

A world without waste

Cradle to Cradle

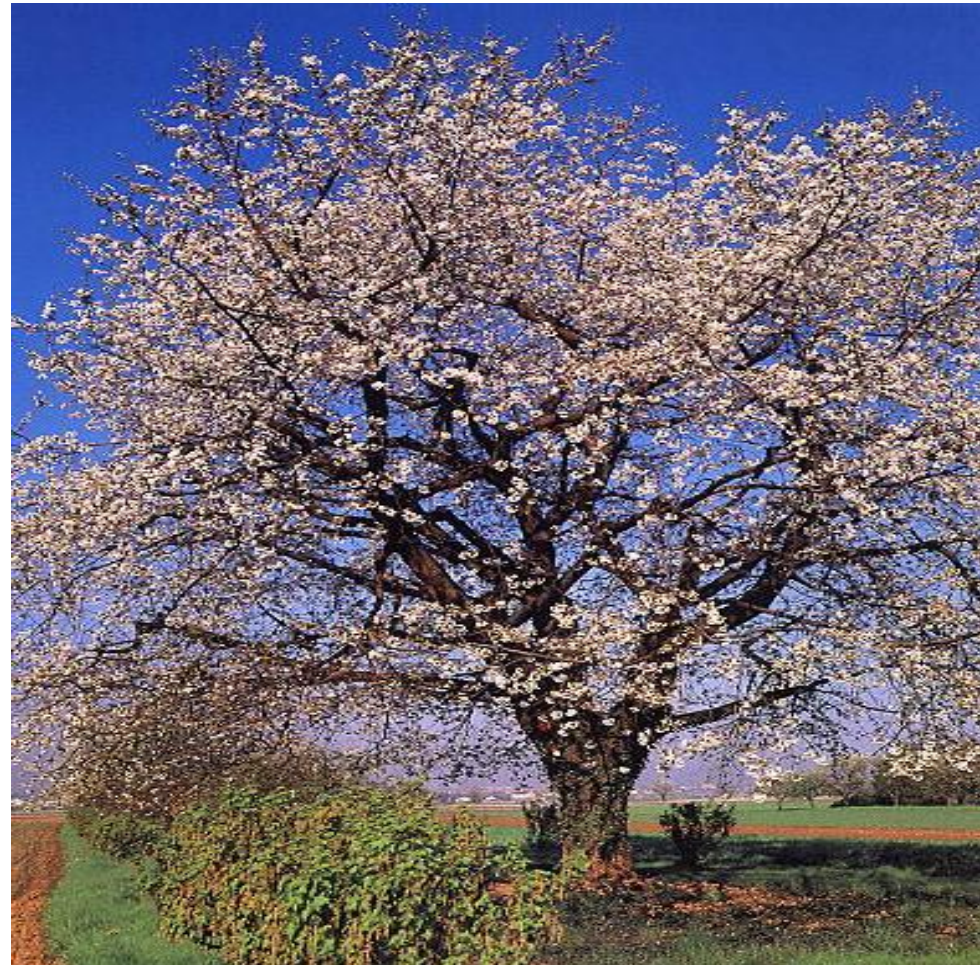
Dr. Monika Griefahn

Founder and CEO

Institut Medien, Umwelt, Kultur (IMUK)

A world without waste – Cradle to Cradle (Von der Wiege zur Wiege)

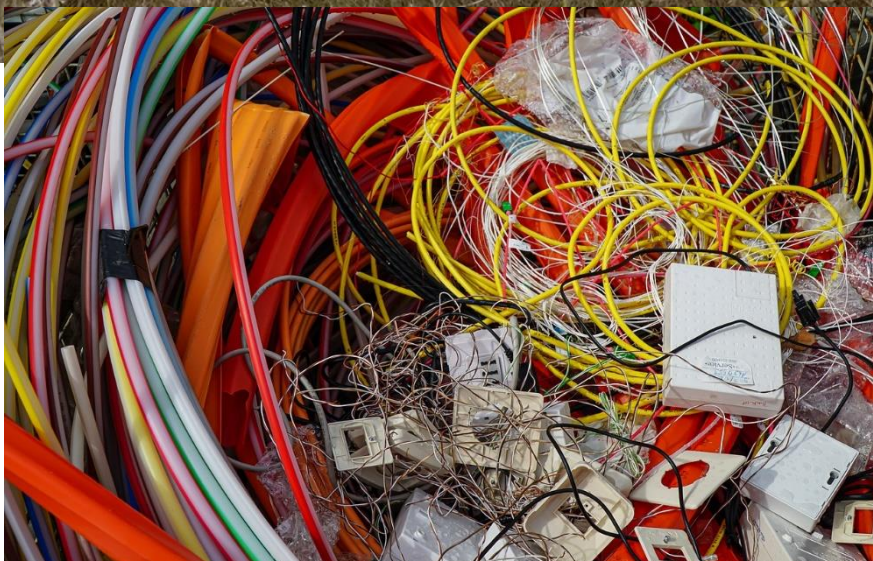
gfu Insights & Trends – From a throwaway society to a circular economy



July 5, 2023

Dr. Monika Griefahn

Houston, we have a problem (and it's not the baby)



Cradle to grave: make – use – waste



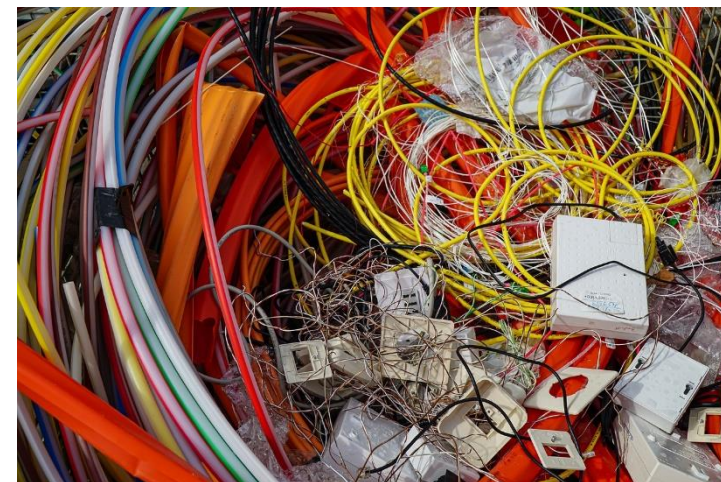
Domestic waste

A baby needs around 6000 diapers, most of them waste.



