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Mediului "Cristofor Simionescu"



Waste generation, management and environmental impact in Romania and European Countries

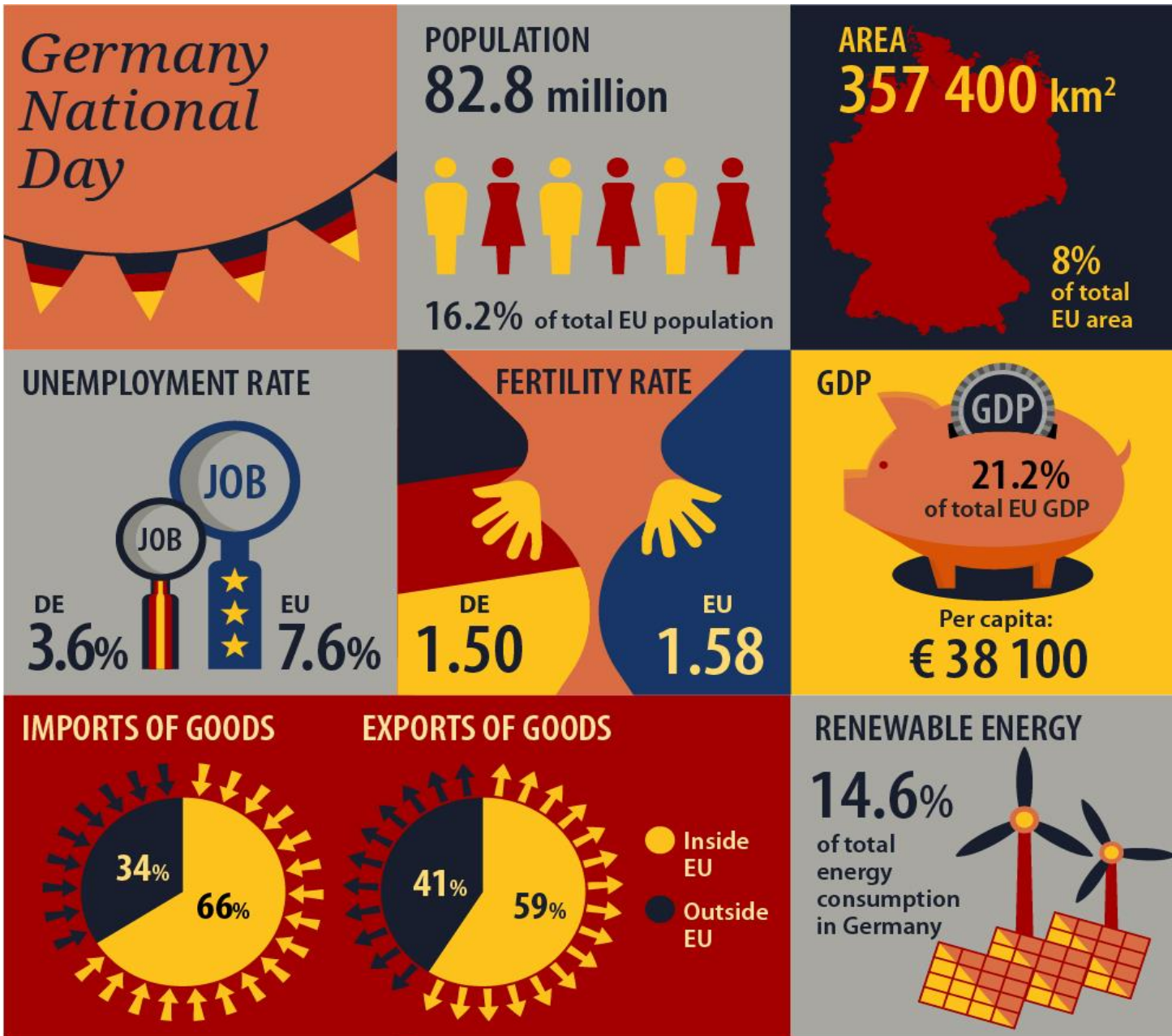
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You might already know that Germany is the top European Union's Member State for the production of beer, sausages and potatoes.

But did you know that Germany is the Member State that recycles or composts the most municipal waste (68%)

the German population is the oldest in the EU (with a median age of 45.8 years)?

