ENERGISE YOUR WASTE

CEWEP

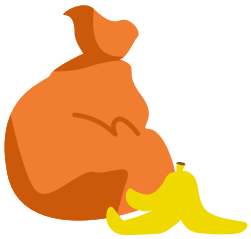
CONFEDERATION OF EUROPEAN
WASTE-TO-ENERGY PLANTS

When you are in Brussels...

5 **MAIN WASTE COLLECTION BAGS IN BRUSSELS**

The success of sustainable waste management depends on all of us **sorting properly at home!**

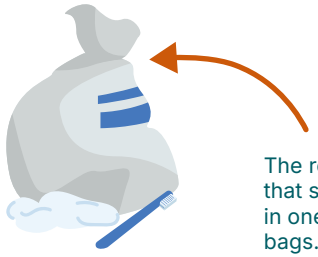
PAPER & CARDBOARD



FOOD WASTE

PMD WASTE
Plastic and metal packaging
Drink cartons

GARDEN WASTE

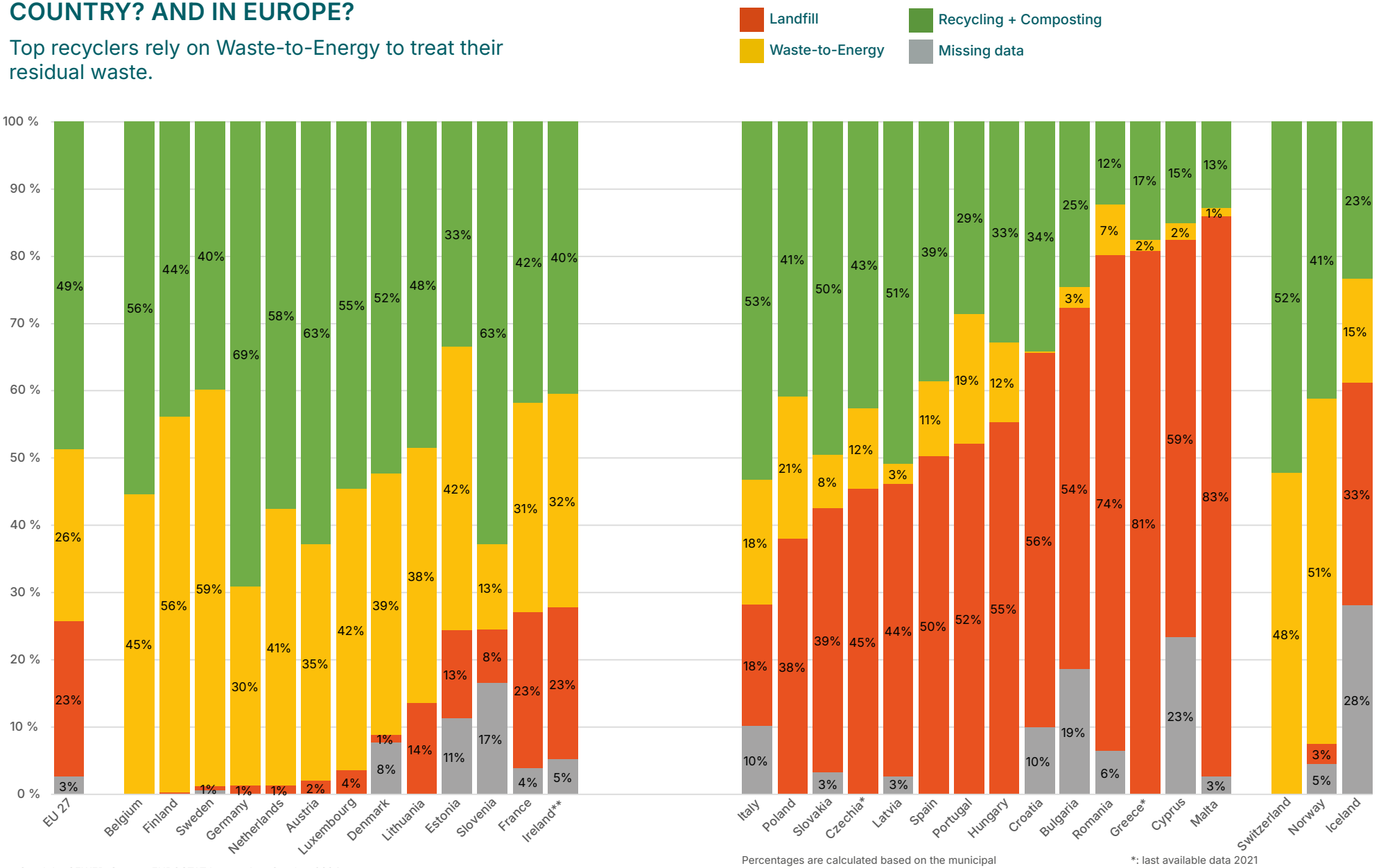


RESIDUAL WASTE

The remaining waste that should not be put in one of the recycling bags.