Construction and demolition waste

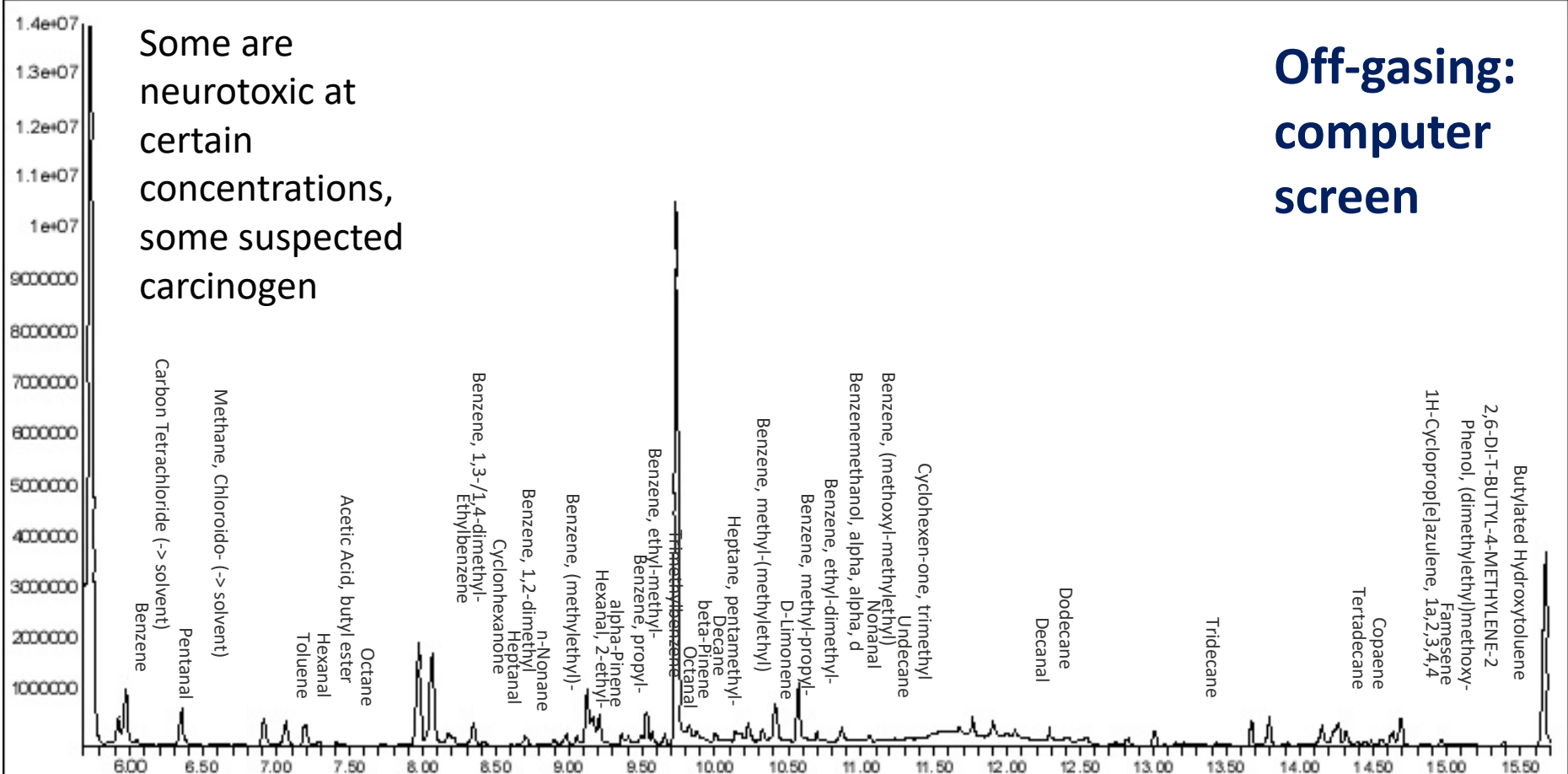
More than half of the total waste amount in Germany; partly well recycled (excavated soil)



Electronic waste

In 2020 around 4.7 million tons of e-waste were generated in the EU.

It's the material stupid



Coatings, Pigments & PVC



Cover

Aluminum
Inks
Top coats
Sealing wax
Binder
Pigments
Photoinitiators
Additives

Cup

Plastics
Additives
Pigments
Closures
Overprints
Printing inks

**More than 600 chemicals in one
yoghurt cup**

Where Do the Oceans' Microplastics Come From?

