This project is co-funded by
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Technical Assistance for Assessment of Turkey's Potential on Transition to Circular Economy

EuropeAid/140562/IH/SER/TR

Initiatives to Promote CE in Hungary and Business Models for Circular Design and Systems

Máté Kriza - Circular Point

Activity 1.2.1. Circular Economy Training
12th May 2022 - Antalya, Türkiye

REPUBLIC OF TURKEY
MINISTRY OF ENVIRONMENT,
URBANIZATION AND CLIMATE CHANGE

Environment and Climate Action
Sector Operational Programme

deep
Circular Economy Action Plan

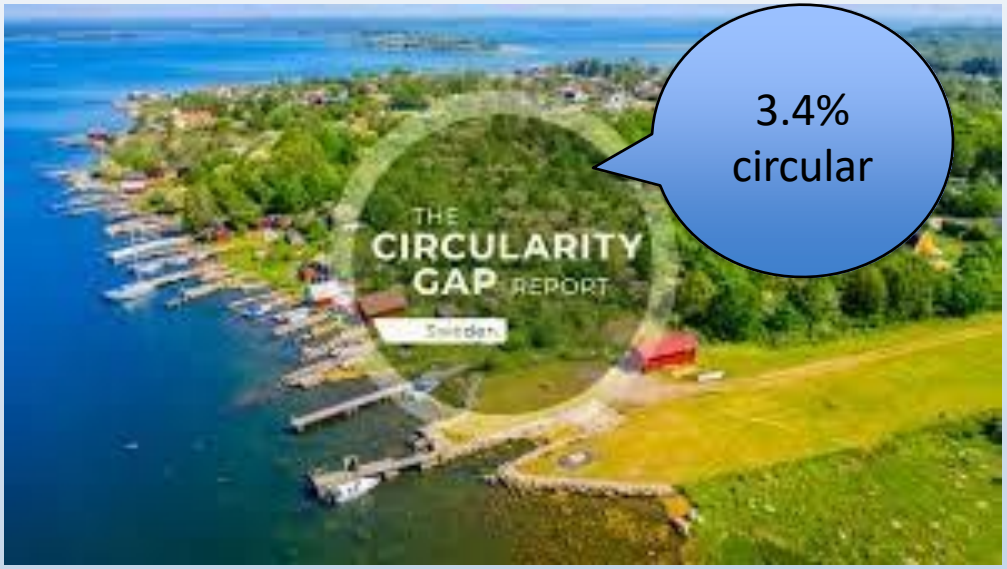
DAI

CIRCULAR
POINT

GEONARDO®
STATE-OF-THE-ART AND BEYOND

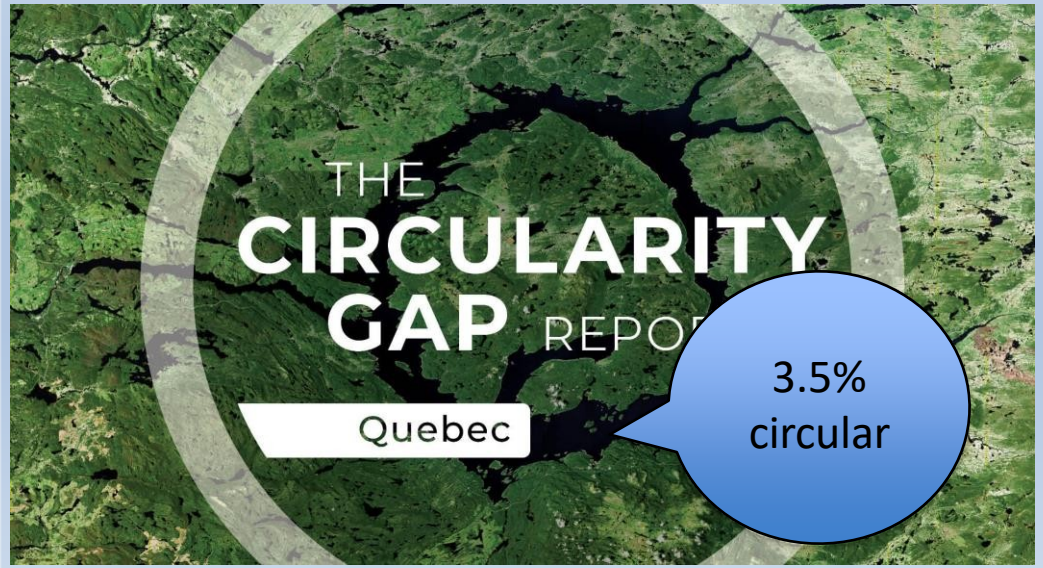
How to measure the circularity of a country?

Globally
8.6%



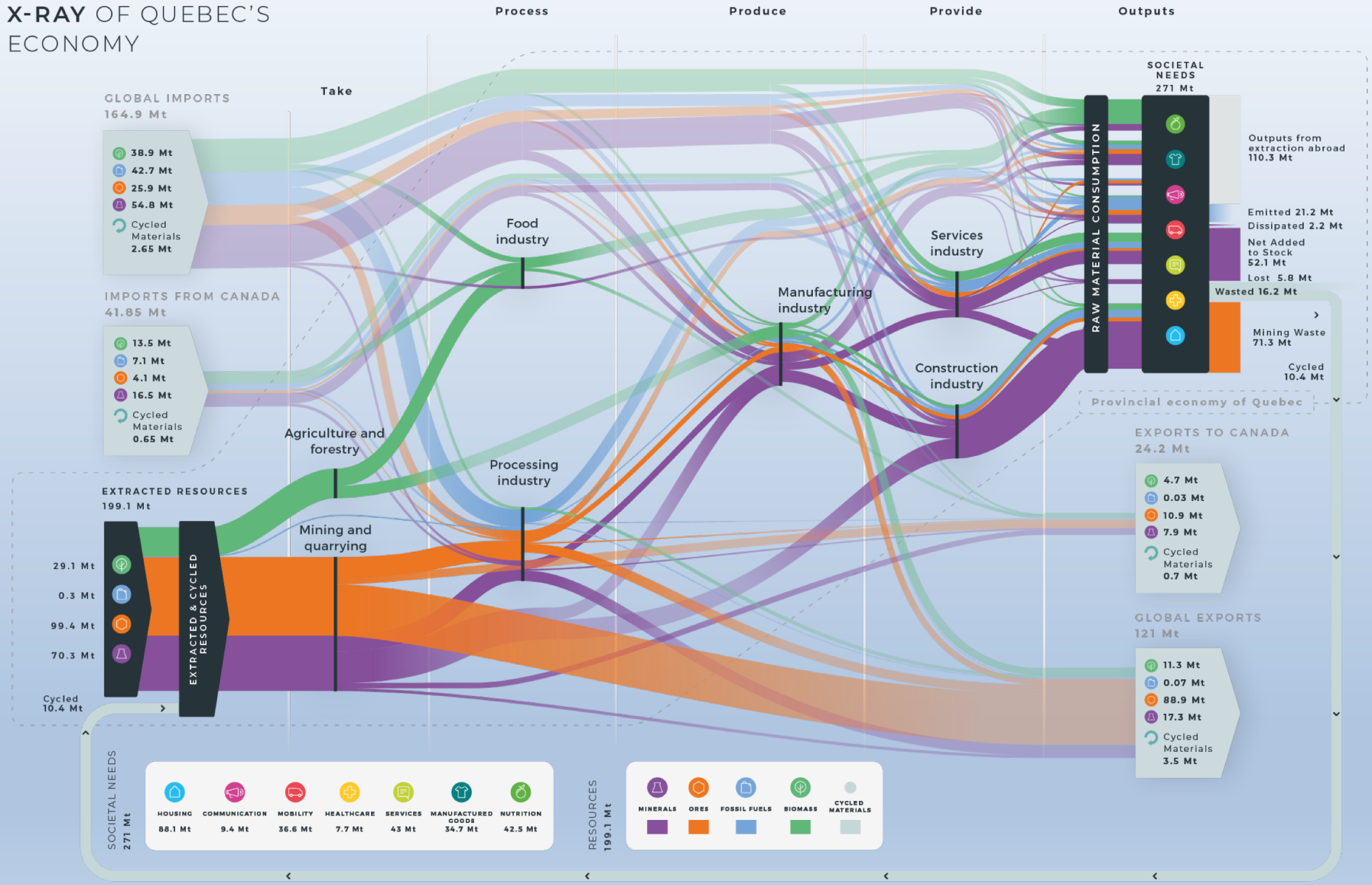
3.4%
circular

9.7%
circular



3.5%
circular

X-RAY OF QUEBEC'S ECONOMY



BELLAGIO PRINCIPLES

Monitor the circular economy transition

Define indicator groups

Follow indicator selection criteria

Exploit a wide range of data and information sources

Ensure multilevel monitoring

Allow for measuring progress towards targets

Ensure visibility and clarity

Circular economy related indicators in the statistics in the EU

- Production and consumption
- Waste management
- Secondary raw materials
- Comptetitiveness and innovation
- Waste generation and decoupling
- Diversion of waste from landfill
- Waste recycling