HOW IS MUNICIPAL WASTE TREATED IN YOUR COUNTRY? AND IN EUROPE?

Top recyclers rely on Waste-to-Energy to treat their residual waste.



Graph by CEWEP, Source: EUROSTAT Last update October 2024

Percentages are calculated based on the municipal waste reported as generated in the country

*: last available data 2021
**: last available data 2020

Each step of the Waste Hierarchy is important!

WHY DON'T WE RECYCLE 100%?

- Some waste streams are dirty, composed of contaminated or infectious materials
- Materials contain substances of concern (POPs, flame retardants...)
- Materials degrade after being recycled multiple times

What does Waste-to-Energy do?

Waste-to-Energy treats the non-recyclable waste fulfilling a hygienic task to the society.

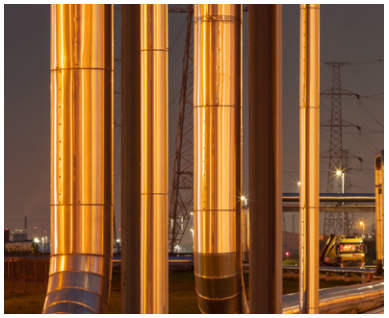
It also turns this waste into secure energy and valuable raw materials in an environmentally safe manner. Waste-to-Energy and recycling are complementary waste treatment methods in integrated waste management systems.

The energy produced in Waste-to-Energy plants also contributes to climate protection and security of energy supply.

Waste-to-Energy plants contribute to Resource and Energy Efficiency in Europe

RECYCLING FROM INCINERATION BOTTOM ASH

- 1 tonne of bottom ash contains 10-12% metals
- 1 tonne of recycled metals from bottom ash saves 2 tonnes of CO_{2eq} emissions
- Minerals can be used as secondary aggregates, replacing virgin materials (e.g. in construction works)



ENERGY RECOVERY

- Electricity, hot water (district heating/cooling) and steam: secure and affordable energy for a competitive Europe
- Around 10% of Europe's district heating comes from WtE, in some cities it is more than 50% (Brescia, Vaasa, etc.)
- Source of Renewable Energy (50%-60% of the total energy produced)

LANDFILL DIVERSION

- Waste-to-Energy reduces waste volume by 90%, hence reducing the amounts of waste being sent to landfills
- This conserves valuable land space and reduces methane emissions from landfills, a greenhouse gas 86 times more potent than CO_2 on a 20-year perspective
- Mitigating methane emissions from landfills is one of the most effective strategies for combating global warming in waste management

Waste-to-Energy: From carbon neutral to carbon negative

TODAY

WASTE-TO-ENERGY IS A CLIMATE NEUTRAL SECTOR

It compensates its direct fossil CO_2 emissions by fossil fuel substitution and recycling from incineration bottom ash.

TOMORROW

INCREASING AMBITION

With carbon capture, greater reduction potentials can be achieved as CCUS technologies reach full commercial maturity.