Distribution of sources of microplastics in the world's oceans



Synthetic textiles
35.0%



Car tires
28.0%



City dust
24.0%



Road markings
7.0%



Marine coatings
3.7%



Personal care products
2.0%



Plastic pellets
0.3%



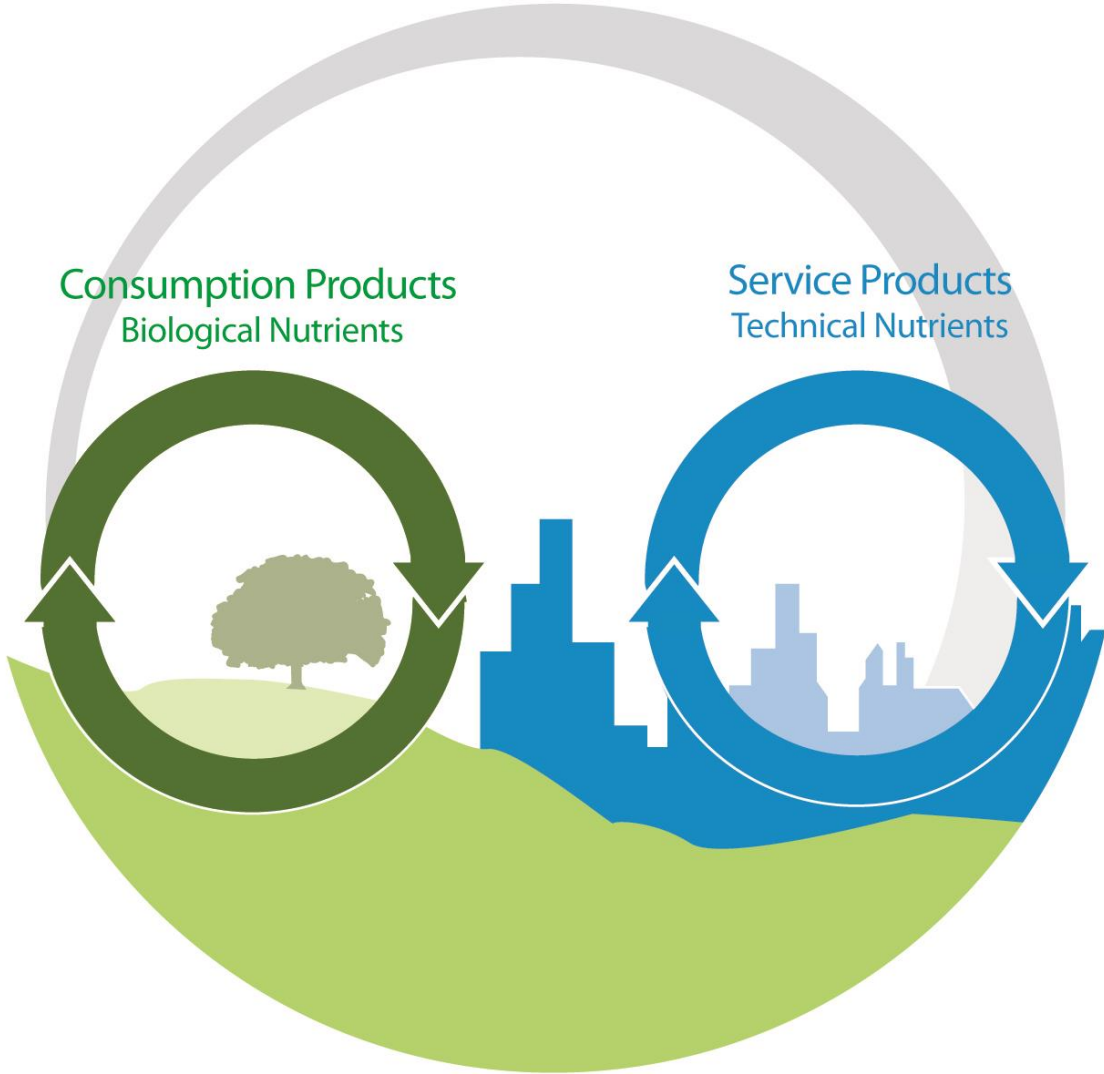
@StatistaCharts

Source: International Union for Conservation of Nature

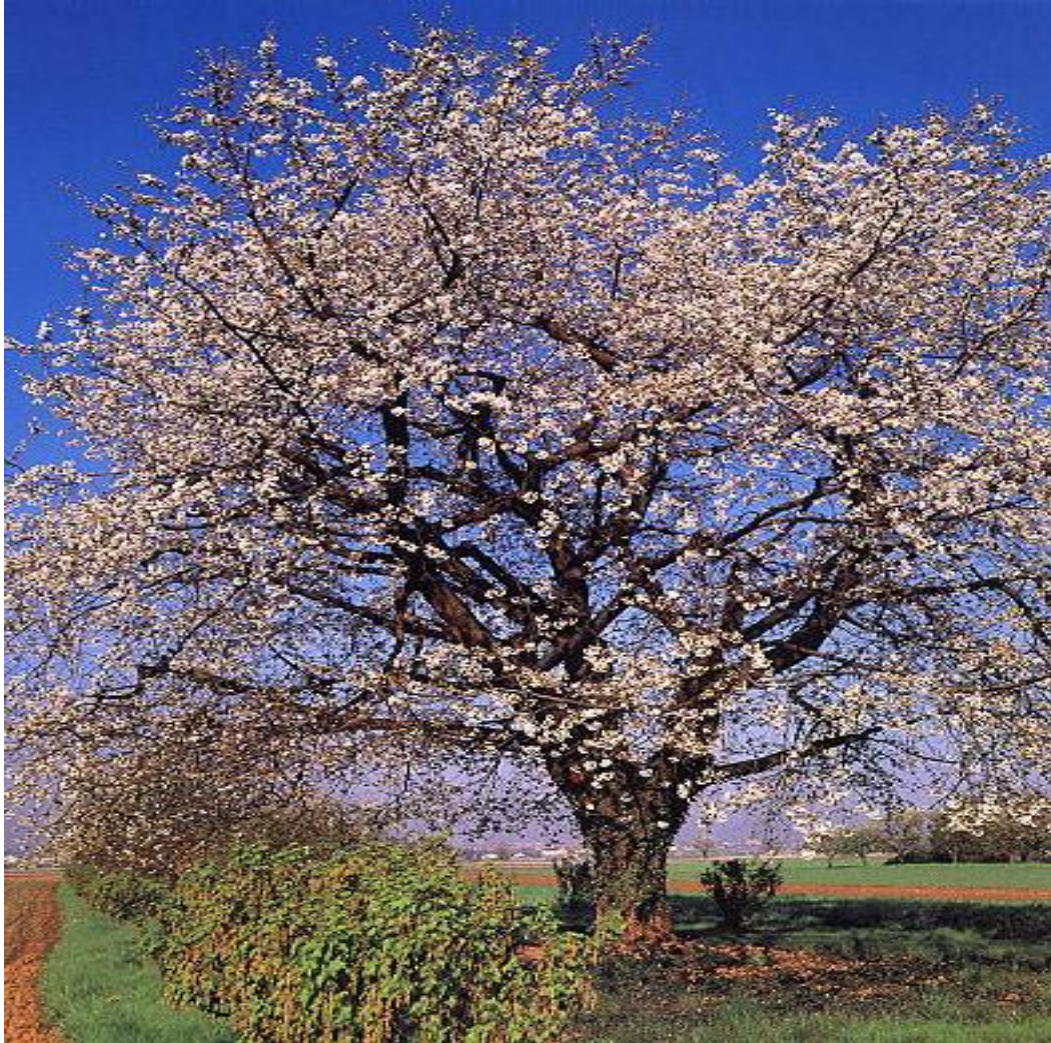
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Cradle to Cradle



