenier	jgrenier@otpco.com	Otter Tail Power Company	215 South Cascade Street Fergus Falls, MN 56537	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
Jeffrey	Haase	jhaase@grenergy.com	Great River Energy	12300 Elm Creek Blvd Maple Grove, MN 55369	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST

First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
Tony	Hainault	anthony.hainault@co.hennepin.mn.us	Hennepin County DES	701 4th Ave S Ste 700 Minneapolis, MN 55415-1842	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
Tyler	Hamman	tylerh@bepc.com	Basin Electric Power Cooperative	1717 E Interstate Ave Bismarck, ND 58501	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
Patty	Hanson	phanson@rpu.org	Rochester Public Utilities	4000 E River Rd NE Rochester, MN 55906	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
Norm	Harold	N/A	NKS Consulting	5591 E 180th St Prior Lake, MN 55372	Paper Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
Scott	Hautala	scotth@hpuc.com	Hibbing Public Utilities	1902 E 6th Ave Hibbing, MN 55746	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
Kimberly	Hellwig	kimberly.hellwig@stoel.com	Stoel Rives LLP	33 South Sixth Street Suite 4200 Minneapolis, MN 55402	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
Jared	Hendricks	hendricksj@owatonnautilities.com	Owatonna Public Utilities	PO Box 800 208 S Walnut Ave Owatonna, MN 55060-2940	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
Karolanne	Hoffman	kmh@dairynet.com	Dairyland Power Cooperative	PO Box 817 La Crosse, WI 54602-0817	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
Dave	Johnson	dave.johnson@aeoa.org	Arrowhead Economic Opportunity Agency	702 3rd Ave S Virginia, MN 55792	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
Deborah	Knoll	dknoll@mnpower.com	Minnesota Power	30 W Superior St Duluth, MN 55802	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST

First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
Tina	Koecher	tkoecher@mnpower.com	Minnesota Power	30 W Superior St Duluth, MN 558022093	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
Kelly	Lady	kellyl@austinutilities.com	Austin Utilities	400 4th St NE Austin, MN 55912	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
Erica	Larson	erica.larson@centerpointenergy.com	CenterPoint Energy	505 Nicollet Avenue P.O. Box 59038 Minneapolis, Minnesota 55459-0038	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
Martin	Lepak	Martin.Lepak@aeoa.org	Arrowhead Economic Opportunity	702 S 3rd Ave Virginia, MN 55792	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
Nick	Mark	nick.mark@centerpointenergy.com	CenterPoint Energy	505 Nicollet Mall Minneapolis, MN 55402	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
Pam	Marshall	pam@energycents.org	Energy CENTS Coalition	823 7th St E St. Paul, MN 55106	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
Scot	McClure	scotmcclure@alliantenergy.com	Interstate Power And Light Company	4902 N Biltmore Ln PO Box 77007 Madison, WI 537071007	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
John	McWilliams	jmm@dairynet.com	Dairyland Power Cooperative	3200 East Ave SPO Box 817 La Crosse, WI 54601-7227	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
Brian	Meloy	brian.meloy@stinson.com	Stinson,Leonard, Street LLP	50 S 6th St Ste 2600 Minneapolis, MN 55402	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
David	Moeller	dmoeller@allete.com	Minnesota Power	30 W Superior St Duluth, MN 558022093	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST

First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
Andrew	Moratzka	andrew.moratzka@stoel.com	Stoel Rives LLP	33 South Sixth St Ste 4200 Minneapolis, MN 55402	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
Carl	Nelson	cnelson@mncee.org	Center for Energy and Environment	212 3rd Ave N Ste 560 Minneapolis, MN 55401	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
Samantha	Norris	samanthanorris@alliantenergy.com	Interstate Power and Light Company	200 1st Street SE PO Box 351 Cedar Rapids, IA 524060351	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
Matt	Okeefe	Matt.okeefe@oracle.com	Oracle	760 Market St FL 4 San Francisco, CA 94102	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
Audrey	Partridge	apartridge@mncee.org	Center for Energy and Environment	212 3rd Ave. N. Suite 560 Minneapolis, Minnesota 55401	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
Joyce	Peppin	joyce@mrea.org	Minnesota Rural Electric Association	11640 73rd Ave N Maple Grove, MN 55369	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
Lisa	Pickard	lseverson@minnkota.com	Minnkota Power Cooperative	5301 32nd Ave S Grand Forks, ND 58201	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
Bill	Poppert	info@technologycos.com	Technology North	2433 Highwood Ave St. Paul, MN 55119	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
Kathleen A	Prestidge	Kathy.Prestidge@stoel.com	Stoel Rives LLP	33 S 6th St Ste 4200 Minneapolis, MN 55402	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
Dave	Reinke	dreinke@dakotaelectric.com	Dakota Electric Association	4300 220th St W Farmington, MN 55024-9583	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST

First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
Chris	Rustad	crustad@mnchamber.com	Minnesota Chamber of Commerce	400 Robert St N Ste 1500 Saint Paul, MN 55101	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
Christopher	Schoenherr	cp.schoenherr@smmpa.org	SMMPA	500 First Ave SW Rochester, MN 55902-3303	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
Lauryn	Schothorst	lschothorst@mnchamber.com		400 Robert St N Ste 1500 Saint Paul, MN 55101	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
Ken	Smith	ken.smith@districtenergy.com	District Energy St. Paul Inc.	76 W Kellogg Blvd St. Paul, MN 55102	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
Anna	Sommer	anna@sommerenergy.com	Sommer Energy LLC	PO Box 766 Grand Canyon, AZ 86023	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
Russ	Stark	Russ.Stark@ci.stpaul.mn.us	City of St. Paul	390 City Hall 15 West Kellogg Boulevard Saint Paul, MN 55102	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
Lynnette	Sweet	Regulatory.records@xcelenergy.com	Xcel Energy	414 Nicollet Mall FL 7 Minneapolis, MN 554011993	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
Kodi	Verhalen	kverhalen@briggs.com	Briggs & Morgan	2200 IDS Center 80 South Eighth Street Minneapolis, Minnesota 55402	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
Michael	Volker	mvolker@eastriver.coop	East River Electric Power Coop	211 S. Harth Ave Madison, SD 57042	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
Sharon N.	Walsh	swalsh@shakopeeutilities.com	Shakopee Public Utilties	255 Sarazin St Shakopee, MN 55379	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST

First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
Ethan	Warner	ethan.warner@centerpointenergy.com	CenterPoint Energy	505 Nicollet Mall Minneapolis, Minnesota 55402	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
Robyn	Woeste	robynwoeste@alliantenergy.com	Interstate Power and Light Company	200 First St SE Cedar Rapids, IA 52401	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
Daniel P	Wolf	dan.wolf@state.mn.us	Public Utilities Commission	121 7th Place East Suite 350 St. Paul, MN 551012147	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST

Northern States Power Company,
a Minnesota corporation
2018 Conservation Improvement Program Status Report
Executive Summary

Northern States Power Company, doing business as Xcel Energy, respectfully submits the following comprehensive report of its electric and natural gas Conservation Improvement Program (CIP) achievements for 2018. This report addresses:

- Overall CIP achievements including participation, expenditures, energy conserved, demand reduced, and estimated carbon dioxide (CO_2) emissions avoided by each segment and program;
- CIP Trackers, including 2018 expenditures and cost recovery by month;
- Calculation of the CIP Adjustment Factors for the period from October 2019 through September 2020, including estimated expenditures, cost recovery, and financial incentives;
- Calculation of the 2018 CIP Financial Incentives;
- Benefit-cost analyses by program, as well as explanations of deviations from goal and changes during 2018; and,
- Other compliance reports, as required by the Minnesota Department of Commerce, Division of Energy Resources ("Department") and the Minnesota Public Utilities Commission ("Commission").

Achievements

In 2018, the electric portfolio met and surpassed the state's 1.5% energy savings target for the seventh consecutive year, achieving more than 680 GWh of electric savings or 2.35% of sales. While it was a record DSM savings performance, the Company notes a couple of factors that will prevent sustained performance at this level. In recent years, the DSM landscape in Minnesota has changed for customers and utilities as the avoided costs and amount of savings attributable to utility DSM programs have continued to decline. Furthermore, similar to 2017, much of the 2018 electric portfolio's achievement was attributable to the Company's sustained, aggressive pursuit of cost-effective home and business LED lighting projects, which are projected to level off in future years as customers require fewer lamp replacements.

In the electric Business Segment, Lighting Efficiency accounted for more than 36% of the business electric portfolio achievement in 2018. The Business New Construction, Commercial Efficiency, and Process Efficiency programs also made significant contributions towards the savings goal. Altogether, those four programs contributed more than 312 GWh of electric savings, accounting for more than three-fourths of total electric savings in the business portfolio.

Lighting also played a major role in the Residential Segment's electric savings achievement. The Home Lighting program alone accounted for more than 72% of the residential electric portfolio achievement. Other top contributors included the Energy Feedback, Residential Heating, and Residential Cooling programs. Collectively, those four programs achieved more than 176 GWh, which translates to 91% of the residential portfolio's total electric achievement.

The natural gas portfolio also surpassed the state's 1.0% energy savings goal for natural gas in 2018. The portfolio achieved 913,240 Dth of total natural gas savings, which is 1.27% of sales. In the

Business Segment, several programs that offer both electric and natural gas savings opportunities exceeded their natural gas savings goals, especially the Process Efficiency program, which saved more than 183,000 Dth. Most Residential Segment gas programs continue to exceed their goals despite increasingly stringent building codes and standards. The overall success of the portfolio can be attributed to strong customer and trade engagement.

In 2018, the Company spent a total of $122.96 million to achieve these results, including $107.45 million on electric programs and $15.51 million on gas programs. Electric spending was 109% of the approved regulatory budget and natural gas spending was 90% of the approved regulatory budget.

In sum, the electric programs will provide more than $238 million in net benefits to our customers. Net benefits are a measure of the generation, transmission, distribution and energy costs avoided as a result of our conservation programs less the costs to run the programs. The gas programs will provide nearly $36 million in net benefits to our customers.

Our 2018 CIP achievements are summarized in Table 1.

Table 1: Xcel Energy's 2018 CIP Expenditures and Energy Savings

2018	Expenditures ($)	Energy Savings (kWh or Dth)	Demand Savings (kW)
Total Electric CIP	$107,451,885	680,448,447 kWh	148,400
Total Gas CIP	$15,506,839	913,240 Dth	
Total Expenditures	$122,958,724		

The Company's cumulative achievements since 1992 exceed 9,600 GWh of electric energy saved, 16.7 million Dth of natural gas saved, and more than $6.4 billion in net benefits achieved, with total spending of $1.7 billion. Our CIP electric achievements also improved over 2017. Figures 1 and 2 highlight total achievements and spending for electric and gas programs from 2004 to 2018.

Figure 1: Xcel Energy's 2004-2018 Electric CIP Achievements

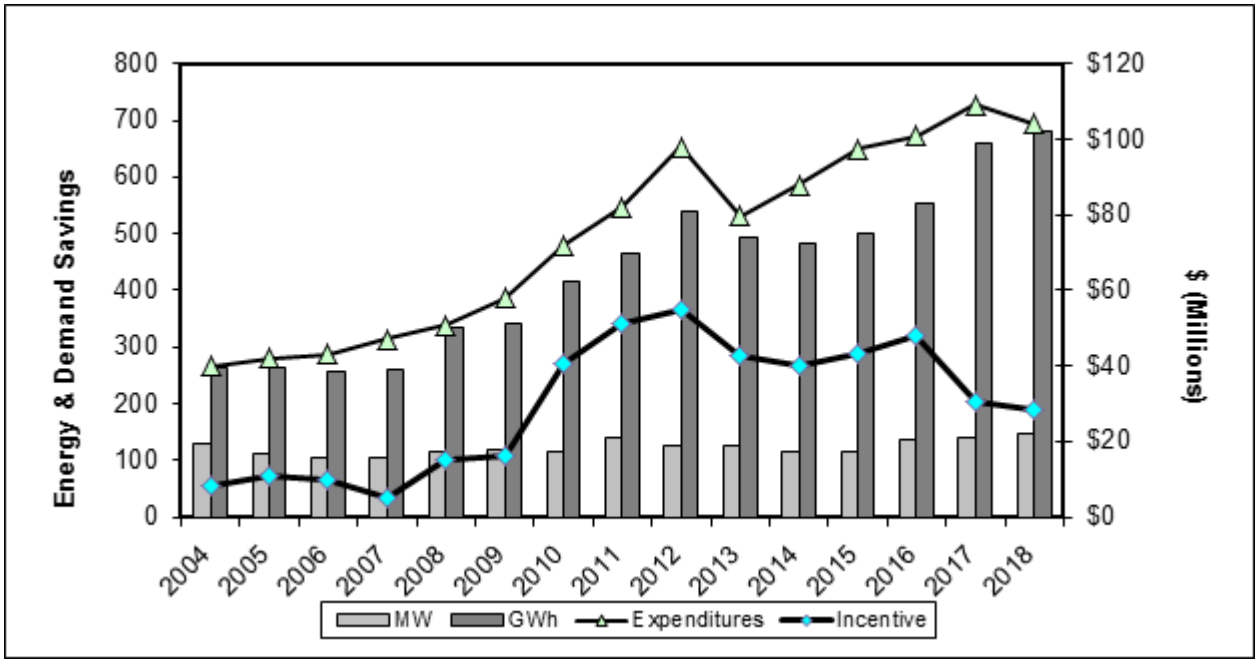
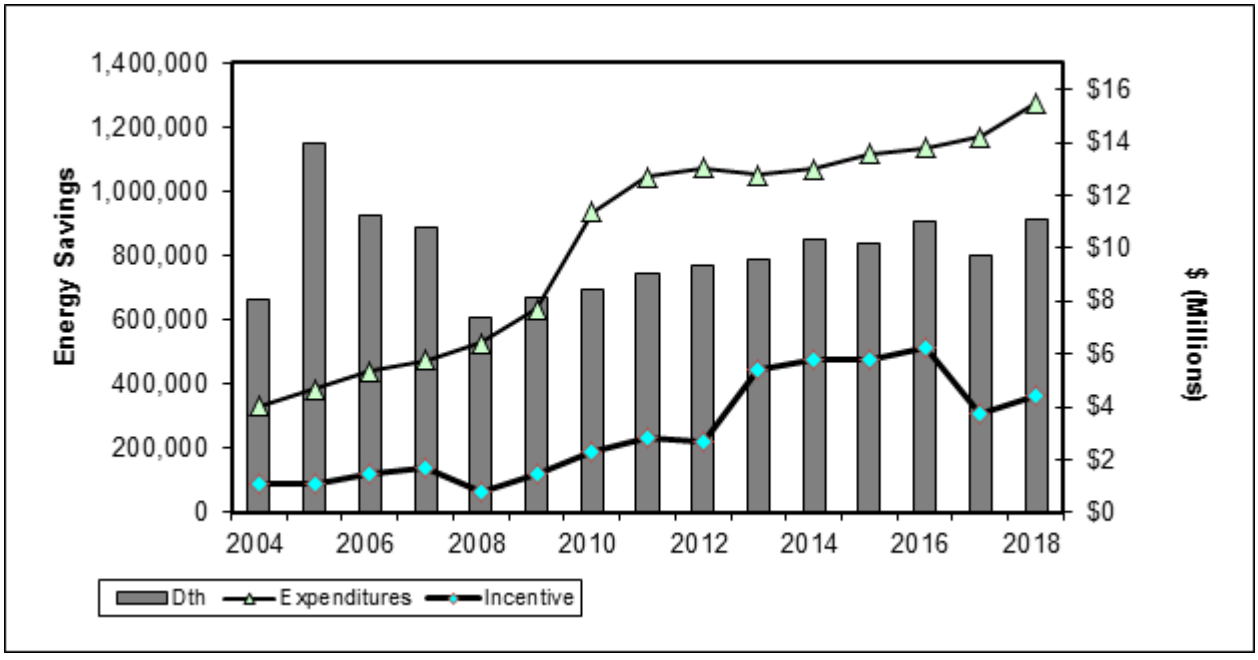


Figure 2: Xcel Energy's 2004-2018 Natural Gas CIP Achievements



The following sections provide greater, in-depth detail on Xcel Energy's 2018 electric and natural gas CIP achievements.

- *Compliance Reporting* – Provides information to satisfy provisions in Minnesota Statutes sections 216B.2401, 216B.241, and 216B.2411, including spending requirements and caps. This section also includes all other ordered compliance requirements, including those required by the Commissioner's November 3, 2016 Decision in this docket.

- *Conservation Cost Recovery Report* (Docket No. E002/GR-92-1185) – Provides the 2018 CIP Trackers. Xcel Energy seeks approval to record $107,451,885 in electric spending and $15,506,839 in gas spending in its CIP Tracker accounts.

- *CIP Adjustment Rate Report* (Docket No. E002/M-94-1016) – Calculates the electric and gas CIP Adjustment Factors to be applied to customer usage for recovery of 2018 conservation expenditures, effective for the period October 2018 through September 2019. Xcel Energy is proposing new electric and gas CIP Adjustment Factors of $0.001581/kWh and $0.022357/therm, respectively.

- *Cost-Effectiveness and Performance Mechanism Report* (Docket No. E,G999/CI-08-133 and Docket No. E002/M-11-1101) – Details the mechanisms and calculations of Xcel Energy's DSM Financial Incentives. The Company requests approval to record and recover from customers $28,856,219 in electric and $4,391,216 in natural gas DSM performance incentives in its CIP Trackers.

- *2018 CIP Status Report* – Minn. R. 7690.0550 outlines the information that a utility must include in its annual program status report. This report provides budgets and goals, expenditures, actual energy savings, and participation.

- *Cost-Effectiveness* – Minn. R. 7690.0550, subd. E requires a utility to provide information on the cost-effectiveness of its programs, as calculated from the utility, participant, ratepayer, and societal perspectives. This section includes all cost-effectiveness analyses, detailed technical assumptions by program and by segment, and project information sheets.

Avoided Emissions

In addition to the cost-effectiveness of our 2018 portfolio, we have also analyzed the avoided carbon dioxide (CO_2) emissions resulting from our portfolio's achievement. We have performed the avoided CO_2 analysis to highlight this important benefit of our DSM programs and help inform any future portfolio changes that optimize the avoidance of CO_2 emissions.

As Northern States Power Company's electric generation portfolio continues to evolve, especially with the significant growth in wind generation, the CO_2 emissions avoided by each implemented measure varies according to the time the measure avoids electric consumption. To accurately capture the time variation of avoided CO_2 emissions from 2018, the analysis is based on a 2018 run of the hourly marginal energy costs and total system average emissions (lbs of CO2/MWh) for 2017-2030. Marginal emissions are determined by first examining the marginal energy cost. If the marginal energy cost for a single hour is less than or equal to $0/MWh, it is assumed that wind generation is the source of the marginal energy and avoided emissions for those hours is 0 lbs of CO_2. For all other hours, it is assumed that the avoided emissions are the total system average emissions for that hour. Similar to the process used to determine Marginal Energy Avoided Revenue Requirements in the portfolio's cost-effectiveness tests, this hourly data is then applied to an hourly load shape for each measure to determine the first year and lifetime avoided emissions for the measure.

The first year and lifetime avoided CO_2 emissions and emissions intensities for each program and segment in 2018 are summarized in Table 4.

Table 2: Xcel Energy's Electric and Gas CIP Goals

2018	Electric Participants	Electric Budget	Customer kW	Generator kW	Generator kWh	Gas Participants	Gas Budget	Dth Savings
Business Segment								
Business New Construction	90	$4,782,576	4,903	3,834	23,017,690	21	$409,155	23,292
Commercial Efficiency	176	$3,607,502	4,264	3,671	27,058,233	46	$503,585	41,186
Commercial Refrigeration	96	$173,531	1,162	68	617,496	10	$2,758	98
Computer Efficiency - PC Power MGMT	1,391	$549,850	453	472	3,712,549	0	$0	0
Cooling Efficiency	1,736	$2,604,027	2,710	2,276	6,200,592	3	$48,579	5,968
Custom Efficiency	52	$1,254,844	984	783	4,894,015	21	$202,340	17,011
Data Center Efficiency	67	$1,325,356	1,065	906	8,920,888	0	$0	0
Efficiency Controls	66	$1,178,880	1,165	264	8,608,955	17	$182,029	16,062
Fluid Systems Optimization	329	$1,585,904	2,192	1,848	13,680,520	0	$0	0
Foodservice Equipment	67	$52,123	98	65	450,476	67	$95,099	5,992
Heating Efficiency	64	$7,830	40	32	156,350	558	$1,322,379	113,549
Lighting Efficiency	1,378	$6,186,985	9,216	6,884	52,620,992	0	$0	0
Motor Efficiency	454	$2,610,873	4,358	3,577	21,500,212	0	$0	0
Multi-Family Building Efficiency	4,556	$992,113	1,802	328	2,502,561	1,519	$413,993	6,290
Process Efficiency	243	$6,859,284	8,974	5,278	47,698,396	70	$1,094,838	183,927
Recommissioning	89	$808,898	1,022	561	6,626,083	51	$211,566	22,368
Self-Direct	0	$27,078	0	0	0	0	$8,820	0
Turn Key	261	$1,481,648	1,250	738	5,878,532	70	$238,080	5,317
Business Segment Energy Efficiency Total	**11,114**	**$36,089,302**	**45,659**	**31,583**	**234,144,541**	**2,453**	**$4,733,221**	**441,060**
Electric Rate Savings	45	$550,622	9,000	4,593	170,174	0	$0	0
Saver's Switch for Business	933	$2,334,660	18,071	3,823	9,668	0	$0	0
Business Segment Load Management Total	**978**	**$2,885,282**	**27,071**	**8,415**	**179,842**	**0**	**$0**	**0**
Business Education	14,000	$247,498	0	0	0	19,000	$37,412	0
Small Business Lamp Recycling	55,000	$58,297	0	0	0	0	$0	0
Indirect Business Subtotal	**69,000**	**$305,795**	**0**	**0**	**0**	**19,000**	**$37,412**	**0**
Business Segment with Indirect Participants	**81,093**	**$39,280,379**	**72,729**	**39,998**	**234,324,383**	**21,453**	**$4,770,633**	**441,060**
Business Segment Direct Participants Only	**12,093**	**$38,974,584**	**72,729**	**39,998**	**234,324,383**	**2,453**	**$4,733,221**	**441,060**
Residential Segment								
Energy Efficient Showerhead	1,920	$40,593	114	92	1,092,357	14,080	$284,744	31,295
Energy Feedback Residential	256,120	$2,118,865	3,686	3,896	16,555,081	170,898	$321,772	25,309
Efficient New Home Construction	2,024	$752,322	1,120	974	952,129	960	$1,573,425	30,514
Residential Heating	10,000	$1,224,713	1,906	1,380	7,199,127	12,222	$2,502,540	120,000
Home Energy Squad	5,371	$884,621	3,975	526	4,239,092	2,200	$1,296,594	20,261
Home Lighting	157,787	$7,534,601	75,049	10,242	97,776,379	0	$0	0
Whole Home Efficiency	229	$122,386	180	134	180,822	200	$291,225	8,077
Insulation Rebate	538	$229,204	986	145	1,403,591	704	$308,377	16,731
Refrigerator Recycling	6,700	$950,914	1,174	822	7,166,128	0	$0	0
Residential Cooling	11,430	$4,080,696	5,407	5,336	3,879,737	0	$0	0
School Education Kits	14,000	$468,617	1,212	136	1,559,062	14,000	$316,706	11,391
Water Heater Rebate	0	$0	0	0	0	1,094	$228,981	3,539
Res. Segment Energy Efficiency Total	**466,119**	**$18,407,532**	**94,809**	**23,682**	**142,003,504**	**216,358**	**$7,124,365**	**267,118**
Residential Demand Response	47,025	$8,396,861	84,187	33,361	684,799	8,448	$118,326	43,134
Consumer Education	433,854	$765,640	0	0	0	382,912	$540,806	0
Home Energy Audit	3,500	$671,989	0	0	0	2,800	$546,276	0
Lamp Recycling - Residential	315,000	$428,234	0	0	0	0	$0	0
Residential Segment Total	**1,265,498**	**$28,670,256**	**178,996**	**57,043**	**142,688,303**	**610,518**	**$8,329,773**	**310,251**
Res. Segment with Indirect Participants	**1,265,498**	**$28,670,256**	**178,996**	**57,043**	**142,688,303**	**610,518**	**$8,329,773**	**310,251**
Res. Segment Direct Participants Only	**513,144**	**$26,804,393**	**178,996**	**57,043**	**142,688,303**	**224,806**	**$7,242,691**	**310,251**
Low Income Segment								
Home Energy Savings Program	2,117	$1,291,516	296	110	839,339	440	$1,216,667	4,117
LI Home Energy Squad	1,900	$327,675	1,305	152	1,374,942	1,500	$410,917	9,777
Multi-Family Energy Savings Program	1,766	$810,070	574	107	978,479	0	$0	0
Low Income Segment Total	**5,783**	**$2,429,261**	**2,174**	**369**	**3,192,760**	**1,940**	**$1,627,584**	**13,894**
Planning Segment								
Application Development and Maintenance	0	$1,240,356	0	0	0	0	$450,435	0
Advertising & Promotion	0	$3,300,000	0	0	0	0	$808,360	0
CIP Training	0	$144,090	0	0	0	0	$52,993	0
Regulatory Affairs	0	$462,109	0	0	0	0	$148,427	0
Planning Segment Total	**0**	**$5,146,555**	**0**	**0**	**0**	**0**	**$1,460,215**	**0**
Research, Evaluations & Pilots Segment								
Market Research	0	$1,063,691	0	0	0	0	$247,057	0
Product Development	0	$1,723,902	0	0	0	0	$211,882	0
Energy Star Retail Products	28,653	$814,133	5,241	1,072	3,040,749	873	$40,408	437
Energy Information Systems	35	$299,233	356	195	2,448,285	8	$111,979	4,077
Research, Eval. & Pilots Segment Total	**28,688**	**$3,900,959**	**5,596**	**1,267**	**5,489,034**	**881**	**$611,326**	**4,514**
PORTFOLIO SUBTOTAL	**1,381,062**	**$79,427,411**	**259,496**	**98,678**	**385,694,480**	**634,792**	**$16,799,530**	**769,720**
Anticipated Alternative Filings								
CEE One Stop Efficiency Shop	0	$12,964,780	10,419	10,500	48,000,000	0	$0	0
EnerChange	0	$418,500	0	0	0	0	$46,500	0
Energy Smart	0	$388,250	0	0	0	0	$17,750	0
Trillion BTU	0	$174,600	0	0	0	0	$19,400	0
Energy Intelligence	0	$309,400	0	0	0	0	$34,600	0
Anticipated Alternative Filings Total	**0**	**$14,255,530**	**10,419**	**10,500**	**48,000,000**	**0**	**$118,250**	**0**
Assessments Segment	**0**	**$1,974,981**	**0**	**0**	**0**	**0**	**$345,600**	**0**
Made In Minnesota	**0**	**$2,850,359**	**0**	**0**	**0**	**0**		**0**
Electric Utility Infrastructure	**0**	**$0**	**0**	**0**	**0**	**0**	**$0**	**0**
PORTFOLIO TOTAL	**1,381,062**	**$98,508,281**	**269,915**	**109,178**	**433,694,480**	**634,792**	**$17,263,380**	**769,720**

Table 3: Xcel Energy's Electric and Gas CIP Achievements

2018	Electric Participants	Electric Budget	Customer kW	Generator kW	Generator kWh	Electric Societal	Electric Utility	Gas Participants	Gas Budget	Dth Savings	Gas Societal	Gas Utility
Business Segment												
Business New Construction	194	$9,945,148	12,476	11,905	52,614,822	1.53	3.93	60	$817,917	80,603	1.65	8.41
Commercial Efficiency	116	$4,303,027	8,134	6,667	42,792,075	2.03	5.98	11	$191,656	44,617	4.23	15.87
Commercial Refrigeration	90	$113,511	56	24	287,133	0.22	0.19	31	$4,149	137	3.23	1.44
Computer Efficiency - PC Power MGMT	469	$130,366	193	208	1,638,209	1.05	2.80	0	$0	0		
Cooling Efficiency	3,481	$2,275,650	2,366	2,299	5,107,845	1.12	2.20	3	$7,423	558	3.38	5.14
Custom Efficiency	34	$1,000,980	850	505	4,684,214	3.07	2.43	7	$122,614	12,215	6.97	8.53
Data Center Efficiency	16	$505,146	716	472	6,116,193	1.39	4.39	0	$0	0		
Efficiency Controls	46	$1,000,507	1,242	134	10,169,757	1.60	3.45	13	$68,105	8,713	2.69	8.74
Fluid Systems Optimization	148	$1,103,686	1,462	1,328	9,926,978	1.96	3.87	0	$0	0		
Foodservice Equipment	28	$32,958	125	75	522,584	3.81	8.78	41	$75,286	11,488	2.54	9.08
Heating Efficiency	87	$26,391	73	78	345,089	3.89	8.28	330	$1,141,574	100,277	1.81	3.31
Lighting Efficiency	4,671	$13,966,827	29,700	21,477	145,183,010	1.65	4.86	0	$0	0		
Motor Efficiency	408	$2,356,183	4,268	3,442	19,716,420	1.76	4.83	0	$0	0		
Multi-Family Building Efficiency	8,927	$688,149	1,770	227	2,315,477	1.28	1.48	2,052	$298,639	3,714	1.81	0.68
Process Efficiency	117	$6,883,774	11,333	8,277	72,032,749	3.19	5.54	17	$1,626,245	298,570	2.97	7.41
Recommissioning	45	$912,068	966	378	6,400,084	1.59	1.59	6	$85,764	3,619	2.59	1.48
Self-Direct	0	$10,628	0	0	0	0.00	0.00	0	$2,047	0	0.00	0.00
Turn Key	137	$2,533,466	3,939	3,210	19,318,725	2.18	4.76	25	$423,809	20,360	1.67	2.84
Business Segment Energy Efficiency Total	**19,014**	**$47,788,465**	**79,667**	**60,706**	**399,171,363**	**2.04**	**4.50**	**2,596**	**$4,865,229**	**584,873**	**2.45**	**6.09**
Electric Rate Savings	36	$525,103	24,773	12,653	469,480	7.02	6.98					
Saver's Switch for Business	897	$2,064,255	14,686	3,059	5,878	1.01	1.01					
Business Segment Load Management Total	**933**	**$2,589,358**	**39,459**	**15,712**	**475,358**	**2.23**	**2.22**	**0**	**$0**	**0**		
Business Education	15,717	$195,762	0	0	0			19,210	$27,097	0		
Small Business Lamp Recycling	94,668	$24,524	0	0	0			0	$0	0		
Indirect Business Subtotal	**110,385**	**$220,286**	**0**	**0**	**0**			**19,210**	**$27,097**	**0**		
Business Segment with Indirect Participants	**130,332**	**$50,598,109**	**119,127**	**76,417**	**399,646,721**	**2.04**	**4.36**	**21,806**	**$4,892,326**	**584,873**	**2.44**	**6.06**
Business Segment Direct Participants Only	**19,947**	**$50,377,823**	**119,127**	**76,417**	**399,646,721**	**2.04**	**4.38**	**2,596**	**$4,865,229**	**584,873**	**2.45**	**6.09**
Residential Segment												
Energy Efficient Showerhead	1,735	$35,703	106	82	1,022,738	17.58	8.77	14,115	$342,883	33,932	20.31	4.82
Energy Feedback Residential	221,281	$1,654,995	4	3,841	17,661,186	2.10	1.99	148,269	$226,398	41,197	3.24	3.02
Efficient New Home Construction	2,551	$714,140	1,154	1,084	3,206,095	2.69	3.85	1,425	$1,248,699	34,748	1.52	2.37
Residential Heating	14,885	$1,719,791	2,871	2,115	11,004,816	1.35	4.08	8,467	$2,918,201	149,476	1.95	4.10
Home Energy Squad	3,682	$646,060	5,051	619	5,169,195	2.68	2.10	1,301	$678,002	8,636	1.40	0.60
Home Lighting	218,193	$5,129,413	109,151	14,768	141,337,867	4.09	5.70					
Whole Home Efficiency	35	$22,072	39	36	32,239	1.33	2.40	35	$61,264	2,365	1.51	2.78
Insulation Rebate	578	$57,161	359	237	388,014	1.21	7.21	626	$264,860	21,606	1.05	5.28
Refrigerator Recycling	6,031	$911,681	932	652	5,690,205	2.59	1.84					
Residential Cooling	18,451	$5,694,675	8,947	8,797	6,288,085	1.28	2.16	0	$0	0		
School Education Kits	14,021	$467,333	2,033	222	2,519,702	1.87	1.38	14,021	$288,514	16,054	11.22	2.71
Water Heater Rebate	0	$0	0	0	0			1,319	$232,558	4,862	0.92	1.48
Res. Segment Energy Efficiency Total	**501,443**	**$17,053,024**	**130,647**	**32,452**	**194,320,142**	**2.24**	**3.46**	**189,578**	**$6,261,379**	**312,876**	**2.24**	**3.26**
Residential Demand Response	30,410	$6,669,022	75,081	24,722	164,974	2.37	2.43	517	$4,671	4,769	64.18	49.77
Consumer Education	685,968	$720,265	0	0	0	0	0	550,988	$520,942	0	0.00	0
Home Energy Audit	2,211	$584,408	0	0	0	0	0	1,939	$479,062	0	0.00	0
Lamp Recycling - Residential	536,453	$340,336	0	0	0	0	0	0	$0	0		
Residential Segment Total	**1,756,485**	**$25,367,055**	**205,727**	**57,174**	**194,485,116**	**2.18**	**2.97**	**743,022**	**$7,266,054**	**317,645**		
Res. Segment with Indirect Participants	**1,756,485**	**$25,367,055**	**205,727**	**57,174**	**194,485,116**			**743,022**	**$7,266,054**	**317,645**	**2.13**	**2.84**
Res. Segment Direct Participants Only	**531,853**	**$23,722,046**	**205,727**	**57,174**	**194,485,116**			**190,095**	**$6,266,051**	**317,645**	**2.26**	**3.29**
Low Income Segment												
Home Energy Savings Program	1,768	$1,097,815	649	144	926,476	0.69	0.34	332	$1,241,776	6,497	0.59	0.37
LI Home Energy Squad	964	$229,007	877	120	933,131	1.42	1.07	645	$221,263	4,225	2.00	0.91
Multi-Family Energy Savings Program	1,255	$1,081,542	295	82	452,354	0.60	0.18					
Low Income Segment Total	**3,987**	**$2,408,363**	**1,821**	**345**	**2,311,961**	**0.68**	**0.34**	**977**	**$1,463,039**	**10,722**	**0.81**	**0.45**
Planning Segment												
Application Development and Maintenance	0	$485,868	0	0	0			0	$158,931	0		
Advertising & Promotion	0	$3,778,732	0	0	0			0	$909,335	0		
CIP Training	0	$110,420	0	0	0			0	$53,172	0		
Regulatory Affairs	0	$504,560	0	0	0			0	$89,582	0		
Planning Segment Total	**0**	**$4,879,580**	**0**	**0**	**0**	**0.00**	**0.00**	**0**	**$1,211,020**	**0**	**0.00**	**0.00**
Research, Evaluations & Pilots Segment												
Market Research	0	$1,036,358	0	0	0			0	$156,143	0		
Product Development	0	$1,085,354	0	0	0	0.00	0.00	0	$120,016	0	0.00	0
Energy Star Retail Products	27,416	$833,735	11,281	951	5,013,519	1.41	2.75	0	$24,626	0	0.00	0
Energy Information Systems	4	$313,770	113	43	601,839	0.60	0.43	0	-$658	0	0.00	0
Research, Eval. & Pilots Segment Total	**27,420**	**$3,269,218**	**11,394**	**994**	**5,615,358**	**0.74**	**0.74**	**0**	**$300,126**	**0**	**0.00**	**0.00**
PORTFOLIO SUBTOTAL	**1,918,224**	**$86,522,325**	**338,069**	**134,931**	**602,059,155**	**1.98**	**3.46**	**765,805**	**$15,132,566**	**913,240**	**2.16**	**3.37**
Anticipated Alternative Filings												
CEE One Stop Efficiency Shop	1,983	$17,721,706	15,564	13,469	78,389,292	1.58	2.47	0	$0	0		
EnerChange	0	$411,897	0	0	0			0	$45,744	0		
Energy Smart	0	$381,987	0	0	0			0	$17,393	0		
Trillion BTU	0	$118,936	0	0	0			0	$7,601	0		
Energy Intelligence	0	$271,581	0	0	0			0	$28,359	0		
Anticipated Alternative Filings Total	**1,983**	**$18,906,107**	**15,564**	**13,469**	**78,389,292**			**0**	**$99,098**	**0**		
Assessments Segment	**0**	**$2,023,454**	**0**	**0**	**0**			**0**	**$275,175**	**0**		
Made In Minnesota	**0**	**$0**	**0**	**0**	**0**			**0**		**0**		
Electric Utility Infrastructure	**0**	**$0**	**0**	**0**	**0**			**0**		**0**		
PORTFOLIO TOTAL	**1,920,207**	**$107,451,885**	**353,633**	**148,400**	**680,448,447**	**1.91**	**3.19**	**765,805**	**$15,506,839**	**913,240**	**2.14**	**3.28**

Table 4: Xcel Energy's Electric Avoided CO2 Emissions

2018	Avoided First Year Emissions (short tons of CO_2)	Avoided Lifetime Emissions (short tons of CO_2)	Avoided First Year Emissions Intensities (lbs CO_2/generator MWH)	Avoided Lifetime Emissions Intensities (lbs CO_2/generator MWH)
Business Segment				
Business New Construction	24,919	318,718	947	606
Commercial Efficiency	20,267	232,570	947	621
Commercial Refrigeration	64	240	445	229
Computer Efficiency - PC Power MGMT	766	3,414	935	834
Cooling Efficiency	2,380	27,517	932	647
Custom Efficiency	2,219	26,442	947	608
Data Center Efficiency	2,788	24,530	912	714
Efficiency Controls	4,511	48,512	887	636
Fluid Systems Optimization	4,538	41,853	914	627
Foodservice Equipment	238	2,880	912	603
Heating Efficiency	157	1,830	912	612
Lighting Efficiency	59,241	607,433	818	582
Motor Efficiency	9,279	99,177	932	657
Multi-Family Building Efficiency	1,067	10,728	953	655
Process Efficiency	34,018	381,654	945	632
Recommissioning	2,839	16,979	887	772
Self-Direct	0	0	0	0
Turn Key	9,083	103,580	940	655
Business Segment Energy Efficiency Total	**178,374**	**1,948,057**	**895**	**614**
Electric Rate Savings	225	1,117	960	952
Saver's Switch for Business	3	30	960	747
Total	**228**	**1,147**	**960**	**945**
Business Education	0	0	0	0
Small Business Lamp Recycling	0	0	0	0
Business Indirect	**0**	**0**	**0**	**0**
Business Segment with Indirect Participants	**178,602**	**1,949,204**	**1,855**	**1,559**
Business Segment Direct Participants Only	**178,602**	**1,949,204**	**1,855**	**1,559**
Residential Segment				
Energy Efficient Showerhead	1	11	3	2
Energy Feedback Residential	8,079	24,237	915	915
Efficient New Home Construction	1,442	18,765	900	587
Residential Heating	5,043	60,816	916	616
Home Energy Squad	2,369	12,521	916	765
Home Lighting	64,314	293,343	910	783
Whole Home Efficiency	15	160	917	675
Insulation Rebate	177	2,083	915	698
Refrigerator Recycling	2,598	16,842	913	754
Residential Cooling	2,876	33,733	915	706
School Education Kits	1,155	6,843	917	780
Water Heater Rebate	0	0	0	0
Res. Segment Energy Efficiency Total	**88,070**	**469,354**	**906**	**738**
Residential Demand Response	76	702	926	754
Consumer Education	0	0	0	0
Home Energy Audit	0	0	0	0
Lamp Recycling - Residential	0	0	0	0
Residential Segment Total	**88,146**	**470,057**	**906**	**738**
Res. Segment with Indirect Participants	**88,146**	**470,057**	**906**	**738**
Res. Segment Direct Participants Only	**88,146**	**470,057**	**906**	**738**
Low Income Segment				
Home Energy Savings Program	418	3,387	903	658
LI Home Energy Squad	441	2,354	945	810
Multi-Family Energy Savings Program	206	1,746	909	665
Low Income Segment Total	**1,065**	**7,487**	**921**	**701**
Planning Segment				
Application Development and Maintenance	0	0	0	0
Advertising & Promotion	0	0	0	0
CIP Training	0	0	0	0
Regulatory Affairs	0	0	0	0
Planning Segment Total	**0**	**0**	**0**	**0**
Research, Evaluations & Pilots Segment				
Market Research	0	0	0	0
Product Development	0	0	0	0
Energy Star Retail Products	1,878	14,691	749	585
Energy Information Systems	0	0	0	0
Research, Eval. & Pilots Segment Total	**1,878**	**14,691**	**669**	**552**
PORTFOLIO SUBTOTAL	**269,691**	**2,441,438**	**897**	**635**

Compliance Reporting

Minnesota Rules ch. 7690 contains the requirements and procedures for CIP filings. Minnesota Statutes sections § 216B.2401, 216B.241, and 216B.2411 contain provisions the Company must meet in its CIP. All compliance points are addressed in this section.

Statutory Requirements

Minimum Spending Requirement

Minn. Stat. § 216B.241 subd. 1a requires that 2.0% of the Company's electric Gross Operating Revenues (GOR) be spent on electric CIP and 0.5% of gas GOR be spent on gas CIP. Table 5 shows our spending in relation to our approved minimum spending requirement.

Table 5: Minimum Spending Requirement

	Minimum Spending Requirement	Approved Spend*	Actual Spend	Variance of Actual to Minimum Spend
Electric	$57,007,184	$94,183,765	$107,451,885	$50,444,701
Gas	$2,180,986	$16,803,354	$15,506,839	$13,325,853
Total	$59,188,170	$110,987,119	$122,958,724	$63,770,554

*Approved Spend matches the total approved budgets in the November 3, 2016 Decision filed under this docket plus program modifications.

2018 Achievements as a Percentage of Sales

Table 6 shows our achievements as a percent of our 2014-2016 weather-normalized retail sales, adjusted for exempt customers as of May 15, 2016.

Table 6: Achievements as Percent of Sales

	Electric			Gas		
Year	Energy Savings Achieved (MWh)	Total Adjusted Sales (MWh)	Savings as % of Retail Sales	Energy Savings Achieved (Dth)	Total Adjusted Sales (Dth)	Savings as % of Retail Sales
2018	680,448	28,947,564	2.35%	913,240	71,897,513	1.27%

2018 Low-Income Spending Requirement

The following table compares our 2018 actual spend to the updated requirement. Both the approved low-income spend and actual spend are representative of programs only found in the Low-Income Segment and do not include spending associated with alternative programs, specifically EnerChange and EnergyWise, even though they also target low-income and non-profit customers. The Low-Income Segment section provides greater detail on low-income program achievements.

Table 7: Low-Income Spending Requirement

	Minimum Spending Requirement	Approved Low-Income Spend*	Actual Spend	Variance of Actual to Minimum Spend
Electric	$2,159,572	$2,375,297	$2,408,363	$248,791
Gas	$1,282,022	$1,627,584	$1,463,039	$181,017
Total	$3,441,594	$4,002,881	$3,871,402	$429,808

*Approved Spend matches the total approved budgets in the November 3, 2016 Decision filed under this docket plus program modifications.

2018 Research & Development 10% Spending Cap

Minn. Stat. § 216B.241, subd. 2(c) limits spending on Research & Development to 10% of the minimum spending requirement. As discussed on page 110 of the 2017-2019 CIP Triennial Plan, all Product Development spend is subject to this cap, except for pilot programs. Spending details are shown below.

Table 8: Research & Development Spending Cap

	Annual Spending Cap	Approved Spend	Actual Spend	Variance of Actual to Cap
Electric	$5,700,718	$1,723,902	$1,085,354	-$4,615,364
Gas	$218,099	$211,882	$120,016	-$98,083
Total	$5,918,817	$1,935,784	$1,205,370	-$4,713,447

Distributed Energy Resources Spending Cap

Minn. Stat. § 216B.2411, subd. 1(a) allows utilities to spend up to five percent of the utility's minimum spending requirement on distributed generation projects. In 2018, the Company did not have any distributed energy resources spending in CIP.

Previous program spending included Solar*Rewards Generation 1 and the Made in Minnesota program. The Solar*Rewards Generation 1 ended in 2014 and is no longer included within CIP (Docket No. E002/M-13-1015, July 23, 2014). The Made in Minnesota program ended in 2017. Minn. Statute §216C.412 Subd. 2, established in 2013, required public utilities to pay a portion of their minimum spend amount towards the Made in Minnesota solar energy production incentive account beginning January 1, 2014, and each January 1 thereafter, through 2023, for a total of ten years. Minn. Stat. §216C.412 was repealed on May 31, 2017 by 2017 Minnesota Law Chapter 94, Article 10, Section 30, thus ending the Company's obligation under the statute on a going forward basis.

Lighting Use and Recycling Programs

Minn. Stat. § 216B.241, subd. 5 requires utilities to invest in projects that encourage the use of energy efficient lighting and reclamation or recycling of spent fluorescent and high intensity discharge lamps. Xcel Energy met this requirement through its business and residential lighting and lamp recycling programs.

Carry-Forward Provision

Minn. Stat. §216B.241, subd. 1c. allows utilities to carry forward energy savings in excess of 1.5% for a year to the succeeding three calendar years for customer program savings and five years for electric utility infrastructure (EUI) projects. Because we surpassed the 1.5% electric savings goal, we meet the eligibility guidelines for use of the carry-forward provision.

The following table confirms our eligibility for the carry-forward provision for the 2018 program year and provides an update of the previously approved carry forward savings.

Table 9: Total Savings and Percent of Sales for Customer Program and Electric Utility Infrastructure Savings

2018	kWh	% of Sales
Customer Program Achievements	680,448,447	2.35%
EUI Achievements	0	0.00%
Total	680,448,447	2.35%

On February 20, 2018, the Department issued updated guidance in the matter of claiming energy savings through electric utility infrastructure (EUI) improvements and the energy savings carry forward provision (Docket No. E, G999/CIP-17-856). As the Company noted in our Comments on the new guidance, we are committed to transparency and reporting on our EUI projects and investments specifically motivated by efficiency in our annual CIP status reports, even if not electing to carry forward savings. In 2018, the Company did not complete any EUI improvement projects as part of CIP.

Triennial Decision Requirements

The following requirements were established in the Commissioner's November 3, 2016 Decision approving our 2017-2019 CIP Triennial Plan in Docket No. E,G002/CIP-16-115.

Budget Flexibility

In the November 3, 2016 Decision approving our 2017-2019 CIP Triennial Plan (E,G002/CIP-16-115), the Company was granted additional flexibility to exceed the approved budgets for all direct impact segments as long as the additional spending does not result in the segment becoming non-cost effective from the societal perspective. In 2018, no segment level spending exceeded approved spending flexibility.

Program Modifications

Minn. R. 7690.1400 requires utilities to file formal program modifications when:

- Proposing a new project;
- Discontinuing an existing project;
- Reducing the minimum qualifying efficiency level of a measure or technology;
- Decreasing project budgets, savings and participation goals;
- Increasing the Planning Segment annual budget by more than 25%; and
- Increasing the Research, Evaluations, and Pilots Segment by more than 25%.

In the November 3, 2016 Decision on our CIP Triennial Plan (E, G002/CIP-16-115), the Deputy Commissioner discontinued the use of the informal modification process, for a formal modification process and courtesy notifications. In 2018, the Company submitted the following program modification requests and courtesy notifications.

Table 10: Program Modification Filings

Modification Filing Date	Programs Included	Approval Date
February Modification Request (2/22/18)	Home Energy Savings Program (HESP)	4/28/18
	Market Research	
	Water Heater Rebate Program	
June Modification Request (6/6/18)	Lighting Efficiency	9/13/18
June Courtesy Notifications (6/6/2018)	Lighting Efficiency	n/a
	Multi-Family Building Efficiency	
June Modification Request (6/20/18)	Efficiency Controls	Not Approved
September Modification Request (9/28/18)	Computer Efficiency & Data Center Efficiency	1/16/19
	Heating Efficiency	
	Refrigerator Recycling	
	Whole Home Efficiency	
September Courtesy Notifications (9/28/18)	Efficiency Controls	n/a
	Efficient New Home Construction	
	Residential Cooling	
December Modification Request (12/27/18)	Efficient New Home Construction	3/12/19
	Home Energy Savings Program (HESP)	
	Insulation Rebate	
	Lighting Efficiency	
	Turn Key Services	
December Modification Request (12/27/18)	Thermostat Optimization	Pending Approval
December Courtesy Notification (12/27/18)	Residential Programs	n/a

Customer Incentive Flexibility

The Company has the flexibility to change rebate amounts provided changes do not result in the rebate exceeding the incremental cost of the efficiency improvement and are not made in an effort to take a customer away from a competitor. The Company complied with this requirement.

Other Regulatory Requirements

Compliance with Measurement and Verification ("M&V") Protocols for Large Custom CIP Projects

On July 23, 2008, the Deputy Commissioner approved the M&V Protocols for Large Custom CIP Projects, as part of Docket No. E,G999/CIP-06-1591. The Protocols apply to custom projects that have savings greater than 1 GWh or 20,000 Dth and are initiated after April 1, 2008. As required by the protocols, we submitted 14 projects that met these criteria and required monitoring. We submitted monitoring reports for all of these qualifying projects to the Department, which required approval.

2018 Employee Expenses

In the Department's August 13, 2010 Comments in Docket No. E002/M-10-296, the Department proposed employee expense guidelines, including a recommended cap on employee expenses of 0.5 percent of total annual budgets or expenses. In 2018, the Company had a total of $266,863 in employee expenses related to CIP. These expenses comprise about 0.2% of our total CIP spending for 2018, which is below the Department's proposed cap of 0.5% of total annual budget or expenses. The following table summarizes our employee expenses for 2018.

Table 11: Summary of 2018 Employee Expenses

Employee Expense Category	Electric Amount	Gas Amount	Total
Airfare	$41,073.88	$5,425.72	$46,552.88
Hotel	$47,838.62	$8,083.03	$56,285.82
Car Rental	$771.62	$36.97	$828.44
Taxi/bus	$3,370.20	$619.11	$4,064.31
Mileage	$40,109.19	$6,173.63	$46,637.34
Parking	$6,780.34	$947.03	$7,732.37
Business Meals- Employees Only	$15,960.05	$2,602.31	$18,789.48
Business Meals- Including Non-Employees	$21,514.12	$2,390.68	$23,916.43
Conferences/Seminars/Training	$46,785.06	$15,161.87	$62,056.68
Total Employee Expenses	**$224,203.08**	**$41,440.35**	**$266,863.75**

These expenses were incurred consistent with our employee expense policies, which provide guidance on the types of charges that are recoverable and non-recoverable through CIP. We report these expenses at the level of detail available from a query of our accounting system.

2018 Influenced Savings Projects

There are two influenced savings projects to report for 2018. The term "Influenced Savings" refers to projects for which Xcel Energy played a significant role in the customer's decision to implement an energy efficiency measure and for which the customer participated in the normal Custom Efficiency project submission process, yet whose cost-effective analysis or payback period failed. For such projects, Xcel Energy denies the customer any rebate for their efficiency measure, but

claims Influenced Savings in order to appropriately account for the Company's energy and demand savings for the implementation of the higher energy efficiency technology and to recognize the often significant labor and/or study costs invested in the project.

To qualify as an influenced savings project, the project must satisfy the following guidelines:

1. Project Pre-approval – Must occur prior to purchase and installation.
2. Cost-Effectiveness Tests – Projects must pass the Participant and Societal Tests.
3. Payback – Projects with a payback period of less than nine months may be considered only if they meet all the other Influenced Savings guidelines herein.
4. Large Projects – Projects with savings of 2 GWh and greater require separate DER pre-review. All other projects will be reviewed as part of the Status Report.
5. Savings Cap – Influenced Savings claims cannot exceed 4% of the Company's annual CIP achievements.
6. Documentation – Documentation must be provided to show Xcel Energy's involvement was an important factor in implementing the energy saving project.

Xcel Energy submits the following supplemental information for its two influenced savings projects in 2018. Table 12 summarizes the programs affected by these projects and the associated savings. To maintain customer anonymity, the projects will be referred using their OID number. As required for Influenced Savings, these projects received Xcel Energy preapproval and passed the societal and participant tests, but did not receive a rebate. Influenced savings projects are included in the programs they fall under. Savings from Influenced Savings projects account for less than 0.01% of total electric savings.

Table 12: Summary of Influenced Savings Projects

Project OID	Program	Customer KW	Customer kWh	Dth
2636526	Commercial Efficiency	21.50	157,211	-126
3200519	Turn Key Services	8.46	56,008	-45
	Totals	**29.96**	**213,219**	**-171**

Influenced Savings Project Descriptions

The 2018 Influenced Savings Project summary trackers comprise the following two pages.

2018 Influenced Savings
Supplementary Information Worksheet

Project Number OID2636526

Program Name Commercial Efficiency

Project Type Electric

Project Information		
Pre-approval Date	**Equipment Installed**	**Payback (years)**
February 10, 2017	LEDs	0.37

Electric Cost-Benefit Test Results			
Participant Test	**Utility Test**	**Rate Impact Test**	**Societal Test**
N/A	0.00	N/A	11.20

Gas Cost-Benefit Test Results			
Participant Test	**Utility Test**	**Rate Impact Test**	**Societal Test**
N/A	N/A	N/A	N/A

Project Description
TPS Stairwell CFL Replacement (128 --> 28W): Replace CFL Lamps with LED Retrofit lamps

Estimated Energy Savings			
Customer kW	**Customer kWh**	**Dth Natural Gas**	**Reason for Rebate Denial**
21.50	157,211	-126	Payback Requirements

Project History	
Note: Please make sure there is no customer-identifying info in history	
Date	**Description**
4/23/2014	MOU-1 signed date
2/8/2017	Customer applied for pre-approval
2/10/2017	Project pre-approved
3/2/2018	Project Completed

2018 Influenced Savings
Supplementary Information Worksheet

Project Number OID3200519

Program Name Turn Key Services

Project Type Electric

Project Information		
Pre-approval Date	**Equipment Installed**	**Payback (years)**
1/10/18 (lighting proj.) 4/12/17 (TK Assessment readout)	4' Type A LED 17 watt 2 lamp	0.73

*Assessment readouts typically serve as conditional pre-approval for EE projects.

Electric Cost-Benefit Test Results			
Participant Test	**Utility Test**	**Rate Impact Test**	**Societal Test**
N/A	4.44	N/A	3.07

Gas Cost-Benefit Test Results			
Participant Test	**Utility Test**	**Rate Impact Test**	**Societal Test**
N/A	N/A	N/A	N/A

Project Description
Install non-DLC rated Type A LED lamps: Replace existing fluorescent lamps with TLED (non-DLC rated).

Estimated Energy Savings			
Customer kW	**Customer kWh**	**Dth Natural Gas**	**Reason for Rebate Denial**
8.46	56,008	-45	Payback Requirements

Project History	
Note: Please make sure there is no customer-identifying info in history	
Date	**Description**
4/12/2017	Customer received list of Energy Efficiency project recommendations via Turn Key Services audit report. One of the projects was this cost-effective LED retrofit which they decided to pursue.
11/29/2017	Customer applied for pre-approval
1/10/2018	Project pre-approved
2/5/2018	Project Completed

Northern States Power Company,
a Minnesota corporation
Summary of the Evaluations of Product Impact Measurement Methods
Reference Docket No. E002/M-90-1159

Background
In a January 3, 1992 Order in Docket No. E002/M-90-1159, the Commission required a performance measurement evaluation to accompany Northern States Power Company, a Minnesota corporation's, financial incentive mechanism filing. This information, suggested by the Department of Public Service (now the Division of Energy Resources), was required in order to provide a sound basis for Xcel Energy's DSM Financial Incentive. In 1999, 2010, 2012, and again in 2016, the Commission modified Xcel Energy's financial incentive but retained the basic performance-based philosophy that requires ongoing efforts to ensure that impacts are reasonably well measured.

Xcel Energy considers the following factors in determining what impact measurement methods are appropriate**:**

- The uncertainties associated with existing impact estimates;
- The relative importance of the individual product;
- The cost of impact measurement relative to the overall cost and cost-effectiveness of its various products;
- Informal ongoing product management evaluation efforts to identify issues requiring a more formal evaluation;
- The extent to which previous evaluation work remains pertinent;
- Cost-effective developments in measurement and evaluation methods; and
- Effects of free-ridership, free-drivership, and spillover.

The Company's process and/or impact analysis efforts since 2007 are shown in the following table:

Table 13: Xcel Energy's Process and/or Impact Analysis Efforts Since 2007

Product	**Type**	**Status**
Motors Efficiency	Process and Impact Evaluation	Completed in 2007
Home Performance	Qualitative Market Assessment	Completed in 2007
Custom Efficiency	Site-Specific Impact Review	*Annual Evaluation*
Energy Design Assistance	Site-Specific Impact Review	*Annual Evaluation*
Residential Saver's Switch®	Impact Evaluation	*Annual Evaluation*
Saver's Switch® for Business	Impact Evaluation	*Annual Evaluation*
Low Income Program	Customer Satisfaction Study	*Annual Evaluation until 2010*
Home Energy Audits	Customer Satisfaction Study	*Ongoing Study*
Energy Efficient Showerhead	Customer Satisfaction Study	Completed in 2008
Recommissioning Program	Customer Satisfaction Study	Completed in 2008
Residential Heating System Rebates	Process and Impact Evaluation	Completed in 2008
Gas Market Potential Study	Potential Study	Completed in 2009

Energy Design Assistance Program	Process & Impact Evaluation	Completed in 2009
Saver's Switch® Program	Process Evaluation	Completed in 2009
Energy Rate Savings	Process Evaluation	Completed in 2010
Energy Management Systems	Process and Impact Evaluation	Completed in 2010
Recommissioning	Process and Impact Evaluation	Completed in 2010
CEE One Stop Efficiency Shop	Process Evaluation	Completed in 2010
ENERGY STAR Homes	Process and Impact Evaluation	Completed in 2010
Low Income Home Energy Services Program	Process and Impact Evaluation	Completed in 2011
Residential Cooling Quality Installation Verification	Process and Impact Evaluation	Completed in 2011
Commercial Heating Efficiency	Process and Impact Evaluation	Completed in 2011
Efficiency Motors/Drives	Process and Impact Evaluation	Completed in 2011
Trillion BTU Program	Process Evaluation	Completed in 2011
Energy Efficient Showerhead	Customer Satisfaction Study	Completed in 2011
Residential Lighting	Process and Impact Evaluation	Completed in 2012
MN Electric Potential Study - Xcel Energy Service Area	Potential Study	Completed in 2012 Updated in 2014
Solar*Rewards	Process Evaluation	Completed in 2012
Business Cooling Efficiency	Process and Impact Evaluation	Completed in 2012
Business Process Efficiency	Process and Impact Evaluation	Completed in 2012
Business Custom Efficiency	Process and Impact Evaluation	Completed in 2013
Residential Consumer Education	Process Evaluation	Completed in 2013
Residential Home Performance	Process and Impact Evaluation	Completed in 2013
Residential Home Energy Squad	Process and Impact Evaluation	Completed in 2014
Residential Heating Systems Rebates	Process and Impact Evaluation	Completed in 2014
Fluid System Optimization	Process and Impact Evaluation	Completed in 2015
Recommissioning	Process and Impact Evaluation	Completed in 2015
School Education Kits	Process and Impact Evaluation	Completed in 2015
Computer Efficiency	Process and Impact Evaluation	Completed in 2016
Lighting Efficiency	Process and Impact Evaluation	Completed in 2016
Efficiency Controls	Process and Impact Evaluation	Completed in 2016
Refrigerator Recycling	Process and Impact Evaluation	Completed in 2016
Data Center Efficiency	Process and Impact Evaluation	Completed in 2017
Heating Efficiency	Process and Impact Evaluation	Completed in 2017
Insulation Rebates	Process and Impact Evaluation	Completed in 2017
Business New Construction	Process and Impact Evaluation	Completed in 2018

Motor and Drive Efficiency	Process and Impact Evaluation	Completed in 2018
Multi-Family Building Efficiency	Process Evaluation +	Completed in 2018
Water Heater Rebates	Process Evaluation +	Completed in 2018

+ 2018 Multi-Family Building Efficiency (MFBE) and Water Heater Rebates evaluations included a modified impact component that examined qualitative indicators of free ridership and/or spillover to manage evaluation costs with the addition of the MFBE evaluation that was ordered in the decision approving the 2017-2019 CIP Triennial Plan.

Following is a summary of current energy savings calculation methods and M&V practices. For products where technical assumptions have changed due to evaluation or impact analysis results, the specific changes have been documented in the text of this status report and incorporated into the respective CIP cost-benefit analyses.

Current Analysis Methods

Product impact estimates are typically developed for demand savings, energy savings, coincidence, loss factors, and the lifetime of DSM measures. These parameters are needed for product economic analyses and for direct tracking of product impacts as required for the Company's CIP and Resource Plans.

Energy Efficiency Programs

Developing a good baseline from which to estimate the savings for more efficient technologies is an important part of impact estimation. We regularly update our DSM products and impact estimates to keep pace with changing energy efficiency standards. In addition, we have conducted broad-based market assessments to track technology market saturation and use patterns, and make appropriate changes to products' impact estimates. Finally, we maintain regular contacts with various researchers, equipment manufacturers, distributors, and retailers to keep abreast of current efficiency market trends in order to make any needed changes to DSM products or their impact estimates.

For custom projects, energy savings and coincidence factor estimates are usually based on Xcel Energy-specific market and/or load research regarding annual hours of use and times of operation.

Load Management Programs

Load management programs either require interval data collection to calculate customer bills, or they involve behavioral changes on the part of customers. We base the impacts on our analysis of metering data, as the effects are more difficult to estimate through engineering methods. The extensive metering data gathered, covering both interrupt and non-interrupt periods, allows more accurate estimation of customers' baseline electricity use and net product impacts than is readily achievable with energy efficiency programs.

Current Measurement and Verification Practices

In 2018, our M&V efforts mirrored those filed on pages 114-119 of our 2017-2019 Triennial Plan. Each program has an M&V plan to provide assurance that rebated measures were implemented as reported and that our reported savings are as accurate as possible. For prescriptive business and residential programs, we hire third party contractors to perform random audits on a statistically valid number of rebated projects in order to determine an appropriate realization rate for each program. This realization rate is then applied to the total gross savings for each program for that given year. Some prescriptive residential programs have M&V plans tailored to their program design and delivery method. For Custom business programs, the Company follows the M&V Protocols for

Large Custom CIP Projects approved by the Director in Docket No. E,G999/CIP-06-1591.

Low-Income and Renter Participants
On June 24, 2016, the Company filed a letter to supplement the 2017-2019 CIP Triennial Plan. In that letter the Company mentioned that it would provide the following information:

> For each project targeted at residential consumers, an estimate of the anticipated percentage of participation of each project among:
>
> a. Low-income participants; and
> b. Renters;

Tables 14 and 15 provide the following information.

Table 14: Low-Income Participation by Project, 2018

Project	Low-Income - Electric			Low-Income - Gas		
	Participants	Low-Income Participants	Percent of Participation	Participants	Low-Income Participants	Percent of Participation
Business Segment						
Multi-Family Building Efficiency	8,927	1,361	15.2%	2,052	412	20.1%
Residential Segment						
Energy Efficient Showerhead	1,735	274	15.8%	14,115	749	5.3%
Energy Feedback Residential	221,281	8,633	3.9%	148,269	6,937	4.7%
Efficient New Home Construction	2,551	9	0.4%	1,425	7	0.5%
Residential Heating	14,885	295	2.0%	8,467	244	2.9%
Home Energy Squad	3,682	37	1.0%	1,301	16	1.2%
Home Lighting	218,193	1,299	0.6%			
Whole Home Efficiency	35	0	0.0%	35	0	0.0%
Insulation Rebate	578	23	4.0%	626	30	4.8%
Refrigerator Recycling	6,031	141	2.3%			
Residential Cooling	18,451	226	1.2%			
School Education Kits	14,021	5,370	38.3%	14,021	5,370	38.3%
Water Heater Rebate				1,319	75	5.7%
Residential Demand Response	30,410	790	2.6%	517	6	1.2%
Consumer Education	685,968	75,457	11.0%	550,988	60,609	11.0%
Home Energy Audit	2,211	192	8.7%	1,939	185	9.5%
Lamp Recycling - Residential	536,453	3,193	0.6%	0		
Residential Total	**1,756,485**	**95,938**	**5.5%**	**743,022**	**74,227**	**10.0%**
Low Income Segment						
Home Energy Savings Program	1,768	1,768	100.0%	332	332	100.0%
LI Home Energy Squad	964	964	100.0%	645	645	100.0%
Multi-Family Energy Savings Program	1,255	1,255	100.0%			
Low Income Segment Total	**3,987**	**3,987**	**100.0%**	**977**	**977**	**100.0%**
TOTAL	**1,769,399**	**101,286**	**5.7%**	**746,051**	**75,616**	**10.1%**

Table 15: Renter Participation by Project, 2018

Project	Renter - Electric			Renter - Gas		
	Participants	Renter Participants	Percent of Participation	Participants	Renter Participants	Percent of Participation
Business Segment						
Multi-Family Building Efficiency	8,927	7,427	83.2%	2,052	1,794	87.4%
Residential Segment						
Energy Efficient Showerhead	1,735	146	8.4%	14,115	367	2.6%
Energy Feedback Residential	221,281	101,006	45.6%	148,269	68,239	46.0%
Efficient New Home Construction	2,551	4	0.2%	1,425	3	0.2%
Residential Heating	14,885	217	1.5%	8,467	124	1.5%
Home Energy Squad	3,682	102	2.8%	1,301	30	2.3%
Home Lighting	218,193	47,348	21.7%			
Whole Home Efficiency	35	0	0.0%	35	0	0.0%
Insulation Rebate	578	4	0.7%	626	9	1.4%
Refrigerator Recycling	6,031	157	2.6%			
Residential Cooling	18,451	344	1.9%			
School Education Kits	14,021	3,043	21.7%	14,021	3,043	21.7%
Water Heater Rebate				1,319	25	1.9%
Residential Demand Response	30,410	831	2.7%	517	13	2.5%
Consumer Education	685,968	75,457	11.0%	550,988	60,609	11.0%
Home Energy Audit	2,211	68	3.1%	1,939	76	3.9%
Lamp Recycling - Residential	536,453	116,410	21.7%	0		
Residential Total	**1,756,485**	**345,136**	**19.6%**	**743,022**	**132,538**	**17.8%**
Low Income Segment						
Home Energy Savings Program	1,768	191	10.8%	332	6	1.8%
LI Home Energy Squad	964	225	23.3%	645	176	27.3%
Multi-Family Energy Savings Program	1,255	1,255	100.0%			
Low Income Segment Total	**3,987**	**1,671**	**41.9%**	**977**	**182**	**18.6%**
TOTAL	**1,769,399**	**354,234**	**20.0%**	**746,051**	**134,514**	**18.0%**

Northern States Power Company
a Minnesota corporation
2018 Conservation Cost Recovery Report
Reference Docket No. E002/GR-92-1185

Cost-effective conservation benefits all of our customers by reducing the need to build new power plants or other generation facilities to meet our customers' electricity needs. Conservation also has environmental benefits, including a reduction in air pollution and greenhouse gas emissions associated with using fossil fuels. This section reports the actual 2018 spending and cost recovery, as well as the electric tax and rate base factors and calculation of the cost of capital.

Electric Achievements

In 2018, Xcel Energy spent $107,451,885 on its electric CIP efforts. These expenditures provided an overall reduction of over 680 GWh. Xcel Energy is requesting recovery of $107,451,885 in 2018 electric CIP expenses. We are also requesting recovery of $28,856,219 in financial incentives earned for our 2018 electric CIP performance for total electric recovery of $136,308,104.

Gas Achievements

Xcel Energy conserved 913,240 Dth through its 2018 natural gas CIP at a cost of $15,506,839. The Company requests recovery of $15,506,839 in CIP expenditures, as well as $4,391,216 in financial incentive earned for our 2018 gas CIP performance for total natural gas recovery of $19,898,055.

The tables on the following pages include:

- Xcel Energy's 2018 electric (Table 17) and gas (Table 18)[1] CIP Trackers, which document monthly CIP expenditures and recovered costs.
- Summary of the electric tax and rate base factors (Table 19) used in the electric CIP Tracker.
- Calculation of the Cost of Capital (Table 20) provides the tax factors and capital structure used to determine cost recovery and return on rate base in the electric CIP Trackers.

[1] Please note that the Total Recovery (Line 9) in the Gas CIP Tracker for 2018 from January through July differs from the totals included in the Compliance Filing dated September 14, 2018 for the 2018/2019 Natural Gas CIP Adjustment Factor (Docket No. G002/M-18-246). The total recovery has been updated to reflect revised total sales from Gas CIP Exempt customers.

Northern States Power Company, a Minnesota corporation
State of Minnesota- Electric Utility
DSM Cost Recovery & Incentive Mechanism - Total
2018 Actuals

		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
	EXPENSES	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	
1.	Balance	31,486,876	27,632,098	25,643,663	22,450,464	20,827,481	16,916,414	15,269,676	7,507,462	1,966,822	582,797	28,043,266	27,912,481	31,486,876
2.	CIP Program Expenditures	8,313,585	8,405,162	8,247,093	8,643,716	7,741,977	11,602,970	6,326,223	8,716,001	10,551,008	7,967,552	10,587,666	10,348,933	107,451,885
3.	2017 Performance Incentive										30,241,197			30,241,197
4.	Total Expenses + Incentive (Line 1 + 2 + 3)	39,800,461	36,037,260	33,890,756	31,094,180	28,569,458	28,519,384	21,595,899	16,223,464	12,517,830	38,791,546	38,630,932	38,261,414	169,179,959
	RECOVERY													
5.	CCRC Rate ($/MWh)	3.133	3.133	3.133	3.133	3.133	3.133	3.133	3.133	3.133	3.133	3.133	3.133	
6.	CCRC Cost Recovery (CCRC times Sales)	7,619,473	6,508,681	7,162,688	6,428,081	7,294,392	8,292,849	8,815,602	8,919,437	7,466,692	6,815,552	6,796,624	7,368,765	89,488,835
7.	CIP Adjustment Factor Rate ($/MWh)	1.875	1.875	1.875	1.875	1.875	1.875	1.875	1.875	1.875	1.813	1.813	1.813	
8.	CIP Adjustment Factor Recovery (Factor times Sales)	4,560,010	3,895,237	4,286,639	3,847,000	4,365,460	4,963,004	5,275,855	5,337,997	4,468,576	3,944,014	3,933,061	4,264,147	53,140,998
9.	Sub-Balance (Line 4 - 6 - 8)	27,620,978	25,633,343	22,441,429	20,819,099	16,909,606	15,263,531	7,504,441	1,966,030	582,562	28,031,980	27,901,248	26,628,502	26,550,125
10.	Accum Deferred Tax (Line 9 * 28.742%)	7,938,821 28.74%	7,367,535 28.74%	6,450,116 28.74%	5,983,825 28.74%	4,860,159 28.74%	4,387,044 28.74%	2,156,926 28.74%	565,076 28.74%	167,440 28.74%	8,056,952 28.74%	8,019,377 28.74%	7,653,564 28.74%	
11.	Net Investment (Line 9 - 10)	19,682,157	18,265,808	15,991,313	14,835,274	12,049,447	10,876,487	5,347,515	1,400,954	415,122	19,975,028	19,881,871	18,974,938	
12.	Carrying Charge (Line 11 * Carrying Charge Rate)	11,120	10,320	9,035	8,382	6,808	6,145	3,021	792	235	11,286	11,233	10,721	89,098
13.	End of Month Balance (Line 9 + 12)	27,632,098	25,643,663	22,450,464	20,827,481	16,916,414	15,269,676	7,507,462	1,966,822	582,797	28,043,266	27,912,481	26,639,223	

Table 17: 2018 Electric CIP Tracker (DSM Cost Recovery)

Northern States Power Company, a Minnesota corporation
State of Minnesota - Gas Utility
DSM Cost Recovery and Incentive Mechanism
Tracker and Balance ($)
2018 Actual

EXPENSES	Jan Actual	Feb Actual	Mar Actual	Apr Actual	May Actual	Jun Actual	Jul Actual	Aug Actual	Sept Actual	Oct Actual	Nov Actual	Dec Actual	Total
1. Balance	($919,946)	($3,928,794)	($6,511,478)	($8,281,399)	($9,380,915)	($8,862,882)	($8,236,272)	($7,714,741)	($7,020,140)	($6,548,941)	($2,836,976)	($3,033,551)	
2. CIP Program Expenditures	1,097,409	1,118,761	1,123,746	1,174,071	1,361,932	1,293,473	1,099,420	1,315,140	1,196,560	1,055,466	1,914,739	1,756,123	15,506,839
3. 2017 Performance Incentive			99,993							3,753,592			3,853,585
4. **Total Expenses** (Line 1 + 2 + 3)	**177,463**	**(2,810,033)**	**(5,287,738)**	**(7,107,328)**	**(8,018,983)**	**(7,569,409)**	**(7,136,852)**	**(6,399,601)**	**(5,823,580)**	**(1,739,883)**	**(922,238)**	**(1,277,428)**	**18,440,478**
RECOVERY													
5. CCRC Rate ($/Dth)	0.0524	0.0524	0.0524	0.0524	0.0524	0.0524	0.0524	0.0524	0.0524	0.0524	0.0524	0.0524	
6. CCRC Cost Recovery	704,535	634,670	512,894	389,101	143,684	113,371	98,166	105,585	123,648	276,555	532,710	601,329	4,236,247
7. CIP Adjustment Factor Rate ($/Dth)	0.25277	0.25277	0.25277	0.25277	0.25277	0.25277	0.25277	0.25277	0.25277	0.15504	0.15504	0.15504	
8. CIP Adjustment Factor Recovery	3,398,573	3,061,555	2,474,127	1,876,966	693,109	546,888	473,538	509,326	596,462	818,264	1,576,171	1,779,198	17,804,177
9. **Total Recovery** (Line 6 + 8)	**4,103,107**	**3,696,225**	**2,987,021**	**2,266,067**	**836,793**	**660,259**	**571,704**	**614,911**	**720,111**	**1,094,819**	**2,108,882**	**2,380,527**	
10. Rate Refund	0	0	0	0	0	0	0	0	0	0	0	0	0
11. Sub-Balance (Line 4-9)	(3,925,644)	(6,506,257)	(8,274,760)	(9,373,394)	(8,855,776)	(8,229,668)	(7,708,555)	(7,014,511)	(6,543,690)	(2,834,702)	(3,031,119)	(3,657,955)	
12. Accum Deferred Tax (Line 11 * 28.742%)	(1,128,309)	(1,870,029)	(2,378,331)	(2,694,101)	(2,545,327)	(2,365,371)	(2,215,593)	(2,016,111)	(1,880,787)	(814,750)	(871,204)	(1,051,370)	(21,831,283)
13. Net Investment (Line 11-12)	(2,797,335)	(4,636,229)	(5,896,428)	(6,679,293)	(6,310,449)	(5,864,297)	(5,492,962)	(4,998,401)	(4,662,903)	(2,019,952)	(2,159,915)	(2,606,586)	(54,124,750)
14. Carrying Charge (a) (Line 13 * Carrying Charge Rate)	(3,150)	(5,220)	(6,639)	(7,521)	(7,106)	(6,603)	(6,185)	(5,628)	(5,250)	(2,274)	(2,432)	(2,935)	(60,944)
15. **End of Month Balance** (Line 11+14)	**(3,928,794)**	**(6,511,478)**	**(8,281,399)**	**(9,380,915)**	**(8,862,882)**	**(8,236,272)**	**(7,714,741)**	**(7,020,140)**	**(6,548,941)**	**(2,836,976)**	**(3,033,551)**	**(3,660,890)**	

Table 18: 2018 Gas CIP Tracker (DSM Cost Recovery)

Table 19: Summary of Electric Tax and Rate Base Factors

The following variables are used in the electric CIP Tracker. These values were established in rate cases. Xcel Energy used the rates approved in its 2012 rate case, which was based off of the 2013 test year, (E002/GR-12-961) beginning December 1, 2013.

Variables	2011	2013	Tax Rates	2011	2013
Number of Months =	12	12	Tax Factor =	3.85%	3.65%
Monthly Carrying Charge =	0.9614%	0.0565%			
Annual Amortization Fctr =	20.00%	20.00%	Accumulated Deferred Tax =	41.37%	41.37%
			Tax Rate =	41.37%	41.37%
Common Equity % =	52.56%	52.56%			
Preferred Equity % =	0.00%	0.00%	Rate Base Factor =	12.17%	11.10%
Total Debt % =	47.44%	47.44%			
Weighted Cost Common Equity =	5.45%	5.17%			
Weighted Cost Pref Equity =	0.00%	0.00%			
Weighted Cost Total Debt =	2.87%	2.28%			
Normal ROI =	8.32%	7.45%			
CCRC ($/MWh)	$2.647	$3.133			

Table 20: Calculation of the Cost of Capital

This table shows the tax factors and capital structure used for the electric cost recovery and return on rate base calculations in Tables 16 (2018 Electric CIP Tracker) and 18 (Summary of Electric Tax and Rate Base Factors).

Capital Structure	Capitalization		Cost of Capital		Weighted Average	
	2011 Test Yr	2013 Test Yr	2011 Test Yr	2013 Test Yr	2011 Test Yr	2013 Test Yr
Long-Term Debt	46.88%	45.30%	6.09%	5.02%	2.86%	2.27%
Short-Term Debt	0.56%	2.14%	2.43%	**0.68%**	0.01%	0.01%
TOTAL DEBT	47.44%	47.44%	8.53%	5.70%	2.87%	2.28%
Preferred Equity	0.00%	0.00%	N/A	N/A	N/A	N/A
Common Equity	52.56%	52.56%	10.37%	9.83%	5.45%	5.17%
TOTAL EQUITY	52.56%	52.56%			5.45%	5.17%
TOTAL CAPITAL	100.00%	100.00%			8.32%	7.45%
MN Tax Rate =					41.37%	41.37%
Normal Return =					8.32%	7.45%
Rate Base Factor =	{ROI - (WTD Cost Debt x Tax Rate)} / (1-Tax Rate)				12.17%	11.10%
Tax Factor =	Rate Base Factor - ROI				3.85%	3.65%
Monthly Carrying Charge Rate Calculation						
Annual Revenue Requirements Factor =	{ROI - (WTD Cost Debt x Tax Rate)} / (1-Tax Rate)				12.17%	11.10%
Monthly Revenue Requirements Factor =	{(1 + short term debt) to the 1/12 Power} -1				0.9614%	**0.0565%**
						0.000565
CCRC Tracker Rate ($/MWh)					$ 2.647	$ 3.133

Northern States Power Company
a Minnesota corporation
2018 Electric and Natural Gas CIP Adjustment Rate Report

On March 20, 1995, the Commission approved Xcel Energy's request to implement a CIP Adjustment Factor (Docket No. E002/M-94-1016). This bill rider, adjusted annually, provides the Company with a secondary cost recovery method above the amounts included in base rates (Conservation Cost Recovery Charge or CCRC). The CIP Adjustment Factor is normally approved by the Commission for a 12-month period beginning in the month following the Commission's approval, and is calculated by dividing the forecasted CIP tracker balance by the forecasted sales (kWh or therms) for the period over which the adjustment will be in place. Xcel Energy is required to file a recalculation of its CIP Adjustment Factors each April in conjunction with its financial incentive and CIP status report filings.

The current electric CIP Adjustment Factor of $0.001813 per customer kWh was approved by the Commission on September 4, 2018 in Docket No. E002/M-17-259. This rate was implemented on October 1, 2018 and is designed to reduce the electric CIP Tracker balance to $0 by September 30, 2019. The current natural gas CIP Adjustment Factor of $0.015504 per therm was approved by the Commission on September 4, 2018 in Docket No. G002/M-17-258 and implemented on October 1, 2018. It was also designed to reduce the natural gas CIP Tracker to $0 by September 30, 2019.

Xcel Energy submits this compliance filing and report to support our request of the following:

- Recovery of $28,856,219 for our 2018 electric DSM financial incentives;
- Recovery of $4,391,216 for our 2018 natural gas DSM financial incentive;
- A change in the electric CIP Adjustment Factor from $0.001813 to $0.001581 per kWh effective the first billing cycle beginning in October 2019 through September 2020; and
- A change in the natural gas CIP Adjustment Factor from $0.015504 per therm to $0.022357 per therm effective the first billing cycle beginning in October 2019 through September 2020.

Proposed Electric CIP Adjustment Factor for Period October 2019 Through September 2020

Xcel Energy requests a new electric CIP Adjustment Factor of $0.001581 per customer kWh to be effective with the first billing cycle of October 2019 and to remain in effect through the September 2020 billing period. This proposed factor is calculated to reduce the electric CIP Tracker balance to $0 by the end of September 2020. It is based on the forecasted September 2020 unrecovered balance in the Company's electric CIP Tracker account. This forecasted balance is $43.63 million, based on the forecasted October 2019 beginning balance, October 2019 through September 2020 approved and projected expenditures, forecasted 2019 incentives and forecasted CCRC recovery at the current CCRC rate. The inputs and calculation are shown below.

Forecasted beginning balance (Oct 2019)	$21,461,853
Approved expenditures (Oct 2019 - Sept 20)	$95,934,611
Forecasted 2019 incentive	$12,746,662
Less forecasted CCRC recovery (Oct 2019 - Sept 20)	$86,512,712
Forecasted Sept 2020 balance	$43,630,415

As in the past, Xcel Energy will include a message referencing the change in the CIP Adjustment Factor in customers' bills. In the event that Commission approval of the proposed adjustment is delayed beyond September 20, 2019 (in order to implement the rate change by October 1), the Company will continue to apply the current CIP Adjustment of $0.001813 per kWh up to the first cycle of the first full billing period following Commission approval of a revised factor.

Calculation of Revised Electric CIP Adjustment Factor

(1) Forecasted Oct 2020 Electric CIP Tracker Balance	$43,630,415
(2) Forecasted Electric Sales (MWh)– Oct 2019 through Sept 2020[1]	27,613,378
(3) Recalculated Electric CIP Adjustment Rate = (1)/(2)	$1.580/MWh
	$0.001580/kWh

Our above forecasted balance does not include carrying charges. To get as close as possible to a $0 balance by Sept. 30, 2020, the calculated rate of $0.001580 was incrementally increased to incorporate the effect of carrying charges. We determined the final rate by increasing the calculated rate until the September 2020 forecasted CIP Tracker balance approached zero ($0) without going negative. The resulting rate is **$0.001581 per kWh**. As shown in Table 20, this rate results in a forecasted September 30, 2020 Tracker balance of $2,236.

Proposed Natural Gas CIP Adjustment Factor for Period October 2019 Through September 2020

Xcel Energy requests a new natural gas CIP Adjustment Factor of $0.022357 per therm to be effective with the first billing cycle of October 2019 and remaining in effect through the September 2020 billing period. The proposed factor is based on the forecasted October 1, 2019 unrecovered balance in the Company's gas CIP Tracker account. This forecasted balance is $2.05 million, based on the forecasted October 2019 beginning balance, October 2019 through September 2020 approved and projected expenditures, forecasted 2019 incentive and forecasted CCRC recovery at the current CCRC rate. The inputs and calculation are shown below.

Forecasted beginning balance (Oct 2019)	$2,046,617
Approved expenditures (Oct 2019 - Sept 20)	$17,180,480
Forecasted 2019 incentive	$1,941,954
Less forecasted CCRC recovery (Oct 2019 - Sept 20)	$4,014,966
Forecasted Oct 2020 balance	$17,154,085

As done in the past, Xcel Energy will include in customers' bills a message referencing the change in the CIP Adjustment Factor. In the event that Commission approval of the proposed factor is delayed beyond September 20, 2019 (in order to implement the rate change by October 1), the Company will continue to apply the current CIP Adjustment Factor of $0.015504 per therm up to the first cycle of the first full billing period following Commission approval of a revised factor.

[1] Forecasted sales exclude the customers exempted from electric CIP charges.

Calculation of Revised Gas CIP Adjustment Rate

(1) Forecasted Oct 2020 Natural Gas CIP Tracker Balance	$17,154,085
(2) Forecasted Gas Sales[2] – October 2019 through September 2020	76,621,497
(3) Recalculated Gas CIP Adjustment Rate = (1)/(2)	$0.22388/ dth
	$0.022388/therm

Our above forecasted balance does not include carrying charges. To get as close as possible to a $0 balance by Sept 30, 2020, the calculated rate of $0.022388 per therm was incrementally decreased to incorporate the effect of carrying charges, which are projected to be negative for several months. We determined the final rate by decreasing the calculated rate until the September 2020 forecasted CIP Tracker balance approached zero ($0) without going negative. The resulting rate is **$0.022357 per therm**. As shown in Table 21, this rate results in a forecasted September 30, 2020 Tracker balance of $718.

[2] Forecasted sales exclude the exempt customers and gas sales to qualifying large energy facilities.

Northern States Power Company, a Minnesota corporation
State of Minnesota- Electric Utility
DSM Cost Recovery & Incentive Mechanism - Total
2019 Forecast

		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
	EXPENSES	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	
1.	Balance	26,639,223	22,123,115	19,550,888	15,770,247	13,663,334	9,806,160	8,090,223	(122,465)	(5,607,441)	21,461,853	18,400,855	18,064,074	16,208,734
2.	CIP Program Expenditures	7,422,490	7,504,251	7,374,933	7,717,236	6,912,150	10,359,301	5,648,144	7,781,773	9,420,094	7,113,547	9,452,823	9,239,678	95,946,419
3.	2018 Performance Incentive									28,856,219				28,856,219
4.	Total Expenses + Incentive (Line 1 + 2 + 3)	34,061,713	29,627,366	26,925,820	23,487,482	20,575,484	20,165,460	13,738,367	7,659,308	32,668,872	28,575,400	27,853,678	27,303,752	141,011,371
	RECOVERY													
5.	CCRC Rate ($/MWh)	3.133	3.133	3.133	3.133	3.133	3.133	3.133	3.133	3.133	3.133	3.133	3.133	
6.	CCRC Cost Recovery (CCRC times Sales)	7,568,039	6,387,840	7,070,420	6,226,503	6,824,233	7,651,015	8,779,991	8,402,276	7,104,458	6,767,087	6,511,160	7,378,263	86,671,284
7.	CIP Adjustment Factor Rate ($/MWh)	1.813	1.813	1.813	1.813	1.813	1.813	1.813	1.813	1.813	1.581	1.581	1.581	
8.	CIP Adjustment Factor Recovery (Factor times Sales)	4,379,462	3,696,506	4,091,500	3,603,144	3,949,037	4,427,478	5,080,792	4,862,217	4,111,198	3,414,863	3,285,714	3,723,279	48,625,192
9.	Sub-Balance (Line 4 - 6 - 8)	22,114,212	19,543,019	15,763,900	13,657,835	9,802,213	8,086,967	(122,416)	(5,605,185)	21,453,216	18,393,450	18,056,804	16,202,211	
10.	Accum Deferred Tax (Line 9 * 28.742%)	6,356,067	5,617,055	4,530,860	3,925,535	2,817,352	2,324,356	(35,185)	(1,611,042)	6,166,083	5,286,645	5,189,887	4,656,839	
11.	Net Investment (Line 9 - 10)	15,758,145	13,925,965	11,233,040	9,732,300	6,984,861	5,762,611	(87,231)	(3,994,142)	15,287,133	13,106,805	12,866,917	11,545,371	
12.	Carrying Charge (Line 11 * Carrying Charge Rate)	8,903	7,868	6,347	5,499	3,946	3,256	(49)	(2,257)	8,637	7,405	7,270	6,523	63,349
13.	End of Month Balance (Line 9 + 12)	22,123,115	19,550,888	15,770,247	13,663,334	9,806,160	8,090,223	(122,465)	(5,607,441)	21,461,853	18,400,855	18,064,074	16,208,734	

Table 21: 2019 Electric CIP Tracker Forecast, With Cost Recovery in 2019

Northern States Power Company, a Minnesota corporation
State of Minnesota- Electric Utility
DSM Cost Recovery & Incentive Mechanism - Total
2020 Forecast

		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
	EXPENSES	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast
1.	Balance	16,208,734	12,313,718	9,881,266	6,691,345	5,124,463	1,847,598	758,642	(6,750,186)	(11,548,861)
2.	CIP Program Expenditures	7,422,490	7,504,251	7,363,125	7,717,236	6,912,150	10,359,301	5,648,144	7,781,773	9,420,094
3.	2019 Performance Incentive									12,746,662
4.	Total Expenses + Incentive (Line 1 + 2 + 3)	23,631,224	19,817,969	17,244,391	14,408,580	12,036,613	12,206,899	6,406,786	1,031,587	10,617,896
	RECOVERY									
5.	CCRC Rate ($/MWh)	3.133	3.133	3.133	3.133	3.133	3.133	3.133	3.133	3.133
6.	CCRC Cost Recovery (CCRC times Sales)	7,525,090	6,606,735	7,015,513	6,171,744	6,772,277	7,608,898	8,742,529	8,358,078	7,055,338
7.	CIP Adjustment Factor Rate ($/MWh)	1.581	1.581	1.581	1.581	1.581	1.581	1.581	1.581	1.581
8.	CIP Adjustment Factor Recovery (Factor times Sales)	3,797,372	3,333,945	3,540,225	3,114,436	3,417,481	3,839,664	4,411,726	4,217,722	3,560,322
9.	Sub-Balance (Line 4 - 6 - 8)	12,308,762	9,877,289	6,688,652	5,122,401	1,846,855	758,336	(6,747,469)	(11,544,213)	2,235
10.	Accum Deferred Tax (Line 9 * 28.742%)	3,537,784	2,838,930	1,922,452	1,472,280	530,823	217,961	(1,939,358)	(3,318,038)	642
11.	Net Investment (Line 9 - 10)	8,770,978	7,038,359	4,766,200	3,650,120	1,316,032	540,375	(4,808,112)	(8,226,175)	1,593
12.	Carrying Charge (Line 11 * Carrying Charge Rate)	4,956	3,977	2,693	2,062	744	305	(2,717)	(4,648)	1
13.	End of Month Balance (Line 9 + 12)	12,313,718	9,881,266	6,691,345	5,124,463	1,847,598	758,642	(6,750,186)	(11,548,861)	2,236

Table 22: 2020 Electric CIP Tracker Forecast, With Cost Recovery in 2020

Northern States Power Company, a Minnesota corporation
State of Minnesota - Gas Utility
DSM Cost Recovery and Incentive Mechanism
Tracker and Balance ($)
2019

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Total
EXPENSES	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	
1. Balance	($3,660,890)	($5,257,711)	($6,347,722)	($7,081,089)	($6,866,438)	($5,995,417)	($5,022,802)	($4,210,056)	($3,175,996)	$2,046,617	$1,979,707	$1,803,580	
2. CIP Program Expenditures	1,215,852	1,239,508	1,245,031	1,300,788	1,508,924	1,433,076	1,218,079	1,457,082	1,325,704	1,169,381	2,121,395	1,945,660	17,180,480
3. 2017 Performance Incentive									4,391,216				4.391.216
4. **Total Expenses** (Line 1 + 2 + 3)	**(2,445,039)**	**(4,018,203)**	**(5,102,691)**	**(5,780,301)**	**(5,357,514)**	**(4,562,341)**	**(3,804,723)**	**(2,752,975)**	**2,540,923**	**3,215,998**	**4,101,102**	**3,749,240**	
RECOVERY													
5. CCRC Rate ($/Dth)	0.0524	0.0524	0.0524	0.0524	0.0524	0.0524	0.0524	0.0524	0.0524	0.0524	0.0524	0.0524	
6. CCRC Cost Recovery	709,425	587,159	498,316	272,971	159,922	115,297	101,536	106,213	125,278	235,043	436,518	651,468	3,999,146
7. CIP Adjustment Factor Rate ($/Dth)	0.15504	0.15504	0.15504	0.15504	0.15504	0.15504	0.15504	0.15504	0.15504	0.22357	0.22357	0.22357	
8. CIP Adjustment Factor Recovery	2,099,032	1,737,272	1,474,405	807,661	473,174	341,137	300,422	314,262	370,670	1,002,835	1,862,450	2,779,557	13,562,877
9. **Total Recovery** (Line 6 + 8)	**2,808,457**	**2,324,431**	**1,972,721**	**1,080,632**	**633,097**	**456,434**	**401,958**	**420,475**	**495,947**	**1,237,878**	**2,298,968**	**3,431,025**	
10. Rate Refund	0	0	0	0	0	0	0	0	0	0	0	0	0
11. Sub-Balance (Line 4-9)	(5,253,496)	(6,342,633)	(7,075,412)	(6,860,933)	(5,990,610)	(5,018,775)	(4,206,681)	(3,173,450)	2,044,976	1,978,120	1,802,134	318,215	
12. Accum Deferred Tax (Line 11 * 28.742%)	(1,509,960)	(1,823,000)	(2,033,615)	(1,971,969)	(1,721,821)	(1,442,496)	(1,209,084)	(912,113)	587,767	568,551	517,969	91,461	(10,858,309)
13. Net Investment (Line 11-12)	(3,743,536)	(4,519,634)	(5,041,797)	(4,888,963)	(4,268,789)	(3,576,279)	(2,997,597)	(2,261,337)	1,457,209	1,409,569	1,284,165	226,754	(26,920,236)
14. Carrying Charge (a) (Line 13 * Carrying Charge Rate)	(4,215)	(5,089)	(5,677)	(5,505)	(4,807)	(4,027)	(3,375)	(2,546)	1,641	1,587	1,446	255	(30,312)
15. **End of Month Balance** (Line 11+14)	**(5,257,711)**	**(6,347,722)**	**(7,081,089)**	**(6,866,438)**	**(5,995,417)**	**(5,022,802)**	**(4,210,056)**	**(3,175,996)**	**2,046,617**	**1,979,707**	**1,803,580**	**318,470**	

Table 23: 2019 Gas CIP Tracker Forecast, With Cost Recovery in 2019

Northern States Power Company, a Minnesota corporation
State of Minnesota - Gas Utility
DSM Cost Recovery and Incentive Mechanism
Tracker and Balance ($)
2020 Forecast

		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept
	EXPENSES	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast
1.	Balance	$318,470	($2,200,912)	($4,162,532)	($5,542,917)	($5,682,039)	($5,015,945)	($4,191,242)	($3,508,609)	($2,609,960)
2.	CIP Program Expenditures	1,215,852	1,239,508	1,245,031	1,300,788	1,508,924	1,433,076	1,218,079	1,457,082	1,325,704
3.	2019 Performance Incentive									1,941,954
4.	**Total Expenses** (Line 1 + 2 + 3)	**1,534,322**	**(961,404)**	**(2,917,501)**	**(4,242,129)**	**(4,173,115)**	**(3,582,869)**	**(2,973,163)**	**(2,051,528)**	**657,698**
	RECOVERY									
5.	CCRC Rate ($/Dth)	0.0524	0.0524	0.0524	0.0524	0.0524	0.0524	0.0524	0.0524	0.0524
6.	CCRC Cost Recovery	708,895	607,183	497,659	272,539	159,270	114,877	101,134	105,635	124,745
7.	CIP Adjustment Factor Rate ($/Dth)	0.22357	0.22357	0.22357	0.22357	0.22357	0.22357	0.22357	0.22357	0.22357
8.	CIP Adjustment Factor Recovery	3,024,574	2,590,608	2,123,314	1,162,815	679,540	490,135	431,500	450,704	532,237
9.	**Total Recovery** (Line 6 + 8)	**3,733,470**	**3,197,791**	**2,620,973**	**1,435,354**	**838,809**	**605,012**	**532,634**	**556,339**	**656,981**
10.	Rate Refund	0	0	0	0	0	0	0	0	0
11.	Sub-Balance (Line 4-9)	(2,199,148)	(4,159,195)	(5,538,473)	(5,677,483)	(5,011,924)	(4,187,882)	(3,505,796)	(2,607,867)	717
12.	Accum Deferred Tax (Line 11 * 28.742%)	(632,079)	(1,195,436)	(1,591,868)	(1,631,822)	(1,440,527)	(1,203,681)	(1,007,636)	(749,553)	206
13.	Net Investment (Line 11-12)	(1,567,069)	(2,963,759)	(3,946,605)	(4,045,661)	(3,571,397)	(2,984,201)	(2,498,160)	(1,858,314)	511
14.	Carrying Charge (a) (Line 13 * Carrying Charge Rate)	(1,765)	(3,337)	(4,444)	(4,555)	(4,021)	(3,360)	(2,813)	(2,092)	1
15.	**End of Month Balance** (Line 11+14)	**(2,200,912)**	**(4,162,532)**	**(5,542,917)**	**(5,682,039)**	**(5,015,945)**	**(4,191,242)**	**(3,508,609)**	**(2,609,960)**	**718**

Table 24: 2020 Gas CIP Tracker Forecast, With Cost Recovery in 2020

Northern States Power Company
a Minnesota corporation
2018 CIP Financial Incentive Calculations
Cost-Effectiveness & Performance Mechanism Report
Reference Docket Nos. E,G999/CI-08-133 & E002/M-11-1101

In 2010, the Commission approved a new Shared Savings Incentive Mechanism (Docket No. E,G999/CI-08-133). The shared savings incentive mechanism awards a percentage of the net benefits created by a utility's energy conservation program, beginning once a utility surpasses its earnings threshold. The August 5, 2016 ORDER ADOPTING MODIFICATIONS TO SHARED SAVINGS DEMAND-SIDE MANAGEMENT FINANCIAL INCENTIVE PLAN modified the incentive mechanism to set a fixed range of percentages of net benefits based on the % of sales savings achieved, each year for the 2017, 2018 and 2019 DSM Plan years. The percentage of net benefits awarded increases as achievements increase, up to a cap of percent of net benefits awarded and a cap of total spend. Additionally, during the 2013 Legislature, a provision was added to MN Statute 216B.241, subdivision 7, which allows utilities the option to exclude the net benefits of low-income programs, if negative, from the calculation of the DSM financial incentive.

