



Circular Economy and Youth

A study of the attitudes, behaviors, barriers and influencers shaping the builders of tomorrow and the transition to the circular economy.



Executive Summary

At the LEGO Group® children are our role models, and we believe they are the builders of tomorrow. Youth need to have a greater role in guiding business and policy leaders on the most critical issues facing the planet and its current and future generations. As we look to the future, educating even our youngest global citizens on their individual and collective impact is paramount to the transition to a circular economy.

Driven by this aspiration, we partnered with [Shift Insight](#) to conduct a research study of youth attitudes and understandings on sustainability and the circular economy. The insights of over 6,000 children ages 8 – 18, across seven countries showed that they are not only regularly thinking about the environment and participating in limited circular activities, but they also experience several barriers to participation in the full circular economy.



Key Findings

Environmental Attitudes

Nearly 50 per cent of children in our study were thinking about the environment at least daily or once a week – and often not in the abstract. Children are thinking about the events happening daily that impact their life, with the predominant concern of global warming. Broadly, these children fit into four categories ranging from optimism to pessimism, preoccupation to denial.

Circular Behaviors and Barriers

It is no surprise that the circular economy is key to a sustainable global future, but the generation that is supposed to get us there, today's children, are not aware of the circular economy. While children, parents and educators are familiar with the concept reduce, reuse, recycle, there are still several barriers including perceptions around convenience, coolness, cleanliness and lack of agency, as well as a bias to act at the end of life rather than the beginning – that prevent true circular behavior.

The Role of Influencers

Despite parents being considered the top influence in the lives of children, teachers are instrumental

in the greater discussion on the circular economy. Children that had learned about concepts related to the circular economy in school were more hopeful overall. However, according to our research of educators, many teachers lack the resources necessary to educate students on the topic.

Building Agency in Tomorrow's Leaders

One of the most insightful findings from the research is that children view themselves as first responders to ongoing climate and sustainability issues, rather than active participants as the creators of a better world, the builders of tomorrow. Children's attention towards the environment is more focused on how to recycle, or respond to natural disasters, and not designing better products, learning about science and engineering, or creative thinking. Youth are engaged and worried about the environment and their future, but further support through education and awareness is recommended to foster their understanding and agency of the activities necessary to limit the worst effects of climate change, including circular behaviours. We must inspire their motivation, grow their capabilities through education and provide opportunities for activation to support them on this journey.

It is critical that age appropriate and cross-discipline environmental curriculum be developed to advance the Sustainable Development Goals. Of equal importance, the Convention on the Rights of the Child guarantees every child the right to a healthy, safe and sustainable future as well as the right to be heard on issues and decisions that will affect that future.

We must work to involve them through hands-on, joyful, interactive, iterative, and engaging experiences to result in more meaningful consultation and decision-making. Let's empower them to build the change they want to see. After all, children are the most important stakeholders in the future of our planet. It is their future, and they need to be involved in shaping it.



Methodology

A qualitative and quantitative survey was conducted from May through July 2021 with children ages 8-18, across 7 countries – Canada, the United States, United Kingdom, France, Germany, China and Japan. The survey consisted of research of families from diverse socioeconomic backgrounds and parent education levels, as well as different community areas (rural, urban, suburban, industrial, coastal) and a near equal split among genders. In the qualitative research

phase, we spoke with teachers to understand their approach to the topic, the language used and available resources. This was followed by engagement with younger study participants (8-12) in two countries, Canada and the UK, who were invited to partake in one-hour long, virtual "friendship pair" interviews. The quantitative research was conducted through an online survey of 30 total questions (20 questions for children and 10 for parents).