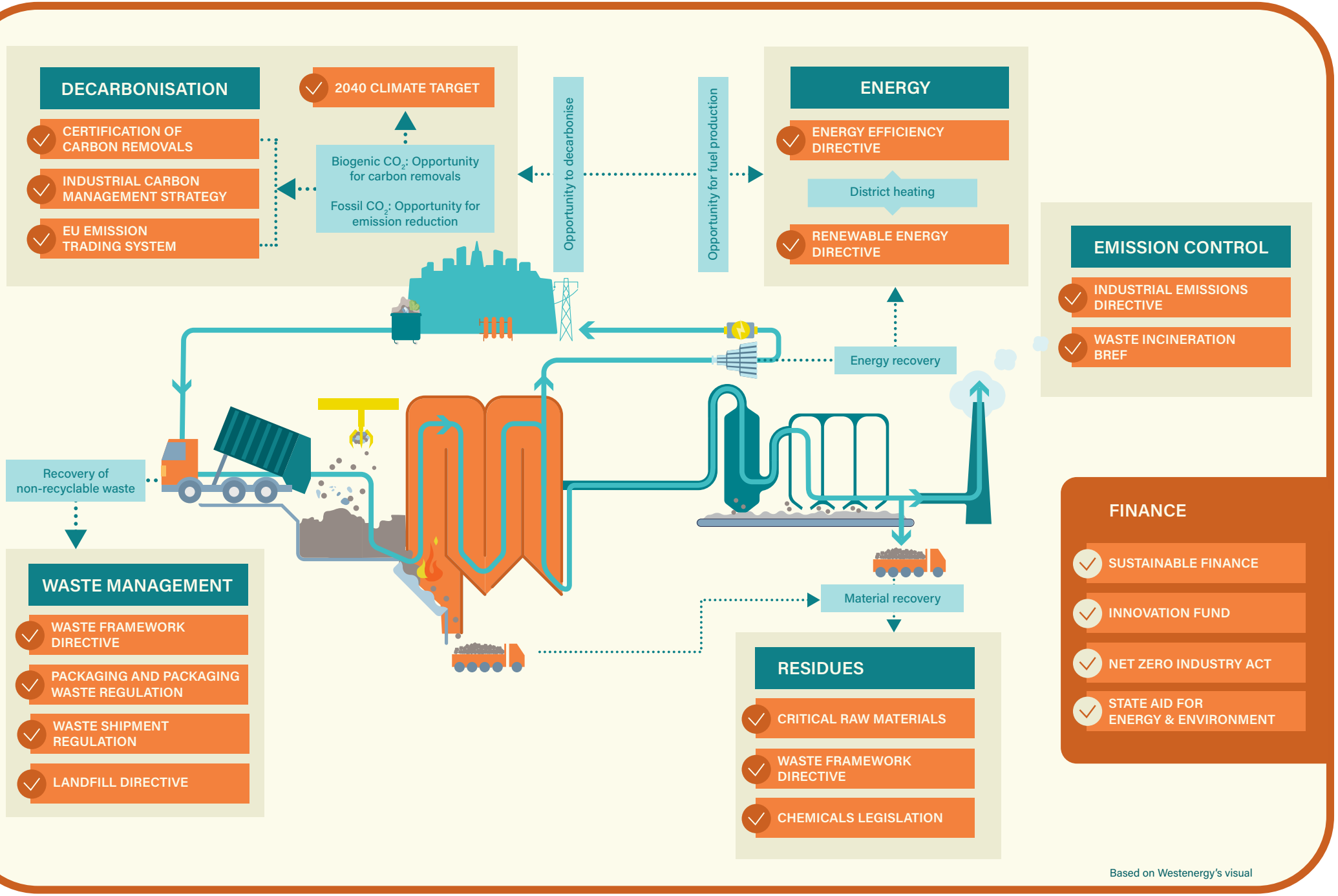
Capturing not only the fossil but also biogenic CO_2 emissions would allow Waste-to-Energy to become even carbon negative. Carbon negative emissions are essential to achieve Europe's Net Zero Target.

WE CANNOT DO IT ALONE!
Adequate policy and financial support are the necessary conditions for WtE's substantial contributions to Europe's climate targets.

For more information, see the CEWEP Waste-to-Energy Climate Roadmap:

WASTE-TO-ENERGY WITHIN A COMPLEX

EU REGULATORY FRAMEWORK



Based on Westenergy's visual

CEWEP´s call to policy makers

WASTE MANAGEMENT

- **Support Waste-to-Energy's hygienic role**
  Waste-to-Energy turns the environmental problem of residual waste and associated pollutants into local, sustainable energy. It is a fundamental part of a clean and safe circular economy.
- **Promote the waste hierarchy requiring pollution prevention at each level**
  Apply the waste hierarchy to ensure the best overall environmental outcome according to life cycle thinking.
- **Minimise landfilling of waste that can be used for material or energy recovery**
  Diverting waste from landfills saves millions of tonnes of CO_{2eq} emissions.

SUSTAINABLE FINANCE

- **Recognise Waste-to-Energy and material recovery from bottom ash in sustainable finance legislation**
  Secure incentives to boost efficient recovery of energy, metals, aggregates and critical raw materials.

ENERGY

- **Ensure the efficient use of Waste-to-Energy as a local, reliable and sustainable energy source**
  Utilise Waste-to-Energy to provide sustainable electricity and heating to households and industry, enhancing energy security and supporting local economies.

