
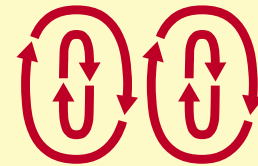


WHAT DESIGN CAN DO
CHALLENGE



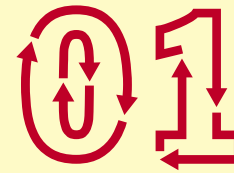
MAKE IT 
CIRCULAR



WHAT DESIGN CAN DO MAKE IT CIRCULAR CHALLENGE

WHAT DESIGN CAN DO IS LAUNCHING THE MAKE IT CIRCULAR CHALLENGE IN PARTNERSHIP WITH IKEA FOUNDATION. THIS GLOBAL DESIGN COMPETITION FOCUSES ON BUILDING A CIRCULAR SOCIETY IN ORDER TO COMBAT CLIMATE CHANGE AND TACKLE THE DEVASTATING EFFECTS OF WASTE AND POLLUTION.

WE INVITE DESIGNERS, CREATIVE ENTREPRENEURS AND STARTUPS FROM AROUND THE WORLD TO SUBMIT IDEAS AND INNOVATIONS THAT RADICALLY RETHINK OUR WAY OF LIFE: FROM WHAT WE EAT AND WEAR, TO WHY WE BUY AND HOW WE BUILD. USING THE POWER OF DESIGN, WE CAN MAKE A CIRCULAR FUTURE MORE ACCESSIBLE FOR ALL.



WHY THIS CHALLENGE NOW?

Today, the climate crisis is impossible to ignore. Millions of people are already experiencing the effects of a warming planet first-hand – but scientists say there’s still a small window to act. According to the Paris Agreement, we could keep global heating below 2 degrees Celsius if we manage to eliminate carbon emissions by 2050. But carbon emissions are not the cause of the problem. They are symptoms of a broken system – one that is based on the linear economy, and is reflected in the way we make our products, grow our food and build our cities.

The good news? We can address these challenges head-on by making the shift to a circular system, which is regenerative and restorative by design. In fact, research suggests that it is possible to address **over 80%** of the environmental impact of our products, services and infrastructures by making key changes during the design phase. Doing so would also help

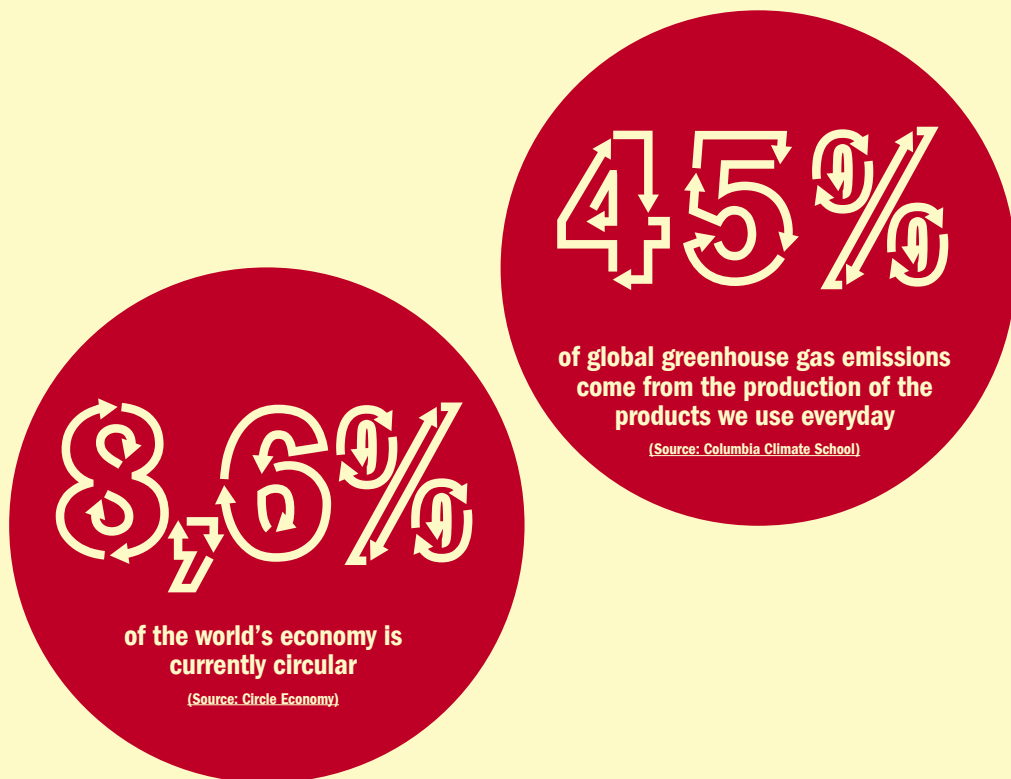


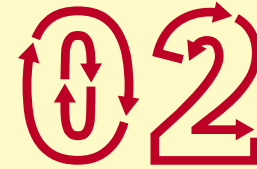
of the environmental impact of a product, service or infrastructure is determined in the design phase

(Source: EU Science Hub)

to tackle the 45% of green-house gas emissions that is attributed to the production of these products and services.

Besides rethinking how things are made, we also have an opportunity to reform our values and attitudes. Whether through advertising, branding or packaging, design has always played a role in shaping consumer culture. This is why it's more important than ever that designers use their power for good. Circular design gives us the tools to do so: making it possible to prevent the creation of waste and pollution right from the start, and build a liveable future for people and planet.





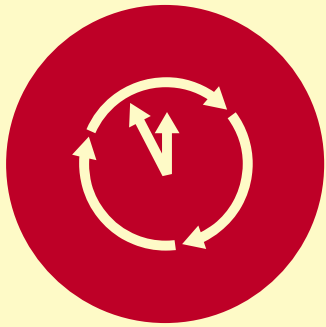
THE BRIEF

For our societies to become fully circular, we need to change the way we design: from quick fixes to long-term solutions, from exploiting nature to collaborating with nature, from creating new materials to using what we already have.

These approaches reflect the three fundamental aspects of circular design. We invite you to focus on one design approach when making your submission. But, do not discard the other two, because they must all exist in harmony to create truly circular and fair solutions.

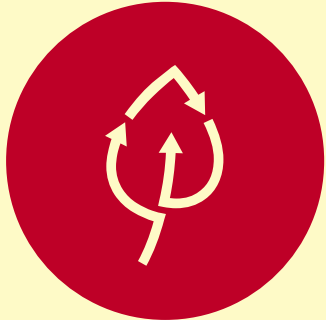
Take the opportunity to reflect on the following approaches and embed them into your creative process:

- 1 DESIGN TO LAST**
- 2 WORK WITH NATURE**
- 3 USE WHAT EXISTS**



DESIGN TO LAST

Design to last pushes creatives to take the long view. What is designed today needs to last for a long time: 50 years rather than five. It needs to consider the environmental and social impact it will have for generations to come. This means designing for resilience and adaptability rather than speed or profit.



WORK WITH NATURE

Work with nature holds two meanings. First, it encourages designers to seek inspiration from the natural world, where all systems are inherently circular and interconnected. Second, it calls on them to help humanity see nature as something it is a part of, rather than something it can use or control. This shift in mindset is the first step to bringing about a more-than-human approach to design.



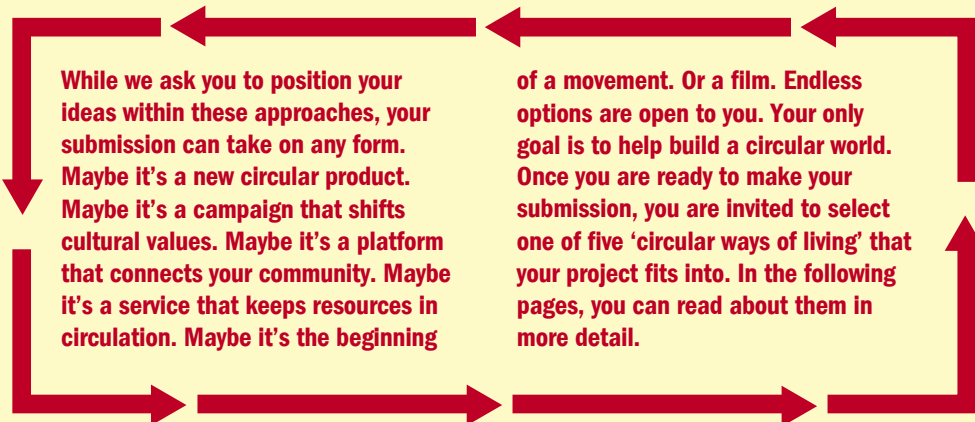
USE WHAT EXISTS

Use what exists reminds designers to work with the resources, materials and knowledge that we already have. Recovering, rediscovering, refurbishing, reusing, repairing and regenerating are all important strategies here. To close the loop from both ends, a lot of innovation can and must happen within these 'limits'.

