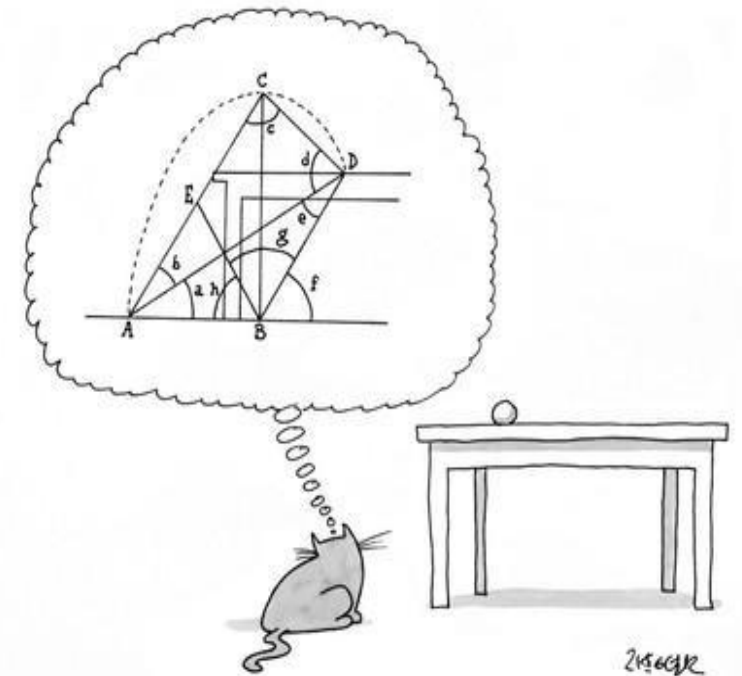




How to ensure a clean Circular Economy?

By Dr. Ella Stengler, Managing Director, CEWEP
20th May 2019, Brussels

- ■ How to avoid to circle pollutants
- ■ How to achieve quality recycling
- ■ What to do with the remains





Circular Economy targets

Landfill targets

	2035	2040
Without extension	10%	
With 5 years extension	25%	10 %

Criteria: landfilled > 60% in 2013

Extension possible for:

Bulgaria, Croatia, Cyprus, Greece, Hungary, Latvia, Lithuania, Malta, Romania and Slovakia

Recycling targets

	2025	2030	2035
Without extension	55%	60 %	65 %
With 5 years extension	50%	55%	60 %

Criteria: landfilled > 60%
or recycled < 20 % } in 2013

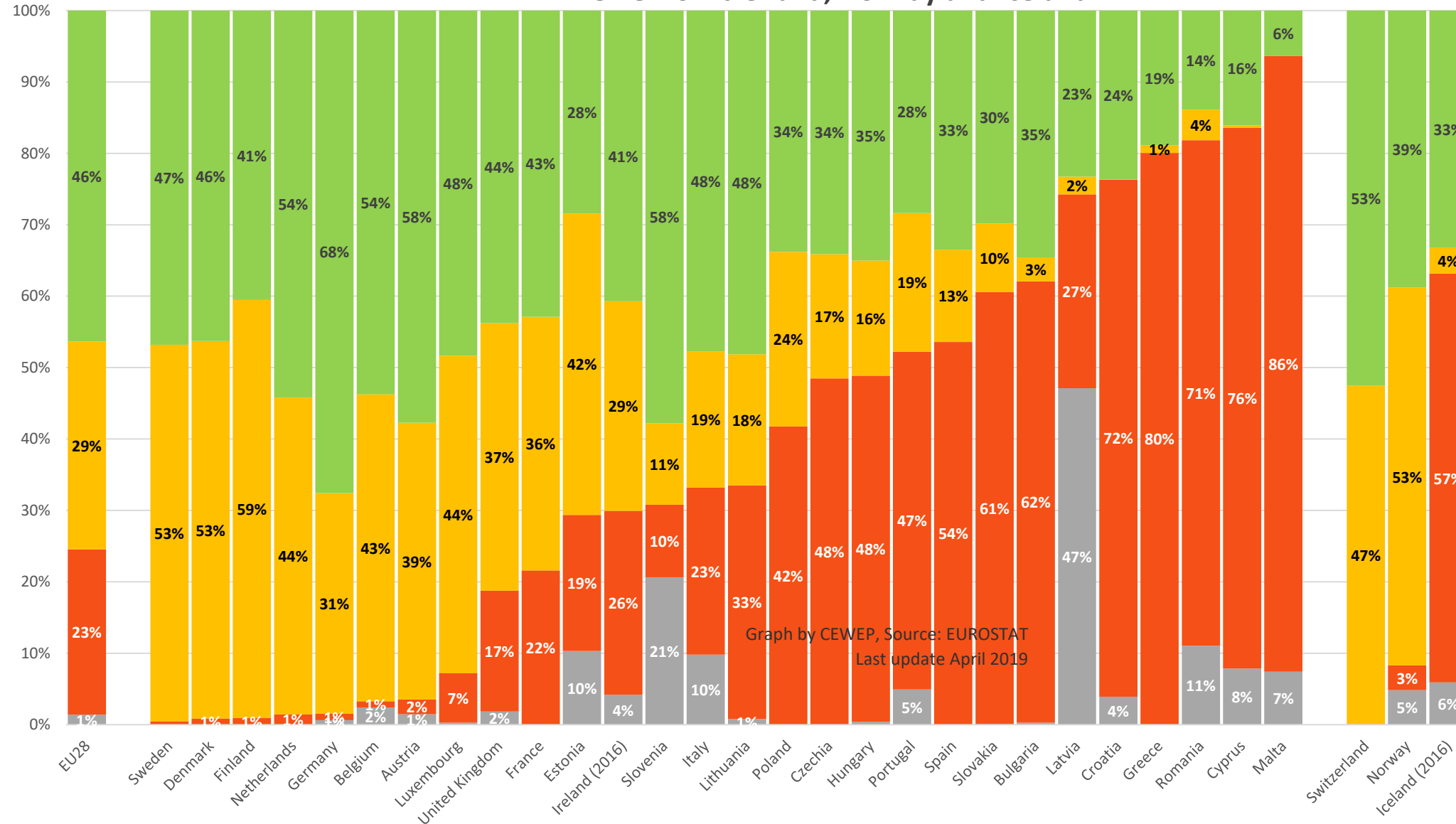
Extension possible for:

