



# EFFICIENCY

## EFFICIENCY

Since 1970, the human population has doubled. We use the planet's resources to live. However, we often use them inefficiently.

### **The solution**

Efficiency is a common sustainability action. It means making the same with fewer resources. Examples are energy-efficient (less energy) or fuel-efficient (less fuel). Efficiency can often save money.

Start with an Efficiency question.

# NET ZERO

## NET ZERO

Greenhouse gases cause climate change. If we don't act, Earth could be 5°C warmer by 2100. This would be very bad because 5°C colder caused an ice age.

### **The solution**

We can slow climate change by releasing fewer greenhouse gases. If we take out as much as we put into the atmosphere, we reach net zero emissions. Earth is already +1.2°C warmer. We need to stop new emissions and take old ones from the atmosphere.

# CIRCULARITY

## CIRCULARITY

A third of food is thrown away. 60% of fast fashion goes to the bin after one year. We waste a lot of resources.

### **The solution**

When a leaf falls to the ground, it breaks down and feeds other plants. In a circular economy, we also circle resources and keep their value. Businesses can promote circularity through R-strategies, such as Reduce, Reuse, or Recycle.

# SUFFICIENCY

## SUFFICIENCY

If everyone lived like a U.S. citizen, we would need 5 planets. But the average Indian lifestyle only uses 0.8. While many live in poverty, others consume too much.

### **The solution**

Sufficiency means a good life for all with the resources we have. We use more than Earth can renew, so we need to consume less and distribute more fairly. Business can offer sustainable options and focus on what people really need.

# REGENERATION

## REGENERATION

Since 1970, we lost 70% of our wildlife populations. In Europe, air pollution kills over 1,200 children every year. We damage nature and suffer ourselves.

### **The solution**

Companies and humans are part of nature and need a healthy planet. Regenerative business has products and services that do not only make things less bad but make them better for people and nature.

Sources: European Environment Agency (24.04.2023). Air pollution and children's health; Konietzko, J., Das, A., & Bocken, N. (2023). Towards regenerative business models: A necessary shift?. Sustainable Production and Consumption; WWF, 2022. In: Almond, R.E.A., Grooten, M., Juffe Bignoli, D., Petersen, T. (Eds.), Living Planet Report 2022 - Building a Nature-Positive Society. WWF, Gland, Switzerland.



# FLOURISHING

## FLOURISHING

You followed the path to flourishing. Academic John Ehrenfeld said companies need to work for “the possibility that humans and other life will flourish on Earth forever”.

All levels you crossed are important for business action. While some might be easier, the more difficult changes often have the most important impact.

How will **you** work towards flourishing?

I buy a fuel-efficient car but then I drive more and use more fuel. This is a...?

- a) Bounce back
- b) Rebound
- c) Retrace

b) Rebound

With a rebound, more efficiency leads to more resource use. A fuel-efficient car needs less fuel, so it is cheaper and often used more.

Source: Graening, L. A., Greene, D. L., & D'Eligio, C. (2000). Energy efficiency and consumption—the rebound effect—a survey. *Energy policy*, 28(6–7), 389–401.

E1

## Efficiency

Where does German company “Ecoworks” add insulation to houses?

- a) Inside the walls
  - b) Outside the walls
  - c) Above the house
- b) Outside the walls

They fit insulation panels onto the outside of old houses. This makes retrofitting easier and saves energy.

Source: ecoworks (n.d.).

E2

## Efficiency

The energy-efficient Eastgate building in Zimbabwe is inspired by...?

- a) Termite hills
- b) Fish eggs
- c) Eagle nests

a) Termite hills

The building is cooled through natural ventilation tunnels instead of air-conditioning.

Source: Arup (n.d.). How nature can inspire us to create more resilient buildings.

E3

## Efficiency

US business “General Electric” saves energy and water with staff...

- a) Picnics
- b) Role plays
- c) Treasure hunts

c) Treasure hunts

GE has hosted well over 200. At the hunt, staff with different backgrounds look at processes and find areas for savings.

Source: United States Environmental Protection Agency (n.d.). GE & Universal Studios Hollywood – The Treasure Hunt Model.

E4

## Efficiency



Is this statement true or false?

In 2019, more people globally were employed in the gas sector than in making buildings efficient (retrofits & heat pumps).

False.

Energy efficiency in buildings is more labour-intensive than gas, with over 4 million people worldwide working on it.

Source: IEA (2022), World Energy Employment, IEA, Paris

E5

## Efficiency

In 2017, how many fridges sold in the EU were labelled A+ or higher for energy-efficiency?

- a) 60%
- b) 90%
- c) 100%

b) 90%

European customers prefer energy-efficient products, so businesses are updating their product offer.

Source: European Commission (n.d.), About the energy label and ecodesign.

E6

## Efficiency

Which animal inspired a "Lufthansa" plane coating for more efficient flying?

- a) Falcon
- b) Cheetah
- c) Shark

c) Shark

Lufthansa and BASF developed a coating called AeroShark that imitates shark skin and decreases drag. This saves fuel.

Source: Lufthansa Technik (n.d.), AeroShark.

E7

## Efficiency

In 2022, most energy conservation projects at "IBM" focused on...?

- a) IT servers
- b) Heating
- c) Lights

a) IT servers

IBM realised over 500 conservation projects, saving \$9.5 million. 64% of these savings came from server efficiency.

Source: IBM (2023), IBM 2022 ESG Report.

E8

## Efficiency

If we talk about efficient cars, what do we mean?

- a) Time efficient
- b) Water efficient
- c) Fuel efficient

c) Fuel efficient

Efficient cars need less fuel for the same distance. Engines now are more efficient but cars are built bigger and need more fuel.

Source: Hu, K., & Chen, Y. (2016). Technological growth of fuel efficiency in European automobile market 1973-2015. Energy Policy, 98, 142-148.

E9

## Efficiency

Is this statement true or false?

UK company "Measurable.energy" turns off electronics in people's homes.

True.

The company sells smart sockets that monitor devices and turn them off if they are not needed.

Source: measurable.energy (n.d.).

E11

## Efficiency

Is this statement true or false?

New "Samsung" washing machines save energy by turning laundry soap into bubbles.

True.

Some Samsung washing machines turn soap into bubbles, so it is absorbed quicker and the machine uses less energy.

Source: Samsung (26.07.2022). Samsung announces global launch of bespoke AI washer and dryer delivering smart and sustainable solutions for laundry day.

E10

## Efficiency

Toyota's manufacturing system is known as...?

- a) Clean
- b) Mean
- c) Lean

c) Lean

Toyota relies on only making what is needed, when it is needed. Their production is known for its high efficiency.

Source: Toyota (n.d.). Toyota Production System.

E12

## Efficiency

How many residential lights sold worldwide in 2022 were energy-efficient LEDs?

- a) 10%
- b) 30%
- c) 50%

c) 50%

Around half of the residential lights sold used LED technology. LEDs replace less efficient lighting.

Source: International Energy Agency (n.d.). Lighting.

EI3

## Efficiency

1.0

An average car in England is parked...?

- a) 3
- b) 13
- c) 23 hours a day

c) 23 hours a day

Cars are not driven most of the time. In response, companies support car-sharing to use them more.

Source: Nagler, E. (2021). Standing Still. RAC Foundation.

EI5

## Efficiency

1.0

US business "AppHarvest" grows tomatoes more water-efficiently with...

- a) Precision farming
- b) Modified plants
- c) Thinner water pipes

a) Precision farming

AppHarvest collects and filters rainwater for its plants. Its indoor precision farming saves 90% of water.