6000+
children

7
countries

ages
8-18



Survey was completed May – July 2021

Findings

Environmental Attitudes: children worry about climate change and animals protection

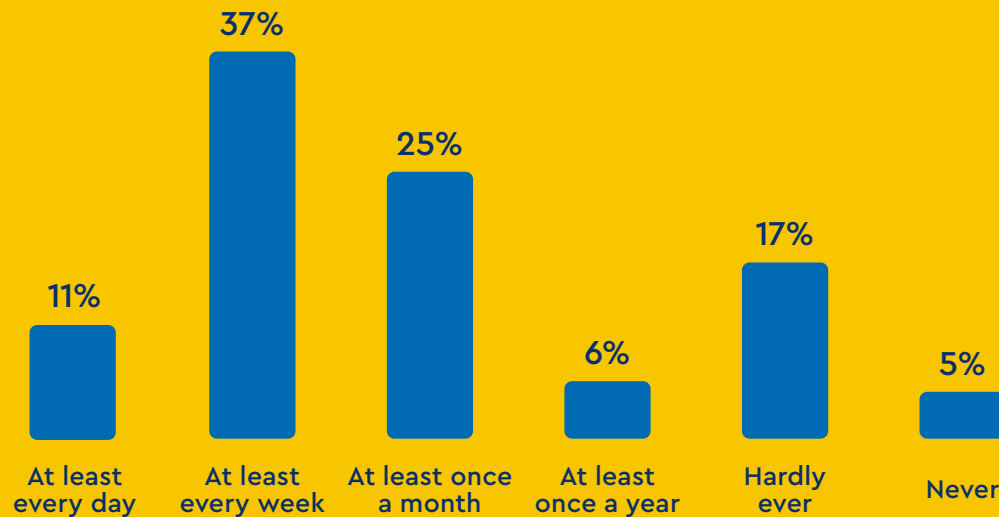
The survey found that **nearly 50 per cent of children were thinking about the environment at least every day or once a week**, with 25 per cent thinking about the environment at least once a month. Responses show that 17 per cent of Canadian children were thinking about the environment daily, followed by German children (16 per cent) and children from the United States (13 per cent). This was an acute thought, children around the world are actively experiencing the effects of climate change. During the period this survey was administered, there was severe flooding in both Germany and China, fires in Southern Europe and record-breaking heat waves in Canada and the United States.



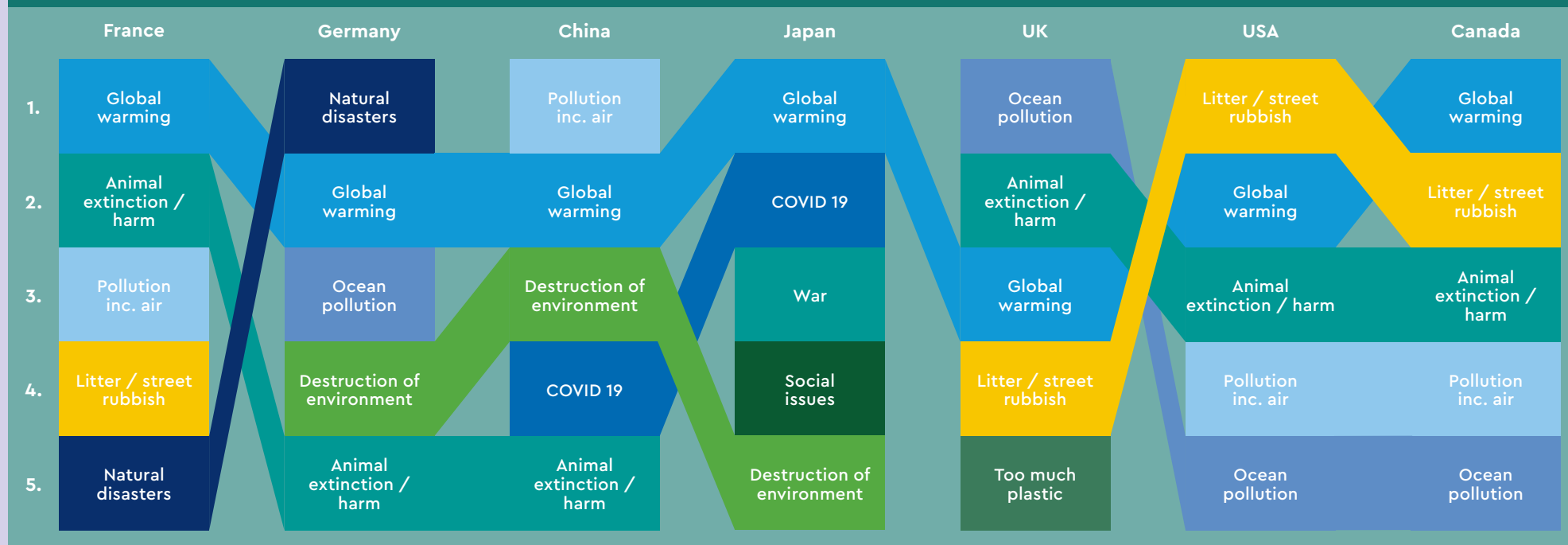
*Seeing the floods in Europe
and the fires burning in
California*