United Kingdom National Day



POPULATION
65.8 million



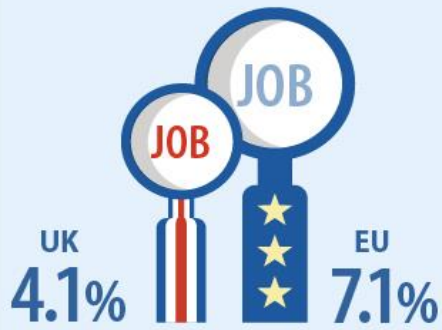
12.9% of total EU population

AREA
248 500 km²

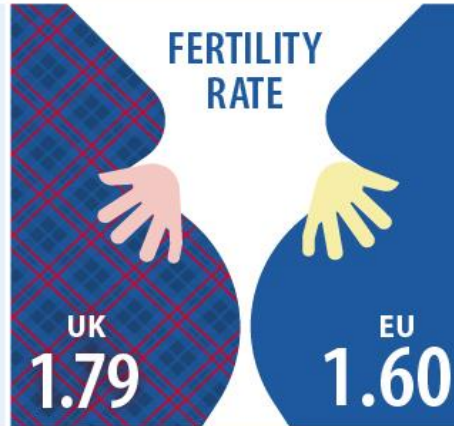


5.5%
of total EU area

UNEMPLOYMENT RATE



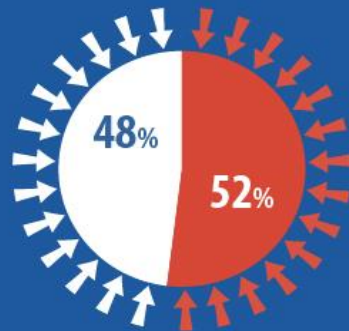
FERTILITY RATE



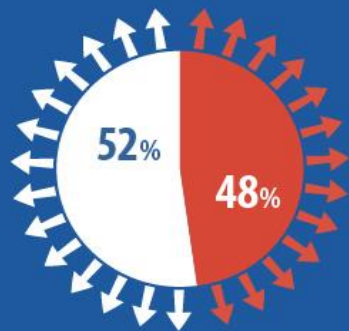
GDP



IMPORTS OF GOODS



EXPORTS OF GOODS



● Inside EU
● Outside EU

RENEWABLE ENERGY

9.3%
of total energy consumption in United Kingdom



Did you know that the United Kingdom has the largest sheep population (23 million) and the highest number of buses (162 thousand) in the EU?

The United Kingdom is the EU's leading exporter of services and the largest exporter of whisky. It is also the second-largest producer of carrots after Poland. The United Kingdom is a collaborative economy: 34% of people use sharing accommodation services and 27% sharing transport services, more than in any other EU country.