Xcel Energy's 2018 CIP portfolio achieved electric energy savings of over 680 GWh which will provide net benefits of over $238 million to Xcel Energy electric customers. The Company also achieved gas savings of 913,240 Dth, which will provide Xcel Energy customers with net benefits of more than $36 million. As a result of these achievements, we request approval of a 2018 CIP electric financial incentive of $28,856,219 and a 2018 CIP natural gas financial incentive of $4,391,216.

The performance measurements of Xcel Energy's individual electric and natural gas CIP programs, including indirect impact programs, are reported in Tables 2 and 3, respectively. The cost-effectiveness of individual programs is reported in the Cost-Effectiveness Report included in this filing.

Northern States Power Company
a Minnesota corporation
2018 Financial Incentive Calculations

In accordance with the Minnesota PUC Orders dated January 27, 2010 and August 5, 2016 (Docket No. E,G999/CI-08-133), and the Minnesota PUC Order dated March 12, 2012 (Docket No. E-002/M-11-1101), Xcel Energy respectfully submits these financial incentive calculations.

In 2018, the Company achieved electric energy savings of 680,448,447 kWh at the generator (157% of 1.5% goal) at a cost of $104,244,031 (111% of budget). As a result, we respectfully request approval of our CIP electric financial incentive in the amount of $28,856,219.

CIP Electric Financial Incentive Calculation

According to the Order in Docket No. E,G999/CI-08-133, certain expenses and savings are excluded from the incentive calculation, including regulatory assessments, electric utility infrastructure projects, qualifying solar projects, and third party projects not selected for inclusion in the annual incentive compliance filing. Further, in the September 12, 2016 Decision in Docket No. E999/CIP-16-541 IN THE MATTER OF AVOIDED TRANSMISSION AND DISTRIBUTION COST STUDY FOR ELECTRIC 2017-2019 CIP TRIENNIAL PLAN allowed for any expenses for the cost of the Transmission and Distribution Cost Study to be backed out of the benefit/cost analysis for the financial incentive. As stated in our January 30, 2013 incentive compliance filing, we elected to include the One Stop Shop program administered by the Center for Energy and the Environment (CEE).[1] The indirect impact third party programs—Enerchange, Energy Intelligence, Energy Smart, and Trillion Btu—are not included in the calculation of the incentive. In addition, during the 2013 Legislature, a provision was added to MN Statute 216B.241, subdivision 7, which allows utilities to exclude the net benefits of low-income programs from the calculation of net benefits for the incentive if the net benefits are negative.

Model Year Inputs

3-year Weather Normalized Sales Average (kWh)	28,947,563,800

Incentive Mechanism

Max Percent of Net Benefits Awarded	12.0%
Max Percent Expenditures Awarded	35.0%
Earnings Threshold	1.0%
Net Benefits Cap Achievement Level	1.7%
Increase in Net Benefits Awarded Per 0.1% Increase in Achievement Level	0.75%

Summary of 2018 Achievements

Actual Spending for Incentive[2]	$104,244,031
Actual Energy Savings (kWh)[3]	680,448,447
Net Benefits Achieved[4]	$240,468,488

[1] Docket No. E,G999/CI-08-133 and Docket No. E,G002/CI-10-81.

[2] Portfolio Subtotal spend plus CEE One-Stop Shop spend.

[3] Portfolio Subtotal energy savings plus CEE One-Stop Shop energy savings.

[4] The net benefits are equal to the utility test net benefits shown on Electric CIP Total cost-benefit analysis plus the utility test net benefits shown on the CEE One Stop Shop cost-benefit analysis, included in the Cost-Effectiveness Section. Excludes any net costs from low-income programs that failed the Utility Test.

2018 Financial Incentive Mechanism

In order to calculate the CIP financial incentive, it is necessary to calculate the percent of net benefits awarded. The following calculations and incentive table detail Xcel Energy's financial incentive.

% of Sales Achievement Level =

Actual Energy Savings (kWh) / 3-year Weather Normalized Sales Average (kWh) =

680,448,447/28,947,563,800

= 2.35%

Percent of Net Benefits Awarded =

Max Percent of Net Benefits Awarded – Increase in Net Benefits Awarded Per 0.1% Increase in Achievement Level x (% of Sales Achievement Level less than Net Benefits Cap Achievement Level) / 0.1% =

12.0% - 0.75% x (2.35% less than 1.7%) = 12.0% - 0.75% x 0 / 0.1%

= 12.0%

Expenditures Award Cap =

Max Percent Expenditures Awarded x Actual Spend for Incentive =

35% x $104,244,031

= $36,485,411

Incentive Awarded =

Net Benefits Achieved x Percent of Net Benefits Awarded less than Expenditures Award Cap =

$240,468,488 x 12.0% less than $36,485,411

= **$28,856,219**

2018 Electric Incentive Request

Based on the above calculation, Xcel Energy respectfully requests approval of a CIP financial incentive of $28,856,219.

Northern States Power Company
a Minnesota corporation
2018 Natural Gas Incentive Calculation

In accordance with the Minnesota PUC Orders dated January 27, 2010 and August 5, 2016 (Docket No. E,G999/CI-08-133), and the Minnesota PUC Order dated March 12, 2012 (Docket No. E-002/M-11-1101), Xcel Energy respectfully submits these financial incentive calculations.

In 2018, Xcel Energy achieved energy savings of 913,240 Dth (127% of goal) at a cost of $15,132,566 (91% of budget). As a result, we respectfully request approval of our financial incentive in the amount of $4,391,216.

According to the Order in Docket No. E,G999/CI-08-133, certain expenses and savings are excluded from the natural gas incentive calculation, including regulatory assessments and third party projects not selected for inclusion in the annual incentive compliance filing. As stated in our January 30, 2013 incentive compliance filing, we elected not to include any of the natural gas third party programs in the calculation of the incentive.[5]

Model Year Inputs

3-yr Weather Normalized Sales Average (Dth)	71,897,513

Incentive Mechanism

Max Percent of Net Benefits Awarded	12.0%
Max Percent Expenditures Awarded	35.0%
Earnings Threshold	0.7%
Net Benefits Cap Achievement Level	1.2%
Increase in Net Benefits Awarded Per 0.1% Increase in Achievement Level	0.75%

Summary of 2018 Achievements

Actual Spending for Incentive	$15,506,389
Actual Energy Savings (Dth)	913,240
Net Benefits Achieved[6]	$36,593,467

2018 Financial Incentive Mechanism

In order to calculate the financial incentive achieved, it is necessary to calculate the percent of net benefits awarded. The following calculations and incentive table detail Xcel Energy's financial incentive.

% of Sales Achievement Level =

Actual Energy Savings (Dth) / 3-year Weather Normalized Sales Average (Dth) =

913,240 / 71,897,513

[5] Docket No. E,G999/CI-08-133 and Docket No. G002/M-16-108.

[6] The net benefits are equal to the utility test net benefits shown on the Total Gas CIP with Indirect Participants BENCOST sheet included in the Cost-Effectiveness section. Excludes any net costs from low-income programs that failed the Utility Test.

= 1.27020%

Percent of Net Benefits Awarded =

Max Percent of Net Benefits Awarded – Increase in Net Benefits Awarded Per 0.1% Increase in Achievement Level x (% of Sales Achievement Level less than Net Benefits Cap Achievement Level) / 0.1% =

12.0% - 0.75% x (1.27020% less than 1.2%) = 12.0% - 0.75% x 0 / 0.1% =

= 12.0%

Expenditures Award Cap =

Max Percent Expenditures Awarded x Actual Spend for Incentive =

35% x $15,132,566

= $5,296,398

Incentive Awarded =

Net Benefits Achieved x Percent of Net Benefits Awarded less than Expenditures Award Cap =

$36,593,467 x 12.0% less than $5,296,398

= **$4,391,216**

2018 Gas Incentive Request

Based on the above calculation, Xcel Energy respectfully requests approval of a financial incentive of $4,391,216.

Northern States Power Company
a Minnesota corporation
2018 CIP Status Report
Docket No. E,G002/CIP-16-115

Summary

The 2018 CIP Status Report compares the actual achievements accomplished by Xcel Energy in 2018 to the goals that were approved in the 2017-2019 CIP Triennial Plan. These comparisons focus on generator kWh and kW reduced, Dth saved, participation, and dollars spent compared to goal. The report discusses program accomplishments by segment, including:

- Business
- Residential
- Low-Income
- Planning
- Research, Evaluations, & Pilots
- Alternative Filings
- Assessments

Xcel Energy's CIP program continues to encourage energy savings and build awareness of the benefits of energy efficiency. In 2018, the electric portfolio and gas portfolio successfully exceeded their savings goals. The Company achieved more than 680 GWh of electric savings, 148 MW of demand reduction, and 913,240 Dth of gas savings, while spending $107.45 million on its electric programs and $15.51 million on its gas programs.

Summary of Achievements

2018	Electric Goal	Electric Actual	% of Electric Goal	Gas Goal	Gas Actual	% of Gas Goal
Budget	$98,508,281	$107,451,885	109%	$17,263,380	$15,506,839	90%
Generator kW	109,178	148,400	136%	n/a	n/a	n/a
kWh/Dth Saved	433,694,480	680,448,447	157%	769,720	913,240	119%
Participation	1,381,062	1,920,207	139%	634,792	765,805	121%

In compliance with Minn. R. 7690.0550, this 2018 CIP Status Report includes the cost-effectiveness of the overall Xcel Energy CIP Plan based on 2018 actual performance, as calculated from the utility, participant, ratepayer, and societal perspectives. The results are listed by segment and by program. The cost-benefit analyses can be found in a separate section after the "Cost-Effectiveness" tab.

Business Segment

Xcel Energy's Business Segment provides a variety of program designs used to encourage business customers to save energy, lower their energy bills and/or peak demand, and minimize environmental impacts. These include:

- Equipment rebate programs that lower the cost for customers to purchase and install energy efficient equipment or process improvements;
- Studies and audits that help customers identify, plan, prioritize, and implement energy efficiency projects;
- Holistic programs that encourage broader long-term energy planning to help customers analyze, track, and implement efficiency plans rather than ad-hoc efficiency projects;
- Demand management programs that encourage use patterns that lower customers' electricity demand during peak periods in exchange for lower rates or energy bill discounts; and,
- Business education, advertising, and promotional efforts that work to increase customer and trade awareness of energy use and conservation options, leading to future participation in programs.

Summary of Achievements

Segment	Electric Goal	Electric Actual	% of Electric Goal	Gas Goal	Gas Actual	% of Gas Goal
Budget	$39,280,379	$50,598,109	129%	$4,770,633	$4,892,326	103%
Generator kW	39,998	76,417	191%	n/a	n/a	n/a
kWh/Dth Saved	234,324,383	399,646,721	171%	441,060	584,873	133%
Participation	81,093	130,332	161%	21,453	21,806	102%

In 2018, the Business Segment electric portfolio exceeded its energy and demand savings goals, while spending was commensurate with achievements. The Business Segment's highest performing programs were Business New Construction, Commercial Efficiency, Lighting Efficiency, Process Efficiency and Turn Key. The Lighting Efficiency program contributed the most towards portfolio performance, realizing strong results by adding new technologies, aligning pricing with the market and promoting efficient LED measures. The other high performing programs are all holistic type offerings providing customers with the broader long-term planning they seek, and allow the Company to consult on and influence more comprehensive energy efficiency decisions.

The Business Segment gas portfolio also exceeded savings and spend goals. Holistic offerings delivered the highest performance; Business New Construction, Commercial Efficiency, Process Efficiency and Turn Key all exceeded goal.

Business Direct Impact Programs

Business New Construction

The Business New Construction program offers free consulting services as well as electric and gas rebates to customers that incorporate energy efficiency into their new construction project, building addition or major renovation. The program includes two offerings: Energy Design Assistance (EDA), which is an integrated design approach that utilizes energy modeling to identify whole building energy savings opportunities and provides customized rebates; and, the Energy Efficient Buildings (EEB) which is typically for smaller, less complicated projects. EEB projects utilize our existing custom and prescriptive rebates to develop a project-specific rebate offering for the customer.

The program is primarily marketed through the design community. Given the program's longevity, it has an established trade network of design professionals that regularly participate and the Company's consultant regularly communicates with this target audience. Xcel Energy account managers and Business Solutions Center representatives also promote the program to customers.

Deviation from Goal or Budget

Due to the ongoing construction boom, the Business New Construction program significantly exceeded its electric and gas savings goals. The percent of budget spending was slightly higher than achievement and the Company expects this trend to continue. As codes and certification requirements increase, the savings per project decreases; however, the costs to attract and manage these projects through the program will continue to increase.

Additionally, lighting and lighting control measures currently make up more than 50 percent of the program's achievement. As the EISA standards come into effect, energy savings will be more difficult and costly to achieve from other end uses.

Changes in 2018

None.

Commercial Efficiency

The Commercial Efficiency program offers large commercial customers customized resources to develop a holistic, sustainable energy management plan. The program also provides funding for studies to identify and scope energy efficiency opportunities. Rebates are available to businesses that implement qualifying energy efficiency recommendations. This program is primarily marketed to large commercial customers through our account managers.

Deviation from Goal or Budget

In 2018, the program exceeded its electric and gas achievement goals due to a strong pipeline of projects identified in previous years. Spending was in line with achievement. Looking forward, the Company expects expenditures to increase due to more customers participating in Phase 2 and Phase 3 of the program. The program has engaged many targeted customers (commercial, with the potential to save 1 GWh) and savings from these customers will continue, however the addition of new customers will begin to decline.

Changes in 2018
None.

Commercial Refrigeration Efficiency
The Commercial Refrigeration Efficiency program provides a walk-through energy assessment to identify efficiency improvement opportunities and uses a combination of direct installation, prescriptive and custom improvement measures. Rebates are offered to lower the incremental capital cost associated with energy improvement opportunities.

The program uses a third-party implementer to perform on-site energy assessments and help customers identify and implement energy efficiency opportunities. The program is promoted through our energy efficiency specialists, third party implementer and advertising.

Deviation from Goal or Budget
In 2018, the program did not achieve its electric goals as the program launched later than anticipated. The program did achieve its gas goals, primarily due to direct install measures of aerators and pre-rinse sprayers. More assessments were conducted than forecasted in 2018, and this is expected to help fill the pipeline for 2019.

Changes in 2018
The program was launched in 2018.

Computer Efficiency
The Computer Efficiency program offers prescriptive electric rebates to business customers who install Virtual Desktop Infrastructure (VDI) and PC Power Management software. The program is marketed directly to business customers through the Company's trade partners and sales channels.

Computer Efficiency also offers incentives for desktop personal computer (PC) and server manufacturers that design, manufacture, and sell units with energy-efficient power supplies to business customers in Xcel Energy's electric service territory. These incentives are marketed through a third-party implementer that works directly with the various PC and server manufacturers to track equipment sold in the Company's territory.

Deviation from Goal or Budget
The Computer Efficiency program did not reach its goal for 2018, and program spending aligned with program achievement. Over the past several years, the Company has seen a decline in upstream participation due to the increase in sales of laptops and other efficient computing devices. Additionally, in 2017 the upstream computer power supply portion of the program moved with the industry recommendation to the Energy Star 6 standard, significantly reducing the savings per unit captured.

Changes in 2018
The Company formally submitted a modification request to discontinue the Computer Efficiency Program and move cost-effective measures from the Computer Efficiency program into the Data Center Efficiency program.

Cooling Efficiency
The Cooling Efficiency program offers prescriptive and custom rebates as well as study funding to business customers that purchase and install efficient cooling systems for space and process cooling. Rebates help offset the incremental cost of the efficient equipment and help minimize the associated payback period. Marketing efforts focused on developing relationships with trade partners and educating them on the role our rebates can play in encouraging high efficiency equipment sales to customers. This program is marketed to business customers of all sizes.

Deviation from Goal or Budget
The Cooling Efficiency program fell slightly short of its electric and gas savings and spending goals in 2018. Electric achievement fell short partly due to a new requirement to provide the Air-Conditioning, Heating, and Refrigeration Institute (AHRI) certificates along with equipment as well as use the nominal tonnage on the certificates instead of manufacturer tonnage. Natural gas rebate spending and energy savings fell short due to lack of customer interest in energy recovery ventilators.

Changes in 2018
None.

Custom Efficiency
The Custom Efficiency program offers custom electric and gas rebates to business customers who implement energy saving projects that are not eligible for rebates through our prescriptive programs. The program is an important piece of our portfolio as it provides a place to evaluate unique savings opportunities and serves as a launch pad for new program ideas.

The program is open to all commercial business customers, but is primarily marketed to mid-size customers through direct contact with our account managers, Business Solutions Center, internet resources and trade partners. Promotional efforts continue to focus on market segments not served by our holistic programs as well as energy efficiency equipment and unique strategies that do not have corresponding prescriptive rebates. It is becoming more challenging to bring qualifying projects into the program.

Deviation from Goal or Budget
In 2018, the Custom Efficiency program fell short of electric and gas goals as several key projects shifted completion dates to 2019. Program spending aligned with achievement.

Changes in 2018
None.

Data Center Efficiency
The Data Center Efficiency program offers study, prescriptive and custom electric rebates to customers who implement energy saving measures in their data centers. This is a unique segment-focused program tailored to the specialized needs of data centers. The program is primarily marketed to enterprise and colocation data centers through the Company's account managers,

Business Solutions Center and trade partners, as well as through new construction partners and professional organizations. Data centers of any size may participate in the program.

Deviation from Goal or Budget
The Data Center Efficiency program did not meet it savings goal, and program spending aligned with program achievement. A few large projects that were initially expected to be completed in 2018 have been extended into 2019.

The program launched a targeted advertising campaign to potential and existing customers to build awareness for current offerings. Various tactics were used to increase achievement and build pipeline, such as offering free walkthroughs to identify energy saving opportunities and meeting with targeted data center vendors to increase participation.

Changes in 2018
The Company submitted a formal modification request to discontinue the Computer Efficiency Program and merge a cost effective measure from the Computer Efficiency program into the Data Center Efficiency program. This change was approved by the Department and took effect on January 1, 2019. This change was intended to eliminate non-cost effective measures, and merge two programs to reduce costs and combine resources due to similarities in program segments.

Efficiency Controls
The Efficiency Controls program offers custom electric and gas rebates to businesses that install automated control systems resulting in energy savings. Rebates can apply to new systems for HVAC and lighting systems that can be centrally controlled either locally or via web interface. Customers receive customized energy savings estimates when they apply for rebates under the program.

The program is marketed directly to all sizes of commercial businesses through our active trade partner relationships, account managers, and energy efficiency specialists.

Deviation from Goal or Budget
In 2018, the program surpassed its electric goal due to a strong pipeline and a handful of large projects. The program fell short of its gas goal as several combination projects were deferred to 2019 by customers. Both electric and gas spending were in line with achievements.

Changes in 2018
A formal modification request was filed to request adding a load shifting component to the Efficiency Controls program in the Company's 2017-2019 Conservation Improvement Program (CIP) Triennial Plan. While we understand the Department's decision, Xcel Energy and our customers still see value in combining load shifting opportunities within projects that have advanced efficiency control capabilities.

Fluid Systems Optimization
The Fluid Systems Optimization program offers prescriptive and custom electric rebates as well as study funding to customers that make improvements in their fluid and compressed air systems. The program helps customers identify and implement energy-saving improvements in compressed air, blower, fan, and vacuum, hydraulic and pump systems.

The program is primarily marketed to large and mid-sized industrial customers through strong trade partner relationships, as well as the Company's account management and energy efficiency specialist teams, and digital and event marketing.

Deviation from Goal or Budget
In 2018, the program did not meet its filed goal due to the cyclical nature of the technology's sales. Expenditures were controlled and aligned with performance. The highest customer participation is with compressed air measures, and this will continue to be a focus for the program. Additional participation in program measures occurred within the Process Efficiency program.

Changes in 2018
No changes.

Foodservice Equipment
The Foodservice Equipment program offers prescriptive gas and electric rebates to businesses that purchase and install qualifying energy efficient foodservice equipment. The objective of the program is to encourage customers to purchase higher efficiency foodservice equipment. The program is primarily marketed through the Company's account managers, energy efficiency specialists and trade partners. The Company also offers a trade incentive to help stimulate greater awareness and increase trade participation.

Deviation from Goal or Budget
The Foodservice Equipment program exceeded gas and electric achievement goals primarily due to strong trade support. The Company offers the trade an incentive to encourage them to support the program. Of particular note, four large projects totaled 38% of gas achievement.

Changes in 2018
None.

Heating Efficiency
The Heating Efficiency program offers prescriptive and custom gas and electric rebates to customers that install energy efficient boilers, furnaces, water heaters, heating system improvements, unit heaters and electronically commutated motors (ECMs). The program encourages customers to optimize and/or replace their existing heating systems through funding audits, repairs, and tune-ups on an ongoing basis.

The program is primarily marketed to large customers through the Company's account managers and to midsize customers through Energy Efficiency Specialists. The secondary marketing channel consists of leveraging trade partners, including manufacturer representatives, contractors, and distributors. Other promotional activities include outreach through community energy organizations such as Minnesota Blue Flame Association, the primary gas association in Minnesota. Our engagement with Minnesota Blue Flame is used to assess engagement, program strengths and weaknesses, and gather feedback from the trade market.

The program leverages various activities such as training for customers and trade partners, utility bill onserts, email campaigns, e-newsletters and social media outlets to increase awareness. In 2018, a new strategy was implemented to increase program participation: trade partner case studies were created for the top two heating trade partners.

Deviation from Goal or Budget
The Heating Efficiency program did not meet its gas savings or spending goals in 2018 due to lower participation than forecasted. However, the program did exceed its electric savings goal. Program spending was proportionate with the overall achievement. Ongoing low natural gas prices have prolonged paybacks and diminished demand for investment in natural gas equipment upgrades.

Changes in 2018
A modification was filed in 2018 to move ozone laundry from custom to prescriptive, which is a gas only measure.

Lighting Efficiency
The Lighting Efficiency program offers prescriptive and custom rebates to motivate business customers to purchase and install energy efficient light fixtures. Lighting discounts are also available on LED light bulbs for businesses through participating distributors. In addition, study funding is available for customers looking to change or determine proper lighting levels.

The Company continues to observe declining LED equipment costs, which is driving greater affordability and adoption of LED technologies. Business customers now have a variety of LED options at various price points to upgrade their lighting equipment, such as new LED fixtures, LED retrofit kits and LED tubes.

In 2018, the program focused efforts on right sizing rebates to align with declining market costs and helping customers make the most cost-effective lighting upgrades for their businesses. Marketing efforts were heavily focused on developing and maintaining relationships with trade partners as they play a large role in educating customers about energy efficient products and motivating them to leverage rebates. The program's highest performing measures included LED tubes, troffers and high bay fixtures.

Deviation from Goal or Budget
In 2018, Lighting Efficiency exceeded its participation, savings, and spending goals due to strong performance in LED measures in the prescriptive and custom offerings of the program. The additional spending was in line with the increased achievement.

As LED bulbs continued to grow in popularity the price for the technology fell, the Company reduced Instant Rebate amounts to align with falling costs. This likely contributed to the drop in overall achievement in 2018.

Changes in 2018
The Company made a number of changes to the Lighting Efficiency program in 2018. As troffer and exterior lighting measures had a decrease in costs, the Company correspondingly adjusted rebate amounts. Fluorescent lamps and fixtures were also eliminated. Additionally, networked lighting controls were added as an option for customers to further increase the cost-effectiveness of a

lighting retrofit and position them as a viable option as the technology continues to advance. To align with networked lighting controls, stand-alone control measures were reconfigured and a new rebate structure was put in place. Finally, shelf stocking for lamps was approved for LED bulbs, to allow customers to receive credit for storing energy efficient lamps that were purchased through the program.

Motor and Drive Efficiency

The Motor and Drive Efficiency program offers prescriptive and custom rebates to qualifying electric business customers that install efficient motors, constant speed motor controllers (CSMCs) and variable frequency drives (VFDs).

The program is primarily marketed through the Company's account managers, energy efficiency specialists, and leverages trade partners as a secondary marketing outlet. To increase awareness, the program leverages various activities such as training for customer and trade partners, utility bill onserts, email campaigns, E-newsletters and social media outlets. In 2018, a new strategy was implemented to increase program participation: trade partner case studies were created for the top two VFD trade partners.

Deviation from Goal or Budget

The program did not meet its savings or spending goals in 2018 due to lower participation than forecasted. Program spending was proportionate with the overall achievement.

Changes in 2018

None.

Multi-Family Building Efficiency

The Multi-Family Building Efficiency (MFBE) program is a holistic approach in reaching the multi-family housing market segment to achieve deep, whole-building energy savings. The program is delivered in partnership with CenterPoint Energy and offers a whole-building energy use baseline, free energy audit, direct installation of low-cost energy saving measures and the potential for incentives with the implementation of a cost-effective energy efficiency bundle. Unlike other CIP programs, MFBE is focused on the entire multi-family building, including resident spaces and common areas.

The program is marketed through a variety of venues, which include Minnesota Multi Housing Association events and advertising, direct mail, email and social media. Additional interest in the program is driven through various stakeholder groups, communities and outreach from the Minneapolis Clean Energy Partnership.

Deviation from Goal or Budget

Despite higher overall building participation in 2018, the program did not reach the filed gas and electric goals primarily due to fewer incentive opportunities than initially planned. Additionally, this program year saw a higher number of participants opt out of the direct install portion of the program and buildings that could not achieve a cost-effective bundle to reach the minimum savings requirement. As in previous years, the program operations did not require any limits on participation as it had sufficient capacity to include all properties requesting participation in the program.

In 2018, a program evaluation and numerous stakeholder engagement meetings were conducted to gain insight into the multifamily customer experience, other utility programs and areas to consider for improving the program performance. These activities confirmed challenges to driving whole-building deep energy efficiency improvements. While we anticipate that 2019 will have similar results to 2018, the information obtained and experience gained since the program launch in late 2015 are being reviewed for consideration for the Company's next CIP Triennial Plan filing.

Changes in 2018
None.

Process Efficiency
The Process Efficiency program offers customized resources to large and mid-sized industrial customers to develop a holistic, sustainable energy management plan. Specifically, this program provides funding for studies to identify and scope energy efficiency opportunities. Prescriptive and custom rebates are available to customers who implement qualifying energy efficiency recommendations. This program is primarily marketed through the Company's account managers.

Deviation from Goal or Budget
Due to a strong pipeline of projects identified by working directly with customers on their energy management plans, the program significantly exceeded both its electric and gas savings goals. Spending was in line with the filed budgets.

Looking forward, the pipeline of opportunities for future years does not look as strong as 2018. The program has engaged many targeted customers (industrial, with the potential to save 0.5 to 1 GWh) and savings from these customers will continue, however the addition of new customers will begin to decline.

Changes in 2018
None.

Recommissioning
The Recommissioning program offers study funding as well as electric and natural gas implementation rebates to commercial customers that optimize their existing equipment to make it more energy efficient. Recommissioning consists of two main steps: study and implementation. The Company offers rebates to offset the cost of Recommissioning studies, as well as rebates for the implementation of Recommissioning measures. Through a study provider chosen by the customer, the program supports a systematic investigation and implementation plan to improve building operations, decrease costs, and reduce peak electric demand and natural gas usage.

The Recommissioning program also includes a benchmarking service that provides a free data aggregation and data upload tool to the Company's electric and natural gas customers interested in tracking whole building data. Data is uploaded automatically to the U.S. Environmental Protection Agency's (EPA) online tool ENERGY STAR Portfolio Manager.

The program is primarily marketed through the Company's account managers, Business Solutions Center, and study providers.

Deviation from Goal or Budget
In 2018, the program fell short of its electric and gas goals. Both electric and gas spend were also below the filed budgets. Four implementation projects that were forecasted for Q4 2018 were pushed to 2019. Had they been implemented as planned, the program would have met goal on the electric side.

Changes in 2018
In 2018, the Company filed a formal modification request to add a load shifting component to the Efficiency Controls Program, which was denied by the Department. However, the Company and customers still see value in combining load shifting opportunities within projects that leverage advanced efficiency controls strategies. The Company's goal is to provide those solutions to customers in the future.

Self-Direct
The Self-Direct Efficiency program is targeted toward business customers who have the resources to manage their own energy efficiency improvement projects and the capability to perform their own measurement and verification (M&V). Some customers prefer to use their in-house experience and resources, while others may choose an energy service company (ESCO) or other energy partner to assist them with their efforts. Regardless, customers who implement and commission qualifying projects can receive rebates based upon the amount of energy savings achieved.

Deviation from Goal or Budget
The Self-Direct program did not have any participation in 2018. The Company continues to work with vendors, but most customers gravitate to holistic, full-service programs. The program spending was primarily attributed to investigating potential projects with customers who have expressed an interest in the program. Nonetheless, the Company continues to offer this product to any eligible customer that might be interested in self-managing their energy efficiency projects.

Changes in 2018
None.

Turn Key Services
The Turn Key Services program provides business customers with on-site audits to identify electric and gas energy efficiency opportunities, free implementation support, and prescriptive or custom rebates. Implementation services and rebates are available for any qualifying conservation project, regardless of whether it was identified in an audit. The program uses a hands-on approach and third-party assistance to help customers bridge the gap between identifying and implementing energy-saving opportunities. The program is primarily promoted through the Company's account managers, energy efficiency specialists and advertising.

Deviation from Goal or Budget
In 2018, the program exceeded its electric and gas goals, achieving the second-highest savings since the program launched in 2012. This can be attributed to building a solid pipeline in previous years,

performing ongoing follow-ups with customers who have completed audits, and offering a bonus to customers who implemented measures within one year of their audit.

Changes in 2018
The Company filed a formal modification request in December 2018 to help customers identify low or no-cost operational improvements to their existing equipment.

Business Load Management Programs

Electric Rate Savings

The Electric Rate Savings (ERS) program is offered to any business customer that can reduce their electric loads by at least 50 kW during control periods initiated by the Company or the Midcontinent Independent System Operator (MISO). In return for reducing their loads, customers receive a monthly discount on their demand charges and can potentially save up to 50 percent on their demand charges over the entire year. ERS is promoted directly to customers through Xcel Energy's Account Management and Business Solutions Center teams.

Deviation from Goal or Budget

In the first half of 2018, the program experienced small gains of controllable load. As the year progressed, the Company saw a significant increase in participation, although not a full recovery from the losses experienced due to the testing period that occurred from the summer 2014 through the winter of 2017. The program finished the year under budget, with an increase in program participation and controllable load.

Changes in 2018

The increase in program participation and controllable load was mainly due to the absence of testing during the winter of 2018. The only event call during 2018 was the annual system notification test, which does not require program participants to actually control load. With this change, we expected program participation to return back to "pre-testing" era levels.

Saver's Switch for Business®

Saver's Switch for Business® is a prescriptive load management program available to business electric customers with central air conditioning. Participating customers receive a monthly discount on their June through September bills. In exchange for the discounts, participants allow Xcel Energy to cycle their air conditioner on and off during control events, which typically occur on hot, humid summer days. The program is marketed via direct mail, customer care agents, account managers, and advertising.

During the year, the company conducted one control event for Saver's Switch. The weighted kWh realization rate for the program was 78.9% as we called fewer control events than anticipated.

Deviation from Goal or Budget

In 2018, the program met its participant targets. However, the average participant enrolled fewer AC units than projected and the demand and energy targets were not met. The program came in slightly below budget for the year, primarily due to lower promotional expenditures.

Changes in 2018

None.

Business Indirect Impact Programs

Business Education

The Business Education program focuses on creating awareness of energy efficiency and providing business customers with information on how to reduce energy use in their buildings. The program encourages customers to make Xcel Energy their first contact when considering equipment or process upgrades, and engages customers to make changes that lower their energy use. The program focuses on removing the barriers to adoption of energy efficiency measures by educating customers and their employees on the impacts of their energy use and offering information on how to take action to achieve long-term energy savings.

The program is primarily marketed to small and mid-sized business customers through sponsorships, customer outreach, advertising campaigns, email newsletters, and the Business Solutions Center.

Deviation from Goal or Budget

In 2018, the Company exceeded the electric and gas participation targets for this program while staying within the approved budgets. Continued long-term partnerships with community-based organizations contributed to increased participation without additional expenditures. Community partners continued to offer additional outreach opportunities as a result of longstanding relationships.

Changes in 2018

None.

Small Business Lamp Recycling

The Small Business Lamp Recycling program encourages electric customers in Minnesota to recycle their spent fluorescent bulbs instead of discarding them to ensure that hazardous materials, such as mercury, do not enter the environment. The program's main offerings include: free compact fluorescent light (CFL) bulb recycling at participating local hardware stores and partnering county hazardous waste facilities as well as coupons to help reduce the recycling fee for fluorescent tubes and HID bulbs at participating hardware stores. The coupons are available at participating hardware stores and on the xcelenergy.com website.

The Small Business Lamp Recycling Program is primarily marketed through Xcel Energy's Home Lighting program promotions, participating hardware stores, and on the main Xcel Energy website. A search feature allows customers to search by zip code to find the nearest recycling locations.

Deviation from Goal or Budget

Small Business Lamp Recycling exceeded its participation goals while remaining consistent with filed budget. More customers are becoming aware of the importance of recycling and taking advantage of the environmentally friendly option. Participation dropped in 2018 from 2017 by a small percentage due to the phasing out of CFL bulbs at small businesses.

Changes in 2018

None.

Residential Segment

The Residential Segment provides cost-effective, direct and indirect impact energy efficiency and demand response programs that target customers' homes. Prescriptive rebates, in-home services and consumer education make up the portfolio across a variety of programs. They are designed to inform and influence customer knowledge and purchasing decisions related to energy use and conservation.

Summary of Achievements

Segment	Electric Goal	Electric Actual	% of Electric Goal	Gas Goal	Gas Actual	% of Gas Goal
Budget	$28,670,256	$25,367,055	88%	$8,329,773	$7,266,054	87%
Generator kW	57,043	57,174	100%	n/a	n/a	n/a
kWh/Mcf Saved	142,688,303	194,485,116	136%	310,251	317,645	102%
Participation	1,265,498	1,756,485	139%	610,518	743,022	122%

In 2018, the Residential Segment's electric portfolio exceeded its participation, energy savings and demand savings goals. Electric spending was under the filed budget primarily driven by lower Home Lighting incentives. Respectively, Home Lighting, Energy Feedback and Residential Heating System Rebate programs were the leading electric energy savings performers. The Home Lighting program experienced continued strong customer response to promotions and event marketing. The Residential Cooling, Refrigerator Recycling and Home Energy Squad programs also contributed significant electric savings. Saver's Switch, Home Lighting and Residential Cooling brought in the most demand savings among the programs in this segment.

The Residential Segment's gas portfolio exceeded its filed participation and savings goals while spending was under. Gas spending was under filed budget due to some programs implementing promotional cost efficiencies, and two of the programs were far below participation goals. Two thirds of Gas programs exceeded savings goals. Having both far surpassed savings goal, the Energy Feedback and Insulation Rebate programs spent significantly less than their percent of achieved Gas savings. Energy Efficient Showerheads, Energy Feedback, Efficient New Home Construction, Heating System Rebate, Insulation Rebate, and School Education Kits programs all surpassed their filed Gas savings goals. Respectively, Heating System Rebate, Energy Feedback and Efficient New Home Construction programs were the lead contributors toward the segment's total Gas achievements. School Education Kits also contributed significantly.

Residential Direct Impact Programs

Efficient New Home Construction

The Efficient New Home Construction program helps local builders construct energy efficient homes for our residential customers by providing incentives based on the "percent better than baseline" savings achieved by the home. The program also provides annual trainings and consulting services for builders to help them learn and employ better building practices. In 2018, the program was promoted primarily through the spring and fall Parade of Homes events sponsored by the Builders' Association of the Twin Cities and by outreach via the program vendor.

Deviation from Goal or Budget

In 2018, program participation performed well, exceeding both the gas and electric customer participation goals, carried by a continued strong construction market. Electric and gas savings figures also exceeded filed goals, which is largely attributable to strong construction practices among program builders, and electric savings to increased saturation of high efficiency lighting. While the program underspent in both gas and electric, spending is expected to change in the coming years as more homes achieve higher savings and larger rebates.

Changes in 2018

None.

Energy Efficient Showerheads

The Energy Efficient Showerheads program is designed to offer year-round natural gas and electric savings to Xcel Energy customers. Residential natural gas and combination gas and electric customers in Minnesota receive an offer for a 1.5 gallon per minute (GPM) showerhead, a 1.5 GPM kitchen aerator, and a 1.0 GPM bathroom aerator. Following sign-up, customers are mailed a showerhead kit free of charge, which includes the showerhead, two aerators, thread seal tape, and installation instructions.

Deviation from Goal or Budget

In 2018, the program met its filed gas goal, but did not meet the filed electric goal. Program spending was under budget for electric and over budget for gas. The increased gas spending was attributable to a larger percentage of customers who reported having a gas water heater than previous years, as well as a need for additional direct mailings compared to previous years to meet program goals. The lower electric savings and spending was attributable to a smaller percentage of customers that reported having an electric water heater than previous years.

Changes in 2018

None.

Energy Feedback

The Energy Feedback program is a behavioral conservation program based on the Residential Home Energy Reporting System. This is an opt-out program that uses a participant and control group to statistically calculate how much energy was saved by the participants.

Deviation from Goal or Budget
In 2018, the program achieved its electric and gas savings goals while being under budget. Internal labor costs remained lower than expected as the program matured and needed fewer internal resources.

Changes in 2018
None.

Heating System Rebate
The Heating System Rebate program offers prescriptive electric and natural gas rebates to customers that install new high-efficiency furnaces and boilers as well as Electronically Commutated Motors (ECM). The natural gas portion of the program is designed to encourage customers to choose high-efficiency heating equipment through a tiered rebate schedule, and the electric portion is designed to encourage customers to upgrade the fan motor of a forced-air furnace, or purchase a new furnace with an ECM.

The program is marketed primarily to homeowners via various forms of mass media messaging including TV, radio and digital advertising, and an extensive trade ally network that serves as in-home spokespeople for the program while selling new equipment. This program is also cross-marketed with the Insulation Rebate and Water Heating Rebate programs.

Deviation from Goal or Budget
In 2018 the program exceeded its natural gas and electric savings goals. Increased spending was commensurate with the achieved energy savings.

Changes in 2018
None.

Home Energy Squad
Home Energy Squad is a direct install program for electric and natural gas customers who are searching for ways to improve the energy efficiency and comfort of their home and lower their utility bill. The program is a co-branded partnership with CenterPoint Energy. The primary marketing tactics include mass media advertising, event marketing, bill onserts, and email marketing initiated by both utilities.

Deviation from Goal or Budget
In 2018, the program exceeded its electric savings goal, but did not achieve its gas savings goal. Gas spending was proportionate with the achieved gas savings. Electric spending was below the percent of electric savings achieved. Continued customer favorability toward the installation of LED bulbs through the program led to a high level of average electric savings per home. The program also continued its trend of significantly higher net gen kW savings than expected due to programmable thermostats' actual average setback temperature being higher than estimated in the technical assumptions.

Changes in 2018

In 2018, the program added an ENERGY STAR-rated dehumidifier measure to the program. However, no dehumidifiers were installed due to challenges with inventory and storage; these challenges have been resolved for the 2019 program year and the Company plans to communicate this measure addition with various marketing tactics.

Home Lighting

The Home Lighting program offers customers discounted prices on LEDs at participating retailers. LEDs are an easy, low-cost way for customers to save energy and reduce their monthly electric bills. The Company is focused on increasing awareness and sales of LED bulbs to drive market transformation.

The Home Lighting program is widely promoted through a variety of marketing channels including radio, TV, social media, print publication, bill onserts, and point-of-purchase displays. In 2018, the Company continued to feature our discounted bulbs periodically on retailer end-caps, which increases visibility of the program. The Company promotes the product through bulb giveaways and local events in the community such as fairs, Earth Day celebrations, and sporting events including partnering with the Minnesota Twins and Minnesota Wild. In-store retailer demos continue to be a source for consumer education and outreach where program field representatives work with consumers to provide education on bulb color, lumens and wattage equivalencies, helping customers find the right bulb for the right task and promoting ENERGY STAR products.

Deviation from Goal or Budget

In 2018, the program exceeded its electric goals while remaining under budget. The budget savings were attributed to the continued reduction in the price of LED bulbs as compared to what was filed, and the cost of incentives. Significant achievements were made in growing LED sales to just over 2.9 million units.

Changes in 2018

None.

Insulation Rebate

The Insulation Rebate program offers prescriptive electric and natural gas rebates to residential customers to increase their home's attic and wall insulation and to air-seal. Customers must have the insulation installed by an insulation contractor that has Building Performance Institute certification in order to qualify for the rebate. The program is primarily marketed through the trade partner network with an emphasis on communications through various channels including digital and print promotion and newsletters.

To increase awareness, the program leverages various electronic channels, cross-marketing with other Xcel Energy residential programs, and social media outlets to promote the program while controlling program costs. In 2018, two new promotional strategies were implemented to increase program participation: case studies were created for the top three insulation trade partners to promote the program to future customers; and, bill onserts were distributed in cities where new certified insulation contractors joined the program.

Deviation from Goal or Budget
The Insulation Rebate program did not meet its electric savings or spending goals in 2018 due to lower participation than forecasted as the market reacted differently than anticipated. The program did exceed its gas savings goal while under- spending its gas budget. Program spending was proportionate with the overall achievement.

Changes in 2018
A modification was filed in December 2018 to capture electric cooling savings for the Company's electric-only customers who have another utility as their natural gas heat provider.

Refrigerator Recycling
The Refrigerator Recycling program offers residential electric customers prescriptive rebates and free pick-up services to dispose of their operable, inefficient refrigerator and freezer units in an environmentally safe and compliant manner. This product is primarily marketed through bill onserts, direct mail, print and radio advertisements, as well as digital and social media channels.

Deviation from Goal or Budget
The program nearly met its participation goal in 2018, but did not meet its electric savings targets due to lower-than-expected per-unit savings. Program spending was under budget primarily due to efficient use of the marketing budget. To boost participation, the Company offered a promotion in the spring and fall, held a sweepstakes, and utilized low-cost marketing channels such as email and social media.

Changes in 2018
A modification was approved to make the program available year-round, and to claim electric savings for recycling operable, inefficient room air conditioners and dehumidifiers. These changes will improve the customer experience, provide additional services and value for customers, and will provide additional opportunities for cost-beneficial electric savings.

Residential Cooling
The Residential Cooling program offers prescriptive rebates to electric customers in single-family homes that purchase new high efficiency cooling equipment and install this equipment using Quality Installation (QI) standards. QI specifications are based on the Air Conditioning Contractors of America (ACCA) Standard 5 which dictates proper sizing, airflow, duct sealing, and refrigeration charge.

The program is marketed through advertising, cross-promotions with other programs, bill onserts, and trade partners. As customers are required to use a participating contractor to ensure quality installation for most systems, customer awareness and participation rely heavily on our trade relationships.

Deviation from Goal or Budget
In 2018, due to a strong retrofit market and successful promotions through our network of qualified trade partners, the program had record-high participation. As a consequence, the program significantly exceeded its filed savings and spending.

Changes in 2018
None.

School Education Kits
The School Education Kits program offers a multi-component kit that combines classroom activities and in-home projects to fifth or sixth grade students and their parents to teach them about energy and water conservation. The kits include energy saving and water conservation measures that students implement at home with their families, including LED bulbs, a high-efficiency showerhead, and faucet aerators. The program offers gas and electric savings, supports state and Common Core education standards, and educates the next generation of energy consumers on how to be energy efficient. Additional low-cost incentives are offered to encourage students to return their Home Energy Worksheets, which help ensure installation of the provided measures and help determine installation rates. Marketing and outreach communications are implemented by the program vendor and consist of email and direct mail to teachers at eligible schools.

Deviation from Goal or Budget
This program greatly exceeded its electric and gas savings goals while meeting its participation target and filed electric budget in 2018. The program ended the year below its filed gas budget. Strong installation rates continued in 2018 as LED bulbs continue to be very popular, and improved installation instructions and incentives encouraged more customers to install their water conservation measures.

Changes in 2018
None.

Water Heater Rebate
The Water Heater Rebate program offers prescriptive rebates to residential customers who purchase and install high-efficiency gas water heating equipment. By providing these incentives, Xcel Energy helps participating customers reduce their natural gas usage and long-term operating costs. The program is primarily marketed through trade and retail partners, as well as through cross-promotions with the Residential Heating and Insulation Rebate programs.

Deviation from Goal or Budget
In 2018, the program exceeded its filed gas savings and spending goals more cost effectively than forecasted. The high participation can be attributed to increased awareness of the program, a strong retailer presence, and heightened customer demand for efficient water heating equipment.

Changes in 2018
On June 1, 2018, the rebate structure was changed to base savings and rebates on Uniform Energy Factor (UEF) instead of Energy Factor (EF) in order to be consistent with the new rating system used by the US Department of Energy. A program evaluation was also completed in 2018.

Whole Home Efficiency
Whole Home Efficiency (WHE) is a comprehensive "whole home" retrofit program available to Xcel Energy residential combination natural gas and electric customers living in single-family homes

or multi-unit complexes with fewer than four units. This program is designed to offer higher prescriptive electric and natural gas rebates to customers who implement an insulation measure along with other efficiency options. Participants have one year to implement three required measures and have the option of receiving free direct install measures upon project completion.

Deviation from Goal or Budget
The program did not reach its participation goals in 2018 and consequently fell short on savings goals. Gas savings were proportionally higher than spending, indicating the WHE projects that were completed had strong gas savings. Electric spending was proportionate to electric savings. Low participation may be attributed to the lack of promotion of the program among the insulation trades. Moreover, this program can lack differentiation from the prescriptive Insulation Rebate program.

Changes in 2018
None.

Residential Load Management Programs

Residential Demand Response

Xcel Energy offers two residential demand response products: Saver's Switch® and AC Rewards. Both products target central air conditioners for reducing system load during demand peaks. Both offerings were promoted primarily via online and TV advertising, email, direct mail, and the Company's customer care organization.

Saver's Switch offers a seasonal bill discount to customers who agree to allow the Company to control remotely their central air conditioners during the summer months. Customers with qualifying electric water heaters can enroll this equipment as well. Electric water heaters can be controlled year-round, and customers receive incentives for their participation year-round. Due to the aging of previously installed switches, most of the program's achievements in 2018 were derived from the replacement of older hardware or hardware identified as no longer working.

AC Rewards also seeks to reduce AC load during demand peaks. Participants can receive up-front rebates on qualifying smart communicating thermostats and receive annual bill credits in exchange for allowing the Company to temporarily adjust the set point on the thermostat during control events.

During the year, the company conducted one control event for Saver's Switch and three for AC Rewards. The realization kWh rate for the Residential Demand Response program was 68.3% of filed as we called fewer control events than anticipated.

Deviation from Goal or Budget

The Company exceeded its targeted achievements for Saver's Switch while slightly exceeding budget. This is primarily due to lower promotional expenditures and significant number of maintenance replacements of switches beyond their useful life. As a relatively new offering, AC Rewards did not reach its spending or enrollment targets. To date, promoting smart thermostats has been more challenging than expected.

Changes in 2018

The Company submitted a modification request to add an energy efficiency rebate for ENERGY STAR-rated thermostats in December 2018. With this change, the Self-Install channel for AC Rewards will be removed. Customers purchasing and receiving a rebate for a qualifying thermostat can enroll in the program via the Bring Your Own Thermostat channel.

Residential Indirect Impact Programs

Consumer Education

The Consumer Education program creates awareness of energy conservation by providing residential customers with information and resources to reduce their home energy use. Xcel Energy provides customers with opportunities to actively engage in energy efficiency by offering product registration at statewide community outreach events, customer surveys, and social media channels. We also use traditional outreach channels like seasonal bill onserts as an integral part of the overall education and outreach strategy.

Deviation from Goal or Budget
In 2018, the Company exceeded the electric and gas participation targets for this program while staying within the approved budgets. In addition to the tactics outlined in the Plan, several factors helped drive program participation without increasing spending, including: outreach from community-based organizations through continued long-term partnerships with the Company and increased tracking and reporting from those partnerships.

Changes in 2018
None.

Home Energy Audit

The Home Energy Audit program offers substantially discounted energy auditing services to residential customers. This program is designed to improve energy savings in residential homes by influencing customer behavior through conservation education and encouraging identification and implementation of energy efficiency efforts. Considered a gateway program to the other Xcel Energy residential CIP programs, the Home Energy Audit program is cross-promoted with other programs. This marketing strategy helps minimize promotional and advertising costs.

Deviation from Goal or Budget
In an effort to manage the overall residential portfolio budget, the program limited costly promotions for 2018. Therefore, the program did not reach its target participation and spent less than its budget for the year.

Changes in 2018
None.

Residential Lamp Recycling

The Residential Lamp Recycling program encourages electric customers in Minnesota to recycle their spent fluorescent bulbs instead of discarding them, to ensure that hazardous materials such as mercury do not enter the environment. The program's main offerings include: free compact fluorescent light bulb recycling at participating local hardware stores and partnering county hazardous waste facilities; and coupons to help reduce the recycling fees for fluorescent tubes and HID bulbs at participating hardware stores. The coupons are available at participating hardware stores and on the xcelenergy.com website.

The Residential Lamp Recycling Program is primarily marketed through Xcel Energy's Home Lighting program promotions, participating hardware stores, and on the main Xcel Energy website. A search feature allows customers to search by zip code to find the nearest recycling locations.

Deviation from Goal or Budget
The program exceeded its participation goal while staying under the filed budget. More customers are becoming aware of the importance of recycling and taking advantage of the environmentally friendly option. Participation dropped in 2018 from 2017 by a small percentage due to less CFL bulbs being removed homes.

Changes in 2018
None.

Low-Income Segment

The Low-Income Segment helps income-qualified customers to minimize the impact that utility bills have on their households. The Home Energy Savings (HESP) program offers an in-home walk-through and energy usage analysis to identify areas for energy savings and energy efficient upgrades for the home. Multi-Family Energy Savings (MESP) provides electric home energy efficiency measures in addition to educating tenants about energy conservation. Low Income Home Energy Squad (LIHES) performs a quick assessment of each participant's home prior to installing energy-saving measures during one visit.

Summary of Achievements

Segment	Electric Goal	Electric Actual	% of Electric Goal	Gas Goal	Gas Actual	% of Gas Goal
Budget	$2,429,261	$2,408,363	99%	$1,627,584	$1,463,039	90%
Generator kW	369	345	94%	n/a	n/a	n/a
kWh/Mcf Saved	3,192,760	2,311,961	72%	13,894	10,722	77%
Participation	5,783	3,987	69%	1,940	977	50%

The segment met its minimum electric and gas spend requirements and its electric participation goal. The segment did not exceed its combined filed electric budget and gas budget. MESP and LIHES spent a high percent of their budgets to help boost the programs' low participation. HESP's electric and gas energy savings achievements far exceeded their respective spends; both fuels exceeded energy savings goals while underspending filed budgets. Whenever possible this segment cross-promoted its programs to economize promotional spends while building awareness of the offerings.

Savings goals varied greatly across the individual programs. While the segment did not reach its electric and gas filed savings goals, HESP achieved its gas savings goal for the third consecutive year. MESP did not reach participant or savings goals despite higher spend. This was primarily due to fewer low cost measure opportunities. LIHES performed very similarly to its previous year with slightly fewer gas participants and lower spend with both fuels.

Across the three programs within this segment, a broad marketing mix is implemented including mass media advertising, bill inserts, email marketing, and sponsored events. In addition, the programs are supported through neighborhood community events, workshops and partnerships with local non-profit organizations.

Home Energy Savings

The Home Energy Savings program (HESP) offers home energy assessments and education services to income-qualifying customers. The program is designed to provide customers with free energy-saving measures and information to help reduce their energy usage and ultimately make their energy bills more manageable. HESP is marketed through various channels that include the Company's partner vendors and advertising campaigns. The program is also marketed through community events and collaboration, and support from Xcel Energy's call centers.

Deviation from Goal or Budget

In 2018, the program exceeded both electric and gas savings goals. It also exceeded the electric participation goal, but did not meet the gas participation goal. The higher gas and electric savings can be attributed to the data captured and used to calculate savings, moving from deemed savings per measure to actual baseline and upgrade values.

Changes in 2018

Two modification requests for HESP were filed in 2018. The first modification request added budget and increased goals for the RENEWS pilot. The second request was filed in late December and proposed changes in the water heater measure to align with new savings standards.

Low-Income Home Energy Squad

Low-Income Home Energy Squad is a direct install program for income-eligible customers who are searching for ways to improve the energy efficiency and comfort of their home while also lowering their utility bill. The program is a co-branded partnership with CenterPoint Energy implementer. While in the home, the auditors work closely with customers to help them identify measures that will help optimize energy efficiency. Before, during and after installation of measures, the auditors work toward educating customers about each measure's efficiency benefits. The primary marketing tactics include email marketing, event marketing, bill onserts and cross-promotion with other Xcel Energy Low-Income programs.

Deviation from Goal or Budget

The program struggled to reach participation goals for the third year in a row. This target market has been a challenge to reach. Electric and gas participation was slightly lower than in 2017. Electric savings were higher than the previous year while gas savings were lower. Electric spending was proportionate to savings and gas spending was higher due to added marketing efforts.

Changes in 2018

None.

Multi-Family Energy Savings Program

The Multi-Family Energy Savings program (MESP) offers free energy-saving education and services to qualifying multi-family buildings. MESP provides electric services to income-qualifying renters and is designed to reach tenants and support low-income housing through efficiency upgrades in resident units. MESP is primarily marketed through our vendor partner and targeted to building owners or property managers, with additional support from Xcel Energy. No promotional activities were necessary in 2018 to solicit participation.

Deviation from Goal or Budget
In 2018, the program exceeded the filed budget, although savings came in under goal with many projects needing a limited mix of measures. This was primarily the result of properties having previously completed the lower-cost measure upgrades, such as lighting, through other program offerings. Additionally, while the program was able to reach large buildings with a high number of resident units, these properties were often master-metered, resulting in fewer reported participants.

We continue to see strong interest in the program, with property management organizations wanting to include all of their income-qualifying buildings. As a result, there remains the need to carefully manage the allocation of funds, ensuring they are fairly distributed across the region. In the future, we anticipate a need to actively promote the program to continue to expand participation which will result in increased acquisition costs and reduce the need to manage participation.

Changes in 2018
None.

Planning Segment

The CIP Planning Segment includes Advertising and Promotion, Application Development and Maintenance, CIP Training, and DSM Regulatory Affairs. These programs are all indirect impact and therefore generate no energy savings. The table below provides goal and actual spending in this segment for 2018.

Summary of Achievements

Segment	Electric Goal	Electric Actual	% of Electric Goal	Gas Goal	Gas Actual	% of Gas Goal
Advertising and Promotion	$3,300,000	$3,778,732	115%	$808,360	$909,335	112%
Application Development and Maintenance	$1,240,356	$485,868	39%	$450,435	$158,931	35%
CIP Training	$144,090	$110,420	77%	$52,993	$53,172	100%
Regulatory Affairs	$462,109	$504,560	109%	$148,427	$89,582	60%
Total	**$5,146,555**	**$4,879,580**	**95%**	**$1,460,215**	**$1,211,020**	**83%**

Advertising and Promotion

The Advertising and Promotion budget allows Xcel Energy to implement a variety of residential and business advertising and promotional plans. In 2018, the Residential Segment strategies planned through this program included multimedia advertising, promotion of our programs in numerous Partners in Energy cities, and a variety of promotional events. These strategies allowed the Company to reach large customer targets, build awareness, educate consumers, and promote specific programs' benefits with appropriate seasonal messaging. The Business Segment strategies included multimedia advertising, sponsorships, segment campaigns, and events, which were all designed to enhance customer and trade partner education as well as increase engagement with our programs.

Deviation from Goal or Budget

The Company increased promotional efforts to achieve energy savings. In 2018, the program exceeded filed budget as the Company added some larger sponsorships to align with this strategy.

Changes in 2018

None.

Application, Development, and Maintenance

The Application, Development, and Maintenance (ADM) program provides funds for software purchases, enhancements and upgrades that support the Company's CIP portfolio and regulatory reporting commitments. This includes in-house and external resources needed to configure and

maintain the software. The ADM budget was created to allow for simplified expense control and tracking. As an indirect program in the Planning Segment, this program is an internal only budget.

Deviation from Goal or Budget
In 2018, the Company under spent its ADM budget as a result of performing many longer-term planning initiatives instead of implemention.

In the Company's 2020-2022 CIP Triennial Plan, the ADM budget is expected to increase as many of these planned software and system upgrades will be implemented.

Changes in 2018
None.

CIP Training
The CIP Training budget is used to advance the energy efficiency education Company marketing, engineering, regulatory, operations and sales personnel. The budget provides funding for educational trainings, seminars and conferences focused on energy efficient electric and natural gas equipment, industry best practices, new advances in technology and changes in the energy efficiency industry. This budget helps ensure that the Company's staff are informed on the latest advances in demand side management and provide better service to our customers.

Deviation from Goal or Budget
In 2018, the Company under-spent the electric CIP Training budget and spent all of the gas training budget. Electric budget savings were achieved by encouraging local, regional and internal trainings instead of traveling to more distant locations.

The CIP Training budget will continue to be an important part of future filings as the Company seeks to continuously grow its expertise and enhance its CIP portfolio with new technologies and best practices.

Changes in 2018
None.

Regulatory Affairs
Regulatory Affairs manages all DSM regulatory filings, directs and prepares cost-benefit analyses, provides results of energy conservation achievements, manages electric and gas potential studies, and analyzes and prepares cost recovery reports. The group also provides procedures for effectively addressing requirements for the DSM regulatory process. These functions are needed to ensure a cohesive and high-quality DSM portfolio that meets legal requirements, as well as the expectations of Xcel Energy's customers, regulators, and staff.

In addition, Regulatory Affairs supports the DSM component of resource planning, rate cases, and certificates of need, and provides strategic evaluation planning and internal policy guidance. These functions are needed to ensure the cost-effectiveness of DSM, to ensure the quality of DSM impact estimates, help generate ideas for future DSM projects, establish programmatic consistency, and manage DSM-related marketing information.

Deviation from Goal or Budget
In 2018, Regulatory Affairs over spent on the electric budget due to an increased focus on electric efficiency programs and underspent on the gas budget.

Changes in 2018
None.

Research, Evaluations, & Pilots Segment

The Research, Evaluations, and Pilots Segment provides Market Research and Product Development services to Xcel Energy. This segment includes the pilots being managed within the Product Development program. The table below shows goal and actual spending in this segment for 2018.

Summary of Achievements

Research, Evaluations & Pilots Segment	Electric Goal	Electric Actual	% of Electric Goal	Gas Goal	Gas Actual	% of Gas Goal
Market Research	$1,063,691	$1,036,358	97%	$247,057	$156,143	63%
Product Development	$1,723,902	$1,085,354	63%	$211,882	$120,016	57%
Energy Star Retail Products Platform	$814,133	$833,735	102%	$40,408	$24,626	61%
Energy Information Systems Pilot	$299,233	$313,770	105%	$111,979	-$658	-1%
Total	**$3,900,959**	**$3,269,218**	**84%**	**$611,326**	**$300,126**	**49%**

Market Research

DSM Market Research conducts surveys and studies to understand customer needs that relate to DSM conservation efforts. In 2018, the Company conducted the following general research projects:

- Business and residential customer segmentation data via 3rd party data/segmentation firms;
- Residential Home Use Study;
- Phase two of the Demand Response Potential Study
- Business and Residential customer DSM decision-making research in partnership with the Company's Advertising and Brand team;
- Business customer lighting technology saturation research;
- E Source Consultative Services and research; and,
- Residential and Business Media Effectiveness tracking.

Market Research funds are also used to procure third-party services for comprehensive, process, and impact evaluations on individual programs. In 2018, the Company conducted research on the following programs:

- MN Business New Construction;
- MN Motor and Drive Efficiency;

- MN Multi-Family Building Efficiency; and,
- MN Water Heater Rebates.

Deviation from Goal or Budget
In 2018, the Market Research program spending was under budget for electricity and for natural gas. The electric Market Research spending was driven by the Demand Response potential study. Since the potential study and lighting saturation research were both electric-only projects, the gas budget was not used to avoid charging those customers for research that would not directly benefit them.

Changes in 2018
No significant changes were made to the Market Research program in 2018.

Product Development
Product Development identifies, assesses, and develops new energy efficiency and demand response products and services for eventual inclusion as new CIP programs, products, and measures. This work enables the Company to identify and promote promising new energy-saving technologies for customers. The group also develops improvements to existing products.

The Product Development group developed the following products, pilots or measures during 2018:

Business DSM
- Networked Lighting Controls Measure
- Ozone Laundry Measure

Residential DSM
- Room Air Conditioning and Dehumidifier Appliance Recycling Measures
- ENERGY STAR® Radon Fan Measure
- Thermostat Optimization Program

Deviation from Goal or Budget
In 2018, Product Development did not spend all of the filed electric or natural gas budget due to lower than anticipated costs for research, consulting services, and association dues.

Changes in 2018
None.

Energy Information Systems Pilot
The Energy Information Systems (EIS) Pilot offers consulting resources to help large customers:
- Design and implement web-based systems to visualize and analyze real-time energy data from across the customer's facility;
- Identify and implement energy saving measures, including low-cost recommissioning measures, and low- or no-cost behavioral and operational measures;
- Measure pre- and post- implementation conditions to verify savings; and,
- Repeat and refine data analysis for the continuous improvement of energy performance.

For new enrollees, the pilot invests heavily in incentives and support for the installation of analytical systems, and in the consultancy provided for the customer during a data-gathering period.

Deviation from Goal or Budget
In 2018, the pilot did not achieve its target, while expenses were slightly above its annual budget. The system installations have taken much longer than anticipated. Customers have typically taken more than a year to select and contract vendors, and have the hardware and software installed. Six of 13 enrollees continue to experience vendor or technical issues in what is now their second year of enrollment.

To address the timing issues, the Company has begun investigating and recommending temporary sub-metering and data capture methods so that the consultants can begin discovering opportunities before the permanent systems can be installed.

Among the enrollees who have a completed system, the pilot has identified a robust pipeline of opportunities. Much of the pipeline is for operational improvements that would have not likely been discovered without the pilot.

Changes in 2018
The Company suspended new enrollments due to budgetary and cost-effectiveness concerns but based on the efficiency improvements identified expects this pilot to deliver robust savings in the future.

ENERGY STAR® Retail Products Platform Pilot
The ENERGY STAR® Retail Products Platform Pilot program is intended to test a national, mid-stream incentive approach to driving transformation of the appliance and consumer electronics market. The pilot is part of an effort coordinated by the U.S. Environmental Protection Agency (EPA) to evaluate whether incentivizing retailers for efficient product sales can drive increased market penetration of ENERGY STAR® products. With EPA coordination, the pilot first launched in 2016 and included participating utilities and energy efficiency program implementers from California, the Pacific Northwest, New York, Vermont, Wisconsin, Hawaii and New Jersey. Since its launch, the product offering has been adjusted to include Clothes Washers and Refrigerators as well as basic and advanced tiers for most products to improve the cost-effectiveness of the pilot.

Deviations from Goal or Budget
In 2018, targeted electric savings were exceeded. This was largely due to several retailers driving sales of the highest efficiency clothes washers, which produce above average savings compared to the other products in the program. Gas savings were below target due to the removal of basic tier clothes dryers.

Changes in 2018
In 2018, the Company eliminated support for the basic tier of clothes dryers based on low cost-effectiveness. Lowes was also added as a retailer.

Alternative Filings

Summary of Achievements

Alternative Filings Segment	Electric Goal	Electric Actual	% of Electric Goal	Gas Goal	Gas Actual	% of Gas Goal
One Stop	$12,964,780	$17,721,706	137%	n/a	n/a	n/a
EnerChange	$418,500	$411,897	98%	$46,500	$45,744	98%
Energy Smart	$388,250	$381,987	98%	$17,750	$17,393	98%
Trillion Btu	$174,600	$118,936	68%	$19,400	$7,601	39%
Energy Intelligence	$309,400	$271,581	88%	$34,600	$28,359	82%
Total	**$14,255,530**	**$18,906,107**	**133%**	**$118,250**	**$99,098**	**84%**

EnerChange

EnerChange is an indirect impact program that provides non-profit organizations with facility evaluations, recommendations for conservation, reviews of available electric and natural gas utility rebates, customer assistance to drive implementation of measures, and assistance with implementation financing. EnerChange leverages referrals, networking, associations, organizations and social media to market the program.

Deviation from Goal or Budget

The Company notes that there is a discrepancy between our total reported projects, and what EnerChange reported in their Status Report on March 1, 2019. EnerChange failed to share their reported projects with the Company before filing their Status Report as ordered, so we were unable to verify if the projects had been completed and if rebates had-been issued prior to their submittal. We believe EnerChange's reported number of projects is too high and estimate a 16 percent discrepancy with their reported projects.

Changes in 2018

None.

Energy Intelligence

Energy Intelligence is an alternative CIP program that is managed, marketed, and delivered by the Center for Energy and Environment (CEE). The purpose of the Energy Intelligence program is to complement Xcel Energy's energy efficiency programs by offering small industrial customers (with a maximum demand of 400 kW) a better understanding of their energy use, identification of immediate savings opportunities, and implementation support. This customer size is typically located in a light industrial park.

Deviation from Goal or Budget

In 2018, the Energy Intelligence program utility administrative costs were slightly higher than expected due to the active involvement of our small business field representatives. However the

overall gas and electric spending were both slightly under budget due program administrative efficiencies.

Changes in 2018
There were no changes in 2018 and the required participant goal was achieved. However, a formal modification request was filed by CEE to raise the participation eligibility threshold to 1,000 kW for the final year of the program (2019). This change will provide valuable data on savings potential, which can be used to inform future programs aimed at the small building segment.

Energy Smart
Energy Smart is an indirect impact business energy efficiency assistance program developed by Minnesota Waste Wise, a non-profit affiliate of the Minnesota Chamber of Commerce. The mission of the program is to engage Minnesota businesses and direct them toward existing utility energy efficiency and load management programs.

The Energy Smart program offers a number of electric and natural gas services, such as on-site business consultations and distribution of CIP program information. The program is primarily marketed to the business community through direct contact with members of the Minnesota Chamber of Commerce and Waste Wise Contract participants, partnership with the local chambers and business groups, door-to-door outreach, direct mailings, inquiries via the Energy Smart website, and various social media channels.

Deviation from Goal or Budget
In 2018, the program slightly underspent its gas and electric budgets. Costs for internal labor and employee expenses were lower than anticipated.

Changes in 2018
None.

One-Stop Efficiency Shop®
The One-Stop Efficiency Shop® (One-Stop) is a full-service lighting and rooftop unit (RTU) rebate program available to small businesses in Xcel Energy's Minnesota service territory with an electric demand of 400 kW or less. Small business owners face unique barriers that often prevent them from investing in energy efficiency: limited financial resources and time, limited knowledge of efficient products, and lack of access to quality contractors.

One-Stop is designed to specifically address these issues by offering:

- A simple, one-stop service that holds customer time requirements to a minimum;
- A free audit with objective cost-saving recommendations;
- Access to quality contractors;
- Generous incentives combined with convenient and attractive financing;
- Recommendations and reporting tailored to the specific needs of each business owner; and,
- Start-to-finish oversight of the entire retrofit project.

This combination of services brings education, financial resources, and minimal time commitment directly to the customer making efficiency upgrades an attractive option for small and medium-sized businesses.

Deviation from Goal or Budget
In 2018, One-Stop exceeded its energy savings, demand savings, and participation goals. CEE worked with both Xcel Energy and the Department to track the program budget. The additional budget did not impact the cost-effectiveness of the program.

Changes in 2018
None.

Trillion BTU
Trillion BTU is an indirect program intended to increase participation in Xcel Energy's existing commercial and industrial energy efficiency programs. The program leverages funding awarded to the St. Paul Port Authority (SPPA) by the American Recovery and Reinvestment Act, as well as local resources from economic development agencies and municipalities in Xcel Energy's electric and gas service territories, to create a revolving loan fund and provide technical assistance to prospective participating businesses. The program targets customers looking to implement relatively large energy saving projects and is primarily delivered to customers by the SPPA.

Deviation from Goal or Budget
The Trillion BTU program underspent on its electric and gas budgets because SPPA administrative costs were lower than projected.

Changes in 2018
None.

Assessments Segment

The Assessments Segment accounts for assessments from the DER to support state energy policy. This segment includes assessments authorized by Minnesota statute, as well as fees for DER and PUC review of our filings.

Summary of Achievements

Assessments Segment	Electric Goal	Electric Actual	% of Electric Goal	Gas Goal	Gas Actual	% of Gas Goal
Budget	$1,974,981	$2,023,454	102%	$345,600	$275,175	80%

Deviation from Goal or Budget
Assessments from the DER were slightly above the filed electric budget and approximately 20 percent below the filed gas budget.

Changes in 2018
None.

ELECTRIC CIP TOTAL — 2018 ELECTRIC GOAL

2018 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$56,048,100	$56,048,100	$56,048,100	$56,048,100
T & D	N/A	$19,864,550	$19,864,550	$19,864,550	$19,864,550
Marginal Energy	N/A	$118,338,800	$118,338,800	$118,338,800	$118,338,800
Environmental Externality	N/A	N/A	N/A	N/A	$36,858,777
Subtotal	N/A	$194,251,450	$194,251,450	$194,251,450	$231,110,227
Participant Benefits					
Bill Reduction - Electric	$311,814,288	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$37,096,520	N/A	N/A	$37,096,520	$37,096,520
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$44,860,164	N/A	N/A	$20,679,332	$20,679,332
Subtotal	$393,770,972	N/A	N/A	$57,775,851	$57,775,851
Total Benefits	$393,770,972	$194,251,450	$194,251,450	$252,027,301	$288,886,079
Costs					
Utility Project Costs					
Customer Services	N/A	$3,223,995	$3,223,995	$3,223,995	$3,223,995
Project Administration	N/A	$27,440,794	$27,440,794	$27,440,794	$27,440,794
Advertising & Promotion	N/A	$8,228,006	$8,228,006	$8,228,006	$8,228,006
Measurement & Verification	N/A	$1,707,825	$1,707,825	$1,707,825	$1,707,825
Rebates	N/A	$37,096,520	$37,096,520	$37,096,520	$37,096,520
Other	N/A	$1,730,272	$1,730,272	$1,730,272	$1,730,272
Subtotal	N/A	$79,427,411	$79,427,411	$79,427,411	$79,427,411
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$311,814,288	N/A	N/A
Subtotal	N/A	N/A	$311,814,288	N/A	N/A
Participant Costs					
Incremental Capital Costs	$103,723,066	N/A	N/A	$85,343,774	$85,343,774
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$103,723,066	N/A	N/A	$85,343,774	$85,343,774
Total Costs	$103,723,066	$79,427,411	$391,241,698	$164,771,185	$164,771,185
Net Benefit (Cost)	$290,047,905	$114,824,039	($196,990,248)	$87,256,117	$124,114,894
Benefit/Cost Ratio	3.80	2.45	0.50	1.53	1.75

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	12.4 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	34.87%
Gross Load Factor at Customer	E	15.73%
Transmission Loss Factor (Energy)	F	7.302%
Transmission Loss Factor (Demand)	G	8.311%
Societal Net Benefit (Cost)	H	$478.29

Program Summary per Participant		
Gross kW Saved at Customer	I	0.19 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.07 kW
Gross Annual kWh Saved at Customer	(B x E x I)	259 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	279 kWh

Program Summary All Participants		
Total Participants	J	1,381,062
Total Budget	K	**$79,427,411**
Gross kW Saved at Customer	(J x I)	259,496 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**98,678 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	357,532,335 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**385,694,480 kWh**
Societal Net Benefits	(J x I x H)	**$124,114,894**

Utility Program Cost per kWh Lifetime	**$0.0166**
Utility Program Cost per kW at Gen	**$805**

ELECTRIC CIP TOTAL — 2018 ELECTRIC — ACTUAL

2018 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$77,407,935	$77,407,935	$77,407,935	$77,407,935
T & D	N/A	$33,853,364	$33,853,364	$33,853,364	$33,853,364
Marginal Energy	N/A	$187,997,901	$187,997,901	$187,997,901	$187,997,901
Environmental Externality	N/A	N/A	N/A	N/A	$58,351,478
Subtotal	N/A	$299,259,200	$299,259,200	$299,259,200	$357,610,678
Participant Benefits					
Bill Reduction - Electric	$488,425,743	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$49,662,249	N/A	N/A	$49,662,249	$49,662,249
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$83,625,590	N/A	N/A	$83,625,590	$83,625,590
Subtotal	$621,713,582	N/A	N/A	$133,287,839	$133,287,839
Total Benefits	$621,713,582	$299,259,200	$299,259,200	$432,547,039	$490,898,517
Costs					
Utility Project Costs					
Customer Services	N/A	$2,072,451	$2,072,451	$2,072,451	$2,072,451
Project Administration	N/A	$26,772,665	$26,772,665	$26,772,665	$26,772,665
Advertising & Promotion	N/A	$4,395,803	$4,395,803	$4,395,803	$4,395,803
Measurement & Verification	N/A	$2,780,545	$2,780,545	$2,780,545	$2,780,545
Rebates	N/A	$49,662,249	$49,662,249	$49,662,249	$49,662,249
Other	N/A	$838,611	$838,611	$838,611	$838,611
Subtotal	N/A	$86,522,325	$86,522,325	$86,522,325	$86,522,325
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$488,425,743	N/A	N/A
Subtotal	N/A	N/A	$488,425,743	N/A	N/A
Participant Costs					
Incremental Capital Costs	$161,021,340	N/A	N/A	$161,021,340	$161,021,340
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$161,021,340	N/A	N/A	$161,021,340	$161,021,340
Total Costs	$161,021,340	$86,522,325	$574,948,069	$247,543,665	$247,543,665
Net Benefit (Cost)	$460,692,243	$212,736,875	($275,688,869)	$185,003,374	$243,354,852
Benefit/Cost Ratio	3.86	3.46	0.52	1.75	1.98

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	12.8 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	36.66%
Gross Load Factor at Customer	E	18.89%
Transmission Loss Factor (Energy)	F	7.087%
Transmission Loss Factor (Demand)	G	8.146%
Societal Net Benefit (Cost)	H	$719.84

Program Summary per Participant		
Gross kW Saved at Customer	I	0.18 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.07 kW
Gross Annual kWh Saved at Customer	(B x E x I)	292 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	314 kWh

Program Summary All Participants		
Total Participants	J	1,918,224
Total Budget	K	**$86,522,325**
Gross kW Saved at Customer	(J x I)	338,069 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**134,931 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	559,393,775 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**602,059,155 kWh**
Societal Net Benefits	(J x I x H)	**$243,354,852**

Utility Program Cost per kWh Lifetime	**$0.0112**
Utility Program Cost per kW at Gen	**$641**

Conservation Improvement Program (CIP) BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis **GOAL**

Company: **Xcel Energy**
Project: **Total Gas CIP With Indirect Participants**

Input Data	2017 **First Year**	2018 **Second Year**	2019 **Third Year**
1) Retail Rate ($/Dth) =		$6.46	
Escalation Rate =		4.00%	
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =		$0.000	
Escalation Rate =		3.22%	
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =		kWh	
3) Commodity Cost ($/Dth) =		$4.27	
Escalation Rate =		4.00%	
4) Demand Cost ($/Unit/Yr) =		$80.24	
Escalation Rate =		4.00%	
5) Peak Reduction Factor =		1.00%	
6) Variable O&M ($/Dth) =		$0.0408	
Escalation Rate =		4.00%	
7) Non-Gas Fuel Cost ($/Fuel Unit) =		$0.02153	
Escalation Rate =		3.22%	
8) Non-Gas Fuel Loss Factor		5.28%	
9) Gas Environmental Damage Factor =		$0.3800	
Escalation Rate =		2.16%	
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =		$0.0232	
Escalation Rate =		2.16%	
11) Participant Discount Rate =		2.55%	
12) Utility Discount Rate =		7.04%	
13) Societal Discount Rate =		2.55%	
14) General Input Data Year =		2016	
15a) Project Analysis Year 1 =		2017	
15b) Project Analysis Year 2 =		2018	
15c) Project Analysis Year 3 =		2019	
Administrative & Operating Costs =		$10,160,673	
Incentive Costs =		$6,775,218	
16) Total Utility Project Costs =		$16,935,890	
17) Direct Participant Costs ($/Part.) =		$44	
18) Participant Non-Energy Costs (Annual $/Part.) =		$0	
Escalation Rate =		1.73%	
19) Participant Non-Energy Savings (Annual $/Part) =		$2	
Escalation Rate =		1.73%	
20) Project Life (Years) =		10.7	
21) Avg. Dth/Part. Saved =		1.21	
22) Avg Non-Gas Fuel Units/Part. Saved =		0 kWh	
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =		0 kWh	
23) Number of Participants =		634,792	
24) Total Annual Dth Saved =		769,720	
25) Incentive/Participant =		$10.67	

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		$27	
Cost per Participant per Dth =		$58.04	
Lifetime Energy Reduction (Dth)		8,268,909	
Societal Cost per Dth		$3.79	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($26,469,962)	0.59
Utility Cost Test	$21,175,707	2.28
Societal Test	$36,376,058	2.16
Participant Test	$58,300,891	3.08

Conservation Improvement Program (CIP) BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis **ACTUAL**

Company: **Xcel Energy**
Project: **Total Gas CIP With Indirect Participants**

Input Data	
1) Retail Rate ($/Dth) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 **First Year**	2018 **Second Year**	2019 **Third Year**
Administrative & Operating Costs =		$7,165,104	
Incentive Costs =		$7,967,462	
16) Total Utility Project Costs =		$15,132,566	
17) Direct Participant Costs ($/Part.) =		$42	
18) Participant Non-Energy Costs (Annual $/Part.) =		$0	
Escalation Rate =		1.73%	
19) Participant Non-Energy Savings (Annual $/Part) =		$2	
Escalation Rate =		1.73%	
20) Project Life (Years) =		11.1	
21) Avg. Dth/Part. Saved =		1.19	
22) Avg Non-Gas Fuel Units/Part. Saved =		0 kWh	
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =		0 kWh	
23) Number of Participants =		765,805	
24) Total Annual Dth Saved =		913,240	
25) Incentive/Participant =		$10.40	

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		$20	
Cost per Participant per Dth =		$52.15	
Lifetime Energy Reduction (Dth)		9,810,715	
Societal Cost per Dth		$4.05	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($22,809,287)	0.69
Utility Cost Test	$35,788,558	3.37
Societal Test	$45,993,693	2.16
Participant Test	$62,731,906	2.93

Conservation Improvement Program (CIP) BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis **GOAL**

Company: **Xcel Energy**
Project: **Total Gas CIP Direct Participants Only**

Input Data	
1) Retail Rate ($/Dth) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 **First Year**	2018 **Second Year**	2019 **Third Year**
Administrative & Operating Costs =		$7,117,025	
Incentive Costs =		$6,775,218	
16) Total Utility Project Costs =		$13,892,243	
17) Direct Participant Costs ($/Part.) =		$121	
18) Participant Non-Energy Costs (Annual $/Part.) =		$0	
Escalation Rate =		1.73%	
19) Participant Non-Energy Savings (Annual $/Part) =		$6	
Escalation Rate =		1.73%	
20) Project Life (Years) =		10.7	
21) Avg. Dth/Part. Saved =		3.35	
22) Avg Non-Gas Fuel Units/Part. Saved =		0 kWh	
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =		0 kWh	
23) Number of Participants =		230,080	
24) Total Annual Dth Saved =		769,720	
25) Incentive/Participant =		$29.45	

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		$60	
Cost per Participant per Dth =		$54.09	
Lifetime Energy Reduction (Dth)		8,268,909	
Societal Cost per Dth		$3.46	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($23,737,987)	0.61
Utility Cost Test	$23,907,681	2.73
Societal Test	$39,108,032	2.37
Participant Test	$58,300,891	3.08

Conservation Improvement Program (CIP) BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis **ACTUAL**

Company: **Xcel Energy**
Project: **Total Gas CIP Direct Participants Only**

Input Data	
1) Retail Rate ($/Dth) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 **First Year**	2018 **Second Year**	2019 **Third Year**
Administrative & Operating Costs =		$4,650,824	
Incentive Costs =		$7,967,462	
16) Total Utility Project Costs =		$12,618,286	
17) Direct Participant Costs ($/Part.) =		$168	
18) Participant Non-Energy Costs (Annual $/Part.) =		$0	
Escalation Rate =		1.73%	
19) Participant Non-Energy Savings (Annual $/Part) =		$7	
Escalation Rate =		1.73%	
20) Project Life (Years) =		11.1	
21) Avg. Dth/Part. Saved =		4.72	
22) Avg Non-Gas Fuel Units/Part. Saved =		0 kWh	
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =		0 kWh	
23) Number of Participants =		193,668	
24) Total Annual Dth Saved =		913,240	
25) Incentive/Participant =		$41.14	

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		$65	
Cost per Participant per Dth =		$49.39	
Lifetime Energy Reduction (Dth)		9,810,715	
Societal Cost per Dth		$3.80	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($20,295,008)	0.72
Utility Cost Test	$38,302,838	4.04
Societal Test	$48,507,973	2.30
Participant Test	$62,731,906	2.93

ELECTRIC CIP LOAD MANAGEMENT TOTAL 2018 ELECTRIC GOAL

2018 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$23,396,969	$23,396,969	$23,396,969	$23,396,969
T & D	N/A	$0	$0	$0	$0
Marginal Energy	N/A	$247,623	$247,623	$247,623	$247,623
Environmental Externality	N/A	N/A	N/A	N/A	$71,766
Subtotal	N/A	$23,644,593	$23,644,593	$23,644,593	$23,716,359
Participant Benefits					
Bill Reduction - Electric	$794,198	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$2,437,500	N/A	N/A	$2,437,500	$2,437,500
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$2,965,790	N/A	N/A	$0	$0
Subtotal	$6,197,488	N/A	N/A	$2,437,500	$2,437,500
Total Benefits	$6,197,488	$23,644,593	$23,644,593	$26,082,093	$26,153,859
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$7,756,844	$7,756,844	$7,756,844	$7,756,844
Advertising & Promotion	N/A	$748,883	$748,883	$748,883	$748,883
Measurement & Verification	N/A	$338,916	$338,916	$338,916	$338,916
Rebates	N/A	$2,437,500	$2,437,500	$2,437,500	$2,437,500
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$11,282,143	$11,282,143	$11,282,143	$11,282,143
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$794,198	N/A	N/A
Subtotal	N/A	N/A	$794,198	N/A	N/A
Participant Costs					
Incremental Capital Costs	$2,595,000	N/A	N/A	$2,595,000	$2,595,000
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$2,595,000	N/A	N/A	$2,595,000	$2,595,000
Total Costs	$2,595,000	$11,282,143	$12,076,341	$13,877,143	$13,877,143
Net Benefit (Cost)	$3,602,488	$12,362,450	$11,568,251	$12,204,950	$12,276,716
Benefit/Cost Ratio	2.39	2.10	1.96	1.88	1.88

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	9.2 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	34.41%
Gross Load Factor at Customer	E	0.08%
Transmission Loss Factor (Energy)	F	8.026%
Transmission Loss Factor (Demand)	G	8.368%
Societal Net Benefit (Cost)	H	$110.35

Program Summary per Participant		
Gross kW Saved at Customer	I	2.32 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.87 kW
Gross Annual kWh Saved at Customer	(B x E x I)	17 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	18 kWh

Program Summary All Participants		
Total Participants	J	48,003
Total Budget	K	**$11,282,143**
Gross kW Saved at Customer	(J x I)	111,257 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**41,776 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	795,249 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**864,641 kWh**
Societal Net Benefits	(J x I x H)	**$12,276,716**

Utility Program Cost per kWh Lifetime	**$1.4179**
Utility Program Cost per kW at Gen	**$270**

ELECTRIC CIP LOAD MANAGEMENT TOTAL 2018 ELECTRIC ACTUAL

2018 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$21,765,947	$21,765,947	$21,765,947	$21,765,947
T & D	N/A	$0	$0	$0	$0
Marginal Energy	N/A	$181,324	$181,324	$181,324	$181,324
Environmental Externality	N/A	N/A	N/A	N/A	$39,249
Subtotal	N/A	$21,947,270	$21,947,270	$21,947,270	$21,986,519
Participant Benefits					
Bill Reduction - Electric	$446,118	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$254,910	N/A	N/A	$254,910	$254,910
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$701,027	N/A	N/A	$254,910	$254,910
Total Benefits	$701,027	$21,947,270	$21,947,270	$22,202,180	$22,241,429
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$8,277,452	$8,277,452	$8,277,452	$8,277,452
Advertising & Promotion	N/A	$726,018	$726,018	$726,018	$726,018
Measurement & Verification	N/A	$0	$0	$0	$0
Rebates	N/A	$254,910	$254,910	$254,910	$254,910
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$9,258,379	$9,258,379	$9,258,379	$9,258,379
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$446,118	N/A	N/A
Subtotal	N/A	N/A	$446,118	N/A	N/A
Participant Costs					
Incremental Capital Costs	$284,738	N/A	N/A	$284,738	$284,738
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$284,738	N/A	N/A	$284,738	$284,738
Total Costs	$284,738	$9,258,379	$9,704,497	$9,543,117	$9,543,117
Net Benefit (Cost)	$416,289	$12,688,891	$12,242,773	$12,659,062	$12,698,311
Benefit/Cost Ratio	2.46	2.37	2.26	2.33	2.33

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	6.7 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	32.41%
Gross Load Factor at Customer	E	0.06%
Transmission Loss Factor (Energy)	F	7.023%
Transmission Loss Factor (Demand)	G	8.188%
Societal Net Benefit (Cost)	H	$110.86

Program Summary per Participant		
Gross kW Saved at Customer	I	3.65 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	1.29 kW
Gross Annual kWh Saved at Customer	(B x E x I)	19 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	20 kWh

Program Summary All Participants		
Total Participants	J	31,343
Total Budget	K	**$9,258,379**
Gross kW Saved at Customer	(J x I)	114,540 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**40,434 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	595,360 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**640,332 kWh**
Societal Net Benefits	(J x I x H)	**$12,698,311**

Utility Program Cost per kWh Lifetime	**$2.1543**
Utility Program Cost per kW at Gen	**$229**

ELECTRIC CIP CONSERVATION TOTAL — 2018 ELECTRIC — GOAL

2018 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$32,651,131	$32,651,131	$32,651,131	$32,651,131
T & D	N/A	$19,864,550	$19,864,550	$19,864,550	$19,864,550
Marginal Energy	N/A	$118,091,176	$118,091,176	$118,091,176	$118,091,176
Environmental Externality	N/A	N/A	N/A	N/A	$36,787,011
Subtotal	N/A	$170,606,857	$170,606,857	$170,606,857	$207,393,869
Participant Benefits					
Bill Reduction - Electric	$311,020,089	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$34,659,020	N/A	N/A	$34,659,020	$34,659,020
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$41,894,375	N/A	N/A	$20,679,332	$20,679,332
Subtotal	$387,573,484	N/A	N/A	$55,338,351	$55,338,351
Total Benefits	$387,573,484	$170,606,857	$170,606,857	$225,945,209	$262,732,220
Costs					
Utility Project Costs					
Customer Services	N/A	$3,223,995	$3,223,995	$3,223,995	$3,223,995
Project Administration	N/A	$14,531,794	$14,531,794	$14,531,794	$14,531,794
Advertising & Promotion	N/A	$3,371,723	$3,371,723	$3,371,723	$3,371,723
Measurement & Verification	N/A	$1,163,909	$1,163,909	$1,163,909	$1,163,909
Rebates	N/A	$34,659,020	$34,659,020	$34,659,020	$34,659,020
Other	N/A	$1,089,022	$1,089,022	$1,089,022	$1,089,022
Subtotal	N/A	$58,039,461	$58,039,461	$58,039,461	$58,039,461
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$311,020,089	N/A	N/A
Subtotal	N/A	N/A	$311,020,089	N/A	N/A
Participant Costs					
Incremental Capital Costs	$101,128,066	N/A	N/A	$82,748,774	$82,748,774
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$101,128,066	N/A	N/A	$82,748,774	$82,748,774
Total Costs	$101,128,066	$58,039,461	$369,059,551	$140,788,235	$140,788,235
Net Benefit (Cost)	$286,445,417	$112,567,396	($198,452,693)	$85,156,973	$121,943,985
Benefit/Cost Ratio	3.83	2.94	0.46	1.60	1.87

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	12.4 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	35.21%
Gross Load Factor at Customer	E	27.47%
Transmission Loss Factor (Energy)	F	7.300%
Transmission Loss Factor (Demand)	G	8.269%
Societal Net Benefit (Cost)	H	$822.62

Program Summary per Participant		
Gross kW Saved at Customer	I	0.29 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.11 kW
Gross Annual kWh Saved at Customer	(B x E x I)	697 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	752 kWh

Program Summary All Participants		
Total Participants	J	511,705
Total Budget	K	**$58,039,461**
Gross kW Saved at Customer	(J x I)	148,238 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**56,901 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	356,737,086 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**384,829,839 kWh**
Societal Net Benefits	(J x I x H)	**$121,943,985**

Utility Program Cost per kWh Lifetime	**$0.0122**
Utility Program Cost per kW at Gen	**$1,020**