Source: AppHarvest (n.d.).

EI4

## Efficiency

1.0

Where do residential buildings have an average lifespan of only 25 years?

- a) China
- b) Japan
- c) US

a) China

Buildings are torn down on average after 25 years in China, after 40 in Japan and after 60 in the US.

Source: Hertwich, E.G., et al., (2019). Material efficiency strategies to reducing greenhouse gas emissions associated with buildings, vehicles, and electronics—a review. Environ. Res. Lett. 14, 043004.

EI6

## Efficiency

1.0

Who insulates old houses for UK company "Q-Bot"?

- a) Qualified plumbers
- b) Robots
- c) Monkeys

b) Robots

These robots spray insulation material under wood floors. Insulated houses need less heating and reduce costs.

Source: Q-Bot (n.d.).

E17

# Efficiency

1.0

To lightweight a car for efficiency means to...

- a) Build a car only for light-weight people
- b) Use less material to build it
- c) Remove the lamps

b) Use less material to build it

This makes cars lighter and means they need less fuel to drive.

Source: IIPP (2020). Resource Efficiency and Climate Change: Material Efficiency Strategies for a Low-Carbon Future. Hertwich, E. et al., A report of the International Resource Panel, United Nations Environment Programme, Nairobi, Kenya.

E19

# Efficiency

1.0

Is this statement true or false?

People often use lamps less after installing energy-efficient lights.

False.

LED lights need less energy, so they reduce emissions and costs. But they are cheaper, so people often use them more.

Source: IEA (2022). Energy Efficiency, IEA, Paris.

E18

# Efficiency

1.0

Is this statement true or false?

In 2019, the Indian government decided that air conditioners should run on a colder temperature.

False.

ACs sold in India have a higher default temperature of 24°C instead of 20°. This can save 20% of electricity.

Source: Hindustan Times (18.01.2020). Govt has mandated 24 degrees as the default temperature for ACs: What does this mean and how will it affect you.

E20

# Efficiency

1.0



Insurance firm "Swiss Re" works towards net zero by...?

- a) Refusing insurance for new oil fields
- b) Reducing flights
- c) Insuring trees

- a) Refusing insurance for new oil fields

The business stopped insurance cover and investment in new oil and gas projects in 2023.

Source: Swiss Re (12.10.2023). New underwriting targets supporting Swiss Re's journey to net zero.

N1

# Net zero

All planned (but not yet built) carbon capture and storage projects can store 0.2% of...?

- a) All emissions ever
- b) Emissions from 10 years
- c) Emissions from 1 year

- c) Emissions from 1 year

Many want to capture and store carbon to stop climate change, but technologies are still inadequate.

Source: Honegger, M. (2023). Toward the effective and fair funding of CO2 removal technologies. Nat. Commun 14, 534.

N3

# Net zero

How does U.S. store "7-Eleven" support sustainable mobility?

- a) Electric car charging network
- b) No petrol sold at its gas stations
- c) Deliveries by bike

- a) Electric car charging network

In 2023, 7-Eleven said that it would add charging points to many stores, powered with 100% green electricity.

Source: Gorzelany, J. (20.03.23). Why Charging An Electric Car Will Soon Come With A Sturpee. Forbes.

N2

# Net zero

Is this statement true or false?  
Car manufacturer "Audi" wants to only produce electric cars by 2035.

True.

Audi plans to stop making non-electric cars in 2033, moving to only electric cars.

Source: Audi (25.08.21). "Vorsprung 2030": Audi accelerating transformation.

N4

# Net zero

How does business “4401” from Oman store carbon emissions?

- a) Plant trees in the desert
- b) Turn CO<sub>2</sub> into a mineral
- c) Pump CO<sub>2</sub> into the ocean
- b) Turn CO<sub>2</sub> into a mineral

The company pumps CO<sub>2</sub> underground into the mineral perodite that reacts with it and turns it into a new mineral.

Source: 4401 (n.d.).

N5

## Net zero

Around two-thirds of the climate footprint of “Unilever” products comes from...?

- a) Production
- b) Transport
- c) Consumer use
- c) Consumer use

Most emissions come from use, such as doing laundry with Unilever soap. The firm wants to halve those scope 3 emissions by 2030.

Source: Unilever (n.d.). Reducing emissions from the use of our products.

N7

## Net zero

Is this statement true or false?

The Dutch government wants 50% of new renewable energy plants to be owned by local communities and businesses.

True.

To make the energy transition equal, locals should be able to co-own renewable infrastructure like wind turbines.

Source: Government of the Netherlands (2019). Climate Agreement.

N6

## Net zero

British band Coldplay partnered with “DHL” to reduce their world tour...?

- a) Waste
- b) Emissions
- c) Travel times

b) Emissions

Their 2022 World Tour produced 47% fewer CO<sub>2</sub> emissions than previous ones. DHL helped with low-carbon logistics.

Source: Coldplay (02.06.2023). Emissions Update.

N8

## Net zero



Some farmers protect their crops and create extra income with...?

- a) Solar panels
- b) Small nuclear plants
- c) Windmills

a) Solar panels

These panels create extra income and shield crops from the sun and extreme weather, like hail.

Source: Petroni, A. (24.04.23). The Italian farmers saving an ancient fruit with solar power. BBC.

N9

# Net zero

What is usually not considered renewable energy?

- a) Solar energy
- b) Nuclear energy
- c) Geothermal energy

b) Nuclear energy

It produces few emissions but the material for nuclear energy (usually uranium) is not renewable.

Source: IEA (2019). Nuclear Power in a Clean Energy System. IEA, Paris.

NI1

# Net zero

Is this statement true or false?

There is only one greenhouse gas that needs to be reduced to stop climate change.

False.

Greenhouse gases trap heat that would go into space and send it back to Earth. One gas is CO<sub>2</sub>, but there are others, such as methane.

Source: IPCC (2013). Climate Change 2013: The Physical Science Basis. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA.

NI0

# Net zero

67% of Americans think business action on climate change is...?

- a) Too much
- b) Enough
- c) Not enough

c) Not enough

67% thought business was doing too little. 21% thought it was enough and 10% it was too much.

Source: Pew Research Centre (18.04.2023). What the data says about Americans' views of climate change.

NI2

# Net zero

Who threatened to leave the European car manufacturing lobby over climate issues?

- a) Volvo
- b) Mercedes-Benz
- c) Renault

a) Volvo

In 2022, Volvo wanted to leave the lobby group because its own net-zero ambitions were stronger than the group's.

Source: Carey, N. (08.07.2022). Volvo Cars to leave ACEA car lobby group over climate goals. Reuters.

N13

# Net zero

Which country produced most renewable energy in 2020?

- a) US
- b) China
- c) India

b) China

It had a renewables capacity of 2.2 million gigawatts per hour, enough to power 412 million Chinese homes.

Source: International Renewable Energy Agency (i.r.d.). Country Rankings: Statista (i.r.d.). Annual per capita electricity consumption in China from 2009 to 2020.

N15

# Net zero

1.0

If we do not act on climate change, who would lose the most GDP by 2050?

- a) US
- b) France
- c) China

c) China

Asian countries are predicted to be hit hardest by climate change. China could lose 24% of its GDP, France 13% and the US 10%.

Source: Swiss Re Institute (22.04.2021). World economy set to lose up to 18% GDP from climate change if no action taken, reveals Swiss Re Institute's stress-test analysis.

N14

# Net zero

1.0

How much of Costa Rica's electricity came from renewable sources in 2020?