– Age 16, USA

**Q: How often do you think about the
environment and environmental issues?**



Q: Thinking about the environment, people and the planet, what things that are happening that make you feel sad?



Of specific attention, **children universally ranked global warming as their top concern**, followed by animal extinction, litter, and pollution. Notably, children in China cited environmental destruction higher than other countries and Japan indicated higher concern on social issues like war and poverty. Concern on global warming, animal extinction and litter were consistent across children in rural, suburban, urban and industrial environments. A little over 8 per cent of children stated that COVID-19 was a concern.

Further, children's concerns were tied to human action and largely motivated by what children are emotionally connected to. On average, more than half (59 per cent) of children globally are worried about potential impact on ocean and marine life, 48 per cent about impacts to birds and land animals, and 44 per cent for their family. Children in both the United States and France ranked concern for their families higher than other reported countries.



I feel sad about how we are experiencing global warming due to environmental problems and how some people or companies are not doing their part in protecting the environment.

– Age 17, Canada

Four distinct outlooks for the planet's future

Overall, we found four distinct outlooks from the children emerge for the planet's future: looking ahead, looking confused, looking away and looking down.

Children who are 'looking ahead' at 37 per cent of respondent surveyed are engaged in circular behaviors. For this group, the environment is top of mind, and they have hope that "it's not too late." Children in the 'looking confused' segment at 25 per cent are less engaged and not as certain about what will happen to the environment. In the third segment, are children who are 'looking away'. These children, reported at 21 per cent of the global sample are not thinking about the environment and believe it is not their concern. Lastly, the 'looking down' segment consisted of 17 per cent of children surveyed who were also thinking frequently about the environment, but believed that it was too late to make a difference and expressed lower levels of hope.

Notably, Canadian children are more likely to be considered "looking ahead," or thinking optimistically about the environment and their role in it, compared to the global sample (40 per cent vs. 37 per cent). Japanese children were more often in the 'looking confused' (34 per cent) or 'looking away' (47 per cent) segment. Children in both the 'looking ahead' and 'looking down' segments were more likely to have parents with post-secondary degrees and come from high socio-economic backgrounds.

That said, as children aged, they were more likely to transition to the "looking down" segment. This supports the strong need to build hope and agency regarding the environment early in children's lives.



Protect forest and animals, care for the sea and water resources.

– Age 10, China

Environmental Attitudes of Children*

	Looking ahead	Looking confused	Looking the other way	Looking down
Approximate % of pop.	● 37%	● 25%	● 21%	● 17%
Frequency of thinking about the environment	Every day or every week	Once a year to once a month	Hardly ever or never	Every day or every week
Level of hopefulness	High	Medium	Medium	Low
Engagement in circular activities	Own activities – High	Own activities – Medium	Own activities – Low	Own activities – High
Income and education of parent(s)	Parent(s) likely to be more educated, higher relative income	Parent(s) likely to be less educated, lower relative income	Parent(s) likely to be less educated, lower relative income	Parent(s) likely to be more educated, higher relative income

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Animals are disappearing, nature is being damaged because people no longer see its beauty and do not think enough about preserving it.

- Age 11 , France



* Children segmented based on response to questions: How often do you think about the environment and environmental issues? To what extent do you agree ... It is too late to save the environment?