Material footprints

- Consumption footprints
- Circular material use rate

Key enabling factors for CE

Technology and Innovation	Regulations and policies	Financial incentives
Long-life design Minimal use of resources and enabling recycling Substitution of hazardous substances	Markets for secondary raw materials No mixing and contaminating materials Cascading use of materials	Shifting taxes from labour to natural resources and pollution Extended producer responsibility Alternative finance mechanisms
Business models	**Consumer awareness**	**Governance**
Product-service systems Collaborative consumption Industrial symbiosis	Technological Social Organisational	Participation Capacity building Evidence base

Barriers and challenges

Legal and regulatory

Economic and financial

Technological and capacity based

Cultural and behavioural

Hungary’s current position

Hungary's relatively poor in mineral resources

Currently mining of

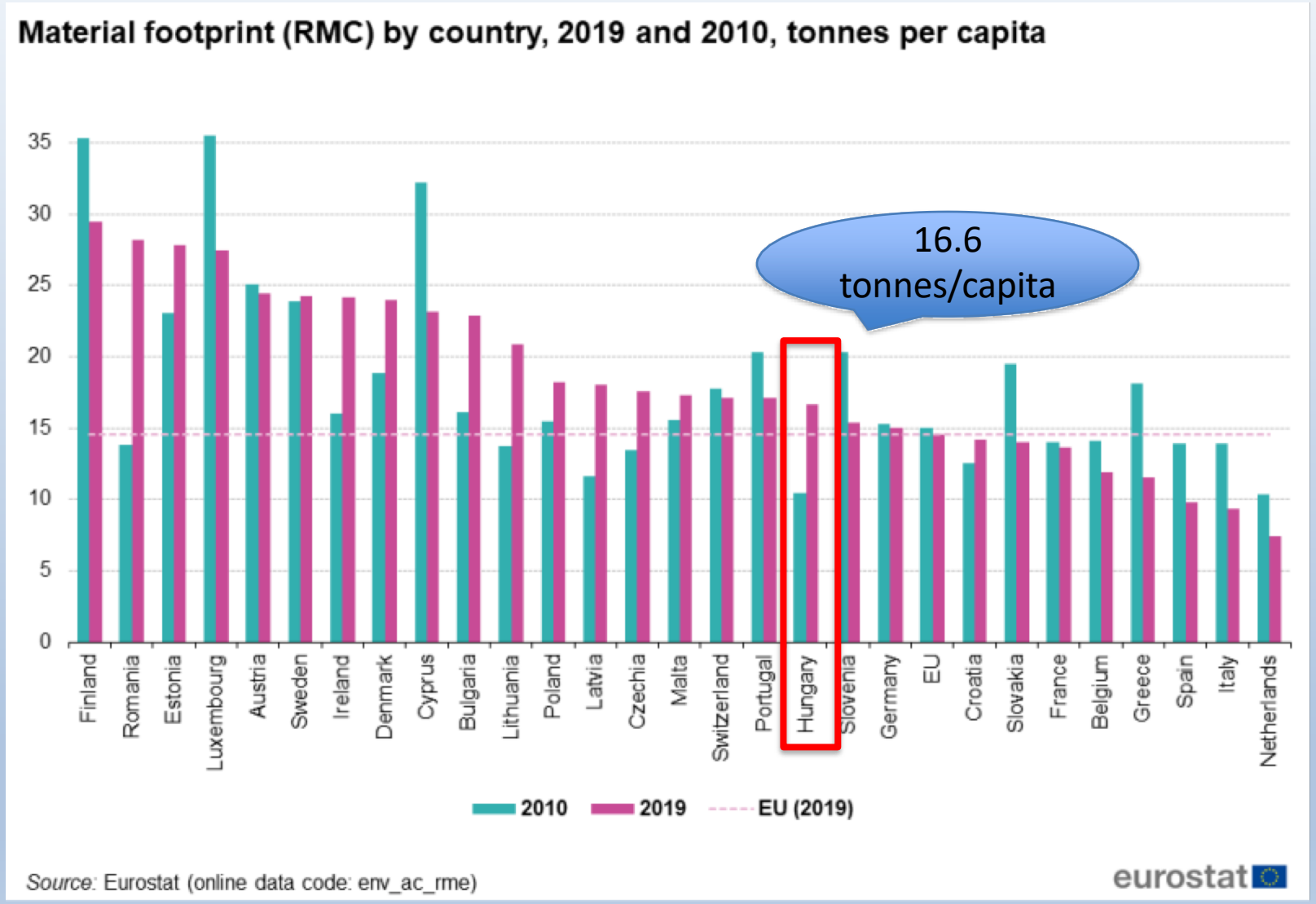
- Oil (626 kt)
- Gas (2050 m3)
- Brown coal (718 kt)
- Lignite (8,834 kt)
- Bauxite (93,71 kt)
- Manganese (35 kt)

Some reserves of copper, lead, iron, uranium…

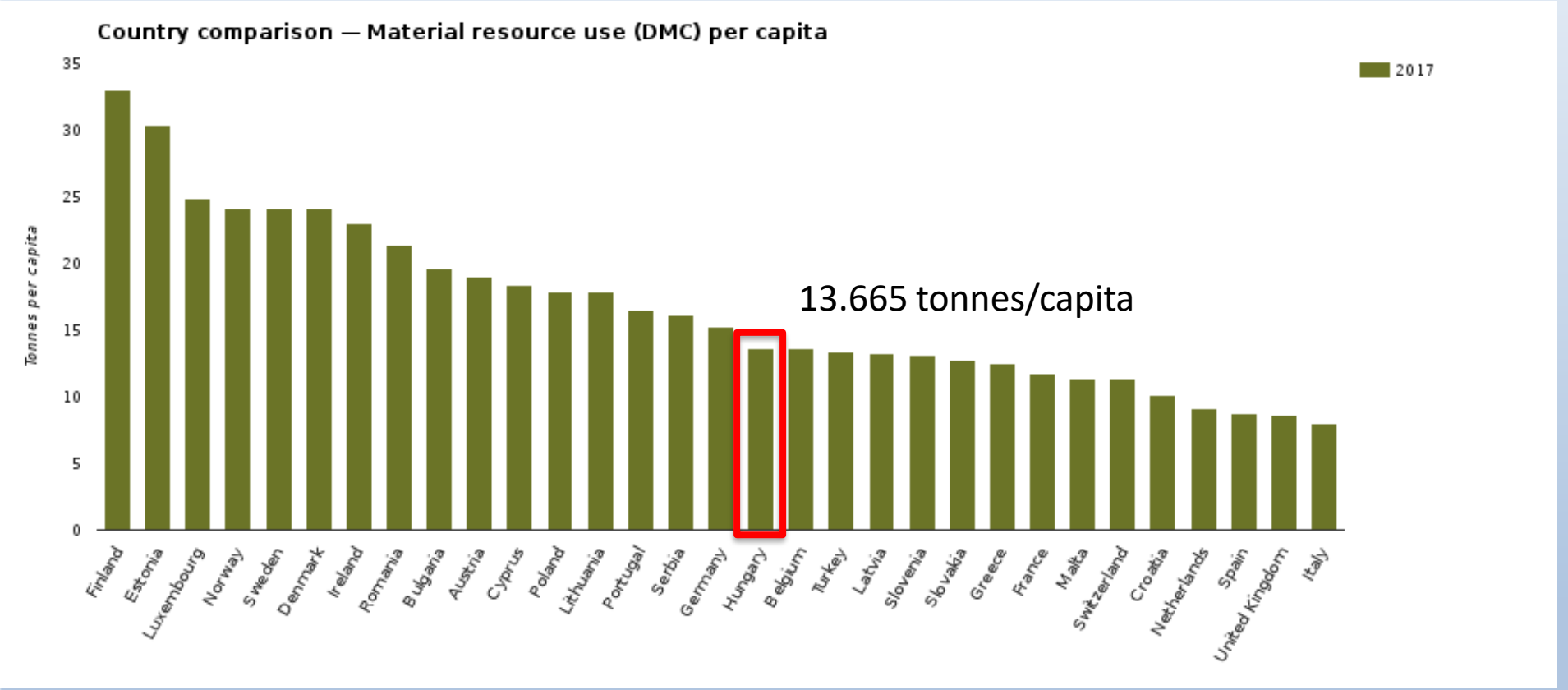
But very reach in thermal waters and geothermal energy