- a) 10%
- b) 50%
- c) 99%

c) 99%

The country ran almost all of its electricity on renewable sources, like hydro, geothermal and wind power.

Source: IGE (2021). Costa Rica. Matriz eléctrica.

N16

# Net zero

1.0

What does company "Roam" offer customers in Kenya?

- a) Street maps
- b) Electric motorcycles and busses
- c) Safe cycling lanes

- a) Electric motorcycles and busses

Roam sells electric vehicles and solar PV panels to charge them.

Source: Roam (n.d.).

NI7

# Net zero

10

30% of Swiss people took up more sustainable habits because of...

- a) Greta Thunberg
- b) Leonardo di Caprio
- c) Roger Federer

- a) Greta Thunberg

She started the Fridays for Future school strike. Her example made many Swiss people change.

Source: Fritz, L., Hansmann, R., Dalmier, B., & Binder, C. R. (2023). Perceived impacts of the Fridays for Future climate movement on environmental concern and behaviour in Switzerland. Sustainability Science, 1-26.

NI9

# Net zero

10

Which renewable energy has the highest potential in Africa?

- a) Wind energy
- b) Hydropower
- c) Solar power

- c) Solar power

The continent has large potential for renewables: 7,900 gigawatt (GW) of solar PV, 1,500 GW of hydropower and 460 GW of wind.

Source: IRENA (2022). Renewable Energy Market Analysis: Africa and Its Regions.

NI8

# Net zero

10

In which of these cities do people use bicycles most?

- a) Delhi (India)
- b) Montreal (Canada)
- c) London (UK)

- a) Delhi (India)

In London and Montreal, 2% of trips are made by bike, while in Delhi, this is almost 5%. Bike-friendly Amsterdam has 28% cycling.

Source: Goel, R. et al. (2022). Cycling behaviour in 17 countries across 6 continents: levels of cycling, who cycles, for what purpose, and how far?, Transport Reviews, 42(1), 58-81. DOI: 10.1080/01441647.2021.1915898

NZ0

# Net zero

10

**"BOSCH"** makes its washing machines

affordable to low-income households by...?

- a) Renting them out
- b) Reducing the quality
- c) Using recycled water

a) Renting them out

In a project in Belgium, Bosch works with a social enterprise to rent out its machines at low prices.

Source: Bosch (n.d.). Circular Economy Meets Social Commitment – The Pavilion Project.

C1

## Circularity

German business "RECUP" reduces packaging waste with...?

- a) Recyclable cups
- b) Biodegradable cups
- c) Reusable cups

c) Reusable cups

RECUP offers reusable packaging in a deposit system. Businesses add a charge on the packaging, so it is returned, cleaned and reused.

Source: RECUP (n.d.).

C3

## Circularity

How much of a "BMW" vehicle is made from recycled materials?

- a) 10%
- b) 30%
- c) 50%

b) 30%

BMW used around 30% recycled and reused materials in 2023 and aims for 50%.

Source: BMW (n.d.). Circular economy: sustainable into year 2040.

C2

## Circularity

What does Dutch business "Philips" not refurbish and resell...?

- a) X-ray machines
- b) Light bulbs
- c) Coffee machines

b) Light bulbs

To keep things in use, Philips refurbishes many of its products. These are cheaper but still covered by guarantees.

Source: Philips (n.d.). Refurbished Editions: Philips (n.d.). Refurbished Medical Equipment.

C4

## Circularity



UK business "Sojo" helps repair clothing through their...?

- a) Video tutorials
- b) Repair 'delivery' service
- c) Free needles

b) Repair 'delivery' service

Customers can book a repair through the Sojo app. The item is collected, repaired and brought back.

Source: Sojo (n.d.).

C5

## Circularity

What is the priority order of R-strategies?

- a) Reuse, Recycle, Reduce
- b) Recycle, Reduce, Reuse
- c) Reduce, Reuse, Recycle

c) Reduce, Reuse, Recycle

It is best to reduce inputs (e.g., energy, raw materials), then reuse, and only then recycle.

Source: Kirchherr, J., Reike, D., & Hekkert, M. P. (2017). Conceptualizing the Circular Economy: An Analysis of 114 Definitions. SSRN Electronic Journal, 127.

C7

## Circularity

Is this statement true or false?

The Netherlands is on track to having a fully circular economy by 2050.

False.

The country wants to be fully circular but a 2023 review showed it is not progressing enough.

Source: Planbureau voor de Leefomgeving (2023). Integrale Circulaire Economie Rapportage 2023.

C6

## Circularity

In 2023, "Pringles" went circular by making...?

- a) Its packaging more recyclable
- b) Its chips reusable
- c) Its chips from waste

a) Its packaging more recyclable

Pringles has started to replace the metal in its tube with paper for better recycling.

Source: Roestken, T. (03.05.2023). Pringle-bus verliest metalen bodem en kan straks bij oud papier.

C8

## Circularity

What does Dutch non-profit “The Ocean Cleanup” take out of the ocean?

- a) Plastic
- b) Salt
- c) CO<sub>2</sub>

a) Plastic

The Ocean Cleanup fights plastic pollution in oceans. It collects waste in the ocean and in rivers.

Source: The Ocean Cleanup (n.d.).

C9

# Circularity

Which is not yet a circular offer?

- a) Kitchen-as-a-service
- b) Hair brush-as-a-service
- c) Light-as-a-service

b) Hair brush-as-a-service

Circular services mean that the product is rented out but the producer owns, repairs and replaces it.

Source: Circular X (n.d.). Cases.

C11

# Circularity

What percentage of the world's material flows was circular in 2023?

- a) 7%
- b) 22%
- c) 58%

a) 7%

Of all material used, only 7.2% circled back into the economy. This is less than in 2020 because we extracted more virgin resources.

Source: Circle Economy (2024). Circularity Gap Report 2024.

C10

# Circularity

If one business uses another firm's by-products as raw material, that is...?

- a) Parasite cooperation
- b) Work collaboration
- c) Industrial symbiosis

c) Industrial symbiosis

Firms use by-products and waste as new raw materials. For example, chemical companies can use water from paper mills.

Source: Neves, A., Godina, R., Azevedo, S. G., & Matias, J. C. (2020). A comprehensive review of industrial symbiosis. *Journal of Cleaner Production*, 247, 119113.

C12

# Circularity



Is this statement true or false?

All materials can be composted at the end of their use time.

False.

Biological materials can be composted, but non-biological ones (e.g., metals) cannot and should be used as long as possible.

Source: Ellen MacArthur Foundation (n.d.). The Butterfly Diagram.

C13

# Circularity

Who upcycles waste in Argentinian social enterprise "Daravi"?

- a) Children
- b) Businessmen
- c) Local women

c) Local women

Daravi uses waste material, like fabric, to make new items. They prioritize women to give them work.

Source: Daravi (n.d.).

C15

# Circularity

Is this statement true or false?

UK business "Team Repair" sends broken toys to children.

True.

Team Repair sends toy boxes to teach repair. Children fix the toys, play with them and send them back for the next child to repair.

Source: Team Repair (n.d.). Team Repair.

C14

# Circularity

South African business "WeFix" repairs and refurbishes...?

- a) iPhones
- b) Tesla cars
- c) Barbie dolls

a) iPhones

WeFix repairs and resells electronics, including iPhones. Since 2006, they resold over 1 million devices.

Source: WeFix (n.d.).

C16

# Circularity

Company "Algramo" from Chile has vending machines that sell...?