Cradle to Cradle-Paradigm



**Nutrients are
nutrients**

**Use renewable
energies**

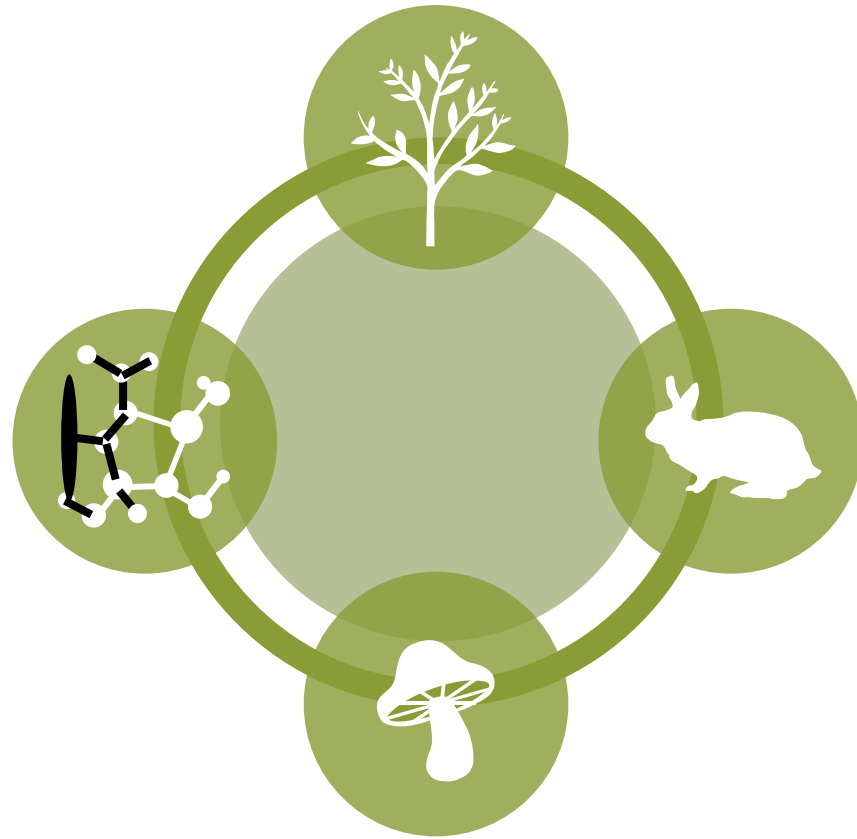
**Celebrate
diversity**

Cherry tree – effective and useful

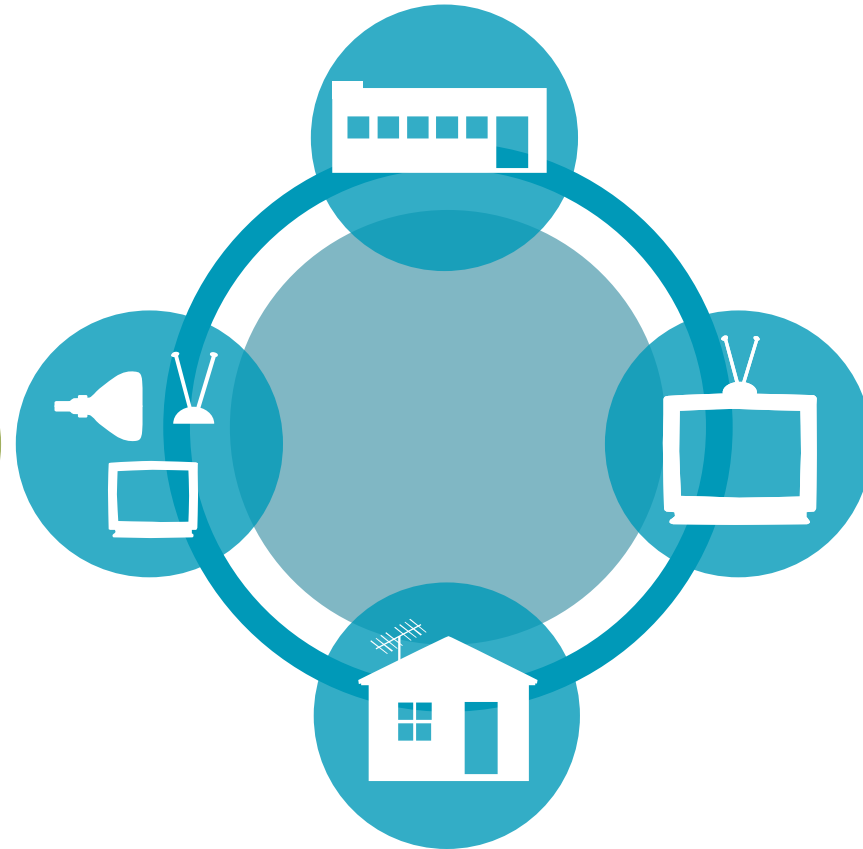


- Absorbs CO₂
- Produces oxygen
- Produces biomass
- Supports biodiversity
- Provides habitat
- Filters the air
- Produces soil

Prerequisite: Separate circuits

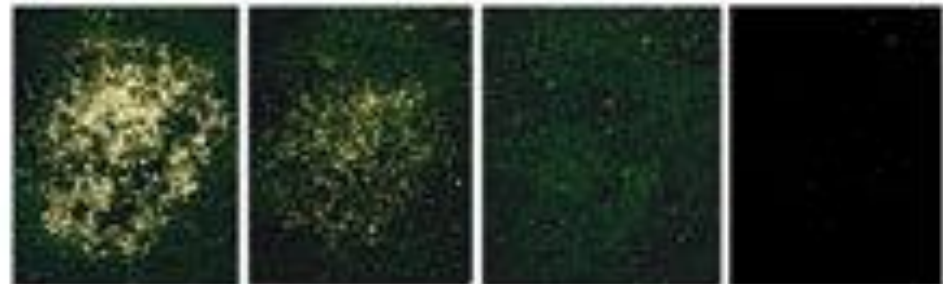
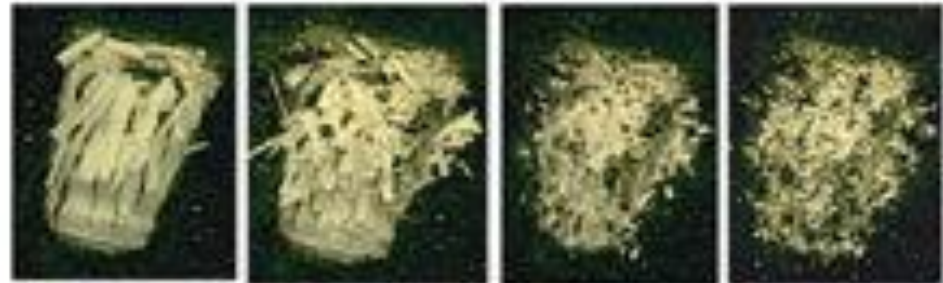