Romania National Day

POPULATION
19.6 million



3.8% of total EU population

AREA
238 400 km²

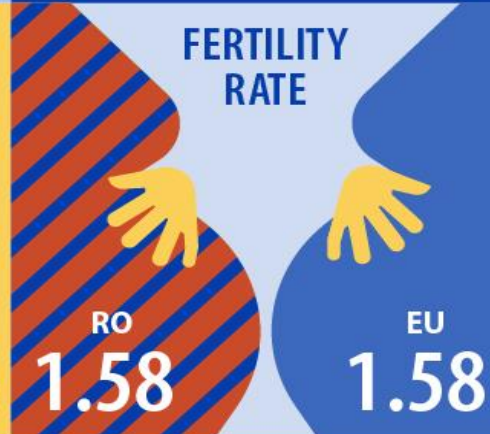


5.3% of total EU area

UNEMPLOYMENT RATE



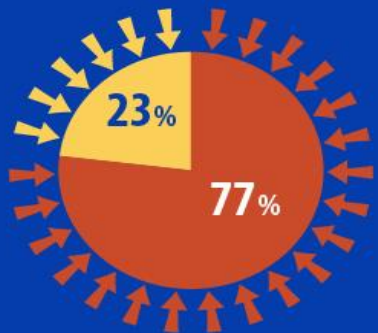
FERTILITY RATE



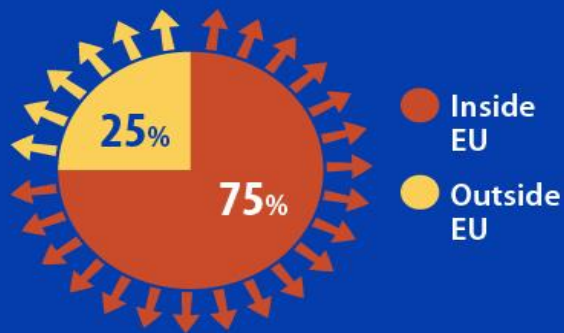
GDP



IMPORTS OF GOODS



EXPORTS OF GOODS



- Inside EU
- Outside EU

RENEWABLE ENERGY

24.8%
of total energy consumption in Romania



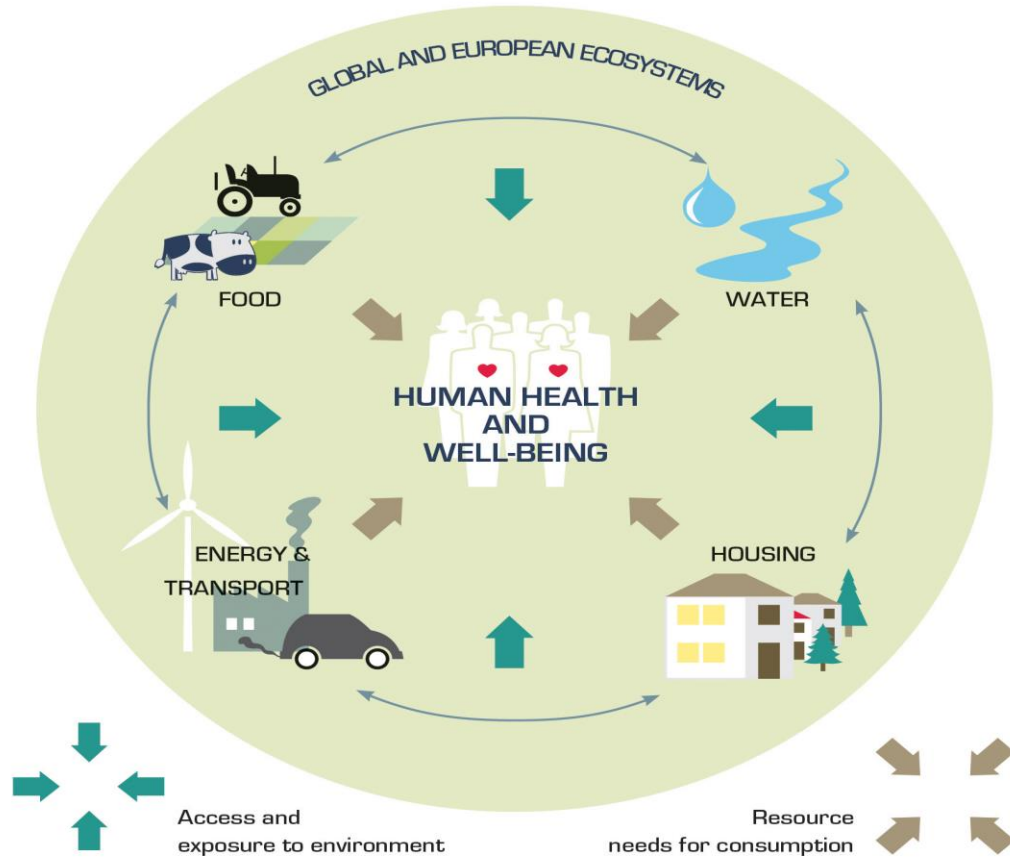
Did you know that Romania is the only European Union Member State where the agricultural sector is the main employer, providing work for 1 in 4 employed persons?

It is also the top producer of plums and the second largest producer of grain maize and walnuts.

With less than 250 kg of waste generated per person, Romania has the lowest amount of municipal waste in the EU.

How are the environment and our well-being and health connected?

Natural resources fuel our production and consumption, and create wealth and jobs, contributing to our quality of life and well-being. But our level of resource consumption is undermining our ecosystems' capacity to provide for us in the future.



Between 2009 and 2011, up to

96 %

of EU city dwellers were exposed to fine particulate matter (PM_{2.5}) concentrations above WHO guidelines.

In Europe, at least

110 million

people are adversely affected by noise from road traffic alone.