[1] Estimated
[2] Ireland, Austria, Greece, Italy: 2019 data
[3] Bulgaria, Iceland:2018 data

ec.europa.eu/eurostat

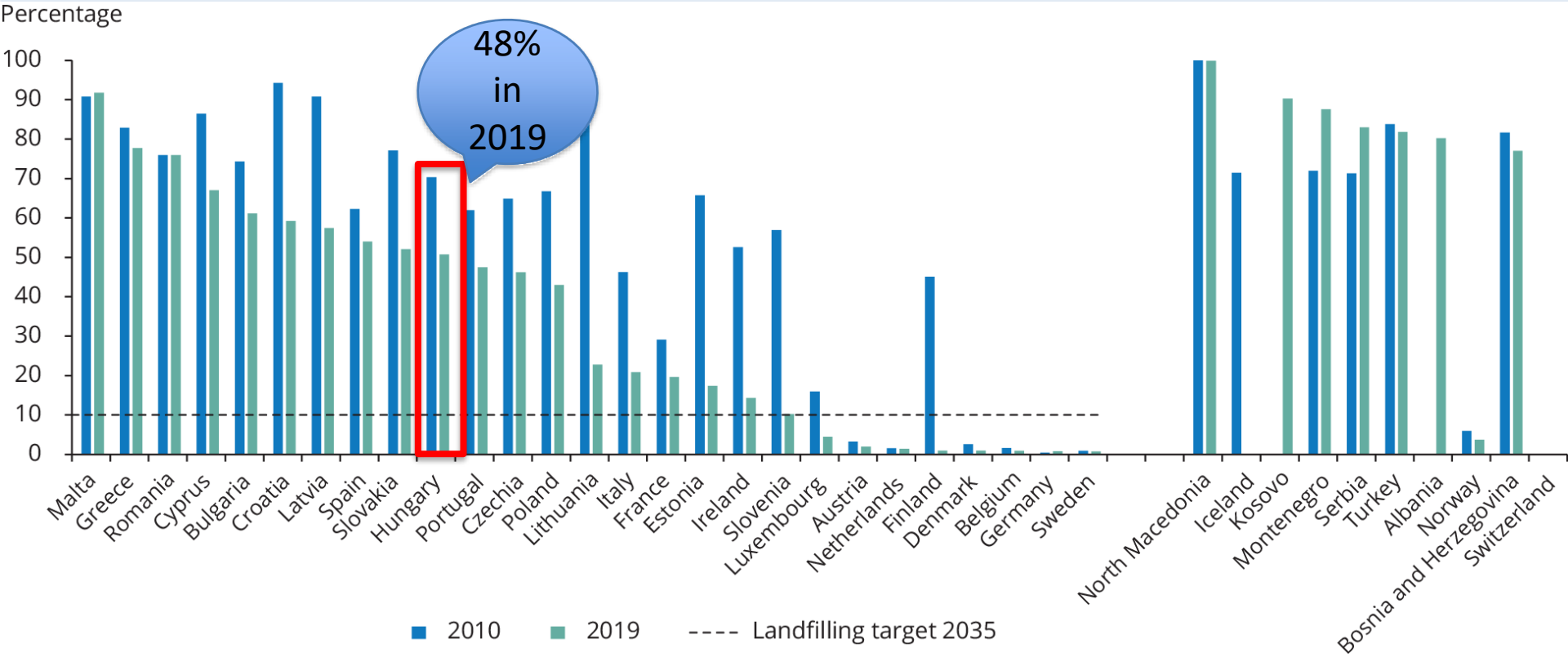

Material footprint (RMC) by country, 2019 and 2010, tonnes per capita
16.6 tonnes/capita
35
30
25
20
15
10
5
0
Finland
Romania
Estonia
Luxembourg
Austria
Sweden
Ireland
Denmark
Cyprus
Bulgaria
Lithuania
Poland
Latvia
Czechia
Malta
Switzerland
Portugal
Hungary
Slovenia
Germany
EU
Croatia
Slovakia
France
Belgium
Greece
Spain
Italy
Netherlands
2010
2019
EU (2019)
Source: Eurostat (online data code: env_ac_rme)
eurostat