WHY DESIGNERS?

As a designer, you are well-equipped to tackle wicked problems like the climate crisis. Usually, your particular training means that you are able to approach complex challenges in a creative, collaborative and courageous way. Designers can envision new realities and make them come to life by working with others. They also help to shape people's experiences and attitudes. This makes them a driver of change for governments, businesses, science and technology, finance, citizens, and the media. Here a few useful talents in the designer's toolbox:

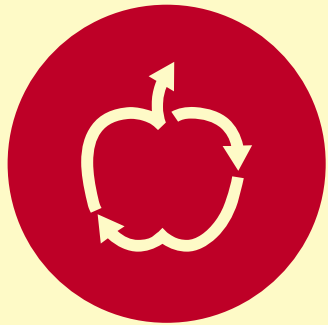
- **SOLVING PROBLEMS CREATIVELY**
Designers are trained to think outside the box and use creative methods to brainstorm and develop ideas. They have a knack for envisioning solutions that lead with empathy and disrupt the more common top-down approach.
- **COLLABORATING WITH OTHERS**
Designers are continuously thrown into multidisciplinary situations where they need to collaborate and co-create with people different from themselves. Coming up with uncanny connections is second nature to the discipline.
- **TRYING OUT INNOVATIVE IDEAS**
Designers are not afraid of prototyping. They have been taught to test out their ideas from conception to final product, making iterative changes along the way. Learning to do this without fear of failure is what makes designers bold innovators.
- **INFLUENCING PEOPLE'S EXPERIENCES**
Designers shape an incredible amount of people's everyday experiences, from the alarm clock that goes off in the morning to the box of chocolates unwrapped after dinner.
- **CREATING POSITIVE CHANGE**
Designers can create meaningful change by choosing to put people and the planet at the centre of their work. They also have a role to play in facilitating fresh, provocative visions of the future. By making a circular world easier to imagine, they make it possible to build.



THE FIVE CIRCULAR WAYS OF LIVING

The transition to a circular world won't happen overnight. It requires the participation of every sector and industry, however big or small. Economists usually describe these sectors as value chains. In a linear system, these chains move in only one direction, growing in length and letting links fall if they cannot keep up. We want to move away from this 'take-make-waste' formula and start thinking about these sectors as closed circles, where each link is as valuable as the next.

To put this idea into action, it's important to look at the entire process of raw materials extraction, production, distribution and consumption. The following categories represent five of the largest value chains in the world that need to become circular ways of living. While making your submission, we invite you to select one category that fits your project proposal best.



WHAT WE EAT

covers the ways we grow, distribute, shop for, consume and discard food. Strategies could include rethinking farming practices, redesigning the modern diet, or creating initiatives that encourage food sharing within communities.



WHAT WE WEAR

is about the clothes we put on our bodies and the textiles from which they are made. The goal here is to change the way we think about and value these materials and embed equitable and sustainable practices for production, use and reuse.



WHAT WE BUY

includes all of the consumer goods we use every day, from furniture to toys, home cleaning products and cars. The challenge is to design circular systems for these products to exist in, while also addressing why we buy in the first place. Initiatives focused on sharing, repairing, reusing and more are all welcome here.



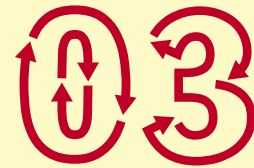
HOW WE PACKAGE

asks you to rethink packaging. Here, it is important to think about alternative ways of protecting our food and products that are made of ethical and sustainable materials. Systems will need to be redesigned to ensure that these innovations can be implemented at scale.



HOW WE BUILD

re-imagines the built environment and looks at how we construct and choose materials for the places we live, work and play. This includes making circular decisions in new buildings for the growing population but also initiatives to help save precious resources and transform existing structures into sustainable environments.



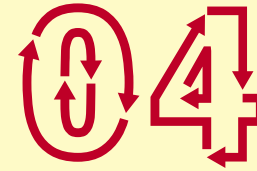
AWARDS

The winners of the Make it Circular Challenge will take home an award package designed to bring their projects to the next level. They will gain access to a six-month-long development programme which has been co-created by experts from the global Impact Hub network. Winning teams will also receive €10.000 each to invest in their project, as well as valuable press and publicity through WDCD's channels and those of our partners.

**DEVELOPMENT
PROGRAMME**

**€10.000
PROJECT
FUNDING**

**PRESS,
PUBLICITY &
NETWORK**



CONDITIONS AND CONSIDERATIONS

The Make it Circular Challenge is all about designing circular ways of living that help us tackle the root of the climate crisis. We are looking for ambitious, design-led initiatives and start-ups that reduce carbon emissions by cutting waste and rewriting the relationship between people, the planet and all the species who call it home. At the end of the open call, an international jury will review the best and brightest proposals according to the following criteria.



MAKE IT COUNT!

What can you say about the (potential) impact of your idea or initiative? Here, you can help the jury understand the difference you are trying

to make by offering some quantitative and/or qualitative data to back it up. Here are a few examples of impact 'indicators' that can be helpful to demonstrate the impact of your submission.

ENVIRONMENTAL IMPACTS:

GHG REDUCTION: Are you able to estimate the amount of greenhouse gas emissions that is produced (or prevented) by your initiative?

CIRCULARITY: Are you able to demonstrate the amount of resources and/or waste that is saved by your initiative?

DO NO HARM: Can you tell us about how your initiative regenerates – rather than depletes or pollutes – our natural ecosystems?

CULTURAL IMPACTS:

POLICIES: Does your initiative have the potential to influence policies about sustainable production and consumption?

SOCIAL NORMS: How do you imagine it will shift people's habits and/or attitudes? Can you describe the impact it might have on the way society values things like novelty, growth, and throwaway culture?

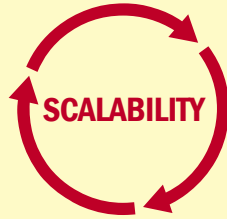
SOCIAL IMPACTS:

FAIR PAY: Are you able to demonstrate how your initiative impacts the people that make up its supply chain — and beyond?

DIVERSITY AND INCLUSION: How do you ensure equal opportunity in your organisation, irrespective of personal characteristics such as age, gender, sexual orientation, ethnicity, country of origin, or disability?

HEALTH: What can you tell us about how your organisation supports a healthy work culture?

with? Have consulted experts to ensure your proposal is feasible: technically, economically, politically and socially?



MAKE IT BIG!

This criteria is all about how your initiative — and its impact — might evolve in the future.

Maybe your initiative is

small and developed for a specific location or community, but does it have the potential to be scaled up to benefit the many? Do you have a long-term vision for your initiative?



MAKE IT TOGETHER!

Lastly, we are looking for initiatives that invest in collaborative relationships and networks.

You may have started your project alone, but have you surrounded yourself with the right people to make it happen? Are you part of a team or in the process of assembling a team that is up to the job?



MAKE IT AWESOME!

Here, we want to know what makes your design exciting and extraordinary.

Is the idea fresh and innovative? Does it build on an existing solution in a new way? Do you have good visuals to make your story more tangible and engaging?

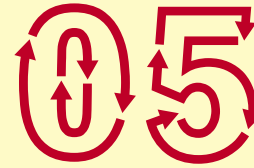
We'll also be looking for how you track or measure the impact of your design along its entire value chain. What improvements in resource extraction, production, distribution, consumption and waste handling can you attribute to the design of your project?



MAKE IT REAL!