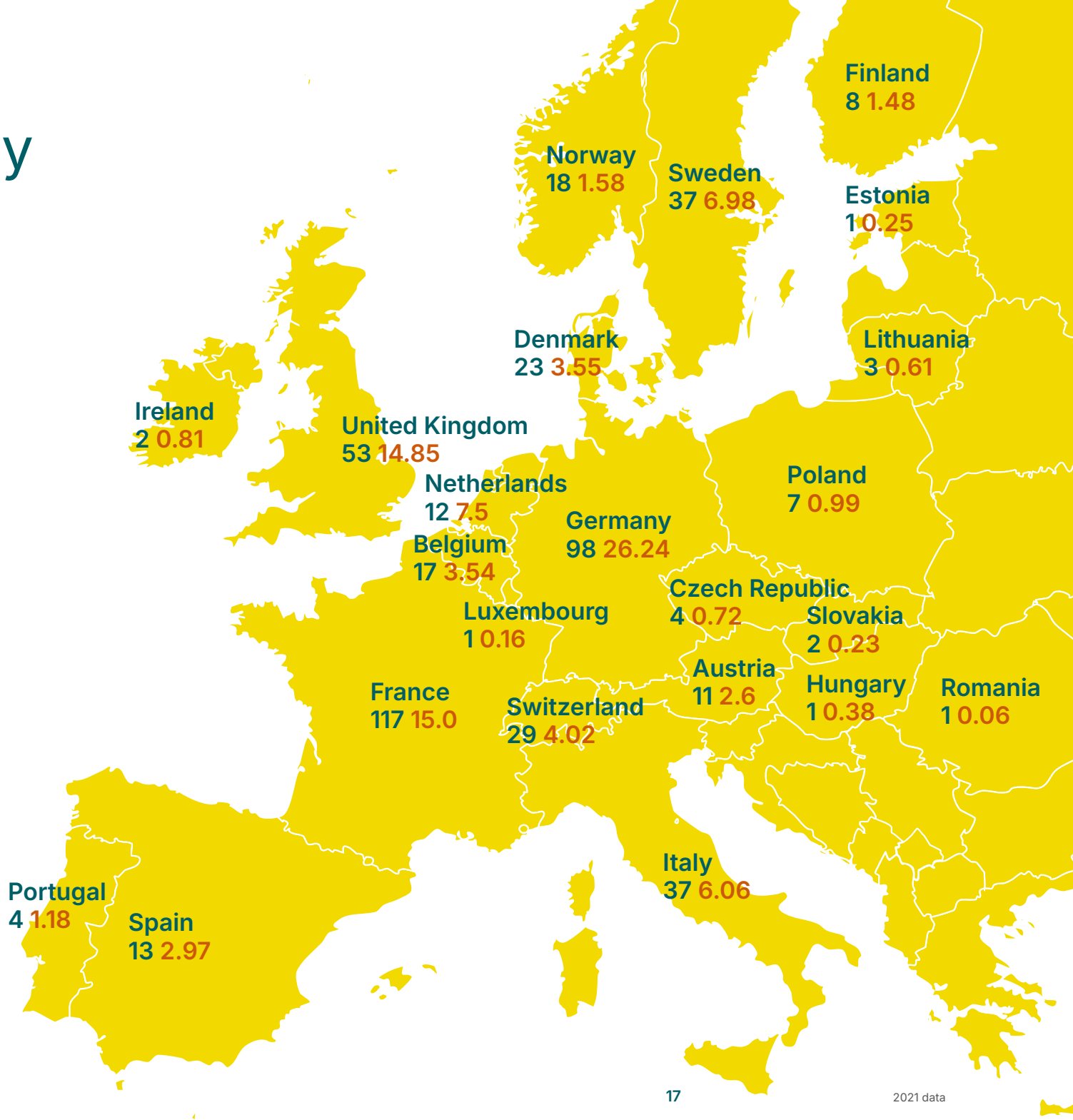
DECARBONISATION

- **Develop a clear and coherent policy framework to mitigate climate change**
  Develop business models for decarbonisation technologies and the necessary infrastructure for transporting captured CO_2. Security for CCUS investments and a market to trade carbon removal credits is crucial to reach Europe's Net Zero Target.
- **Perform a holistic impact assessment before considering the inclusion of the waste sector in the EU ETS**
  taking into account all overall environmental, climate and market consequences.

Waste-to-Energy in Europe

499 WtE plants operating in Europe

103 Mtonnes of residual waste treated



2021 data

Photo credits:

Front cover: Clear Energy Port, Gdańsk, Poland

Page 11: AVR CO_2 Capture Facility, Duiven, The Netherlands

Back cover 1: Westenergy, Vaasa, Finland

Back cover 2: SIDOR, Luxembourg

CEWEP, the Confederation of European Waste-to-Energy Plants, is the umbrella association of the operators of Waste-to-Energy Plants (waste incineration with energy recovery) across Europe. CEWEP represents more than 400 plants from 24 countries.

CEWEP's members are committed to ensuring high environmental standards, achieving low emissions and maintaining state of the art energy recovery from waste that is not suitable for recycling.

FOR ADDITIONAL INFORMATION ABOUT CEWEP SCAN THIS QR CODE!