ELECTRIC CIP CONSERVATION TOTAL — 2018 ELECTRIC — ACTUAL

2018 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$55,641,988	$55,641,988	$55,641,988	$55,641,988
T & D	N/A	$33,853,364	$33,853,364	$33,853,364	$33,853,364
Marginal Energy	N/A	$187,816,577	$187,816,577	$187,816,577	$187,816,577
Environmental Externality	N/A	N/A	N/A	N/A	$58,312,229
Subtotal	N/A	$277,311,929	$277,311,929	$277,311,929	$335,624,159
Participant Benefits					
Bill Reduction - Electric	$487,979,626	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$49,407,340	N/A	N/A	$49,407,340	$49,407,340
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$83,625,590	N/A	N/A	$83,625,590	$83,625,590
Subtotal	$621,012,555	N/A	N/A	$133,032,929	$133,032,929
Total Benefits	$621,012,555	$277,311,929	$277,311,929	$410,344,859	$468,657,088
Costs					
Utility Project Costs					
Customer Services	N/A	$2,072,451	$2,072,451	$2,072,451	$2,072,451
Project Administration	N/A	$12,612,251	$12,612,251	$12,612,251	$12,612,251
Advertising & Promotion	N/A	$1,086,725	$1,086,725	$1,086,725	$1,086,725
Measurement & Verification	N/A	$2,379,980	$2,379,980	$2,379,980	$2,379,980
Rebates	N/A	$49,407,340	$49,407,340	$49,407,340	$49,407,340
Other	N/A	$838,611	$838,611	$838,611	$838,611
Subtotal	N/A	$68,397,358	$68,397,358	$68,397,358	$68,397,358
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$487,979,626	N/A	N/A
Subtotal	N/A	N/A	$487,979,626	N/A	N/A
Participant Costs					
Incremental Capital Costs	$160,736,602	N/A	N/A	$160,736,602	$160,736,602
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$160,736,602	N/A	N/A	$160,736,602	$160,736,602
Total Costs	$160,736,602	$68,397,358	$556,376,984	$229,133,959	$229,133,959
Net Benefit (Cost)	$460,275,954	$208,914,571	($279,065,054)	$181,210,899	$239,523,129
Benefit/Cost Ratio	3.86	4.05	0.50	1.79	2.05

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	12.8 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	38.84%
Gross Load Factor at Customer	E	28.54%
Transmission Loss Factor (Energy)	F	7.087%
Transmission Loss Factor (Demand)	G	8.124%
Societal Net Benefit (Cost)	H	$1,071.55

Program Summary per Participant		
Gross kW Saved at Customer	I	0.41 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.17 kW
Gross Annual kWh Saved at Customer	(B x E x I)	1,013 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	1,090 kWh

Program Summary All Participants		
Total Participants	J	551,864
Total Budget	K	**$68,397,358**
Gross kW Saved at Customer	(J x I)	223,530 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**94,497 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	558,798,414 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**601,418,823 kWh**
Societal Net Benefits	(J x I x H)	**$239,523,129**

Utility Program Cost per kWh Lifetime	**$0.0089**
Utility Program Cost per kW at Gen	**$724**

BUSINESS SEGMENT TOTAL — 2018 ELECTRIC — GOAL

2018 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$26,262,174	$26,262,174	$26,262,174	$26,262,174
T & D	N/A	$13,631,090	$13,631,090	$13,631,090	$13,631,090
Marginal Energy	N/A	$89,974,446	$89,974,446	$89,974,446	$89,974,446
Environmental Externality	N/A	N/A	N/A	N/A	$28,676,872
Subtotal	N/A	$129,867,711	$129,867,711	$129,867,711	$158,544,583
Participant Benefits					
Bill Reduction - Electric	$217,056,138	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$22,359,291	N/A	N/A	$22,359,291	$22,359,291
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$38,702,217	N/A	N/A	$21,603,215	$21,603,215
Subtotal	$278,117,645	N/A	N/A	$43,962,506	$43,962,506
Total Benefits	$278,117,645	$129,867,711	$129,867,711	$173,830,217	$202,507,089
Costs					
Utility Project Costs					
Customer Services	N/A	$2,328,100	$2,328,100	$2,328,100	$2,328,100
Project Administration	N/A	$11,617,844	$11,617,844	$11,617,844	$11,617,844
Advertising & Promotion	N/A	$956,771	$956,771	$956,771	$956,771
Measurement & Verification	N/A	$949,112	$949,112	$949,112	$949,112
Rebates	N/A	$22,359,291	$22,359,291	$22,359,291	$22,359,291
Other	N/A	$1,069,262	$1,069,262	$1,069,262	$1,069,262
Subtotal	N/A	$39,280,379	$39,280,379	$39,280,379	$39,280,379
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$217,056,138	N/A	N/A
Subtotal	N/A	N/A	$217,056,138	N/A	N/A
Participant Costs					
Incremental Capital Costs	$77,022,825	N/A	N/A	$59,902,782	$59,902,782
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$77,022,825	N/A	N/A	$59,902,782	$59,902,782
Total Costs	$77,022,825	$39,280,379	$256,336,517	$99,183,161	$99,183,161
Net Benefit (Cost)	$201,094,820	$90,587,331	($126,468,806)	$74,647,055	$103,323,928
Benefit/Cost Ratio	3.61	3.31	0.51	1.75	2.04

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	16.2 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	51.12%
Gross Load Factor at Customer	E	34.35%
Transmission Loss Factor (Energy)	F	6.611%
Transmission Loss Factor (Demand)	G	7.042%
Societal Net Benefit (Cost)	H	$1,420.66

Program Summary per Participant		
Gross kW Saved at Customer	I	0.90 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.49 kW
Gross Annual kWh Saved at Customer	(B x E x I)	2,699 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	2,890 kWh

Program Summary All Participants		
Total Participants	J	81,093
Total Budget	K	**$39,280,379**
Gross kW Saved at Customer	(J x I)	72,729 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**39,998 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	218,833,257 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**234,324,383 kWh**
Societal Net Benefits	(J x I x H)	**$103,323,928**

Utility Program Cost per kWh Lifetime	**$0.0103**
Utility Program Cost per kW at Gen	**$982**

BUSINESS SEGMENT TOTAL — 2018 ELECTRIC — ACTUAL

2018 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$46,584,531	$46,584,531	$46,584,531	$46,584,531
T & D	N/A	$24,940,170	$24,940,170	$24,940,170	$24,940,170
Marginal Energy	N/A	$149,232,331	$149,232,331	$149,232,331	$149,232,331
Environmental Externality	N/A	N/A	N/A	N/A	$46,978,393
Subtotal	N/A	$220,757,032	$220,757,032	$220,757,032	$267,735,425
Participant Benefits					
Bill Reduction - Electric	$357,725,896	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$35,047,443	N/A	N/A	$35,047,443	$35,047,443
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$85,271,534	N/A	N/A	$85,271,534	$85,271,534
Subtotal	$478,044,873	N/A	N/A	$120,318,977	$120,318,977
Total Benefits	$478,044,873	$220,757,032	$220,757,032	$341,076,009	$388,054,402
Costs					
Utility Project Costs					
Customer Services	N/A	$1,607,256	$1,607,256	$1,607,256	$1,607,256
Project Administration	N/A	$12,146,246	$12,146,246	$12,146,246	$12,146,246
Advertising & Promotion	N/A	$320,168	$320,168	$320,168	$320,168
Measurement & Verification	N/A	$669,609	$669,609	$669,609	$669,609
Rebates	N/A	$35,047,443	$35,047,443	$35,047,443	$35,047,443
Other	N/A	$807,388	$807,388	$807,388	$807,388
Subtotal	N/A	$50,598,109	$50,598,109	$50,598,109	$50,598,109
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$357,725,896	N/A	N/A
Subtotal	N/A	N/A	$357,725,896	N/A	N/A
Participant Costs					
Incremental Capital Costs	$139,628,573	N/A	N/A	$139,628,573	$139,628,573
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$139,628,573	N/A	N/A	$139,628,573	$139,628,573
Total Costs	$139,628,573	$50,598,109	$408,324,005	$190,226,681	$190,226,681
Net Benefit (Cost)	$338,416,300	$170,158,923	($187,566,973)	$150,849,328	$197,827,721
Benefit/Cost Ratio	3.42	4.36	0.54	1.79	2.04

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	15.9 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	59.64%
Gross Load Factor at Customer	E	35.77%
Transmission Loss Factor (Energy)	F	6.602%
Transmission Loss Factor (Demand)	G	7.021%
Societal Net Benefit (Cost)	H	$1,660.65

Program Summary per Participant		
Gross kW Saved at Customer	I	0.91 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.59 kW
Gross Annual kWh Saved at Customer	(B x E x I)	2,864 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	3,066 kWh

Program Summary All Participants		
Total Participants	J	130,332
Total Budget	K	**$50,598,109**
Gross kW Saved at Customer	(J x I)	119,127 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**76,417 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	373,261,853 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**399,646,721 kWh**
Societal Net Benefits	(J x I x H)	**$197,827,721**

Utility Program Cost per kWh Lifetime	**$0.0080**
Utility Program Cost per kW at Gen	**$662**

Conservation Improvement Program (CIP) BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis **GOAL**

Company: **Xcel Energy**
Project: **Business Segment with Indirect Participants**

Input Data	
1) Retail Rate ($/Dth) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 **First Year**	2018 **Second Year**	2019 **Third Year**
Administrative & Operating Costs =		$2,390,601	
Incentive Costs =		$2,380,032	
16) Total Utility Project Costs =		$4,770,633	
17) Direct Participant Costs ($/Part.) =		$666	
18) Participant Non-Energy Costs (Annual $/Part.) =		$0	
Escalation Rate =		1.73%	
19) Participant Non-Energy Savings (Annual $/Part) =		$28	
Escalation Rate =		1.73%	
20) Project Life (Years) =		8.4	
21) Avg. Dth/Part. Saved =		20.56	
22) Avg Non-Gas Fuel Units/Part. Saved =		0 kWh	
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =		0 kWh	
23) Number of Participants =		21,453	
24) Total Annual Dth Saved =		441,060	
25) Incentive/Participant =		$110.94	

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		$222	
Cost per Participant per Dth =		$43.22	
Lifetime Energy Reduction (Dth)		3,683,860	
Societal Cost per Dth		$2.96	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($9,285,458)	0.65
Utility Cost Test	$12,424,948	3.60
Societal Test	$19,361,479	2.78
Participant Test	$22,579,637	2.55

Conservation Improvement Program (CIP) BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis **ACTUAL**

Company: **Xcel Energy**
Project: **Business Segment with Indirect Participants**

Input Data	
1) Retail Rate ($/Dth) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 **First Year**	2018 **Second Year**	2019 **Third Year**
Administrative & Operating Costs =		$1,795,582	
Incentive Costs =		$3,096,744	
16) Total Utility Project Costs =		$4,892,326	
17) Direct Participant Costs ($/Part.) =		$795	
18) Participant Non-Energy Costs (Annual $/Part.) =		$0	
Escalation Rate =		1.73%	
19) Participant Non-Energy Savings (Annual $/Part) =		$24	
Escalation Rate =		1.73%	
20) Project Life (Years) =		9.3	
21) Avg. Dth/Part. Saved =		26.82	
22) Avg Non-Gas Fuel Units/Part. Saved =		0 kWh	
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =		0 kWh	
23) Number of Participants =		21,806	
24) Total Annual Dth Saved =		584,873	
25) Incentive/Participant =		$142.01	

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		$224	
Cost per Participant per Dth =		$38.00	
Lifetime Energy Reduction (Dth)		4,885,022	
Societal Cost per Dth		$3.93	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($6,984,017)	0.81
Utility Cost Test	$24,757,133	6.06
Societal Test	$27,758,278	2.44
Participant Test	$28,328,975	2.63

Conservation Improvement Program (CIP) BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis **GOAL**

Company: **Xcel Energy**
Project: **Business Segment Direct Participants Only**

Input Data	2017 **First Year**	2018 **Second Year**	2019 **Third Year**
1) Retail Rate ($/Dth) =		$6.46	
Escalation Rate =		4.00%	
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =		$0.000	
Escalation Rate =		3.22%	
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =		kWh	
3) Commodity Cost ($/Dth) =		$4.27	
Escalation Rate =		4.00%	
4) Demand Cost ($/Unit/Yr) =		$80.24	
Escalation Rate =		4.00%	
5) Peak Reduction Factor =		1.00%	
6) Variable O&M ($/Dth) =		$0.0408	
Escalation Rate =		4.00%	
7) Non-Gas Fuel Cost ($/Fuel Unit) =		$0.02153	
Escalation Rate =		3.22%	
8) Non-Gas Fuel Loss Factor		5.28%	
9) Gas Environmental Damage Factor =		$0.3800	
Escalation Rate =		2.16%	
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =		$0.0232	
Escalation Rate =		2.16%	
11) Participant Discount Rate =		2.55%	
12) Utility Discount Rate =		7.04%	
13) Societal Discount Rate =		2.55%	
14) General Input Data Year =		2016	
15a) Project Analysis Year 1 =		2017	
15b) Project Analysis Year 2 =		2018	
15c) Project Analysis Year 3 =		2019	
Administrative & Operating Costs =		$2,353,189	
Incentive Costs =		$2,380,032	
16) Total Utility Project Costs =		$4,733,221	
17) Direct Participant Costs ($/Part.) =		$5,826	
18) Participant Non-Energy Costs (Annual $/Part.) =		$0	
Escalation Rate =		1.73%	
19) Participant Non-Energy Savings (Annual $/Part) =		$245	
Escalation Rate =		1.73%	
20) Project Life (Years) =		8.4	
21) Avg. Dth/Part. Saved =		179.81	
22) Avg Non-Gas Fuel Units/Part. Saved =		0 kWh	
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =		0 kWh	
23) Number of Participants =		2,453	
24) Total Annual Dth Saved =		441,060	
25) Incentive/Participant =		$970.28	

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		$1,930	
Cost per Participant per Dth =		$43.13	
Lifetime Energy Reduction (Dth)		3,683,860	
Societal Cost per Dth		$2.95	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($9,248,046)	0.65
Utility Cost Test	$12,462,360	3.63
Societal Test	$19,398,891	2.79
Participant Test	$22,579,637	2.55

Conservation Improvement Program (CIP) BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis **ACTUAL**

Company: **Xcel Energy**
Project: **Business Segment Direct Participants Only**

Input Data	2017 **First Year**	2018 **Second Year**	2019 **Third Year**
1) Retail Rate ($/Dth) =		$6.46	
Escalation Rate =		4.00%	
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =		$0.000	
Escalation Rate =		3.22%	
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =		kWh	
3) Commodity Cost ($/Dth) =		$4.27	
Escalation Rate =		4.00%	
4) Demand Cost ($/Unit/Yr) =		$80.24	
Escalation Rate =		4.00%	
5) Peak Reduction Factor =		1.00%	
6) Variable O&M ($/Dth) =		$0.0408	
Escalation Rate =		4.00%	
7) Non-Gas Fuel Cost ($/Fuel Unit) =		$0.02153	
Escalation Rate =		3.22%	
8) Non-Gas Fuel Loss Factor		5.28%	
9) Gas Environmental Damage Factor =		$0.3800	
Escalation Rate =		2.16%	
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =		$0.0232	
Escalation Rate =		2.16%	
11) Participant Discount Rate =		2.55%	
12) Utility Discount Rate =		7.04%	
13) Societal Discount Rate =		2.55%	
14) General Input Data Year =		2016	
15a) Project Analysis Year 1 =		2017	
15b) Project Analysis Year 2 =		2018	
15c) Project Analysis Year 3 =		2019	
Administrative & Operating Costs =		$1,768,485	
Incentive Costs =		$3,096,744	
16) Total Utility Project Costs =		$4,865,229	
17) Direct Participant Costs ($/Part.) =		$6,676	
18) Participant Non-Energy Costs (Annual $/Part.) =		$0	
Escalation Rate =		1.73%	
19) Participant Non-Energy Savings (Annual $/Part) =		$202	
Escalation Rate =		1.73%	
20) Project Life (Years) =		9.3	
21) Avg. Dth/Part. Saved =		225.30	
22) Avg Non-Gas Fuel Units/Part. Saved =		0 kWh	
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =		0 kWh	
23) Number of Participants =		2,596	
24) Total Annual Dth Saved =		584,873	
25) Incentive/Participant =		$1,192.89	

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		$1,874	
Cost per Participant per Dth =		$37.95	
Lifetime Energy Reduction (Dth)		4,885,022	
Societal Cost per Dth		$3.93	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($6,956,920)	0.81
Utility Cost Test	$24,784,230	6.09
Societal Test	$27,785,375	2.45
Participant Test	$28,328,975	2.63

BUSINESS SEGMENT ENERGY EFFICIENCY TOTAL 2018 ELECTRIC GOAL

2018 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$22,385,923	$22,385,923	$22,385,923	$22,385,923
T & D	N/A	$13,631,090	$13,631,090	$13,631,090	$13,631,090
Marginal Energy	N/A	$89,925,316	$89,925,316	$89,925,316	$89,925,316
Environmental Externality	N/A	N/A	N/A	N/A	$28,667,562
Subtotal	N/A	$125,942,330	$125,942,330	$125,942,330	$154,609,892
Participant Benefits					
Bill Reduction - Electric	$216,948,919	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$22,359,291	N/A	N/A	$22,359,291	$22,359,291
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$38,702,217	N/A	N/A	$21,603,215	$21,603,215
Subtotal	$278,010,426	N/A	N/A	$43,962,506	$43,962,506
Total Benefits	$278,010,426	$125,942,330	$125,942,330	$169,904,835	$198,572,398
Costs					
Utility Project Costs					
Customer Services	N/A	$2,328,100	$2,328,100	$2,328,100	$2,328,100
Project Administration	N/A	$9,009,093	$9,009,093	$9,009,093	$9,009,093
Advertising & Promotion	N/A	$524,445	$524,445	$524,445	$524,445
Measurement & Verification	N/A	$799,112	$799,112	$799,112	$799,112
Rebates	N/A	$22,359,291	$22,359,291	$22,359,291	$22,359,291
Other	N/A	$1,069,262	$1,069,262	$1,069,262	$1,069,262
Subtotal	N/A	$36,089,302	$36,089,302	$36,089,302	$36,089,302
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$216,948,919	N/A	N/A
Subtotal	N/A	N/A	$216,948,919	N/A	N/A
Participant Costs					
Incremental Capital Costs	$77,022,825	N/A	N/A	$59,902,782	$59,902,782
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$77,022,825	N/A	N/A	$59,902,782	$59,902,782
Total Costs	$77,022,825	$36,089,302	$253,038,221	$95,992,084	$95,992,084
Net Benefit (Cost)	$200,987,601	$89,853,027	($127,095,891)	$73,912,751	$102,580,313
Benefit/Cost Ratio	3.61	3.49	0.50	1.77	2.07

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	16.2 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	64.28%
Gross Load Factor at Customer	E	54.67%
Transmission Loss Factor (Energy)	F	6.611%
Transmission Loss Factor (Demand)	G	7.066%
Societal Net Benefit (Cost)	H	$2,246.67

Program Summary per Participant		
Gross kW Saved at Customer	I	4.11 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	2.84 kW
Gross Annual kWh Saved at Customer	(B x E x I)	19,674 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	21,067 kWh

Program Summary All Participants		
Total Participants	J	11,114
Total Budget	K	**$36,089,302**
Gross kW Saved at Customer	(J x I)	45,659 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**31,583 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	218,665,285 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**234,144,541 kWh**
Societal Net Benefits	(J x I x H)	**$102,580,313**

Utility Program Cost per kWh Lifetime	**$0.0095**
Utility Program Cost per kW at Gen	**$1,143**

BUSINESS SEGMENT ENERGY EFFICIENCY TOTAL — 2018 ELECTRIC — ACTUAL

2018 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$40,966,930	$40,966,930	$40,966,930	$40,966,930
T & D	N/A	$24,940,170	$24,940,170	$24,940,170	$24,940,170
Marginal Energy	N/A	$149,108,491	$149,108,491	$149,108,491	$149,108,491
Environmental Externality	N/A	N/A	N/A	N/A	$46,955,192
Subtotal	N/A	$215,015,591	$215,015,591	$215,015,591	$261,970,783
Participant Benefits					
Bill Reduction - Electric	$357,459,042	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$35,047,443	N/A	N/A	$35,047,443	$35,047,443
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$85,271,534	N/A	N/A	$85,271,534	$85,271,534
Subtotal	$477,778,019	N/A	N/A	$120,318,977	$120,318,977
Total Benefits	$477,778,019	$215,015,591	$215,015,591	$335,334,568	$382,289,760
Costs					
Utility Project Costs					
Customer Services	N/A	$1,607,256	$1,607,256	$1,607,256	$1,607,256
Project Administration	N/A	$9,587,802	$9,587,802	$9,587,802	$9,587,802
Advertising & Promotion	N/A	$68,968	$68,968	$68,968	$68,968
Measurement & Verification	N/A	$669,609	$669,609	$669,609	$669,609
Rebates	N/A	$35,047,443	$35,047,443	$35,047,443	$35,047,443
Other	N/A	$807,388	$807,388	$807,388	$807,388
Subtotal	N/A	$47,788,465	$47,788,465	$47,788,465	$47,788,465
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$357,459,042	N/A	N/A
Subtotal	N/A	N/A	$357,459,042	N/A	N/A
Participant Costs					
Incremental Capital Costs	$139,628,573	N/A	N/A	$139,628,573	$139,628,573
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$139,628,573	N/A	N/A	$139,628,573	$139,628,573
Total Costs	$139,628,573	$47,788,465	$405,247,507	$187,417,038	$187,417,038
Net Benefit (Cost)	$338,149,446	$167,227,126	($190,231,916)	$147,917,530	$194,872,722
Benefit/Cost Ratio	3.42	4.50	0.53	1.79	2.04

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	15.9 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	70.84%
Gross Load Factor at Customer	E	53.42%
Transmission Loss Factor (Energy)	F	6.602%
Transmission Loss Factor (Demand)	G	7.031%
Societal Net Benefit (Cost)	H	$2,446.08

Program Summary per Participant		
Gross kW Saved at Customer	I	4.19 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	3.19 kW
Gross Annual kWh Saved at Customer	(B x E x I)	19,607 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	20,993 kWh

Program Summary All Participants		
Total Participants	J	19,014
Total Budget	K	**$47,788,465**
Gross kW Saved at Customer	(J x I)	79,667 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**60,706 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	372,817,869 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**399,171,363 kWh**
Societal Net Benefits	(J x I x H)	**$194,872,722**

Utility Program Cost per kWh Lifetime	**$0.0075**
Utility Program Cost per kW at Gen	**$787**

BUSINESS NEW CONSTRUCTION 2018 ELECTRIC GOAL

2018 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$3,128,802	$3,128,802	$3,128,802	$3,128,802
T & D	N/A	$1,907,534	$1,907,534	$1,907,534	$1,907,534
Marginal Energy	N/A	$10,263,299	$10,263,299	$10,263,299	$10,263,299
Environmental Externality	N/A	N/A	N/A	N/A	$3,253,144
Subtotal	N/A	$15,299,635	$15,299,635	$15,299,635	$18,552,779
Participant Benefits					
Bill Reduction - Electric	$25,583,018	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$2,510,865	N/A	N/A	$2,510,865	$2,510,865
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$28,093,883	N/A	N/A	$2,510,865	$2,510,865
Total Benefits	$28,093,883	$15,299,635	$15,299,635	$17,810,500	$21,063,644
Costs					
Utility Project Costs					
Customer Services	N/A	$750,000	$750,000	$750,000	$750,000
Project Administration	N/A	$738,711	$738,711	$738,711	$738,711
Advertising & Promotion	N/A	$94,000	$94,000	$94,000	$94,000
Measurement & Verification	N/A	$410,000	$410,000	$410,000	$410,000
Rebates	N/A	$2,510,865	$2,510,865	$2,510,865	$2,510,865
Other	N/A	$279,000	$279,000	$279,000	$279,000
Subtotal	N/A	$4,782,576	$4,782,576	$4,782,576	$4,782,576
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$25,583,018	N/A	N/A
Subtotal	N/A	N/A	$25,583,018	N/A	N/A
Participant Costs					
Incremental Capital Costs	$8,501,370	N/A	N/A	$5,040,704	$5,040,704
Incremental O&M Costs	$37,474	N/A	N/A	$17,645	$17,645
Subtotal	$8,538,843	N/A	N/A	$5,058,349	$5,058,349
Total Costs	$8,538,843	$4,782,576	$30,365,594	$9,840,925	$9,840,925
Net Benefit (Cost)	$19,555,040	$10,517,059	($15,065,959)	$7,969,575	$11,222,719
Benefit/Cost Ratio	3.29	3.20	0.50	1.81	2.14

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	20.0 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	72.72%
Gross Load Factor at Customer	E	50.06%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$2,288.99

Program Summary per Participant		
Gross kW Saved at Customer	I	54.48 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	42.60 kW
Gross Annual kWh Saved at Customer	(B x E x I)	238,872 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	255,752 kWh

Program Summary All Participants		
Total Participants	J	90
Total Budget	K	**$4,782,576**
Gross kW Saved at Customer	(J x I)	4,903 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**3,834 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	21,498,523 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**23,017,690 kWh**
Societal Net Benefits	(J x I x H)	**$11,222,719**

Utility Program Cost per kWh Lifetime	**$0.0104**
Utility Program Cost per kW at Gen	**$1,248**

BUSINESS NEW CONSTRUCTION 2018 ELECTRIC ACTUAL

2018 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$9,716,606	$9,716,606	$9,716,606	$9,716,606
T & D	N/A	$5,923,913	$5,923,913	$5,923,913	$5,923,913
Marginal Energy	N/A	$23,460,288	$23,460,288	$23,460,288	$23,460,288
Environmental Externality	N/A	N/A	N/A	N/A	$7,436,176
Subtotal	N/A	$39,100,807	$39,100,807	$39,100,807	$46,536,983
Participant Benefits					
Bill Reduction - Electric	$58,478,757	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$6,789,295	N/A	N/A	$6,789,295	$6,789,295
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$65,268,052	N/A	N/A	$6,789,295	$6,789,295
Total Benefits	$65,268,052	$39,100,807	$39,100,807	$45,890,102	$53,326,278
Costs					
Utility Project Costs					
Customer Services	N/A	$1,240,169	$1,240,169	$1,240,169	$1,240,169
Project Administration	N/A	$817,462	$817,462	$817,462	$817,462
Advertising & Promotion	N/A	$14,674	$14,674	$14,674	$14,674
Measurement & Verification	N/A	$575,426	$575,426	$575,426	$575,426
Rebates	N/A	$6,789,295	$6,789,295	$6,789,295	$6,789,295
Other	N/A	$508,123	$508,123	$508,123	$508,123
Subtotal	N/A	$9,945,148	$9,945,148	$9,945,148	$9,945,148
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$58,478,757	N/A	N/A
Subtotal	N/A	N/A	$58,478,757	N/A	N/A
Participant Costs					
Incremental Capital Costs	$24,345,466	N/A	N/A	$24,345,466	$24,345,466
Incremental O&M Costs	$511,248	N/A	N/A	$511,248	$511,248
Subtotal	$24,856,713	N/A	N/A	$24,856,713	$24,856,713
Total Costs	$24,856,713	$9,945,148	$68,423,906	$34,801,862	$34,801,862
Net Benefit (Cost)	$40,411,339	$29,155,659	($29,323,099)	$11,088,240	$18,524,416
Benefit/Cost Ratio	2.63	3.93	0.57	1.32	1.53

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	20.0 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	88.75%
Gross Load Factor at Customer	E	44.97%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$1,484.84

Program Summary per Participant		
Gross kW Saved at Customer	I	64.31 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	61.37 kW
Gross Annual kWh Saved at Customer	(B x E x I)	253,311 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	271,210 kWh

Program Summary All Participants		
Total Participants	J	194
Total Budget	K	**$9,945,148**
Gross kW Saved at Customer	(J x I)	12,476 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**11,905 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	49,142,244 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**52,614,822 kWh**
Societal Net Benefits	(J x I x H)	**$18,524,416**

Utility Program Cost per kWh Lifetime	**$0.0095**
Utility Program Cost per kW at Gen	**$835**

Conservation Improvement Program (CIP) BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis **GOAL**

Company: **Xcel Energy**
Project: **Business New Construction**

Input Data	
1) Retail Rate ($/Dth) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 **First Year**	2018 **Second Year**	2019 **Third Year**
Administrative & Operating Costs =		$270,872	
Incentive Costs =		$138,283	
16) Total Utility Project Costs =		$409,155	
17) Direct Participant Costs ($/Part.) =		$50,614	
18) Participant Non-Energy Costs (Annual $/Part.) =		$0	
Escalation Rate =		1.73%	
19) Participant Non-Energy Savings (Annual $/Part) =		$0	
Escalation Rate =		1.73%	
20) Project Life (Years) =		20.0	
21) Avg. Dth/Part. Saved =		1,109.14	
22) Avg Non-Gas Fuel Units/Part. Saved =		0 kWh	
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =		0 kWh	
23) Number of Participants =		21	
24) Total Annual Dth Saved =		23,292	
25) Incentive/Participant =		$6,584.90	

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		$19,484	
Cost per Participant per Dth =		$63.20	
Lifetime Energy Reduction (Dth)		465,837	
Societal Cost per Dth		$1.51	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($930,737)	0.68
Utility Cost Test	$1,577,393	4.86
Societal Test	$2,427,755	4.45
Participant Test	$2,804,416	3.64

Conservation Improvement Program (CIP) BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis **ACTUAL**

Company: **Xcel Energy**
Project: **Business New Construction**

Input Data	
1) Retail Rate ($/Dth) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 **First Year**	2018 **Second Year**	2019 **Third Year**
Administrative & Operating Costs =		$384,484	
Incentive Costs =		$433,433	
16) Total Utility Project Costs =		$817,917	
17) Direct Participant Costs ($/Part.) =		$103,070	
18) Participant Non-Energy Costs (Annual $/Part.) =		$0	
Escalation Rate =		1.73%	
19) Participant Non-Energy Savings (Annual $/Part) =		$0	
Escalation Rate =		1.73%	
20) Project Life (Years) =		20.0	
21) Avg. Dth/Part. Saved =		1,343.39	
22) Avg Non-Gas Fuel Units/Part. Saved =		0 kWh	
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =		0 kWh	
23) Number of Participants =		60	
24) Total Annual Dth Saved =		80,603	
25) Incentive/Participant =		$7,223.88	

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		$13,632	
Cost per Participant per Dth =		$86.87	
Lifetime Energy Reduction (Dth)		1,612,068	
Societal Cost per Dth		$4.07	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($2,622,896)	0.72
Utility Cost Test	$6,056,693	8.41
Societal Test	$4,269,043	1.65
Participant Test	$3,430,789	1.55

COMMERCIAL EFFICIENCY 2018 ELECTRIC GOAL

2018 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$2,722,239	$2,722,239	$2,722,239	$2,722,239
T & D	N/A	$1,657,711	$1,657,711	$1,657,711	$1,657,711
Marginal Energy	N/A	$11,176,876	$11,176,876	$11,176,876	$11,176,876
Environmental Externality	N/A	N/A	N/A	N/A	$3,497,386
Subtotal	N/A	$15,556,827	$15,556,827	$15,556,827	$19,054,213
Participant Benefits					
Bill Reduction - Electric	$27,025,570	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$2,810,970	N/A	N/A	$2,810,970	$2,810,970
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$905,378	N/A	N/A	$500,829	$500,829
Subtotal	$30,741,918	N/A	N/A	$3,311,799	$3,311,799
Total Benefits	$30,741,918	$15,556,827	$15,556,827	$18,868,626	$22,366,012
Costs					
Utility Project Costs					
Customer Services	N/A	$75,000	$75,000	$75,000	$75,000
Project Administration	N/A	$659,032	$659,032	$659,032	$659,032
Advertising & Promotion	N/A	$25,000	$25,000	$25,000	$25,000
Measurement & Verification	N/A	$30,000	$30,000	$30,000	$30,000
Rebates	N/A	$2,810,970	$2,810,970	$2,810,970	$2,810,970
Other	N/A	$7,500	$7,500	$7,500	$7,500
Subtotal	N/A	$3,607,502	$3,607,502	$3,607,502	$3,607,502
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$27,025,570	N/A	N/A
Subtotal	N/A	N/A	$27,025,570	N/A	N/A
Participant Costs					
Incremental Capital Costs	$10,028,072	N/A	N/A	$5,808,635	$5,808,635
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$10,028,072	N/A	N/A	$5,808,635	$5,808,635
Total Costs	$10,028,072	$3,607,502	$30,633,072	$9,416,137	$9,416,137
Net Benefit (Cost)	$20,713,846	$11,949,325	($15,076,245)	$9,452,489	$12,949,875
Benefit/Cost Ratio	3.07	4.31	0.51	2.00	2.38

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	17.4 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	80.06%
Gross Load Factor at Customer	E	67.66%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$3,037.06

Program Summary per Participant		
Gross kW Saved at Customer	I	24.23 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	20.86 kW
Gross Annual kWh Saved at Customer	(B x E x I)	143,593 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	153,740 kWh

Program Summary All Participants		
Total Participants	J	176
Total Budget	K	**$3,607,502**
Gross kW Saved at Customer	(J x I)	4,264 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**3,671 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	25,272,389 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**27,058,233 kWh**
Societal Net Benefits	(J x I x H)	**$12,949,875**

Utility Program Cost per kWh Lifetime	**$0.0077**
Utility Program Cost per kW at Gen	**$983**

COMMERCIAL EFFICIENCY 2018 ELECTRIC ACTUAL

2018 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$4,958,198	$4,958,198	$4,958,198	$4,958,198
T & D	N/A	$3,019,402	$3,019,402	$3,019,402	$3,019,402
Marginal Energy	N/A	$17,756,113	$17,756,113	$17,756,113	$17,756,113
Environmental Externality	N/A	N/A	N/A	N/A	$5,568,014
Subtotal	N/A	$25,733,713	$25,733,713	$25,733,713	$31,301,727
Participant Benefits					
Bill Reduction - Electric	$42,992,744	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$3,523,280	N/A	N/A	$3,523,280	$3,523,280
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$3,831,396	N/A	N/A	$3,831,396	$3,831,396
Subtotal	$50,347,420	N/A	N/A	$7,354,676	$7,354,676
Total Benefits	$50,347,420	$25,733,713	$25,733,713	$33,088,389	$38,656,403
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$775,191	$775,191	$775,191	$775,191
Advertising & Promotion	N/A	$105	$105	$105	$105
Measurement & Verification	N/A	$4,451	$4,451	$4,451	$4,451
Rebates	N/A	$3,523,280	$3,523,280	$3,523,280	$3,523,280
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$4,303,027	$4,303,027	$4,303,027	$4,303,027
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$42,992,744	N/A	N/A
Subtotal	N/A	N/A	$42,992,744	N/A	N/A
Participant Costs					
Incremental Capital Costs	$14,728,192	N/A	N/A	$14,728,192	$14,728,192
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$14,728,192	N/A	N/A	$14,728,192	$14,728,192
Total Costs	$14,728,192	$4,303,027	$47,295,770	$19,031,219	$19,031,219
Net Benefit (Cost)	$35,619,228	$21,430,686	($21,562,057)	$14,057,170	$19,625,184
Benefit/Cost Ratio	3.42	5.98	0.54	1.74	2.03

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	17.5 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	76.24%
Gross Load Factor at Customer	E	56.09%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$2,412.83

Program Summary per Participant		
Gross kW Saved at Customer	I	70.12 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	57.48 kW
Gross Annual kWh Saved at Customer	(B x E x I)	344,550 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	368,897 kWh

Program Summary All Participants		
Total Participants	J	116
Total Budget	K	**$4,303,027**
Gross kW Saved at Customer	(J x I)	8,134 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**6,667 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	39,967,798 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**42,792,075 kWh**
Societal Net Benefits	(J x I x H)	**$19,625,184**

Utility Program Cost per kWh Lifetime	**$0.0057**
Utility Program Cost per kW at Gen	**$645**

Conservation Improvement Program (CIP) BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis **GOAL**

Company: **Xcel Energy**
Project: **Commercial Efficiency**

Input Data	
1) Retail Rate ($/Dth) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 **First Year**	2018 **Second Year**	2019 **Third Year**
Administrative & Operating Costs =		$272,882	
Incentive Costs =		$230,703	
16) Total Utility Project Costs =		$503,585	
17) Direct Participant Costs ($/Part.) =		$33,219	
18) Participant Non-Energy Costs (Annual $/Part.) =		$0	
Escalation Rate =		1.73%	
19) Participant Non-Energy Savings (Annual $/Part) =		$5,288	
Escalation Rate =		1.73%	
20) Project Life (Years) =		14.9	
21) Avg. Dth/Part. Saved =		895.35	
22) Avg Non-Gas Fuel Units/Part. Saved =		0 kWh	
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =		0 kWh	
23) Number of Participants =		46	
24) Total Annual Dth Saved =		41,186	
25) Incentive/Participant =		$5,015.28	

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		$10,948	
Cost per Participant per Dth =		$49.33	
Lifetime Energy Reduction (Dth)		612,933	
Societal Cost per Dth		$1.65	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($1,236,779)	0.69
Utility Cost Test	$2,288,926	5.55
Societal Test	$6,423,918	7.35
Participant Test	$6,884,489	5.51

Conservation Improvement Program (CIP) BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis **ACTUAL**

Company: **Xcel Energy**
Project: **Commercial Efficiency**

Input Data	
1) Retail Rate ($/Dth) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 **First Year**	2018 **Second Year**	2019 **Third Year**
Administrative & Operating Costs =		$89,067	
Incentive Costs =		$102,589	
16) Total Utility Project Costs =		$191,656	
17) Direct Participant Costs ($/Part.) =		$91,614	
18) Participant Non-Energy Costs (Annual $/Part.) =		$0	
Escalation Rate =		1.73%	
19) Participant Non-Energy Savings (Annual $/Part) =		$2,187	
Escalation Rate =		1.73%	
20) Project Life (Years) =		15.0	
21) Avg. Dth/Part. Saved =		4,056.07	
22) Avg Non-Gas Fuel Units/Part. Saved =		0 kWh	
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =		0 kWh	
23) Number of Participants =		11	
24) Total Annual Dth Saved =		44,617	
25) Incentive/Participant =		$9,326.25	

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		$17,423	
Cost per Participant per Dth =		$26.88	
Lifetime Energy Reduction (Dth)		663,991	
Societal Cost per Dth		$1.65	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($998,372)	0.75
Utility Cost Test	$2,850,823	15.87
Societal Test	$3,545,165	4.23
Participant Test	$4,564,248	5.53

COMMERCIAL REFRIGERATION 2018 ELECTRIC GOAL

2018 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$37,274	$37,274	$37,274	$37,274
T & D	N/A	$22,664	$22,664	$22,664	$22,664
Marginal Energy	N/A	$172,925	$172,925	$172,925	$172,925
Environmental Externality	N/A	N/A	N/A	N/A	$58,996
Subtotal	N/A	$232,862	$232,862	$232,862	$291,858
Participant Benefits					
Bill Reduction - Electric	$413,981	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$40,292	N/A	N/A	$40,292	$40,292
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$36,243	N/A	N/A	$1,844	$1,844
Subtotal	$490,517	N/A	N/A	$42,136	$42,136
Total Benefits	$490,517	$232,862	$232,862	$274,998	$333,994
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$121,037	$121,037	$121,037	$121,037
Advertising & Promotion	N/A	$10,237	$10,237	$10,237	$10,237
Measurement & Verification	N/A	$1,965	$1,965	$1,965	$1,965
Rebates	N/A	$40,292	$40,292	$40,292	$40,292
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$173,531	$173,531	$173,531	$173,531
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$413,981	N/A	N/A
Subtotal	N/A	N/A	$413,981	N/A	N/A
Participant Costs					
Incremental Capital Costs	$144,254	N/A	N/A	$144,254	$144,254
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$144,254	N/A	N/A	$144,254	$144,254
Total Costs	$144,254	$173,531	$587,512	$317,785	$317,785
Net Benefit (Cost)	$346,262	$59,332	($354,650)	($42,787)	$16,209
Benefit/Cost Ratio	3.40	1.34	0.40	0.87	1.05

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	11.9 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	5.42%
Gross Load Factor at Customer	E	5.67%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$13.95

Program Summary per Participant		
Gross kW Saved at Customer	I	12.11 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.71 kW
Gross Annual kWh Saved at Customer	(B x E x I)	6,008 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	6,432 kWh

Program Summary All Participants		
Total Participants	J	96
Total Budget	K	**$173,531**
Gross kW Saved at Customer	(J x I)	1,162 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**68 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	576,742 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**617,496 kWh**
Societal Net Benefits	(J x I x H)	**$16,209**

Utility Program Cost per kWh Lifetime	**$0.0237**
Utility Program Cost per kW at Gen	**$2,564**

COMMERCIAL REFRIGERATION 2018 ELECTRIC ACTUAL

2018 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$1,750	$1,750	$1,750	$1,750
T & D	N/A	$1,059	$1,059	$1,059	$1,059
Marginal Energy	N/A	$19,015	$19,015	$19,015	$19,015
Environmental Externality	N/A	N/A	N/A	N/A	$5,184
Subtotal	N/A	$21,824	$21,824	$21,824	$27,008
Participant Benefits					
Bill Reduction - Electric	$50,563	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$12,130	N/A	N/A	$12,130	$12,130
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$2,978	N/A	N/A	$2,978	$2,978
Subtotal	$65,671	N/A	N/A	$15,108	$15,108
Total Benefits	$65,671	$21,824	$21,824	$36,932	$42,116
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$99,842	$99,842	$99,842	$99,842
Advertising & Promotion	N/A	$1,539	$1,539	$1,539	$1,539
Measurement & Verification	N/A	$0	$0	$0	$0
Rebates	N/A	$12,130	$12,130	$12,130	$12,130
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$113,511	$113,511	$113,511	$113,511
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$50,563	N/A	N/A
Subtotal	N/A	N/A	$50,563	N/A	N/A
Participant Costs					
Incremental Capital Costs	$75,065	N/A	N/A	$75,065	$75,065
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$75,065	N/A	N/A	$75,065	$75,065
Total Costs	$75,065	$113,511	$164,074	$188,576	$188,576
Net Benefit (Cost)	($9,394)	($91,688)	($142,250)	($151,644)	($146,460)
Benefit/Cost Ratio	0.87	0.19	0.13	0.20	0.22

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	7.3 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	39.75%
Gross Load Factor at Customer	E	54.44%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	($2,604.52)

Program Summary per Participant		
Gross kW Saved at Customer	I	0.62 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.27 kW
Gross Annual kWh Saved at Customer	(B x E x I)	2,980 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	3,190 kWh

Program Summary All Participants		
Total Participants	J	90
Total Budget	K	**$113,511**
Gross kW Saved at Customer	(J x I)	56 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**24 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	268,182 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**287,133 kWh**
Societal Net Benefits	(J x I x H)	**($146,460)**

Utility Program Cost per kWh Lifetime	**$0.0542**
Utility Program Cost per kW at Gen	**$4,722**

Conservation Improvement Program (CIP) BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis **GOAL**

Company: **Xcel Energy**
Project: **Commercial Refrigeration**

Input Data	
1) Retail Rate ($/Dth) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 **First Year**	2018 **Second Year**	2019 **Third Year**
Administrative & Operating Costs =		$2,402	
Incentive Costs =		$355	
16) Total Utility Project Costs =		$2,758	
17) Direct Participant Costs ($/Part.) =		$94	
18) Participant Non-Energy Costs (Annual $/Part.) =		$0	
Escalation Rate =		1.73%	
19) Participant Non-Energy Savings (Annual $/Part) =		$48	
Escalation Rate =		1.73%	
20) Project Life (Years) =		10.5	
21) Avg. Dth/Part. Saved =		9.81	
22) Avg Non-Gas Fuel Units/Part. Saved =		0 kWh	
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =		0 kWh	
23) Number of Participants =		10	
24) Total Annual Dth Saved =		98	
25) Incentive/Participant =		$35.53	

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		$276	
Cost per Participant per Dth =		$37.66	
Lifetime Energy Reduction (Dth)		1,031	
Societal Cost per Dth		$3.24	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($4,066)	0.55
Utility Cost Test	$2,225	1.81
Societal Test	$7,778	3.33
Participant Test	$11,738	13.55

Conservation Improvement Program (CIP) BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis **ACTUAL**

Company: **Xcel Energy**
Project: **Commercial Refrigeration**

Input Data	
1) Retail Rate ($/Dth) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 **First Year**	2018 **Second Year**	2019 **Third Year**
Administrative & Operating Costs =		$4,149	
Incentive Costs =		$0	
16) Total Utility Project Costs =		$4,149	
17) Direct Participant Costs ($/Part.) =		$17	
18) Participant Non-Energy Costs (Annual $/Part.) =		$0	
Escalation Rate =		1.73%	
19) Participant Non-Energy Savings (Annual $/Part) =		$30	
Escalation Rate =		1.73%	
20) Project Life (Years) =		8.9	
21) Avg. Dth/Part. Saved =		4.43	
22) Avg Non-Gas Fuel Units/Part. Saved =		0 kWh	
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =		0 kWh	
23) Number of Participants =		31	
24) Total Annual Dth Saved =		137	
25) Incentive/Participant =		$0.00	

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		$134	
Cost per Participant per Dth =		$34.16	
Lifetime Energy Reduction (Dth)		1,442	
Societal Cost per Dth		$3.25	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($5,720)	0.51
Utility Cost Test	$1,835	1.44
Societal Test	$10,456	3.23
Participant Test	$16,005	30.80

COMPUTER EFFICIENCY - PC POWER MGMT 2018 ELECTRIC GOAL

2018 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$145,514	$145,514	$145,514	$145,514
T & D	N/A	$88,119	$88,119	$88,119	$88,119
Marginal Energy	N/A	$709,715	$709,715	$709,715	$709,715
Environmental Externality	N/A	N/A	N/A	N/A	$197,129
Subtotal	N/A	$943,348	$943,348	$943,348	$1,140,478
Participant Benefits					
Bill Reduction - Electric	$1,429,447	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$214,000	N/A	N/A	$214,000	$214,000
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$769,436	N/A	N/A	$811,151	$811,151
Subtotal	$2,412,883	N/A	N/A	$1,025,151	$1,025,151
Total Benefits	$2,412,883	$943,348	$943,348	$1,968,499	$2,165,629
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$136,850	$136,850	$136,850	$136,850
Advertising & Promotion	N/A	$1,000	$1,000	$1,000	$1,000
Measurement & Verification	N/A	$5,000	$5,000	$5,000	$5,000
Rebates	N/A	$214,000	$214,000	$214,000	$214,000
Other	N/A	$193,000	$193,000	$193,000	$193,000
Subtotal	N/A	$549,850	$549,850	$549,850	$549,850
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$1,429,447	N/A	N/A
Subtotal	N/A	N/A	$1,429,447	N/A	N/A
Participant Costs					
Incremental Capital Costs	$1,031,358	N/A	N/A	$1,031,358	$1,031,358
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$1,031,358	N/A	N/A	$1,031,358	$1,031,358
Total Costs	$1,031,358	$549,850	$1,979,297	$1,581,208	$1,581,208
Net Benefit (Cost)	$1,381,525	$393,498	($1,035,949)	$387,291	$584,421
Benefit/Cost Ratio	2.34	1.72	0.48	1.24	1.37

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	5.6 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	96.80%
Gross Load Factor at Customer	E	87.34%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$1,289.46

Program Summary per Participant		
Gross kW Saved at Customer	I	0.33 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.34 kW
Gross Annual kWh Saved at Customer	(B x E x I)	2,493 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	2,669 kWh

Program Summary All Participants		
Total Participants	J	1,391
Total Budget	K	**$549,850**
Gross kW Saved at Customer	(J x I)	453 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**472 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	3,467,521 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**3,712,549 kWh**
Societal Net Benefits	(J x I x H)	**$584,421**

Utility Program Cost per kWh Lifetime	**$0.0264**
Utility Program Cost per kW at Gen	**$1,166**

COMPUTER EFFICIENCY - PC POWER MGMT — 2018 ELECTRIC — ACTUAL

2018 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$58,256	$58,256	$58,256	$58,256
T & D	N/A	$35,259	$35,259	$35,259	$35,259
Marginal Energy	N/A	$271,205	$271,205	$271,205	$271,205
Environmental Externality	N/A	N/A	N/A	N/A	$78,509
Subtotal	N/A	$364,720	$364,720	$364,720	$443,229
Participant Benefits					
Bill Reduction - Electric	$551,846	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$0	N/A	N/A	$0	$0
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$551,846	N/A	N/A	$0	$0
Total Benefits	$551,846	$364,720	$364,720	$364,720	$443,229
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$53,122	$53,122	$53,122	$53,122
Advertising & Promotion	N/A	$0	$0	$0	$0
Measurement & Verification	N/A	$2,250	$2,250	$2,250	$2,250
Rebates	N/A	$0	$0	$0	$0
Other	N/A	$74,994	$74,994	$74,994	$74,994
Subtotal	N/A	$130,366	$130,366	$130,366	$130,366
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$551,846	N/A	N/A
Subtotal	N/A	N/A	$551,846	N/A	N/A
Participant Costs					
Incremental Capital Costs	$284,625	N/A	N/A	$284,625	$284,625
Incremental O&M Costs	$7,959	N/A	N/A	$7,959	$7,959
Subtotal	$292,583	N/A	N/A	$292,583	$292,583
Total Costs	$292,583	$130,366	$682,212	$422,950	$422,950
Net Benefit (Cost)	$259,263	$234,353	($317,493)	($58,230)	$20,279
Benefit/Cost Ratio	1.89	2.80	0.53	0.86	1.05

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	5.0 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	100.00%
Gross Load Factor at Customer	E	90.34%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$104.89

Program Summary per Participant		
Gross kW Saved at Customer	I	0.41 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.44 kW
Gross Annual kWh Saved at Customer	(B x E x I)	3,263 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	3,494 kWh

Program Summary All Participants		
Total Participants	J	469
Total Budget	K	**$130,366**
Gross kW Saved at Customer	(J x I)	193 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**208 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	1,530,087 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**1,638,209 kWh**
Societal Net Benefits	(J x I x H)	**$20,279**

Utility Program Cost per kWh Lifetime	**$0.0159**
Utility Program Cost per kW at Gen	**$627**

COOLING EFFICIENCY 2018 ELECTRIC GOAL

2018 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$1,800,093	$1,800,093	$1,800,093	$1,800,093
T & D	N/A	$1,097,096	$1,097,096	$1,097,096	$1,097,096
Marginal Energy	N/A	$2,738,111	$2,738,111	$2,738,111	$2,738,111
Environmental Externality	N/A	N/A	N/A	N/A	$830,792
Subtotal	N/A	$5,635,300	$5,635,300	$5,635,300	$6,466,092
Participant Benefits					
Bill Reduction - Electric	$6,611,395	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$1,893,126	N/A	N/A	$1,893,126	$1,893,126
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$35,532	N/A	N/A	$8,844	$8,844
Subtotal	$8,540,053	N/A	N/A	$1,901,970	$1,901,970
Total Benefits	$8,540,053	$5,635,300	$5,635,300	$7,537,270	$8,368,062
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$443,641	$443,641	$443,641	$443,641
Advertising & Promotion	N/A	$63,260	$63,260	$63,260	$63,260
Measurement & Verification	N/A	$18,000	$18,000	$18,000	$18,000
Rebates	N/A	$1,893,126	$1,893,126	$1,893,126	$1,893,126
Other	N/A	$186,000	$186,000	$186,000	$186,000
Subtotal	N/A	$2,604,027	$2,604,027	$2,604,027	$2,604,027
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$6,611,395	N/A	N/A
Subtotal	N/A	N/A	$6,611,395	N/A	N/A
Participant Costs					
Incremental Capital Costs	$4,388,143	N/A	N/A	$4,005,811	$4,005,811
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$4,388,143	N/A	N/A	$4,005,811	$4,005,811
Total Costs	$4,388,143	$2,604,027	$9,215,422	$6,609,838	$6,609,838
Net Benefit (Cost)	$4,151,910	$3,031,273	($3,580,122)	$927,433	$1,758,224
Benefit/Cost Ratio	1.95	2.16	0.61	1.14	1.27

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	18.5 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	78.10%
Gross Load Factor at Customer	E	24.39%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$648.72

Program Summary per Participant		
Gross kW Saved at Customer	I	1.56 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	1.31 kW
Gross Annual kWh Saved at Customer	(B x E x I)	3,336 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	3,572 kWh

Program Summary All Participants		
Total Participants	J	1,736
Total Budget	K	**$2,604,027**
Gross kW Saved at Customer	(J x I)	2,710 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**2,276 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	5,791,353 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**6,200,592 kWh**
Societal Net Benefits	(J x I x H)	**$1,758,224**

Utility Program Cost per kWh Lifetime	**$0.0228**
Utility Program Cost per kW at Gen	**$1,144**

COOLING EFFICIENCY 2018 ELECTRIC ACTUAL

2018 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$1,794,808	$1,794,808	$1,794,808	$1,794,808
T & D	N/A	$1,093,774	$1,093,774	$1,093,774	$1,093,774
Marginal Energy	N/A	$2,122,283	$2,122,283	$2,122,283	$2,122,283
Environmental Externality	N/A	N/A	N/A	N/A	$638,658
Subtotal	N/A	$5,010,865	$5,010,865	$5,010,865	$5,649,522
Participant Benefits					
Bill Reduction - Electric	$5,030,623	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$1,863,679	N/A	N/A	$1,863,679	$1,863,679
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$59	N/A	N/A	$59	$59
Subtotal	$6,894,361	N/A	N/A	$1,863,737	$1,863,737
Total Benefits	$6,894,361	$5,010,865	$5,010,865	$6,874,602	$7,513,259
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$342,086	$342,086	$342,086	$342,086
Advertising & Promotion	N/A	$7,057	$7,057	$7,057	$7,057
Measurement & Verification	N/A	$10,500	$10,500	$10,500	$10,500
Rebates	N/A	$1,863,679	$1,863,679	$1,863,679	$1,863,679
Other	N/A	$52,328	$52,328	$52,328	$52,328
Subtotal	N/A	$2,275,650	$2,275,650	$2,275,650	$2,275,650
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$5,030,623	N/A	N/A
Subtotal	N/A	N/A	$5,030,623	N/A	N/A
Participant Costs					
Incremental Capital Costs	$4,425,219	N/A	N/A	$4,425,219	$4,425,219
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$4,425,219	N/A	N/A	$4,425,219	$4,425,219
Total Costs	$4,425,219	$2,275,650	$7,306,273	$6,700,869	$6,700,869
Net Benefit (Cost)	$2,469,141	$2,735,215	($2,295,409)	$173,733	$812,390
Benefit/Cost Ratio	1.56	2.20	0.69	1.03	1.12

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	16.7 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	90.36%
Gross Load Factor at Customer	E	23.02%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$343.38

Program Summary per Participant		
Gross kW Saved at Customer	I	0.68 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.66 kW
Gross Annual kWh Saved at Customer	(B x E x I)	1,370 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	1,467 kWh

Program Summary All Participants		
Total Participants	J	3,481
Total Budget	K	**$2,275,650**
Gross kW Saved at Customer	(J x I)	2,366 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**2,299 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	4,770,727 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**5,107,845 kWh**
Societal Net Benefits	(J x I x H)	**$812,390**

Utility Program Cost per kWh Lifetime	**$0.0267**
Utility Program Cost per kW at Gen	**$990**

Conservation Improvement Program (CIP) BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis **GOAL**

Company: **Xcel Energy**
Project: **Cooling Efficiency**

Input Data	
1) Retail Rate ($/Dth) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 **First Year**	2018 **Second Year**	2019 **Third Year**
Administrative & Operating Costs =		$15,000	
Incentive Costs =		$33,579	
16) Total Utility Project Costs =		$48,579	
17) Direct Participant Costs ($/Part.) =		$38,413	
18) Participant Non-Energy Costs (Annual $/Part.) =		$0	
Escalation Rate =		1.73%	
19) Participant Non-Energy Savings (Annual $/Part) =		$0	
Escalation Rate =		1.73%	
20) Project Life (Years) =		15.0	
21) Avg. Dth/Part. Saved =		1,989.31	
22) Avg Non-Gas Fuel Units/Part. Saved =		0 kWh	
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =		0 kWh	
23) Number of Participants =		3	
24) Total Annual Dth Saved =		5,968	
25) Incentive/Participant =		$11,193.00	

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		$16,193	
Cost per Participant per Dth =		$27.45	
Lifetime Energy Reduction (Dth)		89,519	
Societal Cost per Dth		$1.13	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($155,649)	0.72
Utility Cost Test	$359,218	8.39
Societal Test	$480,231	5.73
Participant Test	$609,229	6.29

Conservation Improvement Program (CIP) BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis **ACTUAL**

Company: **Xcel Energy**
Project: **Cooling Efficiency**

Input Data	
1) Retail Rate ($/Dth) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 **First Year**	2018 **Second Year**	2019 **Third Year**
Administrative & Operating Costs =		$4,266	
Incentive Costs =		$3,157	
16) Total Utility Project Costs =		$7,423	
17) Direct Participant Costs ($/Part.) =		$3,947	
18) Participant Non-Energy Costs (Annual $/Part.) =		$0	
Escalation Rate =		1.73%	
19) Participant Non-Energy Savings (Annual $/Part) =		$0	
Escalation Rate =		1.73%	
20) Project Life (Years) =		15.0	
21) Avg. Dth/Part. Saved =		186.13	
22) Avg Non-Gas Fuel Units/Part. Saved =		0 kWh	
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =		0 kWh	
23) Number of Participants =		3	
24) Total Annual Dth Saved =		558	
25) Incentive/Participant =		$1,052.36	

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		$2,474	
Cost per Participant per Dth =		$34.50	
Lifetime Energy Reduction (Dth)		8,376	
Societal Cost per Dth		$1.92	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($17,441)	0.69
Utility Cost Test	$30,733	5.14
Societal Test	$38,330	3.38
Participant Test	$55,961	5.73

CUSTOM EFFICIENCY 2018 ELECTRIC GOAL

2018 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$606,111	$606,111	$606,111	$606,111
T & D	N/A	$369,270	$369,270	$369,270	$369,270
Marginal Energy	N/A	$2,094,712	$2,094,712	$2,094,712	$2,094,712
Environmental Externality	N/A	N/A	N/A	N/A	$658,946
Subtotal	N/A	$3,070,093	$3,070,093	$3,070,093	$3,729,039
Participant Benefits					
Bill Reduction - Electric	$5,129,748	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$341,571	N/A	N/A	$341,571	$341,571
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$6,342,173	N/A	N/A	$2,472,262	$2,472,262
Subtotal	$11,813,492	N/A	N/A	$2,813,833	$2,813,833
Total Benefits	$11,813,492	$3,070,093	$3,070,093	$5,883,926	$6,542,872
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$863,831	$863,831	$863,831	$863,831
Advertising & Promotion	N/A	$32,059	$32,059	$32,059	$32,059
Measurement & Verification	N/A	$15,124	$15,124	$15,124	$15,124
Rebates	N/A	$341,571	$341,571	$341,571	$341,571
Other	N/A	$2,260	$2,260	$2,260	$2,260
Subtotal	N/A	$1,254,844	$1,254,844	$1,254,844	$1,254,844
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$5,129,748	N/A	N/A
Subtotal	N/A	N/A	$5,129,748	N/A	N/A
Participant Costs					
Incremental Capital Costs	$1,386,935	N/A	N/A	$563,917	$563,917
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$1,386,935	N/A	N/A	$563,917	$563,917
Total Costs	$1,386,935	$1,254,844	$6,384,593	$1,818,762	$1,818,762
Net Benefit (Cost)	$10,426,557	$1,815,248	($3,314,500)	$4,065,164	$4,724,110
Benefit/Cost Ratio	8.52	2.45	0.48	3.24	3.60

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	18.6 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	73.96%
Gross Load Factor at Customer	E	53.00%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$4,798.62

Program Summary per Participant		
Gross kW Saved at Customer	I	18.93 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	15.06 kW
Gross Annual kWh Saved at Customer	(B x E x I)	87,904 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	94,116 kWh

Program Summary All Participants		
Total Participants	J	52
Total Budget	K	**$1,254,844**
Gross kW Saved at Customer	(J x I)	984 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**783 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	4,571,010 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**4,894,015 kWh**
Societal Net Benefits	(J x I x H)	**$4,724,110**

Utility Program Cost per kWh Lifetime	**$0.0138**
Utility Program Cost per kW at Gen	**$1,603**

CUSTOM EFFICIENCY 2018 ELECTRIC ACTUAL

2018 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$357,428	$357,428	$357,428	$357,428
T & D	N/A	$217,811	$217,811	$217,811	$217,811
Marginal Energy	N/A	$1,860,862	$1,860,862	$1,860,862	$1,860,862
Environmental Externality	N/A	N/A	N/A	N/A	$583,398
Subtotal	N/A	$2,436,100	$2,436,100	$2,436,100	$3,019,498
Participant Benefits					
Bill Reduction - Electric	$4,909,842	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$349,844	N/A	N/A	$349,844	$349,844
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$37,436,045	N/A	N/A	$37,436,045	$37,436,045
Subtotal	$42,695,731	N/A	N/A	$37,785,890	$37,785,890
Total Benefits	$42,695,731	$2,436,100	$2,436,100	$40,221,990	$40,805,388
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$636,385	$636,385	$636,385	$636,385
Advertising & Promotion	N/A	$60	$60	$60	$60
Measurement & Verification	N/A	$9,087	$9,087	$9,087	$9,087
Rebates	N/A	$349,844	$349,844	$349,844	$349,844
Other	N/A	$5,604	$5,604	$5,604	$5,604
Subtotal	N/A	$1,000,980	$1,000,980	$1,000,980	$1,000,980
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$4,909,842	N/A	N/A
Subtotal	N/A	N/A	$4,909,842	N/A	N/A
Participant Costs					
Incremental Capital Costs	$12,278,233	N/A	N/A	$12,278,233	$12,278,233
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$12,278,233	N/A	N/A	$12,278,233	$12,278,233
Total Costs	$12,278,233	$1,000,980	$5,910,821	$13,279,213	$13,279,213
Net Benefit (Cost)	$30,417,499	$1,435,121	($3,474,721)	$26,942,778	$27,526,175
Benefit/Cost Ratio	3.48	2.43	0.41	3.03	3.07

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	18.6 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	55.20%
Gross Load Factor at Customer	E	58.76%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$32,383.96

Program Summary per Participant		
Gross kW Saved at Customer	I	25.00 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	14.84 kW
Gross Annual kWh Saved at Customer	(B x E x I)	128,678 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	137,771 kWh

Program Summary All Participants		
Total Participants	J	34
Total Budget	K	**$1,000,980**
Gross kW Saved at Customer	(J x I)	850 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**505 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	4,375,056 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**4,684,214 kWh**
Societal Net Benefits	(J x I x H)	**$27,526,175**

Utility Program Cost per kWh Lifetime	**$0.0115**
Utility Program Cost per kW at Gen	**$1,984**

Conservation Improvement Program (CIP) BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis **GOAL**

Company: **Xcel Energy**
Project: **Custom Efficiency**

Input Data	
1) Retail Rate ($/Dth) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 **First Year**	2018 **Second Year**	2019 **Third Year**
Administrative & Operating Costs =		$98,980	
Incentive Costs =		$103,360	
16) Total Utility Project Costs =		$202,340	
17) Direct Participant Costs ($/Part.) =		$64,744	
18) Participant Non-Energy Costs (Annual $/Part.) =		$0	
Escalation Rate =		1.73%	
19) Participant Non-Energy Savings (Annual $/Part) =		$2,613	
Escalation Rate =		1.73%	
20) Project Life (Years) =		19.5	
21) Avg. Dth/Part. Saved =		810.05	
22) Avg Non-Gas Fuel Units/Part. Saved =		0 kWh	
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =		0 kWh	
23) Number of Participants =		21	
24) Total Annual Dth Saved =		17,011	
25) Incentive/Participant =		$4,921.90	

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		$9,635	
Cost per Participant per Dth =		$91.82	
Lifetime Energy Reduction (Dth)		331,141	
Societal Cost per Dth		$2.86	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($575,699)	0.71
Utility Cost Test	$1,219,668	7.03
Societal Test	$2,262,933	3.39
Participant Test	$2,376,836	2.75

Conservation Improvement Program (CIP) BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis **ACTUAL**

Company: **Xcel Energy**
Project: **Custom Efficiency**

Input Data	
1) Retail Rate ($/Dth) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 **First Year**	2018 **Second Year**	2019 **Third Year**
Administrative & Operating Costs =		$57,725	
Incentive Costs =		$64,889	
16) Total Utility Project Costs =		$122,614	
17) Direct Participant Costs ($/Part.) =		$87,616	
18) Participant Non-Energy Costs (Annual $/Part.) =		$0	
Escalation Rate =		1.73%	
19) Participant Non-Energy Savings (Annual $/Part) =		$27,777	
Escalation Rate =		1.73%	
20) Project Life (Years) =		19.5	
21) Avg. Dth/Part. Saved =		1,745.00	
22) Avg Non-Gas Fuel Units/Part. Saved =		0 kWh	
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =		0 kWh	
23) Number of Participants =		7	
24) Total Annual Dth Saved =		12,215	
25) Incentive/Participant =		$9,269.80	

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		$17,516	
Cost per Participant per Dth =		$60.25	
Lifetime Energy Reduction (Dth)		237,779	
Societal Cost per Dth		$2.82	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($366,185)	0.74
Utility Cost Test	$922,999	8.53
Societal Test	$4,004,476	6.97
Participant Test	$4,377,428	8.14

DATA CENTER EFFICIENCY 2018 ELECTRIC GOAL

2018 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$503,456	$503,456	$503,456	$503,456
T & D	N/A	$305,791	$305,791	$305,791	$305,791
Marginal Energy	N/A	$2,565,991	$2,565,991	$2,565,991	$2,565,991
Environmental Externality	N/A	N/A	N/A	N/A	$875,877
Subtotal	N/A	$3,375,239	$3,375,239	$3,375,239	$4,251,116
Participant Benefits					
Bill Reduction - Electric	$5,890,538	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$643,513	N/A	N/A	$643,513	$643,513
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$209,000	N/A	N/A	$209,000	$209,000
Subtotal	$6,743,051	N/A	N/A	$852,513	$852,513
Total Benefits	$6,743,051	$3,375,239	$3,375,239	$4,227,752	$5,103,629
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$517,720	$517,720	$517,720	$517,720
Advertising & Promotion	N/A	$26,603	$26,603	$26,603	$26,603
Measurement & Verification	N/A	$65,720	$65,720	$65,720	$65,720
Rebates	N/A	$643,513	$643,513	$643,513	$643,513
Other	N/A	$71,800	$71,800	$71,800	$71,800
Subtotal	N/A	$1,325,356	$1,325,356	$1,325,356	$1,325,356
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$5,890,538	N/A	N/A
Subtotal	N/A	N/A	$5,890,538	N/A	N/A
Participant Costs					
Incremental Capital Costs	$1,970,391	N/A	N/A	$1,970,391	$1,970,391
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$1,970,391	N/A	N/A	$1,970,391	$1,970,391
Total Costs	$1,970,391	$1,325,356	$7,215,894	$3,295,747	$3,295,747
Net Benefit (Cost)	$4,772,660	$2,049,883	($3,840,655)	$932,005	$1,807,882
Benefit/Cost Ratio	3.42	2.55	0.47	1.28	1.55

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	11.6 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	79.11%
Gross Load Factor at Customer	E	89.35%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$1,698.21

Program Summary per Participant		
Gross kW Saved at Customer	I	15.89 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	13.52 kW
Gross Annual kWh Saved at Customer	(B x E x I)	124,360 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	133,148 kWh

Program Summary All Participants		
Total Participants	J	67
Total Budget	K	**$1,325,356**
Gross kW Saved at Customer	(J x I)	1,065 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**906 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	8,332,109 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**8,920,888 kWh**
Societal Net Benefits	(J x I x H)	**$1,807,882**

Utility Program Cost per kWh Lifetime	**$0.0128**
Utility Program Cost per kW at Gen	**$1,464**

DATA CENTER EFFICIENCY 2018 ELECTRIC ACTUAL

2018 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$263,230	$263,230	$263,230	$263,230
T & D	N/A	$159,887	$159,887	$159,887	$159,887
Marginal Energy	N/A	$1,796,420	$1,796,420	$1,796,420	$1,796,420
Environmental Externality	N/A	N/A	N/A	N/A	$615,580
Subtotal	N/A	$2,219,537	$2,219,537	$2,219,537	$2,835,117
Participant Benefits					
Bill Reduction - Electric	$3,937,949	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$294,405	N/A	N/A	$294,405	$294,405
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$838,828	N/A	N/A	$838,828	$838,828
Subtotal	$5,071,182	N/A	N/A	$1,133,233	$1,133,233
Total Benefits	$5,071,182	$2,219,537	$2,219,537	$3,352,770	$3,968,350
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$184,336	$184,336	$184,336	$184,336
Advertising & Promotion	N/A	$22,727	$22,727	$22,727	$22,727
Measurement & Verification	N/A	$405	$405	$405	$405
Rebates	N/A	$294,405	$294,405	$294,405	$294,405
Other	N/A	$3,274	$3,274	$3,274	$3,274
Subtotal	N/A	$505,146	$505,146	$505,146	$505,146
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$3,937,949	N/A	N/A
Subtotal	N/A	N/A	$3,937,949	N/A	N/A
Participant Costs					
Incremental Capital Costs	$2,340,704	N/A	N/A	$2,340,704	$2,340,704
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$2,340,704	N/A	N/A	$2,340,704	$2,340,704
Total Costs	$2,340,704	$505,146	$4,443,095	$2,845,850	$2,845,850
Net Benefit (Cost)	$2,730,478	$1,714,391	($2,223,558)	$506,920	$1,122,500
Benefit/Cost Ratio	2.17	4.39	0.50	1.18	1.39

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	11.2 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	61.28%
Gross Load Factor at Customer	E	91.04%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$1,567.17

Program Summary per Participant		
Gross kW Saved at Customer	I	44.77 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	29.50 kW
Gross Annual kWh Saved at Customer	(B x E x I)	357,033 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	382,262 kWh

Program Summary All Participants		
Total Participants	J	16
Total Budget	K	**$505,146**
Gross kW Saved at Customer	(J x I)	716 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**472 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	5,712,524 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**6,116,193 kWh**
Societal Net Benefits	(J x I x H)	**$1,122,500**

Utility Program Cost per kWh Lifetime	**$0.0074**
Utility Program Cost per kW at Gen	**$1,070**

EFFICIENCY CONTROLS 2018 ELECTRIC GOAL

2018 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$178,640	$178,640	$178,640	$178,640
T & D	N/A	$108,671	$108,671	$108,671	$108,671
Marginal Energy	N/A	$2,795,725	$2,795,725	$2,795,725	$2,795,725
Environmental Externality	N/A	N/A	N/A	N/A	$1,028,191
Subtotal	N/A	$3,083,036	$3,083,036	$3,083,036	$4,111,227
Participant Benefits					
Bill Reduction - Electric	$6,238,816	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$749,204	N/A	N/A	$749,204	$749,204
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$727,969	N/A	N/A	$280,033	$280,033
Subtotal	$7,715,990	N/A	N/A	$1,029,237	$1,029,237
Total Benefits	$7,715,990	$3,083,036	$3,083,036	$4,112,273	$5,140,464
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$346,024	$346,024	$346,024	$346,024
Advertising & Promotion	N/A	$58,652	$58,652	$58,652	$58,652
Measurement & Verification	N/A	$6,000	$6,000	$6,000	$6,000
Rebates	N/A	$749,204	$749,204	$749,204	$749,204
Other	N/A	$19,000	$19,000	$19,000	$19,000
Subtotal	N/A	$1,178,880	$1,178,880	$1,178,880	$1,178,880
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$6,238,816	N/A	N/A
Subtotal	N/A	N/A	$6,238,816	N/A	N/A
Participant Costs					
Incremental Capital Costs	$2,875,051	N/A	N/A	$1,113,048	$1,113,048
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$2,875,051	N/A	N/A	$1,113,048	$1,113,048
Total Costs	$2,875,051	$1,178,880	$7,417,696	$2,291,928	$2,291,928
Net Benefit (Cost)	$4,840,939	$1,904,156	($4,334,661)	$1,820,345	$2,848,537
Benefit/Cost Ratio	2.68	2.62	0.42	1.79	2.24

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	15.0 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	21.05%
Gross Load Factor at Customer	E	78.78%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$2,444.81

Program Summary per Participant		
Gross kW Saved at Customer	I	17.65 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	4.00 kW
Gross Annual kWh Saved at Customer	(B x E x I)	121,830 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	130,439 kWh

Program Summary All Participants		
Total Participants	J	66
Total Budget	K	**$1,178,880**
Gross kW Saved at Customer	(J x I)	1,165 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**264 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	8,040,764 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**8,608,955 kWh**
Societal Net Benefits	(J x I x H)	**$2,848,537**

Utility Program Cost per kWh Lifetime	**$0.0091**
Utility Program Cost per kW at Gen	**$4,470**

EFFICIENCY CONTROLS 2018 ELECTRIC ACTUAL

2018 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$90,786	$90,786	$90,786	$90,786
T & D	N/A	$55,227	$55,227	$55,227	$55,227
Marginal Energy	N/A	$3,302,590	$3,302,590	$3,302,590	$3,302,590
Environmental Externality	N/A	N/A	N/A	N/A	$1,214,602
Subtotal	N/A	$3,448,603	$3,448,603	$3,448,603	$4,663,205
Participant Benefits					
Bill Reduction - Electric	$7,369,913	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$716,398	N/A	N/A	$716,398	$716,398
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$888,631	N/A	N/A	$888,631	$888,631
Subtotal	$8,974,942	N/A	N/A	$1,605,030	$1,605,030
Total Benefits	$8,974,942	$3,448,603	$3,448,603	$5,053,633	$6,268,235
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$238,236	$238,236	$238,236	$238,236
Advertising & Promotion	N/A	$340	$340	$340	$340
Measurement & Verification	N/A	$0	$0	$0	$0
Rebates	N/A	$716,398	$716,398	$716,398	$716,398
Other	N/A	$45,533	$45,533	$45,533	$45,533
Subtotal	N/A	$1,000,507	$1,000,507	$1,000,507	$1,000,507
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$7,369,913	N/A	N/A
Subtotal	N/A	N/A	$7,369,913	N/A	N/A
Participant Costs					
Incremental Capital Costs	$2,924,725	N/A	N/A	$2,924,725	$2,924,725
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$2,924,725	N/A	N/A	$2,924,725	$2,924,725
Total Costs	$2,924,725	$1,000,507	$8,370,420	$3,925,232	$3,925,232
Net Benefit (Cost)	$6,050,217	$2,448,096	($4,921,817)	$1,128,401	$2,343,003
Benefit/Cost Ratio	3.07	3.45	0.41	1.29	1.60

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	15.0 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	10.04%
Gross Load Factor at Customer	E	87.32%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$1,886.76

Program Summary per Participant		
Gross kW Saved at Customer	I	27.00 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	2.91 kW
Gross Annual kWh Saved at Customer	(B x E x I)	206,490 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	221,082 kWh

Program Summary All Participants		
Total Participants	J	46
Total Budget	K	**$1,000,507**
Gross kW Saved at Customer	(J x I)	1,242 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**134 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	9,498,553 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**10,169,757 kWh**
Societal Net Benefits	(J x I x H)	**$2,343,003**

Utility Program Cost per kWh Lifetime	**$0.0066**
Utility Program Cost per kW at Gen	**$7,465**

Conservation Improvement Program (CIP) BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis **GOAL**

Company: **Xcel Energy**
Project: **Efficiency Controls**

Input Data	
1) Retail Rate ($/Dth) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 **First Year**	2018 **Second Year**	2019 **Third Year**
Administrative & Operating Costs =		$47,300	
Incentive Costs =		$134,729	
16) Total Utility Project Costs =		$182,029	
17) Direct Participant Costs ($/Part.) =		$59,037	
18) Participant Non-Energy Costs (Annual $/Part.) =		$0	
Escalation Rate =		1.73%	
19) Participant Non-Energy Savings (Annual $/Part) =		$1,567	
Escalation Rate =		1.73%	
20) Project Life (Years) =		15.0	
21) Avg. Dth/Part. Saved =		944.80	
22) Avg Non-Gas Fuel Units/Part. Saved =		0 kWh	
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =		0 kWh	
23) Number of Participants =		17	
24) Total Annual Dth Saved =		16,062	
25) Incentive/Participant =		$7,925.24	

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		$10,708	
Cost per Participant per Dth =		$73.82	
Lifetime Energy Reduction (Dth)		240,924	
Societal Cost per Dth		$2.78	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($470,189)	0.70
Utility Cost Test	$915,482	6.03
Societal Test	$1,274,627	2.90
Participant Test	$1,368,581	2.36

Conservation Improvement Program (CIP) BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis **ACTUAL**

Company: **Xcel Energy**
Project: **Efficiency Controls**

Input Data	
1) Retail Rate ($/Dth) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 **First Year**	2018 **Second Year**	2019 **Third Year**
Administrative & Operating Costs =		$8,849	
Incentive Costs =		$59,256	
16) Total Utility Project Costs =		$68,105	
17) Direct Participant Costs ($/Part.) =		$26,831	
18) Participant Non-Energy Costs (Annual $/Part.) =		$0	
Escalation Rate =		1.73%	
19) Participant Non-Energy Savings (Annual $/Part) =		$686	
Escalation Rate =		1.73%	
20) Project Life (Years) =		15.0	
21) Avg. Dth/Part. Saved =		670.24	
22) Avg Non-Gas Fuel Units/Part. Saved =		0 kWh	
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =		0 kWh	
23) Number of Participants =		13	
24) Total Annual Dth Saved =		8,713	
25) Incentive/Participant =		$4,558.15	

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		$5,239	
Cost per Participant per Dth =		$47.85	
Lifetime Energy Reduction (Dth)		130,697	
Societal Cost per Dth		$2.74	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($224,426)	0.73
Utility Cost Test	$527,273	8.74
Societal Test	$604,562	2.69
Participant Test	$831,954	3.39

FLUID SYSTEMS OPTIMIZATION 2018 ELECTRIC GOAL

2018 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$1,328,918	$1,328,918	$1,328,918	$1,328,918
T & D	N/A	$809,727	$809,727	$809,727	$809,727
Marginal Energy	N/A	$4,852,788	$4,852,788	$4,852,788	$4,852,788
Environmental Externality	N/A	N/A	N/A	N/A	$1,692,643
Subtotal	N/A	$6,991,433	$6,991,433	$6,991,433	$8,684,076
Participant Benefits					
Bill Reduction - Electric	$12,135,362	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$1,109,184	N/A	N/A	$1,109,184	$1,109,184
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$26,894	N/A	N/A	$26,894	$26,894
Subtotal	$13,271,440	N/A	N/A	$1,136,078	$1,136,078
Total Benefits	$13,271,440	$6,991,433	$6,991,433	$8,127,511	$9,820,154
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$399,477	$399,477	$399,477	$399,477
Advertising & Promotion	N/A	$31,243	$31,243	$31,243	$31,243
Measurement & Verification	N/A	$20,000	$20,000	$20,000	$20,000
Rebates	N/A	$1,109,184	$1,109,184	$1,109,184	$1,109,184
Other	N/A	$26,000	$26,000	$26,000	$26,000
Subtotal	N/A	$1,585,904	$1,585,904	$1,585,904	$1,585,904
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$12,135,362	N/A	N/A
Subtotal	N/A	N/A	$12,135,362	N/A	N/A
Participant Costs					
Incremental Capital Costs	$3,179,465	N/A	N/A	$3,179,465	$3,179,465
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$3,179,465	N/A	N/A	$3,179,465	$3,179,465
Total Costs	$3,179,465	$1,585,904	$13,721,266	$4,765,369	$4,765,369
Net Benefit (Cost)	$10,091,975	$5,405,529	($6,729,833)	$3,362,142	$5,054,785
Benefit/Cost Ratio	4.17	4.41	0.51	1.71	2.06

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	17.1 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	78.38%
Gross Load Factor at Customer	E	66.53%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$2,305.64

Program Summary per Participant		
Gross kW Saved at Customer	I	6.67 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	5.62 kW
Gross Annual kWh Saved at Customer	(B x E x I)	38,891 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	41,639 kWh

Program Summary All Participants		
Total Participants	J	329
Total Budget	K	**$1,585,904**
Gross kW Saved at Customer	(J x I)	2,192 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**1,848 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	12,777,606 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**13,680,520 kWh**
Societal Net Benefits	(J x I x H)	**$5,054,785**

Utility Program Cost per kWh Lifetime	**$0.0068**
Utility Program Cost per kW at Gen	**$858**

FLUID SYSTEMS OPTIMIZATION 2018 ELECTRIC ACTUAL

2018 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$822,479	$822,479	$822,479	$822,479
T & D	N/A	$500,781	$500,781	$500,781	$500,781
Marginal Energy	N/A	$2,945,159	$2,945,159	$2,945,159	$2,945,159
Environmental Externality	N/A	N/A	N/A	N/A	$1,006,333
Subtotal	N/A	$4,268,419	$4,268,419	$4,268,419	$5,274,752
Participant Benefits					
Bill Reduction - Electric	$7,155,103	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$776,874	N/A	N/A	$776,874	$776,874
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$37,015	N/A	N/A	$37,015	$37,015
Subtotal	$7,968,992	N/A	N/A	$813,889	$813,889
Total Benefits	$7,968,992	$4,268,419	$4,268,419	$5,082,308	$6,088,641
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$298,344	$298,344	$298,344	$298,344
Advertising & Promotion	N/A	$510	$510	$510	$510
Measurement & Verification	N/A	$12,252	$12,252	$12,252	$12,252
Rebates	N/A	$776,874	$776,874	$776,874	$776,874
Other	N/A	$15,706	$15,706	$15,706	$15,706
Subtotal	N/A	$1,103,686	$1,103,686	$1,103,686	$1,103,686
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$7,155,103	N/A	N/A
Subtotal	N/A	N/A	$7,155,103	N/A	N/A
Participant Costs					
Incremental Capital Costs	$1,999,954	N/A	N/A	$1,999,954	$1,999,954
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$1,999,954	N/A	N/A	$1,999,954	$1,999,954
Total Costs	$1,999,954	$1,103,686	$8,258,789	$3,103,640	$3,103,640
Net Benefit (Cost)	$5,969,037	$3,164,733	($3,990,370)	$1,978,668	$2,985,001
Benefit/Cost Ratio	3.98	3.87	0.52	1.64	1.96

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	13.5 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	84.48%
Gross Load Factor at Customer	E	72.40%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$2,041.90

Program Summary per Participant		
Gross kW Saved at Customer	I	9.88 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	8.97 kW
Gross Annual kWh Saved at Customer	(B x E x I)	62,647 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	67,074 kWh

Program Summary All Participants		
Total Participants	J	148
Total Budget	K	**$1,103,686**
Gross kW Saved at Customer	(J x I)	1,462 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**1,328 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	9,271,797 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**9,926,978 kWh**
Societal Net Benefits	(J x I x H)	**$2,985,001**

Utility Program Cost per kWh Lifetime	**$0.0083**
Utility Program Cost per kW at Gen	**$831**

FOODSERVICE EQUIPMENT 2018 ELECTRIC GOAL

2018 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$46,777	$46,777	$46,777	$46,777
T & D	N/A	$28,482	$28,482	$28,482	$28,482
Marginal Energy	N/A	$158,915	$158,915	$158,915	$158,915
Environmental Externality	N/A	N/A	N/A	N/A	$56,154
Subtotal	N/A	$234,174	$234,174	$234,174	$290,328
Participant Benefits					
Bill Reduction - Electric	$391,789	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$26,314	N/A	N/A	$26,314	$26,314
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$259,213	N/A	N/A	$16,106	$16,106
Subtotal	$677,316	N/A	N/A	$42,420	$42,420
Total Benefits	$677,316	$234,174	$234,174	$276,594	$332,748
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$11,923	$11,923	$11,923	$11,923
Advertising & Promotion	N/A	$7,886	$7,886	$7,886	$7,886
Measurement & Verification	N/A	$5,000	$5,000	$5,000	$5,000
Rebates	N/A	$26,314	$26,314	$26,314	$26,314
Other	N/A	$1,000	$1,000	$1,000	$1,000
Subtotal	N/A	$52,123	$52,123	$52,123	$52,123
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$391,789	N/A	N/A
Subtotal	N/A	N/A	$391,789	N/A	N/A
Participant Costs					
Incremental Capital Costs	$197,184	N/A	N/A	$105,327	$105,327
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$197,184	N/A	N/A	$105,327	$105,327
Total Costs	$197,184	$52,123	$443,912	$157,450	$157,450
Net Benefit (Cost)	$480,132	$182,051	($209,738)	$119,143	$175,298
Benefit/Cost Ratio	3.43	4.49	0.53	1.76	2.11

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	16.5 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	62.38%
Gross Load Factor at Customer	E	49.23%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$1,796.89

Program Summary per Participant		
Gross kW Saved at Customer	I	1.46 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.98 kW
Gross Annual kWh Saved at Customer	(B x E x I)	6,280 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	6,724 kWh

Program Summary All Participants		
Total Participants	J	67
Total Budget	K	**$52,123**
Gross kW Saved at Customer	(J x I)	98 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**65 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	420,745 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**450,476 kWh**
Societal Net Benefits	(J x I x H)	**$175,298**

Utility Program Cost per kWh Lifetime	**$0.0070**
Utility Program Cost per kW at Gen	**$797**

FOODSERVICE EQUIPMENT 2018 ELECTRIC ACTUAL

2018 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$58,173	$58,173	$58,173	$58,173
T & D	N/A	$35,446	$35,446	$35,446	$35,446
Marginal Energy	N/A	$195,823	$195,823	$195,823	$195,823
Environmental Externality	N/A	N/A	N/A	N/A	$69,782
Subtotal	N/A	$289,442	$289,442	$289,442	$359,223
Participant Benefits					
Bill Reduction - Electric	$492,255	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$19,944	N/A	N/A	$19,944	$19,944
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$21,962	N/A	N/A	$21,962	$21,962
Subtotal	$534,161	N/A	N/A	$41,906	$41,906
Total Benefits	$534,161	$289,442	$289,442	$331,348	$401,130
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$12,613	$12,613	$12,613	$12,613
Advertising & Promotion	N/A	$0	$0	$0	$0
Measurement & Verification	N/A	$0	$0	$0	$0
Rebates	N/A	$19,944	$19,944	$19,944	$19,944
Other	N/A	$401	$401	$401	$401
Subtotal	N/A	$32,958	$32,958	$32,958	$32,958
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$492,255	N/A	N/A
Subtotal	N/A	N/A	$492,255	N/A	N/A
Participant Costs					
Incremental Capital Costs	$72,363	N/A	N/A	$72,363	$72,363
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$72,363	N/A	N/A	$72,363	$72,363
Total Costs	$72,363	$32,958	$525,213	$105,321	$105,321
Net Benefit (Cost)	$461,799	$256,484	($235,771)	$226,027	$295,809
Benefit/Cost Ratio	7.38	8.78	0.55	3.15	3.81

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	18.3 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	56.06%
Gross Load Factor at Customer	E	44.55%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$2,365.24

Program Summary per Participant		
Gross kW Saved at Customer	I	4.47 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	2.69 kW
Gross Annual kWh Saved at Customer	(B x E x I)	17,432 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	18,664 kWh

Program Summary All Participants		
Total Participants	J	28
Total Budget	K	**$32,958**
Gross kW Saved at Customer	(J x I)	125 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**75 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	488,093 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**522,584 kWh**
Societal Net Benefits	(J x I x H)	**$295,809**

Utility Program Cost per kWh Lifetime	**$0.0034**
Utility Program Cost per kW at Gen	**$437**

Conservation Improvement Program (CIP) BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis **GOAL**

Company: **Xcel Energy**
Project: **Foodservice Equipment**

Input Data	
1) Retail Rate ($/Dth) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 **First Year**	2018 **Second Year**	2019 **Third Year**
Administrative & Operating Costs =		$64,916	
Incentive Costs =		$30,183	
16) Total Utility Project Costs =		$95,099	
17) Direct Participant Costs ($/Part.) =		$2,753	
18) Participant Non-Energy Costs (Annual $/Part.) =		$0	
Escalation Rate =		1.73%	
19) Participant Non-Energy Savings (Annual $/Part) =		$23	
Escalation Rate =		1.73%	
20) Project Life (Years) =		12.3	
21) Avg. Dth/Part. Saved =		89.43	
22) Avg Non-Gas Fuel Units/Part. Saved =		0 kWh	
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =		0 kWh	
23) Number of Participants =		67	
24) Total Annual Dth Saved =		5,992	
25) Incentive/Participant =		$450.49	

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		$1,419	
Cost per Participant per Dth =		$46.66	
Lifetime Energy Reduction (Dth)		73,643	
Societal Cost per Dth		$3.22	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($185,691)	0.65
Utility Cost Test	$249,938	3.63
Societal Test	$256,007	2.08
Participant Test	$475,169	3.58

Conservation Improvement Program (CIP) BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis **ACTUAL**

Company: **Xcel Energy**
Project: **Foodservice Equipment**

Input Data	
1) Retail Rate ($/Dth) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 **First Year**	2018 **Second Year**	2019 **Third Year**
Administrative & Operating Costs =		$25,236	
Incentive Costs =		$50,050	
16) Total Utility Project Costs =		$75,286	
17) Direct Participant Costs ($/Part.) =		$8,544	
18) Participant Non-Energy Costs (Annual $/Part.) =		$0	
Escalation Rate =		1.73%	
19) Participant Non-Energy Savings (Annual $/Part) =		$4	
Escalation Rate =		1.73%	
20) Project Life (Years) =		12.8	
21) Avg. Dth/Part. Saved =		280.20	
22) Avg Non-Gas Fuel Units/Part. Saved =		0 kWh	
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =		0 kWh	
23) Number of Participants =		41	
24) Total Annual Dth Saved =		11,488	
25) Incentive/Participant =		$1,220.73	

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		$1,836	
Cost per Participant per Dth =		$37.04	
Lifetime Energy Reduction (Dth)		141,192	
Societal Cost per Dth		$2.66	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($254,754)	0.73
Utility Cost Test	$608,252	9.08
Societal Test	$578,100	2.54
Participant Test	$831,116	3.37

HEATING EFFICIENCY 2018 ELECTRIC GOAL

2018 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$21,988	$21,988	$21,988	$21,988
T & D	N/A	$13,383	$13,383	$13,383	$13,383
Marginal Energy	N/A	$55,009	$55,009	$55,009	$55,009
Environmental Externality	N/A	N/A	N/A	N/A	$19,433
Subtotal	N/A	$90,381	$90,381	$90,381	$109,814
Participant Benefits					
Bill Reduction - Electric	$223,108	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$7,780	N/A	N/A	$7,780	$7,780
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$230,888	N/A	N/A	$7,780	$7,780
Total Benefits	$230,888	$90,381	$90,381	$98,161	$117,594
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$0	$0	$0	$0
Advertising & Promotion	N/A	$25	$25	$25	$25
Measurement & Verification	N/A	$0	$0	$0	$0
Rebates	N/A	$7,780	$7,780	$7,780	$7,780
Other	N/A	$25	$25	$25	$25
Subtotal	N/A	$7,830	$7,830	$7,830	$7,830
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$223,108	N/A	N/A
Subtotal	N/A	N/A	$223,108	N/A	N/A
Participant Costs					
Incremental Capital Costs	$16,675	N/A	N/A	$15,599	$15,599
Incremental O&M Costs	$7,033	N/A	N/A	$0	$0
Subtotal	$23,708	N/A	N/A	$15,599	$15,599
Total Costs	$23,708	$7,830	$230,938	$23,429	$23,429
Net Benefit (Cost)	$207,180	$82,551	($140,558)	$74,732	$94,165
Benefit/Cost Ratio	9.74	11.54	0.39	4.19	5.02

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	16.4 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	71.65%
Gross Load Factor at Customer	E	40.69%
Transmission Loss Factor (Energy)	F	8.400%
Transmission Loss Factor (Demand)	G	8.800%
Societal Net Benefit (Cost)	H	$2,343.71

Program Summary per Participant		
Gross kW Saved at Customer	I	0.63 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.49 kW
Gross Annual kWh Saved at Customer	(B x E x I)	2,238 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	2,443 kWh

Program Summary All Participants		
Total Participants	J	64
Total Budget	K	**$7,830**
Gross kW Saved at Customer	(J x I)	40 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**32 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	143,217 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**156,350 kWh**
Societal Net Benefits	(J x I x H)	**$94,165**

Utility Program Cost per kWh Lifetime	**$0.0031**
Utility Program Cost per kW at Gen	**$248**

HEATING EFFICIENCY 2018 ELECTRIC ACTUAL

2018 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$57,810	$57,810	$57,810	$57,810
T & D	N/A	$35,209	$35,209	$35,209	$35,209
Marginal Energy	N/A	$125,604	$125,604	$125,604	$125,604
Environmental Externality	N/A	N/A	N/A	N/A	$44,556
Subtotal	N/A	$218,623	$218,623	$218,623	$263,179
Participant Benefits					
Bill Reduction - Electric	$514,231	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$13,525	N/A	N/A	$13,525	$13,525
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$527,756	N/A	N/A	$13,525	$13,525
Total Benefits	$527,756	$218,623	$218,623	$232,148	$276,704
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$12,830	$12,830	$12,830	$12,830
Advertising & Promotion	N/A	$36	$36	$36	$36
Measurement & Verification	N/A	$0	$0	$0	$0
Rebates	N/A	$13,525	$13,525	$13,525	$13,525
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$26,391	$26,391	$26,391	$26,391
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$514,231	N/A	N/A
Subtotal	N/A	N/A	$514,231	N/A	N/A
Participant Costs					
Incremental Capital Costs	$28,679	N/A	N/A	$28,679	$28,679
Incremental O&M Costs	$16,023	N/A	N/A	$16,023	$16,023
Subtotal	$44,702	N/A	N/A	$44,702	$44,702
Total Costs	$44,702	$26,391	$540,622	$71,093	$71,093
Net Benefit (Cost)	$483,054	$192,232	($321,999)	$161,055	$205,611
Benefit/Cost Ratio	11.81	8.28	0.40	3.27	3.89

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	17.3 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	97.98%
Gross Load Factor at Customer	E	49.70%
Transmission Loss Factor (Energy)	F	8.400%
Transmission Loss Factor (Demand)	G	8.800%
Societal Net Benefit (Cost)	H	$2,832.10

Program Summary per Participant		
Gross kW Saved at Customer	I	0.83 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.90 kW
Gross Annual kWh Saved at Customer	(B x E x I)	3,633 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	3,967 kWh

Program Summary All Participants		
Total Participants	J	87
Total Budget	K	**$26,391**
Gross kW Saved at Customer	(J x I)	73 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**78 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	316,102 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**345,089 kWh**
Societal Net Benefits	(J x I x H)	**$205,611**

Utility Program Cost per kWh Lifetime	**$0.0044**
Utility Program Cost per kW at Gen	**$338**

Conservation Improvement Program (CIP)

BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis

GOAL

Company: **Xcel Energy**
Project: **Heating Efficiency**

Input Data	
1) Retail Rate ($/Dth) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 **First Year**	2018 **Second Year**	2019 **Third Year**
Administrative & Operating Costs =		$686,628	
Incentive Costs =		$635,751	
16) Total Utility Project Costs =		$1,322,379	
17) Direct Participant Costs ($/Part.) =		$3,612	
18) Participant Non-Energy Costs (Annual $/Part.) =		$31	
Escalation Rate =		1.73%	
19) Participant Non-Energy Savings (Annual $/Part) =		$0	
Escalation Rate =		1.73%	
20) Project Life (Years) =		7.6	
21) Avg. Dth/Part. Saved =		203.52	
22) Avg Non-Gas Fuel Units/Part. Saved =		0 kWh	
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =		0 kWh	
23) Number of Participants =		558	
24) Total Annual Dth Saved =		113,549	
25) Incentive/Participant =		$1,139.47	

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		$2,370	
Cost per Participant per Dth =		$29.55	
Lifetime Energy Reduction (Dth)		857,346	
Societal Cost per Dth		$3.44	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($2,362,090)	0.63
Utility Cost Test	$2,637,561	2.99
Societal Test	$2,611,816	1.89
Participant Test	$4,973,429	3.20

Conservation Improvement Program (CIP) BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis **ACTUAL**

Company: **Xcel Energy**
Project: **Heating Efficiency**

Input Data	
1) Retail Rate ($/Dth) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 **First Year**	2018 **Second Year**	2019 **Third Year**
Administrative & Operating Costs =		$430,253	
Incentive Costs =		$711,322	
16) Total Utility Project Costs =		$1,141,574	
17) Direct Participant Costs ($/Part.) =		$7,115	
18) Participant Non-Energy Costs (Annual $/Part.) =		$23	
Escalation Rate =		1.73%	
19) Participant Non-Energy Savings (Annual $/Part) =		$0	
Escalation Rate =		1.73%	
20) Project Life (Years) =		8.1	
21) Avg. Dth/Part. Saved =		303.87	
22) Avg Non-Gas Fuel Units/Part. Saved =		0 kWh	
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =		0 kWh	
23) Number of Participants =		330	
24) Total Annual Dth Saved =		100,277	
25) Incentive/Participant =		$2,155.52	

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		$3,459	
Cost per Participant per Dth =		$34.87	
Lifetime Energy Reduction (Dth)		757,137	
Societal Cost per Dth		$3.79	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($2,133,156)	0.64
Utility Cost Test	$2,635,056	3.31
Societal Test	$2,331,732	1.81
Participant Test	$4,444,853	2.82

LIGHTING EFFICIENCY 2018 ELECTRIC GOAL

2018 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$4,615,425	$4,615,425	$4,615,425	$4,615,425
T & D	N/A	$2,809,839	$2,809,839	$2,809,839	$2,809,839
Marginal Energy	N/A	$19,859,792	$19,859,792	$19,859,792	$19,859,792
Environmental Externality	N/A	N/A	N/A	N/A	$6,335,463
Subtotal	N/A	$27,285,057	$27,285,057	$27,285,057	$33,620,520
Participant Benefits					
Bill Reduction - Electric	$47,441,914	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$4,034,539	N/A	N/A	$4,034,539	$4,034,539
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$5,951	$5,951
Subtotal	$51,476,453	N/A	N/A	$4,040,490	$4,040,490
Total Benefits	$51,476,453	$27,285,057	$27,285,057	$31,325,547	$37,661,010
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$1,912,444	$1,912,444	$1,912,444	$1,912,444
Advertising & Promotion	N/A	$65,002	$65,002	$65,002	$65,002
Measurement & Verification	N/A	$75,000	$75,000	$75,000	$75,000
Rebates	N/A	$4,034,539	$4,034,539	$4,034,539	$4,034,539
Other	N/A	$100,000	$100,000	$100,000	$100,000
Subtotal	N/A	$6,186,985	$6,186,985	$6,186,985	$6,186,985
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$47,441,914	N/A	N/A
Subtotal	N/A	N/A	$47,441,914	N/A	N/A
Participant Costs					
Incremental Capital Costs	$14,935,314	N/A	N/A	$14,935,314	$14,935,314
Incremental O&M Costs	$1,350,171	N/A	N/A	$0	$0
Subtotal	$16,285,485	N/A	N/A	$14,935,314	$14,935,314
Total Costs	$16,285,485	$6,186,985	$53,628,899	$21,122,299	$21,122,299
Net Benefit (Cost)	$35,190,968	$21,098,071	($26,343,842)	$10,203,248	$16,538,711
Benefit/Cost Ratio	3.16	4.41	0.51	1.48	1.78

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	15.8 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	69.47%
Gross Load Factor at Customer	E	60.88%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$1,794.55

Program Summary per Participant		
Gross kW Saved at Customer	I	6.69 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	5.00 kW
Gross Annual kWh Saved at Customer	(B x E x I)	35,666 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	38,186 kWh

Program Summary All Participants		
Total Participants	J	1,378
Total Budget	K	**$6,186,985**
Gross kW Saved at Customer	(J x I)	9,216 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**6,884 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	49,148,007 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**52,620,992 kWh**
Societal Net Benefits	(J x I x H)	**$16,538,711**

Utility Program Cost per kWh Lifetime	**$0.0074**
Utility Program Cost per kW at Gen	**$899**

LIGHTING EFFICIENCY 2018 ELECTRIC ACTUAL

2018 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$12,027,575	$12,027,575	$12,027,575	$12,027,575
T & D	N/A	$7,314,390	$7,314,390	$7,314,390	$7,314,390
Marginal Energy	N/A	$48,507,858	$48,507,858	$48,507,858	$48,507,858
Environmental Externality	N/A	N/A	N/A	N/A	$15,187,455
Subtotal	N/A	$67,849,823	$67,849,823	$67,849,823	$83,037,278
Participant Benefits					
Bill Reduction - Electric	$113,316,308	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$11,502,158	N/A	N/A	$11,502,158	$11,502,158
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$124,818,466	N/A	N/A	$11,502,158	$11,502,158
Total Benefits	$124,818,466	$67,849,823	$67,849,823	$79,351,981	$94,539,436
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$2,389,993	$2,389,993	$2,389,993	$2,389,993
Advertising & Promotion	N/A	$985	$985	$985	$985
Measurement & Verification	N/A	$22,196	$22,196	$22,196	$22,196
Rebates	N/A	$11,502,158	$11,502,158	$11,502,158	$11,502,158
Other	N/A	$51,496	$51,496	$51,496	$51,496
Subtotal	N/A	$13,966,827	$13,966,827	$13,966,827	$13,966,827
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$113,316,308	N/A	N/A
Subtotal	N/A	N/A	$113,316,308	N/A	N/A
Participant Costs					
Incremental Capital Costs	$39,478,214	N/A	N/A	$39,478,214	$39,478,214
Incremental O&M Costs	$3,911,061	N/A	N/A	$3,911,061	$3,911,061
Subtotal	$43,389,275	N/A	N/A	$43,389,275	$43,389,275
Total Costs	$43,389,275	$13,966,827	$127,283,135	$57,356,102	$57,356,102
Net Benefit (Cost)	$81,429,190	$53,882,996	($59,433,312)	$21,995,878	$37,183,334
Benefit/Cost Ratio	2.88	4.86	0.53	1.38	1.65

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	14.4 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	67.27%
Gross Load Factor at Customer	E	52.13%
Transmission Loss Factor (Energy)	F	6.581%
Transmission Loss Factor (Demand)	G	6.977%
Societal Net Benefit (Cost)	H	$1,251.98

Program Summary per Participant		
Gross kW Saved at Customer	I	6.36 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	4.60 kW
Gross Annual kWh Saved at Customer	(B x E x I)	29,036 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	31,082 kWh

Program Summary All Participants		
Total Participants	J	4,671
Total Budget	K	**$13,966,827**
Gross kW Saved at Customer	(J x I)	29,700 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**21,477 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	135,629,201 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**145,183,010 kWh**
Societal Net Benefits	(J x I x H)	**$37,183,334**

Utility Program Cost per kWh Lifetime	**$0.0067**
Utility Program Cost per kW at Gen	**$650**

MOTOR EFFICIENCY 2018 ELECTRIC GOAL

2018 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$2,426,737	$2,426,737	$2,426,737	$2,426,737
T & D	N/A	$1,476,272	$1,476,272	$1,476,272	$1,476,272
Marginal Energy	N/A	$8,307,690	$8,307,690	$8,307,690	$8,307,690
Environmental Externality	N/A	N/A	N/A	N/A	$2,573,234
Subtotal	N/A	$12,210,698	$12,210,698	$12,210,698	$14,783,933
Participant Benefits					
Bill Reduction - Electric	$19,927,157	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$1,845,141	N/A	N/A	$1,845,141	$1,845,141
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$78,396	N/A	N/A	$78,396	$78,396
Subtotal	$21,850,693	N/A	N/A	$1,923,537	$1,923,537
Total Benefits	$21,850,693	$12,210,698	$12,210,698	$14,134,235	$16,707,470
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$634,900	$634,900	$634,900	$634,900
Advertising & Promotion	N/A	$35,200	$35,200	$35,200	$35,200
Measurement & Verification	N/A	$20,000	$20,000	$20,000	$20,000
Rebates	N/A	$1,845,141	$1,845,141	$1,845,141	$1,845,141
Other	N/A	$75,632	$75,632	$75,632	$75,632
Subtotal	N/A	$2,610,873	$2,610,873	$2,610,873	$2,610,873
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$19,927,157	N/A	N/A
Subtotal	N/A	N/A	$19,927,157	N/A	N/A
Participant Costs					
Incremental Capital Costs	$6,434,952	N/A	N/A	$6,434,952	$6,434,952
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$6,434,952	N/A	N/A	$6,434,952	$6,434,952
Total Costs	$6,434,952	$2,610,873	$22,538,030	$9,045,825	$9,045,825
Net Benefit (Cost)	$15,415,741	$9,599,825	($10,327,331)	$5,088,410	$7,661,644
Benefit/Cost Ratio	3.40	4.68	0.54	1.56	1.85

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	15.1 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	76.33%
Gross Load Factor at Customer	E	52.60%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$1,758.12

Program Summary per Participant		
Gross kW Saved at Customer	I	9.60 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	7.88 kW
Gross Annual kWh Saved at Customer	(B x E x I)	44,232 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	47,357 kWh

Program Summary All Participants		
Total Participants	J	454
Total Budget	K	**$2,610,873**
Gross kW Saved at Customer	(J x I)	4,358 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**3,577 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	20,081,198 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**21,500,212 kWh**
Societal Net Benefits	(J x I x H)	**$7,661,644**

Utility Program Cost per kWh Lifetime	**$0.0081**
Utility Program Cost per kW at Gen	**$730**

MOTOR EFFICIENCY 2018 ELECTRIC ACTUAL

2018 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$2,340,003	$2,340,003	$2,340,003	$2,340,003
T & D	N/A	$1,423,544	$1,423,544	$1,423,544	$1,423,544
Marginal Energy	N/A	$7,628,309	$7,628,309	$7,628,309	$7,628,309
Environmental Externality	N/A	N/A	N/A	N/A	$2,363,280
Subtotal	N/A	$11,391,857	$11,391,857	$11,391,857	$13,755,136
Participant Benefits					
Bill Reduction - Electric	$18,307,661	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$1,881,595	N/A	N/A	$1,881,595	$1,881,595
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$20,189,255	N/A	N/A	$1,881,595	$1,881,595
Total Benefits	$20,189,255	$11,391,857	$11,391,857	$13,273,451	$15,636,731
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$414,884	$414,884	$414,884	$414,884
Advertising & Promotion	N/A	$20,544	$20,544	$20,544	$20,544
Measurement & Verification	N/A	$19,089	$19,089	$19,089	$19,089
Rebates	N/A	$1,881,595	$1,881,595	$1,881,595	$1,881,595
Other	N/A	$20,070	$20,070	$20,070	$20,070
Subtotal	N/A	$2,356,183	$2,356,183	$2,356,183	$2,356,183
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$18,307,661	N/A	N/A
Subtotal	N/A	N/A	$18,307,661	N/A	N/A
Participant Costs					
Incremental Capital Costs	$6,552,216	N/A	N/A	$6,552,216	$6,552,216
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$6,552,216	N/A	N/A	$6,552,216	$6,552,216
Total Costs	$6,552,216	$2,356,183	$20,663,843	$8,908,399	$8,908,399
Net Benefit (Cost)	$13,637,039	$9,035,674	($9,271,987)	$4,365,053	$6,728,332
Benefit/Cost Ratio	3.08	4.83	0.55	1.49	1.76

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	15.1 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	74.99%
Gross Load Factor at Customer	E	49.25%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$1,576.32

Program Summary per Participant		
Gross kW Saved at Customer	I	10.46 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	8.44 kW
Gross Annual kWh Saved at Customer	(B x E x I)	45,135 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	48,325 kWh

Program Summary All Participants		
Total Participants	J	408
Total Budget	K	**$2,356,183**
Gross kW Saved at Customer	(J x I)	4,268 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**3,442 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	18,415,137 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**19,716,420 kWh**
Societal Net Benefits	(J x I x H)	**$6,728,332**

Utility Program Cost per kWh Lifetime	**$0.0079**
Utility Program Cost per kW at Gen	**$685**

MULTI-FAMILY BUILDING EFFICIENCY 2018 ELECTRIC GOAL

2018 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$198,413	$198,413	$198,413	$198,413
T & D	N/A	$120,703	$120,703	$120,703	$120,703
Marginal Energy	N/A	$827,483	$827,483	$827,483	$827,483
Environmental Externality	N/A	N/A	N/A	N/A	$277,021
Subtotal	N/A	$1,146,598	$1,146,598	$1,146,598	$1,423,619
Participant Benefits					
Bill Reduction - Electric	$2,611,010	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$166,913	N/A	N/A	$166,913	$166,913
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$68,670	N/A	N/A	$68,670	$68,670
Subtotal	$2,846,593	N/A	N/A	$235,583	$235,583
Total Benefits	$2,846,593	$1,146,598	$1,146,598	$1,382,181	$1,659,202
Costs					
Utility Project Costs					
Customer Services	N/A	$610,000	$610,000	$610,000	$610,000
Project Administration	N/A	$176,000	$176,000	$176,000	$176,000
Advertising & Promotion	N/A	$6,200	$6,200	$6,200	$6,200
Measurement & Verification	N/A	$33,000	$33,000	$33,000	$33,000
Rebates	N/A	$166,913	$166,913	$166,913	$166,913
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$992,113	$992,113	$992,113	$992,113
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$2,611,010	N/A	N/A
Subtotal	N/A	N/A	$2,611,010	N/A	N/A
Participant Costs					
Incremental Capital Costs	$158,523	N/A	N/A	$55,976	$55,976
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$158,523	N/A	N/A	$55,976	$55,976
Total Costs	$158,523	$992,113	$3,603,123	$1,048,089	$1,048,089
Net Benefit (Cost)	$2,688,070	$154,485	($2,456,525)	$334,093	$611,114
Benefit/Cost Ratio	17.96	1.16	0.32	1.32	1.58

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	14.4 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	16.63%
Gross Load Factor at Customer	E	14.66%
Transmission Loss Factor (Energy)	F	7.515%
Transmission Loss Factor (Demand)	G	8.611%
Societal Net Benefit (Cost)	H	$339.19

Program Summary per Participant		
Gross kW Saved at Customer	I	0.40 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.07 kW
Gross Annual kWh Saved at Customer	(B x E x I)	508 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	549 kWh

Program Summary All Participants		
Total Participants	J	4,556
Total Budget	K	**$992,113**
Gross kW Saved at Customer	(J x I)	1,802 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**328 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	2,314,490 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**2,502,561 kWh**
Societal Net Benefits	(J x I x H)	**$611,114**

Utility Program Cost per kWh Lifetime	**$0.0275**
Utility Program Cost per kW at Gen	**$3,025**

MULTI-FAMILY BUILDING EFFICIENCY 2018 ELECTRIC ACTUAL

2018 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$144,355	$144,355	$144,355	$144,355
T & D	N/A	$87,825	$87,825	$87,825	$87,825
Marginal Energy	N/A	$788,303	$788,303	$788,303	$788,303
Environmental Externality	N/A	N/A	N/A	N/A	$265,531
Subtotal	N/A	$1,020,483	$1,020,483	$1,020,483	$1,286,014
Participant Benefits					
Bill Reduction - Electric	$2,748,049	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$79,910	N/A	N/A	$79,910	$79,910
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$17,426	N/A	N/A	$17,426	$17,426
Subtotal	$2,845,384	N/A	N/A	$97,335	$97,335
Total Benefits	$2,845,384	$1,020,483	$1,020,483	$1,117,818	$1,383,349
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$608,239	$608,239	$608,239	$608,239
Advertising & Promotion	N/A	$0	$0	$0	$0
Measurement & Verification	N/A	$0	$0	$0	$0
Rebates	N/A	$79,910	$79,910	$79,910	$79,910
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$688,149	$688,149	$688,149	$688,149
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$2,748,049	N/A	N/A
Subtotal	N/A	N/A	$2,748,049	N/A	N/A
Participant Costs					
Incremental Capital Costs	$395,997	N/A	N/A	$395,997	$395,997
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$395,997	N/A	N/A	$395,997	$395,997
Total Costs	$395,997	$688,149	$3,436,198	$1,084,146	$1,084,146
Net Benefit (Cost)	$2,449,387	$332,334	($2,415,715)	$33,672	$299,203
Benefit/Cost Ratio	7.19	1.48	0.30	1.03	1.28

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	14.8 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	11.70%
Gross Load Factor at Customer	E	13.76%
Transmission Loss Factor (Energy)	F	7.906%
Transmission Loss Factor (Demand)	G	8.672%
Societal Net Benefit (Cost)	H	$169.07

Program Summary per Participant		
Gross kW Saved at Customer	I	0.20 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.03 kW
Gross Annual kWh Saved at Customer	(B x E x I)	239 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	259 kWh

Program Summary All Participants		
Total Participants	J	8,927
Total Budget	K	**$688,149**
Gross kW Saved at Customer	(J x I)	1,770 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**227 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	2,132,414 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**2,315,477 kWh**
Societal Net Benefits	(J x I x H)	**$299,203**

Utility Program Cost per kWh Lifetime	**$0.0201**
Utility Program Cost per kW at Gen	**$3,036**

Conservation Improvement Program (CIP) BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis **GOAL**

Company: **Xcel Energy**
Project: **Multi-Family Building Efficiency**

Input Data	
1) Retail Rate ($/Dth) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 **First Year**	2018 **Second Year**	2019 **Third Year**
Administrative & Operating Costs =		$284,000	
Incentive Costs =		$129,993	
16) Total Utility Project Costs =		$413,993	
17) Direct Participant Costs ($/Part.) =		$81	
18) Participant Non-Energy Costs (Annual $/Part.) =		$0	
Escalation Rate =		1.73%	
19) Participant Non-Energy Savings (Annual $/Part) =		$41	
Escalation Rate =		1.73%	
20) Project Life (Years) =		13.3	
21) Avg. Dth/Part. Saved =		4.14	
22) Avg Non-Gas Fuel Units/Part. Saved =		0 kWh	
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =		0 kWh	
23) Number of Participants =		1,519	
24) Total Annual Dth Saved =		6,290	
25) Incentive/Participant =		$85.58	

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		$273	
Cost per Participant per Dth =		$85.45	
Lifetime Energy Reduction (Dth)		83,643	
Societal Cost per Dth		$4.35	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($514,371)	0.43
Utility Cost Test	($31,684)	0.92
Societal Test	$784,262	3.16
Participant Test	$1,256,697	11.18

Conservation Improvement Program (CIP) BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis **ACTUAL**

Company: **Xcel Energy**
Project: **Multi-Family Building Efficiency**

Input Data	
1) Retail Rate ($/Dth) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 **First Year**	2018 **Second Year**	2019 **Third Year**
Administrative & Operating Costs =		$236,432	
Incentive Costs =		$62,207	
16) Total Utility Project Costs =		$298,639	
17) Direct Participant Costs ($/Part.) =		$73	
18) Participant Non-Energy Costs (Annual $/Part.) =		$0	
Escalation Rate =		1.73%	
19) Participant Non-Energy Savings (Annual $/Part) =		$23	
Escalation Rate =		1.73%	
20) Project Life (Years) =		11.6	
21) Avg. Dth/Part. Saved =		1.81	
22) Avg Non-Gas Fuel Units/Part. Saved =		0 kWh	
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =		0 kWh	
23) Number of Participants =		2,052	
24) Total Annual Dth Saved =		3,714	
25) Incentive/Participant =		$30.32	

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		$146	
Cost per Participant per Dth =		$120.63	
Lifetime Energy Reduction (Dth)		49,385	
Societal Cost per Dth		$7.81	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($351,882)	0.37
Utility Cost Test	($95,855)	0.68
Societal Test	$311,953	1.81
Participant Test	$661,975	5.43

PROCESS EFFICIENCY 2018 ELECTRIC GOAL

2018 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$3,891,342	$3,891,342	$3,891,342	$3,891,342
T & D	N/A	$2,369,537	$2,369,537	$2,369,537	$2,369,537
Marginal Energy	N/A	$19,502,552	$19,502,552	$19,502,552	$19,502,552
Environmental Externality	N/A	N/A	N/A	N/A	$6,144,830
Subtotal	N/A	$25,763,431	$25,763,431	$25,763,431	$31,908,261
Participant Benefits					
Bill Reduction - Electric	$47,368,284	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$4,551,519	N/A	N/A	$4,551,519	$4,551,519
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$30,432,927	N/A	N/A	$17,028,681	$17,028,681
Subtotal	$82,352,730	N/A	N/A	$21,580,200	$21,580,200
Total Benefits	$82,352,730	$25,763,431	$25,763,431	$47,343,631	$53,488,462
Costs					
Utility Project Costs					
Customer Services	N/A	$675,000	$675,000	$675,000	$675,000
Project Administration	N/A	$1,484,430	$1,484,430	$1,484,430	$1,484,430
Advertising & Promotion	N/A	$29,335	$29,335	$29,335	$29,335
Measurement & Verification	N/A	$86,000	$86,000	$86,000	$86,000
Rebates	N/A	$4,551,519	$4,551,519	$4,551,519	$4,551,519
Other	N/A	$33,000	$33,000	$33,000	$33,000
Subtotal	N/A	$6,859,284	$6,859,284	$6,859,284	$6,859,284
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$47,368,284	N/A	N/A
Subtotal	N/A	N/A	$47,368,284	N/A	N/A
Participant Costs					
Incremental Capital Costs	$18,781,208	N/A	N/A	$13,725,301	$13,725,301
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$18,781,208	N/A	N/A	$13,725,301	$13,725,301
Total Costs	$18,781,208	$6,859,284	$54,227,568	$20,584,585	$20,584,585
Net Benefit (Cost)	$63,571,522	$18,904,147	($28,464,137)	$26,759,046	$32,903,877
Benefit/Cost Ratio	4.38	3.76	0.48	2.30	2.60

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	17.4 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	54.69%
Gross Load Factor at Customer	E	56.67%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$3,666.39

Program Summary per Participant		
Gross kW Saved at Customer	I	36.93 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	21.72 kW
Gross Annual kWh Saved at Customer	(B x E x I)	183,335 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	196,290 kWh

Program Summary All Participants		
Total Participants	J	243
Total Budget	K	**$6,859,284**
Gross kW Saved at Customer	(J x I)	8,974 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**5,278 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	44,550,302 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**47,698,396 kWh**
Societal Net Benefits	(J x I x H)	**$32,903,877**

Utility Program Cost per kWh Lifetime	**$0.0083**
Utility Program Cost per kW at Gen	**$1,300**

PROCESS EFFICIENCY 2018 ELECTRIC ACTUAL

2018 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$5,847,973	$5,847,973	$5,847,973	$5,847,973
T & D	N/A	$3,559,439	$3,559,439	$3,559,439	$3,559,439
Marginal Energy	N/A	$28,719,463	$28,719,463	$28,719,463	$28,719,463
Environmental Externality	N/A	N/A	N/A	N/A	$9,044,996
Subtotal	N/A	$38,126,875	$38,126,875	$38,126,875	$47,171,871
Participant Benefits					
Bill Reduction - Electric	$69,402,593	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$4,765,265	N/A	N/A	$4,765,265	$4,765,265
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$45,987,259	N/A	N/A	$45,987,259	$45,987,259
Subtotal	$120,155,116	N/A	N/A	$50,752,524	$50,752,524
Total Benefits	$120,155,116	$38,126,875	$38,126,875	$88,879,399	$97,924,394
Costs					
Utility Project Costs					
Customer Services	N/A	$25,737	$25,737	$25,737	$25,737
Project Administration	N/A	$2,074,670	$2,074,670	$2,074,670	$2,074,670
Advertising & Promotion	N/A	$74	$74	$74	$74
Measurement & Verification	N/A	$14,028	$14,028	$14,028	$14,028
Rebates	N/A	$4,765,265	$4,765,265	$4,765,265	$4,765,265
Other	N/A	$4,000	$4,000	$4,000	$4,000
Subtotal	N/A	$6,883,774	$6,883,774	$6,883,774	$6,883,774
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$69,402,593	N/A	N/A
Subtotal	N/A	N/A	$69,402,593	N/A	N/A
Participant Costs					
Incremental Capital Costs	$23,815,436	N/A	N/A	$23,815,436	$23,815,436
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$23,815,436	N/A	N/A	$23,815,436	$23,815,436
Total Costs	$23,815,436	$6,883,774	$76,286,367	$30,699,210	$30,699,210
Net Benefit (Cost)	$96,339,680	$31,243,101	($38,159,491)	$58,180,189	$67,225,184
Benefit/Cost Ratio	5.05	5.54	0.50	2.90	3.19

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	16.8 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	67.93%
Gross Load Factor at Customer	E	67.77%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$5,932.04

Program Summary per Participant		
Gross kW Saved at Customer	I	96.86 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	70.75 kW
Gross Annual kWh Saved at Customer	(B x E x I)	575,031 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	615,665 kWh

Program Summary All Participants		
Total Participants	J	117
Total Budget	K	**$6,883,774**
Gross kW Saved at Customer	(J x I)	11,333 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**8,277 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	67,278,587 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**72,032,749 kWh**
Societal Net Benefits	(J x I x H)	**$67,225,184**

Utility Program Cost per kWh Lifetime	**$0.0057**
Utility Program Cost per kW at Gen	**$832**

Conservation Improvement Program (CIP) BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis **GOAL**

Company: **Xcel Energy**
Project: **Process Efficiency**

Input Data	
1) Retail Rate ($/Dth) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 **First Year**	2018 **Second Year**	2019 **Third Year**
Administrative & Operating Costs =		$446,819	
Incentive Costs =		$648,019	
16) Total Utility Project Costs =		$1,094,838	
17) Direct Participant Costs ($/Part.) =		$90,086	
18) Participant Non-Energy Costs (Annual $/Part.) =		$0	
Escalation Rate =		1.73%	
19) Participant Non-Energy Savings (Annual $/Part) =		$2,315	
Escalation Rate =		1.73%	
20) Project Life (Years) =		3.9	
21) Avg. Dth/Part. Saved =		2,627.53	
22) Avg Non-Gas Fuel Units/Part. Saved =		0 kWh	
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =		0 kWh	
23) Number of Participants =		70	
24) Total Annual Dth Saved =		183,927	
25) Incentive/Participant =		$9,257.41	

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		$15,641	
Cost per Participant per Dth =		$40.24	
Lifetime Energy Reduction (Dth)		709,814	
Societal Cost per Dth		$4.62	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($2,069,516)	0.64
Utility Cost Test	$2,617,411	3.39
Societal Test	$1,640,898	1.50
Participant Test	$43,073	1.01

Conservation Improvement Program (CIP) BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis **ACTUAL**

Company: **Xcel Energy**
Project: **Process Efficiency**

Input Data	
1) Retail Rate ($/Dth) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 **First Year**	2018 **Second Year**	2019 **Third Year**
Administrative & Operating Costs =		$374,667	
Incentive Costs =		$1,251,578	
16) Total Utility Project Costs =		$1,626,245	
17) Direct Participant Costs ($/Part.) =		$315,937	
18) Participant Non-Energy Costs (Annual $/Part.) =		$0	
Escalation Rate =		1.73%	
19) Participant Non-Energy Savings (Annual $/Part) =		$14,576	
Escalation Rate =		1.73%	
20) Project Life (Years) =		14.0	
21) Avg. Dth/Part. Saved =		17,562.96	
22) Avg Non-Gas Fuel Units/Part. Saved =		0 kWh	
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =		0 kWh	
23) Number of Participants =		17	
24) Total Annual Dth Saved =		298,570	
25) Incentive/Participant =		$73,622.25	

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		$95,661	
Cost per Participant per Dth =		$23.44	
Lifetime Energy Reduction (Dth)		1,152,248	
Societal Cost per Dth		$4.99	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	$879,279	1.08
Utility Cost Test	$10,425,963	7.41
Societal Test	$11,302,994	2.97
Participant Test	$7,481,970	2.39

RECOMMISSIONING 2018 ELECTRIC GOAL

2018 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$207,730	$207,730	$207,730	$207,730
T & D	N/A	$125,857	$125,857	$125,857	$125,857
Marginal Energy	N/A	$1,268,331	$1,268,331	$1,268,331	$1,268,331
Environmental Externality	N/A	N/A	N/A	N/A	$432,695
Subtotal	N/A	$1,601,918	$1,601,918	$1,601,918	$2,034,613
Participant Benefits					
Bill Reduction - Electric	$2,514,690	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$451,293	N/A	N/A	$451,293	$451,293
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$236,680	N/A	N/A	$125,667	$125,667
Subtotal	$3,202,663	N/A	N/A	$576,960	$576,960
Total Benefits	$3,202,663	$1,601,918	$1,601,918	$2,178,878	$2,611,573
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$295,605	$295,605	$295,605	$295,605
Advertising & Promotion	N/A	$12,000	$12,000	$12,000	$12,000
Measurement & Verification	N/A	$0	$0	$0	$0
Rebates	N/A	$451,293	$451,293	$451,293	$451,293
Other	N/A	$50,000	$50,000	$50,000	$50,000
Subtotal	N/A	$808,898	$808,898	$808,898	$808,898
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$2,514,690	N/A	N/A
Subtotal	N/A	N/A	$2,514,690	N/A	N/A
Participant Costs					
Incremental Capital Costs	$901,948	N/A	N/A	$711,816	$711,816
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$901,948	N/A	N/A	$711,816	$711,816
Total Costs	$901,948	$808,898	$3,323,588	$1,520,714	$1,520,714
Net Benefit (Cost)	$2,300,714	$793,020	($1,721,669)	$658,164	$1,090,859
Benefit/Cost Ratio	3.55	1.98	0.48	1.43	1.72

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	6.8 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	51.08%
Gross Load Factor at Customer	E	69.12%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$1,067.31

Program Summary per Participant		
Gross kW Saved at Customer	I	11.48 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	6.31 kW
Gross Annual kWh Saved at Customer	(B x E x I)	69,537 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	74,450 kWh

Program Summary All Participants		
Total Participants	J	89
Total Budget	K	**$808,898**
Gross kW Saved at Customer	(J x I)	1,022 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**561 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	6,188,761 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**6,626,083 kWh**
Societal Net Benefits	(J x I x H)	**$1,090,859**

Utility Program Cost per kWh Lifetime	**$0.0178**
Utility Program Cost per kW at Gen	**$1,441**

RECOMMISSIONING **2018 ELECTRIC** **ACTUAL**

2018 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$139,717	$139,717	$139,717	$139,717
T & D	N/A	$84,650	$84,650	$84,650	$84,650
Marginal Energy	N/A	$1,230,091	$1,230,091	$1,230,091	$1,230,091
Environmental Externality	N/A	N/A	N/A	N/A	$419,955
Subtotal	N/A	$1,454,458	$1,454,458	$1,454,458	$1,874,413
Participant Benefits					
Bill Reduction - Electric	$2,439,676	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$558,619	N/A	N/A	$558,619	$558,619
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$16,981	N/A	N/A	$16,981	$16,981
Subtotal	$3,015,276	N/A	N/A	$575,600	$575,600
Total Benefits	$3,015,276	$1,454,458	$1,454,458	$2,030,058	$2,450,012
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$327,591	$327,591	$327,591	$327,591
Advertising & Promotion	N/A	$0	$0	$0	$0
Measurement & Verification	N/A	$0	$0	$0	$0
Rebates	N/A	$558,619	$558,619	$558,619	$558,619
Other	N/A	$25,858	$25,858	$25,858	$25,858
Subtotal	N/A	$912,068	$912,068	$912,068	$912,068
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$2,439,676	N/A	N/A
Subtotal	N/A	N/A	$2,439,676	N/A	N/A
Participant Costs					
Incremental Capital Costs	$625,585	N/A	N/A	$625,585	$625,585
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$625,585	N/A	N/A	$625,585	$625,585
Total Costs	$625,585	$912,068	$3,351,745	$1,537,653	$1,537,653
Net Benefit (Cost)	$2,389,691	$542,390	($1,897,287)	$492,405	$912,359
Benefit/Cost Ratio	4.82	1.59	0.43	1.32	1.59

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	6.9 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	36.42%
Gross Load Factor at Customer	E	70.66%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$944.74

Program Summary per Participant		
Gross kW Saved at Customer	I	21.46 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	8.41 kW
Gross Annual kWh Saved at Customer	(B x E x I)	132,837 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	142,224 kWh

Program Summary All Participants		
Total Participants	J	45
Total Budget	K	**$912,068**
Gross kW Saved at Customer	(J x I)	966 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**378 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	5,977,678 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**6,400,084 kWh**
Societal Net Benefits	(J x I x H)	**$912,359**

Utility Program Cost per kWh Lifetime	**$0.0207**
Utility Program Cost per kW at Gen	**$2,411**

Conservation Improvement Program (CIP) BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis **GOAL**

Company: **Xcel Energy**
Project: **Recommissioning**

Input Data	
1) Retail Rate ($/Dth) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 **First Year**	2018 **Second Year**	2019 **Third Year**
Administrative & Operating Costs =		$52,576	
Incentive Costs =		$158,990	
16) Total Utility Project Costs =		$211,566	
17) Direct Participant Costs ($/Part.) =		$7,135	
18) Participant Non-Energy Costs (Annual $/Part.) =		$0	
Escalation Rate =		1.73%	
19) Participant Non-Energy Savings (Annual $/Part) =		$1,332	
Escalation Rate =		1.73%	
20) Project Life (Years) =		6.8	
21) Avg. Dth/Part. Saved =		438.59	
22) Avg Non-Gas Fuel Units/Part. Saved =		0 kWh	
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =		0 kWh	
23) Number of Participants =		51	
24) Total Annual Dth Saved =		22,368	
25) Incentive/Participant =		$3,117.45	

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		$4,148	
Cost per Participant per Dth =		$25.73	
Lifetime Energy Reduction (Dth)		151,143	
Societal Cost per Dth		$2.24	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($413,710)	0.65
Utility Cost Test	$558,337	3.64
Societal Test	$1,055,942	4.12
Participant Test	$1,359,092	4.73

Conservation Improvement Program (CIP) BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis **ACTUAL**

Company: **Xcel Energy**
Project: **Recommissioning**

Input Data	
1) Retail Rate ($/Dth) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 **First Year**	2018 **Second Year**	2019 **Third Year**
Administrative & Operating Costs =		$48,388	
Incentive Costs =		$37,375	
16) Total Utility Project Costs =		$85,764	
17) Direct Participant Costs ($/Part.) =		$1,842	
18) Participant Non-Energy Costs (Annual $/Part.) =		$0	
Escalation Rate =		1.73%	
19) Participant Non-Energy Savings (Annual $/Part) =		$10	
Escalation Rate =		1.73%	
20) Project Life (Years) =		6.9	
21) Avg. Dth/Part. Saved =		603.20	
22) Avg Non-Gas Fuel Units/Part. Saved =		0 kWh	
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =		0 kWh	
23) Number of Participants =		6	
24) Total Annual Dth Saved =		3,619	
25) Incentive/Participant =		$6,229.23	

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		$14,294	
Cost per Participant per Dth =		$26.75	
Lifetime Energy Reduction (Dth)		24,455	
Societal Cost per Dth		$2.43	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($119,054)	0.52
Utility Cost Test	$41,027	1.48
Societal Test	$94,493	2.59
Participant Test	$208,225	19.84

SELF-DIRECT 2018 ELECTRIC GOAL

2018 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$0	$0	$0	$0
T & D	N/A	$0	$0	$0	$0
Marginal Energy	N/A	$0	$0	$0	$0
Environmental Externality	N/A	N/A	N/A	N/A	$0
Subtotal	N/A	$0	$0	$0	$0
Participant Benefits					
Bill Reduction - Electric	$0	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$0	N/A	N/A	$0	$0
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$0	N/A	N/A	$0	$0
Total Benefits	$0	$0	$0	$0	$0
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$26,256	$26,256	$26,256	$26,256
Advertising & Promotion	N/A	$474	$474	$474	$474
Measurement & Verification	N/A	$303	$303	$303	$303
Rebates	N/A	$0	$0	$0	$0
Other	N/A	$45	$45	$45	$45
Subtotal	N/A	$27,078	$27,078	$27,078	$27,078
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$0	N/A	N/A
Subtotal	N/A	N/A	$0	N/A	N/A
Participant Costs					
Incremental Capital Costs	$0	N/A	N/A	$0	$0
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$0	N/A	N/A	$0	$0
Total Costs	$0	$27,078	$27,078	$27,078	$27,078
Net Benefit (Cost)	$0	($27,078)	($27,078)	($27,078)	($27,078)
Benefit/Cost Ratio	INF	-	-	-	-

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	0.0 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	0.00%
Gross Load Factor at Customer	E	#DIV/0!
Transmission Loss Factor (Energy)	F	0.000%
Transmission Loss Factor (Demand)	G	0.000%
Societal Net Benefit (Cost)	H	#DIV/0!

Program Summary per Participant		
Gross kW Saved at Customer	I	0.00 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.00 kW
Gross Annual kWh Saved at Customer	(B x E x I)	#DIV/0!
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	#DIV/0!

Program Summary All Participants		
Total Participants	J	0
Total Budget	K	**$27,078**
Gross kW Saved at Customer	(J x I)	0 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**0 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	#DIV/0!
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**#DIV/0!**
Societal Net Benefits	(J x I x H)	**#DIV/0!**

Utility Program Cost per kWh Lifetime	**#DIV/0!**
Utility Program Cost per kW at Gen	**N/A**

SELF-DIRECT 2018 ELECTRIC ACTUAL

2018 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$0	$0	$0	$0
T & D	N/A	$0	$0	$0	$0
Marginal Energy	N/A	$0	$0	$0	$0
Environmental Externality	N/A	N/A	N/A	N/A	$0
Subtotal	N/A	$0	$0	$0	$0
Participant Benefits					
Bill Reduction - Electric	$0	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$0	N/A	N/A	$0	$0
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$0	N/A	N/A	$0	$0
Total Benefits	$0	$0	$0	$0	$0
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$10,628	$10,628	$10,628	$10,628
Advertising & Promotion	N/A	$0	$0	$0	$0
Measurement & Verification	N/A	$0	$0	$0	$0
Rebates	N/A	$0	$0	$0	$0
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$10,628	$10,628	$10,628	$10,628
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$0	N/A	N/A
Subtotal	N/A	N/A	$0	N/A	N/A
Participant Costs					
Incremental Capital Costs	$0	N/A	N/A	$0	$0
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$0	N/A	N/A	$0	$0
Total Costs	$0	$10,628	$10,628	$10,628	$10,628
Net Benefit (Cost)	$0	($10,628)	($10,628)	($10,628)	($10,628)
Benefit/Cost Ratio	INF	-	-	-	-

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	0.0 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	0.00%
Gross Load Factor at Customer	E	#DIV/0!
Transmission Loss Factor (Energy)	F	0.000%
Transmission Loss Factor (Demand)	G	0.000%
Societal Net Benefit (Cost)	H	#DIV/0!

Program Summary per Participant		
Gross kW Saved at Customer	I	0.00 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.00 kW
Gross Annual kWh Saved at Customer	(B x E x I)	#DIV/0!
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	#DIV/0!

Program Summary All Participants		
Total Participants	J	0
Total Budget	K	**$10,628**
Gross kW Saved at Customer	(J x I)	0 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**0 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	#DIV/0!
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**#DIV/0!**
Societal Net Benefits	(J x I x H)	**#DIV/0!**

Utility Program Cost per kWh Lifetime	**#DIV/0!**
Utility Program Cost per kW at Gen	**N/A**

Conservation Improvement Program (CIP) BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis **GOAL**

Company: **Xcel Energy**
Project: **Self-Direct**

Input Data	
1) Retail Rate ($/Dth) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 **First Year**	2018 **Second Year**	2019 **Third Year**
Administrative & Operating Costs =		$8,820	
Incentive Costs =		$0	
16) Total Utility Project Costs =		$8,820	
17) Direct Participant Costs ($/Part.) =		$0	
18) Participant Non-Energy Costs (Annual $/Part.) =		$0	
Escalation Rate =		1.73%	
19) Participant Non-Energy Savings (Annual $/Part) =		$0	
Escalation Rate =		1.73%	
20) Project Life (Years) =		0.0	
21) Avg. Dth/Part. Saved =		-	
22) Avg Non-Gas Fuel Units/Part. Saved =		0 kWh	
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =		0 kWh	
23) Number of Participants =		-	
24) Total Annual Dth Saved =		0	
25) Incentive/Participant =		$0.00	

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		#DIV/0!	
Cost per Participant per Dth =		#DIV/0!	
Lifetime Energy Reduction (Dth)		0	
Societal Cost per Dth		#DIV/0!	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($8,820)	-
Utility Cost Test	($8,820)	-
Societal Test	($8,820)	-
Participant Test	$0	#DIV/0!

Conservation Improvement Program (CIP) BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis **ACTUAL**

Company: **Xcel Energy**
Project: **Self-Direct**

Input Data	
1) Retail Rate ($/Dth) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 **First Year**	2018 **Second Year**	2019 **Third Year**
Administrative & Operating Costs =		$2,047	
Incentive Costs =		$0	
16) Total Utility Project Costs =		$2,047	
17) Direct Participant Costs ($/Part.) =		$0	
18) Participant Non-Energy Costs (Annual $/Part.) =		$0	
Escalation Rate =		1.73%	
19) Participant Non-Energy Savings (Annual $/Part) =		$0	
Escalation Rate =		1.73%	
20) Project Life (Years) =		0.0	
21) Avg. Dth/Part. Saved =		-	
22) Avg Non-Gas Fuel Units/Part. Saved =		0 kWh	
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =		0 kWh	
23) Number of Participants =		-	
24) Total Annual Dth Saved =		0	
25) Incentive/Participant =		$0.00	

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		#DIV/0!	
Cost per Participant per Dth =		#DIV/0!	
Lifetime Energy Reduction (Dth)		0	
Societal Cost per Dth		#DIV/0!	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($2,047)	-
Utility Cost Test	($2,047)	-
Societal Test	($2,047)	-
Participant Test	$0	#DIV/0!

TURN KEY **2018 ELECTRIC** **GOAL**

2018 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$526,464	$526,464	$526,464	$526,464
T & D	N/A	$320,435	$320,435	$320,435	$320,435
Marginal Energy	N/A	$2,575,401	$2,575,401	$2,575,401	$2,575,401
Environmental Externality	N/A	N/A	N/A	N/A	$735,627
Subtotal	N/A	$3,422,300	$3,422,300	$3,422,300	$4,157,927
Participant Benefits					
Bill Reduction - Electric	$6,013,091	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$963,066	N/A	N/A	$963,066	$963,066
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$6,976,157	N/A	N/A	$963,066	$963,066
Total Benefits	$6,976,157	$3,422,300	$3,422,300	$4,385,366	$5,120,993
Costs					
Utility Project Costs					
Customer Services	N/A	$218,100	$218,100	$218,100	$218,100
Project Administration	N/A	$241,212	$241,212	$241,212	$241,212
Advertising & Promotion	N/A	$26,270	$26,270	$26,270	$26,270
Measurement & Verification	N/A	$8,000	$8,000	$8,000	$8,000
Rebates	N/A	$963,066	$963,066	$963,066	$963,066
Other	N/A	$25,000	$25,000	$25,000	$25,000
Subtotal	N/A	$1,481,648	$1,481,648	$1,481,648	$1,481,648
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$6,013,091	N/A	N/A
Subtotal	N/A	N/A	$6,013,091	N/A	N/A
Participant Costs					
Incremental Capital Costs	$2,091,982	N/A	N/A	$1,060,913	$1,060,913
Incremental O&M Costs	$31,617	N/A	N/A	$13,468	$13,468
Subtotal	$2,123,599	N/A	N/A	$1,074,382	$1,074,382
Total Costs	$2,123,599	$1,481,648	$7,494,739	$2,556,030	$2,556,030
Net Benefit (Cost)	$4,852,558	$1,940,652	($4,072,439)	$1,829,336	$2,564,963
Benefit/Cost Ratio	3.29	2.31	0.46	1.72	2.00

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	16.4 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	54.93%
Gross Load Factor at Customer	E	50.15%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$2,052.14

Program Summary per Participant		
Gross kW Saved at Customer	I	4.79 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	2.83 kW
Gross Annual kWh Saved at Customer	(B x E x I)	21,037 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	22,523 kWh

Program Summary All Participants		
Total Participants	J	261
Total Budget	K	**$1,481,648**
Gross kW Saved at Customer	(J x I)	1,250 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**738 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	5,490,549 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**5,878,532 kWh**
Societal Net Benefits	(J x I x H)	**$2,564,963**

Utility Program Cost per kWh Lifetime	**$0.0154**
Utility Program Cost per kW at Gen	**$2,007**

TURN KEY **2018 ELECTRIC** **ACTUAL**

2018 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$2,287,784	$2,287,784	$2,287,784	$2,287,784
T & D	N/A	$1,392,555	$1,392,555	$1,392,555	$1,392,555
Marginal Energy	N/A	$8,379,105	$8,379,105	$8,379,105	$8,379,105
Environmental Externality	N/A	N/A	N/A	N/A	$2,413,184
Subtotal	N/A	$12,059,443	$12,059,443	$12,059,443	$14,472,628
Participant Benefits					
Bill Reduction - Electric	$19,760,930	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$1,900,523	N/A	N/A	$1,900,523	$1,900,523
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$639,244	N/A	N/A	$639,244	$639,244
Subtotal	$22,300,697	N/A	N/A	$2,539,768	$2,539,768
Total Benefits	$22,300,697	$12,059,443	$12,059,443	$14,599,211	$17,012,395
Costs					
Utility Project Costs					
Customer Services	N/A	$341,350	$341,350	$341,350	$341,350
Project Administration	N/A	$291,351	$291,351	$291,351	$291,351
Advertising & Promotion	N/A	$317	$317	$317	$317
Measurement & Verification	N/A	($75)	($75)	($75)	($75)
Rebates	N/A	$1,900,523	$1,900,523	$1,900,523	$1,900,523
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$2,533,466	$2,533,466	$2,533,466	$2,533,466
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$19,760,930	N/A	N/A
Subtotal	N/A	N/A	$19,760,930	N/A	N/A
Participant Costs					
Incremental Capital Costs	$5,257,900	N/A	N/A	$5,257,900	$5,257,900
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$5,257,900	N/A	N/A	$5,257,900	$5,257,900
Total Costs	$5,257,900	$2,533,466	$22,294,396	$7,791,366	$7,791,366
Net Benefit (Cost)	$17,042,797	$9,525,978	($10,234,952)	$6,807,845	$9,221,029
Benefit/Cost Ratio	4.24	4.76	0.54	1.87	2.18

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	16.4 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	75.78%
Gross Load Factor at Customer	E	52.29%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$2,340.98

Program Summary per Participant		
Gross kW Saved at Customer	I	28.75 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	23.43 kW
Gross Annual kWh Saved at Customer	(B x E x I)	131,706 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	141,013 kWh

Program Summary All Participants		
Total Participants	J	137
Total Budget	K	**$2,533,466**
Gross kW Saved at Customer	(J x I)	3,939 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**3,210 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	18,043,689 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**19,318,725 kWh**
Societal Net Benefits	(J x I x H)	**$9,221,029**

Utility Program Cost per kWh Lifetime	**$0.0080**
Utility Program Cost per kW at Gen	**$789**

Conservation Improvement Program (CIP) BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis **GOAL**

Company: **Xcel Energy**
Project: **Turn Key**

Input Data	
1) Retail Rate ($/Dth) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 **First Year**	2018 **Second Year**	2019 **Third Year**
Administrative & Operating Costs =		$101,993	
Incentive Costs =		$136,087	
16) Total Utility Project Costs =		$238,080	
17) Direct Participant Costs ($/Part.) =		$3,235	
18) Participant Non-Energy Costs (Annual $/Part.) =		$0	
Escalation Rate =		1.73%	
19) Participant Non-Energy Savings (Annual $/Part) =		$0	
Escalation Rate =		1.73%	
20) Project Life (Years) =		12.6	
21) Avg. Dth/Part. Saved =		75.96	
22) Avg Non-Gas Fuel Units/Part. Saved =		0 kWh	
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =		0 kWh	
23) Number of Participants =		70	
24) Total Annual Dth Saved =		5,317	
25) Incentive/Participant =		$1,944.10	

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		$3,401	
Cost per Participant per Dth =		$87.36	
Lifetime Energy Reduction (Dth)		66,886	
Societal Cost per Dth		$3.68	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($320,729)	0.50
Utility Cost Test	$76,704	1.32
Societal Test	$181,546	1.74
Participant Test	$416,887	2.84

Conservation Improvement Program (CIP) BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis **ACTUAL**

Company: **Xcel Energy**
Project: **Turn Key**

Input Data	
1) Retail Rate ($/Dth) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 **First Year**	2018 **Second Year**	2019 **Third Year**
Administrative & Operating Costs =		$102,921	
Incentive Costs =		$320,888	
16) Total Utility Project Costs =		$423,809	
17) Direct Participant Costs ($/Part.) =		$37,396	
18) Participant Non-Energy Costs (Annual $/Part.) =		$0	
Escalation Rate =		1.73%	
19) Participant Non-Energy Savings (Annual $/Part) =		$353	
Escalation Rate =		1.73%	
20) Project Life (Years) =		12.6	
21) Avg. Dth/Part. Saved =		814.40	
22) Avg Non-Gas Fuel Units/Part. Saved =		0 kWh	
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =		0 kWh	
23) Number of Participants =		25	
24) Total Annual Dth Saved =		20,360	
25) Incentive/Participant =		$12,835.53	

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		$16,952	
Cost per Participant per Dth =		$66.73	
Lifetime Energy Reduction (Dth)		256,102	
Societal Cost per Dth		$4.05	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($740,266)	0.62
Utility Cost Test	$781,477	2.84
Societal Test	$696,118	1.67
Participant Test	$1,424,451	2.52

BUSINESS SEGMENT LOAD MANAGEMENT TOTAL 2018 ELECTRIC GOAL

2018 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$3,876,252	$3,876,252	$3,876,252	$3,876,252
T & D	N/A	$0	$0	$0	$0
Marginal Energy	N/A	$49,130	$49,130	$49,130	$49,130
Environmental Externality	N/A	N/A	N/A	N/A	$9,310
Subtotal	N/A	$3,925,381	$3,925,381	$3,925,381	$3,934,691
Participant Benefits					
Bill Reduction - Electric	$107,219	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$0	N/A	N/A	$0	$0
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$107,219	N/A	N/A	$0	$0
Total Benefits	$107,219	$3,925,381	$3,925,381	$3,925,381	$3,934,691
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$2,519,774	$2,519,774	$2,519,774	$2,519,774
Advertising & Promotion	N/A	$215,508	$215,508	$215,508	$215,508
Measurement & Verification	N/A	$150,000	$150,000	$150,000	$150,000
Rebates	N/A	$0	$0	$0	$0
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$2,885,282	$2,885,282	$2,885,282	$2,885,282
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$107,219	N/A	N/A
Subtotal	N/A	N/A	$107,219	N/A	N/A
Participant Costs					
Incremental Capital Costs	$0	N/A	N/A	$0	$0
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$0	N/A	N/A	$0	$0
Total Costs	$0	$2,885,282	$2,992,501	$2,885,282	$2,885,282
Net Benefit (Cost)	$107,219	$1,040,099	$932,880	$1,040,099	$1,049,409
Benefit/Cost Ratio	INF	1.36	1.31	1.36	1.36

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	5.5 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	28.91%
Gross Load Factor at Customer	E	0.07%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$38.77

Program Summary per Participant		
Gross kW Saved at Customer	I	27.67 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	8.60 kW
Gross Annual kWh Saved at Customer	(B x E x I)	172 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	184 kWh

Program Summary All Participants		
Total Participants	J	978
Total Budget	K	**$2,885,282**
Gross kW Saved at Customer	(J x I)	27,071 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**8,415 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	167,973 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**179,842 kWh**
Societal Net Benefits	(J x I x H)	**$1,049,409**

Utility Program Cost per kWh Lifetime	**$2.8972**
Utility Program Cost per kW at Gen	**$343**

BUSINESS SEGMENT LOAD MANAGEMENT TOTAL 2018 ELECTRIC ACTUAL

2018 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$5,617,601	$5,617,601	$5,617,601	$5,617,601
T & D	N/A	$0	$0	$0	$0
Marginal Energy	N/A	$123,840	$123,840	$123,840	$123,840
Environmental Externality	N/A	N/A	N/A	N/A	$23,201
Subtotal	N/A	$5,741,441	$5,741,441	$5,741,441	$5,764,642
Participant Benefits					
Bill Reduction - Electric	$266,854	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$0	N/A	N/A	$0	$0
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$266,854	N/A	N/A	$0	$0
Total Benefits	$266,854	$5,741,441	$5,741,441	$5,741,441	$5,764,642
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$2,455,902	$2,455,902	$2,455,902	$2,455,902
Advertising & Promotion	N/A	$133,456	$133,456	$133,456	$133,456
Measurement & Verification	N/A	$0	$0	$0	$0
Rebates	N/A	$0	$0	$0	$0
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$2,589,358	$2,589,358	$2,589,358	$2,589,358
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$266,854	N/A	N/A
Subtotal	N/A	N/A	$266,854	N/A	N/A
Participant Costs					
Incremental Capital Costs	$0	N/A	N/A	$0	$0
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$0	N/A	N/A	$0	$0
Total Costs	$0	$2,589,358	$2,856,212	$2,589,358	$2,589,358
Net Benefit (Cost)	$266,854	$3,152,083	$2,885,229	$3,152,083	$3,175,284
Benefit/Cost Ratio	INF	2.22	2.01	2.22	2.23

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	5.1 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	37.03%
Gross Load Factor at Customer	E	0.13%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$80.47

Program Summary per Participant		
Gross kW Saved at Customer	I	42.29 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	16.84 kW
Gross Annual kWh Saved at Customer	(B x E x I)	476 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	509 kWh

Program Summary All Participants		
Total Participants	J	933
Total Budget	K	**$2,589,358**
Gross kW Saved at Customer	(J x I)	39,459 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**15,712 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	443,984 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**475,358 kWh**
Societal Net Benefits	(J x I x H)	**$3,175,284**

Utility Program Cost per kWh Lifetime	**$1.0631**
Utility Program Cost per kW at Gen	**$165**

ELECTRIC RATE SAVINGS 2018 ELECTRIC GOAL

2018 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$1,287,037	$1,287,037	$1,287,037	$1,287,037
T & D	N/A	$0	$0	$0	$0
Marginal Energy	N/A	$43,690	$43,690	$43,690	$43,690
Environmental Externality	N/A	N/A	N/A	N/A	$8,155
Subtotal	N/A	$1,330,727	$1,330,727	$1,330,727	$1,338,882
Participant Benefits					
Bill Reduction - Electric	$93,762	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$0	N/A	N/A	$0	$0
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$93,762	N/A	N/A	$0	$0
Total Benefits	$93,762	$1,330,727	$1,330,727	$1,330,727	$1,338,882
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$535,114	$535,114	$535,114	$535,114
Advertising & Promotion	N/A	$15,508	$15,508	$15,508	$15,508
Measurement & Verification	N/A	$0	$0	$0	$0
Rebates	N/A	$0	$0	$0	$0
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$550,622	$550,622	$550,622	$550,622
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$93,762	N/A	N/A
Subtotal	N/A	N/A	$93,762	N/A	N/A
Participant Costs					
Incremental Capital Costs	$0	N/A	N/A	$0	$0
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$0	N/A	N/A	$0	$0
Total Costs	$0	$550,622	$644,384	$550,622	$550,622
Net Benefit (Cost)	$93,762	$780,105	$686,343	$780,105	$788,260
Benefit/Cost Ratio	INF	2.42	2.07	2.42	2.43

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	5.0 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	47.46%
Gross Load Factor at Customer	E	0.20%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$87.58

Program Summary per Participant		
Gross kW Saved at Customer	I	200.00 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	102.06 kW
Gross Annual kWh Saved at Customer	(B x E x I)	3,532 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	3,782 kWh

Program Summary All Participants		
Total Participants	J	45
Total Budget	K	**$550,622**
Gross kW Saved at Customer	(J x I)	9,000 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**4,593 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	158,942 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**170,174 kWh**
Societal Net Benefits	(J x I x H)	**$788,260**

Utility Program Cost per kWh Lifetime	**$0.6471**
Utility Program Cost per kW at Gen	**$120**

ELECTRIC RATE SAVINGS 2018 ELECTRIC ACTUAL

2018 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$3,545,626	$3,545,626	$3,545,626	$3,545,626
T & D	N/A	$0	$0	$0	$0
Marginal Energy	N/A	$120,532	$120,532	$120,532	$120,532
Environmental Externality	N/A	N/A	N/A	N/A	$22,499
Subtotal	N/A	$3,666,159	$3,666,159	$3,666,159	$3,688,658
Participant Benefits					
Bill Reduction - Electric	$258,673	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$0	N/A	N/A	$0	$0
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$258,673	N/A	N/A	$0	$0
Total Benefits	$258,673	$3,666,159	$3,666,159	$3,666,159	$3,688,658
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$525,103	$525,103	$525,103	$525,103
Advertising & Promotion	N/A	$0	$0	$0	$0
Measurement & Verification	N/A	$0	$0	$0	$0
Rebates	N/A	$0	$0	$0	$0
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$525,103	$525,103	$525,103	$525,103
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$258,673	N/A	N/A
Subtotal	N/A	N/A	$258,673	N/A	N/A
Participant Costs					
Incremental Capital Costs	$0	N/A	N/A	$0	$0
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$0	N/A	N/A	$0	$0
Total Costs	$0	$525,103	$783,776	$525,103	$525,103
Net Benefit (Cost)	$258,673	$3,141,056	$2,882,383	$3,141,056	$3,163,555
Benefit/Cost Ratio	INF	6.98	4.68	6.98	7.02

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	5.0 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	47.50%
Gross Load Factor at Customer	E	0.20%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$127.70

Program Summary per Participant		
Gross kW Saved at Customer	I	688.14 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	351.47 kW
Gross Annual kWh Saved at Customer	(B x E x I)	12,180 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	13,041 kWh

Program Summary All Participants		
Total Participants	J	36
Total Budget	K	**$525,103**
Gross kW Saved at Customer	(J x I)	24,773 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**12,653 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	438,494 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**469,480 kWh**
Societal Net Benefits	(J x I x H)	**$3,163,555**

Utility Program Cost per kWh Lifetime	**$0.2237**
Utility Program Cost per kW at Gen	**$42**

SAVER'S SWITCH FOR BUSINESS 2018 ELECTRIC GOAL

2018 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$2,589,215	$2,589,215	$2,589,215	$2,589,215
T & D	N/A	$0	$0	$0	$0
Marginal Energy	N/A	$5,440	$5,440	$5,440	$5,440
Environmental Externality	N/A	N/A	N/A	N/A	$1,155
Subtotal	N/A	$2,594,655	$2,594,655	$2,594,655	$2,595,809
Participant Benefits					
Bill Reduction - Electric	$13,457	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$0	N/A	N/A	$0	$0
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$13,457	N/A	N/A	$0	$0
Total Benefits	$13,457	$2,594,655	$2,594,655	$2,594,655	$2,595,809
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$1,984,660	$1,984,660	$1,984,660	$1,984,660
Advertising & Promotion	N/A	$200,000	$200,000	$200,000	$200,000
Measurement & Verification	N/A	$150,000	$150,000	$150,000	$150,000
Rebates	N/A	$0	$0	$0	$0
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$2,334,660	$2,334,660	$2,334,660	$2,334,660
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$13,457	N/A	N/A
Subtotal	N/A	N/A	$13,457	N/A	N/A
Participant Costs					
Incremental Capital Costs	$0	N/A	N/A	$0	$0
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$0	N/A	N/A	$0	$0
Total Costs	$0	$2,334,660	$2,348,117	$2,334,660	$2,334,660
Net Benefit (Cost)	$13,457	$259,995	$246,538	$259,995	$261,149
Benefit/Cost Ratio	INF	1.11	1.10	1.11	1.11

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	15.0 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	19.67%
Gross Load Factor at Customer	E	0.01%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$14.45

Program Summary per Participant		
Gross kW Saved at Customer	I	19.36 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	4.10 kW
Gross Annual kWh Saved at Customer	(B x E x I)	10 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	10 kWh

Program Summary All Participants		
Total Participants	J	933
Total Budget	K	**$2,334,660**
Gross kW Saved at Customer	(J x I)	18,071 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**3,823 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	9,030 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**9,668 kWh**
Societal Net Benefits	(J x I x H)	**$261,149**

Utility Program Cost per kWh Lifetime	**$16.0981**
Utility Program Cost per kW at Gen	**$611**

SAVER'S SWITCH FOR BUSINESS 2018 ELECTRIC ACTUAL

2018 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$2,071,975	$2,071,975	$2,071,975	$2,071,975
T & D	N/A	$0	$0	$0	$0
Marginal Energy	N/A	$3,307	$3,307	$3,307	$3,307
Environmental Externality	N/A	N/A	N/A	N/A	$702
Subtotal	N/A	$2,075,282	$2,075,282	$2,075,282	$2,075,984
Participant Benefits					
Bill Reduction - Electric	$8,182	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$0	N/A	N/A	$0	$0
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$8,182	N/A	N/A	$0	$0
Total Benefits	$8,182	$2,075,282	$2,075,282	$2,075,282	$2,075,984
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$1,930,799	$1,930,799	$1,930,799	$1,930,799
Advertising & Promotion	N/A	$133,456	$133,456	$133,456	$133,456
Measurement & Verification	N/A	$0	$0	$0	$0
Rebates	N/A	$0	$0	$0	$0
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$2,064,255	$2,064,255	$2,064,255	$2,064,255
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$8,182	N/A	N/A
Subtotal	N/A	N/A	$8,182	N/A	N/A
Participant Costs					
Incremental Capital Costs	$0	N/A	N/A	$0	$0
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$0	N/A	N/A	$0	$0
Total Costs	$0	$2,064,255	$2,072,436	$2,064,255	$2,064,255
Net Benefit (Cost)	$8,182	$11,028	$2,846	$11,028	$11,730
Benefit/Cost Ratio	INF	1.01	1.00	1.01	1.01

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	15.0 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	19.37%
Gross Load Factor at Customer	E	0.00%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$0.80

Program Summary per Participant		
Gross kW Saved at Customer	I	16.37 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	3.41 kW
Gross Annual kWh Saved at Customer	(B x E x I)	6 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	7 kWh

Program Summary All Participants		
Total Participants	J	897
Total Budget	K	**$2,064,255**
Gross kW Saved at Customer	(J x I)	14,686 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**3,059 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	5,490 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**5,878 kWh**
Societal Net Benefits	(J x I x H)	**$11,730**

Utility Program Cost per kWh Lifetime	**$23.4112**
Utility Program Cost per kW at Gen	**$675**

RESIDENTIAL SEGMENT TOTAL **2018 ELECTRIC** **GOAL**

2018 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$29,041,187	$29,041,187	$29,041,187	$29,041,187
T & D	N/A	$5,781,562	$5,781,562	$5,781,562	$5,781,562
Marginal Energy	N/A	$26,233,094	$26,233,094	$26,233,094	$26,233,094
Environmental Externality	N/A	N/A	N/A	N/A	$7,514,517
Subtotal	N/A	$61,055,843	$61,055,843	$61,055,843	$68,570,361
Participant Benefits					
Bill Reduction - Electric	$88,011,233	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$12,589,891	N/A	N/A	$12,589,891	$12,589,891
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$3,205,701	N/A	N/A	$0	$0
Subtotal	$103,806,825	N/A	N/A	$12,589,891	$12,589,891
Total Benefits	$103,806,825	$61,055,843	$61,055,843	$73,645,734	$81,160,252
Costs					
Utility Project Costs					
Customer Services	N/A	$438,581	$438,581	$438,581	$438,581
Project Administration	N/A	$11,313,482	$11,313,482	$11,313,482	$11,313,482
Advertising & Promotion	N/A	$3,794,092	$3,794,092	$3,794,092	$3,794,092
Measurement & Verification	N/A	$531,010	$531,010	$531,010	$531,010
Rebates	N/A	$12,589,891	$12,589,891	$12,589,891	$12,589,891
Other	N/A	$3,200	$3,200	$3,200	$3,200
Subtotal	N/A	$28,670,256	$28,670,256	$28,670,256	$28,670,256
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$88,011,233	N/A	N/A
Subtotal	N/A	N/A	$88,011,233	N/A	N/A
Participant Costs					
Incremental Capital Costs	$21,895,610	N/A	N/A	$20,666,183	$20,666,183
Incremental O&M Costs	$0	N/A	N/A	$891,349	$891,349
Subtotal	$21,895,610	N/A	N/A	$21,557,531	$21,557,531
Total Costs	$21,895,610	$28,670,256	$116,681,488	$50,227,787	$50,227,787
Net Benefit (Cost)	$81,911,214	$32,385,588	($55,625,645)	$23,417,947	$30,932,465
Benefit/Cost Ratio	4.74	2.13	0.52	1.47	1.62

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	6.3 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	29.06%
Gross Load Factor at Customer	E	8.34%
Transmission Loss Factor (Energy)	F	8.400%
Transmission Loss Factor (Demand)	G	8.800%
Societal Net Benefit (Cost)	H	$172.81

Program Summary per Participant		
Gross kW Saved at Customer	I	0.14 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.05 kW
Gross Annual kWh Saved at Customer	(B x E x I)	103 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	113 kWh

Program Summary All Participants		
Total Participants	J	1,265,498
Total Budget	K	**$28,670,256**
Gross kW Saved at Customer	(J x I)	178,996 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**57,043 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	130,702,486 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**142,688,303 kWh**
Societal Net Benefits	(J x I x H)	**$30,932,465**

Utility Program Cost per kWh Lifetime	**$0.0320**
Utility Program Cost per kW at Gen	**$503**

RESIDENTIAL SEGMENT TOTAL **2018 ELECTRIC** **ACTUAL**

2018 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$30,068,595	$30,068,595	$30,068,595	$30,068,595
T & D	N/A	$8,454,352	$8,454,352	$8,454,352	$8,454,352
Marginal Energy	N/A	$36,735,848	$36,735,848	$36,735,848	$36,735,848
Environmental Externality	N/A	N/A	N/A	N/A	$10,724,571
Subtotal	N/A	$75,258,796	$75,258,796	$75,258,796	$85,983,367
Participant Benefits					
Bill Reduction - Electric	$123,641,997	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$12,094,533	N/A	N/A	$12,094,533	$12,094,533
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$135,736,530	N/A	N/A	$12,094,533	$12,094,533
Total Benefits	$135,736,530	$75,258,796	$75,258,796	$87,353,329	$98,077,900
Costs					
Utility Project Costs					
Customer Services	N/A	$347,087	$347,087	$347,087	$347,087
Project Administration	N/A	$9,382,580	$9,382,580	$9,382,580	$9,382,580
Advertising & Promotion	N/A	$1,809,569	$1,809,569	$1,809,569	$1,809,569
Measurement & Verification	N/A	$1,702,062	$1,702,062	$1,702,062	$1,702,062
Rebates	N/A	$12,094,533	$12,094,533	$12,094,533	$12,094,533
Other	N/A	$31,223	$31,223	$31,223	$31,223
Subtotal	N/A	$25,367,055	$25,367,055	$25,367,055	$25,367,055
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$123,641,997	N/A	N/A
Subtotal	N/A	N/A	$123,641,997	N/A	N/A
Participant Costs					
Incremental Capital Costs	$18,060,448	N/A	N/A	$18,060,448	$18,060,448
Incremental O&M Costs	$1,646,615	N/A	N/A	$1,646,615	$1,646,615
Subtotal	$19,707,064	N/A	N/A	$19,707,064	$19,707,064
Total Costs	$19,707,064	$25,367,055	$149,009,052	$45,074,118	$45,074,118
Net Benefit (Cost)	$116,029,467	$49,891,741	($73,750,256)	$42,279,211	$53,003,782
Benefit/Cost Ratio	6.89	2.97	0.51	1.94	2.18

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	6.5 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	25.36%
Gross Load Factor at Customer	E	9.92%
Transmission Loss Factor (Energy)	F	8.034%
Transmission Loss Factor (Demand)	G	8.744%
Societal Net Benefit (Cost)	H	$257.64

Program Summary per Participant		
Gross kW Saved at Customer	I	0.12 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.03 kW
Gross Annual kWh Saved at Customer	(B x E x I)	102 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	111 kWh

Program Summary All Participants		
Total Participants	J	1,756,485
Total Budget	K	**$25,367,055**
Gross kW Saved at Customer	(J x I)	205,727 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**57,174 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	178,859,665 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**194,485,116 kWh**
Societal Net Benefits	(J x I x H)	**$53,003,782**

Utility Program Cost per kWh Lifetime	**$0.0199**
Utility Program Cost per kW at Gen	**$444**

Conservation Improvement Program (CIP) BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis **GOAL**

Company: **Xcel Energy**
Project: **Res. Segment with Indirect Participants**

Input Data	
1) Retail Rate ($/Dth) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 **First Year**	2018 **Second Year**	2019 **Third Year**
Administrative & Operating Costs =		$5,076,284	
Incentive Costs =		$3,226,176	
16) Total Utility Project Costs =		$8,302,460	
17) Direct Participant Costs ($/Part.) =		$20	
18) Participant Non-Energy Costs (Annual $/Part.) =		$0	
Escalation Rate =		1.73%	
19) Participant Non-Energy Savings (Annual $/Part) =		$1	
Escalation Rate =		1.73%	
20) Project Life (Years) =		14.2	
21) Avg. Dth/Part. Saved =		0.51	
22) Avg Non-Gas Fuel Units/Part. Saved =		0 kWh	
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =		0 kWh	
23) Number of Participants =		610,518	
24) Total Annual Dth Saved =		310,251	
25) Incentive/Participant =		$5.28	

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		$14	
Cost per Participant per Dth =		$65.75	
Lifetime Energy Reduction (Dth)		4,391,536	
Societal Cost per Dth		$3.82	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($13,522,822)	0.59
Utility Cost Test	$11,249,360	2.34
Societal Test	$18,611,176	2.11
Participant Test	$32,552,874	3.69

Conservation Improvement Program (CIP) BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis **ACTUAL**

Company: **Xcel Energy**
Project: **Res. Segment with Indirect Participants**

Input Data	
1) Retail Rate ($/Dth) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 **First Year**	2018 **Second Year**	2019 **Third Year**
Administrative & Operating Costs =		$3,494,600	
Incentive Costs =		$3,771,454	
16) Total Utility Project Costs =		$7,266,054	
17) Direct Participant Costs ($/Part.) =		$19	
18) Participant Non-Energy Costs (Annual $/Part.) =		$0	
Escalation Rate =		1.73%	
19) Participant Non-Energy Savings (Annual $/Part) =		$1	
Escalation Rate =		1.73%	
20) Project Life (Years) =		14.6	
21) Avg. Dth/Part. Saved =		0.43	
22) Avg Non-Gas Fuel Units/Part. Saved =		0 kWh	
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =		0 kWh	
23) Number of Participants =		743,022	
24) Total Annual Dth Saved =		317,645	
25) Incentive/Participant =		$5.08	

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		$10	
Cost per Participant per Dth =		$67.42	
Lifetime Energy Reduction (Dth)		4,496,192	
Societal Cost per Dth		$3.92	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($12,678,288)	0.62
Utility Cost Test	$13,347,480	2.84
Societal Test	$19,997,803	2.13
Participant Test	$33,015,218	3.33

Conservation Improvement Program (CIP) BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis **GOAL**

Company: **Xcel Energy**
Project: **Res. Segment Direct Participants Only**

Input Data	
1) Retail Rate ($/Dth) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 **First Year**	2018 **Second Year**	2019 **Third Year**
Administrative & Operating Costs =		$3,989,202	
Incentive Costs =		$3,226,176	
16) Total Utility Project Costs =		$7,215,378	
17) Direct Participant Costs ($/Part.) =		$54	
18) Participant Non-Energy Costs (Annual $/Part.) =		$0	
Escalation Rate =		1.73%	
19) Participant Non-Energy Savings (Annual $/Part) =		$3	
Escalation Rate =		1.73%	
20) Project Life (Years) =		14.2	
21) Avg. Dth/Part. Saved =		1.38	
22) Avg Non-Gas Fuel Units/Part. Saved =		0 kWh	
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =		0 kWh	
23) Number of Participants =		224,806	
24) Total Annual Dth Saved =		310,251	
25) Incentive/Participant =		$14.35	

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		$32	
Cost per Participant per Dth =		$62.25	
Lifetime Energy Reduction (Dth)		4,391,536	
Societal Cost per Dth		$3.57	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($12,435,740)	0.61
Utility Cost Test	$12,336,442	2.69
Societal Test	$19,698,258	2.26
Participant Test	$32,552,874	3.69

Conservation Improvement Program (CIP) BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis **ACTUAL**

Company: **Xcel Energy**
Project: **Res. Segment Direct Participants Only**

Input Data	
1) Retail Rate ($/Dth) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 **First Year**	2018 **Second Year**	2019 **Third Year**
Administrative & Operating Costs =		$2,494,596	
Incentive Costs =		$3,771,454	
16) Total Utility Project Costs =		$6,266,051	
17) Direct Participant Costs ($/Part.) =		$74	
18) Participant Non-Energy Costs (Annual $/Part.) =		$0	
Escalation Rate =		1.73%	
19) Participant Non-Energy Savings (Annual $/Part) =		$4	
Escalation Rate =		1.73%	
20) Project Life (Years) =		14.6	
21) Avg. Dth/Part. Saved =		1.67	
22) Avg Non-Gas Fuel Units/Part. Saved =		0 kWh	
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =		0 kWh	
23) Number of Participants =		190,095	
24) Total Annual Dth Saved =		317,645	
25) Incentive/Participant =		$19.84	

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		$33	
Cost per Participant per Dth =		$64.27	
Lifetime Energy Reduction (Dth)		4,496,192	
Societal Cost per Dth		$3.70	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($11,678,284)	0.64
Utility Cost Test	$14,347,484	3.29
Societal Test	$20,997,807	2.26
Participant Test	$33,015,218	3.33

RES. SEGMENT ENERGY EFFICIENCY TOTAL — 2018 ELECTRIC — GOAL

2018 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$9,520,470	$9,520,470	$9,520,470	$9,520,470
T & D	N/A	$5,781,562	$5,781,562	$5,781,562	$5,781,562
Marginal Energy	N/A	$26,034,600	$26,034,600	$26,034,600	$26,034,600
Environmental Externality	N/A	N/A	N/A	N/A	$7,452,061
Subtotal	N/A	$41,336,632	$41,336,632	$41,336,632	$48,788,693
Participant Benefits					
Bill Reduction - Electric	$87,324,253	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$10,152,391	N/A	N/A	$10,152,391	$10,152,391
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$239,911	N/A	N/A	$0	$0
Subtotal	$97,716,555	N/A	N/A	$10,152,391	$10,152,391
Total Benefits	$97,716,555	$41,336,632	$41,336,632	$51,489,023	$58,941,084
Costs					
Utility Project Costs					
Customer Services	N/A	$438,581	$438,581	$438,581	$438,581
Project Administration	N/A	$4,797,734	$4,797,734	$4,797,734	$4,797,734
Advertising & Promotion	N/A	$2,673,532	$2,673,532	$2,673,532	$2,673,532
Measurement & Verification	N/A	$342,094	$342,094	$342,094	$342,094
Rebates	N/A	$10,152,391	$10,152,391	$10,152,391	$10,152,391
Other	N/A	$3,200	$3,200	$3,200	$3,200
Subtotal	N/A	$18,407,532	$18,407,532	$18,407,532	$18,407,532
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$87,324,253	N/A	N/A
Subtotal	N/A	N/A	$87,324,253	N/A	N/A
Participant Costs					
Incremental Capital Costs	$19,300,610	N/A	N/A	$18,071,183	$18,071,183
Incremental O&M Costs	$0	N/A	N/A	$891,349	$891,349
Subtotal	$19,300,610	N/A	N/A	$18,962,531	$18,962,531
Total Costs	$19,300,610	$18,407,532	$105,731,785	$37,370,063	$37,370,063
Net Benefit (Cost)	$78,415,945	$22,929,100	($64,395,153)	$14,118,960	$21,571,022
Benefit/Cost Ratio	5.06	2.25	0.39	1.38	1.58

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	6.3 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	22.78%
Gross Load Factor at Customer	E	15.66%
Transmission Loss Factor (Energy)	F	8.400%
Transmission Loss Factor (Demand)	G	8.800%
Societal Net Benefit (Cost)	H	$227.52

Program Summary per Participant		
Gross kW Saved at Customer	I	0.20 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.05 kW
Gross Annual kWh Saved at Customer	(B x E x I)	279 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	305 kWh

Program Summary All Participants		
Total Participants	J	466,119
Total Budget	K	**$18,407,532**
Gross kW Saved at Customer	(J x I)	94,809 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**23,682 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	130,075,210 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**142,003,504 kWh**
Societal Net Benefits	(J x I x H)	**$21,571,022**

Utility Program Cost per kWh Lifetime	**$0.0207**
Utility Program Cost per kW at Gen	**$777**

RES. SEGMENT ENERGY EFFICIENCY TOTAL — 2018 — ELECTRIC — ACTUAL

2018 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$13,920,250	$13,920,250	$13,920,250	$13,920,250
T & D	N/A	$8,454,352	$8,454,352	$8,454,352	$8,454,352
Marginal Energy	N/A	$36,678,364	$36,678,364	$36,678,364	$36,678,364
Environmental Externality	N/A	N/A	N/A	N/A	$10,708,524
Subtotal	N/A	$59,052,966	$59,052,966	$59,052,966	$69,761,490
Participant Benefits					
Bill Reduction - Electric	$123,462,734	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$11,839,624	N/A	N/A	$11,839,624	$11,839,624
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$135,302,357	N/A	N/A	$11,839,624	$11,839,624
Total Benefits	$135,302,357	$59,052,966	$59,052,966	$70,892,590	$81,601,114
Costs					
Utility Project Costs					
Customer Services	N/A	$347,087	$347,087	$347,087	$347,087
Project Administration	N/A	$2,256,660	$2,256,660	$2,256,660	$2,256,660
Advertising & Promotion	N/A	$876,368	$876,368	$876,368	$876,368
Measurement & Verification	N/A	$1,702,062	$1,702,062	$1,702,062	$1,702,062
Rebates	N/A	$11,839,624	$11,839,624	$11,839,624	$11,839,624
Other	N/A	$31,223	$31,223	$31,223	$31,223
Subtotal	N/A	$17,053,024	$17,053,024	$17,053,024	$17,053,024
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$123,462,734	N/A	N/A
Subtotal	N/A	N/A	$123,462,734	N/A	N/A
Participant Costs					
Incremental Capital Costs	$17,775,710	N/A	N/A	$17,775,710	$17,775,710
Incremental O&M Costs	$1,646,615	N/A	N/A	$1,646,615	$1,646,615
Subtotal	$19,422,326	N/A	N/A	$19,422,326	$19,422,326
Total Costs	$19,422,326	$17,053,024	$140,515,758	$36,475,350	$36,475,350
Net Benefit (Cost)	$115,880,032	$41,999,942	($81,462,791)	$34,417,240	$45,125,764
Benefit/Cost Ratio	6.97	3.46	0.42	1.94	2.24

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	6.5 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	22.68%
Gross Load Factor at Customer	E	15.62%
Transmission Loss Factor (Energy)	F	8.034%
Transmission Loss Factor (Demand)	G	8.712%
Societal Net Benefit (Cost)	H	$345.40

Program Summary per Participant		
Gross kW Saved at Customer	I	0.26 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.06 kW
Gross Annual kWh Saved at Customer	(B x E x I)	356 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	388 kWh

Program Summary All Participants		
Total Participants	J	501,443
Total Budget	K	**$17,053,024**
Gross kW Saved at Customer	(J x I)	130,647 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**32,452 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	178,708,289 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**194,320,142 kWh**
Societal Net Benefits	(J x I x H)	**$45,125,764**

Utility Program Cost per kWh Lifetime	**$0.0134**
Utility Program Cost per kW at Gen	**$525**

Conservation Improvement Program (CIP) BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis **GOAL**

Company: **Xcel Energy**
Project: **Res. Segment Energy Efficiency Total**

Input Data	
1) Retail Rate ($/Dth) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 **First Year**	2018 **Second Year**	2019 **Third Year**
Administrative & Operating Costs =		$3,870,876	
Incentive Costs =		$3,226,176	
16) Total Utility Project Costs =		$7,097,052	
17) Direct Participant Costs ($/Part.) =		$56	
18) Participant Non-Energy Costs (Annual $/Part.) =		$0	
Escalation Rate =		1.73%	
19) Participant Non-Energy Savings (Annual $/Part) =		$3	
Escalation Rate =		1.73%	
20) Project Life (Years) =		14.8	
21) Avg. Dth/Part. Saved =		1.23	
22) Avg Non-Gas Fuel Units/Part. Saved =		0 kWh	
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =		0 kWh	
23) Number of Participants =		216,358	
24) Total Annual Dth Saved =		267,118	
25) Incentive/Participant =		$14.91	

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		$33	
Cost per Participant per Dth =		$71.86	
Lifetime Energy Reduction (Dth)		3,960,200	
Societal Cost per Dth		$3.92	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($11,723,801)	0.60
Utility Cost Test	$10,393,747	2.46
Societal Test	$17,146,857	2.11
Participant Test	$28,910,770	3.39

Conservation Improvement Program (CIP) BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis **ACTUAL**

Company: **Xcel Energy**
Project: **Res. Segment Energy Efficiency Total**

Input Data	
1) Retail Rate ($/Dth) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 **First Year**	2018 **Second Year**	2019 **Third Year**
Administrative & Operating Costs =		$2,489,925	
Incentive Costs =		$3,771,454	
16) Total Utility Project Costs =		$6,261,379	
17) Direct Participant Costs ($/Part.) =		$75	
18) Participant Non-Energy Costs (Annual $/Part.) =		$0	
Escalation Rate =		1.73%	
19) Participant Non-Energy Savings (Annual $/Part) =		$4	
Escalation Rate =		1.73%	
20) Project Life (Years) =		14.6	
21) Avg. Dth/Part. Saved =		1.65	
22) Avg Non-Gas Fuel Units/Part. Saved =		0 kWh	
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =		0 kWh	
23) Number of Participants =		189,578	
24) Total Annual Dth Saved =		312,876	
25) Incentive/Participant =		$19.89	

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		$33	
Cost per Participant per Dth =		$65.24	
Lifetime Energy Reduction (Dth)		4,638,596	
Societal Cost per Dth		$3.59	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($11,612,575)	0.64
Utility Cost Test	$14,119,682	3.26
Societal Test	$20,702,702	2.24
Participant Test	$32,660,209	3.31

ENERGY EFFICIENT SHOWERHEAD — 2018 — ELECTRIC — GOAL

2018 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$46,222	$46,222	$46,222	$46,222
T & D	N/A	$28,050	$28,050	$28,050	$28,050
Marginal Energy	N/A	$312,317	$312,317	$312,317	$312,317
Environmental Externality	N/A	N/A	N/A	N/A	$97,644
Subtotal	N/A	$386,589	$386,589	$386,589	$484,233
Participant Benefits					
Bill Reduction - Electric	$1,071,522	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$15,528	N/A	N/A	$15,528	$15,528
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$500,044	N/A	N/A	$500,044	$500,044
Subtotal	$1,587,094	N/A	N/A	$515,572	$515,572
Total Benefits	$1,587,094	$386,589	$386,589	$902,161	$999,805
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$19,570	$19,570	$19,570	$19,570
Advertising & Promotion	N/A	$4,995	$4,995	$4,995	$4,995
Measurement & Verification	N/A	$500	$500	$500	$500
Rebates	N/A	$15,528	$15,528	$15,528	$15,528
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$40,593	$40,593	$40,593	$40,593
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$1,071,522	N/A	N/A
Subtotal	N/A	N/A	$1,071,522	N/A	N/A
Participant Costs					
Incremental Capital Costs	$19,241	N/A	N/A	$19,241	$19,241
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$19,241	N/A	N/A	$19,241	$19,241
Total Costs	$19,241	$40,593	$1,112,115	$59,834	$59,834
Net Benefit (Cost)	$1,567,853	$345,996	($725,526)	$842,327	$939,971
Benefit/Cost Ratio	82.49	9.52	0.35	15.08	16.71

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	10.0 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	73.53%
Gross Load Factor at Customer	E	100.00%
Transmission Loss Factor (Energy)	F	8.400%
Transmission Loss Factor (Demand)	G	8.800%
Societal Net Benefit (Cost)	H	$8,229.22

Program Summary per Participant		
Gross kW Saved at Customer	I	0.06 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.05 kW
Gross Annual kWh Saved at Customer	(B x E x I)	521 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	569 kWh

Program Summary All Participants		
Total Participants	J	1,920
Total Budget	K	**$40,593**
Gross kW Saved at Customer	(J x I)	114 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**92 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	1,000,599 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**1,092,357 kWh**
Societal Net Benefits	(J x I x H)	**$939,971**

Utility Program Cost per kWh Lifetime	**$0.0037**
Utility Program Cost per kW at Gen	**$441**

ENERGY EFFICIENT SHOWERHEAD — 2018 — ELECTRIC — ACTUAL

2018 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$34,122	$34,122	$34,122	$34,122
T & D	N/A	$20,685	$20,685	$20,685	$20,685
Marginal Energy	N/A	$258,325	$258,325	$258,325	$258,325
Environmental Externality	N/A	N/A	N/A	N/A	$75,757
Subtotal	N/A	$313,133	$313,133	$313,133	$388,889
Participant Benefits					
Bill Reduction - Electric	$546,726	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$16,031	N/A	N/A	$16,031	$16,031
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$469,636	N/A	N/A	$469,636	$469,636
Subtotal	$1,032,393	N/A	N/A	$485,667	$485,667
Total Benefits	$1,032,393	$313,133	$313,133	$798,800	$874,556
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$19,467	$19,467	$19,467	$19,467
Advertising & Promotion	N/A	$205	$205	$205	$205
Measurement & Verification	N/A	$0	$0	$0	$0
Rebates	N/A	$16,031	$16,031	$16,031	$16,031
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$35,703	$35,703	$35,703	$35,703
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$546,726	N/A	N/A
Subtotal	N/A	N/A	$546,726	N/A	N/A
Participant Costs					
Incremental Capital Costs	$14,049	N/A	N/A	$14,049	$14,049
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$14,049	N/A	N/A	$14,049	$14,049
Total Costs	$14,049	$35,703	$582,429	$49,752	$49,752
Net Benefit (Cost)	$1,018,344	$277,430	($269,296)	$749,048	$824,805
Benefit/Cost Ratio	73.49	8.77	0.54	16.06	17.58

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	10.0 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	70.27%
Gross Load Factor at Customer	E	100.63%
Transmission Loss Factor (Energy)	F	8.400%
Transmission Loss Factor (Demand)	G	8.800%
Societal Net Benefit (Cost)	H	$7,760.74

Program Summary per Participant		
Gross kW Saved at Customer	I	0.06 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.05 kW
Gross Annual kWh Saved at Customer	(B x E x I)	540 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	589 kWh

Program Summary All Participants		
Total Participants	J	1,735
Total Budget	K	**$35,703**
Gross kW Saved at Customer	(J x I)	106 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**82 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	936,828 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**1,022,738 kWh**
Societal Net Benefits	(J x I x H)	**$824,805**

Utility Program Cost per kWh Lifetime	**$0.0035**
Utility Program Cost per kW at Gen	**$436**

Conservation Improvement Program (CIP) BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis **GOAL**

Company: **Xcel Energy**
Project: **Energy Efficient Showerhead**

Input Data	
1) Retail Rate ($/Dth) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 **First Year**	2018 **Second Year**	2019 **Third Year**
Administrative & Operating Costs =		$143,645	
Incentive Costs =		$141,099	
16) Total Utility Project Costs =		$284,744	
17) Direct Participant Costs ($/Part.) =		$10	
18) Participant Non-Energy Costs (Annual $/Part.) =		$0	
Escalation Rate =		1.73%	
19) Participant Non-Energy Savings (Annual $/Part) =		$34	
Escalation Rate =		1.73%	
20) Project Life (Years) =		10.0	
21) Avg. Dth/Part. Saved =		2.22	
22) Avg Non-Gas Fuel Units/Part. Saved =		0 kWh	
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =		0 kWh	
23) Number of Participants =		14,080	
24) Total Annual Dth Saved =		31,295	
25) Incentive/Participant =		$10.02	

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		$20	
Cost per Participant per Dth =		$13.61	
Lifetime Energy Reduction (Dth)		312,954	
Societal Cost per Dth		$0.91	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($685,281)	0.69
Utility Cost Test	$1,240,777	5.36
Societal Test	$6,275,368	23.04
Participant Test	$6,922,558	50.06

Conservation Improvement Program (CIP) BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis **ACTUAL**

Company: **Xcel Energy**
Project: **Energy Efficient Showerhead**

Input Data	
1) Retail Rate ($/Dth) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 **First Year**	2018 **Second Year**	2019 **Third Year**
Administrative & Operating Costs =		$211,883	
Incentive Costs =		$131,000	
16) Total Utility Project Costs =		$342,883	
17) Direct Participant Costs ($/Part.) =		$8	
18) Participant Non-Energy Costs (Annual $/Part.) =		$0	
Escalation Rate =		1.73%	
19) Participant Non-Energy Savings (Annual $/Part) =		$36	
Escalation Rate =		1.73%	
20) Project Life (Years) =		10.0	
21) Avg. Dth/Part. Saved =		2.40	
22) Avg Non-Gas Fuel Units/Part. Saved =		0 kWh	
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =		0 kWh	
23) Number of Participants =		14,115	
24) Total Annual Dth Saved =		33,932	
25) Incentive/Participant =		$9.28	

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		$24	
Cost per Participant per Dth =		$13.57	
Lifetime Energy Reduction (Dth)		339,315	
Societal Cost per Dth		$0.97	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($777,158)	0.68
Utility Cost Test	$1,311,138	4.82
Societal Test	$6,360,964	20.31
Participant Test	$7,096,823	61.42

ENERGY FEEDBACK RESIDENTIAL 2018 ELECTRIC GOAL

2018 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$717,791	$717,791	$717,791	$717,791
T & D	N/A	$433,441	$433,441	$433,441	$433,441
Marginal Energy	N/A	$2,023,395	$2,023,395	$2,023,395	$2,023,395
Environmental Externality	N/A	N/A	N/A	N/A	$168,053
Subtotal	N/A	$3,174,627	$3,174,627	$3,174,627	$3,342,680
Participant Benefits					
Bill Reduction - Electric	$5,358,979	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$0	N/A	N/A	$0	$0
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$5,358,979	N/A	N/A	$0	$0
Total Benefits	$5,358,979	$3,174,627	$3,174,627	$3,174,627	$3,342,680
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$2,085,220	$2,085,220	$2,085,220	$2,085,220
Advertising & Promotion	N/A	$8,645	$8,645	$8,645	$8,645
Measurement & Verification	N/A	$25,000	$25,000	$25,000	$25,000
Rebates	N/A	$0	$0	$0	$0
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$2,118,865	$2,118,865	$2,118,865	$2,118,865
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$5,358,979	N/A	N/A
Subtotal	N/A	N/A	$5,358,979	N/A	N/A
Participant Costs					
Incremental Capital Costs	$0	N/A	N/A	$0	$0
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$0	N/A	N/A	$0	$0
Total Costs	$0	$2,118,865	$7,477,844	$2,118,865	$2,118,865
Net Benefit (Cost)	$5,358,979	$1,055,762	($4,303,217)	$1,055,762	$1,223,815
Benefit/Cost Ratio	INF	1.50	0.42	1.50	1.58

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	3.0 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	96.39%
Gross Load Factor at Customer	E	46.96%
Transmission Loss Factor (Energy)	F	8.400%
Transmission Loss Factor (Demand)	G	8.800%
Societal Net Benefit (Cost)	H	$332.00

Program Summary per Participant		
Gross kW Saved at Customer	I	0.01 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.02 kW
Gross Annual kWh Saved at Customer	(B x E x I)	59 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	65 kWh

Program Summary All Participants		
Total Participants	J	256,120
Total Budget	K	**$2,118,865**
Gross kW Saved at Customer	(J x I)	3,686 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**3,896 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	15,164,454 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**16,555,081 kWh**
Societal Net Benefits	(J x I x H)	**$1,223,815**

Utility Program Cost per kWh Lifetime	**$0.0427**
Utility Program Cost per kW at Gen	**$544**

ENERGY FEEDBACK RESIDENTIAL 2018 ELECTRIC ACTUAL

2018 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$707,741	$707,741	$707,741	$707,741
T & D	N/A	$427,372	$427,372	$427,372	$427,372
Marginal Energy	N/A	$2,158,585	$2,158,585	$2,158,585	$2,158,585
Environmental Externality	N/A	N/A	N/A	N/A	$179,282
Subtotal	N/A	$3,293,699	$3,293,699	$3,293,699	$3,472,980
Participant Benefits					
Bill Reduction - Electric	$5,717,031	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$0	N/A	N/A	$0	$0
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$5,717,031	N/A	N/A	$0	$0
Total Benefits	$5,717,031	$3,293,699	$3,293,699	$3,293,699	$3,472,980
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$217,086	$217,086	$217,086	$217,086
Advertising & Promotion	N/A	$0	$0	$0	$0
Measurement & Verification	N/A	$1,437,909	$1,437,909	$1,437,909	$1,437,909
Rebates	N/A	$0	$0	$0	$0
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$1,654,995	$1,654,995	$1,654,995	$1,654,995
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$5,717,031	N/A	N/A
Subtotal	N/A	N/A	$5,717,031	N/A	N/A
Participant Costs					
Incremental Capital Costs	$0	N/A	N/A	$0	$0
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$0	N/A	N/A	$0	$0
Total Costs	$0	$1,654,995	$7,372,026	$1,654,995	$1,654,995
Net Benefit (Cost)	$5,717,031	$1,638,704	($4,078,328)	$1,638,704	$1,817,985
Benefit/Cost Ratio	INF	1.99	0.45	1.99	2.10

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	3.0 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	87583.33%
Gross Load Factor at Customer	E	46169.08%
Transmission Loss Factor (Energy)	F	8.400%
Transmission Loss Factor (Demand)	G	8.800%
Societal Net Benefit (Cost)	H	$454,496.30

Program Summary per Participant		
Gross kW Saved at Customer	I	0.00 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.02 kW
Gross Annual kWh Saved at Customer	(B x E x I)	73 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	80 kWh

Program Summary All Participants		
Total Participants	J	221,281
Total Budget	K	**$1,654,995**
Gross kW Saved at Customer	(J x I)	4 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**3,841 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	16,177,646 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**17,661,186 kWh**
Societal Net Benefits	(J x I x H)	**$1,817,985**

Utility Program Cost per kWh Lifetime	**$0.0312**
Utility Program Cost per kW at Gen	**$431**

Conservation Improvement Program (CIP) BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis **GOAL**

Company: **Xcel Energy**
Project: **Energy Feedback Residential**

Input Data	
1) Retail Rate ($/Dth) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 **First Year**	2018 **Second Year**	2019 **Third Year**
Administrative & Operating Costs =		$321,772	
Incentive Costs =		$0	
16) Total Utility Project Costs =		$321,772	
17) Direct Participant Costs ($/Part.) =		$0	
18) Participant Non-Energy Costs (Annual $/Part.) =		$0	
Escalation Rate =		1.73%	
19) Participant Non-Energy Savings (Annual $/Part) =		$0	
Escalation Rate =		1.73%	
20) Project Life (Years) =		3.0	
21) Avg. Dth/Part. Saved =		0.15	
22) Avg Non-Gas Fuel Units/Part. Saved =		0 kWh	
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =		0 kWh	
23) Number of Participants =		170,898	
24) Total Annual Dth Saved =		25,309	
25) Incentive/Participant =		$0.00	

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		$2	
Cost per Participant per Dth =		$12.71	
Lifetime Energy Reduction (Dth)		75,927	
Societal Cost per Dth		$4.24	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($432,022)	0.49
Utility Cost Test	$98,137	1.30
Societal Test	$128,249	1.40
Participant Test	$530,159	#DIV/0!