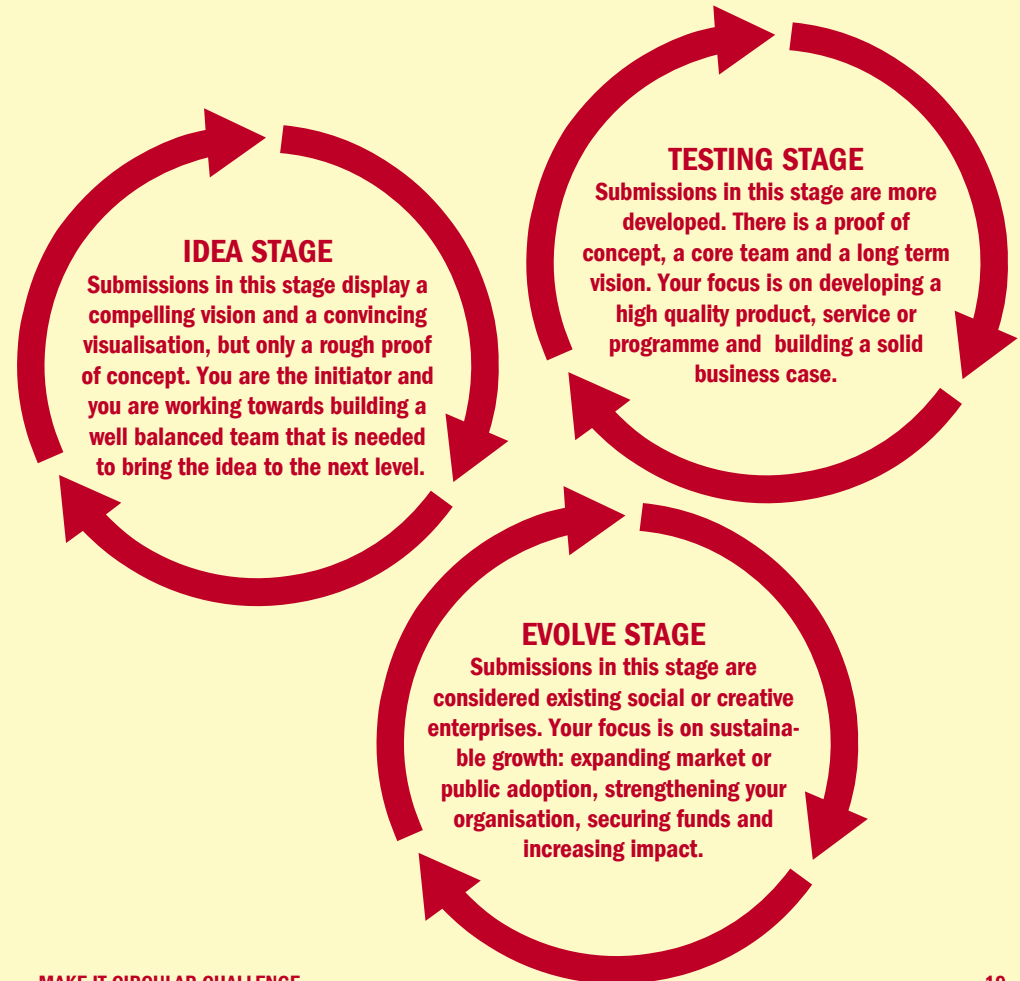
We believe that the best solutions are rooted in real challenges and opportunities.

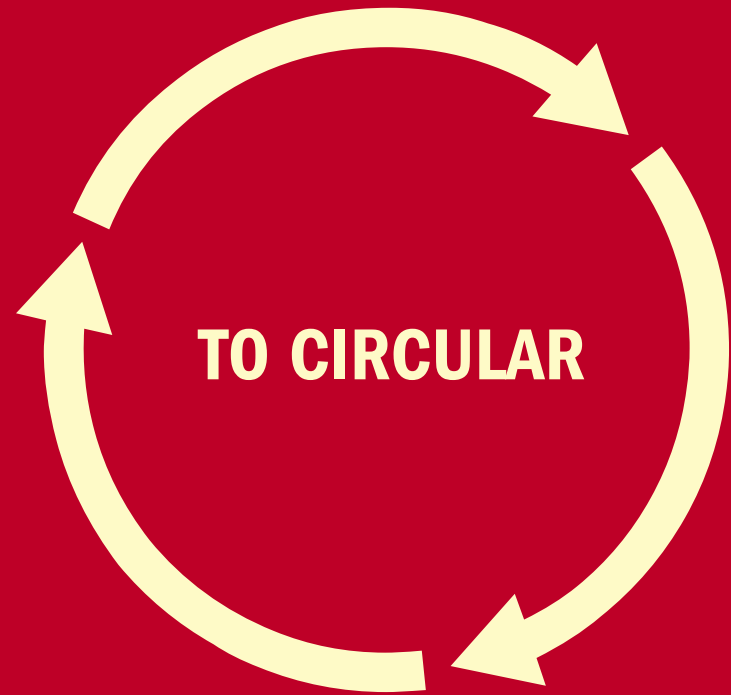
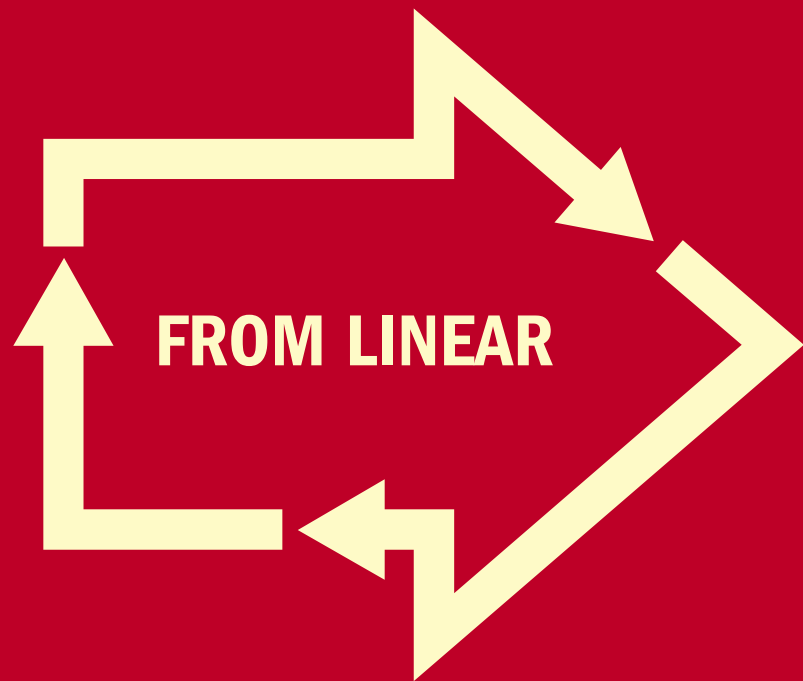
What can you tell us about the specific context of your initiative? What kind of research have you done into the communities or economies you are working

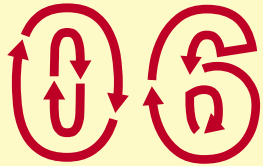


STAGES OF DEVELOPMENT

Applications are open to projects in different stages of development — from new ideas to existing enterprises.







DIVE DEEPER

Our current economy works in a mostly linear way. In this system, raw materials are collected, transformed into products which are used briefly, and then thrown away. A circular economy, on the other hand, does not let resources go to waste. It provides an alternative framework for designing, making and using things within our planetary boundaries.

THREE KEY PRINCIPLES

There are three key principles that make a circular economy go 'round:

- Eliminate waste and pollution
- Keep products and materials in use
- Regenerate natural systems

Implementing these ideas into action will require major cultural and societal shifts. Ultimately, it's about changing people's habits and value systems. This is where design has the ability to make a significant impact, by creating services, systems, products and initiatives that make the transition easier and more appealing. In this process, it's important to remember that some change will take longer than others. The important thing is that we continue to apply pressure from many angles. Each value chain that is made circular will inspire new ones to emerge until everything is that way. As some say: "the next big thing will be a lot of small things."

FROM CIRCULAR ECONOMY TO CIRCULAR SOCIETY

This Challenge calls on designers and creative entrepreneurs to envision a circular society. A circular society takes the circular economy one step further and considers the social and ethical dimensions of how people live their lives, from sun-up to sun-down. It demands a transition that is built on a foundation of accessibility and transparency to ensure that no one is left behind. Providing democratic opportunities to participate in a circular way of life is central to creating an environment that is empowering for everyone. This type of society understands that social well-being is highly intertwined with environmental well-being.

To make this possible we will need to design a value system that is inclusive and equitable, while also situating humans as part of nature rather than users of nature. In this reality, everything we do is circular, including the way we relate to ourselves, each other, and the world around us. By moving

towards a lifestyle that is in symbiosis with other life forms and the planet, we can find our way back to a daily existence that is based on circles instead of dead ends.