Biosphere
Products of
consumption



Technosphere
Products of
usage

Biosphere

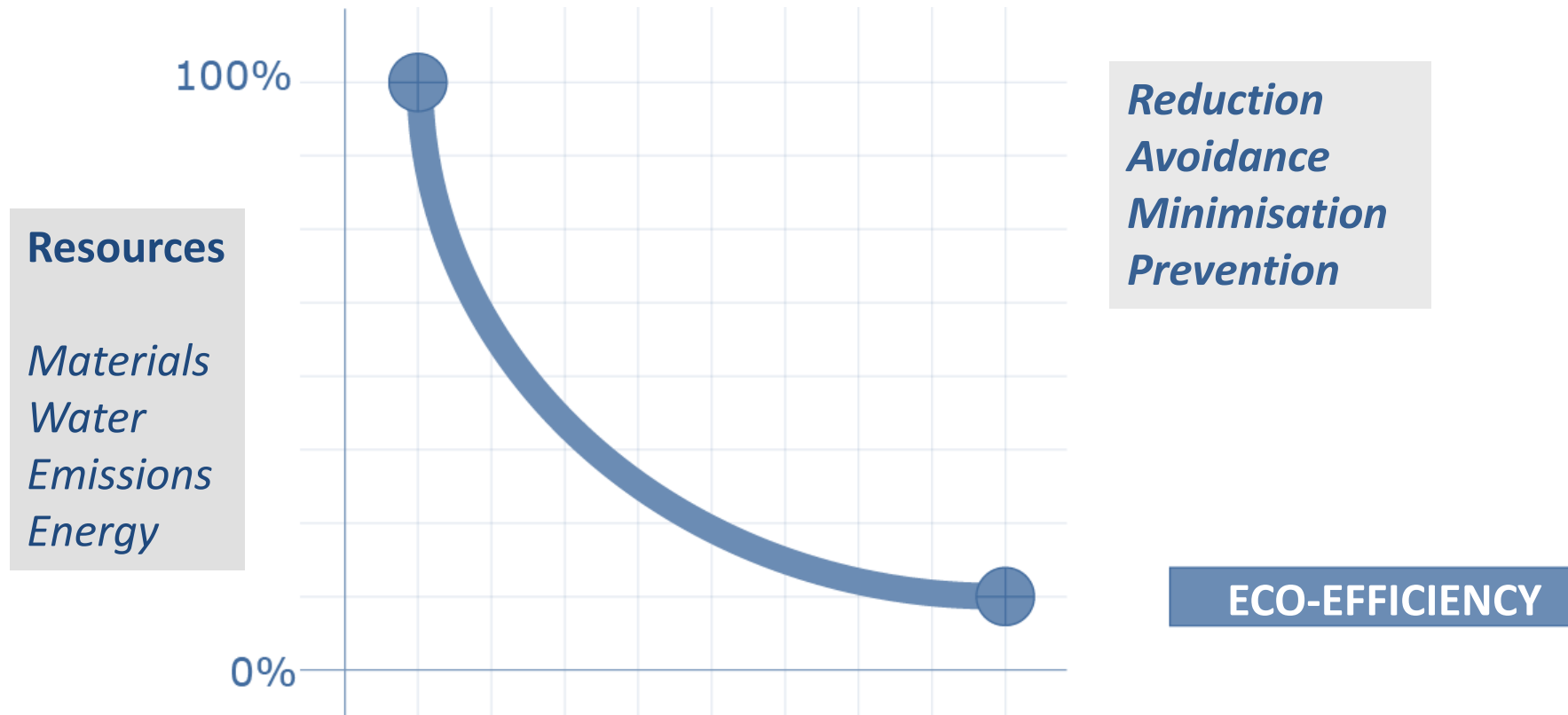


Technosphere



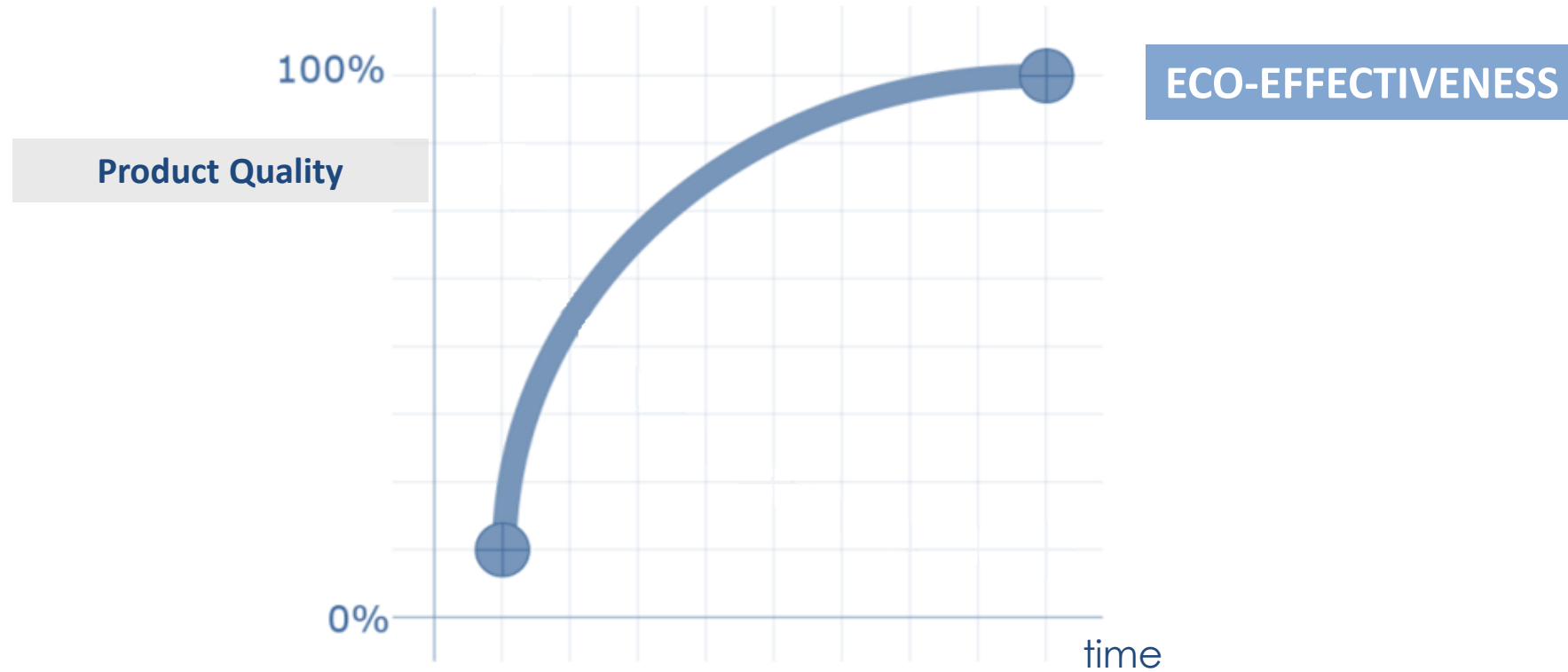
Cradle to grave

Target = zero harmfulness



Cradle to Cradle

Target = All-encompassing quality and usefulness



Cradle to Cradle – 6 R Strategy

Reduce, Reuse, Recycle?

Rethink!

Reinvent!

Redesign!

Use the right material.

Design a recyclable product.

Design is a decisive factor.

Intelligent design instead of waste management/“upcycling”.



Washing as a service

(Weekly newspaper ZEIT, April 8, 2020)

Von der Leyen: The course remains the same. The Green Deal is the new European growth strategy.

Our growth model to date has been based on the overexploitation of nature and the externalization of costs, right down to global landfills. What would make us more self-sufficient would be a more circular economy, in which something is taken from nature once, but which can then be recycled or repaired if possible.