Conservation Improvement Program (CIP) BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis **ACTUAL**

Company: **Xcel Energy**
Project: **Energy Feedback Residential**

Input Data	
1) Retail Rate ($/Dth) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 **First Year**	2018 **Second Year**	2019 **Third Year**
Administrative & Operating Costs =		$226,398	
Incentive Costs =		$0	
16) Total Utility Project Costs =		$226,398	
17) Direct Participant Costs ($/Part.) =		$0	
18) Participant Non-Energy Costs (Annual $/Part.) =		$0	
Escalation Rate =		1.73%	
19) Participant Non-Energy Savings (Annual $/Part) =		$0	
Escalation Rate =		1.73%	
20) Project Life (Years) =		3.0	
21) Avg. Dth/Part. Saved =		0.28	
22) Avg Non-Gas Fuel Units/Part. Saved =		0 kWh	
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =		0 kWh	
23) Number of Participants =		148,269	
24) Total Annual Dth Saved =		41,197	
25) Incentive/Participant =		$0.00	

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		$2	
Cost per Participant per Dth =		$5.50	
Lifetime Energy Reduction (Dth)		123,590	
Societal Cost per Dth		$1.83	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($405,857)	0.63
Utility Cost Test	$457,107	3.02
Societal Test	$506,122	3.24
Participant Test	$862,964	#DIV/0!

EFFICIENT NEW HOME CONSTRUCTION 2018 ELECTRIC GOAL

2018 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$794,151	$794,151	$794,151	$794,151
T & D	N/A	$484,165	$484,165	$484,165	$484,165
Marginal Energy	N/A	$400,541	$400,541	$400,541	$400,541
Environmental Externality	N/A	N/A	N/A	N/A	$133,577
Subtotal	N/A	$1,678,857	$1,678,857	$1,678,857	$1,812,434
Participant Benefits					
Bill Reduction - Electric	$1,575,038	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$429,912	N/A	N/A	$429,912	$429,912
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$49,962	N/A	N/A	$35,170	$35,170
Subtotal	$2,054,912	N/A	N/A	$465,082	$465,082
Total Benefits	$2,054,912	$1,678,857	$1,678,857	$2,143,938	$2,277,515
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$21,805	$21,805	$21,805	$21,805
Advertising & Promotion	N/A	$50,605	$50,605	$50,605	$50,605
Measurement & Verification	N/A	$250,000	$250,000	$250,000	$250,000
Rebates	N/A	$429,912	$429,912	$429,912	$429,912
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$752,322	$752,322	$752,322	$752,322
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$1,575,038	N/A	N/A
Subtotal	N/A	N/A	$1,575,038	N/A	N/A
Participant Costs					
Incremental Capital Costs	$765,042	N/A	N/A	$506,949	$506,949
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$765,042	N/A	N/A	$506,949	$506,949
Total Costs	$765,042	$752,322	$2,327,360	$1,259,271	$1,259,271
Net Benefit (Cost)	$1,289,870	$926,535	($648,503)	$884,667	$1,018,244
Benefit/Cost Ratio	2.69	2.23	0.72	1.70	1.81

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	19.8 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	79.31%
Gross Load Factor at Customer	E	8.89%
Transmission Loss Factor (Energy)	F	8.400%
Transmission Loss Factor (Demand)	G	8.800%
Societal Net Benefit (Cost)	H	$909.27

Program Summary per Participant		
Gross kW Saved at Customer	I	0.55 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.48 kW
Gross Annual kWh Saved at Customer	(B x E x I)	431 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	470 kWh

Program Summary All Participants		
Total Participants	J	2,024
Total Budget	K	**$752,322**
Gross kW Saved at Customer	(J x I)	1,120 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**974 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	872,150 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**952,129 kWh**
Societal Net Benefits	(J x I x H)	**$1,018,244**

Utility Program Cost per kWh Lifetime	**$0.0400**
Utility Program Cost per kW at Gen	**$772**

EFFICIENT NEW HOME CONSTRUCTION 2018 ELECTRIC ACTUAL

2018 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$879,325	$879,325	$879,325	$879,325
T & D	N/A	$536,094	$536,094	$536,094	$536,094
Marginal Energy	N/A	$1,333,210	$1,333,210	$1,333,210	$1,333,210
Environmental Externality	N/A	N/A	N/A	N/A	$444,195
Subtotal	N/A	$2,748,629	$2,748,629	$2,748,629	$3,192,824
Participant Benefits					
Bill Reduction - Electric	$5,244,674	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$379,773	N/A	N/A	$379,773	$379,773
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$16,573	N/A	N/A	$16,573	$16,573
Subtotal	$5,641,020	N/A	N/A	$396,346	$396,346
Total Benefits	$5,641,020	$2,748,629	$2,748,629	$3,144,975	$3,589,170
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$25,655	$25,655	$25,655	$25,655
Advertising & Promotion	N/A	$37,500	$37,500	$37,500	$37,500
Measurement & Verification	N/A	$239,990	$239,990	$239,990	$239,990
Rebates	N/A	$379,773	$379,773	$379,773	$379,773
Other	N/A	$31,223	$31,223	$31,223	$31,223
Subtotal	N/A	$714,140	$714,140	$714,140	$714,140
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$5,244,674	N/A	N/A
Subtotal	N/A	N/A	$5,244,674	N/A	N/A
Participant Costs					
Incremental Capital Costs	$619,023	N/A	N/A	$619,023	$619,023
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$619,023	N/A	N/A	$619,023	$619,023
Total Costs	$619,023	$714,140	$5,958,814	$1,333,163	$1,333,163
Net Benefit (Cost)	$5,021,997	$2,034,488	($3,210,185)	$1,811,812	$2,256,007
Benefit/Cost Ratio	9.11	3.85	0.46	2.36	2.69

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	20.0 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	85.71%
Gross Load Factor at Customer	E	29.06%
Transmission Loss Factor (Energy)	F	8.400%
Transmission Loss Factor (Demand)	G	8.800%
Societal Net Benefit (Cost)	H	$1,955.48

Program Summary per Participant		
Gross kW Saved at Customer	I	0.45 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.43 kW
Gross Annual kWh Saved at Customer	(B x E x I)	1,151 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	1,257 kWh

Program Summary All Participants		
Total Participants	J	2,551
Total Budget	K	**$714,140**
Gross kW Saved at Customer	(J x I)	1,154 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**1,084 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	2,936,783 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**3,206,095 kWh**
Societal Net Benefits	(J x I x H)	**$2,256,007**

Utility Program Cost per kWh Lifetime	**$0.0112**
Utility Program Cost per kW at Gen	**$659**

Conservation Improvement Program (CIP) BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis **GOAL**

Company: **Xcel Energy**
Project: **Efficient New Home Construction**

Input Data	
1) Retail Rate ($/Dth) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 **First Year**	2018 **Second Year**	2019 **Third Year**
Administrative & Operating Costs =		$1,081,058	
Incentive Costs =		$492,367	
16) Total Utility Project Costs =		$1,573,425	
17) Direct Participant Costs ($/Part.) =		$2,112	
18) Participant Non-Energy Costs (Annual $/Part.) =		$0	
Escalation Rate =		1.73%	
19) Participant Non-Energy Savings (Annual $/Part) =		$3	
Escalation Rate =		1.73%	
20) Project Life (Years) =		20.0	
21) Avg. Dth/Part. Saved =		31.79	
22) Avg Non-Gas Fuel Units/Part. Saved =		0 kWh	
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =		0 kWh	
23) Number of Participants =		960	
24) Total Annual Dth Saved =		30,514	
25) Incentive/Participant =		$512.88	

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		$1,639	
Cost per Participant per Dth =		$118.02	
Lifetime Energy Reduction (Dth)		609,936	
Societal Cost per Dth		$4.60	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($2,256,408)	0.54
Utility Cost Test	$1,027,849	1.65
Societal Test	$1,331,779	1.48
Participant Test	$3,381,163	2.67

Conservation Improvement Program (CIP) BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis **ACTUAL**

Company: **Xcel Energy**
Project: **Efficient New Home Construction**

Input Data	
1) Retail Rate ($/Dth) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 **First Year**	2018 **Second Year**	2019 **Third Year**
Administrative & Operating Costs =		$706,533	
Incentive Costs =		$542,166	
16) Total Utility Project Costs =		$1,248,699	
17) Direct Participant Costs ($/Part.) =		$1,664	
18) Participant Non-Energy Costs (Annual $/Part.) =		$0	
Escalation Rate =		1.73%	
19) Participant Non-Energy Savings (Annual $/Part) =		$1	
Escalation Rate =		1.73%	
20) Project Life (Years) =		20.0	
21) Avg. Dth/Part. Saved =		24.38	
22) Avg Non-Gas Fuel Units/Part. Saved =		0 kWh	
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =		0 kWh	
23) Number of Participants =		1,425	
24) Total Annual Dth Saved =		34,748	
25) Incentive/Participant =		$380.47	

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		$876	
Cost per Participant per Dth =		$104.17	
Lifetime Energy Reduction (Dth)		694,585	
Societal Cost per Dth		$4.43	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($2,026,620)	0.59
Utility Cost Test	$1,714,162	2.37
Societal Test	$1,609,299	1.52
Participant Test	$3,748,701	2.58

RESIDENTIAL HEATING 2018 ELECTRIC GOAL

2018 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$1,050,950	$1,050,950	$1,050,950	$1,050,950
T & D	N/A	$640,170	$640,170	$640,170	$640,170
Marginal Energy	N/A	$2,893,779	$2,893,779	$2,893,779	$2,893,779
Environmental Externality	N/A	N/A	N/A	N/A	$954,757
Subtotal	N/A	$4,584,898	$4,584,898	$4,584,898	$5,539,656
Participant Benefits					
Bill Reduction - Electric	$11,133,582	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$1,000,000	N/A	N/A	$1,000,000	$1,000,000
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$12,133,582	N/A	N/A	$1,000,000	$1,000,000
Total Benefits	$12,133,582	$4,584,898	$4,584,898	$5,584,898	$6,539,656
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$75,456	$75,456	$75,456	$75,456
Advertising & Promotion	N/A	$136,240	$136,240	$136,240	$136,240
Measurement & Verification	N/A	$13,017	$13,017	$13,017	$13,017
Rebates	N/A	$1,000,000	$1,000,000	$1,000,000	$1,000,000
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$1,224,713	$1,224,713	$1,224,713	$1,224,713
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$11,133,582	N/A	N/A
Subtotal	N/A	N/A	$11,133,582	N/A	N/A
Participant Costs					
Incremental Capital Costs	$2,120,000	N/A	N/A	$2,120,000	$2,120,000
Incremental O&M Costs	$1,626,612	N/A	N/A	$1,626,612	$1,626,612
Subtotal	$3,746,612	N/A	N/A	$3,746,612	$3,746,612
Total Costs	$3,746,612	$1,224,713	$12,358,295	$4,971,325	$4,971,325
Net Benefit (Cost)	$8,386,969	$3,360,185	($7,773,397)	$613,573	$1,568,330
Benefit/Cost Ratio	3.24	3.74	0.37	1.12	1.32

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	17.9 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	66.03%
Gross Load Factor at Customer	E	39.50%
Transmission Loss Factor (Energy)	F	8.400%
Transmission Loss Factor (Demand)	G	8.800%
Societal Net Benefit (Cost)	H	$822.90

Program Summary per Participant		
Gross kW Saved at Customer	I	0.19 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.14 kW
Gross Annual kWh Saved at Customer	(B x E x I)	659 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	720 kWh

Program Summary All Participants		
Total Participants	J	10,000
Total Budget	K	**$1,224,713**
Gross kW Saved at Customer	(J x I)	1,906 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**1,380 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	6,594,400 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**7,199,127 kWh**
Societal Net Benefits	(J x I x H)	**$1,568,330**

Utility Program Cost per kWh Lifetime	**$0.0095**
Utility Program Cost per kW at Gen	**$888**

RESIDENTIAL HEATING 2018 ELECTRIC ACTUAL

2018 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$1,611,586	$1,611,586	$1,611,586	$1,611,586
T & D	N/A	$981,675	$981,675	$981,675	$981,675
Marginal Energy	N/A	$4,427,780	$4,427,780	$4,427,780	$4,427,780
Environmental Externality	N/A	N/A	N/A	N/A	$1,461,016
Subtotal	N/A	$7,021,042	$7,021,042	$7,021,042	$8,482,058
Participant Benefits					
Bill Reduction - Electric	$17,038,368	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$1,511,600	N/A	N/A	$1,511,600	$1,511,600
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$18,549,968	N/A	N/A	$1,511,600	$1,511,600
Total Benefits	$18,549,968	$7,021,042	$7,021,042	$8,532,642	$9,993,658
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$83,005	$83,005	$83,005	$83,005
Advertising & Promotion	N/A	$114,142	$114,142	$114,142	$114,142
Measurement & Verification	N/A	$11,044	$11,044	$11,044	$11,044
Rebates	N/A	$1,511,600	$1,511,600	$1,511,600	$1,511,600
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$1,719,791	$1,719,791	$1,719,791	$1,719,791
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$17,038,368	N/A	N/A
Subtotal	N/A	N/A	$17,038,368	N/A	N/A
Participant Costs					
Incremental Capital Costs	$3,201,624	N/A	N/A	$3,201,624	$3,201,624
Incremental O&M Costs	$2,460,125	N/A	N/A	$2,460,125	$2,460,125
Subtotal	$5,661,749	N/A	N/A	$5,661,749	$5,661,749
Total Costs	$5,661,749	$1,719,791	$18,758,159	$7,381,540	$7,381,540
Net Benefit (Cost)	$12,888,219	$5,301,250	($11,737,118)	$1,151,101	$2,612,118
Benefit/Cost Ratio	3.28	4.08	0.37	1.16	1.35

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	17.9 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	67.18%
Gross Load Factor at Customer	E	40.08%
Transmission Loss Factor (Energy)	F	8.400%
Transmission Loss Factor (Demand)	G	8.800%
Societal Net Benefit (Cost)	H	$909.78

Program Summary per Participant		
Gross kW Saved at Customer	I	0.19 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.14 kW
Gross Annual kWh Saved at Customer	(B x E x I)	677 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	739 kWh

Program Summary All Participants		
Total Participants	J	14,885
Total Budget	K	**$1,719,791**
Gross kW Saved at Customer	(J x I)	2,871 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**2,115 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	10,080,411 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**11,004,816 kWh**
Societal Net Benefits	(J x I x H)	**$2,612,118**

Utility Program Cost per kWh Lifetime	**$0.0087**
Utility Program Cost per kW at Gen	**$813**

Conservation Improvement Program (CIP) BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis **GOAL**

Company: **Xcel Energy**
Project: **Residential Heating**

Input Data	
1) Retail Rate ($/Dth) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 **First Year**	2018 **Second Year**	2019 **Third Year**
Administrative & Operating Costs =		$371,840	
Incentive Costs =		$2,130,700	
16) Total Utility Project Costs =		$2,502,540	
17) Direct Participant Costs ($/Part.) =		$592	
18) Participant Non-Energy Costs (Annual $/Part.) =		$0	
Escalation Rate =		1.73%	
19) Participant Non-Energy Savings (Annual $/Part) =		$0	
Escalation Rate =		1.73%	
20) Project Life (Years) =		18.1	
21) Avg. Dth/Part. Saved =		9.82	
22) Avg Non-Gas Fuel Units/Part. Saved =		0 kWh	
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =		0 kWh	
23) Number of Participants =		12,222	
24) Total Annual Dth Saved =		120,000	
25) Incentive/Participant =		$174.33	

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		$205	
Cost per Participant per Dth =		$81.15	
Lifetime Energy Reduction (Dth)		2,171,608	
Societal Cost per Dth		$3.50	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($4,995,105)	0.66
Utility Cost Test	$6,990,875	3.79
Societal Test	$6,805,886	1.89
Participant Test	$12,039,874	2.66

Conservation Improvement Program (CIP) BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis **ACTUAL**

Company: **Xcel Energy**
Project: **Residential Heating**

Input Data	
1) Retail Rate ($/Dth) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 **First Year**	2018 **Second Year**	2019 **Third Year**
Administrative & Operating Costs =		$309,551	
Incentive Costs =		$2,608,650	
16) Total Utility Project Costs =		$2,918,201	
17) Direct Participant Costs ($/Part.) =		$1,072	
18) Participant Non-Energy Costs (Annual $/Part.) =		$0	
Escalation Rate =		1.73%	
19) Participant Non-Energy Savings (Annual $/Part) =		$0	
Escalation Rate =		1.73%	
20) Project Life (Years) =		18.4	
21) Avg. Dth/Part. Saved =		17.65	
22) Avg Non-Gas Fuel Units/Part. Saved =		0 kWh	
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =		0 kWh	
23) Number of Participants =		8,467	
24) Total Annual Dth Saved =		149,476	
25) Incentive/Participant =		$308.10	

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		$345	
Cost per Participant per Dth =		$80.26	
Lifetime Energy Reduction (Dth)		2,705,032	
Societal Cost per Dth		$3.47	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($6,062,661)	0.66
Utility Cost Test	$9,058,080	4.10
Societal Test	$8,914,871	1.95
Participant Test	$15,305,832	2.69

HOME ENERGY SQUAD 2018 ELECTRIC GOAL

2018 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$197,460	$197,460	$197,460	$197,460
T & D	N/A	$119,679	$119,679	$119,679	$119,679
Marginal Energy	N/A	$858,524	$858,524	$858,524	$858,524
Environmental Externality	N/A	N/A	N/A	N/A	$253,911
Subtotal	N/A	$1,175,663	$1,175,663	$1,175,663	$1,429,574
Participant Benefits					
Bill Reduction - Electric	$2,798,095	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$0	N/A	N/A	$0	$0
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$272,411	N/A	N/A	$22,700	$22,700
Subtotal	$3,070,506	N/A	N/A	$22,700	$22,700
Total Benefits	$3,070,506	$1,175,663	$1,175,663	$1,198,363	$1,452,274
Costs					
Utility Project Costs					
Customer Services	N/A	$438,581	$438,581	$438,581	$438,581
Project Administration	N/A	$176,120	$176,120	$176,120	$176,120
Advertising & Promotion	N/A	$269,920	$269,920	$269,920	$269,920
Measurement & Verification	N/A	$0	$0	$0	$0
Rebates	N/A	$0	$0	$0	$0
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$884,621	$884,621	$884,621	$884,621
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$2,798,095	N/A	N/A
Subtotal	N/A	N/A	$2,798,095	N/A	N/A
Participant Costs					
Incremental Capital Costs	$204,455	N/A	N/A	$67,968	$67,968
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$204,455	N/A	N/A	$67,968	$67,968
Total Costs	$204,455	$884,621	$3,682,716	$952,588	$952,588
Net Benefit (Cost)	$2,866,051	$291,043	($2,507,052)	$245,775	$499,686
Benefit/Cost Ratio	15.02	1.33	0.32	1.26	1.52

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	6.5 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	12.07%
Gross Load Factor at Customer	E	11.15%
Transmission Loss Factor (Energy)	F	8.400%
Transmission Loss Factor (Demand)	G	8.800%
Societal Net Benefit (Cost)	H	$125.69

Program Summary per Participant		
Gross kW Saved at Customer	I	0.74 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.10 kW
Gross Annual kWh Saved at Customer	(B x E x I)	723 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	789 kWh

Program Summary All Participants		
Total Participants	J	5,371
Total Budget	K	**$884,621**
Gross kW Saved at Customer	(J x I)	3,975 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**526 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	3,883,008 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**4,239,092 kWh**
Societal Net Benefits	(J x I x H)	**$499,686**

Utility Program Cost per kWh Lifetime	**$0.0321**
Utility Program Cost per kW at Gen	**$1,682**

HOME ENERGY SQUAD 2018 ELECTRIC ACTUAL

2018 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$207,478	$207,478	$207,478	$207,478
T & D	N/A	$125,653	$125,653	$125,653	$125,653
Marginal Energy	N/A	$1,021,752	$1,021,752	$1,021,752	$1,021,752
Environmental Externality	N/A	N/A	N/A	N/A	$303,589
Subtotal	N/A	$1,354,884	$1,354,884	$1,354,884	$1,658,473
Participant Benefits					
Bill Reduction - Electric	$3,343,893	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$0	N/A	N/A	$0	$0
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$72,739	N/A	N/A	$72,739	$72,739
Subtotal	$3,416,633	N/A	N/A	$72,739	$72,739
Total Benefits	$3,416,633	$1,354,884	$1,354,884	$1,427,623	$1,731,212
Costs					
Utility Project Costs					
Customer Services	N/A	$345,677	$345,677	$345,677	$345,677
Project Administration	N/A	$201,955	$201,955	$201,955	$201,955
Advertising & Promotion	N/A	$98,427	$98,427	$98,427	$98,427
Measurement & Verification	N/A	$0	$0	$0	$0
Rebates	N/A	$0	$0	$0	$0
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$646,060	$646,060	$646,060	$646,060
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$3,343,893	N/A	N/A
Subtotal	N/A	N/A	$3,343,893	N/A	N/A
Participant Costs					
Incremental Capital Costs	$120	N/A	N/A	$120	$120
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$120	N/A	N/A	$120	$120
Total Costs	$120	$646,060	$3,989,953	$646,180	$646,180
Net Benefit (Cost)	$3,416,513	$708,824	($2,635,069)	$781,443	$1,085,032
Benefit/Cost Ratio	28,471.94	2.10	0.34	2.21	2.68

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	6.3 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	11.18%
Gross Load Factor at Customer	E	10.70%
Transmission Loss Factor (Energy)	F	8.400%
Transmission Loss Factor (Demand)	G	8.800%
Societal Net Benefit (Cost)	H	$214.83

Program Summary per Participant		
Gross kW Saved at Customer	I	1.37 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.17 kW
Gross Annual kWh Saved at Customer	(B x E x I)	1,286 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	1,404 kWh

Program Summary All Participants		
Total Participants	J	3,682
Total Budget	K	**$646,060**
Gross kW Saved at Customer	(J x I)	5,051 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**619 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	4,734,983 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**5,169,195 kWh**
Societal Net Benefits	(J x I x H)	**$1,085,032**

Utility Program Cost per kWh Lifetime	**$0.0197**
Utility Program Cost per kW at Gen	**$1,044**

Conservation Improvement Program (CIP) BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis **GOAL**

Company: **Xcel Energy**
Project: **Home Energy Squad**

Input Data	
1) Retail Rate ($/Dth) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 **First Year**	2018 **Second Year**	2019 **Third Year**
Administrative & Operating Costs =		$1,296,594	
Incentive Costs =		$0	
16) Total Utility Project Costs =		$1,296,594	
17) Direct Participant Costs ($/Part.) =		$70	
18) Participant Non-Energy Costs (Annual $/Part.) =		$0	
Escalation Rate =		1.73%	
19) Participant Non-Energy Savings (Annual $/Part) =		$27	
Escalation Rate =		1.73%	
20) Project Life (Years) =		9.7	
21) Avg. Dth/Part. Saved =		9.21	
22) Avg Non-Gas Fuel Units/Part. Saved =		0 kWh	
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =		0 kWh	
23) Number of Participants =		2,200	
24) Total Annual Dth Saved =		20,261	
25) Incentive/Participant =		$0.00	

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		$589	
Cost per Participant per Dth =		$71.64	
Lifetime Energy Reduction (Dth)		196,405	
Societal Cost per Dth		$7.30	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($1,512,198)	0.35
Utility Cost Test	($475,423)	0.63
Societal Test	$66,317	1.05
Participant Test	$1,612,498	11.40

Conservation Improvement Program (CIP) BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis **ACTUAL**

Company: **Xcel Energy**
Project: **Home Energy Squad**

Input Data	
1) Retail Rate ($/Dth) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 **First Year**	2018 **Second Year**	2019 **Third Year**
Administrative & Operating Costs =		$678,002	
Incentive Costs =		$0	
16) Total Utility Project Costs =		$678,002	
17) Direct Participant Costs ($/Part.) =		$1	
18) Participant Non-Energy Costs (Annual $/Part.) =		$0	
Escalation Rate =		1.73%	
19) Participant Non-Energy Savings (Annual $/Part) =		$38	
Escalation Rate =		1.73%	
20) Project Life (Years) =		9.7	
21) Avg. Dth/Part. Saved =		6.64	
22) Avg Non-Gas Fuel Units/Part. Saved =		0 kWh	
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =		0 kWh	
23) Number of Participants =		1,301	
24) Total Annual Dth Saved =		8,636	
25) Incentive/Participant =		$0.00	

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		$521	
Cost per Participant per Dth =		$78.62	
Lifetime Energy Reduction (Dth)		83,718	
Societal Cost per Dth		$8.11	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($785,578)	0.34
Utility Cost Test	($268,277)	0.60
Societal Test	$271,386	1.40
Participant Test	$1,046,017	1,047.02

HOME LIGHTING 2018 ELECTRIC GOAL

2018 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$2,502,531	$2,502,531	$2,502,531	$2,502,531
T & D	N/A	$1,514,821	$1,514,821	$1,514,821	$1,514,821
Marginal Energy	N/A	$15,251,688	$15,251,688	$15,251,688	$15,251,688
Environmental Externality	N/A	N/A	N/A	N/A	$4,539,445
Subtotal	N/A	$19,269,040	$19,269,040	$19,269,040	$23,808,485
Participant Benefits					
Bill Reduction - Electric	$51,335,409	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$4,513,647	N/A	N/A	$4,513,647	$4,513,647
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$55,849,056	N/A	N/A	$4,513,647	$4,513,647
Total Benefits	$55,849,056	$19,269,040	$19,269,040	$23,782,687	$28,322,132
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$1,252,004	$1,252,004	$1,252,004	$1,252,004
Advertising & Promotion	N/A	$1,758,950	$1,758,950	$1,758,950	$1,758,950
Measurement & Verification	N/A	$10,000	$10,000	$10,000	$10,000
Rebates	N/A	$4,513,647	$4,513,647	$4,513,647	$4,513,647
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$7,534,601	$7,534,601	$7,534,601	$7,534,601
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$51,335,409	N/A	N/A
Subtotal	N/A	N/A	$51,335,409	N/A	N/A
Participant Costs					
Incremental Capital Costs	$8,783,751	N/A	N/A	$8,783,751	$8,783,751
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$8,783,751	N/A	N/A	$8,783,751	$8,783,751
Total Costs	$8,783,751	$7,534,601	$58,870,010	$16,318,352	$16,318,352
Net Benefit (Cost)	$47,065,306	$11,734,439	($39,600,970)	$7,464,336	$12,003,781
Benefit/Cost Ratio	6.36	2.56	0.33	1.46	1.74

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	5.1 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	12.45%
Gross Load Factor at Customer	E	13.62%
Transmission Loss Factor (Energy)	F	8.400%
Transmission Loss Factor (Demand)	G	8.800%
Societal Net Benefit (Cost)	H	$159.95

Program Summary per Participant		
Gross kW Saved at Customer	I	0.48 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.06 kW
Gross Annual kWh Saved at Customer	(B x E x I)	568 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	620 kWh

Program Summary All Participants		
Total Participants	J	157,787
Total Budget	K	**$7,534,601**
Gross kW Saved at Customer	(J x I)	75,049 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**10,242 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	89,563,163 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**97,776,379 kWh**
Societal Net Benefits	(J x I x H)	**$12,003,781**

Utility Program Cost per kWh Lifetime	**$0.0152**
Utility Program Cost per kW at Gen	**$736**

HOME LIGHTING 2018 ELECTRIC ACTUAL

2018 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$3,948,963	$3,948,963	$3,948,963	$3,948,963
T & D	N/A	$2,390,246	$2,390,246	$2,390,246	$2,390,246
Marginal Energy	N/A	$22,890,804	$22,890,804	$22,890,804	$22,890,804
Environmental Externality	N/A	N/A	N/A	N/A	$6,871,465
Subtotal	N/A	$29,230,012	$29,230,012	$29,230,012	$36,101,477
Participant Benefits					
Bill Reduction - Electric	$76,857,059	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$4,015,337	N/A	N/A	$4,015,337	$4,015,337
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$80,872,396	N/A	N/A	$4,015,337	$4,015,337
Total Benefits	$80,872,396	$29,230,012	$29,230,012	$33,245,349	$40,116,814
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$646,952	$646,952	$646,952	$646,952
Advertising & Promotion	N/A	$467,124	$467,124	$467,124	$467,124
Measurement & Verification	N/A	$0	$0	$0	$0
Rebates	N/A	$4,015,337	$4,015,337	$4,015,337	$4,015,337
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$5,129,413	$5,129,413	$5,129,413	$5,129,413
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$76,857,059	N/A	N/A
Subtotal	N/A	N/A	$76,857,059	N/A	N/A
Participant Costs					
Incremental Capital Costs	$4,676,109	N/A	N/A	$4,676,109	$4,676,109
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$4,676,109	N/A	N/A	$4,676,109	$4,676,109
Total Costs	$4,676,109	$5,129,413	$81,986,472	$9,805,522	$9,805,522
Net Benefit (Cost)	$76,196,287	$24,100,599	($52,756,460)	$23,439,827	$30,311,292
Benefit/Cost Ratio	17.29	5.70	0.36	3.39	4.09

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	5.3 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	12.35%
Gross Load Factor at Customer	E	13.61%
Transmission Loss Factor (Energy)	F	7.897%
Transmission Loss Factor (Demand)	G	8.694%
Societal Net Benefit (Cost)	H	$277.70

Program Summary per Participant		
Gross kW Saved at Customer	I	0.50 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.07 kW
Gross Annual kWh Saved at Customer	(B x E x I)	597 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	648 kWh

Program Summary All Participants		
Total Participants	J	218,193
Total Budget	K	**$5,129,413**
Gross kW Saved at Customer	(J x I)	109,151 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**14,768 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	130,176,525 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**141,337,867 kWh**
Societal Net Benefits	(J x I x H)	**$30,311,292**

Utility Program Cost per kWh Lifetime	**$0.0068**
Utility Program Cost per kW at Gen	**$347**

WHOLE HOME EFFICIENCY 2018 ELECTRIC GOAL

2018 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$86,693	$86,693	$86,693	$86,693
T & D	N/A	$52,755	$52,755	$52,755	$52,755
Marginal Energy	N/A	$56,398	$56,398	$56,398	$56,398
Environmental Externality	N/A	N/A	N/A	N/A	$17,024
Subtotal	N/A	$195,845	$195,845	$195,845	$212,869
Participant Benefits					
Bill Reduction - Electric	$187,354	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$32,131	N/A	N/A	$32,131	$32,131
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$219,485	N/A	N/A	$32,131	$32,131
Total Benefits	$219,485	$195,845	$195,845	$227,976	$245,000
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$45,840	$45,840	$45,840	$45,840
Advertising & Promotion	N/A	$14,415	$14,415	$14,415	$14,415
Measurement & Verification	N/A	$30,000	$30,000	$30,000	$30,000
Rebates	N/A	$32,131	$32,131	$32,131	$32,131
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$122,386	$122,386	$122,386	$122,386
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$187,354	N/A	N/A
Subtotal	N/A	N/A	$187,354	N/A	N/A
Participant Costs					
Incremental Capital Costs	$105,449	N/A	N/A	$105,449	$105,449
Incremental O&M Costs	$3,532	N/A	N/A	$3,532	$3,532
Subtotal	$108,981	N/A	N/A	$108,981	$108,981
Total Costs	$108,981	$122,386	$309,740	$231,367	$231,367
Net Benefit (Cost)	$110,504	$73,459	($113,895)	($3,391)	$13,633
Benefit/Cost Ratio	2.01	1.60	0.63	0.99	1.06

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	11.7 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	67.64%
Gross Load Factor at Customer	E	10.48%
Transmission Loss Factor (Energy)	F	8.400%
Transmission Loss Factor (Demand)	G	8.800%
Societal Net Benefit (Cost)	H	$75.57

Program Summary per Participant		
Gross kW Saved at Customer	I	0.79 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.58 kW
Gross Annual kWh Saved at Customer	(B x E x I)	723 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	789 kWh

Program Summary All Participants		
Total Participants	J	229
Total Budget	K	**$122,386**
Gross kW Saved at Customer	(J x I)	180 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**134 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	165,633 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**180,822 kWh**
Societal Net Benefits	(J x I x H)	**$13,633**

Utility Program Cost per kWh Lifetime	**$0.0580**
Utility Program Cost per kW at Gen	**$915**

WHOLE HOME EFFICIENCY — 2018 ELECTRIC — ACTUAL

2018 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$25,450	$25,450	$25,450	$25,450
T & D	N/A	$15,499	$15,499	$15,499	$15,499
Marginal Energy	N/A	$12,044	$12,044	$12,044	$12,044
Environmental Externality	N/A	N/A	N/A	N/A	$3,636
Subtotal	N/A	$52,993	$52,993	$52,993	$56,629
Participant Benefits					
Bill Reduction - Electric	$40,166	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$8,289	N/A	N/A	$8,289	$8,289
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$48,455	N/A	N/A	$8,289	$8,289
Total Benefits	$48,455	$52,993	$52,993	$61,282	$64,918
Costs					
Utility Project Costs					
Customer Services	N/A	$1,410	$1,410	$1,410	$1,410
Project Administration	N/A	$12,741	$12,741	$12,741	$12,741
Advertising & Promotion	N/A	($368)	($368)	($368)	($368)
Measurement & Verification	N/A	$0	$0	$0	$0
Rebates	N/A	$8,289	$8,289	$8,289	$8,289
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$22,072	$22,072	$22,072	$22,072
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$40,166	N/A	N/A
Subtotal	N/A	N/A	$40,166	N/A	N/A
Participant Costs					
Incremental Capital Costs	$26,095	N/A	N/A	$26,095	$26,095
Incremental O&M Costs	$479	N/A	N/A	$479	$479
Subtotal	$26,575	N/A	N/A	$26,575	$26,575
Total Costs	$26,575	$22,072	$62,238	$48,647	$48,647
Net Benefit (Cost)	$21,880	$30,921	($9,245)	$12,635	$16,271
Benefit/Cost Ratio	1.82	2.40	0.85	1.26	1.33

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	14.7 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	84.14%
Gross Load Factor at Customer	E	8.72%
Transmission Loss Factor (Energy)	F	8.400%
Transmission Loss Factor (Demand)	G	8.800%
Societal Net Benefit (Cost)	H	$420.66

Program Summary per Participant		
Gross kW Saved at Customer	I	1.11 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	1.02 kW
Gross Annual kWh Saved at Customer	(B x E x I)	844 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	921 kWh

Program Summary All Participants		
Total Participants	J	35
Total Budget	K	**$22,072**
Gross kW Saved at Customer	(J x I)	39 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**36 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	29,531 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**32,239 kWh**
Societal Net Benefits	(J x I x H)	**$16,271**

Utility Program Cost per kWh Lifetime	**$0.0464**
Utility Program Cost per kW at Gen	**$619**

Conservation Improvement Program (CIP) BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis **GOAL**

Company: **Xcel Energy**
Project: **Whole Home Efficiency**

Input Data	
1) Retail Rate ($/Dth) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 **First Year**	2018 **Second Year**	2019 **Third Year**
Administrative & Operating Costs =		$203,834	
Incentive Costs =		$87,391	
16) Total Utility Project Costs =		$291,225	
17) Direct Participant Costs ($/Part.) =		$2,691	
18) Participant Non-Energy Costs (Annual $/Part.) =		$0	
Escalation Rate =		1.73%	
19) Participant Non-Energy Savings (Annual $/Part) =		$20	
Escalation Rate =		1.73%	
20) Project Life (Years) =		15.4	
21) Avg. Dth/Part. Saved =		40.38	
22) Avg Non-Gas Fuel Units/Part. Saved =		0 kWh	
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =		0 kWh	
23) Number of Participants =		200	
24) Total Annual Dth Saved =		8,077	
25) Incentive/Participant =		$436.95	

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		$1,456	
Cost per Participant per Dth =		$102.68	
Lifetime Energy Reduction (Dth)		124,452	
Societal Cost per Dth		$5.96	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($436,547)	0.56
Utility Cost Test	$262,533	1.90
Societal Test	$117,047	1.16
Participant Test	$563,083	2.05

Conservation Improvement Program (CIP) BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis **ACTUAL**

Company: **Xcel Energy**
Project: **Whole Home Efficiency**

Input Data	
1) Retail Rate ($/Dth) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 **First Year**	2018 **Second Year**	2019 **Third Year**
Administrative & Operating Costs =		$29,268	
Incentive Costs =		$31,996	
16) Total Utility Project Costs =		$61,264	
17) Direct Participant Costs ($/Part.) =		$3,994	
18) Participant Non-Energy Costs (Annual $/Part.) =		$0	
Escalation Rate =		1.73%	
19) Participant Non-Energy Savings (Annual $/Part) =		$0	
Escalation Rate =		1.73%	
20) Project Life (Years) =		16.3	
21) Avg. Dth/Part. Saved =		67.58	
22) Avg Non-Gas Fuel Units/Part. Saved =		0 kWh	
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =		0 kWh	
23) Number of Participants =		35	
24) Total Annual Dth Saved =		2,365	
25) Incentive/Participant =		$914.17	

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		$1,750	
Cost per Participant per Dth =		$85.00	
Lifetime Energy Reduction (Dth)		36,444	
Societal Cost per Dth		$4.64	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($105,967)	0.62
Utility Cost Test	$108,997	2.78
Societal Test	$86,886	1.51
Participant Test	$196,593	2.41

INSULATION REBATE 2018 ELECTRIC GOAL

2018 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$106,667	$106,667	$106,667	$106,667
T & D	N/A	$64,979	$64,979	$64,979	$64,979
Marginal Energy	N/A	$659,188	$659,188	$659,188	$659,188
Environmental Externality	N/A	N/A	N/A	N/A	$191,861
Subtotal	N/A	$830,834	$830,834	$830,834	$1,022,694
Participant Benefits					
Bill Reduction - Electric	$2,096,472	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$188,604	N/A	N/A	$188,604	$188,604
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$866,755	N/A	N/A	$0	$0
Subtotal	$3,151,831	N/A	N/A	$188,604	$188,604
Total Benefits	$3,151,831	$830,834	$830,834	$1,019,438	$1,211,298
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$25,500	$25,500	$25,500	$25,500
Advertising & Promotion	N/A	$8,000	$8,000	$8,000	$8,000
Measurement & Verification	N/A	$3,900	$3,900	$3,900	$3,900
Rebates	N/A	$188,604	$188,604	$188,604	$188,604
Other	N/A	$3,200	$3,200	$3,200	$3,200
Subtotal	N/A	$229,204	$229,204	$229,204	$229,204
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$2,096,472	N/A	N/A
Subtotal	N/A	N/A	$2,096,472	N/A	N/A
Participant Costs					
Incremental Capital Costs	$1,422,467	N/A	N/A	$587,619	$587,619
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$1,422,467	N/A	N/A	$587,619	$587,619
Total Costs	$1,422,467	$229,204	$2,325,676	$816,823	$816,823
Net Benefit (Cost)	$1,729,364	$601,630	($1,494,842)	$202,615	$394,476
Benefit/Cost Ratio	2.22	3.62	0.36	1.25	1.48

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	19.1 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	13.40%
Gross Load Factor at Customer	E	14.89%
Transmission Loss Factor (Energy)	F	8.400%
Transmission Loss Factor (Demand)	G	8.800%
Societal Net Benefit (Cost)	H	$400.15

Program Summary per Participant		
Gross kW Saved at Customer	I	1.83 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.27 kW
Gross Annual kWh Saved at Customer	(B x E x I)	2,390 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	2,609 kWh

Program Summary All Participants		
Total Participants	J	538
Total Budget	K	**$229,204**
Gross kW Saved at Customer	(J x I)	986 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**145 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	1,285,689 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**1,403,591 kWh**
Societal Net Benefits	(J x I x H)	**$394,476**

Utility Program Cost per kWh Lifetime	**$0.0085**
Utility Program Cost per kW at Gen	**$1,583**

INSULATION REBATE 2018 ELECTRIC ACTUAL

2018 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$157,083	$157,083	$157,083	$157,083
T & D	N/A	$95,606	$95,606	$95,606	$95,606
Marginal Energy	N/A	$159,329	$159,329	$159,329	$159,329
Environmental Externality	N/A	N/A	N/A	N/A	$45,512
Subtotal	N/A	$412,019	$412,019	$412,019	$457,530
Participant Benefits					
Bill Reduction - Electric	$487,501	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$43,746	N/A	N/A	$43,746	$43,746
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$531,248	N/A	N/A	$43,746	$43,746
Total Benefits	$531,248	$412,019	$412,019	$455,765	$501,277
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$9,883	$9,883	$9,883	$9,883
Advertising & Promotion	N/A	$232	$232	$232	$232
Measurement & Verification	N/A	$3,300	$3,300	$3,300	$3,300
Rebates	N/A	$43,746	$43,746	$43,746	$43,746
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$57,161	$57,161	$57,161	$57,161
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$487,501	N/A	N/A
Subtotal	N/A	N/A	$487,501	N/A	N/A
Participant Costs					
Incremental Capital Costs	$358,247	N/A	N/A	$358,247	$358,247
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$358,247	N/A	N/A	$358,247	$358,247
Total Costs	$358,247	$57,161	$544,662	$415,408	$415,408
Net Benefit (Cost)	$173,001	$354,857	($132,644)	$40,357	$85,868
Benefit/Cost Ratio	1.48	7.21	0.76	1.10	1.21

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	15.4 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	60.18%
Gross Load Factor at Customer	E	11.31%
Transmission Loss Factor (Energy)	F	8.400%
Transmission Loss Factor (Demand)	G	8.800%
Societal Net Benefit (Cost)	H	$239.44

Program Summary per Participant		
Gross kW Saved at Customer	I	0.62 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.41 kW
Gross Annual kWh Saved at Customer	(B x E x I)	615 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	671 kWh

Program Summary All Participants		
Total Participants	J	578
Total Budget	K	**$57,161**
Gross kW Saved at Customer	(J x I)	359 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**237 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	355,421 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**388,014 kWh**
Societal Net Benefits	(J x I x H)	**$85,868**

Utility Program Cost per kWh Lifetime	**$0.0096**
Utility Program Cost per kW at Gen	**$242**

Conservation Improvement Program (CIP) BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis **GOAL**

Company: **Xcel Energy**
Project: **Insulation Rebate**

Input Data	
1) Retail Rate ($/Dth) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 **First Year**	2018 **Second Year**	2019 **Third Year**
Administrative & Operating Costs =		$93,860	
Incentive Costs =		$214,517	
16) Total Utility Project Costs =		$308,377	
17) Direct Participant Costs ($/Part.) =		$2,207	
18) Participant Non-Energy Costs (Annual $/Part.) =		$0	
Escalation Rate =		1.73%	
19) Participant Non-Energy Savings (Annual $/Part) =		$0	
Escalation Rate =		1.73%	
20) Project Life (Years) =		18.2	
21) Avg. Dth/Part. Saved =		23.77	
22) Avg Non-Gas Fuel Units/Part. Saved =		0 kWh	
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =		0 kWh	
23) Number of Participants =		704	
24) Total Annual Dth Saved =		16,731	
25) Incentive/Participant =		$304.71	

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		$438	
Cost per Participant per Dth =		$111.28	
Lifetime Energy Reduction (Dth)		303,679	
Societal Cost per Dth		$4.98	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($653,353)	0.67
Utility Cost Test	$1,005,530	4.26
Societal Test	$516,674	1.34
Participant Test	$1,215,656	1.78

Conservation Improvement Program (CIP)

BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis

ACTUAL

Company: **Xcel Energy**
Project: **Insulation Rebate**

Input Data	
1) Retail Rate ($/Dth) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 **First Year**	2018 **Second Year**	2019 **Third Year**
Administrative & Operating Costs =		$32,373	
Incentive Costs =		$232,488	
16) Total Utility Project Costs =		$264,860	
17) Direct Participant Costs ($/Part.) =		$3,039	
18) Participant Non-Energy Costs (Annual $/Part.) =		$0	
Escalation Rate =		1.73%	
19) Participant Non-Energy Savings (Annual $/Part) =		$0	
Escalation Rate =		1.73%	
20) Project Life (Years) =		14.4	
21) Avg. Dth/Part. Saved =		34.51	
22) Avg Non-Gas Fuel Units/Part. Saved =		0 kWh	
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =		0 kWh	
23) Number of Participants =		626	
24) Total Annual Dth Saved =		21,606	
25) Incentive/Participant =		$371.39	

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		$423	
Cost per Participant per Dth =		$100.32	
Lifetime Energy Reduction (Dth)		392,155	
Societal Cost per Dth		$4.93	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($632,080)	0.69
Utility Cost Test	$1,133,767	5.28
Societal Test	$99,994	1.05
Participant Test	$747,993	1.39

REFRIGERATOR RECYCLING 2018 ELECTRIC GOAL

2018 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$341,591	$341,591	$341,591	$341,591
T & D	N/A	$207,082	$207,082	$207,082	$207,082
Marginal Energy	N/A	$1,627,135	$1,627,135	$1,627,135	$1,627,135
Environmental Externality	N/A	N/A	N/A	N/A	$529,063
Subtotal	N/A	$2,175,807	$2,175,807	$2,175,807	$2,704,870
Participant Benefits					
Bill Reduction - Electric	$5,729,454	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$234,500	N/A	N/A	$234,500	$234,500
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$5,963,954	N/A	N/A	$234,500	$234,500
Total Benefits	$5,963,954	$2,175,807	$2,175,807	$2,410,307	$2,939,370
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$509,470	$509,470	$509,470	$509,470
Advertising & Promotion	N/A	$206,944	$206,944	$206,944	$206,944
Measurement & Verification	N/A	$0	$0	$0	$0
Rebates	N/A	$234,500	$234,500	$234,500	$234,500
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$950,914	$950,914	$950,914	$950,914
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$5,729,454	N/A	N/A
Subtotal	N/A	N/A	$5,729,454	N/A	N/A
Participant Costs					
Incremental Capital Costs	$0	N/A	N/A	$0	$0
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$0	N/A	N/A	$0	$0
Total Costs	$0	$950,914	$6,680,368	$950,914	$950,914
Net Benefit (Cost)	$5,963,954	$1,224,893	($4,504,562)	$1,459,393	$1,988,456
Benefit/Cost Ratio	INF	2.29	0.33	2.53	3.09

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	8.1 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	63.84%
Gross Load Factor at Customer	E	63.84%
Transmission Loss Factor (Energy)	F	8.400%
Transmission Loss Factor (Demand)	G	8.800%
Societal Net Benefit (Cost)	H	$1,694.08

Program Summary per Participant		
Gross kW Saved at Customer	I	0.18 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.12 kW
Gross Annual kWh Saved at Customer	(B x E x I)	980 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	1,070 kWh

Program Summary All Participants		
Total Participants	J	6,700
Total Budget	K	**$950,914**
Gross kW Saved at Customer	(J x I)	1,174 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**822 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	6,564,173 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**7,166,128 kWh**
Societal Net Benefits	(J x I x H)	**$1,988,456**

Utility Program Cost per kWh Lifetime	**$0.0163**
Utility Program Cost per kW at Gen	**$1,157**

REFRIGERATOR RECYCLING 2018 ELECTRIC ACTUAL

2018 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$262,657	$262,657	$262,657	$262,657
T & D	N/A	$159,209	$159,209	$159,209	$159,209
Marginal Energy	N/A	$1,255,552	$1,255,552	$1,255,552	$1,255,552
Environmental Externality	N/A	N/A	N/A	N/A	$406,410
Subtotal	N/A	$1,677,419	$1,677,419	$1,677,419	$2,083,829
Participant Benefits					
Bill Reduction - Electric	$4,405,154	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$277,420	N/A	N/A	$277,420	$277,420
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$4,682,574	N/A	N/A	$277,420	$277,420
Total Benefits	$4,682,574	$1,677,419	$1,677,419	$1,954,839	$2,361,249
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$522,871	$522,871	$522,871	$522,871
Advertising & Promotion	N/A	$111,390	$111,390	$111,390	$111,390
Measurement & Verification	N/A	$0	$0	$0	$0
Rebates	N/A	$277,420	$277,420	$277,420	$277,420
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$911,681	$911,681	$911,681	$911,681
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$4,405,154	N/A	N/A
Subtotal	N/A	N/A	$4,405,154	N/A	N/A
Participant Costs					
Incremental Capital Costs	$0	N/A	N/A	$0	$0
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$0	N/A	N/A	$0	$0
Total Costs	$0	$911,681	$5,316,835	$911,681	$911,681
Net Benefit (Cost)	$4,682,574	$765,738	($3,639,416)	$1,043,158	$1,449,568
Benefit/Cost Ratio	INF	1.84	0.32	2.14	2.59

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	7.9 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	63.77%
Gross Load Factor at Customer	E	63.83%
Transmission Loss Factor (Energy)	F	8.400%
Transmission Loss Factor (Demand)	G	8.800%
Societal Net Benefit (Cost)	H	$1,555.00

Program Summary per Participant		
Gross kW Saved at Customer	I	0.15 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.11 kW
Gross Annual kWh Saved at Customer	(B x E x I)	864 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	943 kWh

Program Summary All Participants		
Total Participants	J	6,031
Total Budget	K	**$911,681**
Gross kW Saved at Customer	(J x I)	932 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**652 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	5,212,228 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**5,690,205 kWh**
Societal Net Benefits	(J x I x H)	**$1,449,568**

Utility Program Cost per kWh Lifetime	**$0.0204**
Utility Program Cost per kW at Gen	**$1,399**

RESIDENTIAL COOLING 2018 ELECTRIC GOAL

2018 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$3,626,163	$3,626,163	$3,626,163	$3,626,163
T & D	N/A	$2,205,969	$2,205,969	$2,205,969	$2,205,969
Marginal Energy	N/A	$1,628,793	$1,628,793	$1,628,793	$1,628,793
Environmental Externality	N/A	N/A	N/A	N/A	$465,523
Subtotal	N/A	$7,460,925	$7,460,925	$7,460,925	$7,926,448
Participant Benefits					
Bill Reduction - Electric	$4,927,098	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$3,505,550	N/A	N/A	$3,505,550	$3,505,550
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$8,432,648	N/A	N/A	$3,505,550	$3,505,550
Total Benefits	$8,432,648	$7,460,925	$7,460,925	$10,966,475	$11,431,998
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$353,395	$353,395	$353,395	$353,395
Advertising & Promotion	N/A	$212,074	$212,074	$212,074	$212,074
Measurement & Verification	N/A	$9,677	$9,677	$9,677	$9,677
Rebates	N/A	$3,505,550	$3,505,550	$3,505,550	$3,505,550
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$4,080,696	$4,080,696	$4,080,696	$4,080,696
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$4,927,098	N/A	N/A
Subtotal	N/A	N/A	$4,927,098	N/A	N/A
Participant Costs					
Incremental Capital Costs	$5,647,687	N/A	N/A	$5,647,687	$5,647,687
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$5,647,687	N/A	N/A	$5,647,687	$5,647,687
Total Costs	$5,647,687	$4,080,696	$9,007,794	$9,728,383	$9,728,383
Net Benefit (Cost)	$2,784,961	$3,380,229	($1,546,869)	$1,238,092	$1,703,615
Benefit/Cost Ratio	1.49	1.83	0.83	1.13	1.18

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	15.1 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	90.00%
Gross Load Factor at Customer	E	7.50%
Transmission Loss Factor (Energy)	F	8.400%
Transmission Loss Factor (Demand)	G	8.800%
Societal Net Benefit (Cost)	H	$315.07

Program Summary per Participant		
Gross kW Saved at Customer	I	0.47 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.47 kW
Gross Annual kWh Saved at Customer	(B x E x I)	311 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	339 kWh

Program Summary All Participants		
Total Participants	J	11,430
Total Budget	K	**$4,080,696**
Gross kW Saved at Customer	(J x I)	5,407 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**5,336 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	3,553,839 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**3,879,737 kWh**
Societal Net Benefits	(J x I x H)	**$1,703,615**

Utility Program Cost per kWh Lifetime	**$0.0695**
Utility Program Cost per kW at Gen	**$765**

RESIDENTIAL COOLING 2018 ELECTRIC ACTUAL

2018 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$6,005,312	$6,005,312	$6,005,312	$6,005,312
T & D	N/A	$3,653,516	$3,653,516	$3,653,516	$3,653,516
Marginal Energy	N/A	$2,646,891	$2,646,891	$2,646,891	$2,646,891
Environmental Externality	N/A	N/A	N/A	N/A	$756,803
Subtotal	N/A	$12,305,720	$12,305,720	$12,305,720	$13,062,522
Participant Benefits					
Bill Reduction - Electric	$8,015,801	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$5,336,140	N/A	N/A	$5,336,140	$5,336,140
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$13,351,941	N/A	N/A	$5,336,140	$5,336,140
Total Benefits	$13,351,941	$12,305,720	$12,305,720	$17,641,859	$18,398,662
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$301,599	$301,599	$301,599	$301,599
Advertising & Promotion	N/A	$47,117	$47,117	$47,117	$47,117
Measurement & Verification	N/A	$9,820	$9,820	$9,820	$9,820
Rebates	N/A	$5,336,140	$5,336,140	$5,336,140	$5,336,140
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$5,694,675	$5,694,675	$5,694,675	$5,694,675
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$8,015,801	N/A	N/A
Subtotal	N/A	N/A	$8,015,801	N/A	N/A
Participant Costs					
Incremental Capital Costs	$8,647,823	N/A	N/A	$8,647,823	$8,647,823
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$8,647,823	N/A	N/A	$8,647,823	$8,647,823
Total Costs	$8,647,823	$5,694,675	$13,710,476	$14,342,498	$14,342,498
Net Benefit (Cost)	$4,704,118	$6,611,045	($1,404,756)	$3,299,361	$4,056,164
Benefit/Cost Ratio	1.54	2.16	0.90	1.23	1.28

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	15.2 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	89.67%
Gross Load Factor at Customer	E	7.35%
Transmission Loss Factor (Energy)	F	8.400%
Transmission Loss Factor (Demand)	G	8.800%
Societal Net Benefit (Cost)	H	$453.35

Program Summary per Participant		
Gross kW Saved at Customer	I	0.48 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.48 kW
Gross Annual kWh Saved at Customer	(B x E x I)	312 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	341 kWh

Program Summary All Participants		
Total Participants	J	18,451
Total Budget	K	**$5,694,675**
Gross kW Saved at Customer	(J x I)	8,947 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**8,797 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	5,759,886 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**6,288,085 kWh**
Societal Net Benefits	(J x I x H)	**$4,056,164**

Utility Program Cost per kWh Lifetime	**$0.0596**
Utility Program Cost per kW at Gen	**$647**

SCHOOL EDUCATION KITS 2018 ELECTRIC GOAL

2018 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$50,252	$50,252	$50,252	$50,252
T & D	N/A	$30,451	$30,451	$30,451	$30,451
Marginal Energy	N/A	$322,843	$322,843	$322,843	$322,843
Environmental Externality	N/A	N/A	N/A	N/A	$101,204
Subtotal	N/A	$403,546	$403,546	$403,546	$504,749
Participant Benefits					
Bill Reduction - Electric	$1,111,251	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$232,519	N/A	N/A	$232,519	$232,519
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$180,882	N/A	N/A	$180,882	$180,882
Subtotal	$1,524,652	N/A	N/A	$413,401	$413,401
Total Benefits	$1,524,652	$403,546	$403,546	$816,947	$918,151
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$233,354	$233,354	$233,354	$233,354
Advertising & Promotion	N/A	$2,744	$2,744	$2,744	$2,744
Measurement & Verification	N/A	$0	$0	$0	$0
Rebates	N/A	$232,519	$232,519	$232,519	$232,519
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$468,617	$468,617	$468,617	$468,617
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$1,111,251	N/A	N/A
Subtotal	N/A	N/A	$1,111,251	N/A	N/A
Participant Costs					
Incremental Capital Costs	$232,519	N/A	N/A	$232,519	$232,519
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$232,519	N/A	N/A	$232,519	$232,519
Total Costs	$232,519	$468,617	$1,579,868	$701,136	$701,136
Net Benefit (Cost)	$1,292,132	($65,071)	($1,176,322)	$115,811	$217,014
Benefit/Cost Ratio	6.56	0.86	0.26	1.17	1.31

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	7.1 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	10.27%
Gross Load Factor at Customer	E	13.45%
Transmission Loss Factor (Energy)	F	8.400%
Transmission Loss Factor (Demand)	G	8.800%
Societal Net Benefit (Cost)	H	$179.06

Program Summary per Participant		
Gross kW Saved at Customer	I	0.09 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.01 kW
Gross Annual kWh Saved at Customer	(B x E x I)	102 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	111 kWh

Program Summary All Participants		
Total Participants	J	14,000
Total Budget	K	**$468,617**
Gross kW Saved at Customer	(J x I)	1,212 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**136 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	1,428,101 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**1,559,062 kWh**
Societal Net Benefits	(J x I x H)	**$217,014**

Utility Program Cost per kWh Lifetime	**$0.0424**
Utility Program Cost per kW at Gen	**$3,434**

SCHOOL EDUCATION KITS 2018 ELECTRIC ACTUAL

2018 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$80,532	$80,532	$80,532	$80,532
T & D	N/A	$48,797	$48,797	$48,797	$48,797
Marginal Energy	N/A	$514,091	$514,091	$514,091	$514,091
Environmental Externality	N/A	N/A	N/A	N/A	$160,860
Subtotal	N/A	$643,419	$643,419	$643,419	$804,279
Participant Benefits					
Bill Reduction - Electric	$1,766,360	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$251,287	N/A	N/A	$251,287	$251,287
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$255,040	N/A	N/A	$255,040	$255,040
Subtotal	$2,272,688	N/A	N/A	$506,327	$506,327
Total Benefits	$2,272,688	$643,419	$643,419	$1,149,747	$1,310,606
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$215,446	$215,446	$215,446	$215,446
Advertising & Promotion	N/A	$599	$599	$599	$599
Measurement & Verification	N/A	$0	$0	$0	$0
Rebates	N/A	$251,287	$251,287	$251,287	$251,287
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$467,333	$467,333	$467,333	$467,333
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$1,766,360	N/A	N/A
Subtotal	N/A	N/A	$1,766,360	N/A	N/A
Participant Costs					
Incremental Capital Costs	$232,620	N/A	N/A	$232,620	$232,620
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$232,620	N/A	N/A	$232,620	$232,620
Total Costs	$232,620	$467,333	$2,233,693	$699,953	$699,953
Net Benefit (Cost)	$2,040,068	$176,086	($1,590,274)	$449,794	$610,653
Benefit/Cost Ratio	9.77	1.38	0.29	1.64	1.87

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	7.0 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	9.95%
Gross Load Factor at Customer	E	12.96%
Transmission Loss Factor (Energy)	F	8.400%
Transmission Loss Factor (Demand)	G	8.800%
Societal Net Benefit (Cost)	H	$300.37

Program Summary per Participant		
Gross kW Saved at Customer	I	0.14 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.02 kW
Gross Annual kWh Saved at Customer	(B x E x I)	165 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	180 kWh

Program Summary All Participants		
Total Participants	J	14,021
Total Budget	K	**$467,333**
Gross kW Saved at Customer	(J x I)	2,033 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**222 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	2,308,047 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**2,519,702 kWh**
Societal Net Benefits	(J x I x H)	**$610,653**

Utility Program Cost per kWh Lifetime	**$0.0266**
Utility Program Cost per kW at Gen	**$2,107**

Conservation Improvement Program (CIP) BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis **GOAL**

Company: **Xcel Energy**
Project: **School Education Kits**

Input Data	
1) Retail Rate ($/Dth) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 **First Year**	2018 **Second Year**	2019 **Third Year**
Administrative & Operating Costs =		$254,230	
Incentive Costs =		$62,476	
16) Total Utility Project Costs =		$316,706	
17) Direct Participant Costs ($/Part.) =		$4	
18) Participant Non-Energy Costs (Annual $/Part.) =		$0	
Escalation Rate =		1.73%	
19) Participant Non-Energy Savings (Annual $/Part) =		$12	
Escalation Rate =		1.73%	
20) Project Life (Years) =		10.0	
21) Avg. Dth/Part. Saved =		0.81	
22) Avg Non-Gas Fuel Units/Part. Saved =		0 kWh	
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =		0 kWh	
23) Number of Participants =		14,000	
24) Total Annual Dth Saved =		11,391	
25) Incentive/Participant =		$4.46	

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		$23	
Cost per Participant per Dth =		$33.29	
Lifetime Energy Reduction (Dth)		113,912	
Societal Cost per Dth		$2.78	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($462,497)	0.55
Utility Cost Test	$238,568	1.75
Societal Test	$2,060,740	7.51
Participant Test	$2,509,372	41.17

Conservation Improvement Program (CIP) BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis **ACTUAL**

Company: **Xcel Energy**
Project: **School Education Kits**

Input Data	
1) Retail Rate ($/Dth) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 **First Year**	2018 **Second Year**	2019 **Third Year**
Administrative & Operating Costs =		$222,919	
Incentive Costs =		$65,595	
16) Total Utility Project Costs =		$288,514	
17) Direct Participant Costs ($/Part.) =		$4	
18) Participant Non-Energy Costs (Annual $/Part.) =		$0	
Escalation Rate =		1.73%	
19) Participant Non-Energy Savings (Annual $/Part) =		$17	
Escalation Rate =		1.73%	
20) Project Life (Years) =		10.0	
21) Avg. Dth/Part. Saved =		1.14	
22) Avg Non-Gas Fuel Units/Part. Saved =		0 kWh	
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =		0 kWh	
23) Number of Participants =		14,021	
24) Total Annual Dth Saved =		16,054	
25) Incentive/Participant =		$4.68	

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		$21	
Cost per Participant per Dth =		$21.76	
Lifetime Energy Reduction (Dth)		160,538	
Societal Cost per Dth		$1.77	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($493,979)	0.61
Utility Cost Test	$494,041	2.71
Societal Test	$2,899,097	11.22
Participant Test	$3,373,537	56.53

Conservation Improvement Program (CIP)

BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis

GOAL

Company: **Xcel Energy**
Project: **Water Heater Rebate**

Input Data	
1) Retail Rate ($/Dth) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 **First Year**	2018 **Second Year**	2019 **Third Year**
Administrative & Operating Costs =		$104,043	
Incentive Costs =		$97,625	
16) Total Utility Project Costs =		$201,668	
17) Direct Participant Costs ($/Part.) =		$352	
18) Participant Non-Energy Costs (Annual $/Part.) =		$0	
Escalation Rate =		1.73%	
19) Participant Non-Energy Savings (Annual $/Part) =		$0	
Escalation Rate =		1.73%	
20) Project Life (Years) =		14.5	
21) Avg. Dth/Part. Saved =		3.24	
22) Avg Non-Gas Fuel Units/Part. Saved =		0 kWh	
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =		0 kWh	
23) Number of Participants =		1,094	
24) Total Annual Dth Saved =		3,539	
25) Incentive/Participant =		$89.24	

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		$184	
Cost per Participant per Dth =		$165.75	
Lifetime Energy Reduction (Dth)		51,327	
Societal Cost per Dth		$9.53	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($290,389)	0.45
Utility Cost Test	$4,902	1.02
Societal Test	($155,202)	0.68
Participant Test	$136,407	1.35

Conservation Improvement Program (CIP) BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis **ACTUAL**

Company: **Xcel Energy**
Project: **Water Heater Rebate**

Input Data	
1) Retail Rate ($/Dth) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 **First Year**	2018 **Second Year**	2019 **Third Year**
Administrative & Operating Costs =		$72,998	
Incentive Costs =		$159,560	
16) Total Utility Project Costs =		$232,558	
17) Direct Participant Costs ($/Part.) =		$362	
18) Participant Non-Energy Costs (Annual $/Part.) =		$0	
Escalation Rate =		1.73%	
19) Participant Non-Energy Savings (Annual $/Part) =		$0	
Escalation Rate =		1.73%	
20) Project Life (Years) =		15.8	
21) Avg. Dth/Part. Saved =		3.69	
22) Avg Non-Gas Fuel Units/Part. Saved =		0 kWh	
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =		0 kWh	
23) Number of Participants =		1,319	
24) Total Annual Dth Saved =		4,862	
25) Incentive/Participant =		$120.97	

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		$176	
Cost per Participant per Dth =		$146.01	
Lifetime Energy Reduction (Dth)		70,508	
Societal Cost per Dth		$7.81	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($322,674)	0.52
Utility Cost Test	$110,666	1.48
Societal Test	($45,917)	0.92
Participant Test	$281,750	1.59

RESIDENTIAL SAVER'S SWITCH 2018 ELECTRIC GOAL

2018 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$19,520,718	$19,520,718	$19,520,718	$19,520,718
T & D	N/A	$0	$0	$0	$0
Marginal Energy	N/A	$198,494	$198,494	$198,494	$198,494
Environmental Externality	N/A	N/A	N/A	N/A	$62,456
Subtotal	N/A	$19,719,211	$19,719,211	$19,719,211	$19,781,667
Participant Benefits					
Bill Reduction - Electric	$686,979	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$2,437,500	N/A	N/A	$2,437,500	$2,437,500
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$2,965,790	N/A	N/A	$0	$0
Subtotal	$6,090,269	N/A	N/A	$2,437,500	$2,437,500
Total Benefits	$6,090,269	$19,719,211	$19,719,211	$22,156,711	$22,219,167
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$5,237,070	$5,237,070	$5,237,070	$5,237,070
Advertising & Promotion	N/A	$533,375	$533,375	$533,375	$533,375
Measurement & Verification	N/A	$188,916	$188,916	$188,916	$188,916
Rebates	N/A	$2,437,500	$2,437,500	$2,437,500	$2,437,500
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$8,396,861	$8,396,861	$8,396,861	$8,396,861
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$686,979	N/A	N/A
Subtotal	N/A	N/A	$686,979	N/A	N/A
Participant Costs					
Incremental Capital Costs	$2,595,000	N/A	N/A	$2,595,000	$2,595,000
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$2,595,000	N/A	N/A	$2,595,000	$2,595,000
Total Costs	$2,595,000	$8,396,861	$9,083,840	$10,991,861	$10,991,861
Net Benefit (Cost)	$3,495,269	$11,322,350	$10,635,371	$11,164,850	$11,227,306
Benefit/Cost Ratio	2.35	2.35	2.17	2.02	2.02

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	10.2 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	36.14%
Gross Load Factor at Customer	E	0.09%
Transmission Loss Factor (Energy)	F	8.400%
Transmission Loss Factor (Demand)	G	8.800%
Societal Net Benefit (Cost)	H	$133.36

Program Summary per Participant		
Gross kW Saved at Customer	I	1.79 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.71 kW
Gross Annual kWh Saved at Customer	(B x E x I)	13 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	15 kWh

Program Summary All Participants		
Total Participants	J	47,025
Total Budget	K	**$8,396,861**
Gross kW Saved at Customer	(J x I)	84,187 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**33,361 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	627,276 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**684,799 kWh**
Societal Net Benefits	(J x I x H)	**$11,227,306**

Utility Program Cost per kWh Lifetime	**$1.2063**
Utility Program Cost per kW at Gen	**$252**

RESIDENTIAL DEMAND RESPONSE 2018 ELECTRIC ACTUAL

2018 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$16,148,346	$16,148,346	$16,148,346	$16,148,346
T & D	N/A	$0	$0	$0	$0
Marginal Energy	N/A	$57,484	$57,484	$57,484	$57,484
Environmental Externality	N/A	N/A	N/A	N/A	$16,047
Subtotal	N/A	$16,205,829	$16,205,829	$16,205,829	$16,221,877
Participant Benefits					
Bill Reduction - Electric	$179,263	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$254,910	N/A	N/A	$254,910	$254,910
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$434,173	N/A	N/A	$254,910	$254,910
Total Benefits	$434,173	$16,205,829	$16,205,829	$16,460,739	$16,476,786
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$5,821,550	$5,821,550	$5,821,550	$5,821,550
Advertising & Promotion	N/A	$592,563	$592,563	$592,563	$592,563
Measurement & Verification	N/A	$0	$0	$0	$0
Rebates	N/A	$254,910	$254,910	$254,910	$254,910
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$6,669,022	$6,669,022	$6,669,022	$6,669,022
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$179,263	N/A	N/A
Subtotal	N/A	N/A	$179,263	N/A	N/A
Participant Costs					
Incremental Capital Costs	$284,738	N/A	N/A	$284,738	$284,738
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$284,738	N/A	N/A	$284,738	$284,738
Total Costs	$284,738	$6,669,022	$6,848,285	$6,953,760	$6,953,760
Net Benefit (Cost)	$149,435	$9,536,808	$9,357,544	$9,506,979	$9,523,027
Benefit/Cost Ratio	1.52	2.43	2.37	2.37	2.37

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	11.3 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	30.03%
Gross Load Factor at Customer	E	0.02%
Transmission Loss Factor (Energy)	F	8.242%
Transmission Loss Factor (Demand)	G	8.800%
Societal Net Benefit (Cost)	H	$126.84

Program Summary per Participant		
Gross kW Saved at Customer	I	2.47 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.81 kW
Gross Annual kWh Saved at Customer	(B x E x I)	5 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	5 kWh

Program Summary All Participants		
Total Participants	J	30,410
Total Budget	K	**$6,669,022**
Gross kW Saved at Customer	(J x I)	75,081 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**24,722 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	151,376 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**164,974 kWh**
Societal Net Benefits	(J x I x H)	**$9,523,027**

Utility Program Cost per kWh Lifetime	**$3.5817**
Utility Program Cost per kW at Gen	**$270**

Conservation Improvement Program (CIP) BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis **GOAL**

Company: **Xcel Energy**
Project: **Residential Demand Response**

Input Data	
1) Retail Rate ($/Dth) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 **First Year**	2018 **Second Year**	2019 **Third Year**
Administrative & Operating Costs =		$118,326	
Incentive Costs =		$0	
16) Total Utility Project Costs =		$118,326	
17) Direct Participant Costs ($/Part.) =		$0	
18) Participant Non-Energy Costs (Annual $/Part.) =		$0	
Escalation Rate =		1.73%	
19) Participant Non-Energy Savings (Annual $/Part) =		$0	
Escalation Rate =		1.73%	
20) Project Life (Years) =		10.0	
21) Avg. Dth/Part. Saved =		5.11	
22) Avg Non-Gas Fuel Units/Part. Saved =		0 kWh	
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =		0 kWh	
23) Number of Participants =		8,448	
24) Total Annual Dth Saved =		43,134	
25) Incentive/Participant =		$0.00	

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		$14	
Cost per Participant per Dth =		$2.74	
Lifetime Energy Reduction (Dth)		431,336	
Societal Cost per Dth		$0.37	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($711,939)	0.75
Utility Cost Test	$1,942,695	13.15
Societal Test	$2,551,400	16.96
Participant Test	$3,642,104	#DIV/0!

Conservation Improvement Program (CIP) BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis **ACTUAL**

Company: **Xcel Energy**
Project: **Residential Demand Response**

Input Data	
1) Retail Rate ($/Dth) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 **First Year**	2018 **Second Year**	2019 **Third Year**
Administrative & Operating Costs =		$4,671	
Incentive Costs =		$0	
16) Total Utility Project Costs =		$4,671	
17) Direct Participant Costs ($/Part.) =		$0	
18) Participant Non-Energy Costs (Annual $/Part.) =		$0	
Escalation Rate =		1.73%	
19) Participant Non-Energy Savings (Annual $/Part) =		$0	
Escalation Rate =		1.73%	
20) Project Life (Years) =		10.0	
21) Avg. Dth/Part. Saved =		9.22	
22) Avg Non-Gas Fuel Units/Part. Saved =		0 kWh	
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =		0 kWh	
23) Number of Participants =		517	
24) Total Annual Dth Saved =		4,769	
25) Incentive/Participant =		$0.00	

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		$9	
Cost per Participant per Dth =		$0.98	
Lifetime Energy Reduction (Dth)		47,691	
Societal Cost per Dth		$0.10	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($65,709)	0.78
Utility Cost Test	$227,803	49.77
Societal Test	$295,105	64.18
Participant Test	$355,009	#DIV/0!

LOW INCOME SEGMENT TOTAL 2018 ELECTRIC GOAL

2018 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$181,310	$181,310	$181,310	$181,310
T & D	N/A	$110,167	$110,167	$110,167	$110,167
Marginal Energy	N/A	$820,925	$820,925	$820,925	$820,925
Environmental Externality	N/A	N/A	N/A	N/A	$269,269
Subtotal	N/A	$1,112,401	$1,112,401	$1,112,401	$1,381,670
Participant Benefits					
Bill Reduction - Electric	$3,044,090	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$1,392,540	N/A	N/A	$1,392,540	$1,392,540
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$4,436,630	N/A	N/A	$1,392,540	$1,392,540
Total Benefits	$4,436,630	$1,112,401	$1,112,401	$2,504,941	$2,774,210
Costs					
Utility Project Costs					
Customer Services	N/A	$457,314	$457,314	$457,314	$457,314
Project Administration	N/A	$415,445	$415,445	$415,445	$415,445
Advertising & Promotion	N/A	$146,673	$146,673	$146,673	$146,673
Measurement & Verification	N/A	$17,289	$17,289	$17,289	$17,289
Rebates	N/A	$1,392,540	$1,392,540	$1,392,540	$1,392,540
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$2,429,261	$2,429,261	$2,429,261	$2,429,261
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$3,044,090	N/A	N/A
Subtotal	N/A	N/A	$3,044,090	N/A	N/A
Participant Costs					
Incremental Capital Costs	$1,408,737	N/A	N/A	$1,396,243	$1,396,243
Incremental O&M Costs	$18,831	N/A	N/A	$18,831	$18,831
Subtotal	$1,427,568	N/A	N/A	$1,415,074	$1,415,074
Total Costs	$1,427,568	$2,429,261	$5,473,351	$3,844,335	$3,844,335
Net Benefit (Cost)	$3,009,062	($1,316,860)	($4,360,949)	($1,339,394)	($1,070,125)
Benefit/Cost Ratio	3.11	0.46	0.20	0.65	0.72

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	10.6 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	15.47%
Gross Load Factor at Customer	E	15.36%
Transmission Loss Factor (Energy)	F	8.400%
Transmission Loss Factor (Demand)	G	8.800%
Societal Net Benefit (Cost)	H	($492.22)

Program Summary per Participant		
Gross kW Saved at Customer	I	0.38 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.06 kW
Gross Annual kWh Saved at Customer	(B x E x I)	506 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	552 kWh

Program Summary All Participants		
Total Participants	J	5,783
Total Budget	K	**$2,429,261**
Gross kW Saved at Customer	(J x I)	2,174 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**369 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	2,924,568 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**3,192,760 kWh**
Societal Net Benefits	(J x I x H)	**($1,070,125)**

Utility Program Cost per kWh Lifetime	**$0.0716**
Utility Program Cost per kW at Gen	**$6,589**

LOW INCOME SEGMENT TOTAL 2018 ELECTRIC ACTUAL

2018 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$163,207	$163,207	$163,207	$163,207
T & D	N/A	$99,132	$99,132	$99,132	$99,132
Marginal Energy	N/A	$549,708	$549,708	$549,708	$549,708
Environmental Externality	N/A	N/A	N/A	N/A	$177,074
Subtotal	N/A	$812,048	$812,048	$812,048	$989,122
Participant Benefits					
Bill Reduction - Electric	$1,987,840	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$1,826,908	N/A	N/A	$1,826,908	$1,826,908
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$1,721	N/A	N/A	$1,721	$1,721
Subtotal	$3,816,470	N/A	N/A	$1,828,629	$1,828,629
Total Benefits	$3,816,470	$812,048	$812,048	$2,640,677	$2,817,751
Costs					
Utility Project Costs					
Customer Services	N/A	$118,108	$118,108	$118,108	$118,108
Project Administration	N/A	$313,649	$313,649	$313,649	$313,649
Advertising & Promotion	N/A	$141,389	$141,389	$141,389	$141,389
Measurement & Verification	N/A	$8,309	$8,309	$8,309	$8,309
Rebates	N/A	$1,826,908	$1,826,908	$1,826,908	$1,826,908
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$2,408,363	$2,408,363	$2,408,363	$2,408,363
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$1,987,840	N/A	N/A
Subtotal	N/A	N/A	$1,987,840	N/A	N/A
Participant Costs					
Incremental Capital Costs	$1,735,521	N/A	N/A	$1,735,521	$1,735,521
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$1,735,521	N/A	N/A	$1,735,521	$1,735,521
Total Costs	$1,735,521	$2,408,363	$4,396,204	$4,143,884	$4,143,884
Net Benefit (Cost)	$2,080,949	($1,596,316)	($3,584,156)	($1,503,208)	($1,326,134)
Benefit/Cost Ratio	2.20	0.34	0.18	0.64	0.68

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	9.2 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	17.29%
Gross Load Factor at Customer	E	13.27%
Transmission Loss Factor (Energy)	F	8.400%
Transmission Loss Factor (Demand)	G	8.800%
Societal Net Benefit (Cost)	H	($728.11)

Program Summary per Participant		
Gross kW Saved at Customer	I	0.46 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.09 kW
Gross Annual kWh Saved at Customer	(B x E x I)	531 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	580 kWh

Program Summary All Participants		
Total Participants	J	3,987
Total Budget	K	**$2,408,363**
Gross kW Saved at Customer	(J x I)	1,821 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**345 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	2,117,756 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**2,311,961 kWh**
Societal Net Benefits	(J x I x H)	**($1,326,134)**

Utility Program Cost per kWh Lifetime	**$0.1127**
Utility Program Cost per kW at Gen	**$6,974**

Conservation Improvement Program (CIP) BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis **GOAL**

Company: **Xcel Energy**
Project: **Low Income Segment Total**

Input Data	
1) Retail Rate ($/Dth) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 **First Year**	2018 **Second Year**	2019 **Third Year**
Administrative & Operating Costs =		$687,228	
Incentive Costs =		$1,104,029	
16) Total Utility Project Costs =		$1,791,257	
17) Direct Participant Costs ($/Part.) =		$569	
18) Participant Non-Energy Costs (Annual $/Part.) =		$0	
Escalation Rate =		1.73%	
19) Participant Non-Energy Savings (Annual $/Part) =		$22	
Escalation Rate =		1.73%	
20) Project Life (Years) =		11.6	
21) Avg. Dth/Part. Saved =		7.16	
22) Avg Non-Gas Fuel Units/Part. Saved =		0 kWh	
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =		0 kWh	
23) Number of Participants =		1,940	
24) Total Annual Dth Saved =		13,894	
25) Incentive/Participant =		$569.09	

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		$923	
Cost per Participant per Dth =		$208.38	
Lifetime Energy Reduction (Dth)		160,616	
Societal Cost per Dth		$11.03	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($1,858,375)	0.29
Utility Cost Test	($904,181)	0.46
Societal Test	($334,121)	0.81
Participant Test	$1,497,110	2.36

Conservation Improvement Program (CIP) BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis **ACTUAL**

Company: **Xcel Energy**
Project: **Low Income Segment Total**

Input Data	
1) Retail Rate ($/Dth) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 **First Year**	2018 **Second Year**	2019 **Third Year**
Administrative & Operating Costs =		$371,292	
Incentive Costs =		$1,091,747	
16) Total Utility Project Costs =		$1,463,039	
17) Direct Participant Costs ($/Part.) =		$1,033	
18) Participant Non-Energy Costs (Annual $/Part.) =		$0	
Escalation Rate =		1.73%	
19) Participant Non-Energy Savings (Annual $/Part) =		$22	
Escalation Rate =		1.73%	
20) Project Life (Years) =		13.4	
21) Avg. Dth/Part. Saved =		10.97	
22) Avg Non-Gas Fuel Units/Part. Saved =		0 kWh	
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =		0 kWh	
23) Number of Participants =		977	
24) Total Annual Dth Saved =		10,722	
25) Incentive/Participant =		$1,117.45	

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		$1,497	
Cost per Participant per Dth =		$230.56	
Lifetime Energy Reduction (Dth)		123,948	
Societal Cost per Dth		$11.14	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($1,635,836)	0.29
Utility Cost Test	($804,909)	0.45
Societal Test	($258,758)	0.81
Participant Test	$1,380,196	2.37

HOME ENERGY SAVINGS PROGRAM 2018 ELECTRIC GOAL

2018 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$71,727	$71,727	$71,727	$71,727
T & D	N/A	$43,657	$43,657	$43,657	$43,657
Marginal Energy	N/A	$280,587	$280,587	$280,587	$280,587
Environmental Externality	N/A	N/A	N/A	N/A	$98,396
Subtotal	N/A	$395,971	$395,971	$395,971	$494,367
Participant Benefits					
Bill Reduction - Electric	$1,134,474	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$788,452	N/A	N/A	$788,452	$788,452
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$1,922,926	N/A	N/A	$788,452	$788,452
Total Benefits	$1,922,926	$395,971	$395,971	$1,184,423	$1,282,819
Costs					
Utility Project Costs					
Customer Services	N/A	$160,000	$160,000	$160,000	$160,000
Project Administration	N/A	$190,245	$190,245	$190,245	$190,245
Advertising & Promotion	N/A	$143,257	$143,257	$143,257	$143,257
Measurement & Verification	N/A	$9,562	$9,562	$9,562	$9,562
Rebates	N/A	$788,452	$788,452	$788,452	$788,452
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$1,291,516	$1,291,516	$1,291,516	$1,291,516
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$1,134,474	N/A	N/A
Subtotal	N/A	N/A	$1,134,474	N/A	N/A
Participant Costs					
Incremental Capital Costs	$804,648	N/A	N/A	$792,155	$792,155
Incremental O&M Costs	$18,831	N/A	N/A	$18,831	$18,831
Subtotal	$823,479	N/A	N/A	$810,986	$810,986
Total Costs	$823,479	$1,291,516	$2,425,990	$2,102,502	$2,102,502
Net Benefit (Cost)	$1,099,446	($895,545)	($2,030,018)	($918,079)	($819,683)
Benefit/Cost Ratio	2.34	0.31	0.16	0.56	0.61

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	16.5 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	33.91%
Gross Load Factor at Customer	E	29.70%
Transmission Loss Factor (Energy)	F	8.400%
Transmission Loss Factor (Demand)	G	8.800%
Societal Net Benefit (Cost)	H	($2,773.65)

Program Summary per Participant		
Gross kW Saved at Customer	I	0.14 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.05 kW
Gross Annual kWh Saved at Customer	(B x E x I)	363 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	396 kWh

Program Summary All Participants		
Total Participants	J	2,117
Total Budget	K	**$1,291,516**
Gross kW Saved at Customer	(J x I)	296 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**110 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	768,834 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**839,339 kWh**
Societal Net Benefits	(J x I x H)	**($819,683)**

Utility Program Cost per kWh Lifetime	**$0.0935**
Utility Program Cost per kW at Gen	**$11,754**

HOME ENERGY SAVINGS PROGRAM 2018 ELECTRIC ACTUAL

2018 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$82,282	$82,282	$82,282	$82,282
T & D	N/A	$50,045	$50,045	$50,045	$50,045
Marginal Energy	N/A	$242,328	$242,328	$242,328	$242,328
Environmental Externality	N/A	N/A	N/A	N/A	$81,445
Subtotal	N/A	$374,655	$374,655	$374,655	$456,100
Participant Benefits					
Bill Reduction - Electric	$924,150	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$803,501	N/A	N/A	$803,501	$803,501
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$1,727,651	N/A	N/A	$803,501	$803,501
Total Benefits	$1,727,651	$374,655	$374,655	$1,178,156	$1,259,601
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$182,456	$182,456	$182,456	$182,456
Advertising & Promotion	N/A	$103,549	$103,549	$103,549	$103,549
Measurement & Verification	N/A	$8,309	$8,309	$8,309	$8,309
Rebates	N/A	$803,501	$803,501	$803,501	$803,501
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$1,097,815	$1,097,815	$1,097,815	$1,097,815
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$924,150	N/A	N/A
Subtotal	N/A	N/A	$924,150	N/A	N/A
Participant Costs					
Incremental Capital Costs	$712,002	N/A	N/A	$712,002	$712,002
Incremental O&M Costs	$24,392	N/A	N/A	$24,392	$24,392
Subtotal	$736,394	N/A	N/A	$736,394	$736,394
Total Costs	$736,394	$1,097,815	$2,021,965	$1,834,208	$1,834,208
Net Benefit (Cost)	$991,257	($723,160)	($1,647,310)	($656,052)	($574,607)
Benefit/Cost Ratio	2.35	0.34	0.19	0.64	0.69

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	11.1 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	20.20%
Gross Load Factor at Customer	E	14.94%
Transmission Loss Factor (Energy)	F	8.400%
Transmission Loss Factor (Demand)	G	8.800%
Societal Net Benefit (Cost)	H	($885.89)

Program Summary per Participant		
Gross kW Saved at Customer	I	0.37 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.08 kW
Gross Annual kWh Saved at Customer	(B x E x I)	480 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	524 kWh

Program Summary All Participants		
Total Participants	J	1,768
Total Budget	K	**$1,097,815**
Gross kW Saved at Customer	(J x I)	649 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**144 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	848,652 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**926,476 kWh**
Societal Net Benefits	(J x I x H)	**($574,607)**

Utility Program Cost per kWh Lifetime	**$0.1066**
Utility Program Cost per kW at Gen	**$7,641**

Conservation Improvement Program (CIP) BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis **GOAL**

Company: **Xcel Energy**
Project: **Home Energy Savings Program**

Input Data	
1) Retail Rate ($/Dth) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 **First Year**	2018 **Second Year**	2019 **Third Year**
Administrative & Operating Costs =		$276,311	
Incentive Costs =		$1,104,029	
16) Total Utility Project Costs =		$1,380,340	
17) Direct Participant Costs ($/Part.) =		$2,509	
18) Participant Non-Energy Costs (Annual $/Part.) =		$0	
Escalation Rate =		1.73%	
19) Participant Non-Energy Savings (Annual $/Part) =		$0	
Escalation Rate =		1.73%	
20) Project Life (Years) =		15.9	
21) Avg. Dth/Part. Saved =		9.36	
22) Avg Non-Gas Fuel Units/Part. Saved =		0 kWh	
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =		0 kWh	
23) Number of Participants =		440	
24) Total Annual Dth Saved =		4,117	
25) Incentive/Participant =		$2,509.16	

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		$3,137	
Cost per Participant per Dth =		$603.45	
Lifetime Energy Reduction (Dth)		65,651	
Societal Cost per Dth		$20.72	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($1,325,437)	0.18
Utility Cost Test	($958,006)	0.23
Societal Test	($926,795)	0.32
Participant Test	$383,860	1.35

Conservation Improvement Program (CIP) BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis **ACTUAL**

Company: **Xcel Energy**
Project: **Home Energy Savings Program**

Input Data	
1) Retail Rate ($/Dth) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 **First Year**	2018 **Second Year**	2019 **Third Year**
Administrative & Operating Costs =		$150,029	
Incentive Costs =		$1,091,747	
16) Total Utility Project Costs =		$1,241,776	
17) Direct Participant Costs ($/Part.) =		$3,040	
18) Participant Non-Energy Costs (Annual $/Part.) =		$0	
Escalation Rate =		1.73%	
19) Participant Non-Energy Savings (Annual $/Part) =		$0	
Escalation Rate =		1.73%	
20) Project Life (Years) =		15.9	
21) Avg. Dth/Part. Saved =		19.57	
22) Avg Non-Gas Fuel Units/Part. Saved =		0 kWh	
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =		0 kWh	
23) Number of Participants =		332	
24) Total Annual Dth Saved =		6,497	
25) Incentive/Participant =		$3,288.40	

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		$3,740	
Cost per Participant per Dth =		$346.45	
Lifetime Energy Reduction (Dth)		103,608	
Societal Cost per Dth		$11.19	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($1,361,843)	0.25
Utility Cost Test	($784,478)	0.37
Societal Test	($478,964)	0.59
Participant Test	$891,339	1.88

LI HOME ENERGY SQUAD 2018 ELECTRIC GOAL

2018 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$50,246	$50,246	$50,246	$50,246
T & D	N/A	$30,428	$30,428	$30,428	$30,428
Marginal Energy	N/A	$268,136	$268,136	$268,136	$268,136
Environmental Externality	N/A	N/A	N/A	N/A	$79,427
Subtotal	N/A	$348,810	$348,810	$348,810	$428,237
Participant Benefits					
Bill Reduction - Electric	$872,317	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$0	N/A	N/A	$0	$0
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$872,317	N/A	N/A	$0	$0
Total Benefits	$872,317	$348,810	$348,810	$348,810	$428,237
Costs					
Utility Project Costs					
Customer Services	N/A	$247,314	$247,314	$247,314	$247,314
Project Administration	N/A	$77,361	$77,361	$77,361	$77,361
Advertising & Promotion	N/A	$3,000	$3,000	$3,000	$3,000
Measurement & Verification	N/A	$0	$0	$0	$0
Rebates	N/A	$0	$0	$0	$0
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$327,675	$327,675	$327,675	$327,675
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$872,317	N/A	N/A
Subtotal	N/A	N/A	$872,317	N/A	N/A
Participant Costs					
Incremental Capital Costs	$0	N/A	N/A	$0	$0
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$0	N/A	N/A	$0	$0
Total Costs	$0	$327,675	$1,199,992	$327,675	$327,675
Net Benefit (Cost)	$872,317	$21,135	($851,181)	$21,135	$100,562
Benefit/Cost Ratio	INF	1.06	0.29	1.06	1.31

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	6.2 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	10.63%
Gross Load Factor at Customer	E	11.02%
Transmission Loss Factor (Energy)	F	8.400%
Transmission Loss Factor (Demand)	G	8.800%
Societal Net Benefit (Cost)	H	$77.08

Program Summary per Participant		
Gross kW Saved at Customer	I	0.69 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.08 kW
Gross Annual kWh Saved at Customer	(B x E x I)	663 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	724 kWh

Program Summary All Participants		
Total Participants	J	1,900
Total Budget	K	**$327,675**
Gross kW Saved at Customer	(J x I)	1,305 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**152 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	1,259,447 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**1,374,942 kWh**
Societal Net Benefits	(J x I x H)	**$100,562**

Utility Program Cost per kWh Lifetime	**$0.0382**
Utility Program Cost per kW at Gen	**$2,154**

LI HOME ENERGY SQUAD 2018 ELECTRIC ACTUAL

2018 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$39,495	$39,495	$39,495	$39,495
T & D	N/A	$23,918	$23,918	$23,918	$23,918
Marginal Energy	N/A	$181,976	$181,976	$181,976	$181,976
Environmental Externality	N/A	N/A	N/A	N/A	$53,904
Subtotal	N/A	$245,388	$245,388	$245,388	$299,293
Participant Benefits					
Bill Reduction - Electric	$592,015	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$0	N/A	N/A	$0	$0
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$26,113	N/A	N/A	$26,113	$26,113
Subtotal	$618,127	N/A	N/A	$26,113	$26,113
Total Benefits	$618,127	$245,388	$245,388	$271,501	$325,406
Costs					
Utility Project Costs					
Customer Services	N/A	$118,108	$118,108	$118,108	$118,108
Project Administration	N/A	$73,059	$73,059	$73,059	$73,059
Advertising & Promotion	N/A	$37,840	$37,840	$37,840	$37,840
Measurement & Verification	N/A	$0	$0	$0	$0
Rebates	N/A	$0	$0	$0	$0
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$229,007	$229,007	$229,007	$229,007
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$592,015	N/A	N/A
Subtotal	N/A	N/A	$592,015	N/A	N/A
Participant Costs					
Incremental Capital Costs	$0	N/A	N/A	$0	$0
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$0	N/A	N/A	$0	$0
Total Costs	$0	$229,007	$821,021	$229,007	$229,007
Net Benefit (Cost)	$618,127	$16,381	($575,633)	$42,494	$96,399
Benefit/Cost Ratio	INF	1.07	0.30	1.19	1.42

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	6.2 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	12.43%
Gross Load Factor at Customer	E	11.12%
Transmission Loss Factor (Energy)	F	8.400%
Transmission Loss Factor (Demand)	G	8.800%
Societal Net Benefit (Cost)	H	$109.89

Program Summary per Participant		
Gross kW Saved at Customer	I	0.91 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.12 kW
Gross Annual kWh Saved at Customer	(B x E x I)	887 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	968 kWh

Program Summary All Participants		
Total Participants	J	964
Total Budget	K	**$229,007**
Gross kW Saved at Customer	(J x I)	877 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**120 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	854,748 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**933,131 kWh**
Societal Net Benefits	(J x I x H)	**$96,399**

Utility Program Cost per kWh Lifetime	**$0.0394**
Utility Program Cost per kW at Gen	**$1,915**

Conservation Improvement Program (CIP) BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis **GOAL**

Company: **Xcel Energy**
Project: **LI Home Energy Squad**

Input Data	
1) Retail Rate ($/Dth) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 **First Year**	2018 **Second Year**	2019 **Third Year**
Administrative & Operating Costs =		$410,917	
Incentive Costs =		$0	
16) Total Utility Project Costs =		$410,917	
17) Direct Participant Costs ($/Part.) =		$0	
18) Participant Non-Energy Costs (Annual $/Part.) =		$0	
Escalation Rate =		1.73%	
19) Participant Non-Energy Savings (Annual $/Part) =		$29	
Escalation Rate =		1.73%	
20) Project Life (Years) =		9.7	
21) Avg. Dth/Part. Saved =		6.52	
22) Avg Non-Gas Fuel Units/Part. Saved =		0 kWh	
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =		0 kWh	
23) Number of Participants =		1,500	
24) Total Annual Dth Saved =		9,777	
25) Incentive/Participant =		$0.00	

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		$274	
Cost per Participant per Dth =		$42.03	
Lifetime Energy Reduction (Dth)		94,964	
Societal Cost per Dth		$4.33	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($532,938)	0.47
Utility Cost Test	$53,825	1.13
Societal Test	$592,673	2.44
Participant Test	$1,113,249	#DIV/0!