AN END TO THE ERA OF HYPER CONSUMPTION

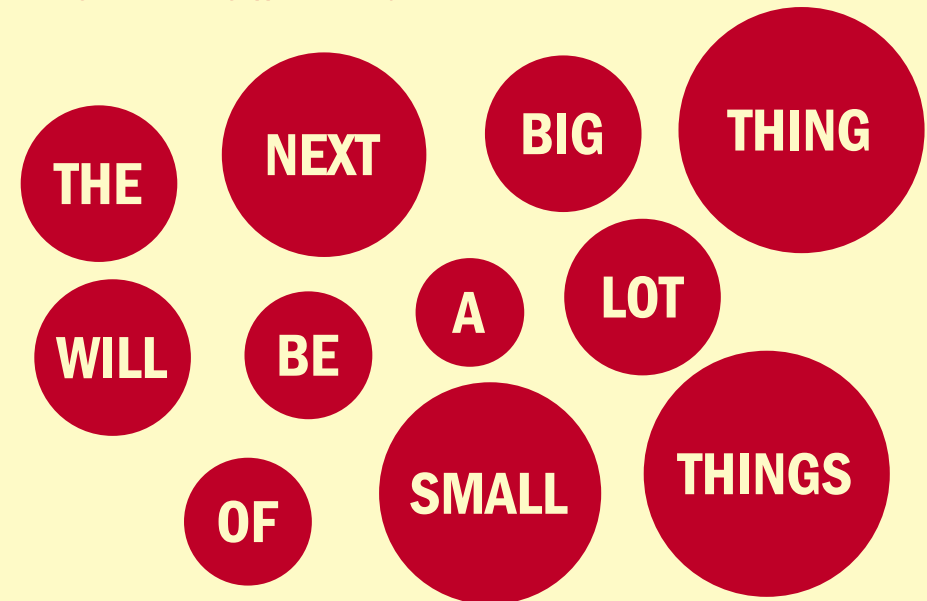
It's no secret that our streets, forests and oceans are drowning in waste. Meanwhile, the planet is running out of resources quicker than it can replenish them. Unfortunately, the burden of our waste problem is not shared equally around the world. The wealthiest people often consume the most, while the poorest suffer the consequences. A large part of this is due to the global waste trade, which often sees Western countries exporting their rubbish to developing countries like Indonesia, Cambodia or Vietnam. To put an end to this exploitative system, we have to tackle consumerism at its root. This doesn't mean we have to stop buying things altogether, or live in a world of scarcity. Rather, it means reframing our understanding of abundance, growth and prosperity. For example, wearing second-hand clothes can be seen as a badge of pride instead of something to hide. Sharing appliances with your

neighbours can become the norm instead of buying your own. These are the types of changes that we need to design for.

LIVING WITHIN OUR LIMITS

In line with ending habits of hyper consumption, it will be necessary to reimagine how people can live within the boundaries of the planet. Creatives should see this as an invitation to experiment and develop solutions with what is already existing or readily available in their environment.

This relates to tangible things like materials and tools, but also to ways of knowing and living. Many people around the world, including Indigenous communities, are already masters at living within planetary boundaries. It's important to centre their experiences and wisdom wherever we can. Looking back, past generations have also been much more mindful of their waste and consumption, using what they had for a longer time. Learning from these examples can help inspire a different future without needing to rely on all new technologies or ideas.





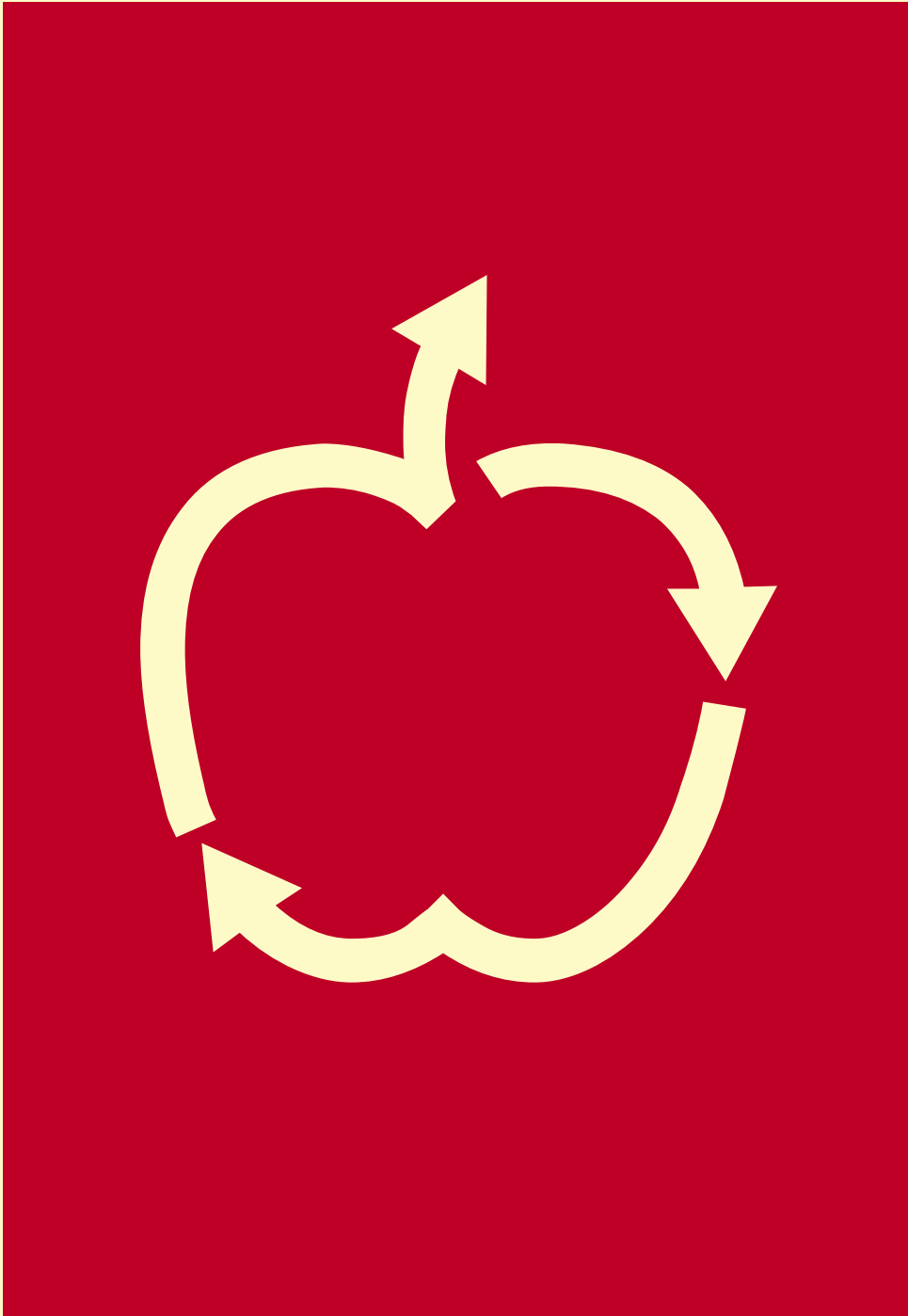
THE FIVE CIRCULAR WAYS OF LIVING

During the submission process for this challenge, you will be asked to choose one of five circular ways of living that fits your project best. The idea here is that over time, each of these value chains will become circular due to the many circular initiatives within it.

In the following pages, you will read about the five circular ways of living. Each section includes a more in-depth explanation about the sector's environmental and social impact.

Local research from Brazil, India, Japan, Kenya, Mexico and The Netherlands are included to give insight into how these issues manifest in different parts of the world. Case studies of existing initiatives have been added to spark inspiration.

You will also find a list of possible opportunities to kickstart your imagination and help you make the most impact within your chosen sector.



WHAT WE EAT

In this brief, we are asking you to submit circular initiatives within the food and farming industries. Though food plays a central role in our lives, many people have become far removed from its natural origins. The popularity of highly processed food means it's getting harder to stay in touch with who is behind what we eat. Shipping foods around the world has become the norm. Food waste is treated as trash. Meanwhile, big agriculture is planting rows and rows of identical crops that end up degrading the health of our soil. The prominent use of pesticides have even been associated with serious health issues such as Parkinsons' disease, and various cancers. All things considered, the price of food rarely reflects the social and environmental cost it carries. It's time to redesign our entire food system so that it is resilient, fair and circular.

- 40% of the food we produce is wasted before it reaches the market due to poor management during post-harvest and processing.
- The expansion of industrial fleets and increase of demand for seafood has led to the full exploitation and overfishing of almost 90% of global marine fish stocks.

- Around 14.5% of all anthropogenic greenhouse gas emissions are produced by livestock, predominantly from cows, which are farmed for meat and dairy products.
- 28 million hectares of forest is cut down annually, a significant portion of which is to clear land for livestock farming and to grow soy and palm trees for oil.

BUILDING COMMUNITY

Many of our biggest challenges when it comes to food and agriculture are the result of systems that are opaque and industrialised instead of transparent and community-based. If we want to make what we eat more circular, we will have to collaborate as communities who understand how their food is grown and transported, from farm to fork.