- a) Oranges
- b) Packaging-free items
- c) Recycled water

- b) Packaging-free items

Algramo sells 'by the gram'. People bring their reusable boxes and the machine fills them with the exact amount needed.

Source: Algramo (n.d.).

C17

# Circularity

Is this statement true or false?

U.S. firm "Caterpillar" has offered refurbished construction equipment for over 50 years.

True.

Caterpillar's remanufacturing (Cat Reman) was set up in 1973, refurbishing and reselling equipment.

Source: CAT (n.d.) CAT Reman.

C19

# Circularity

Houses in Dutch business area "Park 20|20" were built to be...?

- a) Taken apart easily
- b) Composted
- c) Flooded by the sea

- a) Taken apart easily

Park 20|20 buildings can easily be taken apart, so that parts can be reused.

Source: Park 20|20 (n.d.).

C18

# Circularity

What is not a circular R-strategy?

- a) Refurbish
- b) Repurpose
- c) React

- c) React

Reacting is not an R-strategy. Those are strategies that cycle resources and keep their value.

Source: Kirchherr, J., Reike, D., & Hekkert, M. P., (2017). Conceptualizing the Circular Economy: An Analysis of 114 Definitions. SSRN Electronic Journal, 127.

C20

# Circularity

Most of the Great Pacific Garbage Patch comes from...?

- a) Plastic bottles
- b) The fishing industry
- c) Destruction from the 2011 tsunami

b) The fishing industry

Most of the plastic comes from fishing, such as nets. Another 20% of the waste can be traced back to the tsunami that hit Japan.

Source: Kottasová, I. (18.04.2023). The Great Pacific Garbage Patch is now so huge and permanent that a coastal ecosystem is thriving on it, scientists say. CNN.

C21

# Circularity

1.0

Business "Too Good to Go" offers mystery bags that are filled with...?

- a) Unsold food
- b) Fast-fashion vouchers
- c) Money

a) Unsold food

Too Good to Go is an app that helps businesses sell bags with food that has not been sold.

Source: Circular X (n.d.). Cases.

C23

# Circularity

1.0

What does US business "The Ugly Company" make from unwanted fruits?

- a) Face cream
- b) Snacks
- c) Clothing

b) Snacks

The Ugly Company takes fruits that cannot be sold and turns them into dried fruit snacks.

Source: The Ugly Company (n.d.).

C22

# Circularity

1.0

Every week, each person accidentally consumes as much plastic as there is in...?

- a) A cigarette filter
- b) A credit card
- c) A bottle cap

b) A credit card

Tiny plastic particles called microplastics are washed into our water and swallowed by humans.

Source: Senathirajah, K., Attwood, S., Bhagwat, G., Carbery, M., Willson, S., & Palanisami, T. (2021). Estimation of the mass of microplastics ingested—A pivotal first step towards human health risk assessment. *Journal of Hazardous Materials*, 404, 124004.

C24

# Circularity

1.0

Dutch "United Repair Centre" mends clothes and also...?

- a) Runs an art gallery
- b) Makes fast fashion
- c) Trains job seekers

c) Trains job seekers

United Repair Centre repairs clothes for brands like Patagonia. They train and hire job seekers.

Source: United Repair Centre (n.d.).

C25

# Circularity

1.0

Which country reuses over 80% of its wastewater?

- a) Israel
- b) Sudan
- c) Mexico

a) Israel

Wastewater is reused for agriculture or industry rather than flowing into larger water bodies after treatment.

Source: Government of Israel, Ministry of Health (n.d.), Sewage and Treated Wastewater.

C27

# Circularity

1.0

Taiwanese business

"Bionicraft" turns food waste into...?

- a) Water bottles
- b) Plant pots
- c) Bicycles

b) Plant pots

The Alphapot is made from food waste and compostable. It can be planted straight into soil with the plant.

Source: Bionicraft (n.d.), Alphapot.

C26

# Circularity

1.0

Which country first

banned single-use plastic bags?

- a) Canada
- b) Kenya
- c) Zimbabwe

b) Kenya

It banned them in 2017. Canada banned them in 2020 and Zimbabwe banned some plastic food containers.

Source: Masterson, V. (26.10.2020). As Canada bans bags and more, this is what's happening with single-use plastics around the world.

C28

# Circularity

1.0



The retrofit of Sydney's Quay Quarter Tower saved CO<sub>2</sub> emissions by...?

- a) Adding solar windows
- b) Planting indoor trees
- c) Reusing the old walls

c) Reusing the old walls

The new tower kept 98% of the walls and core. This saved emissions worth nearly 70,000 flights from Sydney to Melbourne.

Source: Arup (n.d.). Quay Quarter Tower's sustainable building design saves embodied carbon.

C29

## Circularity

1.0

Which of these foods has the highest carbon footprint per kilo?

- a) Pork
- b) Cheese
- c) Beef

c) Beef

One kilo of beef has the highest emissions. However, a kilo of cheese has a higher footprint than a kilo of pork.

Source: Röös, E., Sundberg, C., & Hansson, P. A. (2014). Carbon footprint of food products. Assessment of Carbon Footprint in Different Industrial Sectors, Volume 1, 85-112.

S29

## Sufficiency

1.0

50% of municipal waste in Latin America and the Caribbean is...?

- a) Biodegradable
- b) Toxic
- c) Recycled

a) Biodegradable

Organic waste, like food waste, can be composted. Half of the waste is biodegradable but less than 1% is actually composted.

Source: UNEP (2022). Circular Economy in Latin America and the Caribbean: A Shared Vision.

C30

## Circularity

1.0

What did Swedish business "ASKET" write on a house wall in Stockholm in 2019?

- a) F\*ck fast fashion
- b) Burn capitalism
- c) Stop buying sh\*t

a) F\*ck fast fashion

Their campaign pointed to the bad labour conditions and negative environmental impacts of fast fashion.

Source: ASKET (n.d.). Fuck Fast Fashion campaign.

51

## Sufficiency

What is a vision of meeting social needs within planetary boundaries?

- a) Doughnut Economics
- b) Croissant Economics
- c) Baguette Economics

a) Doughnut Economics

Such an economy creates wellbeing within ecological limits. As an image, it looks like a doughnut.

Source: Raworth, K. (2017). Doughnut Economics: Seven Ways to Think Like a 21st-Century Economist. Random House Business Books.

53

## Sufficiency

How does Australian brand Citizen Wolf celebrate "Black Friday"?

- a) Offer discounts
- b) Sell black t-shirts
- c) Dye clothing black

c) Dye clothing black

Citizen Wolf runs the Black Fridye campaign: people send in clothing for overdyeing. Refreshed, it can be worn for longer.

Source: Black Fridye (n.d.).

52

## Sufficiency

How does French "Commown" encourage people to keep their phone?

- a) Lower price if it is kept long
- b) Discounted repairs
- c) Reminder emails

a) Lower price if it is kept long

The cooperative rents out electronics. The longer the user keeps the phone, the lower the rental fee.

Source: Commown (n.d.).

54

## Sufficiency



As part of its “Future Foods” strategy, “Unilever” wants plant-based food to be...

- a) The tough choice
- b) The easy choice
- c) Mandatory

b) The easy choice

It wants meat and dairy alternatives to be accessible, affordable and appetizing, so it is developing alternative products.

Source: Unilever (n.d.). The world's food system needs to change.

55

## Sufficiency

Is this statement true or false?

In the Netherlands, several city councils voted to ban advertisement for flights.

True.

They banned fossil-fuel advertisements because they are seen as bad for society, like cigarettes.