In southern Europe, up to

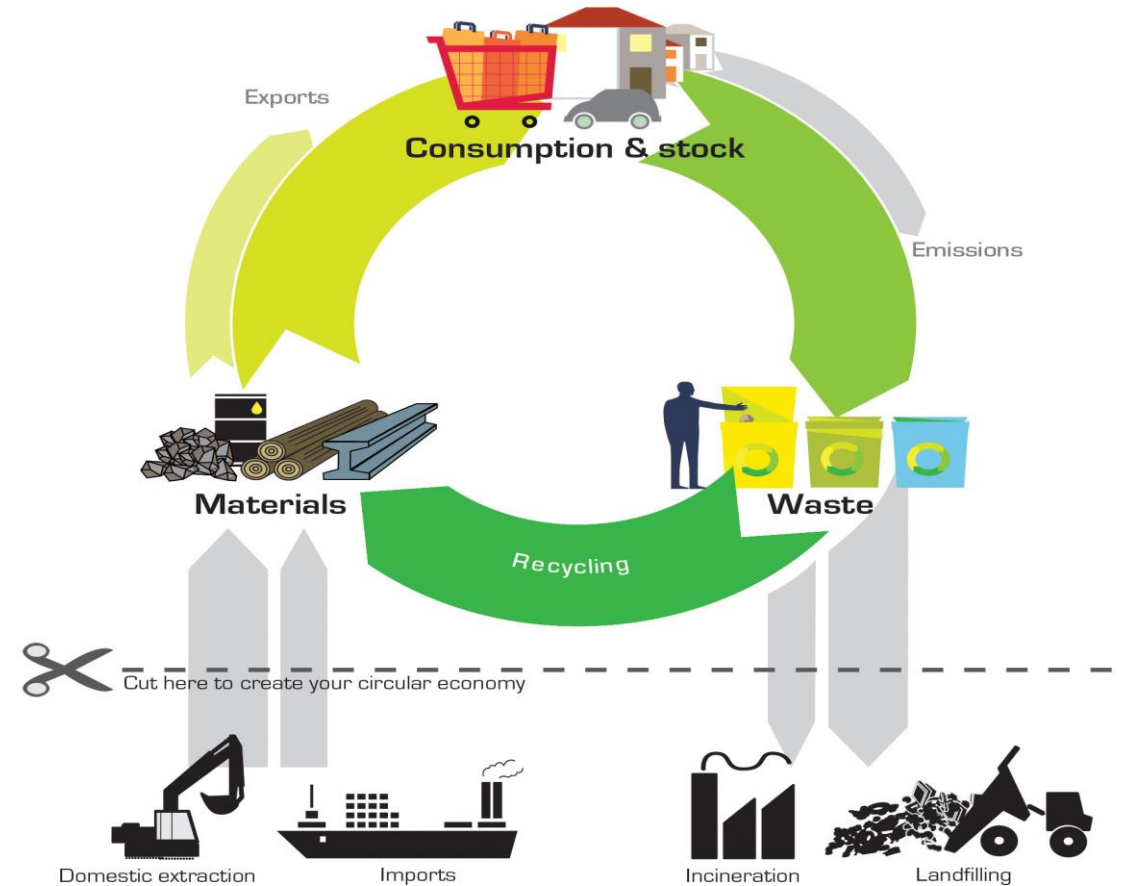
80 %

of the extracted freshwater goes to agriculture, reducing the amount available to other uses.

Source: EEA

How can we make our economy circular and resource efficient?

Currently, we are using more resources than our planet can produce in a given time. We need to reduce the amount of waste we generate and the amount of materials we extract.



12.4 tonnes of materials per capita were **extracted** in the EU.



3.2 tonnes of materials per capita were **imported** to the EU.



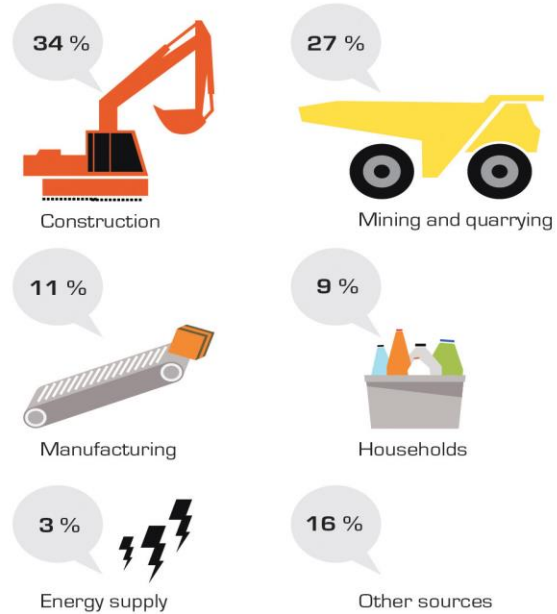
1.3 tonnes of material per capita were **exported** from the EU.