- **OPPORTUNITY:** Connect the food we eat to the places where it is grown, and expose harmful practices along the way
- **OPPORTUNITY:** Build inclusive communities around how we grow and eat food in and around cities
- **OPPORTUNITY:** Reimagine growing, preparing and eating food as a caring, nurturing practice, not an economic one



PERSPECTIVE FROM INDIA: KNOWING ONE'S FOOD

Traditionally, Indian households produce little to no food waste. Kitchen scraps usually found new life as mixed

dishes like chorchori, and at the end of the week, leftover rice would be fermented while vegetable peels became condiments. An intuitive understanding of what was being consumed allowed households to make informed and creative decisions that reduced waste significantly.

REGENERATIVE FARMING

Modern farming practices are rarely sustainable, for a range of reasons. Mono-crops, overused fertilisers and pesticides, poor storage and transport facilities, and market pressure on food prices all contribute to exploitative systems and excessive amounts of waste. The food you eat on a day-to-day basis may very well contribute to those practices, too. What if we could grow food in a way that gives back to nature, rather than depletes it?

- OPPORTUNITY: Make it easier for people to access resources and knowledge about regenerative farming practices
- OPPORTUNITY: Shift the focus from 'end of pipeline solutions' (such as rescuing wasted food) to solutions earlier in the food chain
- OPPORTUNITY: Imagine new ways to connect people with nature through food



PERSPECTIVE FROM THE NETHERLANDS: LONG AND COMPLEX CHAINS

The Dutch agricultural sector is highly mechanised, but riddled

with long and complex chains of distribution. Every day, fleets of semi-trucks haul food from greenhouses, container-ships and warehouses around the country, with most consumers knowing little about how or where their meals were produced.



PERSPECTIVE FROM MEXICO: HIGH INEQUALITY

There is a high level of food inequality in Mexico. Although nearly 28 million people live in

food poverty, the amount of food waste remains excessive. Every year, more than 37% of the food produced in Mexico is lost or wasted. For many producers, it is cheaper to lose a harvest before it leaves the farm than to bring it to market and then fail to sell it.

AFFORDABLE FOOD

Industrialised societies increasingly see food as a 'fast-moving consumer good' rather than a source of nutrition that's vital to our health and well-being. Because of this many of the most vulnerable people in these societies suffer from a lack of affordable and healthy food options. Organic farming initiatives are helping to address this, but the food produced is still too expensive for many in the global West and North. For many in the global South, the problem is quantity, as yields remain far below what is needed to feed the population.

- OPPORTUNITY: Imagine ways to value food at its true price and share the benefits with producers and distributors
- OPPORTUNITY: Help consumers and producers to do more with the food waste they are producing
- OPPORTUNITY: Design and brand fruit and vegetables around their nutritional value instead of their aesthetic appearance



COLABORATORY KITCHEN PROJECT

The collective CoLaboratory Kitchen brings farmers, scientists, creatives and chefs together around the kitchen table to connect, exchange knowledge and prototype new trans-disciplinary solutions to farming in Mexico. It is a test ground for ideas that conciliate land restoration, conservation, food production and better livelihood in farming communities.

DESIGNER
 COUNTRY MEXICO
 CATEGORY WHAT WE EAT
 WEBSITE colaboratorykitchen.com

AERSEEDS

AERSEEDS are aerodynamic nutrient and seed pods made from food waste, that work with nature to accelerate regeneration up to 10 times. Mimicking natural processes, AERSEEDS are carried by the wind to cover large areas and reach difficult terrains, where they deliver nutrients and seeds to soils, depleted by human activity.

DESIGNER AERSEEDS
 COUNTRY UNITED KINGDOM
 CATEGORY WHAT WE EAT
 WEBSITE aerseeds.com





WHAT WE WEAR

In this brief, we are asking you to submit circular concepts for the fashion and textile industry. Existing systems like fast-fashion pollute the earth, harm the safety and livelihoods of producers and contribute to the linear myth of infinite growth. This industry needs major circular improvements and cultural value changes. Designing circular processes within the industry means reducing its reliance on virgin resources, eliminating textile waste and harmful substances, promoting social justice and creating a healthy relationship between consumers and their garments. Transparency about material compositions, shifting towards using waste as a resource, innovation in waste collection and sorting, a change in attitudes towards ownership, and better communication about the true cost of clothing production and distribution are all important strategies to factor here.

- Up to **50% of all fast fashion** is disposed of within a year
- An estimated **25% of the global carbon budget** will be taken up by the fashion industry by 2050
- **Less than 1% of all clothing** is recycled, representing a loss of more than USD 100 billion in materials each year
- Current production processes release **significant amounts of plastic microfibres and hazardous chemicals** that pollute the natural environment and negatively impact society

CHANGING VIEWS

The high production and consumption norms in the fashion and textile industry will need to be addressed in order to create a circular system. A major challenge will be to redefine how consumers view their clothes. Can a pair of shoes be designed to gain — rather than lose — value over time? Is it possible to view a repaired garment as more desirable than a new one? Changing perceptions is a deeply social and cultural task, and one that is perfectly suited for designers and creative thinkers.

- **OPPORTUNITY:** Educate consumers about how to repair and reuse textiles
- **OPPORTUNITY:** Rewrite narratives about novelty and responsibility in fashion, in order to reduce the speed and frequency of consumption
- **OPPORTUNITY:** Reimagine what the perceived value of existing garments could be
- **OPPORTUNITY:** Help people to explore the possibilities of virtual fashion



PERSPECTIVE FROM INDIA: INSPIRATION FROM TRADITION

Textile waste is a rapidly growing problem in India. Fortunately, there is much to be learned

from traditional ways of making, repairing and circulating. Age-old practices like Kantha from West Bengal and Sujani embroidery from Bihar, for example, offer valuable examples for how old clothes and textiles can be recycled to create new quilts and garments.

IMPROVING METHODS

The way a large percentage of textiles are manufactured today is neither sustainable nor ethical. New methods for production and distribution are needed to help combat the environmental and social impact of this industry. Technology, innovation and creativity are powerful tools that can be used to challenge the status quo. During this process, it is critical that we listen to and care for the people who actually make our clothes, so that we can help to bring the human perspective back into this fast-moving and hyper-productive sector.

- **OPPORTUNITY:** Use technological innovations such as 3D printing to print, knit and recycle textiles
- **OPPORTUNITY:** Reimagine supply and distribution chains to be shorter and fairer
- **OPPORTUNITY:** Redesign production processes and machines for optimal fitting and cutting



PERSPECTIVE FROM BRAZIL: POOR WORKING CONDITIONS

The outsourcing of labour is a characteristic of the fashion industry. In Brazil, many garment

workers do not maintain fixed salaries or contracts, but are part of an informal system that includes subcontractors and home workers. This implies precarious working conditions, such as instability, lack of social protection and economic or social vulnerability.

CLOSING CIRCLES

Solutions that make it easier to reuse and recycle old clothing are already helping to reduce the environmental impact of the textile and fashion industry, but there's a lot of room for improvement within these systems and many more solutions are needed to tackle such a large and consequential sector. For example, facilities for recycling are not currently accessible everywhere, and the amount of mixed materials (e.g. cotton with polyester) makes recovery processes more complicated. Additionally, the high volume of second-hand clothing and leftover stock that ends up in the global South is becoming increasingly complex and difficult to manage. Finding ways to extend the lives of these garments should go hand-in-hand with efforts to account for the raw materials used to create them.

- **OPPORTUNITY:** Create new ways for textile waste to reach the hands of recyclers
- **OPPORTUNITY:** Reimagine how consumers can find a second life for the clothes they no longer use
- **OPPORTUNITY:** Enable citizens to influence second-hand garment export and import policies



PERSPECTIVE FROM KENYA: WATER USAGE

There are many social, economic and environmental costs involved in the creation of new clothing. Cotton

farming processes, for example, are notorious for using excessive amounts of water. While some farmers have installed water saving irrigation systems, for the majority, cotton farming remains a water-intensive process.



BUZIGA HILL

'Return to Sender' is the first project series by fashion brand BUZIGAHILL. The clothing brand has a mission to return Uganda's textile industry to the levels of the early 1970s, when more cotton was processed than exported. BUZIGAHILL redesigns second-hand clothes and redistributes them to the global North, where they were originally discarded before being shipped to Africa.