Children as first responders

Finally, despite having a high awareness of their impacts on the environment, only 19 per cent of global youth surveyed indicated that they are looking at pursuing jobs that would improve the environment, compared to the 37 per cent that want a job that does not harm the environment. For children, those who wanted a job that improves the environment were more likely to be from both the 'looking ahead' segment and the 'looking down' segment. Children in China reported the highest desire to have jobs that both improve and did not harm the environment.

While both types of jobs are good, the higher percentage of children not wanting to do harm is a more passive stance. This indicates that **children view themselves in the roles of first responders to ongoing climate and sustainability challenges rather than in roles that can build a better world.**



*When I'm older, I want a job that **doesn't harm** the environment and the planet...*

37%
strongly agreed



*When I'm older, I want a job that is **focused on improving** the environment and the planet...*

19%
strongly agreed



The Role of Influencers: world leaders rank low

By and large, **parents have the most influence** on their children's environmental opinions, with at least 90 per cent of children, from aged 8-18, ranking parents as one of their top three influencers. For children aged 8-16, **teachers were the second-most frequent influencer** ranked, ranging from 55 per cent to 66 per cent, but teachers dropped to fourth most influential for youth aged 17-18.

Chinese children are more likely to have heard about the circular economy from a range of sources including TV and social media. Grandparents were also reported quite high as the source of information in China and Japan. Other commonalities include the rise of the influence of friends as children age and the increasing influence of social media for teenagers.

Notably, only seven per cent of children said charities and not-for-profits were the top three most influential and six per cent indicated that companies or brands were in the top three.

World leaders also ranked low in terms of influence and were not considered in the top five of influencers. However, many older **children surveyed did share their pleas to government to stop, what they felt was, ignoring the environment**. Specifically, children would like to see government take action in reducing pollution/waste (24 per cent) and protecting nature (17 per cent).



I would like to see countries working together to tackle this problem, not just their own countries

– Age 15, Japan

Q: Is there anyone or anything that makes you think the way you do about the environment? (by age group, % in top 3)

8-10	11-13	14-16	17-18
Parents 94%	Parents 94%	Parents 91%	Parents 90%
Teachers 66%	Teachers 61%	Teachers 55%	Friends 45%
Grandparents 39%	Grandparents 35%	Friends 41%	Social media 42%
TV & film 28%	Friends 33%	Social media 39%	Teachers 40%
Friends 28%	TV & film 31%	Siblings 30%	TV & film 35%

Circular Behaviours: recycling comes first and product as a service ranks low

There are a wide range of circular behaviours from disposal to buying better to repairing to owning less. When asked about circular behaviours, families focus on diligent disposal. Diligent disposal is most often expressed in behaviours such as recycling, donating or swapping. Across the 6,000

study participants, 66 per cent reported putting items in the recycling, 52 per cent donated to a charity stores and 51 per cent swapped an item with a friend or sibling. **Recycling was reported the most frequent behaviour from children in the UK, United States, China and Canada.**

When giving the example of purchasing a jacket, 42 per cent of children globally would chose a jacket because it could be recycled or reused, 46 per cent of youth shared that they would repair the jacket rather than buy new, 40 per cent chose second-hand or pre-owned and 36 per cent would

chose a jacket because it was made from recycled materials. Examining the national differences, 75 per cent of Canadian children felt that items made out of recycled materials were just as good as those made from new materials. Over half (58 per cent) of youth respondents from France showed preference to second hand or pre-owned items compared to the global sample. **Circular behaviours related to owning, buying less and renting had the lowest reported child engagement globally.** However, Chinese children did report a higher likeness for renting (50 per cent) compared to the global sample.



Q: Have you ever ...? % for often or always

Diligent disposal	Buying better	Improving and repairing	Owning less
66% Put things they've used in the recycling	42% Have chosen something because it can be recycled or reused later	46% Repaired something (or asked for this) rather than buy a brand new one	38% Decided not to do something, because it was bad for the environment
52% Donated something to a charity shop or someone in need	40% Have chosen second-hand or pre-owned items rather than new	41% Improved something old rather than buy a new one	37% Tried to buy less stuff in general to make less impact on the environment
51% Swapped something with a friend or sibling	36% Have chosen a product because it was made of recycled materials		27% Rented something rather than buy a new one

Circular Barriers: What stops a child from being able to perform these behaviors?