Conservation Improvement Program (CIP) BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis **ACTUAL**

Company: **Xcel Energy**
Project: **LI Home Energy Squad**

Input Data	
1) Retail Rate ($/Dth) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 **First Year**	2018 **Second Year**	2019 **Third Year**
Administrative & Operating Costs =		$221,263	
Incentive Costs =		$0	
16) Total Utility Project Costs =		$221,263	
17) Direct Participant Costs ($/Part.) =		$0	
18) Participant Non-Energy Costs (Annual $/Part.) =		$0	
Escalation Rate =		1.73%	
19) Participant Non-Energy Savings (Annual $/Part) =		$33	
Escalation Rate =		1.73%	
20) Project Life (Years) =		9.7	
21) Avg. Dth/Part. Saved =		6.55	
22) Avg Non-Gas Fuel Units/Part. Saved =		0 kWh	
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =		0 kWh	
23) Number of Participants =		645	
24) Total Annual Dth Saved =		4,225	
25) Incentive/Participant =		$0.00	

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		$343	
Cost per Participant per Dth =		$52.37	
Lifetime Energy Reduction (Dth)		41,038	
Societal Cost per Dth		$5.39	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($273,993)	0.42
Utility Cost Test	($20,431)	0.91
Societal Test	$220,205	2.00
Participant Test	$488,856	#DIV/0!

MULTI-FAMILY ENERGY SAVINGS PROGRAM 2018 ELECTRIC GOAL

2018 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$59,337	$59,337	$59,337	$59,337
T & D	N/A	$36,082	$36,082	$36,082	$36,082
Marginal Energy	N/A	$272,201	$272,201	$272,201	$272,201
Environmental Externality	N/A	N/A	N/A	N/A	$91,446
Subtotal	N/A	$367,620	$367,620	$367,620	$459,066
Participant Benefits					
Bill Reduction - Electric	$1,037,300	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$604,088	N/A	N/A	$604,088	$604,088
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$1,641,388	N/A	N/A	$604,088	$604,088
Total Benefits	$1,641,388	$367,620	$367,620	$971,708	$1,063,154
Costs					
Utility Project Costs					
Customer Services	N/A	$50,000	$50,000	$50,000	$50,000
Project Administration	N/A	$147,839	$147,839	$147,839	$147,839
Advertising & Promotion	N/A	$416	$416	$416	$416
Measurement & Verification	N/A	$7,727	$7,727	$7,727	$7,727
Rebates	N/A	$604,088	$604,088	$604,088	$604,088
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$810,070	$810,070	$810,070	$810,070
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$1,037,300	N/A	N/A
Subtotal	N/A	N/A	$1,037,300	N/A	N/A
Participant Costs					
Incremental Capital Costs	$604,088	N/A	N/A	$604,088	$604,088
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$604,088	N/A	N/A	$604,088	$604,088
Total Costs	$604,088	$810,070	$1,847,370	$1,414,158	$1,414,158
Net Benefit (Cost)	$1,037,299	($442,450)	($1,479,750)	($442,450)	($351,004)
Benefit/Cost Ratio	2.72	0.45	0.20	0.69	0.75

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	11.8 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	16.95%
Gross Load Factor at Customer	E	17.83%
Transmission Loss Factor (Energy)	F	8.400%
Transmission Loss Factor (Demand)	G	8.800%
Societal Net Benefit (Cost)	H	($611.57)

Program Summary per Participant		
Gross kW Saved at Customer	I	0.32 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.06 kW
Gross Annual kWh Saved at Customer	(B x E x I)	508 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	554 kWh

Program Summary All Participants		
Total Participants	J	1,766
Total Budget	K	**$810,070**
Gross kW Saved at Customer	(J x I)	574 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**107 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	896,287 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**978,479 kWh**
Societal Net Benefits	(J x I x H)	**($351,004)**

Utility Program Cost per kWh Lifetime	**$0.0701**
Utility Program Cost per kW at Gen	**$7,594**

MULTI-FAMILY ENERGY SAVINGS PROGRAM 2018 ELECTRIC ACTUAL

2018 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$41,430	$41,430	$41,430	$41,430
T & D	N/A	$25,169	$25,169	$25,169	$25,169
Marginal Energy	N/A	$125,405	$125,405	$125,405	$125,405
Environmental Externality	N/A	N/A	N/A	N/A	$41,724
Subtotal	N/A	$192,004	$192,004	$192,004	$233,729
Participant Benefits					
Bill Reduction - Electric	$471,676	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$1,023,407	N/A	N/A	$1,023,407	$1,023,407
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$1,495,083	N/A	N/A	$1,023,407	$1,023,407
Total Benefits	$1,495,083	$192,004	$192,004	$1,215,412	$1,257,136
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$58,135	$58,135	$58,135	$58,135
Advertising & Promotion	N/A	$0	$0	$0	$0
Measurement & Verification	N/A	$0	$0	$0	$0
Rebates	N/A	$1,023,407	$1,023,407	$1,023,407	$1,023,407
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$1,081,542	$1,081,542	$1,081,542	$1,081,542
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$471,676	N/A	N/A
Subtotal	N/A	N/A	$471,676	N/A	N/A
Participant Costs					
Incremental Capital Costs	$1,023,519	N/A	N/A	$1,023,519	$1,023,519
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$1,023,519	N/A	N/A	$1,023,519	$1,023,519
Total Costs	$1,023,519	$1,081,542	$1,553,218	$2,105,061	$2,105,061
Net Benefit (Cost)	$471,564	($889,537)	($1,361,213)	($889,650)	($847,925)
Benefit/Cost Ratio	1.46	0.18	0.12	0.58	0.60

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	11.6 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	25.34%
Gross Load Factor at Customer	E	16.01%
Transmission Loss Factor (Energy)	F	8.400%
Transmission Loss Factor (Demand)	G	8.800%
Societal Net Benefit (Cost)	H	($2,869.96)

Program Summary per Participant		
Gross kW Saved at Customer	I	0.24 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.07 kW
Gross Annual kWh Saved at Customer	(B x E x I)	330 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	360 kWh

Program Summary All Participants		
Total Participants	J	1,255
Total Budget	K	**$1,081,542**
Gross kW Saved at Customer	(J x I)	295 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**82 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	414,356 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**452,354 kWh**
Societal Net Benefits	(J x I x H)	**($847,925)**

Utility Program Cost per kWh Lifetime	**$0.2061**
Utility Program Cost per kW at Gen	**$13,177**

RESEARCH, EVAL. & PILOTS SEGMENT TOTAL 2018 ELECTRIC GOAL

2018 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$563,429	$563,429	$563,429	$563,429
T & D	N/A	$341,731	$341,731	$341,731	$341,731
Marginal Energy	N/A	$1,310,335	$1,310,335	$1,310,335	$1,310,335
Environmental Externality	N/A	N/A	N/A	N/A	$398,119
Subtotal	N/A	$2,215,495	$2,215,495	$2,215,495	$2,613,613
Participant Benefits					
Bill Reduction - Electric	$3,702,827	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$754,798	N/A	N/A	$754,798	$754,798
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$2,971,078	N/A	N/A	$0	$0
Subtotal	$7,428,704	N/A	N/A	$754,798	$754,798
Total Benefits	$7,428,704	$2,215,495	$2,215,495	$2,970,293	$3,368,411
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$2,502,106	$2,502,106	$2,502,106	$2,502,106
Advertising & Promotion	N/A	$27,072	$27,072	$27,072	$27,072
Measurement & Verification	N/A	$210,414	$210,414	$210,414	$210,414
Rebates	N/A	$754,798	$754,798	$754,798	$754,798
Other	N/A	$406,569	$406,569	$406,569	$406,569
Subtotal	N/A	$3,900,959	$3,900,959	$3,900,959	$3,900,959
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$3,702,827	N/A	N/A
Subtotal	N/A	N/A	$3,702,827	N/A	N/A
Participant Costs					
Incremental Capital Costs	$3,395,894	N/A	N/A	$3,378,566	$3,378,566
Incremental O&M Costs	$0	N/A	N/A	$13,704	$13,704
Subtotal	$3,395,894	N/A	N/A	$3,392,270	$3,392,270
Total Costs	$3,395,894	$3,900,959	$7,603,787	$7,293,229	$7,293,229
Net Benefit (Cost)	$4,032,809	($1,685,465)	($5,388,292)	($4,322,936)	($3,924,818)
Benefit/Cost Ratio	2.19	0.57	0.29	0.41	0.46

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	8.1 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	20.68%
Gross Load Factor at Customer	E	10.35%
Transmission Loss Factor (Energy)	F	7.597%
Transmission Loss Factor (Demand)	G	8.688%
Societal Net Benefit (Cost)	H	($701.32)

Program Summary per Participant		
Gross kW Saved at Customer	I	0.20 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.04 kW
Gross Annual kWh Saved at Customer	(B x E x I)	177 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	191 kWh

Program Summary All Participants		
Total Participants	J	28,688
Total Budget	K	**$3,900,959**
Gross kW Saved at Customer	(J x I)	5,596 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**1,267 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	5,072,024 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**5,489,034 kWh**
Societal Net Benefits	(J x I x H)	**($3,924,818)**

Utility Program Cost per kWh Lifetime	**$0.0881**
Utility Program Cost per kW at Gen	**$3,078**

RESEARCH, EVAL. & PILOTS SEGMENT TOTAL — 2018 ELECTRIC — ACTUAL

2018 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$591,601	$591,601	$591,601	$591,601
T & D	N/A	$359,709	$359,709	$359,709	$359,709
Marginal Energy	N/A	$1,480,014	$1,480,014	$1,480,014	$1,480,014
Environmental Externality	N/A	N/A	N/A	N/A	$471,440
Subtotal	N/A	$2,431,324	$2,431,324	$2,431,324	$2,902,764
Participant Benefits					
Bill Reduction - Electric	$5,070,010	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$693,365	N/A	N/A	$693,365	$693,365
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$5,763,375	N/A	N/A	$693,365	$693,365
Total Benefits	$5,763,375	$2,431,324	$2,431,324	$3,124,689	$3,596,129
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$2,175,288	$2,175,288	$2,175,288	$2,175,288
Advertising & Promotion	N/A	$0	$0	$0	$0
Measurement & Verification	N/A	$400,565	$400,565	$400,565	$400,565
Rebates	N/A	$693,365	$693,365	$693,365	$693,365
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$3,269,218	$3,269,218	$3,269,218	$3,269,218
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$5,070,010	N/A	N/A
Subtotal	N/A	N/A	$5,070,010	N/A	N/A
Participant Costs					
Incremental Capital Costs	$1,596,798	N/A	N/A	$1,596,798	$1,596,798
Incremental O&M Costs	$1,050	N/A	N/A	$1,050	$1,050
Subtotal	$1,597,848	N/A	N/A	$1,597,848	$1,597,848
Total Costs	$1,597,848	$3,269,218	$8,339,228	$4,867,066	$4,867,066
Net Benefit (Cost)	$4,165,528	($837,894)	($5,907,904)	($1,742,376)	($1,270,937)
Benefit/Cost Ratio	3.61	0.74	0.29	0.64	0.74

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	9.5 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	7.96%
Gross Load Factor at Customer	E	5.16%
Transmission Loss Factor (Energy)	F	8.207%
Transmission Loss Factor (Demand)	G	8.782%
Societal Net Benefit (Cost)	H	($111.54)

Program Summary per Participant		
Gross kW Saved at Customer	I	0.42 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.04 kW
Gross Annual kWh Saved at Customer	(B x E x I)	188 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	205 kWh

Program Summary All Participants		
Total Participants	J	27,420
Total Budget	K	**$3,269,218**
Gross kW Saved at Customer	(J x I)	11,394 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**994 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	5,154,501 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**5,615,358 kWh**
Societal Net Benefits	(J x I x H)	**($1,270,937)**

Utility Program Cost per kWh Lifetime	**$0.0614**
Utility Program Cost per kW at Gen	**$3,288**

Conservation Improvement Program (CIP) BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis **GOAL**

Company: **Xcel Energy**
Project: **Research, Eval. & Pilots Segment Total**

Input Data	
1) Retail Rate ($/Dth) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 **First Year**	2018 **Second Year**	2019 **Third Year**
Administrative & Operating Costs =		$546,345	
Incentive Costs =		$64,981	
16) Total Utility Project Costs =		$611,326	
17) Direct Participant Costs ($/Part.) =		$284	
18) Participant Non-Energy Costs (Annual $/Part.) =		$0	
Escalation Rate =		1.73%	
19) Participant Non-Energy Savings (Annual $/Part) =		$76	
Escalation Rate =		1.73%	
20) Project Life (Years) =		7.3	
21) Avg. Dth/Part. Saved =		5.12	
22) Avg Non-Gas Fuel Units/Part. Saved =		0 kWh	
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =		0 kWh	
23) Number of Participants =		881	
24) Total Annual Dth Saved =		4,514	
25) Incentive/Participant =		$73.76	

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		$694	
Cost per Participant per Dth =		$190.81	
Lifetime Energy Reduction (Dth)		32,898	
Societal Cost per Dth		$23.55	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($642,766)	0.20
Utility Cost Test	($433,878)	0.28
Societal Test	($101,934)	0.87
Participant Test	$1,671,271	7.53

Conservation Improvement Program (CIP) BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis **ACTUAL**

Company: **Xcel Energy**
Project: **Research, Eval. & Pilots Segment Total**

Input Data	
1) Retail Rate ($/Dth) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 **First Year**	2018 **Second Year**	2019 **Third Year**
Administrative & Operating Costs =		$292,609	
Incentive Costs =		$7,517	
16) Total Utility Project Costs =		$300,126	
17) Direct Participant Costs ($/Part.) =		$0	
18) Participant Non-Energy Costs (Annual $/Part.) =		$0	
Escalation Rate =		1.73%	
19) Participant Non-Energy Savings (Annual $/Part) =		$0	
Escalation Rate =		1.73%	
20) Project Life (Years) =		0.0	
21) Avg. Dth/Part. Saved =		-	
22) Avg Non-Gas Fuel Units/Part. Saved =		0 kWh	
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =		0 kWh	
23) Number of Participants =		-	
24) Total Annual Dth Saved =		0	
25) Incentive/Participant =		$0.00	

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		#DIV/0!	
Cost per Participant per Dth =		#DIV/0!	
Lifetime Energy Reduction (Dth)		0	
Societal Cost per Dth		#DIV/0!	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($300,126)	-
Utility Cost Test	($300,126)	-
Societal Test	($292,609)	-
Participant Test	$7,517	#DIV/0!

ENERGY STAR RETAIL PRODUCTS 2018 ELECTRIC GOAL

2018 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$501,447	$501,447	$501,447	$501,447
T & D	N/A	$304,181	$304,181	$304,181	$304,181
Marginal Energy	N/A	$933,402	$933,402	$933,402	$933,402
Environmental Externality	N/A	N/A	N/A	N/A	$273,683
Subtotal	N/A	$1,739,031	$1,739,031	$1,739,031	$2,012,714
Participant Benefits					
Bill Reduction - Electric	$2,954,909	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$650,381	N/A	N/A	$650,381	$650,381
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$3,605,290	N/A	N/A	$650,381	$650,381
Total Benefits	$3,605,290	$1,739,031	$1,739,031	$2,389,412	$2,663,095
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$131,266	$131,266	$131,266	$131,266
Advertising & Promotion	N/A	$27,072	$27,072	$27,072	$27,072
Measurement & Verification	N/A	$5,414	$5,414	$5,414	$5,414
Rebates	N/A	$650,381	$650,381	$650,381	$650,381
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$814,133	$814,133	$814,133	$814,133
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$2,954,909	N/A	N/A
Subtotal	N/A	N/A	$2,954,909	N/A	N/A
Participant Costs					
Incremental Capital Costs	$3,196,951	N/A	N/A	$3,196,951	$3,196,951
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$3,196,951	N/A	N/A	$3,196,951	$3,196,951
Total Costs	$3,196,951	$814,133	$3,769,042	$4,011,084	$4,011,084
Net Benefit (Cost)	$408,339	$924,897	($2,030,012)	($1,621,672)	($1,347,989)
Benefit/Cost Ratio	1.13	2.14	0.46	0.60	0.66

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	10.1 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	18.66%
Gross Load Factor at Customer	E	6.07%
Transmission Loss Factor (Energy)	F	8.400%
Transmission Loss Factor (Demand)	G	8.800%
Societal Net Benefit (Cost)	H	($257.22)

Program Summary per Participant		
Gross kW Saved at Customer	I	0.18 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.04 kW
Gross Annual kWh Saved at Customer	(B x E x I)	97 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	106 kWh

Program Summary All Participants		
Total Participants	J	28,653
Total Budget	K	**$814,133**
Gross kW Saved at Customer	(J x I)	5,241 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**1,072 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	2,785,326 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**3,040,749 kWh**
Societal Net Benefits	(J x I x H)	**($1,347,989)**

Utility Program Cost per kWh Lifetime	**$0.0264**
Utility Program Cost per kW at Gen	**$759**

ENERGY STAR RETAIL PRODUCTS 2018 ELECTRIC ACTUAL

2018 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$579,516	$579,516	$579,516	$579,516
T & D	N/A	$352,395	$352,395	$352,395	$352,395
Marginal Energy	N/A	$1,364,613	$1,364,613	$1,364,613	$1,364,613
Environmental Externality	N/A	N/A	N/A	N/A	$442,598
Subtotal	N/A	$2,296,523	$2,296,523	$2,296,523	$2,739,121
Participant Benefits					
Bill Reduction - Electric	$4,839,616	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$645,508	N/A	N/A	$645,508	$645,508
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$5,485,125	N/A	N/A	$645,508	$645,508
Total Benefits	$5,485,125	$2,296,523	$2,296,523	$2,942,032	$3,384,629
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$188,227	$188,227	$188,227	$188,227
Advertising & Promotion	N/A	$0	$0	$0	$0
Measurement & Verification	N/A	$0	$0	$0	$0
Rebates	N/A	$645,508	$645,508	$645,508	$645,508
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$833,735	$833,735	$833,735	$833,735
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$4,839,616	N/A	N/A
Subtotal	N/A	N/A	$4,839,616	N/A	N/A
Participant Costs					
Incremental Capital Costs	$1,558,653	N/A	N/A	$1,558,653	$1,558,653
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$1,558,653	N/A	N/A	$1,558,653	$1,558,653
Total Costs	$1,558,653	$833,735	$5,673,351	$2,392,388	$2,392,388
Net Benefit (Cost)	$3,926,471	$1,462,788	($3,376,828)	$549,643	$992,241
Benefit/Cost Ratio	3.52	2.75	0.40	1.23	1.41

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	10.0 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	7.69%
Gross Load Factor at Customer	E	4.65%
Transmission Loss Factor (Energy)	F	8.400%
Transmission Loss Factor (Demand)	G	8.800%
Societal Net Benefit (Cost)	H	$87.96

Program Summary per Participant		
Gross kW Saved at Customer	I	0.41 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.03 kW
Gross Annual kWh Saved at Customer	(B x E x I)	168 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	183 kWh

Program Summary All Participants		
Total Participants	J	27,416
Total Budget	K	**$833,735**
Gross kW Saved at Customer	(J x I)	11,281 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**951 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	4,592,383 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**5,013,519 kWh**
Societal Net Benefits	(J x I x H)	**$992,241**

Utility Program Cost per kWh Lifetime	**$0.0166**
Utility Program Cost per kW at Gen	**$876**

Conservation Improvement Program (CIP) BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis **GOAL**

Company: **Xcel Energy**
Project: **Energy Star Retail Products**

Input Data	2017 **First Year**	2018 **Second Year**	2019 **Third Year**
1) Retail Rate ($/Dth) =		$6.46	
Escalation Rate =		4.00%	
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =		$0.000	
Escalation Rate =		3.22%	
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =		kWh	
3) Commodity Cost ($/Dth) =		$4.27	
Escalation Rate =		4.00%	
4) Demand Cost ($/Unit/Yr) =		$80.24	
Escalation Rate =		4.00%	
5) Peak Reduction Factor =		1.00%	
6) Variable O&M ($/Dth) =		$0.0408	
Escalation Rate =		4.00%	
7) Non-Gas Fuel Cost ($/Fuel Unit) =		$0.02153	
Escalation Rate =		3.22%	
8) Non-Gas Fuel Loss Factor		5.28%	
9) Gas Environmental Damage Factor =		$0.3800	
Escalation Rate =		2.16%	
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =		$0.0232	
Escalation Rate =		2.16%	
11) Participant Discount Rate =		2.55%	
12) Utility Discount Rate =		7.04%	
13) Societal Discount Rate =		2.55%	
14) General Input Data Year =		2016	
15a) Project Analysis Year 1 =		2017	
15b) Project Analysis Year 2 =		2018	
15c) Project Analysis Year 3 =		2019	
Administrative & Operating Costs =		$909	
Incentive Costs =		$39,499	
16) Total Utility Project Costs =		$40,408	
17) Direct Participant Costs ($/Part.) =		$244	
18) Participant Non-Energy Costs (Annual $/Part.) =		$0	
Escalation Rate =		1.73%	
19) Participant Non-Energy Savings (Annual $/Part) =		$0	
Escalation Rate =		1.73%	
20) Project Life (Years) =		12.0	
21) Avg. Dth/Part. Saved =		0.50	
22) Avg Non-Gas Fuel Units/Part. Saved =		0 kWh	
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =		0 kWh	
23) Number of Participants =		873	
24) Total Annual Dth Saved =		437	
25) Incentive/Participant =		$45.25	

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		$46	
Cost per Participant per Dth =		$581.30	
Lifetime Energy Reduction (Dth)		5,240	
Societal Cost per Dth		$40.90	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($46,934)	0.35
Utility Cost Test	($15,553)	0.62
Societal Test	($180,952)	0.16
Participant Test	($134,350)	0.37

Conservation Improvement Program (CIP) BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis **ACTUAL**

Company: **Xcel Energy**
Project: **Energy Star Retail Products**

Input Data	
1) Retail Rate ($/Dth) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 **First Year**	2018 **Second Year**	2019 **Third Year**
Administrative & Operating Costs =		$17,109	
Incentive Costs =		$7,517	
16) Total Utility Project Costs =		$24,626	
17) Direct Participant Costs ($/Part.) =		$0	
18) Participant Non-Energy Costs (Annual $/Part.) =		$0	
Escalation Rate =		1.73%	
19) Participant Non-Energy Savings (Annual $/Part) =		$0	
Escalation Rate =		1.73%	
20) Project Life (Years) =		0.0	
21) Avg. Dth/Part. Saved =		-	
22) Avg Non-Gas Fuel Units/Part. Saved =		0 kWh	
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =		0 kWh	
23) Number of Participants =		-	
24) Total Annual Dth Saved =		0	
25) Incentive/Participant =		$0.00	

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		#DIV/0!	
Cost per Participant per Dth =		#DIV/0!	
Lifetime Energy Reduction (Dth)		0	
Societal Cost per Dth		#DIV/0!	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($24,626)	-
Utility Cost Test	($24,626)	-
Societal Test	($17,109)	-
Participant Test	$7,517	#DIV/0!

ENERGY INFORMATION SYSTEMS 2018 ELECTRIC GOAL

2018 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$61,981	$61,981	$61,981	$61,981
T & D	N/A	$37,550	$37,550	$37,550	$37,550
Marginal Energy	N/A	$376,934	$376,934	$376,934	$376,934
Environmental Externality	N/A	N/A	N/A	N/A	$124,436
Subtotal	N/A	$476,464	$476,464	$476,464	$600,900
Participant Benefits					
Bill Reduction - Electric	$747,919	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$104,417	N/A	N/A	$104,417	$104,417
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$2,971,078	N/A	N/A	$0	$0
Subtotal	$3,823,414	N/A	N/A	$104,417	$104,417
Total Benefits	$3,823,414	$476,464	$476,464	$580,881	$705,317
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$178,256	$178,256	$178,256	$178,256
Advertising & Promotion	N/A	$0	$0	$0	$0
Measurement & Verification	N/A	$0	$0	$0	$0
Rebates	N/A	$104,417	$104,417	$104,417	$104,417
Other	N/A	$16,560	$16,560	$16,560	$16,560
Subtotal	N/A	$299,233	$299,233	$299,233	$299,233
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$747,919	N/A	N/A
Subtotal	N/A	N/A	$747,919	N/A	N/A
Participant Costs					
Incremental Capital Costs	$198,944	N/A	N/A	$181,616	$181,616
Incremental O&M Costs	$0	N/A	N/A	$13,704	$13,704
Subtotal	$198,944	N/A	N/A	$195,319	$195,319
Total Costs	$198,944	$299,233	$1,047,152	$494,552	$494,552
Net Benefit (Cost)	$3,624,470	$177,231	($570,687)	$86,329	$210,765
Benefit/Cost Ratio	19.22	1.59	0.46	1.17	1.43

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	5.5 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	51.08%
Gross Load Factor at Customer	E	73.38%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$592.51

Program Summary per Participant		
Gross kW Saved at Customer	I	10.16 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	5.58 kW
Gross Annual kWh Saved at Customer	(B x E x I)	65,334 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	69,951 kWh

Program Summary All Participants		
Total Participants	J	35
Total Budget	K	**$299,233**
Gross kW Saved at Customer	(J x I)	356 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**195 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	2,286,698 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**2,448,285 kWh**
Societal Net Benefits	(J x I x H)	**$210,765**

Utility Program Cost per kWh Lifetime	**$0.0223**
Utility Program Cost per kW at Gen	**$1,532**

ENERGY INFORMATION SYSTEMS 2018 ELECTRIC ACTUAL

2018 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$12,085	$12,085	$12,085	$12,085
T & D	N/A	$7,315	$7,315	$7,315	$7,315
Marginal Energy	N/A	$115,401	$115,401	$115,401	$115,401
Environmental Externality	N/A	N/A	N/A	N/A	$28,842
Subtotal	N/A	$134,801	$134,801	$134,801	$163,643
Participant Benefits					
Bill Reduction - Electric	$230,394	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$47,857	N/A	N/A	$47,857	$47,857
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$278,251	N/A	N/A	$47,857	$47,857
Total Benefits	$278,251	$134,801	$134,801	$182,658	$211,500
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$265,913	$265,913	$265,913	$265,913
Advertising & Promotion	N/A	$0	$0	$0	$0
Measurement & Verification	N/A	$0	$0	$0	$0
Rebates	N/A	$47,857	$47,857	$47,857	$47,857
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$313,770	$313,770	$313,770	$313,770
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$230,394	N/A	N/A
Subtotal	N/A	N/A	$230,394	N/A	N/A
Participant Costs					
Incremental Capital Costs	$38,145	N/A	N/A	$38,145	$38,145
Incremental O&M Costs	$1,050	N/A	N/A	$1,050	$1,050
Subtotal	$39,194	N/A	N/A	$39,194	$39,194
Total Costs	$39,194	$313,770	$544,164	$352,964	$352,964
Net Benefit (Cost)	$239,056	($178,969)	($409,363)	($170,307)	($141,464)
Benefit/Cost Ratio	7.10	0.43	0.25	0.52	0.60

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	5.0 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	35.38%
Gross Load Factor at Customer	E	56.61%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	($1,247.92)

Program Summary per Participant		
Gross kW Saved at Customer	I	28.34 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	10.78 kW
Gross Annual kWh Saved at Customer	(B x E x I)	140,530 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	150,460 kWh

Program Summary All Participants		
Total Participants	J	4
Total Budget	K	**$313,770**
Gross kW Saved at Customer	(J x I)	113 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**43 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	562,118 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**601,839 kWh**
Societal Net Benefits	(J x I x H)	**($141,464)**

Utility Program Cost per kWh Lifetime	**$0.1043**
Utility Program Cost per kW at Gen	**$7,275**

Conservation Improvement Program (CIP) BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis **GOAL**

Company: **Xcel Energy**
Project: **Energy Information Systems**

Input Data	
1) Retail Rate ($/Dth) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 **First Year**	2018 **Second Year**	2019 **Third Year**
Administrative & Operating Costs =		$86,497	
Incentive Costs =		$25,482	
16) Total Utility Project Costs =		$111,979	
17) Direct Participant Costs ($/Part.) =		$4,565	
18) Participant Non-Energy Costs (Annual $/Part.) =		$0	
Escalation Rate =		1.73%	
19) Participant Non-Energy Savings (Annual $/Part) =		$8,340	
Escalation Rate =		1.73%	
20) Project Life (Years) =		6.8	
21) Avg. Dth/Part. Saved =		509.62	
22) Avg Non-Gas Fuel Units/Part. Saved =		0 kWh	
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =		0 kWh	
23) Number of Participants =		8	
24) Total Annual Dth Saved =		4,077	
25) Incentive/Participant =		$3,185.25	

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		$13,997	
Cost per Participant per Dth =		$36.42	
Lifetime Energy Reduction (Dth)		27,658	
Societal Cost per Dth		$4.10	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($148,893)	0.49
Utility Cost Test	$28,614	1.26
Societal Test	$525,957	5.64
Participant Test	$1,805,621	43.46

Conservation Improvement Program (CIP) BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis **ACTUAL**

Company: **Xcel Energy**
Project: **Energy Information Systems**

Input Data	
1) Retail Rate ($/Dth) =	$6.46
Escalation Rate =	4.00%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	3.22%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.27
Escalation Rate =	4.00%
4) Demand Cost ($/Unit/Yr) =	$80.24
Escalation Rate =	4.00%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0408
Escalation Rate =	4.00%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.02153
Escalation Rate =	3.22%
8) Non-Gas Fuel Loss Factor	5.28%
9) Gas Environmental Damage Factor =	$0.3800
Escalation Rate =	2.16%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0232
Escalation Rate =	2.16%
11) Participant Discount Rate =	2.55%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.55%
14) General Input Data Year =	2016
15a) Project Analysis Year 1 =	2017
15b) Project Analysis Year 2 =	2018
15c) Project Analysis Year 3 =	2019

	2017 **First Year**	2018 **Second Year**	2019 **Third Year**
Administrative & Operating Costs =		($658)	
Incentive Costs =		$0	
16) Total Utility Project Costs =		($658)	
17) Direct Participant Costs ($/Part.) =		$0	
18) Participant Non-Energy Costs (Annual $/Part.) =		$0	
Escalation Rate =		1.73%	
19) Participant Non-Energy Savings (Annual $/Part) =		$0	
Escalation Rate =		1.73%	
20) Project Life (Years) =		0.0	
21) Avg. Dth/Part. Saved =		-	
22) Avg Non-Gas Fuel Units/Part. Saved =		0 kWh	
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =		0 kWh	
23) Number of Participants =		-	
24) Total Annual Dth Saved =		0	
25) Incentive/Participant =		$0.00	

Cost Summary	**1st Yr**	**2nd Yr**	**3rd Yr**
Utility Cost per Participant =		#DIV/0!	
Cost per Participant per Dth =		#DIV/0!	
Lifetime Energy Reduction (Dth)		0	
Societal Cost per Dth		#DIV/0!	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	$658	-
Utility Cost Test	$658	-
Societal Test	$658	-
Participant Test	$0	#DIV/0!

➢One-Stop Efficiency Shop Program — Actual for 2018

Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$ 9,162,206	$ 9,162,206	$ 9,162,206	$ 9,162,206
T & D	N/A	$ 5,576,185	$ 5,576,185	$ 5,576,185	$ 5,576,185
Marginal Energy	N/A	$ 29,102,231	$ 29,102,231	$ 29,102,231	$ 29,102,231
Environmental Externality	N/A	N/A	N/A	N/A	$ 9,546,347
Subtotal	N/A	$ 43,840,622	$ 43,840,622	$ 43,840,622	$ 53,386,969
Participant Benefits					
Bill Reduction - Electric	$ 69,789,523	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$ 8,860,719	N/A	N/A	$ 8,860,719	$ 8,860,719
Incremental Capital Savings	$ -	N/A	N/A	$ -	$ -
Incremental O&M Savings	$ -	N/A	N/A	$ -	$ -
Subtotal	$ 78,650,242	N/A	N/A	$ 8,860,719	$ 8,860,719
Total Benefits	$ 78,650,242	$ 43,840,622	$ 43,840,622	$ 52,701,341	$ 62,247,688
Costs					
Utility Project Costs					
Product Delivery	N/A	$ 8,537,650	$ 8,537,650	$ 8,537,650	$ 8,537,650
Utility Administration	N/A	$ 323,337	$ 323,337	$ 323,337	$ 323,337
Other Project Administration	N/A	$ -	$ -	$ -	$ -
Advertising & Promotion	N/A	$ -	$ -	$ -	$ -
Evaluation / M&V	N/A	$ -	$ -	$ -	$ -
Rebates	N/A	$ 8,860,719	$ 8,860,719	$ 8,860,719	$ 8,860,719
Other	N/A	$ -	$ -	$ -	$ -
Subtotal	N/A	$ 17,721,706	$ 17,721,706	$ 17,721,706	$ 17,721,706
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$ 69,789,523	N/A	N/A
Subtotal	N/A	N/A	$ 69,789,523	N/A	N/A
Participant Costs					
Incremental Capital Costs	$ 19,629,676	N/A	N/A	$ 19,629,676	$ 19,629,676
Incremental O&M Costs	$ 2,007,308	N/A	N/A	$ 2,007,308	$ 2,007,308
Subtotal	$ 21,636,983	N/A	N/A	$ 21,636,983	$ 21,636,983
Total Costs	$ 21,636,983	$ 17,721,706	$ 87,511,229	$ 39,358,689	$ 39,358,689
Net Benefit (Cost)	$57,013,258	$26,118,916	($43,670,606)	$13,342,652	$22,888,999
Benefit/Cost Ratio	3.63	2.47	0.50	1.34	1.58

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

➢One-Stop Efficiency Shop Program — Actual for 2018

Input Summary and Totals

Program "Inputs" per Customer kW

Lifetime (Weighted on Generator kWh)	A	16.00 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	80.48%
Gross Load Factor at Customer	E	53.70%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
TRC Net Benefit (Cost)	H	$1,471
Net coincident kW Saved at Generator	(D x C) / (1 - G)	0.8654 kW
Gross Annual kWh Saved at Customer	(B x E x C)	4,704 kWh
Net Annual kWh Saved at Generator	(B x E x C) / (1 - F)	5,037 kWh

Program Summary per Participant

Gross kW Saved at Customer	I	5.77 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	4.99 kW
Gross Annual kWh Saved at Customer	(B x E x I)	27,127 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	29,044 kWh

Program Summary All Participants

Total Participants	J	2,699
Total Budget	K	$ 17,721,706
Gross kW Saved at Customer	(J x I)	15,564 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G) x J	13,469 kW
Gross Annual kWh Saved at Customer	(B x E x I) x J	73,215,599 kWh
Net Annual kWh Saved at Generator	((B x E x I) / (1 - F)) x J	78,389,292 kWh
TRC Net Benefits	(J x I x H)	$22,888,999

Utility Program Cost per kWh Lifetime	**$0.0141**
Utility Program Cost per kW at Gen	**$1,315.77**

Electric Measure Description	Electric Measure Description	Efficient Product Description / Rating	Efficient Product Consumption (watts)	Efficient Hours of Operation (hrs/yr)	Baseline Product Description / Rating	Baseline Product Consumption (watts)	Baseline Hours of Operation (hrs/yr)	Measure Lifetime (years)	Rebate Amount ($)	Average Baseline Product Cost ($)	Incremental Cost of Efficient Product ($)	Assumed Energy Cost ($/kWh)	Rebate as a % of Incremental Cost (%)	Increm'l Cost Payback Period w/o Rebate (yrs)	Increm'l Cost Payback Period w/ Rebate (yrs)	Annual Customer kWh Savings (kWh/yr)	Rebated Cost / Cust kWh Saved ($/kWh)	Rebated Lifetime cost /Cust KWh Saved ($/kWh)	Customer kW Savings (kW)	Generator Peak kW Savings (kW)	Non-Energy O&M Savings ($)	Energy O&M Savings ($)	Coincidence Factor (%)	2018 Units (-)	Installation Rate (%)	Realization Rate (kW) (%)	Realization Rate (kWh) (%)	2018 NET Gen kW (kW)	2018 NET Gen kWh (kWh)	2018 Rebate Budget ($)	2018 Incremental Costs ($)	Total Customer kWh for all Units Installed in 2018
TOTAL	*TOTAL*																															
Business	**Business**																															
Business New Construction	***Business New Construction***																											**11,905**	**52,614,822**	**6,836,242**	**24,345,466**	
Average EDA Project - 2017	Average EDA Project - 2017	More Efficient than Code Building	0	0	Code-Compliant Building	0	0	20	$0	$0	$0	$0.06	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	100.0%	100.0%	0	0	0	0	0
Average EDA Project - 2018	Average EDA Project - 2018	More Efficient than Code Building	0	4,119	Code-Compliant Building	93,061	4,119	20	$53,172	$0	$194,221	$0.06	27%	8.6	6.2	383,281	$0.139	$0.007	93.1	91.7	-$158.61	$0.00	92%	113	100%	99.2%	98.8%	10,345	46,305,607	5,999,937	21,915,871	43,249,437
Average EDA Project - 2019	Average EDA Project - 2019	More Efficient than Code Building	0	0	Code-Compliant Building	0	0	20	$0	$0	$0	$0.06	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	100.0%	100.0%	0	0	0	0	0
Average EEB Project - 2017	Average EEB Project - 2017	More Efficient than Code Building	0	0	Code-Compliant Building	0	0	20	$0	$0	$0	$0.06	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	100.0%	100.0%	0	0	0	0	0
Average EEB Project - 2018	Average EEB Project - 2018	More Efficient than Code Building	0	2,984	Code-Compliant Building	4,117	2,984	20	$1,743	$0	$5,065	$0.06	34%	7.0	4.6	12,285	$0.142	$0.007	4.1	3.3	-$48.58	$0.00	73%	480	100%	99.2%	98.8%	1,560	6,309,215	836,305	2,429,595	5,892,807
Average EEB Project - 2019	Average EEB Project - 2019	More Efficient than Code Building	0	0	Code-Compliant Building	0	0	20	$0	$0	$0	$0.06	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	100.0%	100.0%	0	0	0	0	0
Commercial Efficiency	***Commercial Efficiency***						**0**													**0.0**			0%					**6,667**	**42,792,075**	**3,531,197**	**14,728,192**	
Average project results from 2015 history	Average project results from 2015 history	0	0	4,914	New updated systems	99	4,914	17	$43	$0	$179	$0.07	24%	5.0	3.8	485	$0.088	$0.005	0.1	0.1	$4.07	$0.00	76%	82,360	100%	100.4%	100.4%	6,667	42,792,075	3,531,197	14,728,192	39,967,798
Study Cost Allocations	Study Cost Allocations	0	0	0	0	0	0	0	$0	$0	$0	$0.07	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	100.0%	100.0%	0	0	0	0	0
Phase 2 Customer Contribution	Phase 2 Customer Contribution	0	0	0	0	0	0	0	$0	$0	$0	$0.07	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	100.0%	100.0%	0	0	0	0	0
Behavioral Changes	Behavioral Changes	Behavior changes that reduce energy use	0	0	No change in behavior	0	0	1	$0	$0	$0	$0.06	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	100.0%	100.0%	0	0	0	0	0
Behavioral Changes	Behavioral Changes	Behavior changes that reduce energy use	0	0	No change in behavior	0	0	0	$0	$0	$0	$0.06	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	100.0%	100.0%	0	0	0	0	0
Computer Efficiency	***Computer Efficiency***						0																0%					208	1,638,209	78,531	284,625	
Upstream Power Supply - Bronze	Upstream Power Supply - Bronze	desktop computer meeting ENERGY STAR version 6.0 spec with an 80 Plus Bronze level power supply	0	7,311	Baseline desktop computer with a standard efficiency power supply	7	7,311	5	$3	$0	$9	$0.08	33%	2.3	1.6	51	$0.058	$0.012	0.0	0.0	-$0.20	$0.00	100%	8,319	100%	100.0%	100.0%	63	457,041	24,957	74,871	426,876
Upstream Power Supply - Silver	Upstream Power Supply - Silver	desktop computer meeting ENERGY STAR version 6.0 spec with an 80 Plus Silver level power supply	0	7,355	desktop computer meeting ENERGY STAR version 6.0 spec with an 80 Plus Bronze level power supply	8	7,355	5	$5	$0	$14	$0.08	36%	3.3	2.1	57	$0.088	$0.018	0.0	0.0	-$0.23	$0.00	100%	12	100%	100.0%	100.0%	0	732	60	168	684
Upstream Power Supply - Gold	Upstream Power Supply - Gold	desktop computer meeting ENERGY STAR version 6.0 spec with an 80 Plus Gold level power supply	0	7,314	desktop computer meeting ENERGY STAR version 6.0 spec with an 80 Plus Bronze level power supply	8	7,314	5	$8	$0	$16	$0.08	50%	3.5	1.8	61	$0.132	$0.026	0.0	0.0	-$0.24	$0.00	100%	323	100%	100.0%	100.0%	3	20,971	2,584	5,168	19,587
Upstream Power Supply - Platinum	Upstream Power Supply - Platinum	desktop computer meeting ENERGY STAR version 6.0 spec with an 80 Plus Platinum level power supply	0	7,310	desktop computer meeting ENERGY STAR version 6.0 spec with an 80 Plus Bronze level power supply	9	7,310	5	$10	$0	$22	$0.08	45%	4.6	2.5	64	$0.155	$0.031	0.0	0.0	-$0.26	$0.00	100%	261	100%	100.0%	100.0%	2	17,985	2,610	5,742	16,798
Zero & Thin Client Installations	Zero & Thin Client Installations	Server & software at data center along with thin-client or zero-client device replaces desktop CPU (VM Ware w/ Wyse thin-client system, Pano-Logic zero-client system); meeting Energy Star 6.0 specification	0	0	Desktop computers meeting ENERGY STAR 3.0 specifications	0	0	10	$0	$0	$0	$0.08	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	100.0%	100.0%	0	0	0	0	0
Network Based PC Power Management	Network Based PC Power Management	Desktop Computer with network controlled software installed	0	0	Desktop Computer with no network controlled software	0	0	6	$0	$0	$0	$0.07	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	100.0%	100.0%	0	0	0	0	0
Computer Server; with <400W Units with Gold Rated Power Supply	Computer Server; with <400W Units with Gold Rated Power Supply	Gold Power Supply	0	8,222	Silver Power Supply	6	8,222	5	$5	$0	$12	$0.07	43%	3.5	2.0	50	$0.100	$0.020	0.0	0.0	$0.00	$0.00	100%	63	100%	100.0%	100.0%	0	3,372	315	732	3,149
Computer Server; with 400-600W Units with Gold Rated Power Supply	Computer Server; with 400-600W Units with Gold Rated Power Supply	Gold Power Supply	0	8,222	Silver Power Supply	9	8,222	5	$5	$0	$14	$0.07	36%	2.7	1.7	77	$0.065	$0.013	0.0	0.0	$0.00	$0.00	100%	129	100%	100.0%	100.0%	1	10,669	645	1,790	9,965
Computer Server; with 600-1000W Units with Gold Rated Power Supply	Computer Server; with 600-1000W Units with Gold Rated Power Supply	Gold Power Supply	0	8,205	Silver Power Supply	13	8,205	5	$5	$0	$16	$0.07	31%	2.2	1.5	111	$0.045	$0.009	0.0	0.0	$0.00	$0.00	100%	75	100%	100.0%	100.0%	1	8,881	375	1,209	8,295
Computer Server; with >1000W Units with Gold Rated Power Supply	Computer Server; with >1000W Units with Gold Rated Power Supply	Gold Power Supply	0	8,211	Silver Power Supply	19	8,211	5	$5	$0	$18	$0.07	27%	1.7	1.3	157	$0.032	$0.006	0.0	0.0	$0.00	$0.00	100%	205	100%	100.0%	100.0%	4	34,469	1,025	3,767	32,194
Computer Server; with <400W Units with Platinum Rated Power Supply	Computer Server; with <400W Units with Platinum Rated Power Supply	Platinum Power Supply	0	0	Silver Power Supply	0	0	5	$0	$0	$0	$0.07	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	100.0%	100.0%	0	0	0	0	0
Computer Server; with 400-600W Units with Platinum Rated Power Supply	Computer Server; with 400-600W Units with Platinum Rated Power Supply	Platinum Power Supply	0	8,208	Silver Power Supply	17	8,208	5	$10	$0	$37	$0.07	27%	4.0	2.9	138	$0.073	$0.015	0.0	0.0	$0.00	$0.00	100%	1,825	100%	100.0%	100.0%	33	269,449	18,250	67,525	251,665
Computer Server; with 600-1000W Units with Platinum Rated Power Supply	Computer Server; with 600-1000W Units with Platinum Rated Power Supply	Platinum Power Supply	0	8,208	Silver Power Supply	27	8,208	5	$10	$0	$43	$0.07	23%	2.9	2.2	220	$0.046	$0.009	0.0	0.0	$0.00	$0.00	100%	1,958	100%	100.0%	100.0%	56	460,168	19,580	84,194	429,797
Computer Server; with >1000W Units with Platinum Rated Power Supply	Computer Server; with >1000W Units with Platinum Rated Power Supply	Platinum Power Supply	0	8,208	Silver Power Supply	51	8,208	5	$10	$0	$49	$0.07	20%	1.8	1.4	418	$0.024	$0.005	0.1	0.1	$0.00	$0.00	100%	759	100%	100.0%	100.0%	42	339,399	7,590	37,191	316,999
Computer Server; with <400W Units with Titanium Rated Power Supply	Computer Server; with <400W Units with Titanium Rated Power Supply	Titanium Power Supply	0	0	Silver Power Supply	0	0	5	$0	$0	$0	$0.07	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	100.0%	100.0%	0	0	0	0	0
Computer Server; with 400-600W Units with Titanium Rated Power Supply	Computer Server; with 400-600W Units with Titanium Rated Power Supply	Titanium Power Supply	0	0	Silver Power Supply	0	0	5	$0	$0	$0	$0.07	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	100.0%	100.0%	0	0	0	0	0
Computer Server; with 600-1000W Units with Titanium Rated Power Supply	Computer Server; with 600-1000W Units with Titanium Rated Power Supply	Titanium Power Supply	0	8,199	Silver Power Supply	38	8,199	5	$20	$0	$81	$0.07	25%	3.9	2.9	309	$0.065	$0.013	0.0	0.0	$0.00	$0.00	100%	19	100%	100.0%	100.0%	1	6,294	380	1,532	5,879
Computer Server; with >1000W Units with Titanium Rated Power Supply	Computer Server; with >1000W Units with Titanium Rated Power Supply	Titanium Power Supply	0	8,207	Silver Power Supply	125	8,207	5	$20	$0	$92	$0.07	22%	1.3	1.0	1,025	$0.020	$0.004	0.1	0.1	$0.00	$0.00	100%	8	100%	100.0%	100.0%	1	8,778	160	735	8,199
Cooling Efficiency	***Cooling Efficiency***						0																0%					2,299	5,107,845	1,820,413	4,425,219	
DX Units	DX Units	DX unit size 8.20 tons, 12.60 EER, 15.06 SEER	0	1,039	DX unit size 8.20 tons, 10.90 EER, 12.00 SEER	921	1,039	20	$966	$0	$1,925	$0.07	50%	30.1	15.0	956	$1.010	$0.051	0.9	0.9	$0.00	$0.00	90%	1,405	100%	99.6%	100.7%	1,247	1,438,829	1,357,664	2,704,812	1,343,867
RTU Economizer Control with Demand Control Ventilation	RTU Economizer Control with Demand Control Ventilation	RTU with Demand Control	0	501	RTU with Standard Economizer	954	501	15	$245	$0	$1,489	$0.07	16%	46.6	38.9	478	$0.513	$0.034	1.0	0.9	$0.00	$0.00	90%	110	100%	99.6%	100.7%	101	56,262	26,975	163,740	52,548
Water-source Heat Pumps	Water-source Heat Pumps	WSHP unit size 1.94 tons, 13.91 EER, 15.45 SEER	0	741	WSHP unit size 1.94 tons, 12.00 EER, 13.33 SEER	412	741	20	$228	$0	$744	$0.07	31%	36.4	25.2	305	$0.748	$0.037	0.4	0.4	$0.00	$0.00	90%	183	100%	99.6%	100.7%	73	59,851	41,788	136,113	55,901
PTAC Units	PTAC Units	PTAC unit size 0.74 tons, 11.78 EER, 13.86 SEER	0	649	PTAC unit size 0.74 tons, 11.14 EER, 13.11 SEER	52	649	20	$37	$0	$179	$0.07	21%	79.4	62.9	34	$1.105	$0.055	0.1	0.1	$0.00	$0.00	90%	458	100%	99.6%	100.7%	23	16,526	17,052	82,058	15,435
Scroll/Screw Chiller	Scroll/Screw Chiller	Chiller size 109 tons, 0.71 FLV kW/ton, 0.53 IPLV	0	0	Chiller size 109 tons, 0.77 FLV kW/ton, 0.62 IPLV	0	0	20	$0	$0	$0	$0.07	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	99.6%	100.7%	0	0	0	0	0
Centrifugal Chiller	Centrifugal Chiller	Chiller size 341.04 tons, 0.58 FLV kW/ton, 0.42 IPLV	0	1,679	Chiller size 341.04 tons, 0.62 FLV kW/ton, 0.58 IPLV	17,015	1,679	20	$9,257	$0	$11,700	$0.07	79%	6.1	1.3	28,569	$0.324	$0.016	17.0	16.4	$0.00	$0.00	90%	2	100%	99.6%	100.7%	33	61,176	18,513	23,400	57,138
Air Cooled Chillers	Air Cooled Chillers	Chiller size 124.73 tons, 10.43 EER, 16.04 IPLV	0	2,177	Chiller size 124.73 tons, 9.56 EER, 12.58 IPLV	21,726	2,177	20	$7,577	$0	$29,038	$0.07	26%	9.2	6.8	47,291	$0.160	$0.008	21.7	20.9	$0.00	$0.00	90%	21	100%	99.6%	100.7%	440	1,063,281	159,107	609,807	993,104
Cooling Studies	Cooling Studies	Customer has Study	0	0	No Study	0	0		$0	$0	$0	$0.07	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	100.0%	100.0%	0	0	0	0	0
Recommissioning Studies	Recommissioning Studies	Efficient equipment as identified in a recommissioning study	0	0	Existing equipment	0	0		$0	$0	$0	$0.07	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	100.0%	100.0%	0	0	0	0	0
Chiller VFD Retrofit	Chiller VFD Retrofit	VFD Chiller size 855 tons, 0.63 FLV kW/ton, 0.38 IPLV	0	0	Const Speed Chiller size 855 tons, 0.62 FLV kW/ton, 0.57 IPLV	0	0	15	$0	$0	$0	$0.07	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	99.6%	100.7%	0	0	0	0	0
Custom Cooling Projects	Custom Cooling Projects	New Equipment	0	4,531	Existing or New Inefficient	29,930	4,531	18	$11,972	$0	$86,738	$0.07	14%	9.6	8.2	135,619	$0.088	$0.005	29.9	30.3	$2.50	$0.00	94%	2	100%	100.0%	100.0%	61	290,404	23,943	173,476	271,237
ERV Install on RTU/AHU for reduced cooling load	ERV Install on RTU/AHU for reduced cooling load	73.5% Sensible Effectiveness Heat Recovery on 11193 CFM OA (Cooling Mode)	0	128	No heat recovery on 11193 CFM OA	13,914	128	15	$4,822	$0	$1,661	$0.07	290%	13.9	-26.5	1,780	$2.709	$0.181	13.9	13.4	$0.00	$0.00	90%	5	100%	99.6%	100.7%	67	9,530	24,110	8,307	8,901
Mini-Split Heat Pump	Mini-Split Heat Pump	MSHP size 1.2 tons, 21.27 SEER, 10.50 HSPF	0	657	MSHP size 1.2 tons, 14 SEER, 8.2 HSPF	817	657	18	$218	$0	$828	$0.07	26%	23.0	17.0	537	$0.407	$0.023	0.8	0.8	$0.00	$0.00	90%	31	100%	99.6%	100.7%	24	17,821	6,771	25,660	16,645
Mini-Split AC - Data Center	Mini-Split AC - Data Center	MSHP size 1.2 tons, 21.27 SEER	0	0	MSHP size 1.2 tons, 14 SEER	0	0	18	$0	$0	$0	$0.07	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	99.6%	100.7%	0	0	0	0	0
ECM Motors - Medium Temp Display Case	ECM Motors - Medium Temp Display Case	ECM Motor	0	8,733	Shaded Pole Motor	48	8,733	15	$40	$0	$130	$0.07	31%	4.7	3.2	417	$0.096	$0.006	0.0	0.1	$0.00	$0.00	99%	774	100%	99.6%	100.7%	39	345,533	30,960	100,476	322,727
ECM Motors - Low Temp Display Case	ECM Motors - Low Temp Display Case	ECM Motor	0	8,733	Shaded Pole Motor	56	8,733	15	$40	$0	$141	$0.07	28%	4.3	3.1	493	$0.081	$0.005	0.1	0.1	$0.00	$0.00	99%	96	100%	99.6%	100.7%	6	50,622	3,840	13,508	47,281
ECM Motors - Medium Temp Walk-in, Evap fan <= 15" Diameter	ECM Motors - Medium Temp Walk-in, Evap fan <= 15" Diameter	ECM Motor	0	8,645	Shaded Pole Motor	92	8,645	15	$70	$0	$204	$0.07	34%	3.8	2.5	798	$0.088	$0.006	0.1	0.1	$0.00	$0.00	98%	202	100%	99.6%	100.7%	20	172,683	14,140	41,256	161,286
ECM Motors - Low Temp Walk-in, Evap fan <= 15" Diameter	ECM Motors - Low Temp Walk-in, Evap fan <= 15" Diameter	ECM Motor	0	8,646	Shaded Pole Motor	111	8,646	15	$71	$0	$227	$0.07	31%	3.5	2.4	957	$0.074	$0.005	0.1	0.1	$0.00	$0.00	98%	108	100%	99.6%	100.7%	13	111,077	7,700	24,607	103,746

Electric Measure Description	Electric Measure Description	Efficient Product Description / Rating	Efficient Product Consumption (watts)	Efficient Hours of Operation (hrs/yr)	Baseline Product Description / Rating	Baseline Product Consumption (watts)	Baseline Hours of Operation (hrs/yr)	Measure Lifetime (years)	Rebate Amount ($)	Average Baseline Product Cost ($)	Incremental Cost of Efficient Product ($)	Assumed Energy Cost ($/kWh)	Rebate as a % of Incremental Cost (%)	Increm'l Cost Payback Period w/o Rebate (yrs)	Increm'l Cost Payback Period w/ Rebate (yrs)	Annual Customer kWh Savings (kWh/yr)	Rebated Cost / Cust kWh Saved ($/kWh)	Rebated Lifetime cost /Cust kWh Saved ($/kWh)	Customer kW Savings (kW)	Generator Peak kW Savings (kW)	Non-Energy O&M Savings ($)	Energy O&M Savings ($)	Coincidence Factor (%)	2018 Units (-)	Installation Rate (%)	Realization Rate (kW) (%)	Realization Rate (kWh) (%)	2018 NET Gen kW (kW)	2018 NET Gen kWh (kWh)	2018 Rebate Budget ($)	2018 Incremental Costs ($)	Total Customer kWh for all Units Installed in 2018
TOTAL	*TOTAL*																														
ECM Motors - Medium Temp Walk-in, Evap fan > 15" Diameter	ECM Motors - Medium Temp Walk-in, Evap fan > 15" Diameter	ECM Motor	0	8,651	Shaded Pole Motor	69	8,651	15	$70	$0	$180	$0.07	39%	4.5	2.8	597	$0.117	$0.008	0.1	0.1	$0.00	$0.00	98%	10	100%	99.6%	100.7%	1	6,391	700	1,800	5,969
ECM Motors - Low Temp Walk-in, Evap fan > 15" Diameter	ECM Motors - Low Temp Walk-in, Evap fan > 15" Diameter	ECM Motor	0	8,648	Shaded Pole Motor	82	8,648	15	$70	$0	$180	$0.07	39%	3.8	2.3	705	$0.099	$0.007	0.1	0.1	$0.00	$0.00	98%	15	100%	99.6%	100.7%	1	11,324	1,050	2,700	10,577
Anti-Sweat Heater Controls	Anti-Sweat Heater Controls	Anti-Sweat Heater Controls	0	8,821	Anti-Sweat Heaters running constantly	3,541	8,821	12	$1,468	$0	$4,405	$0.07	33%	2.1	1.4	31,237	$0.047	$0.004	3.5	3.4	$0.00	$0.00	90%	19	100%	99.6%	100.7%	65	635,452	27,900	83,700	593,512
Energy Efficient Case Doors	Energy Efficient Case Doors	No heat Case Doors	0	8,821	Anti-Sweat Heaters running constantly	2,015	8,821	10	$1,455	$0	$5,745	$0.07	25%	4.8	3.6	17,771	$0.082	$0.008	2.0	2.2	$0.00	$0.00	100%	40	100%	99.6%	100.7%	86	761,085	58,200	229,800	710,853
Custom Efficiency	***Custom Efficiency***						0																0%					505	4,684,214	304,909	12,278,233	
Custom Efficiency Electric	Custom Efficiency Electric	High Efficiency Product/system	0	5,147	Less Efficient Product/Systems	29,310	5,147	19	$10,514	$0	$423,387	$0.07	2%	38.0	37.1	150,864	$0.070	$0.004	29.3	17.4	$108,775.52	$0.00	55%	29	100%	100.0%	100.0%	505	4,684,214	304,909	12,278,233	4,375,056
Custom Studies Electric	Custom Studies Electric	0	0	0	0	0	0	0	$0	$0	$0	$0.07	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	100.0%	100.0%	0	0	0	0	0
Data Center Efficiency	***Data Center Efficiency***						0																0%					472	6,116,193	297,678	2,340,704	
Data Center Efficiency Study	Data Center Efficiency Study	0	0	0	0	0	0	0	$0	$0	$0	$0.07	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	100.0%	100.0%	0	0	0	0	0
Data Center Measures	Data Center Measures	Historical Averages from past custom projects	0	7,972	Historical Averages from past custom projects	13,835	7,972	11	$5,631	$0	$45,396	$0.07	12%	6.1	5.4	110,292	$0.051	$0.005	13.8	9.0	$1,972.75	$0.00	61%	51	100%	100.2%	100.2%	460	6,022,377	287,178	2,315,204	5,624,900
Retrofit - EC Plug Fans In-Unit	Retrofit - EC Plug Fans In-Unit	EC Plug Fan	0	0	Forward-curved Centrifugal Fan with AC motor	0	0	10	$0	$0	$0	$0.07	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	100.0%	100.0%	0	0	0	0	0
Retrofit - EC Plug Fans Below-Floor	Retrofit - EC Plug Fans Below-Floor	EC Plug Fan	0	0	Forward-curved Centrifugal Fan with AC motor	0	0	10	$0	$0	$0	$0.07	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	100.0%	100.0%	0	0	0	0	0
New- EC Plug Fans In-Unit	New- EC Plug Fans In-Unit	EC Plug Fan	0	8,350	Forward-curved Centrifugal Fan with AC motor	1,167	8,350	20	$1,400	$0	$3,400	$0.07	41%	5.2	3.1	9,743	$0.144	$0.007	1.2	1.3	$0.00	$0.00	100%	5	100%	100.2%	100.2%	6	52,159	7,000	17,000	48,716
New - EC Plug Fans Below-Floor	New - EC Plug Fans Below-Floor	EC Plug Fan	0	8,045	Forward-curved Centrifugal Fan with AC motor	2,418	8,045	20	$1,750	$0	$4,250	$0.07	41%	3.3	1.9	19,454	$0.090	$0.004	2.4	2.6	$0.00	$0.00	100%	2	100%	100.2%	100.2%	5	41,657	3,500	8,500	38,907
New Construction - Whole Facility	New Construction - Whole Facility	Highly efficient data center	0	0	Standard efficiency new data center	0	0	11	$0	$0	$0	$0.07	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	100.0%	100.0%	0	0	0	0	0
Chilled Water Systems Waterside Economizer	Chilled Water Systems Waterside Economizer	Chilled water system with waterside economizer	0	0	Chilled water system without economizer	0	0	20	$0	$0	$0	$0.07	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	100.0%	100.0%	0	0	0	0	0
Efficiency Controls	***Efficiency Controls***						0																0%					134	10,169,757	679,940	2,924,725	
Efficiency Controls - Electric	Efficiency Controls - Electric	New Digital Controls System	0	7,649	Non Digital or Obsolete Digital System	23,430	7,649	15	$12,829	$0	$55,183	$0.06	23%	5.2	4.0	179,218	$0.072	$0.005	23.4	2.5	$1,620.89	$0.00	10%	53	100%	100.0%	100.0%	134	10,169,757	679,940	2,924,725	9,498,553
Efficiency Controls - Study Allocation	Efficiency Controls - Study Allocation	Study Allocation	0	0	0	0	0	0	$0	$0	$0	$0.06	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	100.0%	100.0%	0	0	0	0	0
Fluid System Optimization	***Fluid System Optimization***						0																0%					1,328	9,926,978	742,581	1,999,954	
Non-Custom Opportunities identified in an FSO study, i.e. recommissioning type adjustments, leaks, waste and demand reduction, study driven credit and revisits	Non-Custom Opportunities identified in an FSO study, i.e. recommissioning type adjustments, leaks, waste and demand reduction, study driven credit and revisits	Optimized System	0	0	Non-Optimized System	0	0	5	$0	$0	$0	$0.07	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	100.0%	100.0%	0	0	0	0	0
Compressed Air Efficiency Study	Compressed Air Efficiency Study	Leaks & Waste Found and Repaired	0	7,713	Existing System with Leaks & Waste that have not been repaired	6,950	7,713	5	$4,476	$0	$6,520	$0.07	69%	1.8	0.6	53,608	$0.083	$0.017	7.0	6.6	$0.00	$0.00	88%	70	100%	100.0%	100.0%	460	4,017,726	313,317	456,408	3,752,556
Custom compressed air, pump, fan, blower, vacuum and hydraulic opportunities	Custom compressed air, pump, fan, blower, vacuum and hydraulic opportunities	New Equipment	0	6,310	Old or less efficient systems or equipment	19,034	6,310	20	$6,361	$0	$32,540	$0.07	20%	4.0	3.2	120,095	$0.053	$0.003	19.0	16.2	$66.67	$0.00	79%	30	100%	100.0%	100.0%	486	3,857,433	190,822	976,211	3,602,842
Cycling Dryers	Cycling Dryers	New Cycling Dryer	0	7,293	New Non-Cycling Dryer	1,008	7,293	20	$779	$0	$990	$0.07	79%	2.0	0.4	7,350	$0.106	$0.005	1.0	1.1	$0.00	$0.00	100%	38	100%	100.0%	100.0%	41	299,035	29,592	37,611	279,299
Dewpoint Controls	Dewpoint Controls	Purge Control for Heatless Dessicant Dryers	0	7,158	No Purge Control for Heatless Dessicant Dryers	10,027	7,158	15	$1,500	$0	$3,378	$0.07	44%	0.7	0.4	71,770	$0.021	$0.001	10.0	10.8	$0.00	$0.00	100%	3	100%	100.0%	100.0%	32	230,524	4,500	10,134	215,309
Mist Eliminators	Mist Eliminators	New Mist Eliminator Filter	0	7,396	New General Purpose Filter	1,352	7,396	20	$2,154	$0	$4,422	$0.07	49%	6.5	3.4	10,001	$0.215	$0.011	1.4	1.5	$70.21	$0.00	100%	14	100%	100.0%	100.0%	20	149,906	30,150	61,913	140,012
No Air Loss Drain	No Air Loss Drain	New No-Air Loss Drains	0	6,996	New Electronic Solenoid/Timed Drains	517	6,996	13	$200	$0	$448	$0.07	45%	1.8	1.0	3,617	$0.055	$0.004	0.5	0.4	$0.00	$0.00	68%	131	100%	100.0%	100.0%	49	507,309	26,200	58,688	473,827
VFD Air Compressor New	VFD Air Compressor New	New VFD Compressor	0	3,286	New Modulation or load no-load with less than or equal to 2gal of storage per CFM of Capacity	6,431	3,286	20	$2,783	$0	$5,799	$0.07	48%	4.1	2.1	21,131	$0.132	$0.007	6.4	6.1	$0.00	$0.00	89%	23	100%	100.0%	100.0%	141	520,346	64,000	133,373	486,003
VFD Air Compressor Upgrade	VFD Air Compressor Upgrade	New VFD Compressor	0	3,379	Existing Modulation or load no-load with less than or equal to 2gal of storage per CFM of Capacity	7,056	3,379	20	$5,900	$0	$19,070	$0.07	31%	11.8	8.2	23,839	$0.247	$0.012	7.1	6.7	$0.00	$0.00	89%	10	100%	100.0%	100.0%	67	255,237	59,000	190,697	238,391
VFD Compressor HP Reduction	VFD Compressor HP Reduction	New VFD Compressor of lesser HP than Baseline Unit	0	2,710	Existing Modulation or load no-load with less than or equal to 2gal of storage per CFM of Capacity	6,166	2,710	20	$5,000	$0	$14,984	$0.07	33%	13.3	8.8	16,712	$0.299	$0.015	6.2	5.9	$0.00	$0.00	89%	5	100%	100.0%	100.0%	29	89,463	25,000	74,919	83,558
Demand-side compressed air, pump, fan, blower, vacuum and hydraulic studies.	Demand-side compressed air, pump, fan, blower, vacuum and hydraulic studies.	Study Completed	0	0	No Study Completed	0	0	5	$0	$0	$0	$0.07	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	100.0%	100.0%	0	0	0	0	0
Constant Speed Motor Controller	Constant Speed Motor Controller	Motor with Voltage Controller	0	0	Motor without Voltage Controller	0	0	20	$0	$0	$0	$0.08	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	100.0%	100.0%	0	0	0	0	0
New Motor Enhanced	New Motor Enhanced	NEMA Premium +1% Efficient Motor	0	0	NEMA Premium	0	0	20	$0	$0	$0	$0.08	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	100.0%	100.0%	0	0	0	0	0
Upgrade Motor	Upgrade Motor	NEMA Premium Efficient Motor	0	0	EPACT Efficient Motor	0	0	20	$0	$0	$0	$0.08	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	100.0%	100.0%	0	0	0	0	0
Upgrade Motor Enhanced	Upgrade Motor Enhanced	NEMA Premium +1% Efficient Motor	0	0	EPACT Efficient Motor	0	0	20	$0	$0	$0	$0.08	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	100.0%	100.0%	0	0	0	0	0
Variable Frequency Drive	Variable Frequency Drive	Equipment coupled with an ASD/VFD	0	0	Equipment without an ASD/VFD	0	0	15	$0	$0	$0	$0.08	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	100.0%	100.0%	0	0	0	0	0
Food Service	***Food Service***						0																0%					75	522,584	19,944	72,363	
Commercial Dishwasher - Under Counter, Electric Only or Combo Customer	Commercial Dishwasher - Under Counter, Electric Only or Combo Customer	ENERGY STAR qualified unit	0	6,565	Conventional unit as defined by ENERGY STAR	483	6,565	10	$250	$0	$120	$0.07	208%	0.6	-0.6	3,171	$0.079	$0.008	0.5	0.4	$24.91	$0.00	85%	5	100%	100.0%	100.0%	2	16,975	1,250	600	15,855
Commercial Dishwasher - Door Type, Electric Only or Combo Customer	Commercial Dishwasher - Door Type, Electric Only or Combo Customer	ENERGY STAR qualified unit	0	6,569	Conventional unit as defined by ENERGY STAR	1,755	6,569	15	$239	$0	$687	$0.07	35%	0.9	0.6	11,530	$0.021	$0.001	1.8	1.6	$176.56	$0.00	85%	12	100%	100.0%	100.0%	19	141,970	2,750	7,895	132,600
Hot Food Holding Cabinet	Hot Food Holding Cabinet	ENERGY STAR qualified unit	0	5,475	Conventional unit as defined by ENERGY STAR	379	5,475	12	$400	$0	$1,713	$0.07	23%	12.3	9.5	2,075	$0.193	$0.016	0.4	0.3	$0.00	$0.00	85%	1	100%	100.0%	100.0%	0	2,222	400	1,713	2,075
Demand Contolled Ventilation - Electric Only or Combo Customer	Demand Contolled Ventilation - Electric Only or Combo Customer	Commercial kitchen ventilation hoods with Demand Controlled Ventilation with 8.65 HP Motor	0	3,307	Commercial kitchen ventilation hoods without Demand Controlled Ventilation with 8.65 HP Motor	4,551	3,307	20	$693	$0	$2,771	$0.07	25%	2.8	2.1	15,050	$0.046	$0.002	4.6	2.4	$0.00	$0.00	49%	22	100%	100.0%	100.0%	54	361,416	15,544	62,154	337,563
Lighting Efficiency	***Lighting Efficiency***						0																0%					21,485	145,222,289	11,435,481	39,478,214	
Low Wattage T8 4' lamps - <=28W	Low Wattage T8 4' lamps - <=28W	T8 25W and 28W Lamps	0	4,364	T8 32W Lamps	5	4,364	5	$1	$0	$2	$0.07	25%	1.3	1.0	21	$0.024	$0.005	0.0	0.0	-$0.11	$0.00	87%	13,135	100%	101.2%	101.2%	59	295,395	6,568	26,270	275,899
T8 to T8 Lighting Optimization	T8 to T8 Lighting Optimization	Fluorescent T8 Fixture with Less Lamps (3,2,1)	0	4,899	Fluorescent T8 Fixture with More Lamps (4,3,2)	63	4,899	20	$12	$0	$43	$0.07	28%	1.9	1.4	308	$0.039	$0.002	0.1	0.1	-$1.62	$0.00	91%	1,110	100%	101.2%	101.2%	68	366,084	13,320	48,230	341,922
High Bay Fluorescents replacing 150, 175, 250W HID	High Bay Fluorescents replacing 150, 175, 250W HID	High Bay Fluorescents With Electronic Ballasts Replacing 250W HID	0	0	250W HID Fixture or Smaller	0	0	20	$0	$0	$0	$0.07	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	101.2%	101.2%	0	0	0	0	0
High Bay Fluorescents replacing 320, 350, 400W HID	High Bay Fluorescents replacing 320, 350, 400W HID	High Bay Fluorescents With Electronic Ballasts Replacing 400W HID	0	4,800	310 to 400 W HID Fixture	98	4,800	20	$50	$0	$210	$0.07	24%	6.1	4.7	470	$0.106	$0.005	0.1	0.1	-$1.38	$0.00	71%	8	100%	101.2%	101.2%	1	4,029	400	1,683	3,764
High Bay Fluorescents replacing 750W HID	High Bay Fluorescents replacing 750W HID	High Bay Fluorescents With Electronic Ballasts Replacing 750W HID	0	0	750 W HID Fixture	0	0	20	$0	$0	$0	$0.07	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	101.2%	101.2%	0	0	0	0	0
High Bay Fluorescents replacing 1000W HID	High Bay Fluorescents replacing 1000W HID	High Bay Fluorescents With Electronic Ballasts Replacing 1000W HID	0	0	1000 W HID Fixture	0	0	20	$0	$0	$0	$0.07	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	101.2%	101.2%	0	0	0	0	0
Fluorescent Parking Garage, 2 and 3 lamp replacing 150 - 175W HID systems	Fluorescent Parking Garage, 2 and 3 lamp replacing 150 - 175W HID systems	High Efficiency Fluorescent T8 or T5 Systems	0	0	150 or 175W HID Fixture	0	0	20	$0	$0	$0	$0.07	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	101.2%	101.2%	0	0	0	0	0
Fluorescent Parking Garage, Low Wattage T8 lamps <=28W	Fluorescent Parking Garage, Low Wattage T8 lamps <=28W	T8 25W and 28W Lamps	0	0	T8 32W Lamps	0	0	4	$0	$0	$0	$0.07	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	101.2%	101.2%	0	0	0	0	0
CFL, Pin Based - <=19W	CFL, Pin Based - <=19W	Pin Based CFL	0	2,041	Incandescent	24	2,041	20	$2	$0	$9	$0.07	21%	2.6	2.1	49	$0.041	$0.002	0.0	0.0	-$0.26	$0.00	72%	12	100%	101.2%	101.2%	0	629	24	112	588
CFL, Pin Based - 19-32W	CFL, Pin Based - 19-32W	Pin Based CFL	0	0	Incandescent	0	0	20	$0	$0	$0	$0.07	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	101.2%	101.2%	0	0	0	0	0
CFL, Pin Based - 33-100W	CFL, Pin Based - 33-100W	Pin Based CFL	0	0	Incandescent	0	0	20	$0	$0	$0	$0.07	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	101.2%	101.2%	0	0	0	0	0
CFL, 2-foot Low Wattage - 25 - 28W	CFL, 2-foot Low Wattage - 25 - 28W	PL 25W CFL	0	0	PL 40W CFL	0	0	5	$0	$0	$0	$0.07	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	101.2%	101.2%	0	0	0	0	0
Wall mount occupancy sensor - 50 - 300W Controlled Laod	Wall mount occupancy sensor - 50 - 300W Controlled Laod	Lighting Fixture with Occupancy Sensor	0	3,703	Lighting Fixture with Manual Switch	1,078	3,703	8	$243	$0	$891	$0.07	27%	3.1	2.2	3,990	$0.061	$0.008	1.1	0.8	-$21.04	$0.00	72%	30	100%	101.2%	101.2%	25	128,158	7,290	26,730	119,699
Wall mount occupancy sensor - 300W+ Controlled Load	Wall mount occupancy sensor - 300W+ Controlled Load	Lighting Fixture with Occupancy Sensor	0	3,999	Lighting Fixture with Manual Switch	1,518	3,999	8	$258	$0	$568	$0.07	45%	1.3	0.7	6,069	$0.043	$0.005	1.5	1.2	-$32.10	$0.00	74%	6	100%	101.2%	101.2%	7	38,987	1,550	3,410	36,414
Ceiling mount occupancy sensor - 50 - 300W Controlled Laod	Ceiling mount occupancy sensor - 50 - 300W Controlled Laod	Lighting Fixture with Occupancy Sensor	0	4,886	Lighting Fixture with Manual Switch	2,955	4,886	8	$2,011	$0	$8,380	$0.07	24%	7.9	6.0	14,439	$0.139	$0.017	3.0	2.7	-$72.26	$0.00	84%	71	100%	101.2%	101.2%	189	1,097,579	142,800	595,000	1,025,139
Ceiling mount occupancy sensor - 300W+ Controlled Load	Ceiling mount occupancy sensor - 300W+ Controlled Load	Lighting Fixture with Occupancy Sensor	0	3,949	Lighting Fixture with Manual Switch	10,113	3,949	8	$475	$0	$1,484	$0.07	32%	0.5	0.3	39,941	$0.012	$0.001	10.1	7.3	-$207.36	$0.00	67%	16	100%	101.2%	101.2%	117	684,209	7,600	23,750	639,052

Electric Measure Description	Electric Measure Description	Efficient Product Description / Rating	Efficient Product Consumption (watts)	Efficient Hours of Operation (hrs/yr)	Baseline Product Description / Rating	Baseline Product Consumption (watts)	Baseline Hours of Operation (hrs/yr)	Measure Lifetime (years)	Rebate Amount ($)	Average Baseline Product Cost ($)	Incremental Cost of Efficient Product ($)	Assumed Energy Cost ($/kWh)	Rebate as a % of Incremental Cost (%)	Incremt'l Cost Payback Period w/o Rebate (yrs)	Incremt'l Cost Payback Period w/ Rebate (yrs)	Annual Customer kWh Savings (kWh/yr)	Rebated Cost / Cust kWh Saved ($/kWh)	Rebated Lifetime cost /Cust KWh Saved ($/kWh)	Customer kW Savings (kW)	Generator Peak kW Savings (kW)	Non-Energy O&M Savings ($)	Energy O&M Savings ($)	Coincidence Factor (%)	2018 Units (-)	Installation Rate (%)	Realization Rate (kW) (%)	Realization Rate (kWh) (%)	2018 NET Gen kW (kW)	2018 NET Gen kWh (kWh)	2018 Rebate Budget ($)	2018 Incremental Costs ($)	Total Customer kWh for all Units Installed in 2018
TOTAL	*TOTAL*																															
Photocell	Photocell	Lighting Fixture with Photocell	0	0	Lighting Fixture with Manual Switch	0	0	8	$0	$0	$0	$0.07	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	101.2%	101.2%	0	0	0	0	0
Stairwell Fixture with Integral Occupancy Sensor	Stairwell Fixture with Integral Occupancy Sensor	Stairwell Lighting Fixture with Occupancy Sensor	0	7,515	Stairwell Lighting Fixture	59	7,515	14	$49	$0	$258	$0.07	19%	8.0	6.5	444	$0.109	$0.008	0.1	0.1	-$2.35	$0.00	101%	378	100%	101.2%	101.2%	24	179,507	18,350	97,356	167,660
Exit sign retrofit and replacement	Exit sign retrofit and replacement	LED/LEC Exit	0	7,423	Incandescent	44	7,423	20	$25	$0	$85	$0.07	29%	3.5	2.5	330	$0.076	$0.004	0.0	0.0	-$1.70	$0.00	101%	614	100%	101.2%	101.2%	30	216,616	15,350	52,058	202,320
LED Interior Fixture <= 25 Watts	LED Interior Fixture <= 25 Watts	LED Downlight Luminaire	0	4,962	Incandescent Luminaire	82	4,962	20	$35	$0	$75	$0.07	46%	2.5	1.4	407	$0.085	$0.004	0.1	0.1	-$2.15	$0.00	81%	2,280	100%	101.2%	101.2%	163	993,013	78,881	171,975	927,474
LED Interior Fixture - 25W - 50W	LED Interior Fixture - 25W - 50W	LED Downlight Luminaire	0	3,726	Incandescent Luminaire	92	3,726	20	$49	$0	$159	$0.07	31%	6.4	4.4	343	$0.143	$0.007	0.1	0.1	-$1.81	$0.00	70%	321	100%	101.2%	101.2%	22	117,872	15,775	51,065	110,092
LED Interior Fixture <= 25 Watts	LED Interior Fixture <= 25 Watts	LED Downlight Luminaire	0	3,483	Incandescent Luminaire	28	3,483	20	$25	$0	$37	$0.07	68%	5.2	1.7	97	$0.257	$0.013	0.0	0.0	-$0.51	$0.00	52%	1,363	100%	101.2%	101.2%	21	141,789	34,075	50,078	132,431
LED Interior Fixture - 25W - 50W	LED Interior Fixture - 25W - 50W	LED Downlight Luminaire	0	3,688	Incandescent Luminaire	41	3,688	20	$35	$0	$153	$0.07	23%	13.9	10.7	151	$0.231	$0.012	0.0	0.0	-$0.67	$0.00	69%	782	100%	101.2%	101.2%	24	126,644	27,370	120,012	118,286
LED Refrigerated Case Lighting	LED Refrigerated Case Lighting	LED Strip lighting	0	4,586	T8 or T12 Fluorescent	106	4,586	20	$54	$0	$165	$0.07	33%	4.6	3.1	488	$0.111	$0.006	0.1	0.1	$0.00	$0.00	86%	331	100%	101.2%	101.2%	32	173,033	17,920	54,620	161,613
LED Pedestrian Signals -9" (Walk/Don't Walk)	LED Pedestrian Signals -9" (Walk/Don't Walk)	LED Pedestrian Signals -9" (Walk/Don't Walk)	0	0	Incandescent Pedestrian Signals - Large	0	0	20	$0	$0	$0	$0.07	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	101.2%	101.2%	0	0	0	0	0
LED Pedestrian Signals -12" (Walk/Don't Walk)	LED Pedestrian Signals -12" (Walk/Don't Walk)	LED Pedestrian Signals -12" (Walk/Don't Walk)	0	0	Incandescent Pedestrian Signals - Large	0	0	20	$0	$0	$0	$0.07	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	101.2%	101.2%	0	0	0	0	0
LED Traffic Balls and Arrows - 8" Red	LED Traffic Balls and Arrows - 8" Red	LED Traffic Balls and Arrows 8" Red	0	0	Incandescent Traffic Balls and Arrows 8" Red	0	0	20	$0	$0	$0	$0.07	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	101.2%	101.2%	0	0	0	0	0
LED Traffic Balls and Arrows - 12" Red	LED Traffic Balls and Arrows - 12" Red	LED Traffic Balls and Arrows 12" Red	0	0	Incandescent Traffic Balls and Arrows 12" Red	0	0	20	$0	$0	$0	$0.07	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	101.2%	101.2%	0	0	0	0	0
LED Traffic Balls and Arrows - 8" Green	LED Traffic Balls and Arrows - 8" Green	LED Traffic Balls and Arrows 8" Green	0	0	Incandescent Traffic Balls and Arrows 8" Green	0	0	20	$0	$0	$0	$0.07	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	101.2%	101.2%	0	0	0	0	0
LED Traffic Balls and Arrows - 12" Green	LED Traffic Balls and Arrows - 12" Green	LED Traffic Balls and Arrows 12" Green	0	0	Incandescent Traffic Balls and Arrows 12" Green	0	0	20	$0	$0	$0	$0.07	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	101.2%	101.2%	0	0	0	0	0
LED Traffic Arrows - 12" Red	LED Traffic Arrows - 12" Red	LED Traffic Arrows 12" Red	0	0	Incandescent Traffic Arrows 12" Red	0	0	20	$0	$0	$0	$0.07	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	101.2%	101.2%	0	0	0	0	0
LED Parking Garage lighting - 25W - 60W	LED Parking Garage lighting - 25W - 60W	LED Parking Garage Fixture	0	8,862	HID - HPS, MH, MV, PSMH	159	8,862	20	$135	$0	$289	$0.07	47%	2.8	1.5	1,407	$0.096	$0.005	0.2	0.2	$0.00	$0.00	101%	961	100%	101.2%	101.2%	166	1,447,244	129,735	277,370	1,351,726
LED Parking Garage lighting - 61W - 83W	LED Parking Garage lighting - 61W - 83W	LED Parking Garage Fixture	0	8,863	HID - HPS, MH, MV, PSMH	172	8,863	20	$150	$0	$327	$0.07	46%	2.9	1.6	1,524	$0.098	$0.005	0.2	0.2	$0.00	$0.00	101%	49	100%	101.2%	101.2%	9	79,952	7,350	16,042	74,676
Integral Occupancy Sensor - 1 per fixture and installed as a manufacturer option	Integral Occupancy Sensor - 1 per fixture and installed as a manufacturer option	Lighting Fixture with Integral Occupancy Sensor	0	6,363	Lighting Fixture with Manual Switch	20	6,363	8	$21	$0	$55	$0.07	39%	6.0	3.7	127	$0.169	$0.021	0.0	0.0	-$0.07	$0.00	88%	782	100%	101.2%	101.2%	15	105,992	16,684	43,304	98,997
Integral Photo Sensor – 1 per fixture and installed as a manufacturer option	Integral Photo Sensor – 1 per fixture and installed as a manufacturer option	Lighting Fixture with Integral Photo Sensor	0	3,658	Lighting Fixture with Manual Switch	783	3,658	8	$75	$0	$195	$0.07	38%	0.9	0.6	2,862	$0.026	$0.003	0.8	0.5	-$15.09	$0.00	60%	2	100%	101.2%	101.2%	1	6,129	150	390	5,724
Integral Occupancy & Photo Sensor – 1 per fixture and installed as a manufacturer option	Integral Occupancy & Photo Sensor – 1 per fixture and installed as a manufacturer option	Lighting Fixture with Integral Photo and Occupancy Sensor	0	3,748	Lighting Fixture with Manual Switch	23	3,748	8	$28	$0	$50	$0.07	56%	8.0	3.5	85	$0.328	$0.041	0.0	0.0	-$0.45	$0.00	71%	442	100%	101.2%	101.2%	8	40,425	12,376	22,100	37,757
LED High-Bay Luminaires - 95 - 189W	LED High-Bay Luminaires - 95 - 189W	LED High Bay 95-189W	0	4,687	HID Fixture <= 250W	256	4,687	20	$134	$0	$350	$0.07	38%	4.0	2.5	1,199	$0.112	$0.006	0.3	0.2	-$6.27	$0.00	84%	4,670	100%	101.2%	101.2%	1,081	5,997,256	624,645	1,632,403	5,601,437
LED High-Bay Luminaires - 190 - 290W	LED High-Bay Luminaires - 190 - 290W	LED High Bay 190-290W	0	4,491	HID Fixture <= 400W	332	4,491	20	$150	$0	$594	$0.07	25%	5.5	4.1	1,492	$0.100	$0.005	0.3	0.3	-$7.46	$0.00	79%	636	100%	101.2%	101.2%	180	1,016,262	95,130	377,786	949,188
LED High-Bay Luminaires - 291 - 464W	LED High-Bay Luminaires - 291 - 464W	LED High Bay 291-464W	0	4,627	HID Fixture <= 750W	590	4,627	20	$171	$0	$864	$0.07	20%	4.3	3.5	2,731	$0.062	$0.003	0.6	0.4	-$15.98	$0.00	69%	17	100%	101.2%	101.2%	7	49,702	2,900	14,688	46,422
LED High-Bay Luminaires - 465 - 625W	LED High-Bay Luminaires - 465 - 625W	LED High Bay 465-625W	0	0	HID Fixture <= 1000W	0	0	20	$0	$0	$0	$0.07	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	101.2%	101.2%	0	0	0	0	0
Retrofit Kits for LED High-Bay Luminaires - 95 - 189W	Retrofit Kits for LED High-Bay Luminaires - 95 - 189W	LED High Bay Retrofit Kit 95-189W	0	4,774	HID Fixture <= 250W	195	4,774	20	$40	$0	$127	$0.07	31%	1.9	1.3	931	$0.043	$0.002	0.2	0.2	-$5.45	$0.00	84%	5	100%	101.2%	101.2%	1	4,984	200	636	4,655
Retrofit Kits for LED High-Bay Luminaires - 190 - 290W	Retrofit Kits for LED High-Bay Luminaires - 190 - 290W	LED High Bay Retrofit Kit 190-290W	0	0	HID Fixture <= 400W	0	0	20	$0	$0	$0	$0.07	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	101.2%	101.2%	0	0	0	0	0
Retrofit Kits for LED High-Bay Luminaires - 291 - 464W	Retrofit Kits for LED High-Bay Luminaires - 291 - 464W	LED High Bay Retrofit Kit 291-464W	0	0	HID Fixture <= 750W	0	0	20	$0	$0	$0	$0.07	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	101.2%	101.2%	0	0	0	0	0
Retrofit Kits for LED High-Bay Luminaires - 465 - 625W	Retrofit Kits for LED High-Bay Luminaires - 465 - 625W	LED High Bay Retrofit Kit 465-625W	0	0	HID Fixture <= 1000W	0	0	20	$0	$0	$0	$0.07	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	101.2%	101.2%	0	0	0	0	0
LED Tube Type A 2 foot	LED Tube Type A 2 foot	LED 2 Foot Tube Instafit	0	3,784	Fluorescent Lamps	8	3,784	8	$2	$0	$8	$0.07	25%	3.5	2.6	30	$0.063	$0.008	0.0	0.0	-$0.16	$0.00	65%	7,926	100%	101.2%	101.2%	43	251,809	14,776	60,146	235,190
LED Tube Type C 2 foot	LED Tube Type C 2 foot	LED 2 Foot Tube External Driver Retrofit Kits	0	3,919	Fluorescent Lamps	8	3,919	8	$5	$0	$22	$0.07	21%	9.5	7.5	31	$0.146	$0.018	0.0	0.0	-$0.17	$0.00	77%	116	100%	101.2%	101.2%	1	3,885	530	2,511	3,629
LED Tube Type A 4 foot	LED Tube Type A 4 foot	LED 4 Foot Tube Instafit	0	4,516	Fluorescent Lamps	19	4,516	8	$3	$0	$7	$0.07	46%	1.1	0.6	87	$0.037	$0.005	0.0	0.0	-$0.46	$0.00	80%	208,853	100%	101.2%	101.2%	3,441	19,457,159	677,082	1,485,057	18,172,986
LED Tube Type C 4 foot	LED Tube Type C 4 foot	LED 4 Foot Tube External Driver Retrofit Kits	0	3,459	Fluorescent Lamps	19	3,459	8	$10	$0	$25	$0.07	39%	5.3	3.2	65	$0.150	$0.018	0.0	0.0	-$0.34	$0.00	68%	76,569	100%	101.2%	101.2%	1,048	5,342,069	748,765	1,920,351	4,989,493
LED Tube Type B 4 foot	LED Tube Type C 4 foot	LED 4 Foot Tube External Driver Retrofit Kits	0	4,367	Fluorescent Lamps	15	4,367	8	$5	$0	$16	$0.07	31%	3.4	2.3	66	$0.076	$0.009	0.0	0.0	-$0.35	$0.00	79%	175,448	100%	101.2%	101.2%	2,272	12,458,461	879,324	2,873,267	11,636,202
LED Screw-in Lamps - 145 - 230W (400W HID replacement lamp)	LED Screw-in Lamps - 145 - 230W	LED Screw-in Lamps - 145 - 230W	0	4,186	400W HID replacement lamp	466	4,186	8	$75	$0	$228	$0.07	33%	1.6	1.1	1,951	$0.038	$0.005	0.5	0.4	-$10.56	$0.00	75%	89	100%	101.2%	101.2%	34	189,594	6,675	20,260	173,668
LED Screw-in Lamps - 30 - 39W (25W HID replacement lamp)	LED Screw-in Lamps - 30 - 39W	LED Screw-in Lamps - 30 - 39W	0	4,774	25W HID replacement lamp	94	4,774	8	$30	$0	$66	$0.07	46%	2.0	1.1	449	$0.067	$0.008	0.1	0.1	$0.00	$0.00	84%	5	100%	101.2%	101.2%	0	2,450	150	328	2,244
LED Screw-in Lamps - 40 - 49W (100W HID replacement lamp)	LED Screw-in Lamps - 40 - 49W	LED Screw-in Lamps - 40 - 49W	0	4,408	100W HID replacement lamp	125	4,408	8	$38	$0	$105	$0.07	36%	2.6	1.7	552	$0.069	$0.009	0.1	0.1	-$2.99	$0.00	65%	44	100%	101.2%	101.2%	4	26,523	1,680	4,623	24,295
LED Screw-in Lamps - 50 - 79W (175W HID replacement lamp)	LED Screw-in Lamps - 50 - 79W	LED Screw-in Lamps - 50 - 79W	0	3,996	175W HID replacement lamp	227	3,996	8	$49	$0	$99	$0.07	50%	1.5	0.8	908	$0.054	$0.007	0.2	0.2	-$4.91	$0.00	78%	132	100%	101.2%	101.2%	25	130,846	6,513	13,083	119,855
LED Screw-in Lamps - 80 -119W (250W HID replacement lamp)	LED Screw-in Lamps - 80 -119W	LED Screw-in Lamps - 80 - 119W	0	3,794	250W HID replacement lamp	324	3,794	8	$60	$0	$194	$0.07	31%	2.2	1.5	1,230	$0.049	$0.006	0.3	0.3	-$6.49	$0.00	82%	88	100%	101.2%	101.2%	26	118,190	5,280	17,066	108,262
LED Street lighting - 30-44W	LED Street lighting - 30-44W	LED Street Light Fixture	0	4,955	70W HID Street Light Fixture	49	4,955	20	$30	$0	$395	$0.07	8%	22.3	20.6	243	$0.124	$0.006	0.0	0.0	$0.00	$0.00	0%	4	100%	101.2%	101.2%	0	1,040	120	1,579	971
LED Street lighting - 45-55W	LED Street lighting - 45-55W	LED Street Light Fixture	0	0	100W HID Street Light Fixture	0	0	20	$0	$0	$0	$0.07	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	101.2%	101.2%	0	0	0	0	0
LED Street lighting - 56-79W	LED Street lighting - 56-79W	LED Street Light Fixture	0	4,960	150W HID Fixture	118	4,960	20	$50	$0	$455	$0.07	11%	10.6	9.5	585	$0.085	$0.004	0.1	0.0	$0.00	$0.00	0%	282	100%	101.2%	101.2%	0	176,728	14,100	128,273	165,064
LED Street lighting - 80-109W	LED Street lighting - 80-109W	LED Street Light Fixture	0	4,960	175W HID Fixture	108	4,960	20	$72	$0	$281	$0.07	26%	7.1	5.3	538	$0.134	$0.007	0.1	0.0	$0.00	$0.00	0%	124	100%	101.2%	101.2%	0	71,421	8,925	34,807	66,707
LED Street lighting - 110-139W	LED Street lighting - 110-139W	LED Street Light Fixture	0	4,833	250W HID Fixture	169	4,833	20	$93	$0	$533	$0.07	18%	8.9	7.4	818	$0.114	$0.006	0.2	0.0	$0.00	$0.00	0%	590	100%	101.2%	101.2%	0	516,706	55,125	314,308	482,603
LED Street lighting - 140-209W	LED Street lighting - 140-209W	LED Street Light Fixture	0	4,960	400W HID Fixture	752	4,960	20	$125	$0	$296	$0.07	42%	1.1	0.6	3,730	$0.034	$0.002	0.8	0.0	$0.00	$0.00	0%	5	100%	101.2%	101.2%	0	19,969	625	1,478	18,651
LED Area lighting - 45-65W	LED Area lighting - 45-65W	LED Street Light Fixture	0	4,960	150W MH Fixture	136	4,960	20	$100	$0	$401	$0.07	25%	8.1	6.1	675	$0.148	$0.007	0.1	0.0	$0.00	$0.00	0%	218	100%	101.2%	101.2%	0	157,439	21,700	87,348	147,048
LED Area lighting - 45-65W	LED Area lighting - 45-65W	LED Street Light Fixture	0	4,960	150W MH Fixture	220	4,960	20	$124	$0	$277	$0.07	45%	3.5	1.9	1,090	$0.113	$0.006	0.2	0.0	$0.00	$0.00	0%	300	100%	101.2%	101.2%	0	350,101	37,089	83,195	326,995
LED Area lighting - 45-65W	LED Area lighting - 45-65W	LED Street Light Fixture	0	4,960	150W MH Fixture	397	4,960	20	$172	$0	$533	$0.07	32%	3.7	2.5	1,971	$0.087	$0.004	0.4	0.0	$0.00	$0.00	0%	1,419	100%	101.2%	101.2%	0	2,993,873	244,570	756,680	2,796,278
LED Area lighting - 66-89W	LED Area lighting - 66-89W	LED Street Light Fixture	0	4,960	175W MH Fixture	722	4,960	20	$242	$0	$922	$0.07	26%	3.5	2.6	3,580	$0.068	$0.003	0.7	0.0	$0.00	$0.00	0%	1,489	100%	101.2%	101.2%	0	5,706,544	359,818	1,372,736	5,329,912
LED Area lighting - 90-119W	LED Area lighting - 90-119W	LED Street Light Fixture	0	4,950	250W MH Fixture	178	4,950	20	$144	$0	$434	$0.07	33%	6.7	4.5	883	$0.163	$0.008	0.2	0.0	$0.00	$0.00	0%	834	100%	101.2%	101.2%	0	788,520	120,003	362,027	736,477
LED Area lighting - 120-140W	LED Area lighting - 120-140W	LED Street Light Fixture	0	4,939	400W MH Fixture	369	4,939	20	$170	$0	$454	$0.07	37%	3.4	2.1	1,820	$0.093	$0.005	0.4	0.0	$0.00	$0.00	0%	988	100%	101.2%	101.2%	0	1,925,607	167,913	449,017	1,798,517
LED Troffer Fixture 1X4	LED Troffer Fixture 1X4	LED Troffer Fixture	0	4,024	Fluorescent Fixture	52	4,024	20	$48	$0	$143	$0.07	33%	9.4	6.3	208	$0.230	$0.011	0.1	0.0	-$1.10	$0.00	83%	1,213	100%	101.2%	101.2%	56	270,297	57,975	173,622	252,458
LED Troffer Fixture 2X2	LED Troffer Fixture 2X2	LED Troffer Fixture	0	3,955	Fluorescent Fixture	38	3,955	20	$50	$0	$115	$0.07	43%	10.5	5.9	150	$0.332	$0.017	0.0	0.0	-$0.79	$0.00	72%	8,462	100%	101.2%	101.2%	247	1,356,193	420,975	970,852	1,266,684
LED Troffer Fixture 2X4	LED Troffer Fixture 2X4	LED Troffer Fixture	0	3,714	Fluorescent Fixture	69	3,714	20	$49	$0	$186	$0.07	27%	10.0	7.3	255	$0.193	$0.010	0.1	0.1	-$1.30	$0.00	75%	24,114	100%	101.2%	101.2%	1,343	6,587,142	1,189,385	4,477,858	6,152,391
LED Troffer Retrofit Kit 1X4	LED Troffer Retrofit Kit 1X4	LED Troffer Fixture - Retrofit Kit	0	3,915	Fluorescent Fixture	33	3,915	20	$30	$0	$157	$0.07	19%	16.5	13.4	130	$0.229	$0.011	0.0	0.0	-$0.69	$0.00	81%	337	100%	101.2%	101.2%	10	47,009	10,058	52,957	43,907
LED Troffer Retrofit Kit 2X2	LED Troffer Retrofit Kit 2X2	LED Troffer Fixture - Retrofit Kit	0	3,636	Fluorescent Fixture	37	3,636	20	$30	$0	$105	$0.07	29%	10.6	7.5	136	$0.220	$0.011	0.0	0.0	-$0.72	$0.00	73%	1,127	100%	101.2%	101.2%	33	164,078	33,780	118,076	153,249
LED Troffer Retrofit Kit 2X4	LED Troffer Retrofit Kit 2X4	LED Troffer Fixture - Retrofit Kit	0	3,985	Fluorescent Fixture	70	3,985	20	$30	$0	$152	$0.07	20%	7.5	6.0	279	$0.108	$0.005	0.1	0.1	-$1.44	$0.00	75%	9,381	100%	101.2%	101.2%	527	2,801,095	281,250	1,428,638	2,616,222
LED Exterior Wall Pack - <= 25W	LED Exterior Wall Pack - <= 25W	LED Wall Pack Fixture	0	4,960	HID Wall Pack Fixture	142	4,960	20	$33	$0	$136	$0.07	24%	2.6	2.0	703	$0.047	$0.002	0.1	0.0	$0.00	$0.00	0%	350	100%	101.2%	101.2%	0	263,576	11,558	47,481	246,180
LED Exterior Wall Pack - 26W - 60W	LED Exterior Wall Pack - 26W - 60W	LED Wall Pack Fixture	0	4,952	HID Wall Pack Fixture	159	4,952	20	$72	$0	$237	$0.07	30%	4.1	2.9	790	$0.091	$0.005	0.2	0.0	$0.00	$0.00	0%	2,006	100%	101.2%	101.2%	0	1,695,717	144,263	474,453	1,583,799
LED Exterior Wall Pack - 61W - 150W	LED Exterior Wall Pack - 61W - 150W	LED Wall Pack Fixture	0	4,956	HID Wall Pack Fixture	223	4,956	20	$95	$0	$323	$0.07	29%	4.0	2.8	1,103	$0.086	$0.004	0.2	0.0	$0.00	$0.00	0%	1,348	100%	101.2%	101.2%	0	1,591,828	128,125	435,232	1,486,767
LED Parking Garage Wall Pack <= 25W	LED Parking Garage Wall Pack <= 25W	LED Parking Garage Fixture	0	8,863	HID Wall Pack Fixture	106	8,863	20	$23	$0	$283	$0.07	8%	4.1	3.8	939	$0.024	$0.001	0.1	0.1	$0.00	$0.00	101%	14	100%	101.2%	101.2%	2	14,081	315	3,957	13,152
LED Parking Garage Wall Pack - 26W - 60W	LED Parking Garage Wall Pack - 26W - 60W	LED Parking Garage Fixture	0	8,863	HID Wall Pack Fixture	130	8,863	20	$68	$0	$257	$0.07	26%	3.1	2.2	1,153	$0.059	$0.003	0.1	0.1	$0.00	$0.00	101%	76	100%	101.2%	101.2%	11	93,787	5,138	19,523	87,597
LED Parking Garage Wall Pack - 61W - 150W	LED Parking Garage Wall Pack - 61W - 150W	LED Parking Garage Fixture	0	8,863	HID Wall Pack Fixture	123	8,863	20	$100	$0	$229	$0.07	44%	2.9	1.6	1,089	$0.092	$0.005	0.1	0.1	$0.00	$0.00	101%	28	100%	101.2%	101.2%	4	32,632	2,800	6,405	30,478
LED Outdoor Canopy lighting - 25W - 60W	LED Outdoor Canopy lighting - 25W - 60W	LED	0	4,960	Metal Halide	105	4,960	20	$99	$0	$314	$0.07	31%	8.2	5.6	522	$0.189	$0.009	0.1	0.0	$0.00	$0.00	0%	511	100%	101.2%	101.2%	0	285,562	50,340	160,359	266,715
LED Outdoor Canopy lighting - 61W - 150W	LED Outdoor Canopy lighting - 61W - 150W	LED	0	4,948	Metal Halide	298	4,948	20	$117	$0	$299	$0.07	39%	2.8	1.7	1,474	$0.079	$0.004	0.3	0.0	$0.00	$0.00	0%	401	100%	101.2%	101.2%	0	632,864	46,825	119,703	591,095
LED Interior Lamp - A Lamps	LED Interior Lamp - A Lamps	LED lamp	0	4,963	Halogen, Incandescent, or CFL Lamp	19	4,963	8	$3	$0	$3	$0.07	94%	0.4	0.0	96	$0.030	$0.004	0.0	0.0	-$0.57	$0.00	83%	65,383	100%	101.2%	101.2%	1,134	6,748,021	187,939	198,944	6,302,651
LED Interior Lamp - PAR20, R20	LED Interior Lamp - PAR20, R20	LED lamp	0	4,964	Halogen, Incandescent, or CFL Lamp	24	4,964	9	$4	$0	$6	$0.07	74%	0.7	0.2	121	$0.037	$0.004	0.0	0.0	-$0.71	$0.00	83%	4,675	100%	101.2%	101.2%	102	605,586	20,668	28,057	565,617
LED Interior Lamp - PAR30	LED Interior Lamp - PAR30	LED lamp	0	4,964	Halogen, Incandescent, or CFL Lamp	40	4,964	9	$8	$0	$8	$0.07	100%	0.6	0.0	201	$0.042	$0.005	0.0	0.0	-$1.18	$0.00	83%	10,007	100%	101.2%	101.2%	362	2,153,789	85,017	84,606	2,011,639
LED Interior Lamp - BR30	LED Interior Lamp - BR30	LED lamp	0	4,964	Halogen, Incandescent, or CFL Lamp	35	4,964	9	$3	$0	$55	$0.07	5%	4.4	4.2	173	$0.017	$0.002	0.0	0.0	-$1.00	$0.00	83%	6,130	100%	101.2%	101.2%	190	1,132,403	18,146	339,382	1,057,665
LED Interior Lamp - PAR38	LED Interior Lamp - PAR38	LED lamp	0	4,964	Halogen, Incandescent, or CFL Lamp	60	4,964	9	$11	$0	$11	$0.07	97%	0.5	0.0	299	$0.035	$0.004	0.1	0.1	-$1.77	$0.00	83%	12,321	100%	101.2%	101.2%	663	3,947,340	130,775	134,517	3,686,816
LED Interior Lamp - BR40	LED Interior Lamp - BR40	LED lamp	0	4,964	Halogen, Incandescent, or CFL Lamp	51	4,964	9	$6	$0	$8	$0.07	77%	0.5	0.1	252	$0.026	$0.003	0.1	0.0	-$1.47	$0.00	83%	2,877	100%	101.2%	101.2%	131	776,803	18,556	24,129	725,534
LED Interior Lamp - PAR16	LED Interior Lamp - PAR16	LED lamp	0	4,965	Halogen, Incandescent, or CFL Lamp	21	4,965	9	$2	$0	-$1	$0.07	-127%	-0.2	-0.4	102	$0.015	$0.002	0.0	0.0	-$0.60	$0.00	83%	1,873	100%	101.2%	101.2%	34	204,120	2,810	-2,208	190,648
LED Interior Lamp - MR16	LED Interior Lamp - MR16	LED lamp	0	4,964	Halogen, Incandescent, or CFL Lamp	41	4,964	8	$5	$0	$11	$0.07	49%	0.7	0.4	204	$0.025	$0.003	0.0	0.0	-$1.19	$0.00	83%	5,125	100%	101.2%	101.2%	188	1,120,125	26,663	54,694	1,046,197
LED Interior Lamp - GU10	LED Interior Lamp - GU10	LED lamp	0	4,668	Halogen, Incandescent, or CFL Lamp	23	4,668	9	$10	$0	$12	$0.07	85%	1.5	0.2	106	$0.095	$0.011	0.0	0.0	-$0.62	$0.00	84%	2,701	100%	101.2%	101.2%	55	305,601	27,010	31,913	285,431