Read more: eea.europa.eu/themes/households and eea.europa.eu/themes/waste

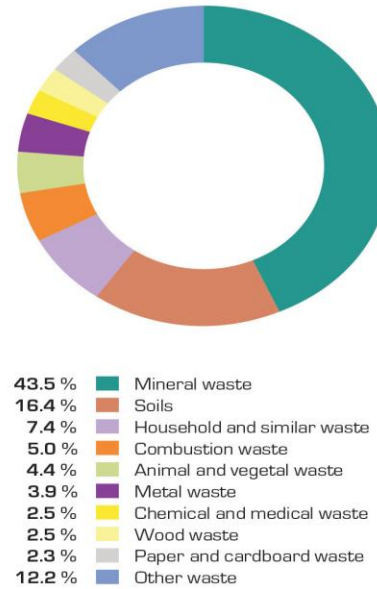
Europe's waste streams

In total, about 2500 million tonnes of waste was generated in the EU-28 and Norway in 2010. Here is an overview of where the waste came from and what it was composed of.

Waste streams by source



Waste streams by type of waste



Source: Eurostat 2010 data on EU-28 and Norway

How can we reduce and make better use of waste?

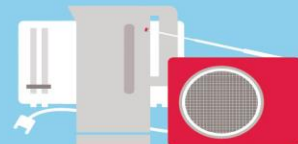
The best way to reduce the environmental impacts of waste is to prevent it in the first place. Many items that we throw away could also be re-used, and others can be recycled for raw materials.



On average, we generate 157 kg of packaging waste per capita in the EU.



Every year, the generation of some 74 million tonnes of hazardous waste is reported in the EU.



Electrical and electronic equipment is the fastest growing waste stream in the EU, estimated to reach 12 million tonnes a year by 2020.

Sources: EEA, Eurostat, European Commission
Read more: www.eea.europa.eu/waste

481 kg

of municipal waste is generated per person per year in the EU.

42%

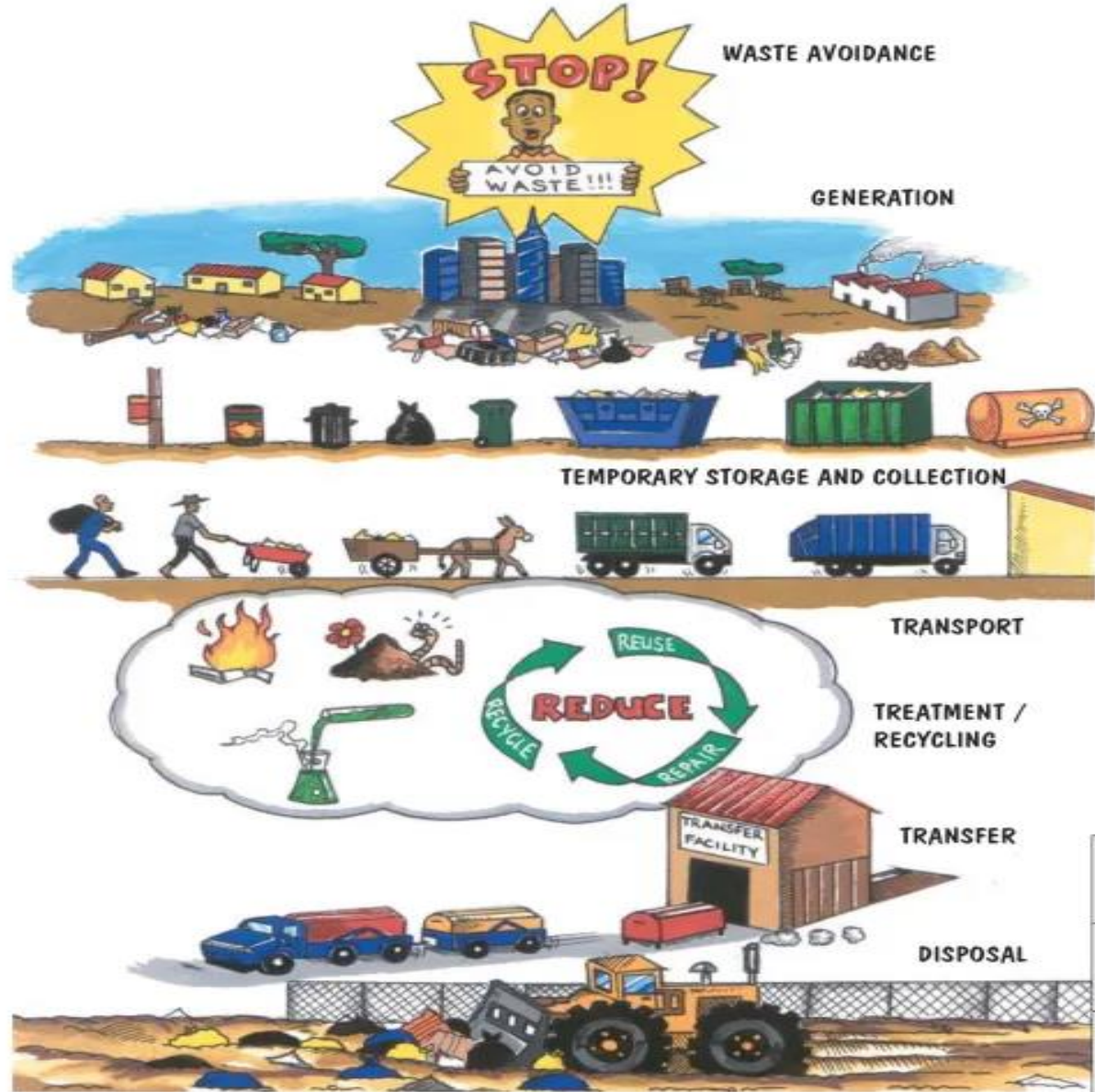
of treated municipal waste in the EU is recycled or composted.