Source: RTVUtrecht (21.12.2022). Reclame voor vliegvakanties en benzine verboden in Amersfoort.

57

## Sufficiency

Is this statement true or false?

Australian business “Solidteknics” covers its cookware with a multi-century warranty.

True.

It sells high quality products that are durable and meant to last for generations.

Source: Solidteknics (n.d.).

56

## Sufficiency

Is this statement true or false?

Dutch airline “KLM” tells customers to take the train instead of flying.

True.

KLM runs its Fly Responsibly campaign since 2019 to tell customers about sustainable travel options.

Source: KLM (n.d.). Fly Responsibly.

58

## Sufficiency

Which US outdoor clothing company boycotts Black Friday sales?

- a) Patagonia
- b) REI
- c) Both

c) Both

To raise awareness of overconsumption, Patagonia and REI both boycott Black Friday sales.

Source: Reich, B. J. & Armstrong Soule, C. A. 2016. Green Demarketing in Advertisements: Comparing "Buy Green" and "Buy Less" Appeals in Product and Institutional Advertising Contexts. *Journal of Advertising*, 45, 441-458.

59

## Sufficiency

Is this statement true or false?  
British furniture company "Vitsoe" trains its staff to sell as much as possible.

False.

Vitsoe wants customers to only buy what they need. Staff are trained to sell as little as possible.

Source: Boeckx, N., & Short, S. W. (2016). Towards a sufficiency-driven business model: Experiences and opportunities. *Environmental Innovation and Societal Transitions*, 18, 41-61.

511

## Sufficiency

Every 5.5 days, the average US customer buys a new item of...?

- a) Electronics
- b) Clothing
- c) Furniture

b) Clothing

An average US customer buys over 60 new clothes a year. That would mean a new item every 5.5 days.

Source: Niinimäeki, K., Paters, G., Dahlbo, H., Perry, P., Rissanen, T. & Gwillt, A. 2020. The 979 environmental price of fast fashion. *Nature Reviews Earth & Environment*, 1, 189-200.

510

## Sufficiency

Is this statement true or false?  
Most people in the Netherlands are happy to give up dairy products for sustainability.

False.

In a survey, most do not want to consume less dairy but over 50% are happy to live smaller and to buy less.

Source: Planbureau voor de Leefomgeving (2023). Hoe 'circulair' zijn Nederlandse consumenten?

512

## Sufficiency

Is this statement true or false?  
French clothing company “Early Majority” increases its income without selling more products.

True.

It wants to only sell clothing that people need. To ensure income, it offers a subscription with additional services.

Source: Early Majority (n.d.).

S13

## Sufficiency

What did US brand “Levi’s” say in its advertising?  
a) Buy More, Wear Little  
b) Buy Less, Wear Little  
c) Buy Better, Wear Longer

c) Buy Better, Wear Longer

Levi’s ran the campaign in 2021 and 2022. It promoted buying high-quality clothing to keep for a long time.

Source: Levi Strauss & Co. (21.09.2022). Levi’s launches Buy Better, Wear Longer 2.0.

S14

## Sufficiency

In 2019, German supermarket “BIO COMPANY” told customers to buy...?  
a) Only German products  
b) Less  
c) Out-of-date food  
b) Less

BIO COMPANY sells sustainable products. Their ‘Buy Less’ campaign promoted only buying what you need to avoid food waste.

Source: BIO COMPANY (n.d.). Geschichte.

S15

## Sufficiency

Is this statement true or false?  
Dutch business “Fairphone” makes modular phones so users can change the style a lot.

False.

Fairphone electronics have modular parts to make repair easy. This keeps the items in use for longer.

Source: Fairphone (n.d.).

S16

## Sufficiency

Swedish business “Nudie Jeans” promotes repair at home through...?

- a) Home visits
- b) An AI repair coach
- c) Free repair kits

c) Free repair kits

They send them to their customers. Customers can also bring their Nudie jeans to a repair point in store.

Source: Nudie Jeans (n.d.).

517

## Sufficiency

In 2014, “T-Mobile Austria” ran a campaign promoting...?

- a) Durable phones
- b) Repairable phones
- c) Getting a new phone every year

c) Getting a new phone every year

The firm offered yearly upgrades. Those ads promoted unsustainably fast upgrades and made users think that was normal.

Source: Wiesser, H. (2016). Beyond planned obsolescence: product lifespans and the challenges to a circular economy. *Gaia-Ecol. Perspect. Sci. Soc.* 25, 156–160. doi: 10.14512/gaia.25.3.5

519

## Sufficiency

Is this statement true or false?  
German architect firm “werk.um” wants to build as much new as possible.

False.

Werk.um designs sustainable buildings but it focuses on reusing existing buildings.

Source: Werk.um (n.d.).

518

## Sufficiency

Which of these is a clear business sufficiency action?

- a) Stopping discounts
- b) Installing solar panels
- c) Recyclable packaging

a) Stopping discounts

Sufficiency means consuming fewer resources. This means reducing production and consumption, also of packaging material.

Source: Niessen, L., & Bocken, N. M. P. (2021). How can businesses drive sufficiency? The business for sufficiency framework. *Sustainable Production and Consumption*, 28, 1090–1103.

520

## Sufficiency



Is this statement true or false?

Chinese brand “ErDOS 1980” offers a service to shrink sweaters.

True.

Parents can send in their favourite sweater to be changed to fit their children.

Source: ErDOS 1980 (n.d.), ErDOS Way.

521

## Sufficiency

Indonesian business

“Green Rebel” offers...?

- a) Palm oil cookies
- b) Organic coffee
- c) Vegan steak

c) Vegan steak

It offers vegan meat and dairy alternatives in Indonesia and other Southeast-Asian countries.

Source: Green Rebel (n.d.), Our Story.

522

## Sufficiency

40% of timeless fashion firm “Eileen Fisher” is owned by...?

- a) The founder
- b) The employees
- c) Investors

b) The employees

Eileen Fisher produces durable clothing. In 2006, Fisher decided to give 40% of the shares to employees.

Source: Eileen Fisher (n.d.), Brand Overview.

523

## Sufficiency

What was the busiest European flight route for private airplanes in 2022?

- a) Paris - London
- b) Nice - London
- c) Paris - Geneva

a) Paris - London

3,357 private flights there emitted 9,629t CO<sub>2</sub> emissions. This is the same as over 4 million London-Paris train journeys.

Source: CE Delft (2023). CO<sub>2</sub> emissions of private aviation in Europe.; UK Department for Business, Energy & Industrial Strategy (2020). Greenhouse gas reporting: conversion factors 2019.

524

## Sufficiency

Which plant-based alternative generates most sales in Europe?

- a) Meat alternatives
- b) Milk alternatives
- c) Yoghurt alternatives

- b) Milk alternatives

In 2022, they generated €2.2 billion sales, meat ones €2 billion and yoghurt €470 million.

Source: Good Food Institute Europe (2023). Europe plant-based food retail market insights 2020-2022.

525

## Sufficiency

10

Which action reduces carbon footprints the most?

- a) A plant-based diet
- b) Waste recycling
- c) Switch to energy-efficient light bulbs

- a) A plant-based diet

It can save 1.6 tonnes of CO<sub>2</sub>-equivalent per year, 4 times more than recycling and 8 times more than efficient light bulbs.

Source: Wynes, S., & Nicholas, K. A. (2017). The climate mitigation gap: education and government recommendations miss the most effective individual actions. *Environmental Research Letters*, 12(7), 074024.

526

## Sufficiency

10

Which of these reduces carbon footprints the least?