Material resource use (DMC) per capita



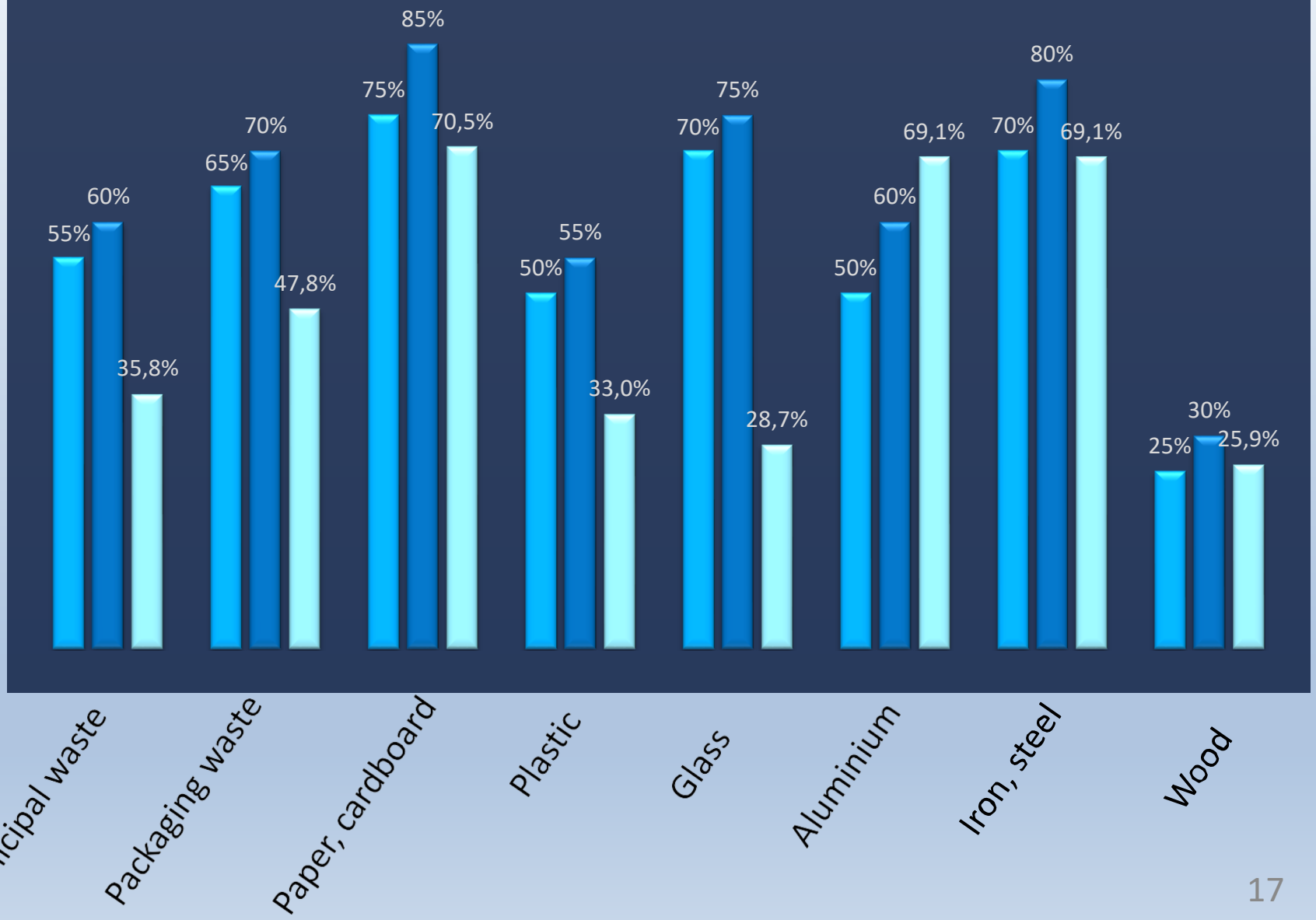
Source: European Environment Agency

Municipal waste landfill rates in Europe, 2010, 2019

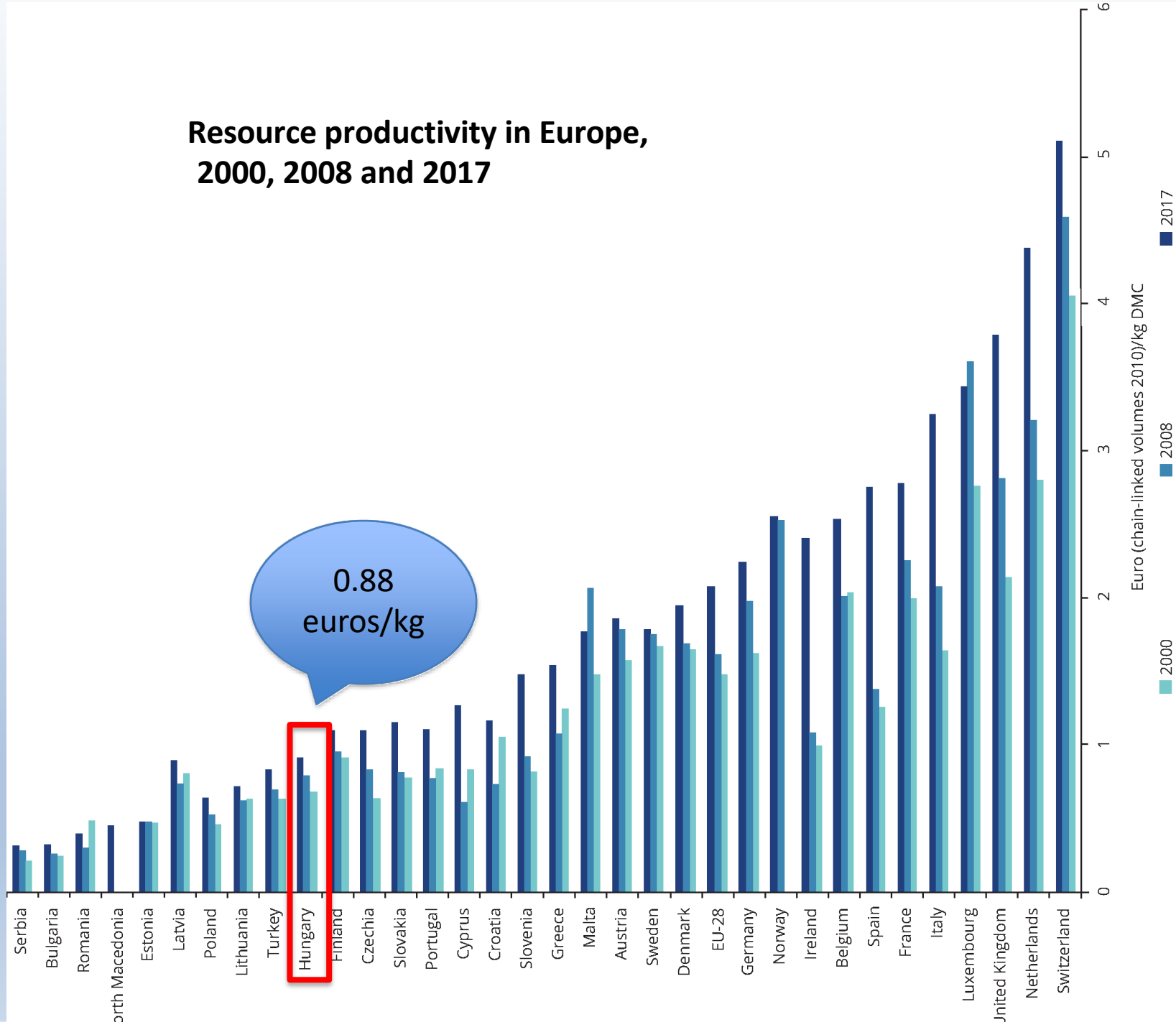


Source: European Environment Agency

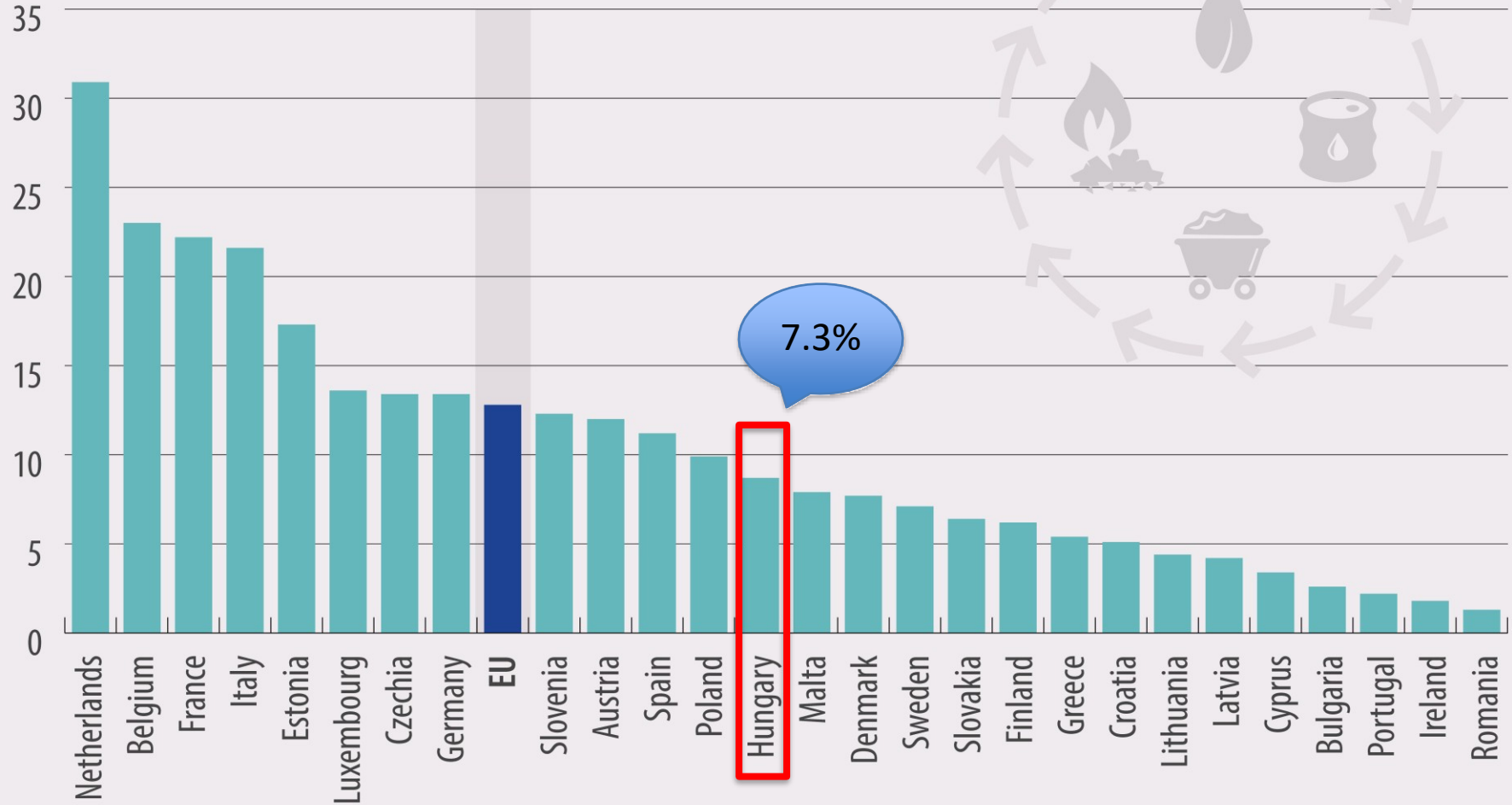
EU waste recycling targets (2025, 2030) vs current Hungarian situation (2019)