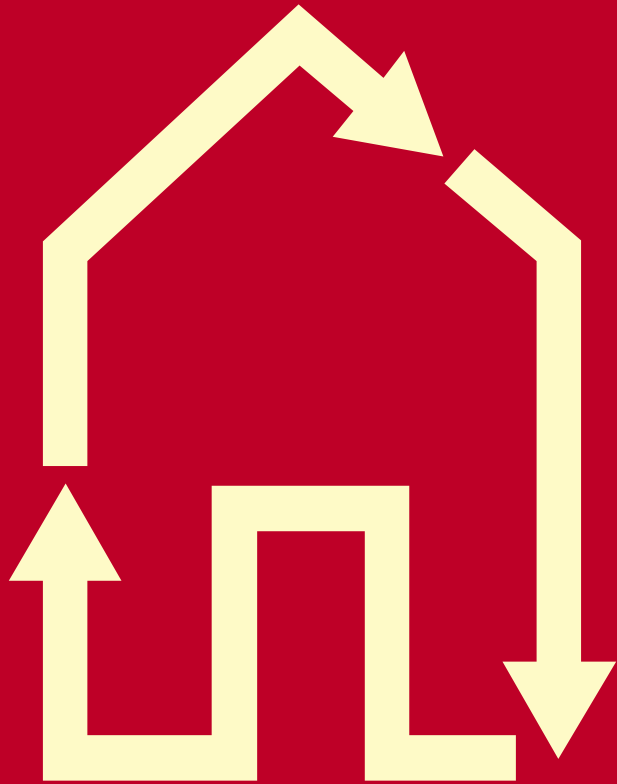
DESIGNER BUZIGA HILL
 COUNTRY UGANDA
 CATEGORY WHAT WE WEAR
 WEBSITE buzigahill.com



HUMAN MATERIAL LOOP

Believing in radical change in textile production, Human Material Loop collects and processes waste human hair which later spins to yarns and develops various textile pieces. In Europe alone, 72 million kg of human hair waste ends up in landfills or in the drainage system. Their vision is to develop high-performance textiles within a closed-loop recycling system.

DESIGNER ZSOFIA KOLLAR
 COUNTRY NETHERLANDS
 CATEGORY WHAT WE WEAR
 WEBSITE humanmaterialloop.com



HOW WE BUILD

In this brief, we are asking you to submit circular innovations for the built environment, a highly polluting and wasteful industry. A circular approach to building means fulfilling the need for housing while simultaneously reducing the impact of our cities on the ecosystems in and around them. This demands a whole host of changes, including fewer new constructions, optimised usage of space and higher rates of material recovery, along with a push for renewable technologies and the elimination of hazardous substances. Strategies that reduce waste and extend the life of buildings, like modular design, adaptive reuse and nature-based solutions, are all welcome here. As the world's population continues to grow, alternative methods for construction and renovation will be more needed than ever.

- The built environment is responsible for over 20% of global greenhouse gas emissions
- Each year, over 40% of the world's extracted resources are used for construction, the majority of which are scarce and fail to re-enter the value chain
- Over 3 billion tonnes of construction and demolition waste is generated each year
- Cities consume 75% of the world's production of natural materials

CO-CREATION & COLLABORATION

The built environment is made up of a lot of stakeholders, from urban planners and architects, to construction workers and material companies, as well as all the humans, animals and plants that share the space of the city. But more often than not, these parties do not work together to make joint decisions. Involving diverse stakeholders in the development of projects in this space can result in fresh, innovative ideas. Designers can help facilitate these connections in order to catalyse change across the entire sector.

- **OPPORTUNITY:** Encourage private construction companies to collaborate with other stakeholders to prevent mistakes and missed opportunities
- **OPPORTUNITY:** Connect architects and property developers with local artisans to create circular spaces together
- **OPPORTUNITY:** Engage citizens in the decision-making stages of construction
- **OPPORTUNITY:** Imagine ways to include the natural ecosystem as a key stakeholder in the design of a building



PERSPECTIVE FROM KENYA: BUILDING WITH NATURE

Kenya's cities are growing rapidly, which means demand for land is sky-rocketing. Poor

urban planning is now putting pressure on animal habitats and threatening local biodiversity. The rate of building around Nairobi National Park, for example, has increased in recent years, putting the wildlife at risk and affecting the livelihoods of those who rely on the tourism it generates.

FOCUS ON MATERIALS

The construction process consumes enormous amounts of materials, some renewable and some not. Maintaining and recycling these materials can be an expensive and time-consuming process. Choosing the right (and most sustainable) materials to begin with is very important to ensure a long life with the least amount of negative impact. At the same time, finding imaginative ways to upcycle or repurpose existing structures is key, as it allows us to avoid demolition and the incredible amount of waste involved with that process.

- **OPPORTUNITY:** Design attractive sustainable building materials that are suited for the local climate and environment
- **OPPORTUNITY:** Reduce or eliminate the use of non-renewable natural resources during construction
- **OPPORTUNITY:** Facilitate the reuse and sharing of materials between construction sites
- **OPPORTUNITY:** Explore new ways to move structures to new locations with a minimum loss of materials



PERSPECTIVE FROM INDIA: LEARN FROM THE PAST

Look around in India's biggest cities today, and you'll see rows of standardised, Westernised structures that are ill-suited to the local climate. Urban designers are now faced

with the challenge of balancing the needs of a growing population with the consequences of a warming planet. In this, it is important to rediscover traditional building techniques that can manage heat, cold, or rain, reducing the need for air conditioners or coolers.

PROCESSES & TECHNIQUES

Shifting towards fair and circular building practices will take many attempts over time. Embedding sustainable values into this industry is an exciting challenge because it will demand a shift in the way people think and work. It can be an opportunity to look back in history at how we used to build our cities and infrastructures. It can be a time for education and awareness-building. It can be an invitation for 'outsiders' to step in and bring new perspectives to the sector.

- **OPPORTUNITY:** Bring back traditional building techniques and make them widely applicable in modern construction
- **OPPORTUNITY:** Shift perspectives to value long-term sustainable building solutions over short-term wasteful fixes
- **OPPORTUNITY:** Develop bottom-up solutions for lowering a home's environmental impact
- **OPPORTUNITY:** Design multi-purpose and modular components that can transform the way spaces are used



PERSPECTIVE FROM MEXICO: INSUFFICIENT WASTE COLLECTION

In Mexico City, nearly 14,000 tonnes of construction and

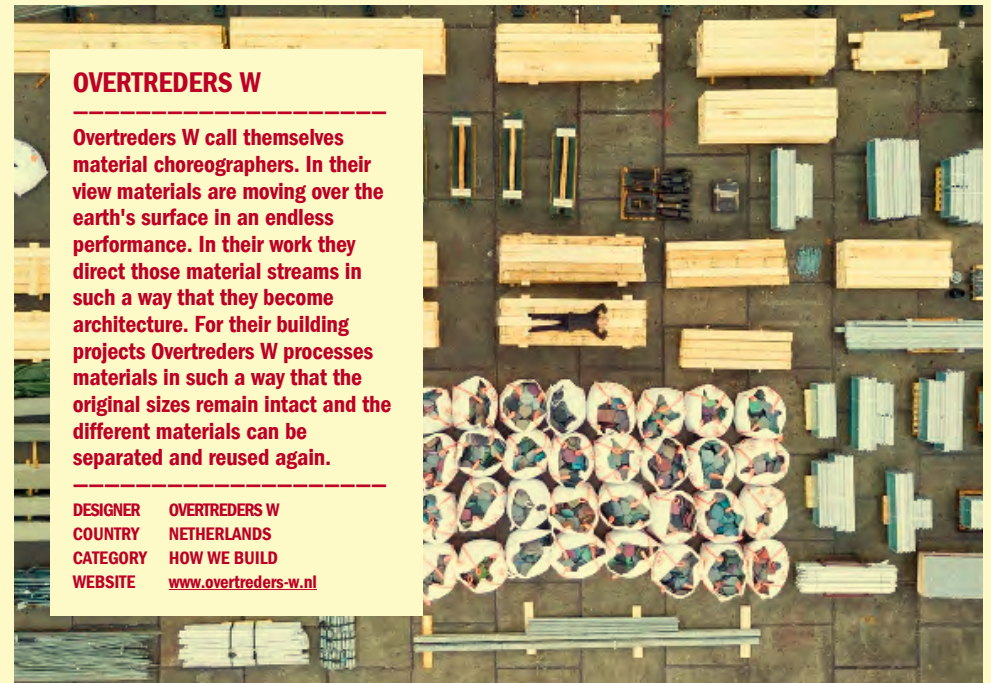
demolition waste are generated each day. However, there are only three official facilities that are currently able to process this waste – and not always efficiently. Until 2018, the one in Iztapalapa processed only 3% of the waste generated (420 tonnes), even though it had an operating capacity of 2,000 tonnes per day.



HOSPITAL WARD OUT OF TRASH

Miniwiz uses consumer and industrial waste to design constructions. Their first healthcare-focused project began in response to the COVID-19 pandemic. In collaboration with the Taiwan government and other stakeholders, Miniwiz designed and built a modular hospital ward out of reclaimed, secondary materials. The system is designed to be modular to adapt to real-time needs.