The second paradigm shift is: away from buying and towards service. As long as a washing machine is bought, there is an interest in it breaking down after a while and being disposed of cheaply. But if the manufacturer provides it as a kind of service, he himself has the greatest interest in ensuring that the washing machine lasts as long as possible.



<https://www.zeit.de/2020/16/ursula-von-der-leyen-corona-krise-globalisierung-europapolitik/seite-3>

https://commons.wikimedia.org/wiki/File:Ursula_von_der_Leyen_presents_her_vision_to_MEPs.jpg

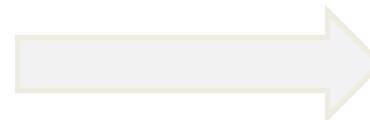
Examples of the service-model



**Service
to sit down**
instead of possessing a chair



**Service
to look out the window**
instead of buying glass



**Service
to have light**
instead of buying a lamp

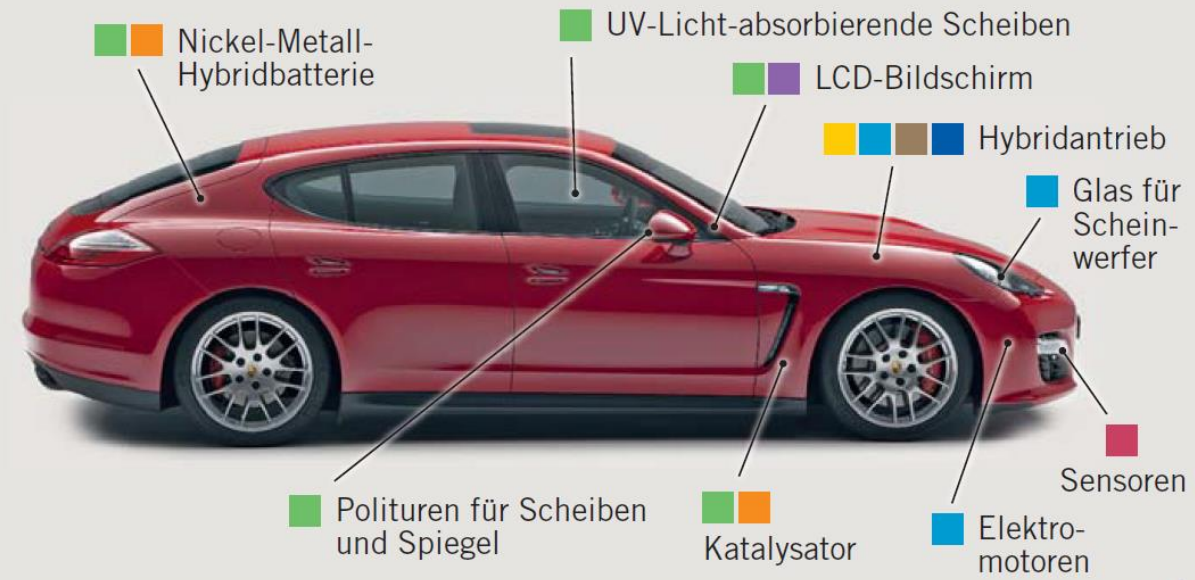
Quelle: Andreas Hermsdorf, pixelio.de

No other way anyway?