Electric Measure Description	Electric Measure Description	Efficient Product Description / Rating	Efficient Product Consumption (watts)	Efficient Hours of Operation (hrs/yr)	Baseline Product Description / Rating	Baseline Product Consumption (watts)	Baseline Hours of Operation (hrs/yr)	Measure Lifetime (years)	Rebate Amount ($)	Average Baseline Product Cost ($)	Incremental Cost of Efficient Product ($)	Assumed Energy Cost ($/kWh)	Rebate as a % of Incremental Cost (%)	Increm't Cost Payback Period w/o Rebate (yrs)	Increm't Cost Payback Period w/ Rebate (yrs)	Annual Customer kWh Savings (kWh/yr)	Rebated Cost / Cust kWh Saved ($/kWh)	Rebated Lifetime cost /Cust KWh Saved ($/kWh)	Customer kW Savings (kW)	Generator Peak kW Savings (kW)	Non-Energy O&M Savings ($)	Energy O&M Savings ($)	Coincidence Factor (%)	2018 Units (-)	Installation Rate (%)	Realization Rate (kW) (%)	Realization Rate (kWh) (%)	2018 NET Gen kW (kW)	2018 NET Gen kWh (kWh)	2018 Rebate Budget ($)	2018 Incremental Costs ($)	Total Customer kWh for all Units Installed in 2018
TOTAL	*TOTAL*																														
LED Interior Lamp - Decorative (B, BA, Candle)	LED Interior Lamp - Decorative (B, BA, Candle)	LED lamp	0	4,964	Halogen, Incandescent, or CFL Lamp	38	4,964	7	$4	$0	$7	$0.07	55%	0.5	0.2	188	$0.022	$0.003	0.0	0.0	-$1.09	$0.00	83%	7,377	100%	101.2%	101.2%	249	1,481,777	30,301	54,726	1,383,980
LED Interior Screw In Fixture Retrofit	LED Interior Screw In Fixture Retrofit	LED lamp	0	4,964	Halogen, Incandescent, or CFL Fixture	29	4,964	10	$6	$0	$12	$0.07	56%	1.1	0.5	144	$0.045	$0.004	0.0	0.0	-$0.84	$0.00	83%	2,713	100%	101.2%	101.2%	70	418,703	17,493	31,506	391,069
Fluorescent Low Wattage T8 4' lamps	Fluorescent Low Wattage T8 4' lamps	T8 25W and 28W Lamps	0	0	T8 32W Lamps	0	0	5	$0	$0	$0	$0.07	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	101.2%	101.2%	0	0	0	0	0
Fluorescent High Bay - <= 300W	Fluorescent High Bay - <= 300W	New Construction High Bay Fluorescents Less Than 300W	0	0	400W Metal Halide	0	0	20	$0	$0	$0	$0.07	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	101.2%	101.2%	0	0	0	0	0
Fluorescent High Bay - <= 610W	Fluorescent High Bay - <= 610W	New Construction High Bay Fluorescents Less Than 610W	0	4,072	750W Metal Halide	345	4,072	20	$10	$0	-$149	$0.07	-7%	-1.5	-1.5	1,405	$0.007	$0.000	0.3	0.3	-$7.41	$0.00	80%	212	100%	101.2%	101.2%	63	318,928	2,120	-31,556	297,879
Fluorescent High Bay - <= 900W	Fluorescent High Bay - <= 900W	New Construction High Bay Fluorescents Less Than 900W	0	0	1000W Metal Halide	0	0	20	$0	$0	$0	$0.07	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	101.2%	101.2%	0	0	0	0	0
CFL, Pin Based - <=19W	CFL, Pin Based - <=19W	Pin Based CFL	0	0	Incandescent	0	0	20	$0	$0	$0	$0.07	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	101.2%	101.2%	0	0	0	0	0
CFL, Pin Based - 19-32W	CFL, Pin Based - 19-32W	Pin Based CFL	0	0	Incandescent	0	0	20	$0	$0	$0	$0.07	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	101.2%	101.2%	0	0	0	0	0
CFL, Pin Based - 33-100W	CFL, Pin Based - 33-100W	Pin Based CFL	0	0	Incandescent	0	0	20	$0	$0	$0	$0.07	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	101.2%	101.2%	0	0	0	0	0
CFL, 2-foot Low Wattage - 25 - 28W	CFL, 2-foot Low Wattage - 25 - 28W	PL 25W CFL	0	0	PL 40W CFL	0	0	5	$0	$0	$0	$0.07	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	101.2%	101.2%	0	0	0	0	0
LED Interior Fixture <= 25 Watts	LED Interior Fixture <= 25 Watts	LED Downlight Luminaire	0	3,779	Incandescent Luminaire	56	3,779	20	$25	$0	$50	$0.07	49%	3.3	1.7	211	$0.116	$0.006	0.1	0.0	-$1.12	$0.00	64%	10,531	100%	101.2%	101.2%	403	2,383,195	259,263	528,526	2,225,904
LED Interior Fixture - 25W - 50W	LED Interior Fixture - 25W - 50W	LED Downlight Luminaire	0	3,764	Incandescent Luminaire	163	3,764	20	$37	$0	$153	$0.07	24%	3.4	2.6	612	$0.060	$0.003	0.2	0.1	-$3.23	$0.00	76%	1,919	100%	101.2%	101.2%	256	1,257,512	70,840	292,844	1,174,516
LED Refrigerated Case Lighting	LED Refrigerated Case Lighting	LED Strip lighting	0	6,602	T8 or T12 Fluorescent	79	6,602	20	$35	$0	$125	$0.07	28%	3.3	2.4	519	$0.067	$0.003	0.1	0.1	$0.00	$0.00	91%	305	100%	101.2%	101.2%	24	169,350	10,649	38,244	158,173
LED Parking Garage lighting 25W - 60W	LED Parking Garage lighting 25W - 60W	LED Parking Garage Fixture	0	8,862	CMH	157	8,862	20	$25	$0	$144	$0.07	17%	1.4	1.2	1,390	$0.018	$0.001	0.2	0.2	$0.00	$0.00	101%	546	100%	101.2%	101.2%	93	812,626	13,650	78,646	758,993
LED Parking Garage lighting 61W - 83W	LED Parking Garage lighting 61W - 83W	LED Parking Garage Fixture	0	8,862	HID Fixture	196	8,862	20	$35	$0	$155	$0.07	23%	1.2	0.9	1,737	$0.020	$0.001	0.2	0.2	$0.00	$0.00	101%	445	100%	101.2%	101.2%	95	827,609	15,575	68,770	772,986
LED High-Bay Luminaires - 95 - 189W	LED High-Bay Luminaires - 95 - 189W	LED High Bay New Construction 95-189W	0	0	HPS Fixture <= 250W	0	0	20	$0	$0	$0	$0.07	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	101.2%	101.2%	0	0	0	0	0
LED High-Bay Luminaires - 190 - 290W	LED High-Bay Luminaires - 190 - 290W	LED High Bay New Construction 190-290W	0	0	HPS Fixture <= 400W	0	0	20	$0	$0	$0	$0.07	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	101.2%	101.2%	0	0	0	0	0
LED High-Bay Luminaires - 291 - 464W	LED High-Bay Luminaires - 291 - 464W	LED High Bay New Construction 291-464W	0	0	HPS Fixture <= 750W	0	0	20	$0	$0	$0	$0.07	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	101.2%	101.2%	0	0	0	0	0
LED High-Bay Luminaires - 465 - 625W	LED High-Bay Luminaires - 465 - 625W	LED High Bay New Construction 465-625W	0	0	HPS Fixture <= 1000W	0	0	20	$0	$0	$0	$0.07	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	101.2%	101.2%	0	0	0	0	0
LED Street lighting - 30-44W	LED Street lighting - 30-44W	LED Street Light Fixture	0	0	70W HID Street Light Fixture	0	0	20	$0	$0	$0	$0.07	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0		101.2%	101.2%	0	0	0	0	0
LED Street lighting - 45-55W	LED Street lighting - 45-55W	LED Street Light Fixture	0	0	100W HID Street Light Fixture	0	0	20	$0	$0	$0	$0.07	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0		101.2%	101.2%	0	0	0	0	0
LED Street lighting - 56-79W	LED Street lighting - 56-79W	LED Street Light Fixture	0	0	150W HID Street Light Fixture	0	0	20	$0	$0	$0	$0.07	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	101.2%	101.2%	0	0	0	0	0
LED Street lighting - 80-109W	LED Street lighting - 80-109W	LED Street Light Fixture	0	0	175W HID Street Light Fixture	0	0	20	$0	$0	$0	$0.07	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	101.2%	101.2%	0	0	0	0	0
LED Street lighting - 110-139W	LED Street lighting - 110-139W	LED Street Light Fixture	0	0	250W HID Street Light Fixture	0	0	20	$0	$0	$0	$0.07	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	101.2%	101.2%	0	0	0	0	0
LED Street lighting - 140-209W	LED Street lighting - 140-209W	LED Street Light Fixture	0	0	400W HID Street Light Fixture	0	0	20	$0	$0	$0	$0.07	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	101.2%	101.2%	0	0	0	0	0
LED Area lighting - 45-65W	LED Area lighting - 45-65W	LED Parking Area Fixture	0	4,961	150W MH Fixture	75	4,961	20	$55	$0	$289	$0.07	19%	10.7	8.7	371	$0.148	$0.007	0.1	0.0	$0.00	$0.00	0%	9	100%	101.2%	101.2%	0	3,575	495	2,605	3,339
LED Area lighting - 66-89W	LED Area lighting - 66-89W	LED Parking Area Fixture	0	4,960	175W MH Fixture	135	4,960	20	$61	$0	$278	$0.07	22%	5.7	4.5	667	$0.091	$0.005	0.1	0.0	$0.00	$0.00	0%	91	100%	101.2%	101.2%	0	65,006	5,536	25,271	60,715
LED Area lighting - 90-119W	LED Area lighting - 90-119W	LED Parking Area Fixture	0	4,960	250W MH Fixture	185	4,960	20	$75	$0	$384	$0.07	20%	5.7	4.6	919	$0.082	$0.004	0.2	0.0	$0.00	$0.00	0%	79	100%	101.2%	101.2%	0	77,741	5,925	30,305	72,610
LED Area lighting - 120-140W	LED Area lighting - 120-140W	LED Parking Area Fixture	0	4,960	400W MH Fixture	327	4,960	20	$80	$0	$403	$0.07	20%	3.4	2.7	1,622	$0.050	$0.002	0.3	0.0	$0.00	$0.00	0%	144	100%	101.2%	101.2%	0	250,104	11,581	57,971	233,598
LED Troffer Fixture 1X4	LED Troffer Fixture 1X4	LED Troffer Fixture	0	3,255	Fluorescent Fixture	51	3,255	20	$28	$0	$128	$0.07	22%	10.6	8.3	166	$0.170	$0.008	0.1	0.0438	-$0.87	$0.00	80%	639	100%	101.2%	101.2%	28	113,323	17,955	81,991	105,844
LED Troffer Fixture 2X2	LED Troffer Fixture 2X2	LED Troffer Fixture	0	3,856	Fluorescent Fixture	43	3,856	20	$29	$0	$136	$0.07	22%	11.3	8.8	165	$0.178	$0.009	0.0	0.0	-$0.87	$0.00	74%	6,356	100%	101.2%	101.2%	216	1,123,122	186,593	862,923	1,048,996
LED Troffer Fixture 2X4	LED Troffer Fixture 2X4	LED Troffer Fixture	0	3,532	Fluorescent Fixture	54	3,532	20	$30	$0	$140	$0.07	21%	10.1	7.9	190	$0.157	$0.008	0.1	0.0	-$0.98	$0.00	73%	13,802	100%	101.2%	101.2%	584	2,806,258	410,903	1,927,446	2,621,045
LED Exterior Wall Pack - <= 25W	LED Exterior Wall Pack - <= 25W	LED Wall Pack Fixture	0	4,960	HID Wall Pack Fixture	62	4,960	20	$14	$0	$10	$0.07	141%	0.4	-0.2	309	$0.045	$0.002	0.1	0.0	$0.00	$0.00	0%	202	100%	101.2%	101.2%	0	66,881	2,828	2,010	62,466
LED Exterior Wall Pack - 26W - 60W	LED Exterior Wall Pack - 26W - 60W	LED Wall Pack Fixture	0	4,959	HID Wall Pack Fixture	149	4,959	20	$30	$0	$48	$0.07	62%	0.9	0.3	741	$0.041	$0.002	0.1	0.0	$0.00	$0.00	0%	341	100%	101.2%	101.2%	0	270,667	10,275	16,493	252,803
LED Exterior Wall Pack - 61W - 150W	LED Exterior Wall Pack - 61W - 150W	LED Wall Pack Fixture	0	4,960	HID Wall Pack Fixture	319	4,960	20	$49	$0	$212	$0.07	23%	1.8	1.4	1,583	$0.031	$0.002	0.3	0.0	$0.00	$0.00	0%	338	100%	101.2%	101.2%	0	572,986	16,663	71,498	535,169
LED Parking Garage Wall Pack <= 25W	LED Parking Garage Wall Pack <= 25W	LED Parking Garage Fixture	0	8,864	HID Wall Pack Fixture	52	8,864	20	$15	$0	$79	$0.07	19%	2.4	1.9	461	$0.033	$0.002	0.1	0.1	$0.00	$0.00	101%	5	100%	101.2%	101.2%	0	2,468	75	396	2,305
LED Parking Garage Wall Pack - 26W - 60W	LED Parking Garage Wall Pack - 26W - 60W	LED Parking Garage Fixture	0	0	HID Wall Pack Fixture	0	0	20	$0	$0	$0	$0.07	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	101.2%	101.2%	0	0	0	0	0
LED Parking Garage Wall Pack - 61W - 150W	LED Parking Garage Wall Pack - 61W - 150W	LED Parking Garage Fixture	0	0	HID Wall Pack Fixture	0	0	20	$0	$0	$0	$0.07	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	101.2%	101.2%	0	0	0	0	0
LED Outdoor Canopy - 25W - 60W	LED Outdoor Canopy - 25W - 60W	LED	0	4,960	Metal Halide	184	4,960	20	$45	$0	$120	$0.07	38%	1.8	1.1	914	$0.049	$0.002	0.2	0.0	$0.00	$0.00	0%	63	100%	101.2%	101.2%	0	61,674	2,848	7,557	57,603
LED Outdoor Canopy - 61W - 150W	LED Outdoor Canopy - 61W - 150W	LED	0	4,960	Metal Halide	320	4,960	20	$99	$0	$55	$0.07	180%	0.5	-0.4	1,586	$0.063	$0.003	0.3	0.0	$0.00	$0.00	0%	248	100%	101.2%	101.2%	0	421,025	24,600	13,672	393,238
Lighting Control System	Lighting Control System	Automated Lighting Controls Systems	0	0	Manually Switched System	0	0	15	$0	$0	$0	$0.07	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	100.0%	98.2%	0	0	0	0	0
Custom Lighting & Recommissioning	Custom Lighting & Recommissioning	Engineering Study	0	0	Existing Overlit Lighting System	0	0	0	$0	$0	$0	$0.07	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	100.0%	100.0%	0	0	0	0	0
Custom Lighting	Custom Lighting	Custom Lighting Solution	0	4,817	Existing Overlit Lighting System	30,725	4,817	16	$11,515	$0	$60,881	$0.07	19%	5.6	4.6	148,002	$0.078	$0.005	30.7	23.6	$89.18	$0.00	71%	170	100%	100.8%	100.4%	4,014	26,938,345	1,957,580	10,349,703	25,160,414
Lighting Redesign Studies	Lighting Redesign Studies	Redesign Lighting Solution Study	0	0	Existing Overlit Lighting System	0	0		$0	$0	$0	$0.07	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	100.0%	100.0%	0	0	0	0	0
Lighting Redesign Implementation	Lighting Redesign Implementation	Redesign Lighting Solution Installed	0	8,628	Existing Overlit Lighitng System	47,330	8,628	20	$24,084	$0	$315,354	$0.07	8%	10.6	9.8	408,383	$0.059	$0.003	47.3	43.3	-$3,712.00	$0.00	85%	1	100%	100.0%	100.0%	43	437,241	24,084	315,354	408,383
LED High-Bay Luminaires with Fluorescent Baseline - 95 - 189W	LED High-Bay Luminaires with Fluorescent Baseline - 95 - 189W	LED High Bay 95-189W	0	4,599	High Bay Flourecent Fixture	142	4,599	20	$125	$0	$188	$0.07	66%	3.9	1.3	653	$0.191	$0.010	0.1	0.1	-$3.29	$0.00	81%	3,364	100%	101.2%	101.2%	415	2,351,543	420,188	632,920	2,196,341
LED High-Bay Luminaires with Fluorescent Baseline - 190 - 290W	LED High-Bay Luminaires with Fluorescent Baseline - 190 - 290W	LED High Bay 190-290W	0	4,464	High Bay Fluorescent Fixture	270	4,464	20	$139	$0	$356	$0.07	39%	4.1	2.5	1,204	$0.115	$0.006	0.3	0.2	-$6.58	$0.00	81%	1,732	100%	101.2%	101.2%	407	2,232,710	239,925	617,085	2,085,351
LED High-Bay Luminaires with Fluorescent Baseline - 291 - 464W	LED High-Bay Luminaires with Fluorescent Baseline - 291 - 464W	LED High Bay 291-464W	0	4,316	High Bay Fluorescent Fixture	569	4,316	20	$153	$0	$410	$0.07	37%	2.3	1.4	2,455	$0.062	$0.003	0.6	0.5	-$13.98	$0.00	85%	225	100%	101.2%	101.2%	116	591,404	34,320	92,221	552,371
LED High-Bay Luminaires with Fluorescent Baseline - 465 - 625W	LED High-Bay Luminaires with Fluorescent Baseline - 465 - 625W	LED High Bay 465-625W	0	4,630	High Bay Fluorescent Fixture	635	4,630	20	$175	$0	$881	$0.07	20%	4.1	3.3	2,940	$0.060	$0.003	0.6	0.5	-$17.21	$0.00	67%	28	100%	101.2%	101.2%	13	88,129	4,900	24,672	82,313
LED Area Lighting - 141-199W	LED Area Lighting - 141-199W	LED Parking Area Fixture	0	4,960	750W MH Fixture	694	4,960	20	$109	$0	$337	$0.07	32%	1.3	0.9	3,442	$0.032	$0.002	0.7	0.0	$0.00	$0.00	0%	165	100%	101.2%	101.2%	0	608,006	18,060	55,594	567,877
LED Area Lighting - 200-550W	LED Area Lighting - 200-550W	LED Parking Area Fixture	0	4,960	1000W MH Fixture	759	4,960	20	$195	$0	$690	$0.07	28%	2.5	1.8	3,767	$0.052	$0.003	0.8	0.0	$0.00	$0.00	0%	138	100%	101.2%	101.2%	0	556,619	26,940	95,228	519,882
LED Screw-in Lamps - 30 - 39W (70W HID replacement lamp)	LED Screw-in Lamps - 30 - 39W (70W HID replacement lamp)	LED High Bay Replacement Lamp	0	0	<=70W HID Fixture	0	0	8	$0	$0	$0	$0.07	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	101.2%	101.2%	0	0	0	0	0
LED Screw-in Lamps - 40 - 49W (100W HID replacement lamp)	LED Screw-in Lamps - 40 - 49W (100W HID replacement lamp)	LED High Bay Replacement Lamp	0	0	<=100W HID Fixture	0	0	8	$0	$0	$0	$0.07	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	101.2%	101.2%	0	0	0	0	0
LED Screw-in Lamps - 50 - 79W (175W HID replacement lamp)	LED Screw-in Lamps - 50 - 79W (175W HID replacement lamp)	LED High Bay Replacement Lamp	0	0	<=175W HID Fixture	0	0	8	$0	$0	$0	$0.07	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	101.2%	101.2%	0	0	0	0	0
LED Screw-in Lamps - 80 -119W (250W HID replacement lamp)	LED Screw-in Lamps - 80 -119W (250W HID replacement lamp)	LED High Bay Replacement Lamp	0	0	<=250W HID Fixture	0	0	8	$0	$0	$0	$0.07	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	101.2%	101.2%	0	0	0	0	0
LED Screw-in Lamps - 120 - 144W (320W HID replacement lamp)	LED Screw-in Lamps - 120 - 144W (320W HID replacement lamp)	LED High Bay Replacement Lamp	0	0	<=320W HID Fixture	0	0	8	$0	$0	$0	$0.07	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	101.2%	101.2%	0	0	0	0	0
LED Screw-in Lamps - 145 - 230W (400W HID replacement lamp)	LED Screw-in Lamps - 145 - 230W (400W HID replacement lamp)	LED High Bay Replacement Lamp	0	0	<=400W HID Fixture	0	0	8	$0	$0	$0	$0.07	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	101.2%	101.2%	0	0	0	0	0
LED PLUG based CFL Replacement lamp	LED PLUG based CFL Replacement lamp	LED Plug In Lamp	0	5,713	CFL lamp	26	5,713	8	$7	$0	$8	$0.07	83%	0.7	0.1	149	$0.045	$0.006	0.0	0.0	-$0.36	$0.00	82%	6,776	100%	101.2%	101.2%	156	1,083,690	45,750	55,237	1,012,167
LED Interior Fixture <= 25W (CFL baseline)	LED Interior Fixture <= 25W (CFL baseline)	LED Downlight Fixture	0	0	CFL fixture	0	0	20	$0	$0	$0	$0.07	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	101.2%	101.2%	0	0	0	0	0
LED Interior Fixture - 26-50W (CFL baseline)	LED Interior Fixture - 26-50W (CFL baseline)	LED Downlight Fixture	0	0	CFL fixture	0	0	20	$0	$0	$0	$0.07	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	101.2%	101.2%	0	0	0	0	0
Recommissioning Study Allocation	Recommissioning Study Allocation	Existing building with measures as identified in	0	0	Existing Building	0	0	0	$0	$0	$0	$0.07	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	100.0%	100.0%	0	0	0	0	0
Motor Efficiency	***Motor Efficiency***																						0%					3,442	19,716,420	1,914,941	6,552,216	
New Motor Enhanced	New Motor Enhanced	NEMA Premium +1% Efficient Motor	0	0	NEMA Premium	0	0	20	$0	$0	$0	$0.08	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	100.6%	100.5%	0	0	0	0	0
Upgrade Motor	Upgrade Motor	NEMA Premium Efficient Motor	0	4,716	EPACT Efficient Motor	279	4,716	20	$1,219	$0	$3,056	$0.08	40%	30.8	18.5	1,315	$0.927	$0.046	0.3	0.2	$0.00	$0.00	78%	156	100%	100.6%	100.5%	37	219,574	190,125	476,695	205,082
Upgrade Motor Enhanced	Upgrade Motor Enhanced	NEMA Premium +1% Efficient Motor	0	4,187	EPACT Efficient Motor	274	4,187	20	$799	$0	$2,482	$0.08	32%	28.7	19.5	1,147	$0.696	$0.035	0.3	0.2	$0.00	$0.00	78%	11	100%	100.6%	100.5%	3	13,506	8,785	27,300	12,615
Variable Frequency Drive	Variable Frequency Drive	Equipment coupled with an ASD/VFD	0	4,415	Equipment without an ASD/VFD	832	4,415	15	$342	$0	$1,191	$0.08	29%	4.3	3.1	3,675	$0.093	$0.006	0.8	0.7	$0.00	$0.00	78%	4,493	100%	100.6%	100.5%	3,155	17,677,599	1,536,750	5,353,097	16,510,878
CSMC	CSMC	Motor with Voltage Controller	0	0	Motor without Voltage Controller	0	0	20	$0	$0	$0	$0.08	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	100.6%	100.5%	0	0	0	0	0
VFD on Well Pump	VFD on Well Pump	VFD Well Pump	0	2,982	Throttled Well Pump	12,154	2,982	15	$4,619	$0	$15,966	$0.08	29%	5.8	4.2	36,238	$0.127	$0.008	12.2	5.0	$0.00	$0.00	38%	31	100%	100.6%	100.5%	155	1,202,756	143,200	494,947	1,123,374
Study	Study	Motor Study	0	0	No Study	0	0	7	$0	$0	$0	$0.08	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	100.0%	100.0%	0	0	0	0	0
Recommissioning Study	Recommissioning Study	Efficient equipment as identified in a recommissioning study	0	0	Existing equipment	0	0	0	$0	$0	$0	$0.08	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	100.0%	100.0%	0	0	0	0	0
Custom	Custom	New Equipment	0	5,334	Existing or New Inefficient	15,083	5,334	16	$5,154	$0	$28,597	$0.08	18%	4.7	3.9	80,455	$0.064	$0.004	15.1	13.2	$0.00	$0.00	81%	7	100%	100.0%	100.0%	92	602,985	36,081	200,177	563,188
Multi Family Building Efficiency	***Multi Family Building Efficiency***						0																0%					227	2,315,477	87,709	395,997	

Electric Measure Description	Electric Measure Description	Efficient Product Description / Rating	Efficient Product Consumption (watts)	Efficient Hours of Operation (hrs/yr)	Baseline Product Description / Rating	Baseline Product Consumption (watts)	Baseline Hours of Operation (hrs/yr)	Measure Lifetime (years)	Rebate Amount ($)	Average Baseline Product Cost ($)	Incremental Cost of Efficient Product ($)	Assumed Energy Cost ($/kWh)	Rebate as a % of Incremental Cost (%)	Increm'l Cost Payback Period w/o Rebate (yrs)	Increm'l Cost Payback Period w/ Rebate (yrs)	Annual Customer kWh Savings (kWh/yr)	Rebated Cost / Cust kWh Saved ($/kWh)	Rebated Lifetime cost /Cust KWh Saved ($/kWh)	Customer kW Savings (kW)	Generator Peak kW Savings (kW)	Non-Energy O&M Savings ($)	Energy O&M Savings ($)	Coincidence Factor (%)	2018 Units (-)	Installation Rate (%)	Realization Rate (kW) (%)	Realization Rate (kWh) (%)	2018 NET Gen kW (kW)	2018 NET Gen kWh (kWh)	2018 Rebate Budget ($)	2018 Incremental Costs ($)	Total Customer kWh for all Units Installed in 2018
TOTAL	*TOTAL*																														
Provide new 1.5 gpm showerhead to replace existing 2.5 gpm showerhead in electric DHW heater	Provide new 1.5 gpm showerhead to replace existing 2.5 gpm showerhead in electric DHW heater	1.5 GPM Showerhead	0	8,760	2.5 GPM Showerhead	69	8,760	10	$8	$0	$8	$0.12	100%	0.1	0.0	604	$0.013	$0.001	0.1	0.0	$39.46	$0.00	64%	67	100%	100.0%	100.0%	3	44,145	544	544	40,437
Provide Energy Efficient Kitchen Aerator - 1.5 GPM to replace existing 2.2 gpm aerator in home with electric DHW heater	Provide Energy Efficient Kitchen Aerator - 1.5 GPM to replace existing 2.2 gpm aerator in home with electric DHW heater	1.5 GPM Kitchen Faucet Aerator	0	8,770	2.2 GPM Kitchen Faucet Aerator	11	8,770	10	$3	$0	$3	$0.12	100%	0.2	0.0	98	$0.029	$0.003	0.0	0.0	$5.40	$0.00	124%	34	100%	100.0%	100.0%	1	3,629	97	97	3,324
Provide Energy Efficient Bath Faucet Aerator - 1.0 GPM to replace existing 2.2 gpm aerator in home with electric DHW heater	Provide Energy Efficient Bath Faucet Aerator - 1.0 GPM to replace existing 2.2 gpm aerator in home with electric DHW heater	1.0 GPM Bathroom Faucet Aerator	0	8,779	2.2 GPM Bathroom Faucet Aerator	8	8,779	10	$1	$0	$1	$0.12	100%	0.2	0.0	73	$0.020	$0.002	0.0	0.0	$4.75	$0.00	124%	18	100%	100.0%	100.0%	0	1,428	27	27	1,308
Provide Energy Efficient Bath Faucet Aerator - 0.5 GPM to replace existing 2.2 gpm aerator in home with electric DHW heater	Provide Energy Efficient Bath Faucet Aerator - 0.5 GPM to replace existing 2.2 gpm aerator in home with electric DHW heater	0.5 GPM Bathroom Faucet Aerator	0	8,774	2.2 GPM Bathroom Faucet Aerator	12	8,774	10	$4	$0	$4	$0.12	100%	0.3	0.0	103	$0.039	$0.004	0.0	0.0	$6.73	$0.00	124%	67	100%	100.0%	100.0%	1	7,528	268	268	6,896
Water Heater Blanket on Electric Water Heater	Water Heater Blanket on Electric Water Heater	Add commercial Insulation wrap R8 around Water Heater Tank	0	0	No External Insulation on water heater	0	0	7	$0	$0	$0	$0.12	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	100.0%	100.0%	0	0	0	0	0
Replace screw-in incandescents within tenant units with LEDs	Replace screw-in incandescents within tenant units with LEDs	LED Bulbs	0	909	Average EISA Standard halogen A-Style Bulb	1,635,885	909	16	$0	$0	$208,904	$0.12	0%	1.2	1.2	1,487,022	$0.000	$0.000	1,635.9	143.5	$0.00	$0.00	8%	1	100%	100.0%	100.0%	143	1,623,386	0	208,904	1,487,022
Replace screw-in incandescents in common areas with screw-in LEDs	Replace screw-in incandescents in common areas with screw-in LEDs	LED Bulbs	0	4,784	Average EISA Standard halogen A-Style Bulb	51	4,784	6	$6	$0	$6	$0.07	100%	0.3	0.0	246	$0.024	$0.004	0.1	0.0	-$0.60	$0.00	66%	1,143	100%	100.0%	100.0%	41	300,622	6,864	6,864	280,781
Exit sign retrofit and replacement	Exit sign retrofit and replacement	LED/LEC Exit	0	0	Incandescent	0	0	20	$0	$0	$0	$0.07	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	100.0%	100.0%	0	0	0	0	0
Holistic efficiency projects totaling either 15%, 20%, or 25% whole-building savings	Holistic efficiency projects totaling either 15%, 20%, or 25% whole-building savings	Average Performance Building	0	4,518	Average existing multifamily building after Direct Install measures completed	6,919	4,518	20	$7,991	$0	$17,929	$0.07	45%	8.4	4.7	31,265	$0.256	$0.013	6.9	3.7	-$41.05	$0.00	49%	10	100%	100.0%	96.2%	37	334,739	79,910	179,293	312,646
Process Efficiency	***Process Efficiency***						0																0%					8,277	72,032,749	4,621,044	23,815,436	
Custom	Custom	Optimized System	0	6,708	Old or less efficient systems or equipment	87,242	6,708	19	$30,984	$0	$359,331	$0.07	9%	8.3	7.6	585,220	$0.053	$0.003	87.2	41.9	$100,402.41	$0.00	45%	39	100%	100.0%	100.0%	1,636	24,436,374	1,208,361	14,013,899	22,823,573
Lighting	Lighting	Optimized System	0	5,296	0	27	5,296	16	$9	$0	$31	$0.07	30%	3.0	2.1	141	$0.066	$0.004	0.0	0.0	-$0.47	$0.00	81%	184,843	100%	101.2%	101.2%	4,287	27,876,795	1,718,960	5,766,877	26,036,927
Motors	Motors	Optimized System	0	5,191	Old or less efficient systems or equipment	5,426	5,191	15	$2,060	$0	$7,894	$0.08	26%	3.7	2.8	28,167	$0.073	$0.005	5.4	4.6	$122.55	$0.00	79%	371	100%	100.6%	100.5%	1,710	11,188,255	764,273	2,928,514	10,449,830
Implementation of ECO's found in studies	Implementation of ECO's found in studies	Post-Recommissioned Building	0	6,543	Pre-Recommissioned Building	8,390	6,543	7	$15,549	$0	$3,632	$0.06	428%	1.1	-3.7	54,896	$0.283	$0.040	8.4	2.1	$17.21	$0.00	24%	35	100%	136.4%	107.2%	75	2,057,117	544,205	127,132	1,921,347
Cooling	Cooling	More efficient cooling equipment	0	10,251	Code-minimum equipment	4,092	10,251	19	$2,299	$0	$4,791	$0.08	48%	1.5	0.8	41,952	$0.055	$0.003	4.1	3.9	$0.00	$0.00	88%	68	100%	99.6%	100.7%	263	3,054,307	156,340	325,774	2,852,723
Compressed Air and FSO Measures	Compressed Air and FSO Measures	Optimized System	0	7,449	Non-Optimized System	8,576	7,449	17	$4,578	$0	$13,065	$0.07	35%	3.0	2.0	63,884	$0.072	$0.004	8.6	6.1	$1.70	$0.00	66%	50	100%	100.0%	100.0%	306	3,419,900	228,906	653,241	3,194,187
Energy Design Assistance	Energy Design Assistance	More Efficient than Code Building	0	0	Code-Compliant Building	0	0	20	$0	$0	$0	$0.07	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	100.0%	100.0%	0	0	0	0	0
Behavioral Changes	Behavioral Changes	Behavior changes that reduce energy use	0	0	No change in behavior	0	0	1	$0	$0	$0	$0.06	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	100.0%	100.0%	0	0	0	0	0
Behavioral Changes	Behavioral Changes	Behavior changes that reduce energy use	0	0	No change in behavior	0	0	1	$0	$0	$0	$0.06	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	100.0%	100.0%	0	0	0	0	0
Phase 2 new customer contribution	Phase 2 new customer contribution	0	0	0	0	0	0	0	$0	$0	$0	$0.07	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	100.0%	100.0%	0	0	0	0	0
System Optimization and Annual Achievement Bonuses	System Optimization and Annual Achievement Bonuses	0	0	0	0	0	0	0	$0	$0	$0	$0.07	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	100.0%	100.0%	0	0	0	0	0
Incentives to Trade Partners	Incentives to Trade Partners	0	0	0	0	0	0	0	$0	$0	$0	$0.07	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	100.0%	100.0%	0	0	0	0	0
Recommissioning	***Recommissioning***						0																0%					378	6,400,084	123,511	625,585	
Recommissioning Implementation	Recommissioning Implementation	Post-Recommissioned Building	0	6,073	Pre-Recommissioned Building	45,082	6,073	7	$5,771	$0	$30,189	$0.06	19%	1.9	1.5	273,777	$0.021	$0.003	45.1	17.3	$143.48	$0.00	36%	20	100%	100.0%	100.0%	355	6,006,095	118,246	618,579	5,609,693
Recommissioning Studies	Recommissioning Studies	Study Cost and Rebate	0	0	0	0	0	0	$0	$0	$0	$0.06	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	100.0%	100.0%	0	0	0	0	0
BOC Program Attributable Savings	BOC Program Attributable Savings	Energy Use After Class	0	8,760	Energy Usage Before Class	3,989	8,760	5	$500	$0	$665	$0.06	75%	0.3	0.1	34,946	$0.014	$0.003	4.0	2.2	$0.00	$0.00	51%	11	100%	100.0%	100.0%	23	393,988	5,265	7,006	367,985
Refrigeration Recommissioning	Refrigeration Recommissioning	Optimized Refrigeration Systems	0	0	Existing Refrigeration Systems - Not Tuned or Optimized	0	0	0	$0	$0	$0	$0.06	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	100.0%	100.0%	0	0	0	0	0
Turn Key Services	***Turn Key Services***						0																0%					3,210	19,318,725	1,692,260	5,257,900	
Identification ~ On site audit	Identification ~ On site audit	Identification of opportunities	0	0	0	0	0	0	$0	$0	$0	$0.08	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	100.0%	100.0%	0	0	0	0	0
Implementation	Implementation	High Eff Project	0	4,581	Lower Efficient Product or System	62	4,581	16	$27	$0	$83	$0.08	32%	3.7	2.5	286	$0.094	$0.006	0.1	0.1	$0.92	$0.00	76%	63,135	100%	100.6%	100.7%	3,210	19,318,725	1,692,260	5,257,900	18,043,689
Electric Rate Savings	***Electric Rate Savings***						0																0%					12,653	469,480	0	0	
The Electric Rate Savings Program is offered to any business customer who can reduce their electric loads during control periods by at least 50 kW. In return for reducing their electric loads, they receive a monthly discount on their demand charges	The Electric Rate Savings Program is offered to any business customer who can reduce their electric loads during control periods by at least 50 kW. In return for reducing their electric loads, they receive a monthly discount on their demand charges	Utility Load Control for control period	0	18	No Control	24,773,000	18	5	$0	$0	$0	$0.11	#DIV/0!	0.0	0.0	438,494	$0.000	$0.000	24,773.0	12,652.9	$0.00	$0.00	48%	1	100%	100.0%	100.0%	12,653	469,480	0	0	438,494
Saver's Switch For Business	***Saver's Switch For Business***						0																0%					3,059	5,878	0	0	
Commercial AC Switch Single Stage - MN	Commercial AC Switch Single Stage - MN	Utility Load Control for control period with smart switch	0	0	No Control, No Switch	7,571,662	0	15	$0	$0	$0	$0.11	#DIV/0!	0.0	0.0	3,259	$0.000	$0.000	7,571.7	1,816.5	$0.00	$0.00	22%	1	100%	100.0%	77.8%	1,816	3,489	0	0	3,259
Commercial AC Switch Multi Stage - MN	Commercial AC Switch Multi Stage - MN	Utility Load Control for control period with smart switch	0	0	No Control, No Switch	7,114,548	0	15	$0	$0	$0	$0.11	#DIV/0!	0.0	0.0	2,232	$0.000	$0.000	7,114.5	1,242.4	$0.00	$0.00	16%	1	100%	100.0%	80.5%	1,242	2,389	0	0	2,232
Residential Demand Response	***Residential Demand Reponse***						0																0%					24,722	165,258	245,790	284,738	
Residential AC Switch	Residential AC Switch	Utility Load Control for control period with smart switch	0	1	No Control, No Switch	68,348,910	1	15	$0	$0	$0	$0.11	#DIV/0!	0.0	0.0	38,870	$0.000	$0.000	68,348.9	21,310.0	$0.00	$0.00	28%	1	100%	100.0%	68.3%	21,310	42,434	0	0	38,870
Residential WH Switch	Residential WH Switch	Utility Load Control for control period with smart switch	0	0	No Control, No Switch	153,000	0	15	$0	$0	$0	$0.11	#DIV/0!	0.0	0.0	14	$0.000	$0.000	153.0	7.5	$0.00	$0.00	4%	1	100%	100.0%	13.3%	7	15	0	0	14
Residential Smart Thermostat	Residential Smart Thermostat	Utility Load Control for control period with Tier II or III thermostat	0	1	Existing standard manual or Non Utilzed Tier I Thermostat	2,402	1	10	$75	$0	$0	$0.11	#DIV/0!	0.0	-330.3	2	$37.500	$3.750	2.4	1.2	$0.00	$0.00	47%	1,472	100%	100.0%	100.0%	1,830	3,214	110,400	0	2,944
Residential Smart Thermostat	Residential Smart Thermostat	Utility Load Control for control period with Tier II or III thermostat	0	1	Existing standard manual or Non Utilzed Tier I Thermostat	2,402	1	10	$275	$0	$275	$0.11	100%	1211.1	0.0	2	$137.500	$13.750	2.4	1.2	$0.00	$0.00	47%	193	100%	100.0%	100.0%	240	421	53,075	53,075	386
Residential Smart Thermostat	Residential Smart Thermostat	Utility Load Control for control period with Tier II or III thermostat	0	1	Existing standard manual or Non Utilzed Tier I Thermostat	2,402	1	10	$77	$0	$216	$0.11	36%	950.9	613.0	2	$38.357	$3.836	2.4	1.2	$0.00	$0.00	47%	1,073	100%	100.0%	100.0%	1,334	2,343	82,315	231,663	2,146
Residential Smart Thermostat	Residential Smart Thermostat	New Tier II Thermostat	2,402	0	Existing standard manual or Non Utilzed Tier I Thermostat	2,402	0	10	$0	$0	$0	$0.11	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	100.0%	100.0%	0	0	0	0	0
Residential Smart Thermostat	Residential Smart Thermostat	New Tier II Thermostat	0	3,096	Utilzed Tier I Thermostat	1,000	3,096	10	$0	$0	$0	$0.11	#DIV/0!	0.0	0.0	3,096	$0.000	$0.000	1.0	0.0	$0.00	$0.00	0%	1	100%	100.0%	100.0%	0	3,380	0	0	3,096
Residential Smart Thermostat	Residential Smart Thermostat	New Tier III Thermostat	2,402	0	Existing standard manual or Non Utilzed Tier I Thermostat	2,402	0	10	$0	$0	$0	$0.11	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	100.0%	100.0%	0	0	0	0	0
Residential Smart Thermostat	Residential Smart Thermostat	New Tier III Thermostat	0	103,921	Utilzed Tier I Thermostat	1,000	103,921	10	$0	$0	$0	$0.11	#DIV/0!	0.0	0.0	103,921	$0.000	$0.000	1.0	0.0	$0.00	$0.00	0%	1	100%	100.0%	100.0%	0	113,451	0	0	103,921
Residential Smart Thermostat	Residential Smart Thermostat	New Tier II Thermostat	0	0	Existing standard manual or Non Utilzed Tier I Thermostat	0	0	10	$0	$0	$0	$0.11	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	100.0%	100.0%	0	0	0	0	0
Residential Smart Thermostat	Residential Smart Thermostat	New Tier II Thermostat	0	0	Utilzed Tier I Thermostat	0	0	10	$0	$0	$0	$0.11	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	100.0%	100.0%	0	0	0	0	0
Residential Smart Thermostat	Residential Smart Thermostat	New Tier III Thermostat	0	0	Existing standard manual or Non Utilzed Tier I Thermostat	0	0	10	$0	$0	$0	$0.11	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	100.0%	100.0%	0	0	0	0	0
Residential Smart Thermostat	Residential Smart Thermostat	New Tier III Thermostat	0	0	Utilzed Tier I Thermostat	0	0	10	$0	$0	$0	$0.11	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	100.0%	100.0%	0	0	0	0	0
Home Energy Savings Program	***Home Energy Savings Program***						0																0%					0	926,476	712,002	712,002	
Refrigerator Replacements	Refrigerator Replacements	Top Mounted Freeezer w/ Auto Defrost Energy Star refrigerator 22.0 Cf	0	5,596	Top Mounted Freeezer w/ Auto Defrost Refrigerator 22.0 Cf > 15 years	56	5,596	18	$650	$0	$650	$0.11	100%	18.8	0.0	314	$2.069	$0.115	0.1	0.0	$0.00	$0.00	64%	474	100%	100.0%	100.0%	19	162,545	308,025	308,025	148,891
Freezer Replacement	Freezer Replacement	Energy Star standard freezer	0	5,589	Existing unit vintage > 15 years old	70	5,589	18	$336	$0	$336	$0.11	100%	7.8	0.0	393	$0.854	$0.047	0.1	0.0	$0.00	$0.00	64%	237	100%	100.0%	100.0%	12	101,617	79,520	79,520	93,081
Refrigerator Recycling	Refrigerator Recycling	Removal of second refrigerator	0	0	Existing primary unit - age mostly >15 years	0	0	8	$0	$0	$0	$0.11	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	100.0%	100.0%	0	0	0	0	0
Freezer Recycling	Freezer Recycling	Removal of freezer	0	0	Existing primary unit - age mostly >10 years	0	0	6	$0	$0	$0	$0.11	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	100.0%	100.0%	0	0	0	0	0
Window Air Conditioner Replacement	Window Air Conditioner Replacement	Energy Star 10,000 Btu/hr 10.8 EER Window AC Unit	0	656	Standard 10,000 Btu/hr 9.8 EER Window AC Unit	32	656	9	$469	$0	$469	$0.11	100%	202.9	0.0	21	$22.317	$2.480	0.0	0.0	$0.00	$0.00	91%	419	100%	100.0%	100.0%	13	9,606	196,365	196,365	8,799
Window Air Conditioner Recycling	Window Air Conditioner Recycling	Removal of Standard 10,000 Btu/hr 9.8 EER Window AC Unit	0	662	Standard 10,000 Btu/hr 9.8 EER Window AC Unit	917	662	5	$50	$0	$50	$0.11	100%	0.7	0.0	607	$0.082	$0.018	0.9	0.9	$0.00	$0.00	90%	1	100%	100.0%	100.0%	1	663	50	50	607
EC Fan Motor on New Residential Furnace without AC	EC Fan Motor on New Residential Furnace without AC	ECM Furnace Fan	0	3,332	Non-ECM Fan	193	3,332	18	$530	$0	$530	$0.11	100%	7.5	0.0	643	$0.825	$0.046	0.2	0.1	-$14.06	$0.00	58%	149	100%	100.0%	100.0%	18	104,521	78,970	78,970	95,741

Electric Measure Description	Electric Measure Description	Efficient Product Description / Rating	Efficient Product Consumption (watts)	Efficient Hours of Operation (hrs/yr)	Baseline Product Description / Rating	Baseline Product Consumption (watts)	Baseline Hours of Operation (hrs/yr)	Measure Lifetime (years)	Rebate Amount ($)	Average Baseline Product Cost ($)	Incremental Cost of Efficient Product ($)	Assumed Energy Cost ($/kWh)	Rebate as a % of Incremental Cost (%)	Increm'l Cost Payback Period w/o Rebate (yrs)	Increm'l Cost Payback Period w/ Rebate (yrs)	Annual Customer kWh Savings (kWh/yr)	Rebated Cost / Cust kWh Saved ($/kWh)	Rebated Lifetime cost /Cust KWh Saved ($/kWh)	Customer kW Savings (kW)	Generator Peak kW Savings (kW)	Non-Energy O&M Savings ($)	Energy O&M Savings ($)	Coincidence Factor (%)	2018 Units (-)	Installation Rate (%)	Realization Rate (kW) (%)	Realization Rate (kWh) (%)	2018 NET Gen kW (kW)	2018 NET Gen kWh (kWh)	2018 Rebate Budget ($)	2018 Incremental Costs ($)	Total Customer kWh for all Units Installed in 2018
TOTAL	*TOTAL*																															
Attic Insulation - Gas Heated & Electrically Cooled Home	Attic Insulation - Gas Heated & Electrically Cooled Home	Insulate the attic to R-48 & perform Bypass air sealing	0	490	Existing home with average attic area of 823 sq. ft. and R-17 insulation	6,333	490	20	$1,938	$0	$1,938	$0.11	100%	5.7	0.0	3,101	$0.625	$0.031	6.3	6.9	$0.00	$0.00	100%	2	100%	100.0%	100.0%	11	5,417	3,101	3,101	4,962
Attic Insulation - Electrically Heated & Non-Cooled Home	Attic Insulation - Electrically Heated & Non-Cooled Home	Insulate the attic to R-48 & perform Bypass air sealing	0	0	Existing home with average attic area of 823 sq. ft. and R-17 insulation	0	0	20	$0	$0	$0	$0.11	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	100.0%	100.0%	0	0	0	0	0
Attic Insulation - Electrically Heated & Cooled Home	Attic Insulation - Electrically Heated & Cooled Home	Insulate the attic to R-48 & perform Bypass air sealing	0	1,751	Existing home with average attic area of 823 sq. ft. and R-17 insulation	1,778	1,751	20	$1,843	$0	$1,843	$0.11	100%	5.4	0.0	3,113	$0.592	$0.030	1.8	0.2	$0.00	$0.00	10%	1	100%	100.0%	100.0%	0	3,398	1,843	1,843	3,113
Air Sealing - Gas Heated & Electrically Cooled Home	Air Sealing - Gas Heated & Electrically Cooled Home	Perform Bypass air sealing along with Attic Insulation	0	490	Existing home with average home size of 1406 sq. ft.	1,624	490	10	$224	$0	$224	$0.11	100%	2.6	0.0	796	$0.282	$0.028	1.6	1.8	$0.00	$0.00	100%	7	100%	100.0%	100.0%	13	6,495	1,676	1,676	5,949
Air Sealing - Electrically Heated & Non-Cooled Home	Air Sealing - Electrically Heated & Non-Cooled Home	Perform Bypass air sealing along with Attic Insulation	0	0	Existing home with average home size of 1406 sq. ft.	0	0	10	$0	$0	$0	$0.11	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	100.0%	100.0%	0	0	0	0	0
Air Sealing - Electrically Heated & Cooled Home	Air Sealing - Electrically Heated & Cooled Home	Perform Bypass air sealing along with Attic Insulation	0	1,751	Existing home with average home size of 1406 sq. ft.	2,474	1,751	10	$54	$0	$54	$0.11	100%	0.1	0.0	4,331	$0.012	$0.001	2.5	0.2	$0.00	$0.00	7%	1	100%	100.0%	100.0%	0	4,728	54	54	4,331
Wall Insulation - Gas Heated and Electricallly Cooled Home	Wall Insulation - Gas Heated and Electricallly Cooled Home	Add Insulation to Walls (R-11 added)	0	490	Existing Home with empty wall cavity (assume structure insulation value)	4,726	490	20	$1,530	$0	$1,530	$0.11	100%	6.0	0.0	2,315	$0.661	$0.033	4.7	5.2	$0.00	$0.00	100%	2	100%	100.0%	100.0%	10	4,853	2,938	2,938	4,445
Wall Insulation - Electricallly Heated and Non-Cooled Home	Wall Insulation - Electricallly Heated and Non-Cooled Home	Add Insulation to Walls (R-11 added)	0	0	Existing Home with empty wall cavity (assume structure insulation value)	0	0	20	$0	$0	$0	$0.11	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	100.0%	100.0%	0	0	0	0	0
Wall Insulation - Electricallly Heated and Cooled Home	Wall Insulation - Electricallly Heated and Cooled Home	Add Insulation to Walls (R-11 added)	0	0	Existing Home with empty wall cavity (assume structure insulation value)	0	0	20	$0	$0	$0	$0.11	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	100.0%	100.0%	0	0	0	0	0
LEDs - 2017	LEDs - 2017	Average LED Bulb	0	0	Average EISA Standard Halogen A-Style Bulb	0	0	7	$0	$0	$0	$0.11	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	100.0%	100.0%	0	0	0	0	0
LEDs - 2018	LEDs - 2018	Average LED Bulb	0	909	Average EISA Standard Halogen A-Style Bulb	405	909	6	$30	$0	$30	$0.11	100%	0.7	0.0	368	$0.082	$0.014	0.4	0.0	$0.00	$0.00	8%	1,302	100%	100.0%	100.0%	46	522,634	39,459	39,459	478,733
LEDs - 2019	LEDs - 2019	Average LED Bulb	0	0	Average EISA Standard Halogen A-Style Bulb	0	0	5	$0	$0	$0	$0.11	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	100.0%	100.0%	0	0	0	0	0
Multi-Family Energy Savings Program	***Multi-Family Energy Savings Program***						**0**																0%					**82**	**452,354**	**1,023,519**	**1,023,519**	
Refrigerator Replacement with new Energy Star Refrigerator	Refrigerator Replacement with new Energy Star Refrigerator	Top Mounted Freeezer w/ Auto Defrost Energy Star refrigerator 22.0 Cf	0	5,604	Top Mounted Freeezer w/ Auto Defrost Refrigerator 22.0 Cf > 15 years	65	5,604	18	$652	$0	$652	$0.11	100%	16.2	0.0	367	$1.778	$0.099	0.1	0.0	$0.00	$0.00	64%	477	100%	100.0%	100.0%	22	190,980	310,994	310,994	174,938
Freezer Replacement with new Energy Star Freezer	Freezer Replacement with new Energy Star Freezer	Energy Star standard freezer	0	5,585	Existing unit vintage > 15 years old	106	5,585	18	$293	$0	$293	$0.11	100%	4.5	0.0	590	$0.497	$0.028	0.1	0.1	$0.00	$0.00	64%	18	100%	100.0%	100.0%	1	11,591	5,276	5,276	10,617
Refrigerator Removal and Recycling	Refrigerator Removal and Recycling	Removal of second refrigerator	0	0	Existing primary unit - age mostly >15 years	0	0	8	$0	$0	$0	$0.11	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	100.0%	100.0%	0	0	0	0	0
Freezer Removal and Recycling	Freezer Removal and Recycling	Removal of freezer	0	0	Existing primary unit - age mostly >10 years	0	0	6	$0	$0	$0	$0.11	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	100.0%	100.0%	0	0	0	0	0
Window Air Conditioner Replacement with Energy Star 10,000 Btu/hr 10.8 EER Window AC Unit	Window Air Conditioner Replacement with Energy Star 10,000 Btu/hr 10.8 EER Window AC Unit	Energy Star 10,000 Btu/hr 10.8 EER Window AC Unit	0	667	Standard 10,000 Btu/hr 9.8 EER Window AC Unit	32	667	9	$568	$0	$568	$0.11	100%	252.2	0.0	21	$26.657	$2.962	0.0	0.0	$0.00	$0.00	90%	1,188	100%	100.0%	100.0%	38	27,659	675,370	675,370	25,336
Window Air Conditioner Removal and Recycling of Standard 10,000 Btu/hr 9.8 EER Window AC Unit	Window Air Conditioner Removal and Recycling of Standard 10,000 Btu/hr 9.8 EER Window AC Unit	Removal of Standard 10,000 Btu/hr 9.8 EER Window AC Unit	0	662	Standard 10,000 Btu/hr 9.8 EER Window AC Unit	917	662	5	$39	$0	$39	$0.11	100%	0.6	0.0	607	$0.064	$0.014	0.9	0.9	$0.00	$0.00	90%	2	100%	100.0%	100.0%	2	1,325	78	78	1,214
Value LED Bulbs - 2017	Value LED Bulbs - 2017	Average LED Bulb	0	0	Average EISA Standard Halogen A-Style Bulb	0	0	7	$0	$0	$0	$0.11	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	100.0%	100.0%	0	0	0	0	0
Value LED Bulbs - 2018	Value LED Bulbs - 2018	Average LED Bulb	0	909	Average EISA Standard Halogen A-Style Bulb	291	909	6	$42	$0	$42	$0.11	100%	1.4	0.0	264	$0.157	$0.026	0.3	0.0	$0.00	$0.00	8%	765	100%	100.0%	100.0%	19	220,798	31,801	31,801	202,251
Value LED Bulbs - 2019	Value LED Bulbs - 2019	Average LED Bulb	0	0	Average EISA Standard Halogen A-Style Bulb	0	0	5	$0	$0	$0	$0.11	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	100.0%	100.0%	0	0	0	0	0
Energy Efficient Showerhead	Energy Efficient Showerhead						0																0%					82	1,022,738	14,080	14,049	
Provide new 1.5 gpm showerhead to replace existing 2.5 gpm showerhead in electric DHW heater	Provide new 1.5 gpm showerhead to replace existing 2.5 gpm showerhead in electric DHW heater	1.5 GPM Showerhead	0	8,787	2.5 GPM Showerhead	58	8,787	10	$3	$0	$3	$0.11	101%	0.1	0.0	507	$0.006	$0.001	0.1	0.0	$33.19	$0.00	63%	1,706	63.5%	100.0%	100.0%	43	599,215	5,544	5,510	864,379
Provide new 1.5 gpm showerhead for second shower to replace existing 2.5 gpm showerhead in electric DHW heater	Provide new 1.5 gpm showerhead for second shower to replace existing 2.5 gpm showerhead in electric DHW heater	1.5 GPM Showerhead	0	8,758	2.5 GPM Showerhead	39	8,758	10	$3	$0	$3	$0.11	100%	0.1	0.0	342	$0.010	$0.001	0.0	0.0	$22.36	$0.00	64%	1,285	63.5%	100.0%	100.0%	22	304,184	4,176	4,159	438,791
Provide Energy Efficient Kitchen Aerator - 1.5 GPM to replace existing 2.2 gpm aerator in home with electric DHW heater	Provide Energy Efficient Kitchen Aerator - 1.5 GPM to replace existing 2.2 gpm aerator in home with electric DHW heater	1.5 GPM Kitchen Faucet Aerator	0	9,231	2.2 GPM Kitchen Faucet Aerator	8	9,231	10	$2	$0	$2	$0.11	100%	0.2	0.0	74	$0.022	$0.002	0.0	0.0	$4.17	$0.00	123%	1,697	31.1%	100.0%	100.0%	6	42,676	2,786	2,783	125,535
Provide Energy Efficient Bath Faucet Aerator - 1.0 GPM to replace existing 2.2 gpm aerator in home with electric DHW heater	Provide Energy Efficient Bath Faucet Aerator - 1.0 GPM to replace existing 2.2 gpm aerator in home with electric DHW heater	1.0 GPM Bathroom Faucet Aerator	0	9,042	2.2 GPM Bathroom Faucet Aerator	7	9,042	10	$1	$0	$1	$0.11	101%	0.1	0.0	64	$0.008	$0.001	0.0	0.0	$4.15	$0.00	126%	1,717	35.4%	100.0%	100.0%	6	42,183	890	882	109,152
Provide Energy Efficient Bath Faucet Aerator - 1.0 GPM for second faucet to replace existing 2.2 gpm aerator in home with electric DHW heater	Provide Energy Efficient Bath Faucet Aerator - 1.0 GPM to replace existing 2.2 gpm aerator in home with electric DHW heater	1.0 GPM Bathroom Faucet Aerator	0	9,065	2.2 GPM Bathroom Faucet Aerator	7	9,065	10	$1	$0	$1	$0.11	101%	0.1	0.0	64	$0.008	$0.001	0.0	0.0	$4.16	$0.00	127%	1,290	35.4%	100.0%	100.0%	4	31,755	669	665	82,168
Provide new 1.5 gpm showerhead to replace existing 2.5 gpm showerhead in electric DHW heater	Provide new 1.5 gpm showerhead to replace existing 2.5 gpm showerhead in electric DHW heater	1.5 GPM Showerhead	0	8,765	2.5 GPM Showerhead	58	8,765	10	$2	$0	$6	$0.11	30%	0.1	0.1	507	$0.004	$0.000	0.1	0.0	$33.21	$0.00	62%	7	63.5%	100.0%	100.0%	0	2,430	12	41	3,506
Provide new 1.5 gpm showerhead for second shower to replace existing 2.5 gpm showerhead in electric DHW heater	Provide new 1.5 gpm showerhead for second shower to replace existing 2.5 gpm showerhead in electric DHW heater	1.5 GPM Showerhead	0	8,673	2.5 GPM Showerhead	40	8,673	10	$3	$0	$9	$0.11	31%	0.2	0.2	343	$0.008	$0.001	0.0	0.0	$22.44	$0.00	63%	1	63.5%	100.0%	100.0%	0	295	3	11	425
Provide Energy Efficient Kitchen Aerator - 1.5 GPM to replace existing 2.2 gpm aerator in home with electric DHW heater	Provide Energy Efficient Kitchen Aerator - 1.5 GPM to replace existing 2.2 gpm aerator in home with electric DHW heater	1.5 GPM Kitchen Faucet Aerator	0	0	2.2 GPM Kitchen Faucet Aerator	0	0	10	$0	$0	$0	$0.11	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	40%	100.0%	100.0%	0	0	0	0	0
Provide Energy Efficient Bath Faucet Aerator - 0.5 GPM to replace existing 2.2 gpm aerator in home with electric DHW heater	Provide Energy Efficient Bath Faucet Aerator - 0.5 GPM to replace existing 2.2 gpm aerator in home with electric DHW heater	0.5 GPM Bathroom Faucet Aerator	0	0	2.2 GPM Bathroom Faucet Aerator	0	0	10	$0	$0	$0	$0.11	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	40%	100.0%	100.0%	0	0	0	0	0
Provide Energy Efficient Bath Faucet Aerator - 0.5 GPM for second faucet to replace existing 2.2 gpm aerator in home with electric DHW heater	Provide Energy Efficient Bath Faucet Aerator - 0.5 GPM to replace existing 2.2 gpm aerator in home with electric DHW heater	0.5 GPM Bathroom Faucet Aerator	0	0	2.2 GPM Bathroom Faucet Aerator	0	0	10	$0	$0	$0	$0.11	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	30%	100.0%	100.0%	0	0	0	0	0
Provide new 1.5 gpm showerhead to replace existing 2.5 gpm showerhead in electric DHW heater	Provide new 1.5 gpm showerhead to replace existing 2.5 gpm showerhead in electric DHW heater	1.5 GPM Showerhead	0	0	2.5 GPM Showerhead	0	0	10	$0	$0	$0	$0.11	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	60%	100.0%	100.0%	0	0	0	0	0
Provide new 1.5 gpm showerhead for second shower to replace existing 2.5 gpm showerhead in electric DHW heater	Provide new 1.5 gpm showerhead for second shower to replace existing 2.5 gpm showerhead in electric DHW heater	1.5 GPM Showerhead	0	0	2.5 GPM Showerhead	0	0	10	$0	$0	$0	$0.11	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	50%	100.0%	100.0%	0	0	0	0	0
Provide Energy Efficient Kitchen Aerator - 1.5 GPM to replace existing 2.2 gpm aerator in home with electric DHW heater	Provide Energy Efficient Kitchen Aerator - 1.5 GPM to replace existing 2.2 gpm aerator in home with electric DHW heater	1.5 GPM Kitchen Faucet Aerator	0	0	2.2 GPM Kitchen Faucet Aerator	0	0	10	$0	$0	$0	$0.11	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	40%	100.0%	100.0%	0	0	0	0	0
Provide Energy Efficient Bath Faucet Aerator - 1.0 GPM to replace existing 2.2 gpm aerator in home with electric DHW heater	Provide Energy Efficient Bath Faucet Aerator - 1.0 GPM to replace existing 2.2 gpm aerator in home with electric DHW heater	1.0 GPM Bathroom Faucet Aerator	0	0	2.2 GPM Bathroom Faucet Aerator	0	0	10	$0	$0	$0	$0.11	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	40%	100.0%	100.0%	0	0	0	0	0
Provide Energy Efficient Bath Faucet Aerator - 1.0 GPM for second faucet to replace existing 2.2 gpm aerator in home with electric DHW heater	Provide Energy Efficient Bath Faucet Aerator - 1.0 GPM to replace existing 2.2 gpm aerator in home with electric DHW heater	1.0 GPM Bathroom Faucet Aerator	0	0	2.2 GPM Bathroom Faucet Aerator	0	0	10	$0	$0	$0	$0.11	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	30%	100.0%	100.0%	0	0	0	0	0
Provide Energy Efficient Bath Faucet Aerator - 0.5 GPM to replace existing 2.2 gpm aerator in home with electric DHW heater	Provide Energy Efficient Bath Faucet Aerator - 0.5 GPM to replace existing 2.2 gpm aerator in home with electric DHW heater	0.5 GPM Bathroom Faucet Aerator	0	0	2.2 GPM Bathroom Faucet Aerator	0	0	10	$0	$0	$0	$0.11	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	40%	100.0%	100.0%	0	0	0	0	0
Provide Energy Efficient Bath Faucet Aerator - 0.5 GPM for second faucet to replace existing 2.2 gpm aerator in home with electric DHW heater	Provide Energy Efficient Bath Faucet Aerator - 0.5 GPM to replace existing 2.2 gpm aerator in home with electric DHW heater	0.5 GPM Bathroom Faucet Aerator	0	0	2.2 GPM Bathroom Faucet Aerator	0	0	10	$0	$0	$0	$0.11	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	30%	100.0%	100.0%	0	0	0	0	0
Energy Feedback Residential	Energy Feedback Residential						0																0%					3,841	17,661,186	0	0	
Rollup: Online Group Savings	Rollup: Online Group Savings	Treatment	0	387,096	Control	0	387,096	1	$0	$0	$0	$0.11	#DIV/0!	0.0	0.0	25	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	15,256	100%	100.0%	100.0%	0	422,594	0	0	387,096
Rollup: Existing Participant 2017 Savings	Rollup: Existing Participant 2017 Savings	Treatment	0	0	Control	0	0	1	$0	$0	$0	$0.11	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	100.0%	100.0%	0	0	0	0	0
Rollup: New Participant 2017 Savings	Rollup: New Participant 2017 Savings	Treatment	0	0	Control	0	0	1	$0	$0	$0	$0.11	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	100.0%	100.0%	0	0	0	0	0
Rollup: Existing Participant 2018 Savings	Rollup: Existing Participant 2018 Savings	Treatment	0	48,145,842	Control	0	48,145,842	1	$0	$0	$0	$0.11	#DIV/0!	0.0	0.0	234	$0.000	$0.000	0.0	0.1	$0.00	$0.00	1051000%	206,025	100%	100.0%	100.0%	11,524	52,560,963	0	0	48,145,842
Rollup: New Participant 2018 Savings	Rollup: New Participant 2018 Savings	Treatment	0	0	Control	0	0	1	$0	$0	$0	$0.11	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	100.0%	100.0%	0	0	0	0	0
Rollup: Existing Participant 2019 Savings	Rollup: Existing Participant 2019 Savings	Treatment	0	0	Control	0	0	1	$0	$0	$0	$0.11	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	100.0%	100.0%	0	0	0	0	0
Rollup: New Participant 2019 Savings	Rollup: New Participant 2019 Savings	Treatment	0	0	Control	0	0	1	$0	$0	$0	$0.11	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	100.0%	100.0%	0	0	0	0	0
Behavioral Adjustment-Online Group Savings	Behavioral Adjustment-Online Group Savings	Treatment	0	-258,064	Control	0	-258,064	0	$0	$0	$0	$0.11	#DIV/0!	0.0	0.0	-17	$0.000	#DIV/0!	0.0	0.0	$0.00	$0.00	0%	15,256	100%	100.0%	100.0%	0	-281,729	0	0	-258,064
Behavioral Adjustments Rollup: Existing Participants 2017 Savings	Behavioral Adjustments Rollup: Existing Participants 2017 Savings	Treatment	0	0	Control	0	0	0	$0	$0	$0	$0.11	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	100.0%	100.0%	0	0	0	0	0
Behavioral Adjustments Rollup: New Participant 2017 Savings	Behavioral Adjustments Rollup: New Participant 2017 Savings	Treatment	0	0	Control	0	0	0	$0	$0	$0	$0.11	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	100.0%	100.0%	0	0	0	0	0

Electric Measure Description	Electric Measure Description	Efficient Product Description / Rating	Efficient Product Consumption (watts)	Efficient Hours of Operation (hrs/yr)	Baseline Product Description / Rating	Baseline Product Consumption (watts)	Baseline Hours of Operation (hrs/yr)	Measure Lifetime (years)	Rebate Amount ($)	Average Baseline Product Cost ($)	Incremental Cost of Efficient Product ($)	Assumed Energy Cost ($/kWh)	Rebate as a % of Incremental Cost (%)	Increm'l Cost Payback Period w/o Rebate (yrs)	Increm'l Cost Payback Period w/ Rebate (yrs)	Annual Customer kWh Savings (kWh/yr)	Rebated Cost / Cust kWh Saved ($/kWh)	Rebated Lifetime cost /Cust KWh Saved ($/kWh)	Customer kW Savings (kW)	Generator Peak kW Savings (kW)	Non-Energy O&M Savings ($)	Energy O&M Savings ($)	Coincidence Factor (%)	2018 Units (-)	Installation Rate (%)	Realization Rate (kW) (%)	Realization Rate (kWh) (%)	2018 NET Gen kW (kW)	2018 NET Gen kWh (kWh)	2018 Rebate Budget ($)	2018 Incremental Costs ($)	Total Customer kWh for all Units Installed in 2018
TOTAL	*TOTAL*																															
Behavioral Adjustments Rollup: Existing Participants 2018 Savings	Behavioral Adjustments Rollup: Existing Participants 2018 Savings	Treatment	0	-32,097,228	Control	0	-32,097,228	0	$0	$0	$0	$0.11	#DIV/0!	0.0	0.0	-156	$0.000	#DIV/0!	0.0	0.0	$0.00	$0.00	-700667%	206,025	100%	100.0%	100.0%	-7,683	-35,040,642	0	0	
Behavioral Adjustments Rollup: New Participant 2018 Savings	Behavioral Adjustments Rollup: New Participant 2018 Savings	Treatment	0	0	Control	0	0	0	$0	$0	$0	$0.11	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	100.0%	100.0%	0	0	0	0	
Behavioral Adjustments Rollup: Existing Participants 2019 Savings	Behavioral Adjustments Rollup: Existing Participants 2019 Savings	Treatment	0	0	Control	0	0	0	$0	$0	$0	$0.11	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	100.0%	100.0%	0	0	0	0	
Behavioral Adjustments Rollup: New Participant 2019 Savings	Behavioral Adjustments Rollup: New Participant 2019 Savings	Treatment	0	0	Control	0	0	0	$0	$0	$0	$0.11	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	100.0%	100.0%	0	0	0	0	
0	0	0	0	0	0	0	0	0	$0	$0	$0	$0.11	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	100.0%	100.0%	0	0	0	0	
0	0	0	0	0	0	0	0	0	$0	$0	$0	$0.11	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	100.0%	100.0%	0	0	0	0	
Efficient New Home Construction	Efficient New Home Construction						0																0%					1,084	3,206,095	238,182	619,023	
Low Income Envelope Improvements - Combo Customers	Low Income Envelope Improvements - Combo Customers	Energy Efficient Home Based Upon REMRate model by House Rater with Average Size 1773 and Average 12.7% Better Than Code	0	0	Reference Home Based upon Local Code	0	0	20	$0	$0	$0	$0.12	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	100.0%	100.0%	0	0	0	0	0
10% to 15% improvement over local code - Combo Customers	10% to 15% improvement over local code - Combo Customers	Energy Efficient Home Based Upon REMRate model by House Rater with Average Size 3630 and Average 13.1% Better Than Code	0	2,641	Reference Home Based upon Local Code	2,656	2,641	20	$254	$0	-$746	$0.12	-34%	-0.9	-1.2	7,014	$0.036	$0.002	2.7	2.6	$0.00	$0.00	89%	40	100%	100.0%	100.0%	103	305,967	10,157	-29,805	280,266
15% to 20% improvement over local code - Combo Customers	15% to 20% improvement over local code - Combo Customers	Energy Efficient Home Based Upon REMRate model by House Rater with Average Size 3834 and Average 17.4% Better Than Code	0	2,513	Reference Home Based upon Local Code	3,732	2,513	20	$518	$0	$2,253	$0.12	23%	2.0	1.6	9,379	$0.055	$0.003	3.7	3.7	$0.00	$0.00	90%	63	100%	100.0%	100.0%	232	646,523	32,718	142,234	592,215
20% to 25% improvement over local code - Combo Customers	20% to 25% improvement over local code - Combo Customers	Energy Efficient Home Based Upon REMRate model by House Rater with Average Size 4439 and Average 21.3% Better Than Code	0	2,622	Reference Home Based upon Local Code	4,530	2,622	20	$1,017	$0	$3,576	$0.12	28%	2.6	1.8	11,879	$0.086	$0.004	4.5	4.4	$0.00	$0.00	89%	31	100%	100.0%	100.0%	137	403,040	31,598	111,145	369,185
25% to 30% improvement over local code - Combo Customers	25% to 30% improvement over local code - Combo Customers	Energy Efficient Home Based Upon REMRate model by House Rater with Average Size 5711 and Average 25.9% Better Than Code	0	2,802	Reference Home Based upon Local Code	4,917	2,802	20	$1,228	$0	$5,337	$0.12	23%	3.3	2.5	13,777	$0.089	$0.004	4.9	4.2	$0.00	$0.00	78%	4	100%	100.0%	100.0%	17	62,568	5,107	22,203	57,312
30% to 35% improvement over local code - Combo Customers	30% to 35% improvement over local code - Combo Customers	Energy Efficient Home Based Upon REMRate model by House Rater with Average Size 5613 and Average 32.7% Better Than Code	0	2,346	Reference Home Based upon Local Code	3,477	2,346	20	$1,488	$0	$8,189	$0.12	18%	8.5	7.0	8,156	$0.183	$0.009	3.5	1.2	$0.00	$0.00	33%	1	100%	100.0%	100.0%	1	9,260	1,548	8,517	8,482
35% and greater improvement over local code - Combo Customers	35% and greater improvement over local code - Combo Customers	Energy Efficient Home Based Upon REMRate model by House Rater with Average Size 4362 and Average 35.8% Better Than Code	0	2,132	Reference Home Based upon Local Code	13,786	2,132	20	$1,965	$0	$11,213	$0.12	18%	3.2	2.7	29,391	$0.067	$0.003	13.8	3.6	$0.00	$0.00	24%	0	100%	100.0%	100.0%	1	7,059	432	2,467	6,466
10% to 15% improvement over local code - Electric Only Customers	10% to 15% improvement over local code - Electric Only Customers	Energy Efficient Home Based Upon REMRate model by House Rater with Average Size 3630 and Average 8.1% Better Than Code	0	2,741	Reference Home Based upon Local Code	326	2,741	20	$100	$0	-$38	$0.12	-262%	-0.4	-1.3	893	$0.112	$0.006	0.3	0.3	$0.00	$0.00	86%	364	100%	100.0%	100.0%	112	354,711	36,400	-13,898	324,915
15% to 20% improvement over local code - Electric Only Customers	15% to 20% improvement over local code - Electric Only Customers	Energy Efficient Home Based Upon REMRate model by House Rater with Average Size 3834 and Average 13.2% Better Than Code	0	2,552	Reference Home Based upon Local Code	401	2,552	20	$100	$0	$243	$0.12	41%	2.0	1.2	1,024	$0.098	$0.005	0.4	0.4	$0.00	$0.00	90%	684	100%	100.0%	100.0%	271	764,672	68,400	166,155	700,440
20% to 25% improvement over local code - Electric Only Customers	20% to 25% improvement over local code - Electric Only Customers	Energy Efficient Home Based Upon REMRate model by House Rater with Average Size 4439 and Average 17.5% Better Than Code	0	2,502	Reference Home Based upon Local Code	570	2,502	20	$100	$0	$427	$0.12	23%	2.5	1.9	1,427	$0.070	$0.004	0.6	0.6	$0.00	$0.00	89%	302	100%	100.0%	100.0%	167	470,437	30,200	128,899	430,920
25% to 30% improvement over local code - Electric Only Customers	25% to 30% improvement over local code - Electric Only Customers	Energy Efficient Home Based Upon REMRate model by House Rater with Average Size 5711 and Average 21.3% Better Than Code	0	2,332	Reference Home Based upon Local Code	832	2,332	20	$100	$0	$670	$0.12	15%	2.9	2.5	1,939	$0.052	$0.003	0.8	0.8	$0.00	$0.00	90%	37	100%	100.0%	100.0%	30	78,314	3,700	24,807	71,736
30% to 35% improvement over local code - Electric Only Customers	30% to 35% improvement over local code - Electric Only Customers	Energy Efficient Home Based Upon REMRate model by House Rater with Average Size 5613 and Average 25.9% Better Than Code	0	1,916	Reference Home Based upon Local Code	585	1,916	20	$100	$0	$4,496	$0.12	2%	34.0	33.2	1,121	$0.089	$0.004	0.6	0.6	$0.00	$0.00	90%	3	100%	100.0%	100.0%	2	3,671	300	13,487	3,363
35% and greater improvement over local code - Electric Only Customers	35% and greater improvement over local code - Electric Only Customers	Energy Efficient Home Based Upon REMRate model by House Rater with Average Size 4362 and Average 32.7% Better Than Code	0	2,122	Reference Home Based upon Local Code	10,333	2,122	20	$100	$0	$5,029	$0.12	2%	1.9	1.9	21,926	$0.005	$0.000	10.3	1.8	$0.00	$0.00	16%	2	100%	100.0%	100.0%	4	47,872	200	10,058	43,851
Energy Star Clothes Washer - Combo Customers w/ Electric DHW	Energy Star Clothes Washer - Combo Customers w/ Electric DHW	Energy Star Clothes Washer	0	299	Standard Clothes Washer	107	299	11	$10	$0	$30	$0.12	33%	7.9	5.3	32	$0.313	$0.028	0.1	0.0	$10.00	$0.00	4%	85	100%	100.0%	100.0%	0	2,969	850	2,550	2,720
Energy Star Clothes Washer - Electric Only Customers w/ Electric DHW	Energy Star Clothes Washer - Electric Only Customers w/ Electric DHW	Energy Star Clothes Washer	0	299	Standard Clothes Washer	107	299	11	$10	$0	$31	$0.12	33%	8.1	5.4	32	$0.319	$0.029	0.1	0.0	$10.21	$0.00	4%	47	100%	100.0%	100.0%	0	1,642	480	1,440	1,504
Energy Star Clothes Washer - Combo Customers w/ Gas DHW	Energy Star Clothes Washer - Combo Customers w/ Gas DHW	Energy Star Clothes Washer	0	287	Standard Clothes Washer	64	287	11	$10	$0	$30	$0.12	33%	13.7	9.1	18	$0.539	$0.049	0.1	0.0	$9.86	$0.00	5%	67	100%	100.0%	100.0%	0	1,329	657	1,970	1,217
Energy Star Clothes Washer - Electric Only Customers w/ Gas DHW	Energy Star Clothes Washer - Electric Only Customers w/ Gas DHW	Energy Star Clothes Washer	0	0	Standard Clothes Washer	0	0	11	$0	$0	$0	$0.12	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	100.0%	100.0%	0	0	0	0	0
Energy Star Refrigerator	Energy Star Refrigerator	Top Mounted Freeezer w/ Auto Defrost Energy Star refrigerator 22.0 Cf	0	5,846	Top Mounted Freeezer w/ Auto Defrost Standard refrigerator 22.0 Cf	7	5,846	18	$15	$0	$26	$0.12	58%	5.4	2.3	41	$0.366	$0.020	0.0	0.0	$0.01	$0.00	71%	1,029	100%	100.0%	100.0%	6	46,060	15,435	26,795	42,191
Residential Heating	Residential Heating						0																0%					2,115	11,004,816	1,510,800	3,201,624	
EC Fan Motor on Retrofit Residential Furnace with AC	EC Fan Motor on Retrofit Residential Furnace with AC	ECM Furnace Fan	0	2,559	Non-ECM Fan	212	2,559	7	$100	$0	$212	$0.11	47%	3.6	1.9	543	$0.184	$0.026	0.2	0.1	-$9.48	$0.00	63%	88	100%	99.8%	100.6%	13	52,133	8,800	18,656	47,754
EC Fan Motor on Retrofit Residential Furnace no AC	EC Fan Motor on Retrofit Residential Furnace no AC	ECM Furnace Fan	0	2,139	Non-ECM Fan	203	2,139	7	$100	$0	$212	$0.11	47%	4.4	2.3	435	$0.230	$0.033	0.2	0.1	-$9.32	$0.00	27%	12	100%	99.8%	100.6%	1	5,700	1,200	2,544	5,222
EC Fan Motor on new Residential Furnace with AC	EC Fan Motor on new Residential Furnace with AC	ECM Furnace Fan	0	3,581	Non-ECM Fan	189	3,581	18	$100	$0	$212	$0.11	47%	2.8	1.5	677	$0.148	$0.008	0.2	0.1	-$14.06	$0.00	71%	13,863	100%	99.8%	100.6%	2,033	10,238,616	1,386,800	2,938,956	9,378,572
EC Fan Motor on new Residential Furnace no AC	EC Fan Motor on new Residential Furnace no AC	ECM Furnace Fan	0	2,812	Non-ECM Fan	203	2,812	18	$100	$0	$212	$0.11	47%	3.4	1.8	570	$0.176	$0.010	0.2	0.1	-$14.03	$0.00	27%	1,139	100%	99.8%	100.6%	69	708,367	114,000	241,468	648,864
Home Energy Squad	Home Energy Squad						0																0%					619	5,169,195	0	120	
NEC Energy Squad Service 2017	NEC Energy Squad Service 2017	weighted average Energy Efficient measures by participant	0	0	weighted average Baseline measures by participant	0	0	7	$0	$0	$0	$0.12	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	100.0%	100.0%	0	0	0	0	0
NEC Energy Squad Service 2018	NEC Energy Squad Service 2018	weighted average Energy Efficient measures by participant	0	955	weighted average Baseline measures by participant	1,900,835	955	6	$0	$0	$0	$0.12	#DIV/0!	0.0	0.0	1,816,096	$0.000	$0.000	1,900.8	232.6	$7,366.07	$0.00	11%	1	100%	100.0%	100.0%	233	1,982,638	0	0	1,816,096
NEC Energy Squad Service 2019	NEC Energy Squad Service 2019	weighted average Energy Efficient measures by participant	0	0	weighted average Baseline measures by participant	0	0	5	$0	$0	$0	$0.12	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	100.0%	100.0%	0	0	0	0	0
NEC - TV peripherals turned off with Timer	NEC - TV peripherals turned off with Timer	TV peripherals turned off with Timer (replacing power strip)	0	0	Power used in "standby" mode while equipment is unused	0	0	5	$0	$0	$0	$0.12	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	100.0%	100.0%	0	0	0	0	0