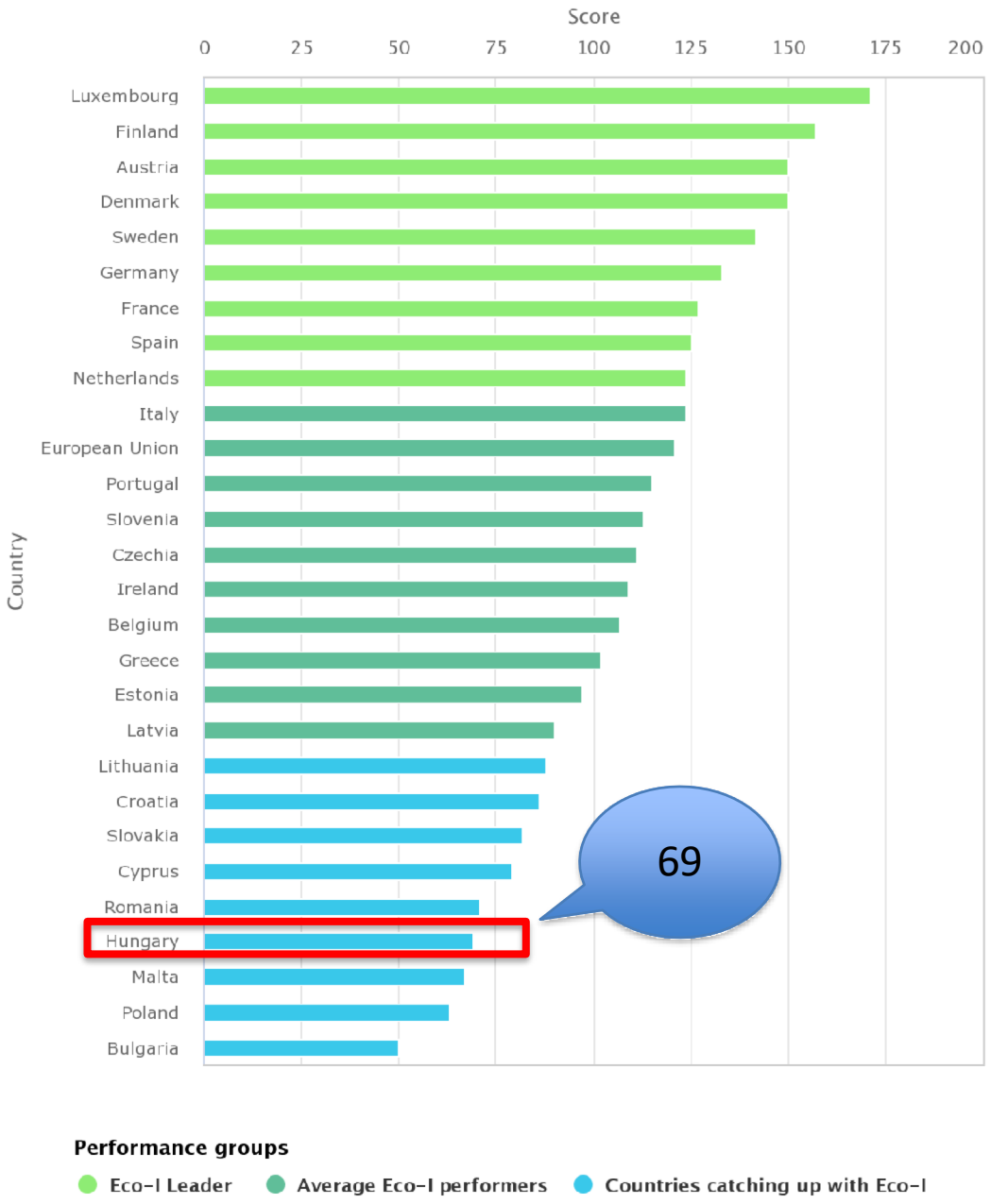
Resource productivity in Europe, 2000, 2008 and 2017



Circular material use rate in the EU, 2020 (%)

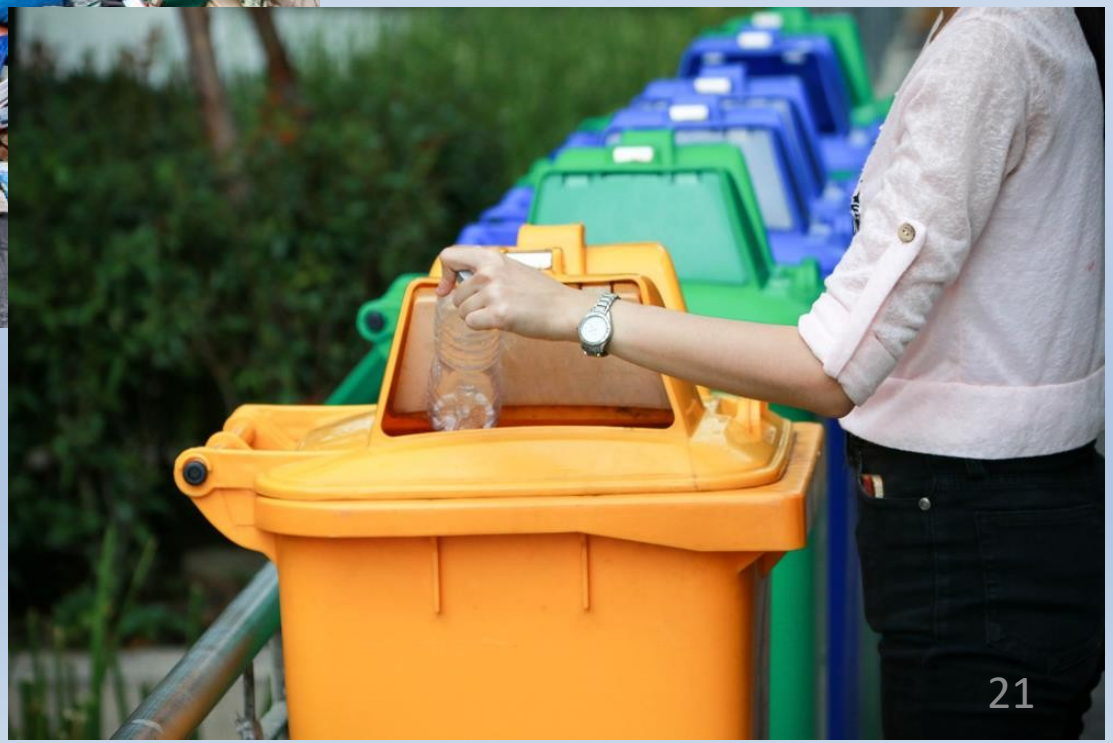


EU eco-innovation index, 2021



Source: https://ec.europa.eu/environment/ecoap/indicators/index_en

Cultural and behavioural barriers



In summary

- High dependence on imported natural resources
- Low waste generation and medium, but improving landfill rates
- Relatively good recycling rates, except glass and plastic
- Low or below the average resource productivity and circular material use
- Insufficient eco-innovation activity
- Slowly improving cultural and behaviroul trends

Opportunities for Hungary in the CE

- Lowering its resource and energy import dependence
- Decoupling economic growth from resource use
- Higher adde-value through various circular activities (remanufacturing, repurposing, etc.)
- Increasing resource productivity and the competitiveness of the Hungarian economy
- Lower environmental emissions, protection of biodiversity
- Improving health and well-being of the Hungarian population

Government's legislative and policy initatives

Challenges

- Reduction of the municipial waste to landfill
- Separate collection and recycling of plastic and glass waste
- Reduction of carbon emission related to waste management
- Development of waste management infrastructure
- Recycling of the currently mixed collection of municipial waste
- Transition to the CE model

„By 2030 the Hungarian economy will be circular and digital”

Prime Minister Orbán in January 2021

The main push: EU CE Action Plan, legal requirements and the financial implications

Main objectives for the Hungarian Government:

- Full climate neutrality by 2050
- Reaching in EU waste related targets
- Setting up a separate waste collection system
- Fulfilling all legal requirements and using available funds

Legislation and strategies supporting the transition to CE

- Hungarian Climate Act
- National Battery Strategy
- National Hydrogen Strategy
- Climate and Nature Conservation Action Plan
- National Clean Development Strategy
- National Waste Management Plan (2021-2027)

Recent or upcoming measures

- Banning of single-use plastics (1 July, 2021)
- Introduction of glass, PET bottle and aluminium can deposit system (1 July, 2024)
- Concession system for waste management (1 July, 2023)
- Separate waste collection system for

  textile (1 January, 2025) biowaste

  (31 December 2023)

  household toxic waste (1 January 2025)

Shortcomings	Drivers
▪ Lack of knowledge and incentives for circular business models ▪ Missing of changing consumer mindset and habits ▪ Low spurring of innovation ▪ Focus on waste management, less on value retention and resource productivity ▪ Centralization instead of localization	▪ Growing raw material prices ▪ Disruptions in the global value chains ▪ Financial support (mainly EU transfers) for skills, business development, innovation ▪ Int'l companies promoting CE practices ▪ Changing consumer habits

Initiatives and circular best practices

Circular Economy Platform

Launched by the **Business Council for Sustainable Development in Hungary** in 2018 to foster mindset change and promote circular business practices and know-how.