- a) Buying green energy
- b) Recycling waste
- c) Washing laundry in cold water

- b) Recycling waste

Green energy can save 2 tonnes CO<sub>2</sub>-equivalent per year, while cold laundry saves a quarter of that and recycling less.

Source: Wynes, S., & Nicholas, K. A. (2017). The climate mitigation gap: education and government recommendations miss the most effective individual actions. *Environmental Research Letters*, 12(7), 074024.

527

## Sufficiency

10

Which country used 38 times more fresh water than readily available to it in 2019?

- a) Saudi Arabia
- b) Kuwait
- c) Egypt

- b) Kuwait

It withdrew much more freshwater than was sustainably available. Saudi Arabia used 10 times more; Egypt 1.4 times.

Source: UN Water (n.d.). Maps.

528

## Sufficiency

10



Is this statement true or false?

There are different levels of regenerative business actions, some weaker and some stronger.

True.

Businesses can restore, preserve or enhance. Restoring only compensates negative impact, preserving avoids it, and enhancing has a positive impact.

Source: Hahn, T., & Tampe, M. (2020). Strategies for regenerative business. Strategic Organization, 19(3), 456-477.

R29

## Regeneration

1.0

In Europe, planting more trees in cities could have prevented how many heat-related deaths in summer 2015?

- a) 26
- b) 264
- c) 2644
- c) 2644

Trees in cities reduce temperatures. Covering cities with trees could save thousands of lives in extreme heat.

Source: Iungman, T. et al. (2023). Cooling cities through urban green infrastructure: a health impact assessment of European cities. The Lancet, 401(10376), 577-589.

R30

## Regeneration

1.0

Where do people use the most resources per person?

- a) US
- b) Qatar
- c) Canada

b) Qatar

If everyone lived like people in Qatar, we would need 9 times the resources on Earth. For the US and Canada, this would be 5.1 times.

Source: National Footprint and Biocapacity Accounts 2022 (n.d.). How many Earths?

S30

## Sufficiency

1.0

US company "Guayaki" sells its drinks to promote "market-driven...?"

- a) Charity
- b) Capitalism
- c) Regeneration

c) Regeneration

Guayaki supports wildlife and local indigenous communities with its profits.

Source: Guayaki Yerba Mate (n.d.). 2022 Impact Report.

R1

## Regeneration

German business "ClayTec" cares about the environment and human...

- a) Health
- b) Technology
- c) Security

a) Health

Its construction products are made from clay. Clay is low in emissions, pollutant-free and prevents mold.

Source: ClayTec (n.d.). Why clay.

R3

## Regeneration

In 2022, the founder of "Patagonia" said their only stakeholder is...?

- a) The Market
- b) Society
- c) Earth

c) Earth

He gave all ownership to a non-profit Collective and a Trust. Profits are now used for environmental and social causes.

Source: Chouinard, Y. (2022). Earth is now our only shareholder. Patagonia.

R2

## Regeneration

Organic clothing brand "Harvest & Mill" ensures good labour conditions by...?

- a) Producing only in the US
- b) Allowing long breaks
- c) Using robots

a) Producing only in the US

In the US, it can legally ensure that its workers' contracts are met. This is not possible in other countries.

Source: Harvest & Mill (n.d.) Sustainability.

R4

## Regeneration

How does Dutch business "ReefSystems" restore coral reef systems?

- a) Feeding fish
- b) Building artificial reefs
- c) Planting corals

b) Building artificial reefs

It builds artificial reefs that animals and plants can live in when their coral reefs are damaged.

Source: ReefSystems (n.d.). About us.

R5

## Regeneration

New Zealand sheep farm "Lake Hawea Station" offers its customers...?

- a) Carbon negative wool
- b) Vegan cheese
- c) Recycled wool

a) Carbon negative wool

It uses regenerative farming to store more carbon in the soil than it produces. This makes their wool carbon negative.

Source: Lake Hawea Station (n.d.). Carbon and biodiversity.

R7

## Regeneration

Every year, the world spends around US\$4 trillion on subsidies that...?

- a) Damage nature
- b) Protect nature
- c) Ignore nature

a) Damage nature

Governments subsidize activities that harm nature, like deforestation or overfishing.

Source: Dasgupta, P. (2021). The economics of biodiversity: the Dasgupta review. HM Treasury.

R6

## Regeneration

How much of global GDP is directly dependent on the services of nature?

- a) 25%
- b) 40%
- c) 55%

c) 55%

A lot of GDP is dependent on healthy ecosystems. Examples are agriculture or water provision.

Source: Swiss Re Institute (2020). Biodiversity and Ecosystems Services Index: measuring the value of nature.

R8

## Regeneration

Which industry creates over 50% of the pressures on biodiversity?

- a) Mobility
- b) Food
- c) Fashion

b) Food

It can threaten ecosystems through farming and fishing, changing land use and overexploiting.

Source: Kurth, T., Wübbels, G., Portataix, A., Zielcke, S., Meyer Zum Felde, A. (2021). The Biodiversity Crisis is a Business Crisis. Boston Consulting Group.

R9

## Regeneration

## Regeneration

US company "Dean's Beans" sells coffee grown in the shade because...?

- a) It tastes better
- b) It gives habitat to wildlife
- c) It is cheaper

b) It gives habitat to wildlife

Shade-grown coffee is surrounded by other plants. These shelter animals and often grow fruits that farmers can eat.

Source: Dean's Beans (n.d.). Our commitment to shade-grown coffee.

R10

US company "True Pigments" helps its locals by...?

- a) Cleaning polluted rivers
- b) Building houses
- c) Training artists

a) Cleaning polluted rivers

The social enterprise makes paints from coal mine pollution in rivers. The profits are used to clean the water.

Source: True Pigments (n.d.). About.

R11

## Regeneration

## Regeneration

Where did nature not have legal rights in 2022?

- a) New Zealand
- b) Sweden
- c) Panama

b) Sweden

Many countries give legal rights to nature areas like rivers. Firms which pollute there can then be legally prosecuted.

Source: Center for Democratic and Environmental Rights (2022). Rights of Nature Timeline.

R12



If Google users switch to “Ecosia”, the search engine that plants trees, they can plant 300 billion trees....?

- a) Every year
- b) Every 10 years
- c) In 100 years

a) Every year

Ecosia plants trees with its profits. It planted 40 million trees in 2021 and grows more with every search.

Source: Ecosia (2022). Regeneration Report.

R13

## Regeneration

A co-founder of “Burt’s Bees” sold 80% of her stakes to invest in...

- a) A new business
  - b) Bee hives
  - c) Woodland protection
- c) Woodland protection

She bought undeveloped land worth \$60 million and donated it to the US National Park Service for protection.

Source: Burt’s Bees (n.d.). Roxanne’s bees: our co-founder’s story.

R14

## Regeneration

Is this statement true or false?  
“Ingka Group”, the largest IKEA retailer, has bought forests across the globe to protect them.

False.

Ingka says it will manage the forest sustainably but it actively cuts down trees to sell on the market.

Source: Ingka Group (03.05.2022) Sustainable Forestry: An Investment in the Future.

R15

## Regeneration

Mexican eco-hotel “Playa Viva” supports locals with...?

- a) Holiday vouchers
- b) Permaculture training
- c) Plant seeds

b) Permaculture training

Playa Viva restores local forests and trains farmers in permaculture and organic agriculture.

Source: Playa Viva (n.d.). Reforestation.

R16

## Regeneration

UK based company  
"Notpla" offers packaging  
that is...?