Seltene Erden im modernen Fahrzeugbau

Porsche Panamera: In Hybridversionen moderner Autos finden sich mindestens acht seltene Metalle



Cer	Europium	Neodym	Terbium
Dysprosium	Lanthan	Praseodym	Yttrium

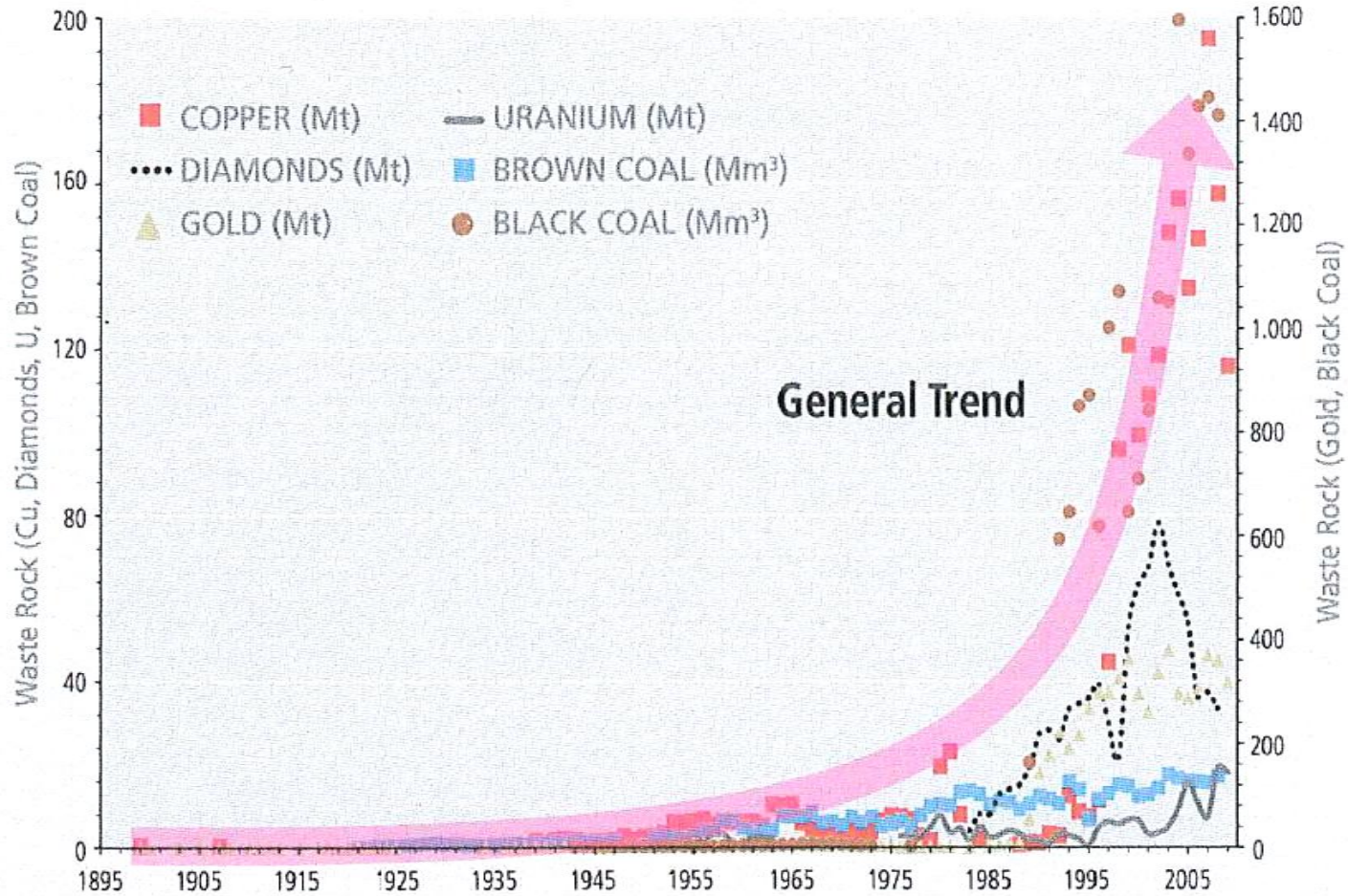
Quelle: FTD

Europeans depend highly on resources from other countries (rare earth metals)

Copper scarcity

General Trend of Waste Rock in Australian Mining

Source: Mudd (2009), Data for Australia as one of the globally most important resource providers.



A pocket full of risks

**Political
crises**

Unilateral dependencies

Wars

Child labor

Autocratic leaders

Supply routes

Pollution

Public security

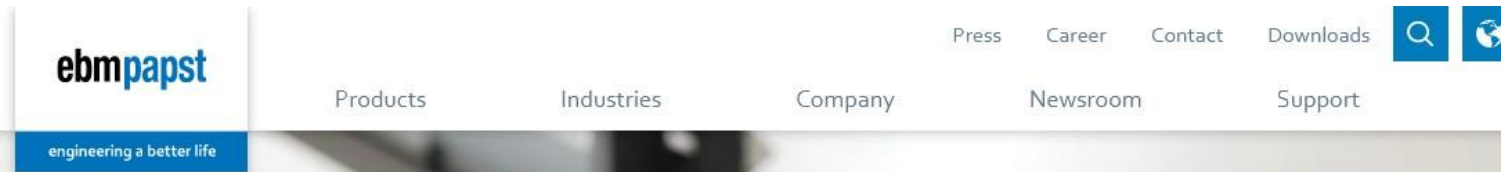
Climate change

It is absolutely essential that we keep as many resources as possible in circulation. In the case of Germany: Why not create the new "Silicon Valley of the Circular Economy" in today's coalfields (Saxonia and North Rhine-Westphalia)?

Best practice: TV (2012)



Best practice: EBM-Papst



Better air. Better life.
*Creating a healthy environment for better
comfort and productivity with indoor air quality.*

[Find out more >](#)