Survey in 2019 (90 companies and organisations):
main CE activities by companies

- selective waste collection (56%)
- green procurement (43%)
- shaping attitude (40%)

Circular economy center for competence - Nagykanizsa

- Science and innovation park
- Pannon University, MOL, local businesses
- Co-funded by the Government and the EU

CIRCULAR HUNGARY | Körforgásos Gazdaság Technológiai Platform

Circular Economy Technology Platform

To accelerate Hungary's transition to the CE

Hungary as the one of the pioneers of circular technologies

GDP growth

Global competititvenes of Hungarian businesses

Positive ecological impact

CIRCULAR HUNGARY | Körforgásos Gazdaság Technológiai Platform

Main themes of the platform

- Circular construction
- Industrial and other non-municipial waste management
- Rare earth metals and raw materials
- Digitalization
- Circular water management
- Circular bioeconomy and food production
- Circular forestry and relating industries

TECHNICAL SUPPORT FOR THE DEVELOPMENT OF THE NATIONAL CIRCULAR ECONOMY STRATEGY (NCES) AND ACTION PLAN

Priority areas:

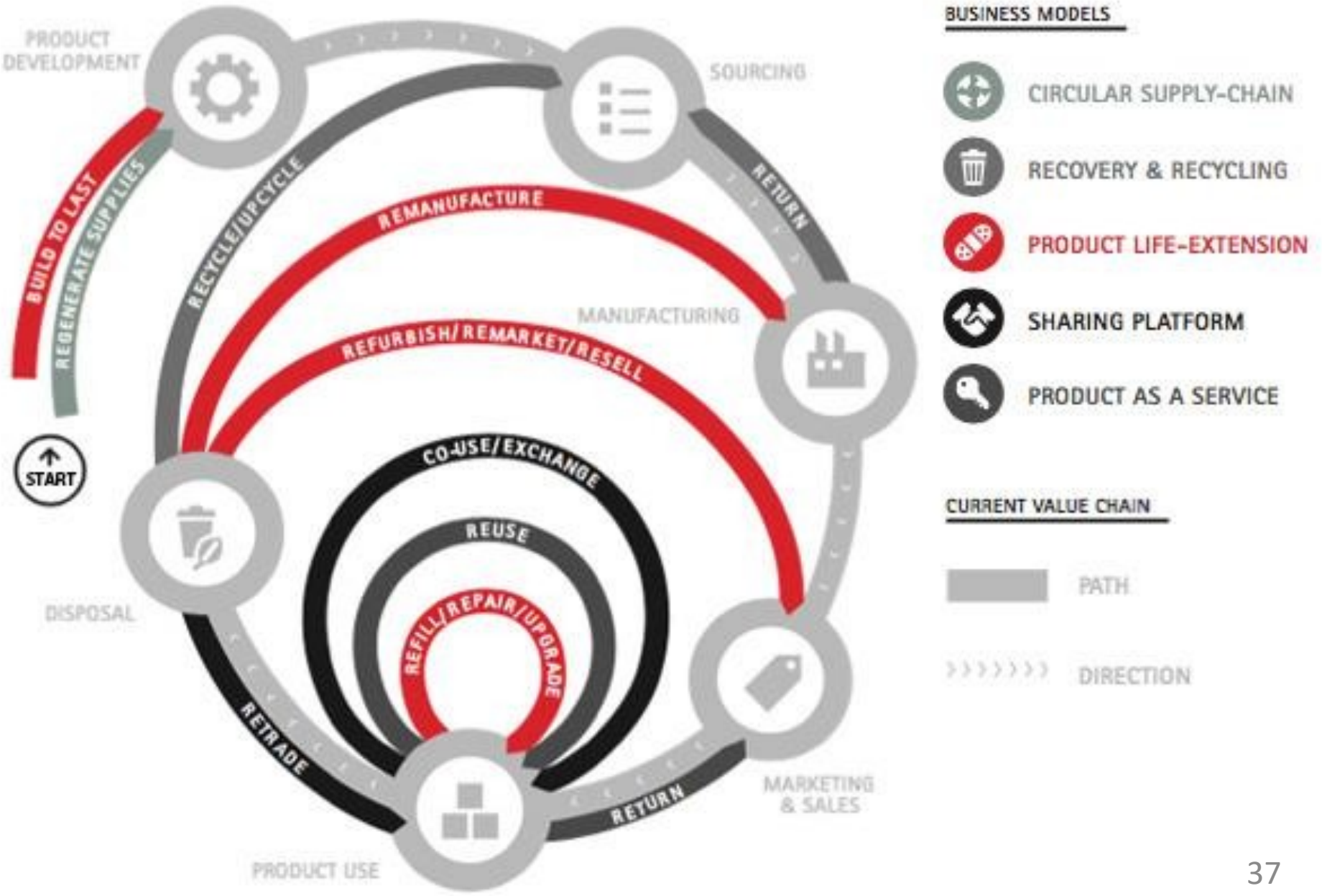
- Construction
- Plastics
- Biomass and food

- Policy gap analysis and suggesting good practices & horizontal tools for implementation;

- Formulation of policy recommendations for national short-term and long-term priorities.