- a) Not plants
- b) Not plastic
- c) Not plain

b) Not plastic

Notpla creates plastic-free  
packaging from brown seaweed. It  
can biodegrade in any environment.

Source: Notpla (n.d.). Notpla Glossary.

R17

## Regeneration

Brazilian business  
"Natura" says that without  
a living Amazon, there is  
no...?

- a) Profit
- b) Future
- c) Climate change

b) Future

The cosmetics brand says its  
business depends on a healthy  
Amazon forest, so it contributes to  
conservation and research.

Source: Natura (12.02.2019). AMAZÔNIA VIVA.

R19

## Regeneration

What sustainable product  
does Ghana-based  
"Serendipalm" produce?

- a) Hand cream
- b) Sugar
- c) Palm oil

c) Palm oil

Its production is often  
unsustainable but Serendipalm  
helps small farmers use  
agroforestry and organic farming.

Source: Serendipalm (n.d.). Sustainable & Regenerative  
Agriculture.

R18

## Regeneration

South African business  
"I-Drop" offers customers  
safe access to...?

- a) Drinking water
- b) New phones
- c) Eye medication

a) Drinking water

Their refill machines clean the  
water. Customers can bring their  
own bottle and refill at a local store  
in eight African countries.

Source: I-Drop (n.d.).

R20

## Regeneration

Where did air pollution from particulate matter reduce since the 1990s?

- a) New Zealand
- b) Australia
- c) US

e) US

Fine particulate matter causes diseases, like asthma. Levels reduced in the US and Europe but grew everywhere else.

Source: Yu, W, et al. (2023). Global estimates of daily ambient fine particulate matter concentrations and unequal spatiotemporal distribution of population exposure: a machine learning modelling study. *The Lancet Planetary Health*, 7(3), e209–e218.

R21

## Regeneration

1.0

How much of the world's land and inland water areas were protected in 2021?

- a) Around 17%
- b) Around 33%
- c) Around 50%

a) Around 17%

The 2022 IPCC report recommends we should conserve 30-50% of the world's land and water areas.

Source: UNEP-WCMC IUCN (2021). Protected Planet Report 2020. Cambridge, UK, Gland, Switzerland. UNEP-WCMC and IUCN.

R23

## Regeneration

1.0

Which animal can support climate adaptation if returned into native habitats?

- a) Trout
- b) Beaver
- c) Koala
- b) Beaver

Dams store water and cool down rivers, helping in dry summers. Trout and koalas, however, struggle to adapt.

Source: Dittbrenner, B. J., Schilling, J. W., Torgersen, C. E., & Lawler, J. J. (2022). Relocated beaver can increase water storage and decrease stream temperature in headwater streams. *Ecosphere*, 13(7), e4168.

R22

## Regeneration

1.0

Is this statement true or false?

Building on US wetlands can cause damage of \$8,000 per hectare each year.

True.

Wetlands buffer floods. Building on them can cause a lot of flood damage.

Source: UNEP-WCMC IUCN (2021). Protected Planet Report 2020. Cambridge, UK, Gland, Switzerland. UNEP-WCMC and IUCN.

R24

## Regeneration

1.0

Is this statement true or false?  
Beekeeping is on the rise in Germany in recent years.

True.

There were 2 million colonies in 1950 but only 750,000 in 2010. Now, beekeeping is coming back due to worries about nature.

Source: Wagner, A. (14.04.2023). Honig ist nicht nur Zuckerschlecken. Tagesschau.

R25

## Regeneration

1.0

Is this statement true or false?  
We need to conserve half of the world for nature.

False.

But experts think we need to conserve a third to keep biodiversity and ecosystem services.

Source: IPCC (2022). Climate Change 2022: Impacts, Adaptation, and Vulnerability. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [Parner et al. (eds.)]. Cambridge University Press, Cambridge, UK and New York, NY, USA, pp. 3-33.

R26

## Regeneration

1.0

Where in Europe can we see particularly bad air pollution?  
a) East Germany  
b) South Belgium  
c) North Italy

c) North Italy

It is badly polluted by particulate matter and ozone. That is caused by the high density of people and industry, and also geography.

Source: European Environment Agency (24.04.2023).Europe's air quality status 2023.

R27

## Regeneration

1.0

Is this statement true or false?  
Planting trees on peatlands is good for sustainability.

False.

Peatlands hold over 25% of global CO<sub>2</sub>. Trees can also store CO<sub>2</sub>, but planting them on peat is bad because it releases stored CO<sub>2</sub>.

Source: Gewin, V. (12.02.2020). How peat could protect the planet. Nature.

R28

## Regeneration

1.0



Journalists found out that you use misleading numbers. You say you resell 97% of products returned to you. But that only applies to half your product range. That's bad. **Don't move and try again next round.**

Inspiration: This was done by German clothing retailer Zalando in 2023.

Source: Materla, V., Maiwald, C. & Roeddler, T. (28.02.2023). Greenwashing bei Zalando-Retouren. Tagesschau.

Event1



You want your products to last a long time, so you design them for easy repair. You also make repair guides and provide cheap spare parts. Well done! **Move two fields forward.**

Inspiration: Repair is supported by many businesses, such as outdoor company Vaude and audio equipment business ALIAlA!

Source: Niessen, L. (n.d.). Business for sufficiency database.

Event2



You want to network about sustainability, so you organize a conference. But to avoid travel emissions, you host it online. Nice one! **Move one field forward.**

Inspiration: Conference travel causes a lot of emissions. One participant can cause up to 1,5 tonnes of CO<sub>2</sub>-equivalent per round-trip.

Source: Jäckle, S. (2022). The carbon footprint of travelling to international academic conferences and options to minimise it. Academic Flying and the Means of Communication, 19-52.

Event3



You could not sell all your products. To protect the brand and avoid discounting, you burn the stock, worth over €30 million. That's bad. **Don't move and try again next round.**

Inspiration: This was done by Burberry in 2018. They faced public backlash and promised to stop burning stock.

Source: BBC (19.07.2018). Burberry burns bags, clothes and perfume worth millions.

Event4



**You get a subsidy to hire an adviser on decreasing your company's footprint. How lucky! Move one field forward and keep this card. At your next multiple choice question, you can ask another player for help.**

Inspiration: The Dutch government gives money to small and medium-sized businesses to consult a sustainability expert.

Source: Business.gov.nl (n.d.). Subsidy scheme Improving Sustainability of SMEs (SVM).

Event5



**You offset emissions in a reforestation scheme. But there is a wildfire and 'your' trees burn down, releasing further CO<sub>2</sub>. Oh no. Don't move and try again next round.**

Inspiration: In California, businesses can offset emissions through forest conservation. But wildfires have destroyed nearly 20% of this carbon storage in less than ten years.

Source: Badgley, G., Chay, F., Chegwidden, O. S., Hamman, J. J., Freeman, J., & Cullenward, D. (2022). California's forest carbon offsets buffer pool is severely undercapitalized. *Frontiers in Forests and Global Change*, 5, 154.

Event7



**You think your product is sustainable. You call it "natural" but do not give any evidence. This is misleading and can break consumer law. Oh no. Don't move and try again next round.**

Inspiration: In a global review, 40% of firms use misleading claims, such as vague words or leaving out information to look green.

Source: UK Government Competition and Markets Authority (26.01.2021). Global sweep finds 40% of firms' green claims could be misleading.

Event6



**Because of a water shortage, your city raises the price for water. But now the poorer locals cannot pay for it, so you share your water. Well done! Move one field forward.**

Inspiration: In Cape Town, the richest 14% use more than half the water. In droughts, the city increases water prices but that affects the poor, not the rich.