Bulgaria, Croatia, Cyprus, Estonia, Greece, Hungary, Latvia, Lithuania, Malta, Romania and Slovakia



Municipal waste treatment in 2017

EU 28 + Switzerland, Norway and Iceland



Graph by CEWEP, Source: EUROSTAT
Last update April 2019

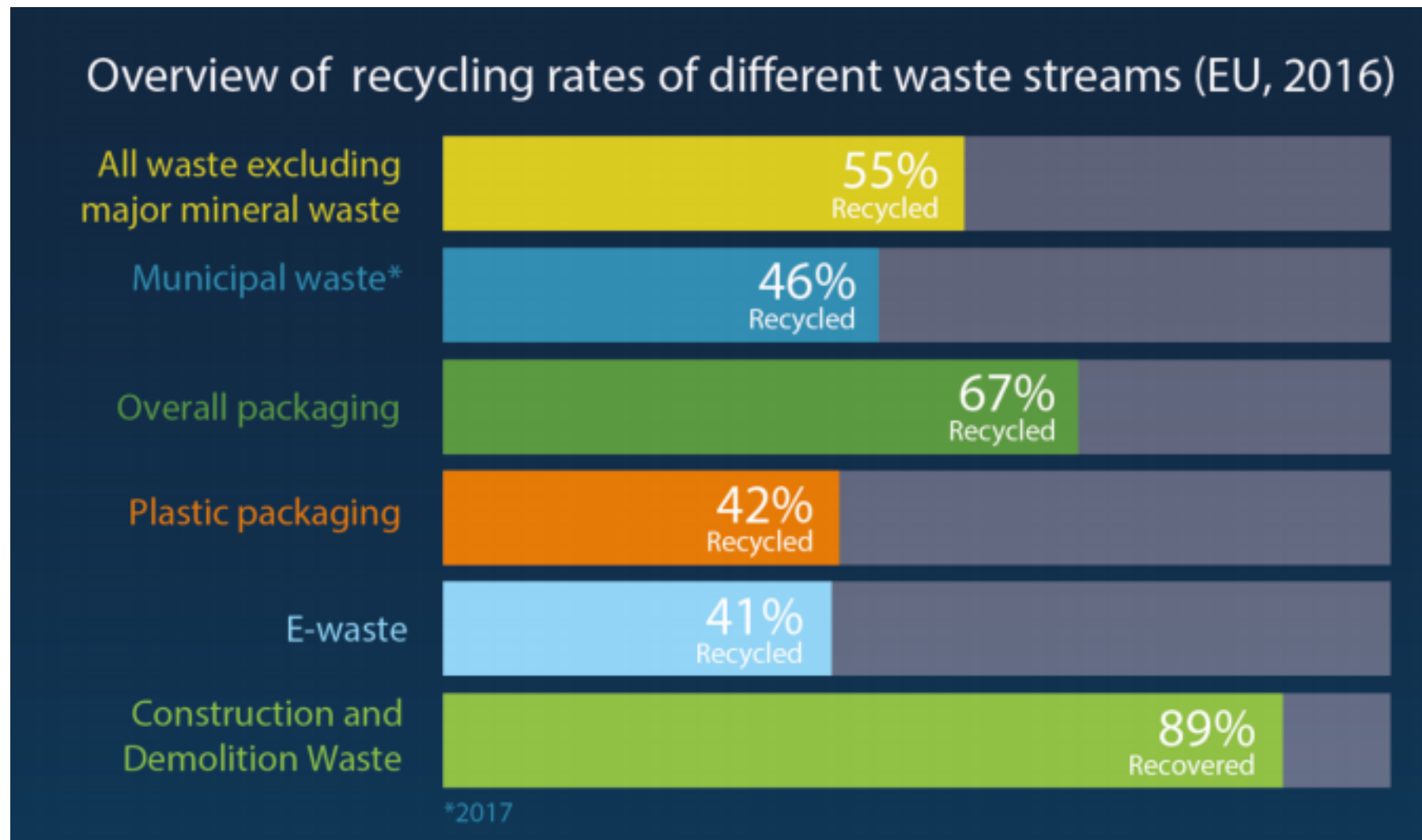
- Landfill
- Waste-to-Energy
- Recycling + Composting
- Missing data