A key insight from the research is the **growing sentiment from children around lack of trust** – lack of trust in the system, in their actions and the actions of others. There were concerns around hygiene and quality related to items containing recycled content or received from a stranger. Children struggle to understand the process for recycled materials, which leads to misconceptions. The results of the study indicate that Canadian children were more likely to have concerns about the cost of circular materials and activities. Whereas children in China and Japan were more concerned about quality and hygiene or items coming from a stranger than other nations. While children in the United States cited more often that they “would never think of it” as a reason for not carrying out a specific circular economy behavior.

Children are not against improving or repair, but they don't possess the skills necessary to do it themselves, making inconvenience a key barrier.

Finally, **owning less is the hardest concept for youth to grasp**. They feel that consumption is the job of the adult, who buys things and makes the decision about the products in their households. Many desire new and cool products and are perhaps not connecting consumption to climate change.

Top 10 barriers

- Lack of trust in themselves and others
- Not top of mind
- Hassle and inconvenience
- Social awkwardness
- Hygiene and quality
- Gaps in understanding
- Expensive
- Not seen as cool
- Lack of skills and agency
- Desire to personalize

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I think I wouldn't wear it a shirt made out of recycled materials. It would feel dirty and I would probably feel uncomfortable

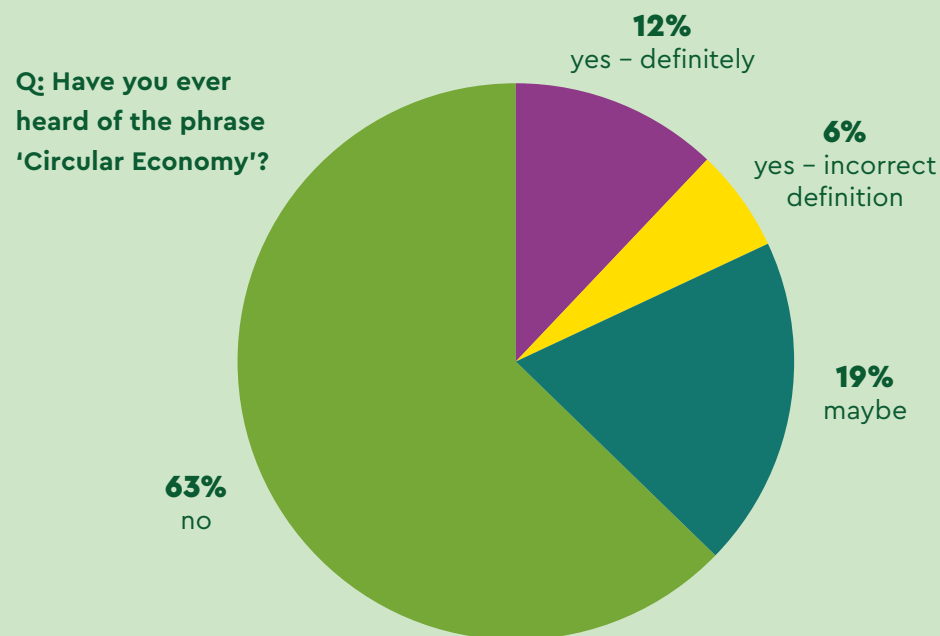
– Age 12, Canada



Analysis

These findings demonstrate that children as young as eight years old have already conceptualised circular ideas, a positive indication of an engaged and educated generation. However, participants struggled to engage in systems-connected thinking related to the circular economy. For example, despite the majority of participants engaging in recycling, less than half felt comfortable consuming products with recycled content. This suggests that children have a limited understanding of how things are made and what happens to disposed materials – either in a linear or circular model.