Reuse and attitude formation centres

The five circular business models



Resource recovery

Resource recovery

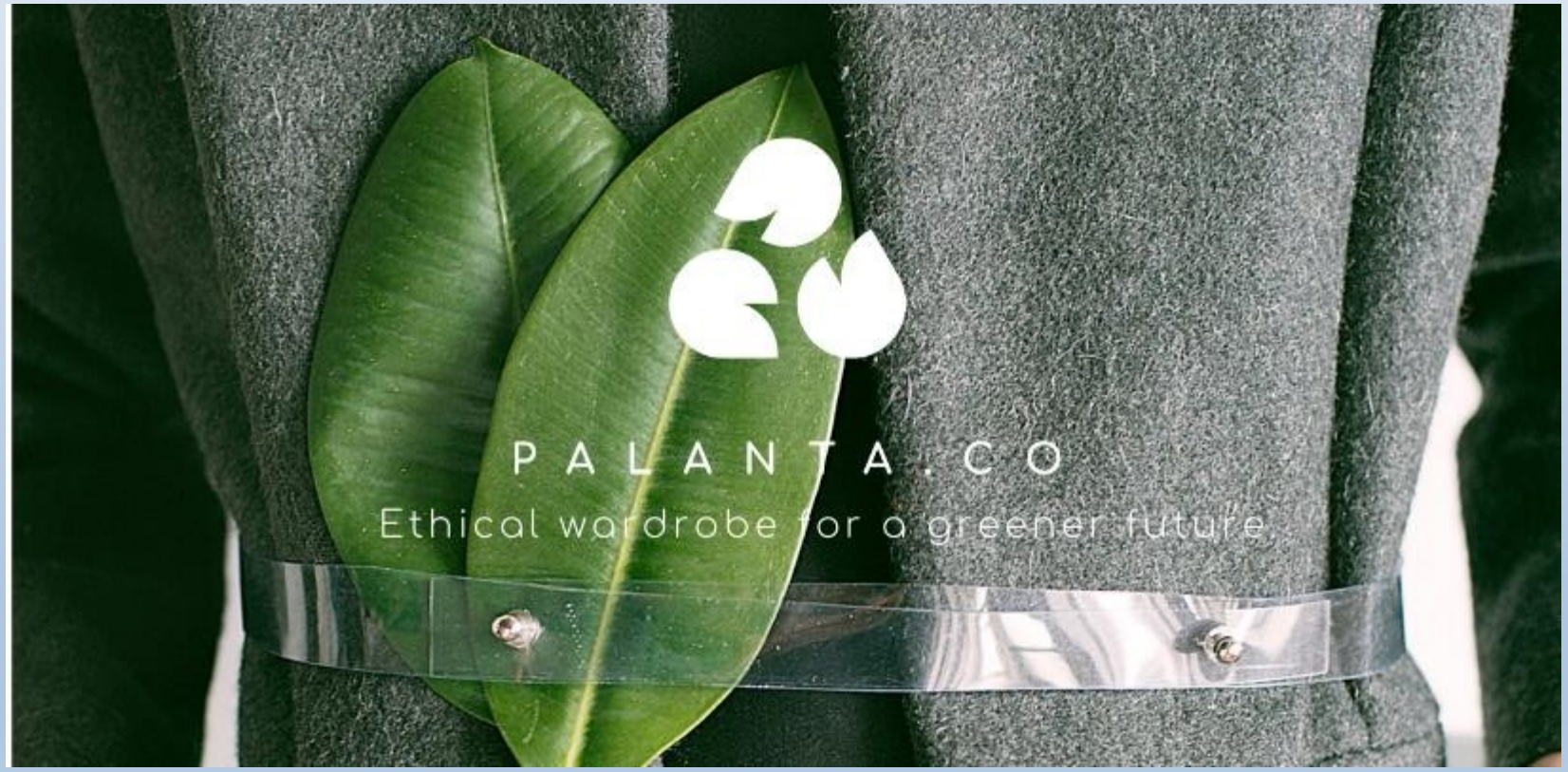
Circular inputs

ORGANICA

Upcycling

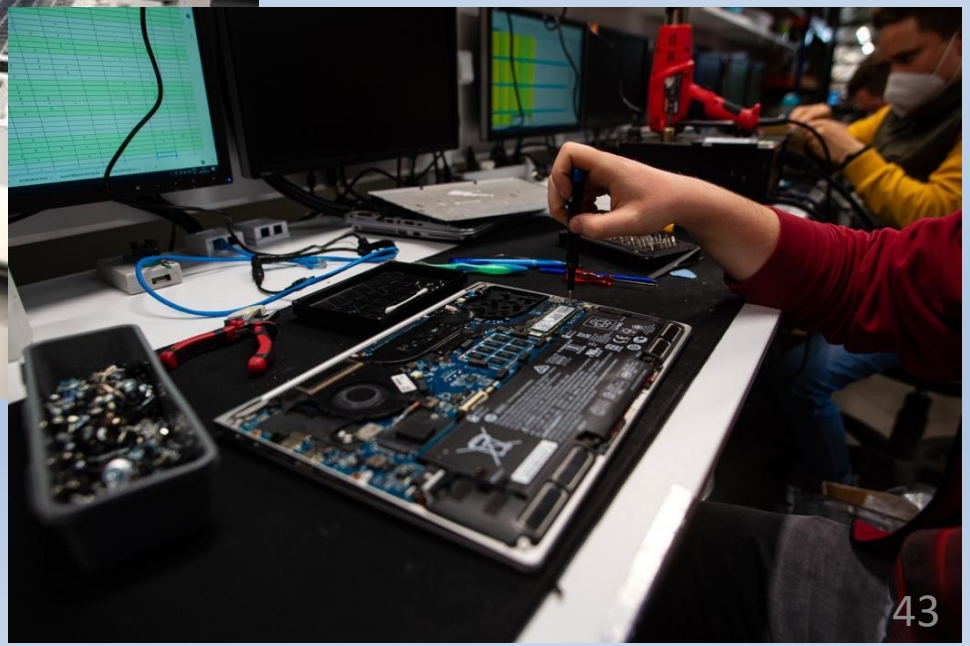
Old Blue

Product-life extension/sharing platform



furbify

Product-life extension



Product-life extension

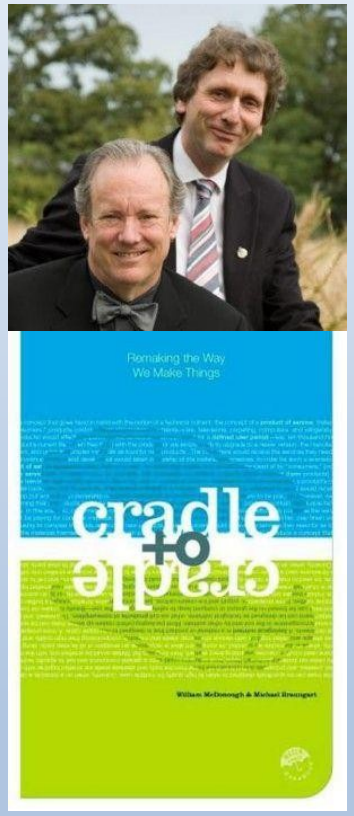
Product as a service

Sharing platforms

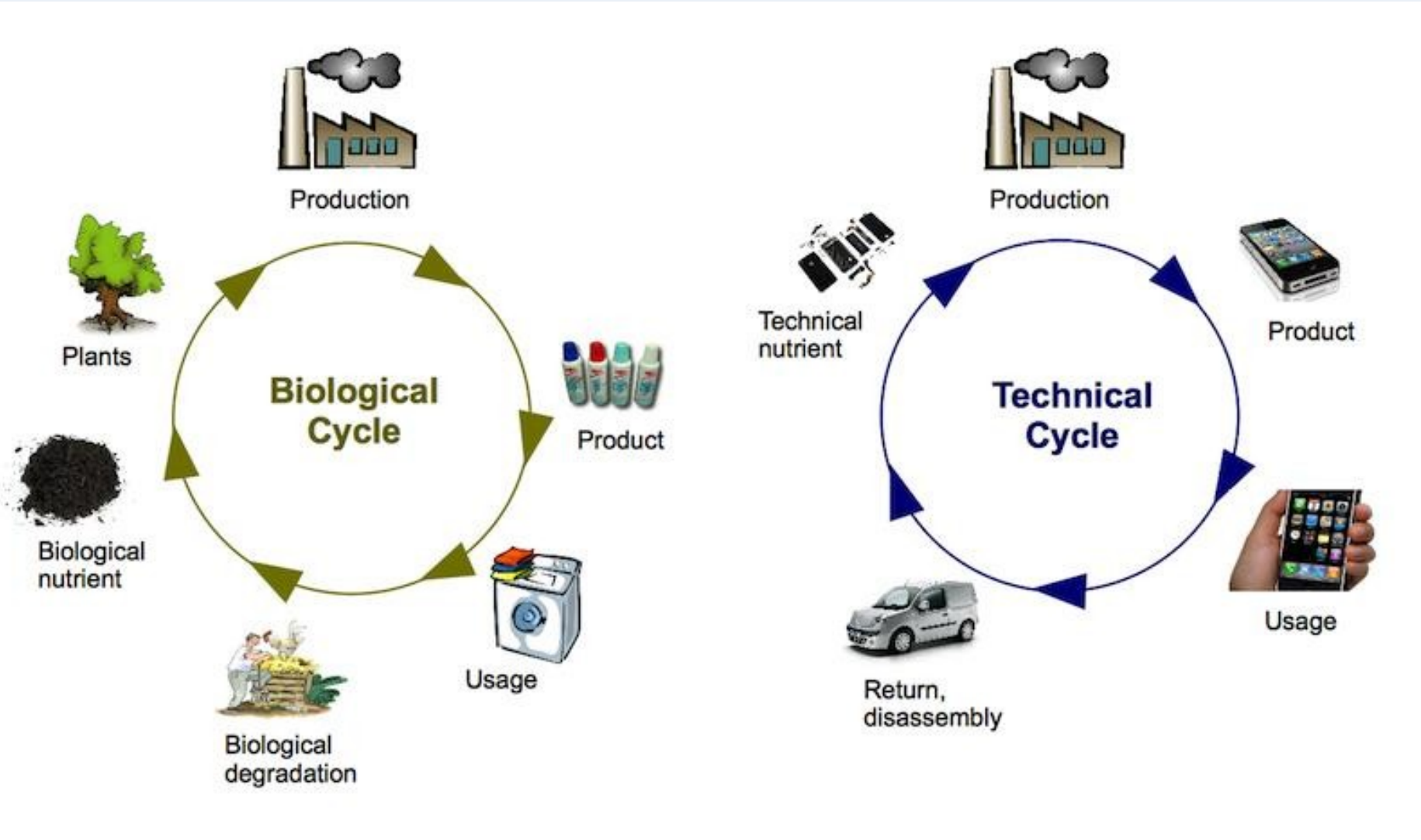
Circular bioeconomy

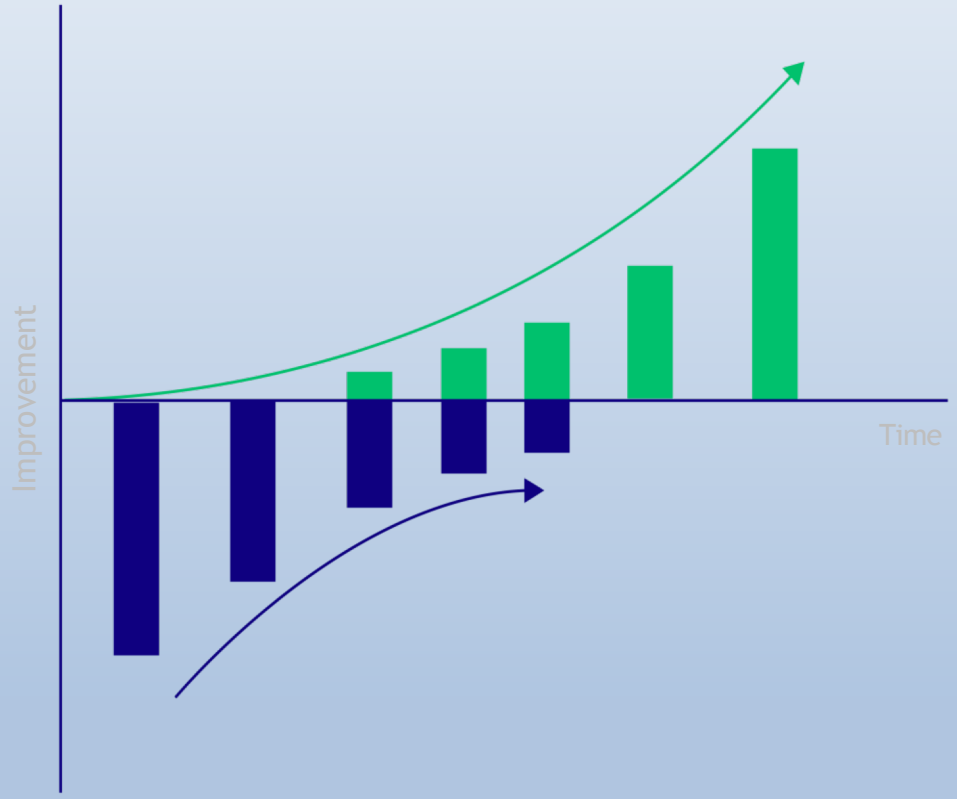
Pilze Nagy
A LASKAGOMBA-TERMESZTŐ

Circular design
Cradle-to-Cradle



- **WASTE EQUALS FOOD**
- **USE CURRENT SOLAR INCOME**
- **CELEBRATE DIVERSITY**

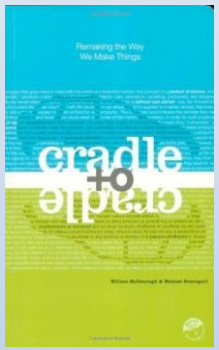

Production
Plants
Biological Cycle
Product
Biological nutrient
Usage
Biological degradation
Production
Technical nutrient
Product
Technical Cycle
Usage
Return, disassembly

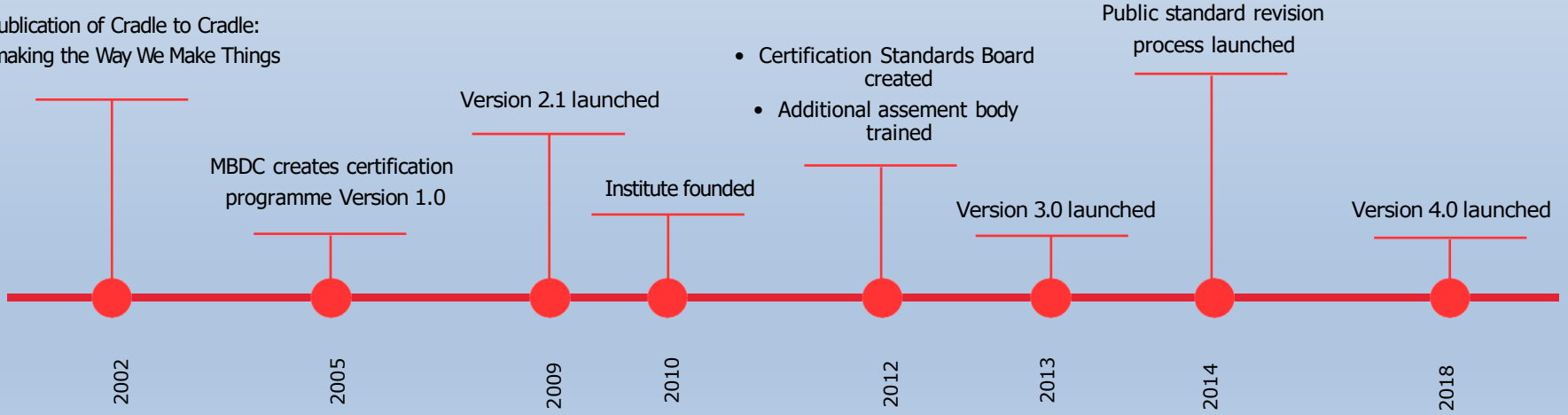


Making
POSITIVE IMPACT.

Moving from "being less bad" to "being more good".

CRADLE TO CRADLE CERTIFIED™
EVOLUTION OF AN IDEA






CERTIFIED
CM
cradletocradle
BRONZE
CRADLE TO CRADLE CERTIFIED CM
PRODUCT SCORECARD
QUALITY CATEGORY
BASIC
BRONZE
SILVER
GOLD
PLATINUM
MATERIAL HEALTH
MATERIAL REUTILIZATION
RENEWABLE ENERGY & CARBON MANAGEMENT
WATER STEWARDSHIP
SOCIAL FAIRNESS
OVERALL CERTIFICATION LEVEL

IDENTIFING THE BEST MATERIALS

ABC-X CATEGORISATION

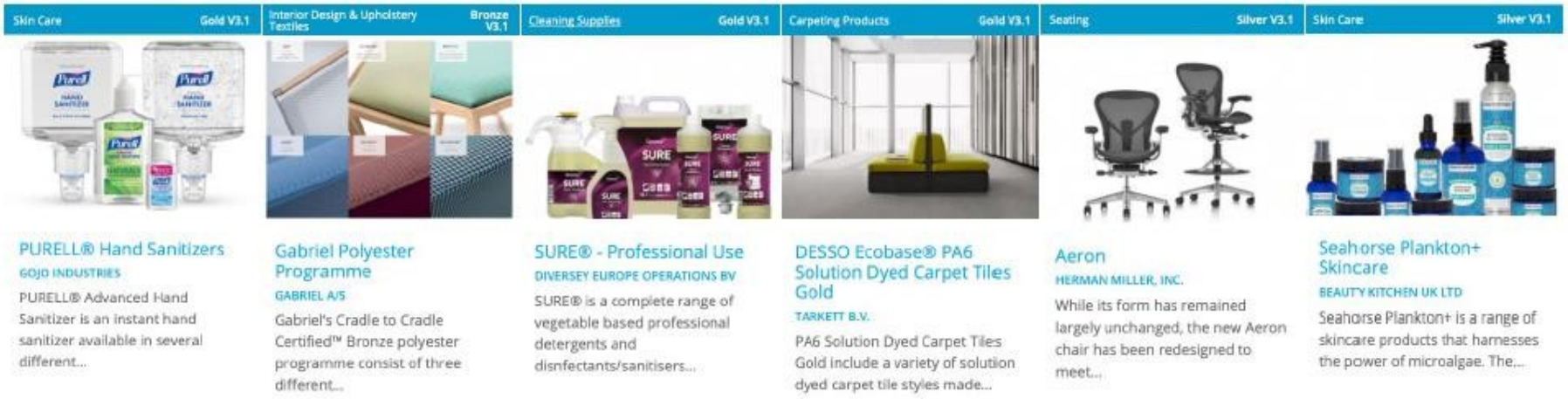
Goal: Best quality of raw materials, chemicals and ingredients

Category	Description
A	The material is ideal from a Cradle to Cradle perspective for the product in question.
B	The material supports largely Cradle to Cradle objectives for the product.
C	Moderately problematic properties of the material in terms of quality from a Cradle to Cradle perspective are traced back to the ingredient. The material is still acceptable for use.
X	Highly problematic properties of the material in terms of quality from a Cradle to Cradle perspective are traced back to the ingredient. The optimization of the product requires phasing out this ingredient or mate- rial.
GREY	This material cannot be fully assessed due to either lack of complete ingredient formulation, or lack of tox- ological information for one or more ingredients.
Banned	BANNED FOR USE IN CERTIFIED PRODUCTS This material contains one or more substances from the Banned list and cannot be used in a certified product.

CRADLE TO CRADLE CERTIFIED PRODUCT REGISTRY

c2ccertified.org/products/registry

The Cradle to Cradle (C2C) Certified™ Product Standard rates consumer products, ranging from toys and personal care items to furniture and building materials. Currently more than **700 products.**



„The circular economy is not something we invented in developed countries; it is something we forgot.”

Jacqueline Cramer


Thank you for your attention!
mate.kriza@circularpoint.eu

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