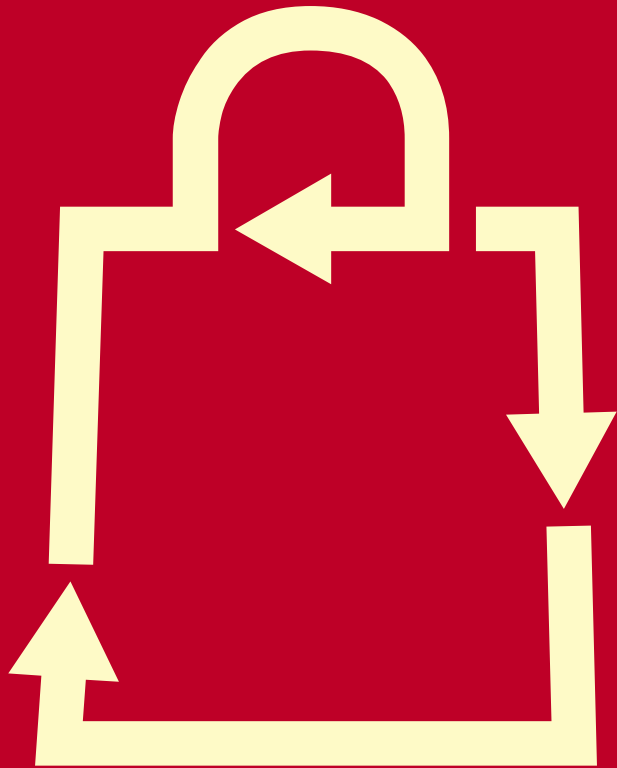
DESIGNER **MINIWIZ**
 COUNTRY **TAIWAN**
 CATEGORY **HOW WE BUILD**
 WEBSITE www.miniwiz.com



OVERTREDERS W

Overtreders W call themselves material choreographers. In their view materials are moving over the earth's surface in an endless performance. In their work they direct those material streams in such a way that they become architecture. For their building projects Overtreders W processes materials in such a way that the original sizes remain intact and the different materials can be separated and reused again.

DESIGNER **OVERTREDERS W**
 COUNTRY **NETHERLANDS**
 CATEGORY **HOW WE BUILD**
 WEBSITE www.overtreders-w.nl



WHAT WE BUY

In this brief, we are asking you to submit circular solutions to reduce the impact of consumer goods and services including furniture, electronics, cars and toys. The way these products are made and distributed often involves the use of chemicals and processes that are harmful to the environment, as well as the health and well-being of people. Designing a circular system for the things we buy includes making decisions that stop this trend of pollution. It also involves asking questions about why we buy, and exploring design's own relationship with consumerism. One approach could be to build systems that support the sharing of goods and services. Another is to focus on material and technical innovation, so that we can envision a world in which all products are designed to be repaired, recycled and disassembled.

- 80% of the 44 million tonnes of electronic waste produced globally in 2017 ended up in landfills or were informally recycled, most of it manually, endangering workers' health
- The production of most furniture and household appliances uses large amounts of non-renewable resources, energy, water and scarce raw materials including gold, platinum and cobalt
- Consumer goods can contain hazardous and carcinogenic substances, including plastics and metals, such as lead and mercury, as well as phthalates and flame retardants. Direct

and indirect exposure to these substances can lead to adverse health effects in humans, such as endocrine disruption and asthma

- 10.78 million tonnes of furniture are discarded each year in the EU, of which only 10% is recycled
- In Europe, the average car is parked for 92% of its lifetime. Further urbanisation leads to even more land being devoted to parking cars, which could otherwise be used for housing or food. If we could rethink individual ownership of vehicles, we could reduce congestion and pollution and ease our reliance on fossil fuels

CHANGING HABITS

The way people shop differs dramatically around the world. But consumerism is still spreading across countries and cultures. This is neither sustainable to keep up nor scale up, and it is important for consumers and producers alike to respond to this crisis. If individuals consume less or choose to borrow instead of own, the market will adapt. If companies produce less or start to offer sharing services, society will adjust. Designing structures to enable these changes is the first step to closing the loop on throwaway culture.

- **OPPORTUNITY:** Reimagine consumption as buying only what you need instead of what you (have been made to) want

- **OPPORTUNITY:** Encourage people to move away from individual ownership towards collective ownership, for example by designing new business models for sharing mobility vehicles
- **OPPORTUNITY:** Develop products and services that enable repair, resale and refurbishment
- **OPPORTUNITY:** Help people to value durable products more than disposable products, for example by making reusable items more affordable than their single-use counterparts

- **OPPORTUNITY:** Find new ways to promote healthy consumption patterns and a sustainable relationship between consumers and products



PERSPECTIVE FROM THE NETHERLANDS: AMSTERDAM CIRCULAR 2050

The city of Amsterdam formulated a strategy to be fully circular by 2050 at the latest: A city where valuable materials and resources are reused and none are wasted. Its self-developed 'Monitor Amsterdam Circulair' will enable Amsterdam to measure whether its goals of halving the use of primary raw materials by 2030 and becoming 100% circular by 2050 are feasible.

LEARNING FROM THE PAST

When it comes to reducing waste and living within their means, there is a lot to be learned from the way our ancestors lived their lives. Some Indigenous people still carry on these age-old practices, allowing them to live, build and work in harmony with nature. How can design take inspiration from these different world-views, when creating products, services and systems? What can we do to avoid exploiting or appropriating Indigenous cultures as we learn from them? Looking back at what has come before is an essential part of building the future we want.

- **OPPORTUNITY:** Imagine circular futures that are respectfully rooted in Indigenous and ancestral knowledge
- **OPPORTUNITY:** Explore and design products that will be handed down from generation to generation, gaining more meaning as time progresses
- **OPPORTUNITY:** Create products that benefit not just humans but also non-human actors like animals, rivers and soil
- **OPPORTUNITY:** Replace polluting and wasteful products with alternatives made from safe and renewable resources

PERSPECTIVE FROM JAPAN: PRESSURES OF A HIGH-PACED SOCIETY

Long working hours and the prevalence of single-person households in Japanese cities

means less leisure time, increasing the need for convenience and efficiency. A specific word for time-saving, 'jitan', is often used in advertisements to describe an attractive quality of products and services. Things that are 'fast prep and within reach' are staples of city living; examples include 'obento' (microwavable lunch boxes), 'osozaï' (pre-made dishes) and 100 yen (1 dollar) shops on street corners where one can find almost every daily necessity. These cultural norms make practices such as slow cooking and repairing less attractive for the urban resident.

SEE THE IMPACT

What if we could see the impact that the products we (want to) buy have on the planet? Would consumption habits change? Designing initiatives that educate and empower people to make sustainable choices will be essential to creating a circular world of consumer goods. This starts by giving people knowledge, coupled with a clear path to change. It's time to make things personal and move people towards taking action as citizens and not just consumers.

- **OPPORTUNITY:** Raise awareness of where our products come from, who made them and what they're made of in new ways that give people the tools to change
- **OPPORTUNITY:** Imagine and show the impact of