Further, **on average only 12 per cent of those surveyed stated that they heard of the term "circular economy"** and were able to give an accurate description. Additionally, less than half of parents surveyed thought they had heard the term circular economy.



While children, parents and educators are familiar with reduce, reuse and recycle, this is the extent of their knowledge on the system. Both language use and understanding of complex systems matter in driving circular behaviours. Despite a widely held acceptance and value placed on circular behaviours among the private sector, policy makers and civil society, the limited knowledge of the term and concept of circular economy by parents and children should inform future communication strategies and reinforce the importance of engaging parents and educators in circular economy conversations and concepts. This is critical if we are to truly succeed in reducing behavior barriers and transitioning to a circular economy.

Awareness is the first step to change. 76 per cent of children in the 'looking ahead' segment had heard about the term in school, compared to 56 per cent in the 'looking the other way' and 63 per cent of those in the 'looking down' segment. This study also revealed that children in the 'looking down' segment were still participating in circular economy behaviors. However, their reported low levels of hopelessness suggest that continued practice of these behaviors may wane if they feel there is no point to their actions. Currently, children believe that responding to natural disasters and how to recycle a product are more important than skills like designing more sustainable products, communication, science and engineering. The skills that they are learning or value are focused on how to deal and respond

and while important a longer term breadth of skills will be critical for their ability to solve the complex challenges that lie ahead.

As a society, we have placed our hopes in the next generation to advance circular economy practices and engage in behaviours that will help save our planet. But we have a responsibility to educate and encourage youth's agency. The education system can play a central role in fostering the skill sets needed for helping our children transition from first responders to change makers and the builders of a better world. The findings from this study show that the more we engage and educate youth, the better chance we have to foster participants and advocates in and for the circular economy.



*Building a better world
for children to protect
the environment.*

– Age 15, Germany



For Consideration

All of us have a responsibility to listen to children more – to their concerns, thoughts and aspirations. The study showed that youth are engaged and worried about the environment and their future, but further support through education and awareness is recommended to foster their understanding and agency of the activities necessary to limit the worst effects of climate change, including circular behaviours. We must work to involve them through hands-on, joyful, interactive, iterative and engaging experiences to result in more meaningful consultation and decision-making.

The Convention on the Rights of the Child– the most widely ratified human rights treaty in existence – guarantees every child the right to a healthy, safe and sustainable future, as well as the right to be heard on issues and decisions that will affect their future. Let's respond to their request for grown-ups to lead by example and take action. Let's foster their agency and increase their level influence and be more visible. Let's show them that we value their ideas by acting with urgency, sincerity, and substance. Let's empower them to build the change they want to see. After all, children are the most important stakeholders in the future of our planet. It is their future, and they need to be involved in shaping it.

In order to guide our collective work, we encourage consideration of the following principles:

- **Motivation:**

Foster children's' level of hope for the future and the positive impact that their individual and collective actions can make to ensure there is strong motivation to act. How can we keep children hopeful about the potential for change while generating both a sense of urgency and empowering children's agency?

- **Education:**

Create cross-discipline, age-appropriate and culturally responsive environmental educational resources and curriculum in alignment with the Sustainable Development Goals, as well as professional development opportunities for educators. Circular economy must be taught in ways that are truly meaningful, develop a breadth of skills, as well as includes occasions to apply knowledge to real world situations. Lacking the agency to make change and become active participants in their future, children will continue to view themselves only as first responders, without developing the necessary skills to steer the future of their country and global community. What educational resources and professional development can be provided?

- **Activation:**

Develop and ensure equitable access to infrastructure across communities that will facilitate behaviors and normalize active participation in the circular economy for children and their families. Provide forums for engagement with youth where they can bring their motivation and their capabilities to contribute to decision making. How can you include youth ideas and perspectives and programs for participation into your decision-making process? What can you do decrease the barrier of engagement on circular behaviors for children?



Educate us more, teach us genuine small ways that we can help.

– Age 12, UK

For more information on the LEGO Group and sustainability [LEGO.com/sustainability](https://www.lego.com/sustainability)