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

Eurostat News 4th March 2019

Record recycling rates and use of recycled materials in the EU





EUROSTAT News 4th March 2019

*'In spite of these high recycling rates, on average only **12% of material resources** used in the EU in 2016 came **from recycled products** and recovered materials - thus saving extraction of primary raw materials. This indicator, called **circular material use rate**, measures the contribution of recycled materials to overall demand.'*

WHY is the circular material use rate so low?



Pollutants contaminating recycling loops

POPs

HBCD
PCDD/Fs
PBDE
PAHs

Heavy metals

Hg
Cd
Pb



must be properly treated and destroyed!



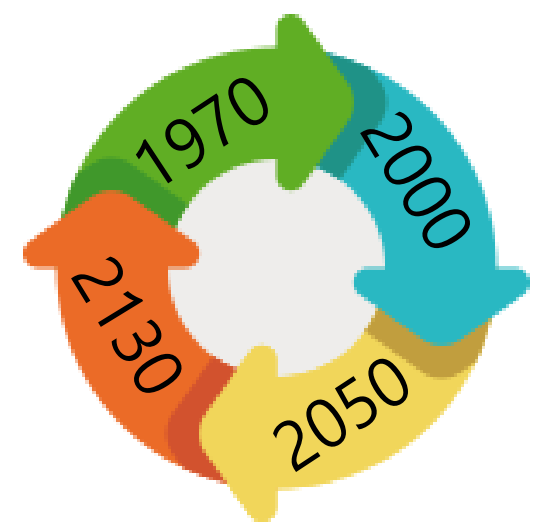
Not everything should be recycled...

*“In the recycling processes, articles (and the materials they consist of) that contain toxic substances contaminate the respective waste streams and are diluted in materials that do not contain toxic substances.” **

Study for the strategy for a non-toxic environment of the 7th Environment Action Programme

Final Report

*“According to modelling studies, it may take **centuries** to decontaminate a recycled waste stream, even if preventive measures are implemented”**



*Study for the strategy for a non-toxic environment of the 7th Environment Action Programme, European Commission 2017

What to do with

- **Materials containing substances of high concern**
- **Dirty, contaminated materials (e.g. infectious waste from hospitals)**
- **Sanitary products**
- **Mixed materials**
- **Degraded materials after multiple times of recycling**

If recycling is not feasible the only options are...

Recovery, e.g. Waste-to-Energy

Disposal, e.g. Landfilling





But landfilling should be avoided



We need to divert waste from landfills in order to:

- ▶ protect soil and groundwater from contamination
- ▶ prevent microplastics from being blown into the seas and rivers
- ▶ avoid the creation of methane - a potent greenhouse gas (equals 28 times CO₂ in mass)
- ▶ harness the material and energy content of residual waste

"Diversion from landfill is the main contributor to GHG mitigation in the waste management sector"

The Climate Change Mitigation Potential of the Waste Sector, Öko-Institut and IFEU on behalf of German Federal Environment Agency (UBA), 2015



Municipal waste treatment in 2016 in EU28

Wasted Resource

**57.6 million tonnes of municipal waste
landfilled per year in EU 28**

0.8 – 1.2 m³ per tonne

Wembley Stadium: 1,120,000 m³

**Each week in EU 28, we landfill the volume of
Wembley Stadium.**

Note: Municipal waste represents 10% of the total waste generated in the EU 28. In 2016, around 900 million tonnes of waste were landfilled in the EU 28.



Fires in waste facilities in Poland

More than 20 fires in 2 months (summer/spring 2018)



May 2018, Zgierz, 50 000 tonnes of waste
from Germany, Switzerland and Italy:



Sophisticated flue-gas cleaning devices guarantee low emissions

Waste-to-Energy Plant