Electric Measure Description	Electric Measure Description	Efficient Product Description / Rating	Efficient Product Consumption (watts)	Efficient Hours of Operation (hrs/yr)	Baseline Product Description / Rating	Baseline Product Consumption (watts)	Baseline Hours of Operation (hrs/yr)	Measure Lifetime (years)	Rebate Amount ($)	Average Baseline Product Cost ($)	Incremental Cost of Efficient Product ($)	Assumed Energy Cost ($/kWh)	Rebate as a % of Incremental Cost (%)	Increm't Cost Payback Period w/o Rebate (yrs)	Increm't Cost Payback Period w/ Rebate (yrs)	Annual Customer kWh Savings (kWh/yr)	Rebated Cost / Cust kWh Saved ($/kWh)	Rebated Lifetime cost /Cust kWh Saved ($/kWh)	Customer kW Savings (kW)	Generator Peak kW Savings (kW)	Non-Energy O&M Savings ($)	Energy O&M Savings ($)	Coincidence Factor (%)	2018 Units (-)	Installation Rate (%)	Realization Rate (kW) (%)	Realization Rate (kWh) (%)	2018 NET Gen kW (kW)	2018 NET Gen kWh (kWh)	2018 Rebate Budget ($)	2018 Incremental Costs ($)	Total Customer kWh for all Units Installed in 2018
TOTAL	*TOTAL*																															
Install Second Programmable Thermostat	Install Second Programmable Thermostat	Second T-state w/ Auto setup by 1 F for cooling assume 3 ton AC, 10 SEER	0	0	Base modeled home w/ 10 SEER AC and no setup temp	0	0	10	$0	$0	$0	$0.12	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	100.0%	100.0%	0	0	0	0	0
CEE Energy Squad Service 2017	CEE Energy Squad Service 2017	weighted average Energy Efficient measures by participant	0	0	weighted average Baseline measures by participant	0	0	7	$0	$0	$0	$0.12	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	100.0%	100.0%	0	0	0	0	0
CEE Energy Squad Service 2018	CEE Energy Squad Service 2018	weighted average Energy Efficient measures by participant	0	927	weighted average Baseline measures by participant	3,149,828	927	6	$0	$0	$120	$0.12	0%	0.0	0.0	2,918,887	$0.000	$0.000	3,149.8	386.4	$6,401.19	$0.00	11%	1	100%	100.0%	100.0%	386	3,186,558	0	120	2,918,887
CEE Energy Squad Service 2019	CEE Energy Squad Service 2019	weighted average Energy Efficient measures by participant	0	0	weighted average Baseline measures by participant	0	0	6	$0	$0	$0	$0.12	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	100.0%	100.0%	0	0	0	0	0
CEE - TV peripherals turned off with Timer	CEE - TV peripherals turned off with Timer	TV peripherals turned off with Timer (replacing power strip)	0	0	Power used in "standby" mode while equipment is unused	0	0	5	$0	$0	$0	$0.12	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	100.0%	100.0%	0	0	0	0	0
CEE - Install Second Programmable Thermostat	CEE - Install Second Programmable Thermostat	Second T-state w/ Auto setup by 1 F for cooling assume 3 ton AC, 10 SEER	0	0	Base modeled home w/ 10 SEER AC and no setup temp	0	0	10	$0	$0	$0	$0.12	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	100.0%	100.0%	0	0	0	0	0
Home Lighting	***Home Lighting***						**0**																0%					**14,768**	**141,337,867**	**4,015,337**	**4,676,109**	
Average CFL	Average CFL	Average CFL	0	0	Average EISA Standard Halogen A-Style Bulb	0	0	7	$0	$0	$0.00	$0.11	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	99%	100.0%	100.0%	0	0	0	0	0
Average CFL	Average CFL	Average CFL	0	0	Average EISA Standard Halogen A-Style Bulb	0	0	2	$0	$0	$0	$0.11	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	99%	100.0%	100.0%	0	0	0	0	0
Average LED Bulb	Average LED Bulb	Average LED Bulb	0	0	Average EISA Standard Halogen A-Style Bulb	0	0	7	$0	$0	$0.00	$0.11	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	99%	100.0%	100.0%	0	0	0	0	0
Average LED Bulb	Average LED Bulb	Average LED Bulb	0	0	Average EISA Standard Halogen A-Style Bulb	0	0	3	$0	$0	$0	$0.11	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	99%	100.0%	100.0%	0	0	0	0	0
Average Value LED Bulb	Average Value LED Bulb	Average Value LED Bulb	0	0	Average EISA Standard Halogen A-Style Bulb	0	0	7	$0	$0	$0.00	$0.11	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	99%	100.0%	100.0%	0	0	0	0	0
Average Value LED Bulb	Average Value LED Bulb	Average Value LED Bulb	0	0	Average EISA Standard Halogen A-Style Bulb	0	0	2	$0	$0	$0	$0.11	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	99%	100.0%	100.0%	0	0	0	0	0
Average CFL	Average CFL	Average CFL	0	0	Average EISA Standard Halogen A-Style Bulb	0	0	6	$0	$0	$0	$0.11	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	100.0%	100.0%	0	0	0	0	
Average CFL	Average CFL	Average CFL	0	0	Average EISA Standard Halogen A-Style Bulb	0	0	2	$0	$0	$0	$0.11	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	100.0%	100.0%	0	0	0	0	
Average LED Bulb	Average LED Bulb	Average LED Bulb	0	909	Average EISA Standard Halogen A-Style Bulb	38	909	6	$1	$0	$2	$0.11	81%	0.5	0.1	34	$0.040	$0.007	0.0	0.0	$0.00	$0.00	8%	2,749,047	99%	100.0%	100.0%	9,002	101,835,707	3,774,727	4,676,109	
Average LED Bulb	Average LED Bulb	Average LED Bulb	0	5,649	Average EISA Standard Halogen A-Style Bulb	38	5,649	3	$1	$0	$0	$0.11	#DIV/0!	0.0	-0.1	213	$0.006	$0.002	0.0	0.0	$0.00	$0.00	82%	174,934	99%	100.0%	100.0%	5,766	39,502,160	240,610	0	
Average Value LED Bulb	Average Value LED Bulb	Average Value LED Bulb	0	0	Average EISA Standard Halogen A-Style Bulb	0	0	6	$0	$0	$0	$0.11	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	100.0%	100.0%	0	0	0	0	
Average Value LED Bulb	Average Value LED Bulb	Average Value LED Bulb	0	0	Average EISA Standard Halogen A-Style Bulb	0	0	2	$0	$0	$0	$0.11	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	100.0%	100.0%	0	0	0	0	
Average CFL	Average CFL	Average CFL	0	0	Average EISA Standard Halogen A-Style Bulb	0	0	5	$0	$0	$0	$0.11	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	100.0%	100.0%	0	0	0	0	
Average CFL	Average CFL	Average CFL	0	0	Average EISA Standard Halogen A-Style Bulb	0	0	2	$0	$0	$0	$0.11	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	100.0%	100.0%	0	0	0	0	
Average LED Bulb	Average LED Bulb	Average LED Bulb	0	0	Average EISA Standard Halogen A-Style Bulb	0	0	5	$0	$0	$0	$0.11	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	100.0%	100.0%	0	0	0	0	
Average LED Bulb	Average LED Bulb	Average LED Bulb	0	0	Average EISA Standard Halogen A-Style Bulb	0	0	3	$0	$0	$0	$0.11	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	100.0%	100.0%	0	0	0	0	
Average Value LED Bulb	Average Value LED Bulb	Average Value LED Bulb	0	0	Average EISA Standard Halogen A-Style Bulb	0	0	5	$0	$0	$0	$0.11	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	100.0%	100.0%	0	0	0	0	
Average Value LED Bulb	Average Value LED Bulb	Average Value LED Bulb	0	0	Average EISA Standard Halogen A-Style Bulb	0	0	2	$0	$0	$0	$0.11	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	100.0%	100.0%	0	0	0	0	
Whole Home Efficiency	Whole Home Efficiency						0																0%					36	32,239	6,566	26,095	
EC Fan Motor on new Residential Furnace with AC	EC Fan Motor on new Residential Furnace with AC	ECM Furnace Fan	0	3,556	Non-ECM Fan	189	3,556	18	$125	$0	$212	$0.11	59%	2.9	1.2	672	$0.186	$0.010	0.2	0.1	-$14.06	$0.00	71%	10	100%	100.0%	100.0%	1	7,336	1,250	2,120	6,720
EC Fan Motor on new Residential Furnace no AC	EC Fan Motor on new Residential Furnace no AC	ECM Furnace Fan	0	0	Non-ECM Fan	0	0	18	$0	$0	$0	$0.11	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	100.0%	100.0%	0	0	0	0	0
EC Fan Motor on Retrofit Residential Furnace with AC	EC Fan Motor on Retrofit Residential Furnace with AC	ECM Furnace Fan	0	0	Non-ECM Fan	0	0	7	$0	$0	$0	$0.11	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	100.0%	100.0%	0	0	0	0	0
EC Fan Motor on Retrofit Residential Furnace no AC	EC Fan Motor on Retrofit Residential Furnace no AC	ECM Furnace Fan	0	0	Non-ECM Fan	0	0	7	$0	$0	$0	$0.11	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	100.0%	100.0%	0	0	0	0	0
Installation of new AC 15 SEER 2.5 tons	Installation of new AC 15 SEER 2.5 tons	Non - Quality Installation of 15 SEER 2.5 tons	0	0	Non-Quality Installation of 13 SEER (Baseline and Model) 2.5 tons	0	0	15	$0	$0	$0	$0.11	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	100.0%	100.0%	0	0	0	0	0
Installation of new AC 16 SEER 2.5 tons	Installation of new AC 16 SEER 2.5 tons	Non - Quality Installation of 16 SEER 2.5 tons	0	0	Non-Quality Installation of 13 SEER (Baseline and Model) 2.5 tons	0	0	15	$0	$0	$0	$0.11	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	100.0%	100.0%	0	0	0	0	0
Provide Quality Installation of new AC 13 - 14.5 SEER 2.5 tons	Provide Quality Installation of new AC 13 - 14.5 SEER 2.5 tons	Quality Installation of 13 - 14.5 SEER 2.5 tons	0	0	Non-Quality Installation of 2.5 Ton AC 13 - 14.5 SEER 2.5 tons	0	0	15	$0	$0	$0	$0.11	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	100.0%	100.0%	0	0	0	0	0
Provide Quality Installation of new AC 15 SEER 2.5 tons	Provide Quality Installation of new AC 15 SEER 2.5 tons	Quality Installation of 15 SEER 2.5 tons	0	580	Non-Quality Installation of 2.5 Ton AC 15 SEER 2.5 tons	514	580	15	$375	$0	$520	$0.11	72%	15.9	4.4	298	$1.258	$0.084	0.5	0.5	$0.00	$0.00	90%	1	100%	100.0%	100.0%	1	325	375	520	298
Provide Quality Installation of new AC 16 SEER 2.5 tons	Provide Quality Installation of new AC 16 SEER 2.5 tons	Quality Installation of 16 SEER 2.5 tons	0	615	Non-Quality Installation of 2.5 Ton AC 16 SEER 2.5 tons	638	615	15	$475	$0	$812	$0.11	59%	18.8	7.8	393	$1.210	$0.081	0.6	0.6	$0.00	$0.00	90%	3	100%	100.0%	100.0%	2	1,286	1,425	2,436	1,178
Energy Star Clothes Washer - Combo Customers w/ Gas DHW	Energy Star Clothes Washer - Combo Customers w/ Gas DHW	Energy Star Clothes Washer	0	0	Standard Clothes Washer	0	0	11	$0	$0	$0	$0.11	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	100.0%	100.0%	0	0	0	0	0
Refrigerator Replacement	Refrigerator Replacement	Top Mounted Freeezer w/ Auto Defrost Energy Star refrigerator 22.0 Cf	0	5,857	Top Mounted Freeezer w/ Auto Defrost Standard refrigerator 22.0 Cf	7	5,857	18	$15	$0	$26	$0.11	58%	5.8	2.4	41	$0.366	$0.020	0.0	0.0	$0.00	$0.00	71%	2	100%	100.0%	100.0%	0	90	30	52	82
Attic Insulation in Gas Heated Homes With Cooling - Combo Customer	Attic Insulation in Gas Heated Homes With Cooling - Combo Customer	Home with additional insulation	0	489	Home with R20 or less existing Insulation	1,032	489	20	$308	$0	$2,242	$0.11	14%	40.4	34.8	505	$0.610	$0.030	1.0	1.1	$0.00	$0.00	100%	4	100%	100.0%	100.0%	5	2,365	1,321	9,617	2,166
Wall Insulation in Gas Heated Homes With Cooling - Combo Customer	Wall Insulation in Gas Heated Homes With Cooling - Combo Customer	R-11 insulation	0	490	Baseline assumes R-0 in wall cavities as existing level	3,461	490	20	$286	$0	$1,905	$0.11	15%	10.2	8.7	1,696	$0.169	$0.008	3.5	3.8	$0.00	$0.00	100%	4	100%	100.0%	100.0%	15	7,463	1,153	7,677	6,836
Air Sealing T2 - 25% - Gas Heated Homes With Cooling - Combo Customer	Air Sealing T2 - 25% - Gas Heated Homes With Cooling - Combo Customer	Home with Tier 2 Air Sealing - Average 27% reduction	0	490	Existing Home Without Air Sealing	919	490	10	$147	$0	$582	$0.11	25%	11.7	8.8	450	$0.327	$0.033	0.9	1.0	$0.00	$0.00	100%	1	100%	100.0%	100.0%	1	654	196	774	599
Air Sealing T3 - 30% - Gas Heated Homes With Cooling - Combo Customer	Air Sealing T3 - 30% - Gas Heated Homes With Cooling - Combo Customer	Home with Tier 3 Air Sealing - average 42% reduction	0	490	Existing Home Without Air Sealing	3,011	490	10	$193	$0	$561	$0.11	34%	3.5	2.3	1,475	$0.131	$0.013	3.0	3.3	$0.00	$0.00	100%	2	100%	100.0%	100.0%	7	3,219	386	1,122	2,949
Programmable Thermostat (Install and Program)	Programmable Thermostat (Install and Program)	New T-stat w/ Auto setup by 1.2 F for cooling assume 3 ton AC, 10 SEER	0	615	Base modeled home w/ 10 SEER AC and no setup temp	469	615	10	$10	$0	$31	$0.11	31%	1.0	0.7	289	$0.034	$0.003	0.5	0.4	$0.00	$0.00	77%	3	100%	100.0%	100.0%	1	984	31	98	901
Energy Efficient Showerhead in home with electric DHW (Direct Install)	Energy Efficient Showerhead in home with electric DHW (Direct Install)	1.5 GPM Showerhead	0	8,760	2.5 GPM Showerhead	233	8,760	10	$0	$0	$15	$0.11	0%	0.1	0.1	2,041	$0.000	$0.000	0.2	0.2	$133.55	$0.00	64%	1	100%	100.0%	100.0%	0	2,228	0	15	2,041
Energy Efficient Bathroom Aerator in home with electric DHW (Direct Install	Energy Efficient Bathroom Aerator in home with electric DHW (Direct Install	1.5 GPM Kitchen Faucet Aerator	0	8,727	2.2 GPM Kitchen Faucet Aerator	22	8,727	10	$0	$0	$3	$0.11	0%	0.1	0.1	192	$0.000	$0.000	0.0	0.0	$12.57	$0.00	123%	1	100%	100.0%	100.0%	0	210	0	3	192
Energy Efficient Kitchen Aerator in home with electric DHW (Direct Install)	Energy Efficient Kitchen Aerator in home with electric DHW (Direct Install)	1.0 GPM Bathroom Faucet Aerator	0	9,250	2.2 GPM Bathroom Faucet Aerator	8	9,250	10	$0	$0	$2	$0.11	0%	0.2	0.2	74	$0.000	$0.000	0.0	0.0	$4.17	$0.00	125%	1	100%	100.0%	100.0%	0	81	0	2	74
Energy Efficient Bathroom Aerator in home with electric DHW (Direct Install)	Energy Efficient Bathroom Aerator in home with electric DHW (Direct Install)	0.5 GPM Bathroom Faucet Aerator	0	0	2.2 GPM Bathroom Faucet Aerator	0	0	10	$0	$0	$0	$0.11	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	100.0%	100.0%	0	0	0	0	0
Water heater blankets (direct install)	Water heater blankets (direct install)	Add commercial Insulation wrap R8 around Water Heater Tank	0	0	No External Insulation on water heater	0	0	7	$0	$0	$0	$0.11	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	100.0%	100.0%	0	0	0	0	0
Average Value LED Bulb - 2017 (Direct Install)	Average Value LED Bulb - 2017 (Direct Install)	Average Value LED Bulb	0	0	Average EISA Standard Halogen A-Style Bulb	0	0	7	$0	$0	$0	$0.11	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	100.0%	100.0%	0	0	0	0	0
Average Value LED Bulb - 2018 (Direct Install)	Average Value LED Bulb - 2018 (Direct Install)	Average Value LED Bulb	0	909	Average EISA Standard Halogen A-Style Bulb	5,153	909	6	$0	$0	$283	$0.11	0%	0.5	0.5	4,684	$0.000	$0.000	5.2	0.5	$0.00	$0.00	8%	1	100%	100.0%	100.0%	0	5,114	0	283	4,684
Average Value LED Bulb - 2019 (Direct Install)	Average Value LED Bulb - 2019 (Direct Install)	Average Value LED Bulb	0	0	Average EISA Standard Halogen A-Style Bulb	0	0	5	$0	$0	$0	$0.11	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	100.0%	100.0%	0	0	0	0	0
Mini-Split Heat Pump	Mini-Split Heat Pump	0	0	439	0	924	439	0	$200	$0	$688	$0.11	29%	15.4	10.9	406	$0.493	#DIV/0!	0.9	0.9	$0.00	$0.00	90%	2	100%	100.0%	100.0%	2	885	400	1,376	811
≤ 50 pints/day dehumidifier	≤ 50 pints/day dehumidifier	ENERGY STAR Dehumidifier - low capacity	0	0	Standard efficiency dehumidifier (Current Federal Standard)	0	0	12	$0	$0	$0	$0.11	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	100.0%	100.0%	0	0	0	0	0
>50 pints/day dehumidifier	>50 pints/day dehumidifier	ENERGY STAR Dehumidifier - high capacity	0	0	Standard efficiency dehumidifier (Current Federal Standard)	0	0	12	$0	$0	$0	$0.11	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	100.0%	100.0%	0	0	0	0	0

Electric Measure Description	Electric Measure Description	Efficient Product Description / Rating	Efficient Product Consumption (watts)	Efficient Hours of Operation (hrs/yr)	Baseline Product Description / Rating	Baseline Product Consumption (watts)	Baseline Hours of Operation (hrs/yr)	Measure Lifetime (years)	Rebate Amount ($)	Average Baseline Product Cost ($)	Incremental Cost of Efficient Product ($)	Assumed Energy Cost ($/kWh)	Rebate as a % of Incremental Cost (%)	Increm'l Cost Payback Period w/o Rebate (yrs)	Increm'l Cost Payback Period w/ Rebate (yrs)	Annual Customer kWh Savings (kWh/yr)	Rebated Cost / Cust kWh Saved ($/kWh)	Rebated Lifetime cost /Cust kWh Saved ($/kWh)	Customer kW Savings (kW)	Generator Peak kW Savings (kW)	Non-Energy O&M Savings ($)	Energy O&M Savings ($)	Coincidence Factor (%)	2018 Units (-)	Installation Rate (%)	Realization Rate (kW) (%)	Realization Rate (kWh) (%)	2018 NET Gen kW (kW)	2018 NET Gen kWh (kWh)	2018 Rebate Budget ($)	2018 Incremental Costs ($)	Total Customer kWh for all Units Installed in 2018
TOTAL	*TOTAL*																															
Insulation Rebate	Insulation Rebate						0																0%					237	388,014	43,488	358,247	
Electric Heat Homes Without Cooling	Electric Heat Homes Without Cooling	Home with additional insulation	0	1,261	Home with R20 or less existing Insulation	9,048	1,261	20	$300	$0	$6,557	$0.11	5%	5.2	5.0	11,410	$0.026	$0.001	9.0	0.0	$0.00	$0.00	0%	1	100%	100.0%	100.0%	0	12,456	300	6,557	11,410
Electric Heat Homes With Cooling	Electric Heat Homes With Cooling	Home with additional insulation	0	1,751	Home with R20 or less existing Insulation	5,922	1,751	20	$300	$0	$4,639	$0.11	6%	4.1	3.8	10,369	$0.029	$0.001	5.9	0.7	$0.00	$0.00	10%	3	100%	100.0%	100.0%	2	33,960	900	13,917	31,107
Gas Heat Homes With Cooling, Combo Customer	Gas Heat Homes With Cooling, Combo Customer	Home with additional insulation	0	490	Home with R20 or less existing Insulation	3,391	490	20	$277	$0	$2,703	$0.11	10%	14.8	13.3	1,662	$0.166	$0.008	3.4	3.7	$0.00	$0.00	100%	10	100%	100.0%	100.0%	38	18,539	2,827	27,625	16,982
Electric Heat Homes Without Cooling	Electric Heat Homes Without Cooling	R-11 insulation	0	1,261	Baseline assumes R-0 in wall cavities as existing level	1,177	1,261	20	$295	$0	$1,724	$0.11	17%	10.6	8.8	1,484	$0.198	$0.010	1.2	0.0	$0.00	$0.00	0%	3	100%	100.0%	100.0%	0	4,861	884	5,171	4,453
Electric Heat Homes With Cooling	Electric Heat Homes With Cooling	R-11 insulation	0	1,751	Baseline assumes R-0 in wall cavities as existing level	2,386	1,751	20	$275	$0	$1,688	$0.11	16%	3.7	3.1	4,177	$0.066	$0.003	2.4	0.3	$0.00	$0.00	10%	22	100%	100.0%	100.0%	6	100,325	6,047	37,145	91,898
Gas Heat Homes With Cooling, Combo Customer	Gas Heat Homes With Cooling, Combo Customer	R-11 insulation	0	499	Baseline assumes R-0 in wall cavities as existing level	975	499	20	$287	$0	$1,989	$0.11	14%	37.2	31.8	486	$0.590	$0.030	1.0	1.1	$0.00	$0.00	99%	72	100%	100.0%	100.0%	76	38,307	20,719	143,500	35,089
Electric Heat Homes Without Cooling	Electric Heat Homes Without Cooling	Home with Tier 2 Air Sealing	0	1,261	Existing Home Without Air Sealing	4,206	1,261	10	$150	$0	$1,102	$0.11	14%	1.9	1.6	5,304	$0.028	$0.003	4.2	0.0	$0.00	$0.00	0%	3	100%	100.0%	100.0%	0	17,370	450	3,307	15,911
Electric Heat Homes With Cooling	Electric Heat Homes With Cooling	Home with Tier 2 Air Sealing	0	1,751	Existing Home Without Air Sealing	3,044	1,751	10	$136	$0	$1,495	$0.11	9%	2.6	2.3	5,329	$0.026	$0.003	3.0	0.2	$0.00	$0.00	7%	18	100%	100.0%	100.0%	4	104,717	2,452	26,904	95,921
Gas Heat Homes With Cooling, Combo Customer	Gas Heat Homes With Cooling, Combo Customer	Home with Tier 2 Air Sealing	0	509	Existing Home Without Air Sealing	1,554	509	10	$134	$0	$1,415	$0.11	9%	16.3	14.7	791	$0.169	$0.017	1.6	1.7	$0.00	$0.00	97%	67	100%	100.0%	100.0%	110	57,478	8,908	94,121	52,650
Refrigerator Recycling	Refrigerator Recycling						0																0%					652	5,690,205	229,005	0	
Remove refrigerator from service and recycle	Remove refrigerator from service and recycle	removal of refrigerator	0	5,591	existing secondary unit - age mostly >10 years	141	5,591	9	$35	$0	$0	$0.12	#DIV/0!	0.0	-0.4	790	$0.044	$0.005	0.1	0.1	$0.00	$0.00	64%	4,735	100%	100.0%	100.0%	468	4,085,341	165,725	0	3,742,172
Remove freezer from service and recycle	Remove freezer from service and recycle	removal of freezer	0	5,592	existing freezer unit - age mostly >10 years	145	5,592	6	$35	$0	$0	$0.12	#DIV/0!	0.0	-0.4	813	$0.043	$0.007	0.1	0.1	$0.00	$0.00	64%	1,808	100%	100.0%	100.0%	184	1,604,865	63,280	0	1,470,056
Residential Cooling	Residential Cooling						0																0%					8,797	6,288,085	5,331,690	8,647,823	
Installation of new AC 15 SEER 2.5 tons	Installation of new AC 15 SEER 2.5 tons	Non - Quality Installation of 15 SEER 2.5 tons	0	0	Non-Quality Installation of 13 SEER (Baseline and Model) 2.5 tons	0	0	15	$0	$0	$0	$0.11	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	99.6%	99.5%	0	0	0	0	0
Installation of new AC 16 SEER 2.5 tons	Installation of new AC 16 SEER 2.5 tons	Non - Quality Installation of 16 SEER 2.5 tons	0	0	Non-Quality Installation of 13 SEER (Baseline and Model) 2.5 tons	0	0	15	$0	$0	$0	$0.11	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	99.6%	99.5%	0	0	0	0	0
Provide Quality Installation of new AC 13 - 14.5 SEER 2.5 tons	Provide Quality Installation of new AC 13 - 14.5 SEER 2.5 tons	Quality Installation of 13 - 14.5 SEER 2.5 tons	0	631	Non-Quality Installation of 13 - 14.5 SEER 2.5 tons	299	631	15	$150	$0	$180	$0.11	83%	8.7	1.5	189	$0.795	$0.053	0.3	0.3	$0.00	$0.00	90%	8,983	100%	99.6%	99.5%	2,645	1,852,032	1,348,350	1,620,097	1,696,462
Provide Quality Installation of new AC 15 SEER 2.5 tons	Provide Quality Installation of new AC 15 SEER 2.5 tons	Quality Installation of 15 SEER 2.5 tons	0	641	Non-Quality Installation of 15 SEER 2.5 tons	596	641	15	$350	$0	$584	$0.11	60%	13.9	5.6	382	$0.917	$0.061	0.6	0.6	$0.00	$0.00	90%	2,588	100%	99.6%	99.5%	1,516	1,078,969	906,500	1,510,484	988,335
Provide Quality Installation of new AC 16 SEER 2.5 tons	Provide Quality Installation of new AC 16 SEER 2.5 tons	Quality Installation of 16 SEER 2.5 tons	0	643	Non-Quality Installation of 16 SEER 2.5 tons	640	643	15	$450	$0	$772	$0.11	58%	17.1	7.1	412	$1.093	$0.073	0.6	0.6	$0.00	$0.00	90%	6,517	100%	99.6%	99.5%	4,104	2,927,884	2,932,650	5,032,983	2,681,941
Installation of new AC 15 SEER 2.5 tons	Installation of new AC 15 SEER 2.5 tons	Non - Quality Installation of 15 SEER 2.5 tons	0	0	Non-Quality Installation of 13 SEER (Baseline and Model) 2.5 tons	0	0	15	$0	$0	$0	$0.11	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	99.6%	99.5%	0	0	0	0	0
Installation of new AC 16 SEER 2.5 tons	Installation of new AC 16 SEER 2.5 tons	Non - Quality Installation of 16 SEER 2.5 tons	0	0	Non-Quality Installation of 13 SEER (Baseline and Model) 2.5 tons	0	0	15	$0	$0	$0	$0.11	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	99.6%	99.5%	0	0	0	0	0
Provide Quality Installation of new AC 13 - 14.5 SEER 2.5 tons	Provide Quality Installation of new AC 13 - 14.5 SEER 2.5 tons	Quality Installation of 13 - 14.5 SEER 2.5 tons	0	0	Non-Quality Installation of 2.5 Ton AC 13 - 14.5 SEER 2.5 tons	0	0	15	$0	$0	$0	$0.11	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	99.6%	99.5%	0	0	0	0	0
Provide Quality Installation of new AC 15 SEER 2.5 tons	Provide Quality Installation of new AC 15 SEER 2.5 tons	Quality Installation of 15 SEER 2.5 tons	0	0	Non-Quality Installation of 2.5 Ton AC 15 SEER 2.5 tons	0	0	15	$0	$0	$0	$0.11	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	99.6%	99.5%	0	0	0	0	0
Provide Quality Installation of new AC 16 SEER 2.5 tons	Provide Quality Installation of new AC 16 SEER 2.5 tons	Quality Installation of 16 SEER 2.5 tons	0	0	Non-Quality Installation of 2.5 Ton AC 16 SEER 2.5 tons	0	0	15	$0	$0	$0	$0.11	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	99.6%	99.5%	0	0	0	0	0
Installation of new ASHP 15 SEER ASHP 2.5 Tons	Installation of new ASHP 15 SEER ASHP 2.5 Tons	Non - Quality Installation of 15 SEER ASHP 2.5 Tons	0	0	Non-Quality Installation of 14 SEER (Baseline) ASHP 2.5 Tons	0	0	15	$0	$0	$0	$0.11	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	99.6%	99.5%	0	0	0	0	0
Installation of new ASHP 16 SEER ASHP 2.5 Tons	Installation of new ASHP 16 SEER ASHP 2.5 Tons	Non - Quality Installation of 16 SEER ASHP 2.5 Tons	0	0	Non-Quality Installation of 14 SEER (Baseline) ASHP 2.5 Tons	0	0	15	$0	$0	$0	$0.11	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	99.6%	99.5%	0	0	0	0	0
Provide Quality Installation of new ASHP 14 SEER (Baseline) ASHP 2.5 Tons	Provide Quality Installation of new ASHP 14 SEER (Baseline) ASHP 2.5 Tons	Quality Installation of 14 SEER (Baseline) ASHP 2.5 Tons	0	567	Non-Quality Installation of 14 SEER (Baseline) ASHP 2.5 Tons	344	567	15	$150	$0	$101	$0.11	149%	4.7	-2.3	195	$0.769	$0.051	0.3	0.3	$0.00	$0.00	90%	32	100%	99.6%	99.5%	11	6,812	4,800	3,218	6,239
Provide Quality Installation of new ASHP 15 SEER ASHP 2.5 Tons	Provide Quality Installation of new ASHP 15 SEER ASHP 2.5 Tons	Quality Installation of 15 SEER ASHP 2.5 Tons	0	676	Non-Quality Installation of 15 SEER ASHP 2.5 Tons	468	676	15	$350	$0	$531	$0.11	66%	15.3	5.2	316	$1.106	$0.074	0.5	0.5	$0.00	$0.00	90%	12	100%	99.6%	99.5%	6	4,146	4,200	6,372	3,798
Provide Quality Installation of new ASHP 16 SEER ASHP 2.5 Tons	Provide Quality Installation of new ASHP 16 SEER ASHP 2.5 Tons	Quality Installation of 16 SEER ASHP 2.5 Tons	0	653	Non-Quality Installation of 16 SEER ASHP 2.5 Tons	510	653	15	$450	$0	$1,014	$0.11	44%	27.7	15.4	333	$1.351	$0.090	0.5	0.5	$0.00	$0.00	90%	26	100%	99.6%	99.5%	13	9,458	11,700	26,369	8,663
Installation of new ASHP 15 SEER ASHP 2.5 Tons	Installation of new ASHP 15 SEER ASHP 2.5 Tons	Non - Quality Installation of ASHP 15 SEER ASHP 2.5 Tons	0	0	Non-Quality Installation of ASHP 14 SEER (Baseline) ASHP 2.5 Tons	0	0	15	$0	$0	$0	$0.11	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	99.6%	99.5%	0	0	0	0	0
Installation of new ASHP 16 SEER ASHP 2.5 Tons	Installation of new ASHP 16 SEER ASHP 2.5 Tons	Non - Quality Installation of ASHP 16 SEER ASHP 2.5 Tons	0	0	Non-Quality Installation of ASHP 14 SEER (Baseline) ASHP 2.5 Tons	0	0	15	$0	$0	$0	$0.11	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	99.6%	99.5%	0	0	0	0	0
Provide Quality Installation of new ASHP 14 SEER (Baseline) ASHP 2.5 Tons	Provide Quality Installation of new ASHP 14 SEER (Baseline) ASHP 2.5 Tons	Quality Installation of 2.5 Ton ASHP 14 SEER (Baseline) ASHP 2.5 Tons	0	0	Non-Quality Installation of 2.5 Ton ASHP 14 SEER (Baseline) ASHP 2.5 Tons	0	0	15	$0	$0	$0	$0.11	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	99.6%	99.5%	0	0	0	0	0
Provide Quality Installation of new ASHP 15 SEER ASHP 2.5 Tons	Provide Quality Installation of new ASHP 15 SEER ASHP 2.5 Tons	Quality Installation of 2.5 Ton ASHP 15 SEER ASHP 2.5 Tons	0	0	Non-Quality Installation of 2.5 Ton ASHP 15 SEER ASHP 2.5 Tons	0	0	15	$0	$0	$0	$0.11	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	99.6%	99.5%	0	0	0	0	0
Provide Quality Installation of new ASHP 16 SEER ASHP 2.5 Tons	Provide Quality Installation of new ASHP 16 SEER ASHP 2.5 Tons	Quality Installation of 2.5 Ton ASHP 16 SEER ASHP 2.5 Tons	0	0	Non-Quality Installation of 2.5 Ton ASHP 16 SEER ASHP 2.5 Tons	0	0	15	$0	$0	$0	$0.11	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	99.6%	99.5%	0	0	0	0	0
Installation of High Efficiency GSHP equipment New/Existing Home	Installation of High Efficiency GSHP equipment New/Existing Home	Quality Installation of 2 Ton, closed loop, 14.1 EER GSHP	0	411	Non-Quality Installation of 2 Ton 13 SEER AC	2,172	411	20	$657	$0	$2,316	$0.11	28%	23.6	16.9	892	$0.737	$0.037	2.2	2.1	$0.00	$0.00	90%	26	100%	99.6%	99.5%	56	25,306	17,090	60,206	23,181
Mini-Split Heat Pump	Mini-Split Heat Pump	MSHP size 1.2 tons, 21.27 SEER, 10.50 HSPF	0	771	MSHP size 1.2 tons, 14 SEER, 8.2 HSPF	856	771	18	$200	$0	$729	$0.11	27%	10.0	7.3	660	$0.303	$0.017	0.9	0.8	$0.00	$0.00	90%	532	100%	99.6%	99.5%	448	383,479	106,400	388,094	351,267
School Education Kits	School Education Kits						0																0%					222	2,519,702	232,620	232,620	
9 Watt LED Bulbs - 2018	9 Watt LED Bulbs - 2018	High efficiency LED lighting (2 at 9W)	0	909	Incandescent light bulb	68	909	6	$6	$0	$6	$0.11	100%	0.9	0.0	62	$0.103	$0.017	0.1	0.0	$0.00	$0.00	8%	14,021	92.7%	100.0%	100.0%	78	877,074	89,454	89,454	
11 Watt LED Bulbs - 2018	11 Watt LED Bulbs - 2018	High efficiency LED lighting (2 at 11W)	0	909	Incandescent light bulb	84	909	6	$10	$0	$10	$0.11	100%	1.1	0.0	76	$0.126	$0.021	0.1	0.0	$0.00	$0.00	8%	14,021	92.6%	100.0%	100.0%	96	1,082,275	134,882	134,882	
Provide new 1.5 gpm showerhead to replace existing 2.5 gpm showerhead in home with Unknown DHW heater - 2018	Provide new 1.5 gpm showerhead to replace existing 2.5 gpm showerhead in home with Unknown DHW heater - 2018	1.5 GPM Showerhead	0	8,760	2.5 GPM Showerhead	58	8,760	10	$3	$0	$3	$0.11	100%	0.1	0.0	510	$0.006	$0.001	0.1	0.0	$33.39	$0.00	64%	1,683	48.2%	100.0%	100.0%	33	451,890	5,424	5,424	
Provide Energy Efficient Kitchen Aerator - 1.5 GPM to replace existing 2.2 gpm aerator in home with Unknown DHW heater - 2018	Provide Energy Efficient Kitchen Aerator - 1.5 GPM to replace existing 2.2 gpm aerator in home with Unknown DHW heater - 2018	1.5 GPM Kitchen Faucet Aerator	0	8,760	2.2 GPM Kitchen Faucet Aerator	8	8,760	10	$1	$0	$1	$0.11	100%	0.1	0.0	74	$0.016	$0.002	0.0	0.0	$4.17	$0.00	124%	1,683	42.1%	100.0%	100.0%	8	57,084	2,045	2,045	
Provide Energy Efficient Bath Faucet Aerator - 1.0 GPM to replace existing 2.2 gpm aerator in home with Unknown DHW heater - 2018	Provide Energy Efficient Bath Faucet Aerator - 1.0 GPM to replace existing 2.2 gpm aerator in home with Unknown DHW heater - 2018	1.0 GPM Bathroom Faucet Aerator	0	8,760	2.2 GPM Bathroom Faucet Aerator	7	8,760	10	$0	$0	$0	$0.11	100%	0.1	0.0	64	$0.008	$0.001	0.0	0.0	$4.19	$0.00	124%	1,683	43.7%	100.0%	100.0%	7	51,379	815	815	
Self Direct	Self Direct						0																0%					0	0	0	0	
Average Project	Average Project	New Equipment	0	0	Old or less efficient systems or equipment	0	0	17	$0	$0	$0	$0.08	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	100.0%	100.0%	0	0	0	0	0
LI Home Energy Squad	LI Home Energy Squad						0																0%					120	933,131	0	0	
Total Energy Squad Service 2017	Total Energy Squad Service 2017	Weighted Average of 2017 LI Squad Services	0	0	Existing Home	0	0	7	$0	$0	$0	$0.11	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	100.0%	100.0%	0	0	0	0	0
Total Energy Squad Service 2018	Total Energy Squad Service 2018	Weighted Average of 2018 LI Squad Services	0	974	Existing Home	877,266	974	6	$0	$0	$0	$0.11	#DIV/0!	0.0	0.0	854,748	$0.000	$0.000	877.3	119.6	$4,987.91	$0.00	12%	1	100%	100.0%	100.0%	120	933,131	0	0	
Total Energy Squad Service 2019	Total Energy Squad Service 2019	Weighted Average of 2019 LI Squad Services	0	0	Existing Home	0	0	5	$0	$0	$0	$0.11	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	100.0%	100.0%	0	0	0	0	
Energy Star Retail Products	Energy Star Retail Products						0																0%					426	4,094,366	781,710	1,115,354	
Sound Bars	Sound Bars	ENERGY STAR ® + 50%	0	8,758	Industry Standard	807	8,758	7	$4,493	$0	$0	$0.11	#DIV/0!	0.0	-5.8	7,065	$0.636	$0.091	0.8	0.9	$0.00	$0.00	100%	18	100%	100.0%	100.0%	16	138,841	80,870	0	127,178
Freezers	Freezers	ENERGY STAR ®	0	4,817	Industry Standard	438	4,817	11	$1,329	$0	$443	$0.11	300%	1.9	-3.8	2,109	$0.630	$0.057	0.4	0.3	$0.00	$0.00	55%	61	100%	100.0%	100.0%	16	140,469	81,070	27,034	128,670
Gas Clothes Dryers	Gas Clothes Dryers	ENERGY STAR ®	0	5,593	Industry Standard	1,122	5,593	12	$2,835	$0	$5,670	$0.11	50%	8.2	4.1	6,275	$0.452	$0.038	1.1	0.8	$0.00	$0.00	64%	56	100%	100.0%	100.0%	44	383,614	158,750	317,500	351,390
Electric Clothes Dryers	Electric Clothes Dryers	ENERGY STAR ®	0	0	Industry Standard	0	0	12	$0	$0	$0	$0.11	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	100.0%	100.0%	0	0	0	0	0
Air Cleaners	Air Cleaners	ENERGY STAR ®	0	295	Industry Standard	166,232	295	9	$7,188	$0	$11,980	$0.11	60%	2.2	0.9	49,038	$0.147	$0.016	166.2	5.5	$0.00	$0.00	3%	64	100%	100.0%	100.0%	350	3,426,246	460,020	766,700	3,138,441
Room Air Conditioners (MN)	Room Air Conditioners (MN)	ENERGY STAR ®	0	283	Industry Standard	1,402	283	9	$83	$0	$343	$0.10	24%	8.4	6.4	397	$0.210	$0.023	1.4	0.0	$0.00	$0.00	2%	12	100%	100.0%	100.0%	0	5,197	1,000	4,120	4,760
Clothes Washer	Clothes Washer	0	0	5,841	0	2,042	5,841	11	$266	$0	$746	$0.07	36%	0.9	0.6	11,925	$0.022	$0.002	2.0	2.2	$0.00	$0.00	100%	47	100%	100.0%	100.0%	105	611,888	12,520	35,056	560,489
Refrigerators	Refrigerators	0	0	662	0	10,371	662	18	$870	$0	$9,957	$0.07	9%	21.7	19.8	6,865	$0.127	$0.007	10.4	10.2	$0.00	$0.00	90%	41	100%	100.0%	100.0%	420	307,265	35,670	408,243	281,455
Energy Information Systems	Energy Information Systems						0																0%					43	601,839	30,173	38,145	

Electric Measure Description	Electric Measure Description	Efficient Product Description / Rating	Efficient Product Consumption (watts)	Efficient Hours of Operation (hrs/yr)	Baseline Product Description / Rating	Baseline Product Consumption (watts)	Baseline Hours of Operation (hrs/yr)	Measure Lifetime (years)	Rebate Amount ($)	Average Baseline Product Cost ($)	Incremental Cost of Efficient Product ($)	Assumed Energy Cost ($/kWh)	Rebate as a % of Incremental Cost (%)	Increm't Cost Payback Period w/o Rebate (yrs)	Increm't Cost Payback Period w/ Rebate (yrs)	Annual Customer kWh Savings (kWh/yr)	Rebated Cost / Cust kWh Saved ($/kWh)	Rebated Lifetime cost /Cust kWh Saved ($/kWh)	Customer kW Savings (kW)	Generator Peak kW Savings (kW)	Non-Energy O&M Savings ($)	Energy O&M Savings ($)	Coincidence Factor (%)	2018 Units (-)	Installation Rate (%)	Realization Rate (kW) (%)	Realization Rate (kWh) (%)	2018 NET Gen kW (kW)	2018 NET Gen kWh (kWh)	2018 Rebate Budget ($)	2018 Incremental Costs ($)	Total Customer kWh for all Units Installed in 2018
TOTAL	*TOTAL*																														
Energy Information System	Energy Information System	New Energy Information System	0	4,959	No EIS	223	4,959	5	$59	$0	$75	$0.08	79%	0.9	0.2	1,107	$0.054	$0.011	0.2	0.1	-$0.48	$0.00	35%	508	100%	100.0%	100.0%	43	601,839	30,173	38,145	562,118
Behavioral and Operational Measures	Behavioral and Operational Measures	Efficient behavior/operations	0	0	Less efficient behavior/operations	0	0	1	$0	$0	$0	$0.06	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	100.0%	100.0%	0	0	0	0	0
Behavioral and Operational Measures Adjustment	Behavioral and Operational Measures Adjustment	Efficient behavior/operations	0	0	Less efficient behavior/operations	0	0	1	$0	$0	$0	$0.06	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	100.0%	100.0%	0	0	0	0	0
Retrocommissioning Measures	Retrocommissioning Measures	Optimized Building Systems	0	0	Non-optimized Building Systems	0	0	7	$0	$0	$0	$0.06	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	100.0%	100.0%	0	0	0	0	0
Heating Efficiency	***Heating Efficiency***						0																0%					78	345,089	13,525	28,679	
EC Fan Motor on New Commercial Furnace	EC Fan Motor on New Commercial Furnace	ECM Furnace Fan	0	4,368	Non-ECM Fan	731	4,368	18	$135	$0	$287	$0.11	47%	0.8	0.4	3,193	$0.042	$0.002	0.7	0.8	-$14.31	$0.00	98%	93	100%	98.4%	98.1%	73	324,166	12,600	26,712	296,936
EC Fan Motor on Existing Commercial Furnace	EC Fan Motor on Existing Commercial Furnace	ECM Furnace Fan	0	4,385	Non-ECM Fan	867	4,385	7	$180	$0	$382	$0.11	47%	0.9	0.5	3,802	$0.047	$0.007	0.9	0.9	-$18.12	$0.00	98%	5	100%	98.4%	98.1%	5	20,752	900	1,908	19,008
Infrared	Infrared	Infrared heater	0	545	Non-condensing standard forced-air unit heater	1,152	545	15	$100	$0	$235	$0.11	43%	3.4	2.0	628	$0.159	$0.011	1.2	0.0	$0.00	$0.00	0%	0	100%	98.4%	98.1%	0	171	25	59	157
Commercial Refrigeration	***Commercial Refrigeration***						**0**																					**24**	**287,133**	**17,365**	**75,065**	
Condenser or Evaporator Coil Cleaning	*Condenser or Evaporator Coil Cleaning*	After Tune-Up	0	8,761	Before Tune-Up	34	8,761	1	$25	$0	$25	$0.08	100%	1.1	0.0	298	$0.084	$0.084	0.0	0.0	$0.00	$0.00	100%	153	100%	100%	100%	6	48,877	3,825	3,825	45,651
Sink Aerator -restroom, elec water heating (per aerator)	*Sink Aerator -restroom, elec water heating (per aerator)*	.6 gallons per minute restroom faucet aerator	0	8,761	2.2 gallons per minute faucet	157	8,761	10	$7	$0	$7	$0.11	100%	0.0	0.0	1,377	$0.005	$0.000	0.2	0.0	$41.14	$0.00	2%	18	100%	100%	100%	0	26,545	121	121	24,793
Sink Aerator -kitchen, elec water heating (per aerator)	*Sink Aerator -kitchen, elec water heating (per aerator)*	1.5 gallons per minute kitchen faucet aerator	0	0	2.2 gallons per minute faucet	0	0	10	$0	$0	$0	$0.11	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	100%	100%	0	0	0	0	0
CHW Pre-Rinse Sprayer - electric water heating	*CHW Pre-Rinse Sprayer - electric water heating*	1.28 gallons per minute sprayer	0	8,784	1.60 gallons per minute sprayer	88	8,784	5	$45	$0	$45	$0.11	100%	0.5	0.0	773	$0.058	$0.012	0.1	0.0	$16.77	$0.00	3%	5	100%	100%	100%	0	4,138	225	225	3,865
LED Refrigerated Case Lighting - Retrofit Screw Base	*LED Refrigerated Case Lighting - Retrofit Screw Base*	LED Screw Base	0	5,124	Incandescent screw base	89	5,124	5	$24	$0	$24	$0.08	100%	0.7	0.0	457	$0.053	$0.011	0.1	0.1	$0.00	$0.00	100%	51	100%	100%	100%	5	24,956	1,224	1,224	23,309
ECM Motors - Medium Temp Display Case	*ECM Motors - Medium Temp Display Case*	ECM Motor	0	0	Shaded Pole Motor	0	0	15	$0	$0	$0	$0.07	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	100%	100%	0	0	0	0	0
ECM Motors - Low Temp Display Case	*ECM Motors - Low Temp Display Case*	ECM Motor	0	0	Shaded Pole Motor	0	0	15	$0	$0	$0	$0.07	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	100%	100%	0	0	0	0	0
ECM Motors - Medium Temp Walk-in, Evap fan <= 15" Diameter	*ECM Motors - Medium Temp Walk-in, Evap fan <= 15" Diameter*	ECM Motor	0	0	Shaded Pole Motor	0	0	15	$0	$0	$0	$0.07	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	100%	100%	0	0	0	0	0
ECM Motors - Low Temp Walk-in, Evap fan <= 15" Diameter	*ECM Motors - Low Temp Walk-in, Evap fan <= 15" Diameter*	ECM Motor	0	0	Shaded Pole Motor	0	0	15	$0	$0	$0	$0.07	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	100%	100%	0	0	0	0	0
ECM Motors - Medium Temp Walk-in, Evap fan > 15" Diameter	*ECM Motors - Medium Temp Walk-in, Evap fan > 15" Diameter*	ECM Motor	0	0	Shaded Pole Motor	0	0	15	$0	$0	$0	$0.07	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	100%	100%	0	0	0	0	0
ECM Motors - Low Temp Walk-in, Evap fan > 15" Diameter	*ECM Motors - Low Temp Walk-in, Evap fan > 15" Diameter*	ECM Motor	0	0	Shaded Pole Motor	0	0	15	$0	$0	$0	$0.07	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	100%	100%	0	0	0	0	0
Anti-Sweat Heater Controls, Medium Temperature Case	*Anti-Sweat Heater Controls, Medium Temperature Case*	Anti-Sweat Heater Controls	0	0	Anti-Sweat Heaters running constantly	0	0	12	$0	$0	$0	$0.07	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	100%	100%	0	0	0	0	0
Anti-Sweat Heater Controls, Low Temperature Case	*Anti-Sweat Heater Controls, Low Temperature Case*	Anti-Sweat Heater Controls	0	0	Anti-Sweat Heaters running constantly	0	0	12	$0	$0	$0	$0.07	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	100%	100%	0	0	0	0	0
No Heat Case Doors (Cooler)	*No Heat Case Doors (Cooler)*	No Heat Case Doors	0	0	Anti-Sweat Heaters running constantly	0	0	10	$0	$0	$0	$0.07	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	100%	100%	0	0	0	0	0
No Heat Case Doors (Freezer)	*No Heat Case Doors (Freezer)*	No Heat Case Doors	0	0	Anti-Sweat Heaters running constantly	0	0	10	$0	$0	$0	$0.07	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	100%	100%	0	0	0	0	0
Evaporative Motor Fan Controller (EMFC) (Cooler)	*Evaporative Motor Fan Controller (EMFC) (Cooler)*	Evaporative motor fan control on commercial medium temp walk-in	0	0	No motor fan controls on commercial medium temp walk-in	0	0	15	$0	$0	$0	$0.07	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	100%	100%	0	0	0	0	0
Evaporative Motor Fan Controller (EFMC) (Freezer)	*Evaporative Motor Fan Controller (EFMC) (Freezer)*	Evaporative motor fan control on low temp walk-in	0	0	No motor fan controls on commercial low temp walk-in	0	0	15	$0	$0	$0	$0.07	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	100%	100%	0	0	0	0	0
Night Curtains for Reach-In Cases (per linear foot)	*Night Curtains for Reach-In Cases (per linear foot)*	Night Curtains on Cases	0	1,095	Open Reach-In Cases	4,513	1,095	4	$920	$0	$1,932	$0.07	48%	5.8	3.1	4,942	$0.186	$0.047	4.5	0.0	-$145.36	$0.00	0%	6	100%	100%	100%	0	31,744	5,520	11,592	29,649
Medium-temp Enclosed Reach-In Case (per linear foot)	*Medium-temp Enclosed Reach-In Case (per linear foot)*	Medium-temp Reach-In Cases with Doors	0	0	Medium-temp Open Reach-In Cases	0	0	15	$0	$0	$0	$0.07	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	100%	100%	0	0	0	0	0
Retrofit of open multi-deck cooler cases with solid glass doors (per linear foot of case)	*Retrofit of open multi-deck cooler cases with solid glass doors (per linear foot of case)*	Closed Case with Doors	0	0	Open Case with No Doors	0	0	12	$0	$0	$0	$0.07	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	100%	100%	0	0	0	0	0
Retrofit of open multi-deck freezer cases with solid glass doors (per linear foot of case)	*Retrofit of open multi-deck freezer cases with solid glass doors (per linear foot of case)*	Closed Case with Doors	0	0	Open Case with No Doors	0	0	12	$0	$0	$0	$0.07	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	100%	100%	0	0	0	0	0
LED Refrigerated Case Lighting	*LED Refrigerated Case Lighting*	LED Strip lighting	0	0	T8 or T12 Fluorescent	0	0	20	$0	$0	$0	$0.07	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	100%	100%	0	0	0	0	0
Demand Contolled Ventilation - Electric Only or Combo Customer	*Demand Contolled Ventilation - Electric Only or Combo Customer*	Commercial kitchen ventilation hoods with Demand Controlled Ventilation with 8.65 HP Motor	0	0	Commercial kitchen ventilation hoods without Demand Controlled Ventilation with 8.65 HP Motor	0	0	20	$0	$0	$0	$0.07	0%	0.0	0.0	0	$0.000	$0.000	0.0	0.0	$0.00	$0.00	0%	0	100%	100%	100%	0	0	0	0	0
Misc Custom Measures	*Misc Custom Measures*	Efficiency systems and practices	0	8,738	Existing systems and practices	8,064	8,738	10	$3,225	$0	$29,039	$0.07	11%	6.2	5.5	70,458	$0.046	$0.005	8.1	6.7	$0.00	$0.00	78%	2	100%	100%	100%	13	150,873	6,450	58,078	140,915

Natural Gas Measure Description	High Efficiency Product Description / Rating	Efficient Product Consumption	Baseline Product Description / Rating	Baseline Product Consumption	Life of Product (years)	Rebate Amount	Average Baseline Product Cost	Incremental Cost of Efficient Product	Rebate as a % of Incremental Cost	Incremt'l Cost Period w/o Rebate	Incremt'l Cost Payback Period w/ Rebate	Annual Customer Dth Savings	Rebated cost /Cust Dth Saved	Rebated Lifetime cost /Cust Dth Saved	Units 2018	Total Dth Saved for All Units Installed in 2018
		Dth/yr		Dth/yr	yr	$	$	$	%	Years	Years	Dth	$	$	#	
Business New Construction																
Average EDA Project - 2017	More Efficient than Code Building	0	Code-Compliant Building	0	20	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	0	0
Average EDA Project - 2018	More Efficient than Code Building	0	Code-Compliant Building	3,523	20	$17,527	$0	$295,821	6%	9.7	9.1	3,523	$4.975	$0.249	13	71,027
Average EDA Project - 2019	More Efficient than Code Building	0	Code-Compliant Building	0	20	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	0	0
Average EEB Project - 2017	More Efficient than Code Building	0	Code-Compliant Building	0	20	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	0	0
Average EEB Project - 2018	More Efficient than Code Building	0	Code-Compliant Building	216	20	$1,807	$0	$4,975	36%	2.7	1.7	216	$8.363	$0.418	8	9,577
Average EEB Project - 2019	More Efficient than Code Building	0	Code-Compliant Building	0	20	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	0	0
Commercial Efficiency																44,617
Custom Gas Project	New Equipment	0	Less Efficient Product/Systems	0	15	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	43	0
Phase 2 Customer Contribution	0	0	0	96	15	$221	$0	$2,167	10%	2.6	2.4	96	$2.309	$0.154	43	44,617
Behavioral Changes	ehavior changes that reduce energy u	0	No change in behavior	0	1	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	43	0
Behavioral Changes	ehavior changes that reduce energy u	0	No change in behavior	0	1	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	43	0
Cooling Efficiency						$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000		518
EC Motors - Walk in cooler	EC Motors - Walk in cooler	0		25	15	$96	$0	$959	10%	4.5	4.0	25	$3.907	$0.260	3	40
ERV Install on RTU/AHU for reduced heating loa	veness Heat Recovery on 11193 CFM	0	No heat recovery on 11193 CFM OA	518	15	$3,000	$0	$10,276	29%	2.3	1.6	518	$5.789	$0.386	3	518
Custom Efficiency						$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000		12,215
Custom Efficiency Gas	High Efficiency Product/system	0	Less Efficient Product/Systems	1,745	19	$7,978	$0	$87,616	9%	5.8	5.3	1,745	$4.572	$0.235	19	12,215
Custom Studies Gas	0	0	0	0	0	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	2	0
Efficiency Controls						$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000		8,713
Efficiency Controls - Gas	New Digital Controls System	0	Non Digital or Obsolete Digital Systen	670	15	$4,558	$0	$26,831	17%	4.6	3.8	670	$6.801	$0.453	15	8,713
Efficiency Controls - Study Allocation	Study Allocation	0	0	0	0	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	2	0
Food Service						$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000		11,488
Convection Oven	Convection Oven	0	Deck Oven	111	11	$500	$0	$2,207	23%	2.3	1.8	111	$4.485	$0.408	18	2,787
Conveyor Oven	Conveyor Oven	0	Pizza Deck Oven	655	11	$750	$0	$25,075	3%	4.4	4.3	655	$1.145	$0.104	3	1,311
Combi-Oven	Combination Oven	0	Steamer	239	11	$1,000	$0	$7,187	14%	3.5	3.0	239	$4.188	$0.381	4	3,104
Rotisserie Oven	Rotisserie Oven - Infrared	0	Open Flame Rotisserie Oven	0	11	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	4	0
Rotating Rack Oven	Rotating Rack Oven	0	Deck Oven	227	11	$500	$0	$3,969	13%	2.0	1.8	227	$2.198	$0.200	3	682
Commercial Gas Fryer	High Efficiency Unit	0	Standard Efficiency Unit	37	11	$250	$0	$1,460	17%	4.6	3.8	37	$6.809	$0.619	7	918
Upright Broiler	Upright Broiler	0	Standard Radiant Broiler	31	11	$600	$0	$1,273	47%	4.7	2.5	31	$19.231	$1.748	2	31
High Efficiency Charbroiler	High Efficiency Charbroiler	0	Standard Charbroiler	0	11	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	1	0
High Efficiency Salamander Broiler	High Efficiency Salamander Broiler	0	Standard Salamander Broiler	31	11	$150	$0	$1,304	12%	4.9	4.3	31	$4.839	$0.440	1	62
Pasta Cooker	Pasta Cooker	0	Gas Range	106	11	$200	$0	$1,845	11%	2.0	1.8	106	$1.895	$0.172	4	211
Commercial Dishwasher - Under Counter, Gas C	ENERGY STAR qualified unit	0	entional unit as defined by ENERGY	0	10	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	10	0
Commercial Dishwasher - Door Type, Gas Only	ENERGY STAR qualified unit	0	entional unit as defined by ENERGY	30	15	$150	$0	$345	44%	1.3	0.7	30	$4.960	$0.331	8	76
Demand Controlled Ventilation - Gas Only or Co	on hoods with Demand Controlled Ve	0	ion hoods with Demand Controlled Ve	148	20	$875	$0	$6,083	14%	4.7	4.1	148	$5.907	$0.295	2	2,307
Multi Family Building Efficiency						$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000		3,714
Provide new 1.5 gpm showerhead to replace exi	1.5 GPM Showerhead	0	2.5 GPM Showerhead	3	10	$7	$0	$7	100%	0.3	0.0	3	$2.693	$0.269	1,189	2,317
Provide Energy Efficient Kitchen Aerator - 1.5 G	1.5 GPM Kitchen Faucet Aerator	0	2.2 GPM Kitchen Faucet Aerator	0	10	$3	$0	$3	100%	0.8	0.0	0	$6.856	$0.686	1,221	314
Provide Energy Efficient Bath Faucet Aerator - 1	1.0 GPM Bathroom Faucet Aerator	0	2.2 GPM Bathroom Faucet Aerator	0	10	$4	$0	$4	100%	1.0	0.0	0	$8.681	$0.868	1,223	488
Water Heater Blanket on Gas Water Heater	cial Insulation wrap R8 around Water	0	No External Insulation on water heate	0	7	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	38	0
Holistic efficiency projects totaling either 15%, 2	Average Performance Building	0	ultifamily building after Direct Install m	40	20	$4,147	$0	$9,113	46%	26.5	14.4	40	$104.462	$5.223	22	596
Process Efficiency						$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000		298,570
Custom	New System	0	Old System	14,364	4	$55,057	$0	$293,814	19%	2.4	1.9	14,364	$3.833	$1.089	25	229,824
Commercial Heating	New System	0	Old System	296	10	$399	$0	$2,733	15%	1.1	0.9	296	$1.349	$0.138	9	65,049
Recommissioning	Optimized Building Systems	0	g Building System - Not Tuned or Op	3,697	7	$15,947	$0	$68,700	23%	2.1	1.6	3,697	$4.314	$0.616	2	3,697
Behavioral Changes	ehavior changes that reduce energy u	0	No change in behavior	0	1	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	2	0
Behavioral Changes	ehavior changes that reduce energy u	0	No change in behavior	0	1	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	2	0
Energy Design Assistance	High Efficiency Building	0	Code Level Efficiency Building	0	20	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	2	0
Phase 2 customer contribution	0	0	0	0	0	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	28	0
Recommissioning						$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000		3,619
Recommissioning Implementation	Post-Recommissioned Building	0	Pre-Recommissioned Building	2,261	7	$1,321	$0	$6,946	19%	0.4	0.3	2,261	$0.584	$0.083	15	3,415
Recommissioning Studies	Study Cost and Rebate	0	0	0	0	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	20	0
BOC Program Attributable Savings	After BOC Training	0	Before BOC Training	435	5	$499	$0	$1,198	42%	0.3	0.2	435	$1.147	$0.229	16	205

Natural Gas Measure Description	High Efficiency Product Description / Rating	Efficient Product Consumption	Baseline Product Description / Rating	Baseline Product Consumption	Life of Product (years)	Rebate Amount	Average Baseline Product Cost	Incremental Cost of Efficient Product	Rebate as a % of Incremental Cost	Incremt'l Cost Period w/o Rebate	Incremt'l Cost Payback Period w/ Rebate	Annual Customer Dth Savings	Rebated cost /Cust Dth Saved	Rebated Lifetime cost /Cust Dth Saved	Units 2018	Total Dth Saved for All Units Installed in 2018
		Dth/yr		Dth/yr	yr	$	$	$	%	Years	Years	Dth	$	$	#	
Turn Key Services						$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000		20,360
Identification ~ On site audit	Perform Study + Low Cost No Cost	0	0	0	0	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	60	0
Implementation	High Eff Project	0	Less Efficient System	496	13	$6,545	$0	$22,802	29%	5.3	3.8	496	$13.198	$1.049	10	20,360
Home Energy Savings Program											0.0	0	$0.000	$0.000		6,497
Attic Insulation and Bypass Air Sealing - Gas He	the attic to R-48 & perform Bypass ai	0	th average attic area of 823 sq. ft. an	10	20	$2,432	$0	$2,432	100%	27.4	0.0	10	$249.624	$12.481	76	351
Attic Insulation and Bypass Air Sealing - Gas He	the attic to R-48 & perform Bypass ai	0	th average attic area of 823 sq. ft. an	10	20	$2,418	$0	$2,412	100%	26.1	-0.1	10	$238.596	$11.930	114	988
Air Sealing - Gas Heated & Non-Cooled Home	Bypass air sealing along with Attic In	0	home with average home size of 140	18	10	$250	$0	$250	100%	1.5	0.0	18	$13.837	$1.384	76	668
Air Sealing - Gas Heated & Electrically Cooled H	Bypass air sealing along with Attic In	0	home with average home size of 140	17	10	$202	$0	$201	101%	1.3	0.0	17	$12.230	$1.223	114	1,566
Wall Insulation - Gas Heated and Non-Cooled H	R-11 insulation	0	th average attic area of 823 sq. ft. an	36	20	$1,790	$0	$1,790	100%	5.4	0.0	36	$49.341	$2.467	12	653
Wall Insulation - Gas Heated and Electricallly Co	R-11 insulation	0	th average attic area of 823 sq. ft. an	25	20	$1,368	$0	$1,344	102%	5.8	-0.1	25	$54.053	$2.703	18	812
0.67 EF Hot Water Heater (SF)	0.67 EF Storage Water Heater	0	0.62 EF Storage Water Heater	2	13	$1,692	$0	$1,692	100%	96.3	0.0	2	$877.924	$67.533	165	334
New 84% boiler (SF)	84% Efficient Boiler	0	82% Efficient Boiler	3	20	$4,700	$0	$4,700	100%	170.4	0.0	3	$1,553.719	$77.686	57	36
Replace Furnace AFUE 80 to 95 (SF)	95% Efficient Furnace	0	80% Efficient Furnace	14	18	$3,000	$0	$3,000	100%	23.5	0.0	14	$214.718	$11.929	12	1,090
Energy Efficient Showerhead						$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000		33,932
Provide new 1.5 gpm showerhead to replace exi	1.5 GPM Showerhead	0	2.5 GPM Showerhead	0	10	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	0	0
Provide new 1.5 gpm showerhead for second sh	1.5 GPM Showerhead	0	2.5 GPM Showerhead	0	10	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	0	0
Provide Energy Efficient Kitchen Aerator - 1.5 G	1.5 GPM Kitchen Faucet Aerator	0	2.2 GPM Kitchen Faucet Aerator	0	10	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	0	0
Provide Energy Efficient Bath Faucet Aerator - 1	1.0 GPM Bathroom Faucet Aerator	0	2.2 GPM Bathroom Faucet Aerator	0	10	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	0	0
Provide Energy Efficient Bath Faucet Aerator - 1	1.0 GPM Bathroom Faucet Aerator	0	2.2 GPM Bathroom Faucet Aerator	0	10	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	0	0
Provide new 1.5 gpm showerhead to replace exi	1.5 GPM Showerhead	0	2.5 GPM Showerhead	2	10	$3	$0	$3	100%	0.2	0.0	2	$1.482	$0.148	14,080	19,592
Provide new 1.5 gpm showerhead for second sh	1.5 GPM Showerhead	0	2.5 GPM Showerhead	1	10	$3	$0	$3	100%	0.2	0.0	1	$2.172	$0.217	10,560	10,415
Provide Energy Efficient Kitchen Aerator - 1.5 G	1.5 GPM Kitchen Faucet Aerator	0	2.2 GPM Kitchen Faucet Aerator	0	10	$2	$0	$2	100%	0.6	0.0	0	$5.419	$0.542	14,080	1,323
Provide Energy Efficient Bath Faucet Aerator - 1	1.0 GPM Bathroom Faucet Aerator	0	2.2 GPM Bathroom Faucet Aerator	0	10	$1	$0	$1	100%	0.2	0.0	0	$1.777	$0.178	14,080	1,458
Provide Energy Efficient Bath Faucet Aerator - 1	1.0 GPM Bathroom Faucet Aerator	0	2.2 GPM Bathroom Faucet Aerator	0	10	$1	$0	$1	100%	0.2	0.0	0	$1.766	$0.177	10,560	1,143
Provide new 1.5 gpm showerhead to replace exi	1.5 GPM Showerhead	0	2.5 GPM Showerhead	0	10	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	0	0
Provide new 1.5 gpm showerhead for second sh	1.5 GPM Showerhead	0	2.5 GPM Showerhead	0	10	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	0	0
Provide Energy Efficient Kitchen Aerator - 1.5 G	1.5 GPM Kitchen Faucet Aerator	0	2.2 GPM Kitchen Faucet Aerator	0	10	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	0	0
Provide Energy Efficient Bath Faucet Aerator - 1	1.0 GPM Bathroom Faucet Aerator	0	2.2 GPM Bathroom Faucet Aerator	0	10	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	0	0
Provide Energy Efficient Bath Faucet Aerator - 1	1.0 GPM Bathroom Faucet Aerator	0	2.2 GPM Bathroom Faucet Aerator	0	10	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	0	0
Energy Feedback						$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000		41,197
Rollup: Online Group Savings	Treatment	0	Control	0	1	$0	$0	$0	#DIV/0!	0.0	0.0	0	$0.000	$0.000	10,898	507
Rollup: Existing Participant 2017 Savings	Treatment	0	Control	0	1	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	0	0
Rollup: New Participant 2017 Savings	Treatment	0	Control	0	1	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	0	0
Rollup: Existing Participant 2018 Savings	Treatment	0	Control	1	1	$0	$0	$0	#DIV/0!	0.0	0.0	1	$0.000	$0.000	147,100	123,083
Rollup: New Participant 2018 Savings	Treatment	0	Control	0	1	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	12,900	0
Rollup: Existing Participant 2019 Savings	Treatment	0	Control	0	1	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	0	0
Rollup: New Participant 2019 Savings	Treatment	0	Control	0	1	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	0	0
Behavioral Adjustments Rollup: Online Group Sa	Treatment	0	Control	0	0	$0	$0	$0	#DIV/0!	0.0	0.0	0	$0.000	#DIV/0!	10,898	-338
Behavioral Adjustments Rollup: Existing Particip	Treatment	0	Control	0	0	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	0	0
Behavioral Adjustments Rollup: New Participant	Treatment	0	Control	0	0	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	0	0
Behavioral Adjustments Rollup: Existing Particip	Treatment	0	Control	-1	0	$0	$0	$0	#DIV/0!	0.0	0.0	-1	$0.000	#DIV/0!	147,100	-82,055
Behavioral Adjustments Rollup: New Participant	Treatment	0	Control	0	0	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	12,900	0
Behavioral Adjustments Rollup: Existing Particip	Treatment	0	Control	0	0	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	0	0
Behavioral Adjustments Rollup: New Participant	Treatment	0	Control	0	0	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	0	0
Efficient New Home Construction						$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000		34,748
Low Income Envelope Improvements - Combo O	odel by House Rater with Average S	0	eference Home Based upon Local Co	0	20	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	25	0
10% to 15% improvement over local code - Com	odel by House Rater with Average S	0	eference Home Based upon Local Co	18	20	$249	$0	-$732	-34%	-4.5	-6.0	18	$13.838	$0.692	200	5,282
15% to 20% improvement over local code - Com	odel by House Rater with Average S	0	eference Home Based upon Local Co	27	20	$498	$0	$2,164	23%	8.9	6.8	27	$18.624	$0.931	376	13,654
20% to 25% improvement over local code - Com	odel by House Rater with Average S	0	eference Home Based upon Local Co	37	20	$998	$0	$3,510	28%	10.4	7.4	37	$26.932	$1.347	144	8,444
25% to 30% improvement over local code - Com	odel by House Rater with Average S	0	eference Home Based upon Local Co	48	20	$1,196	$0	$5,199	23%	11.8	9.1	48	$24.670	$1.234	40	1,350
30% to 35% improvement over local code - Com	odel by House Rater with Average S	0	eference Home Based upon Local Co	68	20	$1,513	$0	$8,321	18%	13.4	11.0	68	$22.202	$1.110	40	65
35% and greater improvement over local code -	odel by House Rater with Average S	0	eference Home Based upon Local Co	48	20	$2,010	$0	$11,465	18%	26.2	21.6	48	$41.914	$2.096	0	37
Low Income Envelope Improvements - Gas Only	odel by House Rater with Average S	0	eference Home Based upon Local Co	0	20	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	10	0
10% to 15% improvement over local code - Gas	odel by House Rater with Average S	0	eference Home Based upon Local Co	13	20	$250	$0	$1,024	24%	8.7	6.6	13	$19.390	$0.970	63	1,135

Natural Gas Measure Description	High Efficiency Product Description / Rating	Efficient Product Consumption	Baseline Product Description / Rating	Baseline Product Consumption	Life of Product (years)	Rebate Amount	Average Baseline Product Cost	Incremental Cost of Efficient Product	Rebate as a % of Incremental Cost	Incremt'l Cost Period w/o Rebate	Incremt'l Cost Payback Period w/ Rebate	Annual Customer Dth Savings	Rebated cost /Cust Dth Saved	Rebated Lifetime cost /Cust Dth Saved	Units 2018	Total Dth Saved for All Units Installed in 2018
		Dth/yr		Dth/yr	yr	$	$	$	%	Years	Years	Dth	$	$	#	
15% to 20% improvement over local code - Gas	odel by House Rater with Average S	0	eference Home Based upon Local Co	22	20	$500	$0	$1,869	27%	9.3	6.8	22	$22.806	$1.140	32	2,565
20% to 25% improvement over local code - Gas	odel by House Rater with Average S	0	eference Home Based upon Local Co	33	20	$1,000	$0	$3,059	33%	10.3	6.9	33	$30.593	$1.530	18	1,732
25% to 30% improvement over local code - Gas	odel by House Rater with Average S	0	eference Home Based upon Local Co	43	20	$1,200	$0	$4,334	28%	11.0	8.0	43	$27.818	$1.391	6	345
30% to 35% improvement over local code - Gas	odel by House Rater with Average S	0	eference Home Based upon Local Co	57	20	$1,500	$0	$3,990	38%	7.6	4.8	57	$26.110	$1.305	6	115
35% and greater improvement over local code -	odel by House Rater with Average S	0	eference Home Based upon Local Co	0	20	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	0	0
Energy Star Clothes Washer - Combo Customer	Energy Star Clothes Washer	0	Standard Clothes Washer	0	11	$10	$0	$30	33%	22.2	14.8	0	$67.500	$6.136	250	20
Energy Star Clothes Washer - Gas Only Custom	Energy Star Clothes Washer	0	Standard Clothes Washer	0	11	$10	$0	$20	49%	22.2	11.2	0	$100.000	$9.091	75	5
Residential Heating						$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000		149,476
95% Efficient Furnace in New Home	95% Efficient Furnace	0	90% Efficient Furnace	15	18	$50	$0	$954	5%	7.2	6.8	15	$3.425	$0.190	100	44
96% Efficient Furnace in New Home	96% Efficient Furnace	0	90% Efficient Furnace	4	18	$100	$0	$165	$1	4.9	1.9	4	$26.921	$1.496	186	205
97% Efficient Furnace in New Home	97% Efficient Furnace	0	90% Efficient Furnace	5	18	$153	$0	$389	39%	8.5	5.2	5	$30.548	$1.697	30	285
95% Efficient Furnace in Existing Home	95% Efficient Furnace	0	80% Efficient Furnace	5	18	$200	$0	$477	42%	10.5	6.1	5	$40.000	$2.222	850	30
96% Efficient Furnace in Existing Home	96% Efficient Furnace	0	80% Efficient Furnace	16	18	$200	$0	$737	27%	5.2	3.8	16	$12.789	$0.711	3,956	8,281
97% Efficient Furnace in Existing Home	97% Efficient Furnace	0	80% Efficient Furnace	18	18	$300	$0	$951	32%	5.8	4.0	18	$16.799	$0.933	1,500	102,307
84% Efficient Boiler	84% Efficient Boiler	0	82% Efficient Boiler	20	20	$400	$0	$1,048	38%	5.8	3.6	20	$20.167	$1.008	275	28,850
90% Efficient Boiler	90% Efficient Boiler	0	82% Efficient Boiler	3	20	$100	$0	$1,443	7%	46.6	43.4	3	$29.433	$1.472	75	1,357
95% Efficient Boiler	95% Efficient Boiler	0	82% Efficient Boiler	16	20	$300	$0	$2,379	13%	16.2	14.1	16	$18.586	$0.929	200	275
New 92% AFUE Furnace Gas Only Customers F	70.545 mbh Furnace w/ 4.9% overs	0	90% AFUE Furnace w/o ECM	22	18	$398	$0	$3,007	13%	15.0	13.0	22	$18.097	$1.005	0	7,844
Home Energy Squad						$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000		8,636
NEC Energy Squad Service 2017	rage Energy Efficient Gas measures	0	average Baseline Gas measures by	0	10	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000		0
NEC Energy Squad Service 2018	rage Energy Efficient Gas measures	0	average Baseline Gas measures by	8,636	10	$0	$0	$1,000	0%	0.0	0.0	8,636	$0.000	$0.000	10,281	8,636
NEC Energy Squad Service 2019	rage Energy Efficient Gas measures	0	average Baseline Gas measures by	0	10	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000		0
Weatherstrip 1 additional door	l Door to achieve leakage rate or 0.1	0	or with leakage rate of 0.68 cfm/linea	0	10	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	47	0
Install Second Programmable Thermostat	stat and Auto setback thermostat by	0	Existing non-programmable thermosta	0	10	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	17	0
Whole Home Efficiency						$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000		2,371
Attic Insulation - Gas Heated Homes Without Co	Home with additional insulation	0	ome with R20 or less existing Insulati	0	20	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	10	0
Attic Insulation - Gas Heat Homes With Cooling,	Home with additional insulation	0	ome with R20 or less existing Insulati	11	20	$298	$0	$2,172	14%	20.8	18.0	11	$26.103	$1.305	80	328
Attic Insulation - Gas Heat Homes With Cooling,	Home with additional insulation	0	ome with R20 or less existing Insulati	0	20	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	10	0
Wall Insulation - Gas Heat Homes Without Cooli	R-11 insulation	0	assumes R-0 in wall cavities as exis	0	20	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	10	0
Wall Insulation - Gas Heat Homes With Cooling,	R-11 insulation	0	assumes R-0 in wall cavities as exis	38	20	$277	$0	$1,846	15%	5.3	4.5	38	$7.219	$0.361	100	1,036
Wall Insulation - Gas Heat Homes With Cooling,	R-11 insulation	0	assumes R-0 in wall cavities as exis	0	20	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	10	0
Air Sealing T2 - 25% reduction - Gas Heat Home	th Tier 2 Air Sealing - Average 27% r	0	Existing Home Without Air Sealing	0	10	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	10	0
Air Sealing T2 - 25% reduction - Gas Heat Home	th Tier 2 Air Sealing - Average 27% r	0	Existing Home Without Air Sealing	22	10	$151	$0	$594	25%	3.0	2.2	22	$6.837	$0.684	20	125
Air Sealing T2 - 25% reduction - Gas Heat Home	th Tier 2 Air Sealing - Average 27% r	0	Existing Home Without Air Sealing	0	10	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	10	0
Air Sealing T3 - 30% reduction - Gas Heat Home	th Tier 3 Air Sealing - average 42% r	0	Existing Home Without Air Sealing	0	10	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	10	0
Air Sealing T3 - 30% reduction - Gas Heat Home	th Tier 3 Air Sealing - average 42% r	0	Existing Home Without Air Sealing	35	10	$201	$0	$584	34%	1.8	1.2	35	$5.756	$0.576	50	628
Air Sealing T3 - 30% reduction - Gas Heat Home	th Tier 3 Air Sealing - average 42% r	0	Existing Home Without Air Sealing	0	10	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	10	0
0.64 EF Storage Water Heater	0.64 EF Storage Water Heater	0	0.62 EF Storage Water Heater	3	13	$100	$0	$127	79%	5.2	1.1	3	$37.037	$2.849	10	5
0.67 EF Storage Water Heater	0.67 EF Storage Water Heater	0	0.62 EF Storage Water Heater	2	13	$100	$0	$223	45%	12.2	6.7	2	$50.000	$3.846	10	14
0.7 EF Storage Water Heater	0.7 EF Storage Water Heater	0	0.62 EF Storage Water Heater	2	13	$100	$0	$302	33%	14.4	9.6	2	$43.478	$3.344	20	7
0.9 EF Tankless Water Heater	0.9 EF Tankless Water Heater	0	0.62 EF Storage Water Heater	3	20	$175	$0	$402	44%	15.2	8.6	3	$60.345	$3.017	1	3
95% Efficient Furnace in Existing Home	95% Efficient Furnace	0	80% Efficient Furnace	0	18	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	5	0
96% Efficient Furnace in Existing Home	96% Efficient Furnace	0	80% Efficient Furnace	14	18	$325	$0	$950	34%	7.6	5.0	14	$23.705	$1.317	20	137
97% Efficient Furnace in Existing Home	97% Efficient Furnace	0	80% Efficient Furnace	21	18	$425	$0	$1,048	41%	5.4	3.2	21	$19.860	$1.103	2	21
84% Efficient Boiler	84% Efficient Boiler	0	82% Efficient Boiler	0	20	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	2	0
90% Efficient Boiler	90% Efficient Boiler	0	82% Efficient Boiler	0	20	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	0	0
95% Efficient Boiler	95% Efficient Boiler	0	82% Efficient Boiler	0	20	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	0	0
Programmable Thermostat (Install and Program	-state w/ Auto setback by 2.6 F for h	0	Existing non-programmable thermosta	7	10	$10	$0	$32	31%	0.5	0.4	7	$1.503	$0.150	40	66
Energy Star Clothes Washer - Combo Customer	Energy Star Clothes Washer	0	Standard Clothes Washer	0	11	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	15	0
Energy Efficient Showerhead (Direct Install)	1.5 GPM Showerhead	0	2.5 GPM Showerhead	0	10	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	88	0
Energy Efficient Bathroom Aerator (Direct Install	1.5 GPM Kitchen Faucet Aerator	0	2.2 GPM Kitchen Faucet Aerator	0	10	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	132	0
Energy Efficient Kitchen Aerator (Direct Install)	1.0 GPM Bathroom Faucet Aerator	0	2.2 GPM Bathroom Faucet Aerator	0	10	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	88	0
Energy Efficient Bathroom Aerator (Direct Install	0.5 GPM Bathroom Faucet Aerator	0	2.2 GPM Bathroom Faucet Aerator	0	10	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	28	0
Water Heater Blanket	cial Insulation wrap R8 around Water	0	No External Insulation on water heate	0	7	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	50	0

Natural Gas Measure Description	High Efficiency Product Description / Rating	Efficient Product Consumption	Baseline Product Description / Rating	Baseline Product Consumption	Life of Product (years)	Rebate Amount	Average Baseline Product Cost	Incremental Cost of Efficient Product	Rebate as a % of Incremental Cost	Incremt'l Cost Period w/o Rebate	Incremt'l Cost Payback Period w/ Rebate	Annual Customer Dth Savings	Rebated cost /Cust Dth Saved	Rebated Lifetime cost /Cust Dth Saved	Units 2018	Total Dth Saved for All Units Installed in 2018
		Dth/yr		Dth/yr	yr	$	$	$	%	Years	Years	Dth	$	$	#	
Gas Water Heater Setback	setback WH setpoint to 120 F	0	Existing WH at setpoint of 130 F	0	8	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	0	0
Insulation Rebate						$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000		21,606
Gas Heat Homes Without Cooling	Home with additional insulation	0	ome with R20 or less existing Insulati	41	20	$271	$0	$2,994	9%	8.0	7.3	41	$6.598	$0.330	35	698
Gas Heat Homes With Cooling, Combo Custom	Home with additional insulation	0	ome with R20 or less existing Insulati	40	20	$280	$0	$2,702	10%	7.5	6.7	40	$7.052	$0.353	215	2,694
Gas Heat Homes With Cooling, Gas Only Custo	Home with additional insulation	0	ome with R20 or less existing Insulati	0	20	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	75	0
Gas Heat Homes Without Cooling	R-11 insulation	0	assumes R-0 in wall cavities as exis	13	20	$291	$0	$2,265	13%	18.5	16.1	13	$21.665	$1.083	100	577
Gas Heat Homes With Cooling, Combo Custom	R-11 insulation	0	assumes R-0 in wall cavities as exis	12	20	$292	$0	$2,004	15%	18.3	15.7	12	$24.344	$1.217	225	5,484
Gas Heat Homes With Cooling, Gas Only Custo	R-11 insulation	0	assumes R-0 in wall cavities as exis	0	20	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	50	0
Gas Heat Homes Without Cooling	Home with Tier 2 Air Sealing	0	Existing Home Without Air Sealing	24	10	$139	$0	$1,755	8%	8.2	7.5	24	$5.878	$0.588	25	1,061
Gas Heat Homes With Cooling, Combo Custom	Home with Tier 2 Air Sealing	0	Existing Home Without Air Sealing	26	10	$135	$0	$1,361	10%	5.7	5.1	26	$5.130	$0.513	70	11,092
Gas Heat Homes With Cooling, Gas Only Custo	Home with Tier 2 Air Sealing	0	Existing Home Without Air Sealing	0	10	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	40	0
School Education Kits						$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000		16,054
Provide new 1.5 gpm showerhead to replace exi	1.5 GPM Showerhead	0	eral Maximum Standard flow rate 2.5	0	10	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	0	0
Provide Energy Efficient Kitchen Aerator - 1.5 G	1.5 GPM Kitchen Faucet Aerator	0	eral Maximum Standard flow rate 2.2	0	10	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	0	0
Provide Energy Efficient Bath Faucet Aerator - 1	1.0 GPM Bathroom Faucet Aerator	0	eral Maximum Standard flow rate 2.2	0	10	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	0	0
Provide new 1.5 gpm showerhead to replace exi	1.5 GPM Showerhead	0	eral Maximum Standard flow rate 2.5	2	10	$3	$0	$3	100%	0.2	0.0	2	$1.481	$0.148	12,320	12,946
Provide Energy Efficient Kitchen Aerator - 1.5 G	1.5 GPM Kitchen Faucet Aerator	0	eral Maximum Standard flow rate 2.2	0	10	$1	$0	$1	100%	0.4	0.0	0	$3.860	$0.386	12,320	1,635
Provide Energy Efficient Bath Faucet Aerator - 1	1.0 GPM Bathroom Faucet Aerator	0	eral Maximum Standard flow rate 2.2	0	10	$0	$0	$0	100%	0.2	0.0	0	$1.773	$0.177	12,320	1,472
Provide new 1.5 gpm showerhead to replace exi	1.5 GPM Showerhead	0	eral Maximum Standard flow rate 2.5	0	10	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	0	0
Provide Energy Efficient Kitchen Aerator - 1.5 G	1.5 GPM Kitchen Faucet Aerator	0	eral Maximum Standard flow rate 2.2	0	10	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	0	0
Provide Energy Efficient Bath Faucet Aerator - 1	1.0 GPM Bathroom Faucet Aerator	0	eral Maximum Standard flow rate 2.2	0	10	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	0	0
Water Heater Rebates						$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000		4,862
0.67 EF Storage Water Heater	0.67 EF Storage Water Heater	0	0.62 EF Storage Water Heater	3	13	$75	$0	$225	34%	9.4	6.2	3	$28.659	$2.205	641	926
0.7 EF Storage Water Heater	0.7 EF Storage Water Heater	0	0.62 EF Storage Water Heater	4	13	$150	$0	$402	37%	12.3	7.7	4	$41.736	$3.210	364	955
0.9 EF Tankless Water Heater	0.9 EF Tankless Water Heater	0	0.62 EF Storage Water Heater	10	20	$251	$0	$609	41%	6.9	4.0	10	$25.809	$1.290	89	1,204
0.62 EF Storage Water Heater	0.62 EF Storage Water Heater	0	0.62 EF Storage Water Heater	1	13	$40	$0	$80	50%	6.6	3.3	1	$29.851	$2.296	0	13
0.64 EF Storage Water Heater	0.64 EF Storage Water Heater	0	0.62 EF Storage Water Heater	4	13	$75	$0	$124	60%	3.4	1.4	4	$19.022	$1.463	0	344
0.68 UEF Storage Water Heater (High Draw)	0.64 EF Storage Water Heater	0	0.62 EF Storage Water Heater	2	13	$75	$0	$322	23%	16.6	12.8	2	$35.386	$2.722	0	685
0.87 UEF Tankless Water Heater (High Draw)	0.64 EF Storage Water Heater	0	0.62 EF Storage Water Heater	9	20	$250	$0	$862	29%	11.0	7.8	9	$29.162	$1.458	0	684
0.87 UEF Tankless Water Heater (Medium Draw	0.64 EF Storage Water Heater	0	0.62 EF Storage Water Heater	11	20	$250	$0	$542	46%	5.4	2.9	11	$22.852	$1.143	0	51
Self Direct											0.0	0	$0.000	$0.000		0
Average Project	New Equipment	0	d or less efficient systems or equipme	0	17	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	0	0
Heating Efficiency						$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000		100,277
Hot Water Boiler - Non Condensing -Plan A	85% Efficient Boiler	0	80% Efficient Boiler	56	20	$658	$0	$2,257	29%	4.6	3.3	56	$11.650	$0.582	15	399
Hot Water Boiler - Condensing - Plan A	92% Efficient Boiler	0	80% Efficient Boiler	122	20	$3,713	$0	$7,224	51%	6.8	3.3	122	$30.362	$1.518	32	9,121
Hot Water Boiler - Condensing - Plan B	92% Efficient Boiler	0	78% Efficient Boiler	128	20	$6,317	$0	$11,074	57%	10.0	4.3	128	$49.231	$2.462	18	3,492
Low Pressure Steam Boiler - Total	84% Efficient Boiler	0	80% Efficient Boiler	0	20	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	6	0
High Pressure Steam Boiler - Total	83% Efficient Boiler	0	80% Efficient Boiler	126	20	$1,614	$0	$3,168	51%	2.9	1.4	126	$12.798	$0.640	1	508
Commercial Water Heaters - Total	t Storage or 95% Efficient Tankless V	0	80% Efficient Storage Water Heater	124	15	$513	$0	$4,027	13%	3.7	3.3	124	$4.132	$0.275	55	9,135
90% Efficient Furnaces	90% Efficient Furnaces	0	78% Eff Furnace	0	18	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	1	0
92% Efficient Furnaces	92% Efficient Furnaces	0	78% Eff Furnace	14	18	$200	$0	$1,342	15%	11.0	9.4	14	$14.245	$0.791	20	425
94% Efficient Furnaces	94% Efficient Furnaces	0	78% Eff Furnace	17	18	$250	$0	$1,429	17%	9.8	8.1	17	$14.797	$0.822	25	1,039
96% Efficient Furnaces	96% Efficient Furnaces	0	78% Eff Furnace	17	18	$300	$0	$1,517	20%	10.2	8.1	17	$17.407	$0.967	90	1,789
Non-Condensing Power Vent (83% efficiency)	lon-condensing power vent unit heate	0	condensing standard forced-air unit h	15	20	$96	$0	$258	37%	2.0	1.3	15	$6.494	$0.325	5	179
Condensing (>90% efficiency)	Condensing power vent unit heater	0	condensing standard forced-air unit h	59	20	$1,075	$0	$1,945	55%	3.8	1.7	59	$18.113	$0.906	10	120
Infrared	Infrared heater	0	condensing standard forced-air unit h	40	15	$186	$0	$353	53%	1.0	0.5	40	$4.696	$0.313	11	70
Custom Boiler - Total	Various	0	Various	0	18	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	2	0
Boiler Tune up - Total	on-condensing; 0.8% additive improv	0	ning at 78% efficiency for non-conde	45	2	$96	$0	$435	22%	1.1	0.9	45	$2.149	$1.074	438	24,200
Outdoor Air Reset - Total	83% Efficient Boiler	0	80% Efficient existing boiler	32	20	$200	$0	$804	25%	2.9	2.2	32	$6.237	$0.312	18	646
Stack Dampers - Total	81% Efficient Boiler	0	80% Efficient existing boiler	10	12	$108	$0	$544	20%	6.6	5.3	10	$11.247	$0.937	10	145
Modulating Burners - Total	83% Efficient Boiler	0	80% Efficient existing boiler	220	20	$5,252	$0	$52,610	10%	27.6	24.8	220	$23.884	$1.194	12	1,552

Natural Gas Measure Description	High Efficiency Product Description / Rating	Efficient Product Consumption	Baseline Product Description / Rating	Baseline Product Consumption	Life of Product (years)	Rebate Amount	Average Baseline Product Cost	Incremental Cost of Efficient Product	Rebate as a % of Incremental Cost	Incremt'l Cost Period w/o Rebate	Incremt'l Cost Payback Period w/ Rebate	Annual Customer Dth Savings	Rebated cost /Cust Dth Saved	Rebated Lifetime cost /Cust Dth Saved	Units 2018	Total Dth Saved for All Units Installed in 2018
		Dth/yr		Dth/yr	yr	$	$	$	%	Years	Years	Dth	$	$	#	
Turbulators - Totals	83% Efficient Boiler	0	80% Efficient existing boiler	144	20	$400	$0	$3,125	13%	2.5	2.2	144	$2.780	$0.139	2	145
O2 Trim Control - Totals	82% Efficient Boiler	0	80% Efficient existing boiler	0	20	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	1	0
Steam Traps - Total	New Steam Traps	0	isting Boiler, malfunctioning steam tra	49	5	$30	$0	$268	11%	0.6	0.6	49	$0.614	$0.123	310	47,177
Pipe Insulation - Total	100 ft of pipe with new insulation	0	100 ft of pipe with no or old insulation	10	13	$481	$0	$1,043	46%	12.5	6.8	10	$50.145	$3.857	87	135
Heating System Optimization Study - Total	implement recommended measures	0	Existing system	0	7	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	2	0
Recommissioning Study Allocation	uipment as identified in a recommissi	0	Existing equipment	0	0	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	1	0
LI Home Energy Squad											0.0	0	$0.000	$0.000		4,225
Total LI Energy Squad Service 2017	ghted Average of 2017 LI Squad Serv	0	Existing Home	0	10	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	0	0
Total LI Energy Squad Service 2018	ghted Average of 2018 LI Squad Serv	0	Existing Home	4,225	10	$0	$0	$0	#DIV/0!	0.0	0.0	4,225	$0.000	$0.000	6,211	4,225
Total LI Energy Squad Service 2019	ghted Average of 2019 LI Squad Serv	0	Existing Home	0	10	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	0	0
Energy Star Retail Products	0	0	0	0	0	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000		0
Gas Clothes Dryers	ENERGY STAR ®	0	Industry Standard	0	12	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	873	0
Clothes Washers	ENERGY STAR ®	0	Industry Standard	0	11	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000		0
Energy Information Systems	0	0	0	0	0	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000		0
Energy Information System	New Energy Information System	0	No EIS	0	5	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	2	0
Behavioral and Operational Measures	Efficient behavior/operations	0	Less efficient behavior/operations	0	1	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	3	0
Behavioral and Operational Measures	Efficient behavior/operations	0	Less efficient behavior/operations	0	1	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	3	0
Retrocommissioning Measures	Optimized Building Systems	0	Non-optimized Building Systems	0	7	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	15	0
Residential Demand Response	0	0	0	0	0	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000		17,649
Residential Smart Thermostat	New tier II Thermostat	0	andard manual or Non Utilized Tier I T	0	10	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	3,770	14,384
Residential Smart Thermostat	New tier II Thermostat	0	Utilized Tier I Thermostat	135	10	$0	$0	$0	#DIV/0!	0.0	0.0	135	$0.000	$0.000	2,566	3,265
Residential Smart Thermostat	New tier III Thermostat	0	andard manual or Non Utilized Tier I T	0	10	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	1,257	0
Residential Smart Thermostat	New tier III Thermostat	0	Utilized Tier I Thermostat	4,634	10	$0	$0	$0	#DIV/0!	0.0	0.0	4,634	$0.000	$0.000	855	0
Commercial Refrigeration	0	0	0	0	0	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000		137
Faucet Aerator (Restroom), gas water heating	allons per minute restroom faucet aer	0	2.2 gallons per minute faucet	9	10	$7	$0	$7	100%	0.1	0.0	9	$0.772	$0.077	8	104
Faucet Aerator (Kitchen), gas water heating	gallons per minute kitchen faucet aer	0	2.2 gallons per minute faucet	2	10	$7	$0	$7	100%	0.4	0.0	2	$3.350	$0.335	1	2
CHW Pre-Rinse Sprayer - gas water heating	1.28 gallons per minute sprayer	0	1.60 gallons per minute sprayer	3	5	$45	$0	$45	100%	1.7	0.0	3	$14.469	$2.894	1	31
Retrofit of open multi-deck cooler cases with sol	Closed Case with Doors	0	Open Case with No Doors	0	12	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	2	0
Retrofit of open multi-deck freezer cases with so	Closed Case with Doors	0	Open Case with No Doors	0	12	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	2	0
Demand Controlled Ventilation - Gas Only or Co	on hoods with Demand Controlled Ve	0	on hoods with Demand Controlled Ve	0	20	$0	$0	$0	0%	0.0	0.0	0	$0.000	$0.000	0	0