Solar systems as a service – for example DZ4, Hamburg



Pioneers in the Cradle to Cradle world

>300 Companies, > 8000 Products



Smart homes in a Cradle to Cradle sense

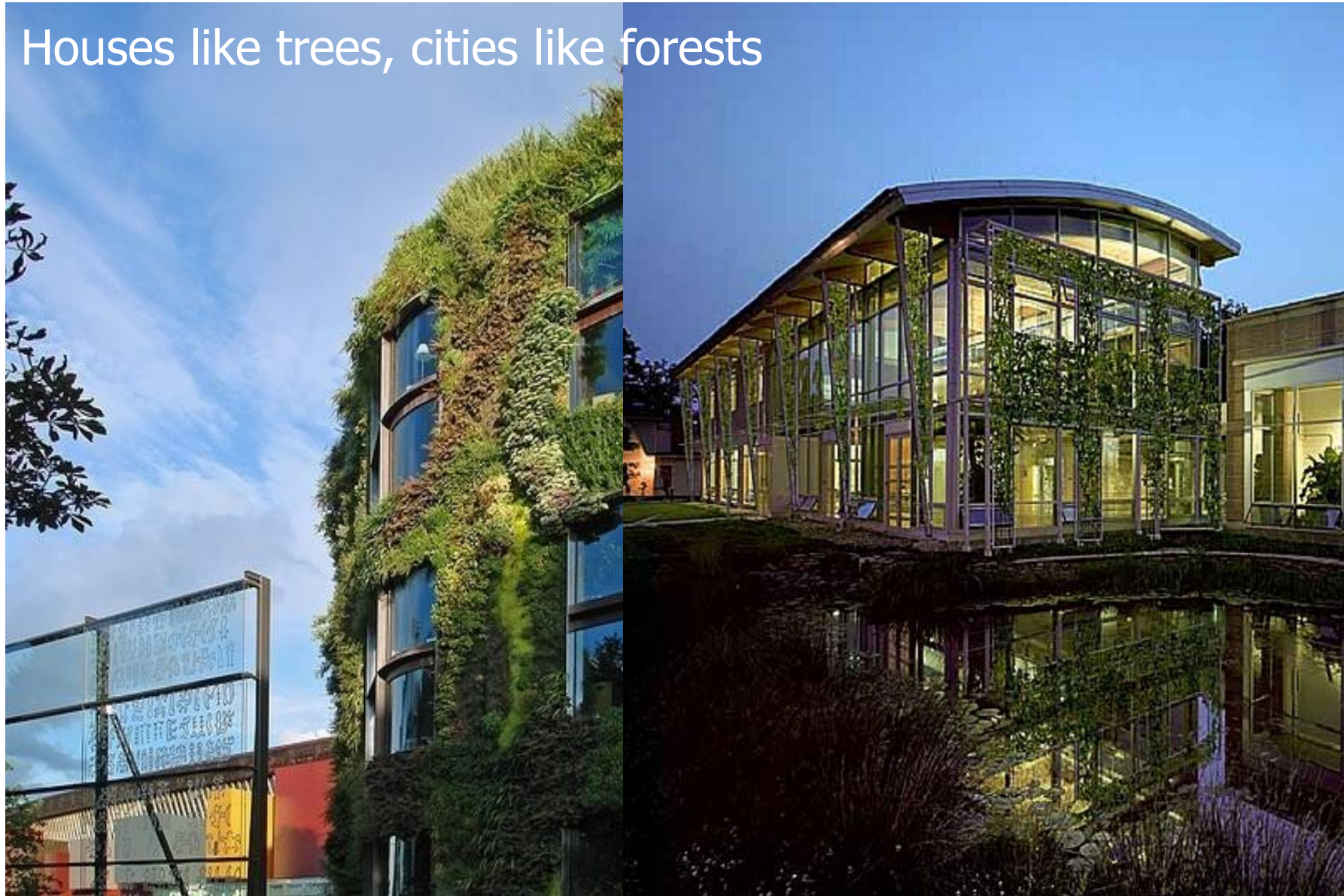


Habitat
Clean water
Beauty

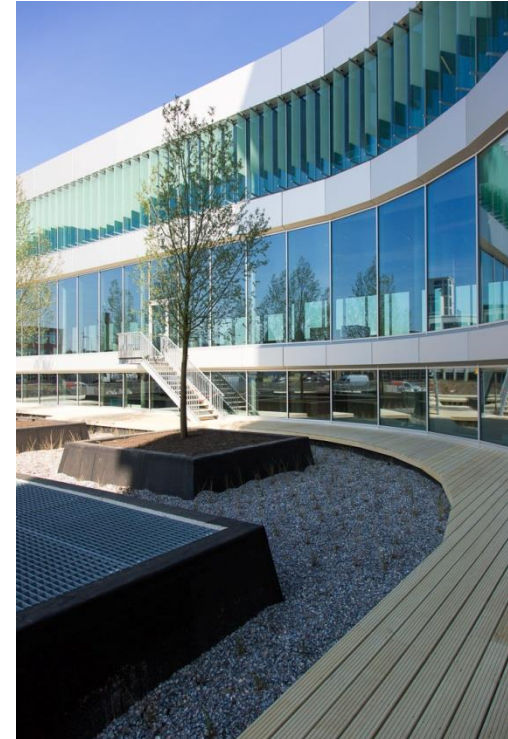
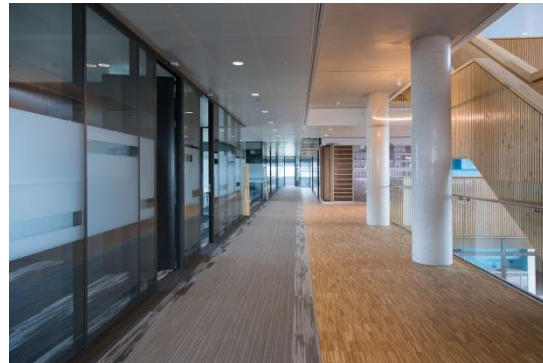
Biodiversity
Clean air
QUALITY OF LIFE!

A climate positive building

Houses like trees, cities like forests



Best practice Venlo town hall, opened October 14, 2016



Cradle to Cradle – more than design



C2C Summit



BILDUNGSZENTRUM
NGO HEAD OFFICE
REALLABOR

NGO

Regional groups
Academy
Laboratory
Education
Working groups
Congress
Publications
Science

Cradle to Cradle – Congress



keynotes, best practices, discussions



September 8-9,
2023
Technical
University
Berlin

Two full days of Cradle to Cradle

Through keynote speeches, discussion panels, and best practice presentations, we will explore Cradle to Cradle from a variety of perspectives across various sectors and social areas, including public life, education, culture, and business.

The program reflects the fact that C2C is relevant to everyone, and will include federal politicians, top managers, scientists, and representatives from civil society organizations sharing their insights on stage.

[>> to the programme](#)

A photograph of a sandy beach. In the foreground, a series of footprints leads from the bottom left towards the top right. The footprints on the right side of the path are filled with small, colorful flowers (purple, yellow, and white). In the background, the lower legs and feet of two people are visible, walking away from the camera. The ocean is visible in the distance under a bright sky.

Let's leave a
positive footprint!

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