Source: Savelli, E., Marzoleni, M., Di Baldassarre, G., Cloke, H. & Rusca, M., (2023). Urban water crises driven by elites' unsustainable consumption. *Nature Sustainability*.

Event8



You open a sustainable hotel at the Mexican coast. But the beaches are covered in seaweed that scares away tourists. Oh no. **Don't move and try again next round.**

Inspiration: Seaweed is normal in the Caribbean. But climate change and chemicals have made it grow faster. Now it scares off tourists.

Source: Garrison, C. (04,07,2022). Stinky seaweed threatens Mexico's post-pandemic tourism boom. Reuters.

Event9



Your airline buys fuel-efficient planes to reduce emissions. But more and more people want to fly, so you offer more flights and your emissions still go up. Oh no. **Don't move and try again next round.**

Inspiration: New planes are 20% more fuel-efficient than older ones. But more passengers in 2000-2019 outpaced these improvements.

Source: International Energy Agency (n.d.). Aviation.

Event10



The consumption of the world's rich causes most emissions. You decide to no longer sell luxury fashion and instead focus on essentials. Wow! **Move two fields forward.**

Inspiration: Since 1990, the consumption of the richest 10% caused 52% of emissions, while the poorest 50% only caused 7%.

Source: Kartha, S., Kemp-Benedict, E., Ghosh, E., Nazareth, A. and Gore, T. (2020). The Carbon Inequality Era: An assessment of the global distribution of consumption emissions among individuals from 1990 to 2015 and beyond. Joint Research Report, Stockholm Environment Institute and Oxfam International.

Event11



You want your business to help biodiversity but do not know where to start. So you team up with a local environmental NGO. Good idea! **You and another player you choose can move one field forward.**

Inspiration: Carpet manufacturer Interface worked with the Zoological Society of London to collect fishing nets from the ocean and turn them into carpet.

Source: Khoo, J. (2018). Interface: Net-works—lessons learnt turning nets into carpet. In Designing for the circular economy (pp. 326-335). Routledge.

Event12





You build wind turbines on your factory. To include your community, you give locals the option to co-own a turbine together with you. Nice! **Move one field forward.**

Inspiration: In the Netherlands, 50% of new renewable energy installations should be owned by local people and businesses.

Source: Government of the Netherlands (2019), Climate Agreement.

Event13



You join the International Accord for Health and Safety in the Textile and Garment Industry. It binds you to contribute to safety and workers' health. Well done! **Move two fields forward.**

Inspiration: In 2013, the Rana Plaza factory collapse in Bangladesh killed 1,134 people. The International Accord was set up to increase factory safety.

Source: International Accord for Health and Safety in the Textile and Garment Industry (n.d.).

Event15



Together with employees, you plant trees at your factory. An area is set aside for biodiversity and volunteers manage it, so everyone can use it safely. Good! **Move one field forward.**

Inspiration: Urban green areas are great for wildlife and air quality but can be perceived as unsafe if not managed well.

Source: Hofmann, M., Westermann, J. R., Kowarik, L., & Van der Meer, E. (2012). Perceptions of parks and urban derelict land by landscape planners and residents. Urban forestry & urban greening, 11(3), 303-312.

Event14



One of your main ingredients is olive oil. But the drought in Spain raises olive oil prices, so you struggle to pay for it, Oh no. **Don't move and try again next round.**

Inspiration: The drought increased prices globally by almost 60% from June 2022 to 2023. It affects the size and quality of the harvest.

Source: Financial Times (23.04.2023). No rain in Spain pushes olive oil prices to record levels.

Event16





Water in your area is scarce. Your company drills a borehole but so do others. You meet and decide on maximum extraction volumes together. Amazing! **You and another player you choose can move one field forward.**

Inspiration: Collaboration around water can be traced back as far as 5000 BC. Today, there are about 700 cross-border water agreements.

Source: Global Commission on the Economics of Water (2023). The What, Why and How of the World Water Crisis.

Event17



While your team discusses sustainable products, your competitors already developed them. They have the first mover advantage. **You do not move but the player left of you can move one field forward.**

Inspiration: Beyond Meat is a first mover in the American meat substitute market and has left competitors behind.

Source: Choudhary, A. (2020). Sustaining a first mover advantage in a fast-growing meat substitute market. Rutgers Business Review, 5(3), 405-415.

Event19



The world needs durable products! Together with other companies, you start a club that promotes sufficiency and longevity. Great! **You and another player you choose can move one field forward.**

Inspiration: In France, enterprises started a Durability Club to promote long-life products, repair and sufficiency.

Source: Club de la durabilité (n.d.).

Event18



The product you sell has a huge negative impact. You work with your competitors to make it sustainable. Amazing! **All players in the game move one field forward.**

Inspiration: The Roundtable on Sustainable Palm Oil wants to make palm oil production sustainable. Members include palm growers, processors and retailers.

Source: Roundtable on Sustainable Palm Oil. (n.d.).

Event20



You cover your product with coating to make it last longer. But new research shows that the coating contains chemicals that can cause cancer. Oh no. **Don't move and try again next round.**

Inspiration: PFAS chemicals are common in outdoor clothing. But they can damage health and some governments want to ban them.

Source: US EPA (n.d.). Our Current Understanding of the Human Health and Environmental Risks of PFAS.

Event21



You decide to give 30% of your business ownership to your employees. This can make your company more resilient and reduce inequality. Well done! **Move one field forward.**

Inspiration: In the US, the richest 10% own 90% of business wealth. Employee ownership tackles that and can benefit business.

Source: Dudley, T. & Rouen, E. (13.05.21). The Big Benefits of Employee Ownership. Harvard Business Review.

Event23



Your business made you rich. But you worry about the social and environmental costs of inequality, so you join other millionaires and lobby to tax the rich. Wow! **Move one field forward.**

Inspiration: In 2023, 120 millionaires called on G20 leaders to raise taxes on the ultra-rich to reduce inequality.

Source: Tax Extreme Wealth (n.d.). Signatures.

Event22



As an insurance provider, you decide to offer an extreme weather insurance for street vendors, so they can still receive income if they cannot work. Well done! **Move one field forward.**

Inspiration: This insurance protects workers in India where hot weather can make outdoor work impossible.

Source: Mahajan, S. & Millan, L. (19.06.23). An Indian City's Battle Against Extreme Heat.

Event24



You run a small enterprise with a sustainable mission. You always pay your taxes. Now, you hear that your tax money goes to big polluters. Oh no. **Don't move and try again next round.**

Inspiration: Research from 2023 found the Dutch government pays over €37 billion to polluting industries in the form of tax cuts and reductions.

Source: SOMO (04.09.23). Nog meer belastinggeld naar grote vervuilers dan gedacht.

Event25



You want to show your support for climate action. Inspired by Fridays for Future strikes, you join a Business Queue for Climate & Nature to protest. Great! **Move one field forward.**

Inspiration: UK coalition Business Declares unites over 100 businesses to protest with the global climate strikes.

Source: Business Declares (n.d.).

Event27



To combat heat, you finance a mini-forest in your city. This forest provides space for biodiversity and shade to people. Well done! **Move one field forward.**

Inspiration: Mini-forests are densely grown with native plants. Cities like Jordan's Amman plant them to fight heat.

Source: Taysser, M. & Millan, L. (30.08.2023). Fast-Growing Mini Forests Help Cool Down a Desert City.

Event26