CARINHO ECO GREEN

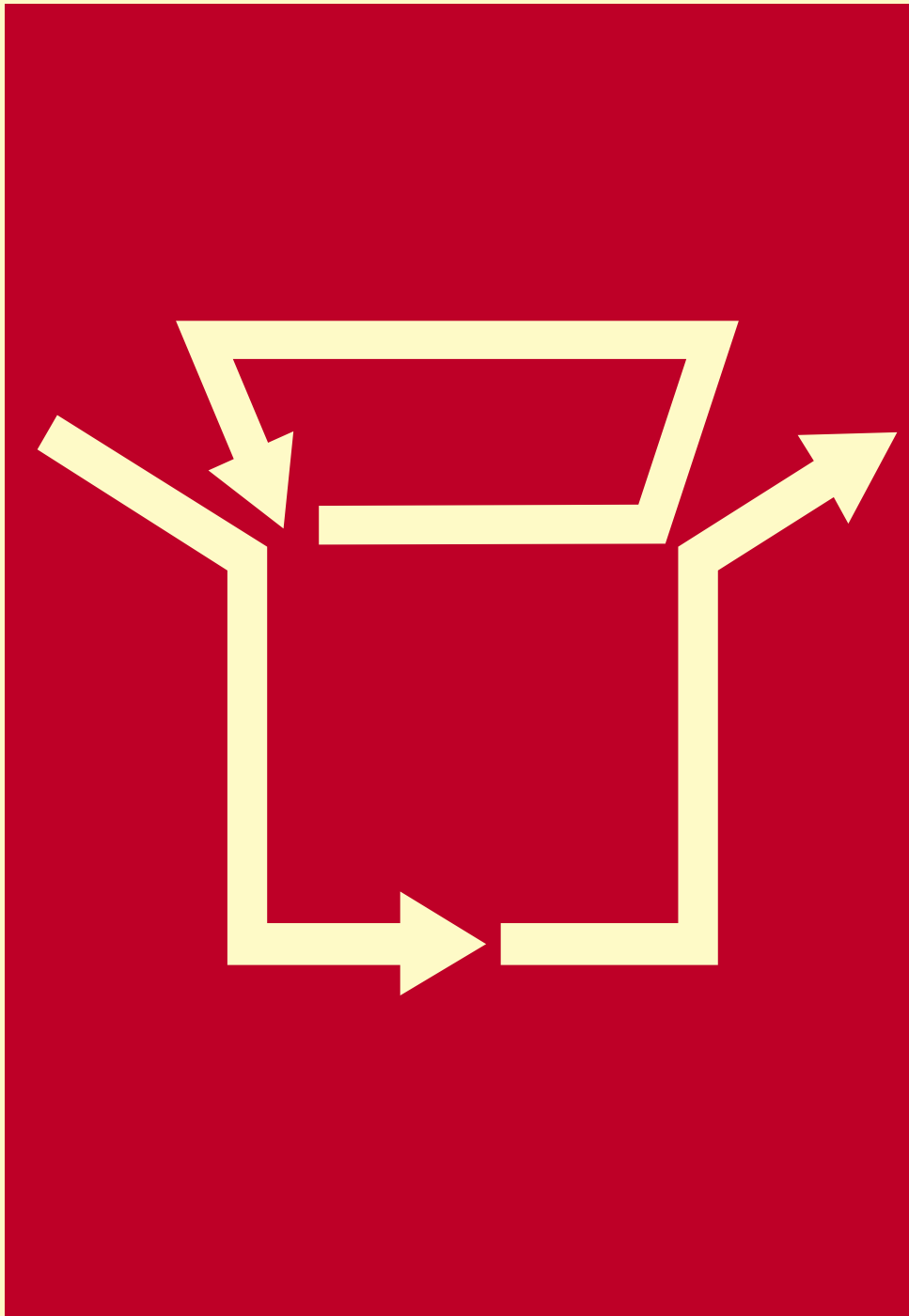
Carinho Eco Green is the first sustainable toilet paper in Brazil that follows the principles of circular economy. This product is sustainable in every step from production to end-of-use. Produced with low environmental impact chemicals, no additional bleaches in its composition, a compostable tube and compostable packaging. All information on how to product is made and distributed can be found on their website.

DESIGNER CARINHO ECO GREEN
 COUNTRY BRAZIL
 CATEGORY WHAT WE BUY
 WEBSITE carinhoecogreen.com.br

WHIRLI

On average, 35% of toys are neglected or forgotten within a month. A Whirli™ subscription lets you swap toys from a huge toy library, instead of owning them. Users can subscribe to a plan and play with the toys for as long as they want. The toys are suit from newborns to all the way up to children aged around 8 years old. Once finished playing subscribers can return any unloved toy and swap it for something else.

DESIGNER WHIRLI
 COUNTRY UNITED KINGDOM
 CATEGORY WHAT WE BUY
 WEBSITE whirli.com



HOW WE PACKAGE

In this brief, we are asking you to submit circular concepts for the packaging industry. Nearly every product that is sold is packaged to protect the product from breakage or leakage. While this is important, the use of primarily single-use plastics or a combination of materials, such as plastic-lined paper, makes it very hard to recycle or recover these materials. The sheer amount of packaging we go through is overwhelming waste management systems around the world. Decomposition of these materials can take decades if not properly recycled. Already, the build-up of plastics has resulted in harmful environmental and social consequences including land contamination, marine pollution and ocean acidification. Designing a circular packaging industry prioritises using renewable resources, chooses mono-material over mixed materials, makes decisions for easy-to-disassemble packaging, incorporates compostability or recyclability and coordinates with all stakeholders involved to make this possible.

- **More than 40% of global plastic production** is converted into packaging, half of which is used to package food products, posing a threat to human health through ingestion
- **Around 95% of plastic packaging** is lost to the economy after a short first-use cycle and is often discarded in landfills or ends up in the natural environment

- It is estimated that around **ten million tonnes** of plastic waste, including single-use containers, enter the world's oceans every year
- The packaging value chain is fragmented and complex, making it difficult to bring about system change
- Mechanical recycling can downgrade the quality of plastic and paper, the two most popular packaging materials. While glass and metals can be recycled infinitely, creating high-quality recycled materials that are fit for modern packaging and its transportation can be technically challenging

CONSUMPTION HABITS

Part of why there is so much packaging waste in the world is because of our consumption habits. Did you really need the newest version of the same mobile phone? Could you have waited until you were home to get a glass of water instead of buying a plastic bottle? Understanding what drives our consumerism is the first step to creating change. The second step is to explore how packaging can be made less disposable. A lot of this has to do with shifting attitudes: consumer habits can influence company behaviour, and even create political pressure. In this way, designing solutions that create better daily habits for a lot of people can have a huge impact on the overall problem.

- **OPPORTUNITY:** Help consumers demand less packaging from companies
- **OPPORTUNITY:** Reimagine what responsible consumer behaviour looks like
- **OPPORTUNITY:** Redesign recycling methods as a way of creating loops



PERSPECTIVE FROM KENYA: DISORGANISED RECYCLING EFFORTS

In Kenya, there is no standardised requirement to separate plastic waste. Because of this,

most businesses and households are not in the habit of sorting out their recyclables. This, met with an already disorganised and fragmented recycling process, means very little of the total plastic used is recycled back into the system, with most of it ending in landfills.

ADAPT TO REUSABLES

One clear route to circular packaging is reusables. This includes personal reusables like coffee cups, Tupperware and utensils, but it also includes reusables embedded within systems and services such as shipping packages and take-out food containers. Designing for reuse poses creative challenges for both product and service design. Choosing responsible materials for these reusables is also an important consideration.

- **OPPORTUNITY:** Generate better packaging systems for e-commerce and delivery services
- **OPPORTUNITY:** Design desirable and convenient reusable options that entice people and businesses to move away from single-use packaging
- **OPPORTUNITY:** Imagine how existing product-driven business models could shift towards service-oriented solutions



PERSPECTIVE FROM JAPAN: REVIVING TRADITIONAL MATERIALS

In Japan, some are trying to use traditional, local, and natural packaging materials

as a way to reduce the need for synthetic materials like plastic. Unfortunately, many of these alternative methods are not compatible with contemporary manufacturing realities. They also require a level of craftsmanship and knowledge that are forgotten or lost to many. How can design help to revive these practices?

RECOGNISE THE IMPACT

Packaging holds other meanings beyond its function of keeping a product safe. For one, it is a physical platform for branding. And secondly, certain materials, such as plastic, hold connotations of cleanliness and new-ness. It is time for companies to start thinking about the impact of their packaging choices over the look for their brand. In the same vein, consumers need to see beyond the surface and understand that more sustainable materials can keep products just as safe.

- **OPPORTUNITY:** How might we reduce or even remove packaging from certain products?
- **Opportunity:** Seek inspiration in traditional methods of packaging that utilised local materials such as wood, bamboo, hay and leaves
- **OPPORTUNITY:** Rethink branding strategies that are packaging-oriented
- **OPPORTUNITY:** Educate companies about their material choices and their impact



PERSPECTIVE FROM BRAZIL: EXCESSIVE PACKAGING USE

The high rate of consumption of industrialised products in Brazil implies excessive packaging.

In recent years, aesthetic trends and marketing factors have led to an increase in the volume of materials used in a single product, resulting in more solid waste.

MERCARI ECO PACKAGE

Mercari, one of the largest peer to peer e-commerce platform for second-hand goods designed a reusable package from sturdy materials that is waterproof and could be used repeatedly. The package is designed as an alternative to single-use packages sold at post offices.

DESIGNER
COUNTRY JAPAN
CATEGORY HOW WE PACKAGE
WEBSITE about.mercari.com

リユース配送を、
世界の当たり前



REPACK

RePack removes single-use packaging waste from deliveries by offering an alternative reusable packaging option. E-commerce businesses can lease the packages to send their products to customers. The customers then return the packaging to the RePack hub from anywhere in the world or can use it to return their item back to the seller.

DESIGNER CRAFTING PLASTICS STUDIO
COUNTRY FINLAND
CATEGORY HOW WE PACKAGE
WEBSITE repack.com



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MEXICO

WHAT DESIGN CAN DO MEXICO



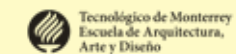
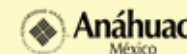
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