Recycling an aluminium can saves around 95 % of the energy needed to make a new one from raw material.

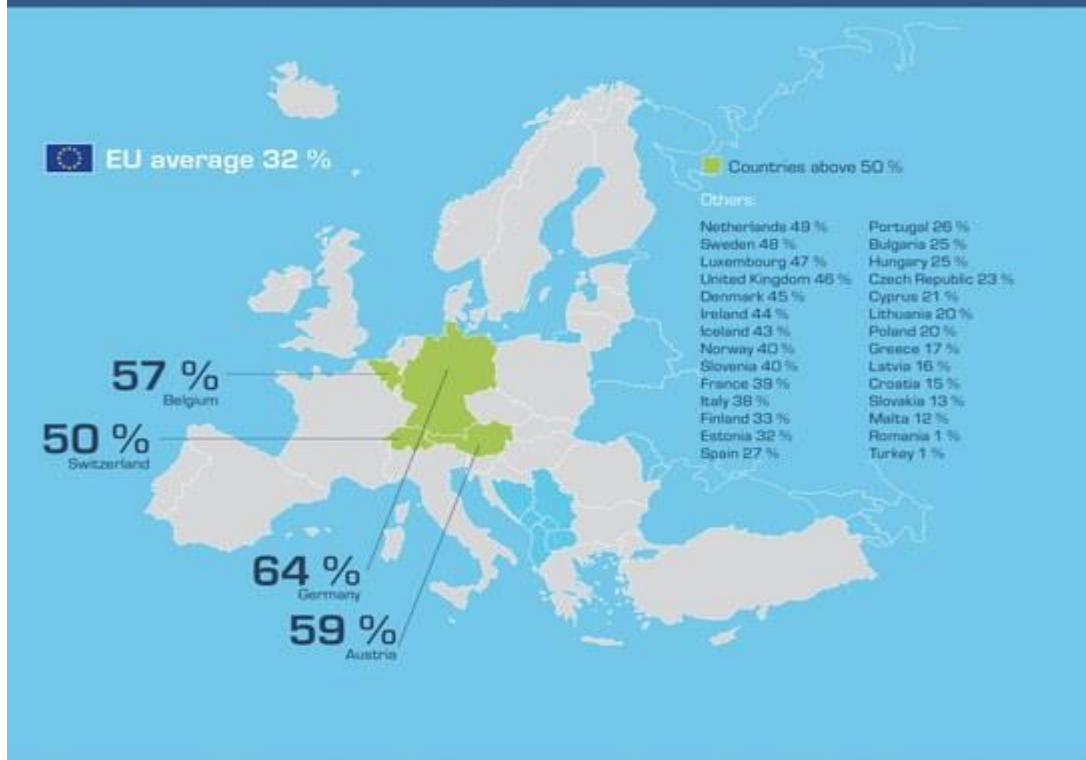
Sources: Eurostat (2012)
Read more: www.eea.europa.eu/waste

ELEMENTS OF A WASTE MANAGEMENT SYSTEM

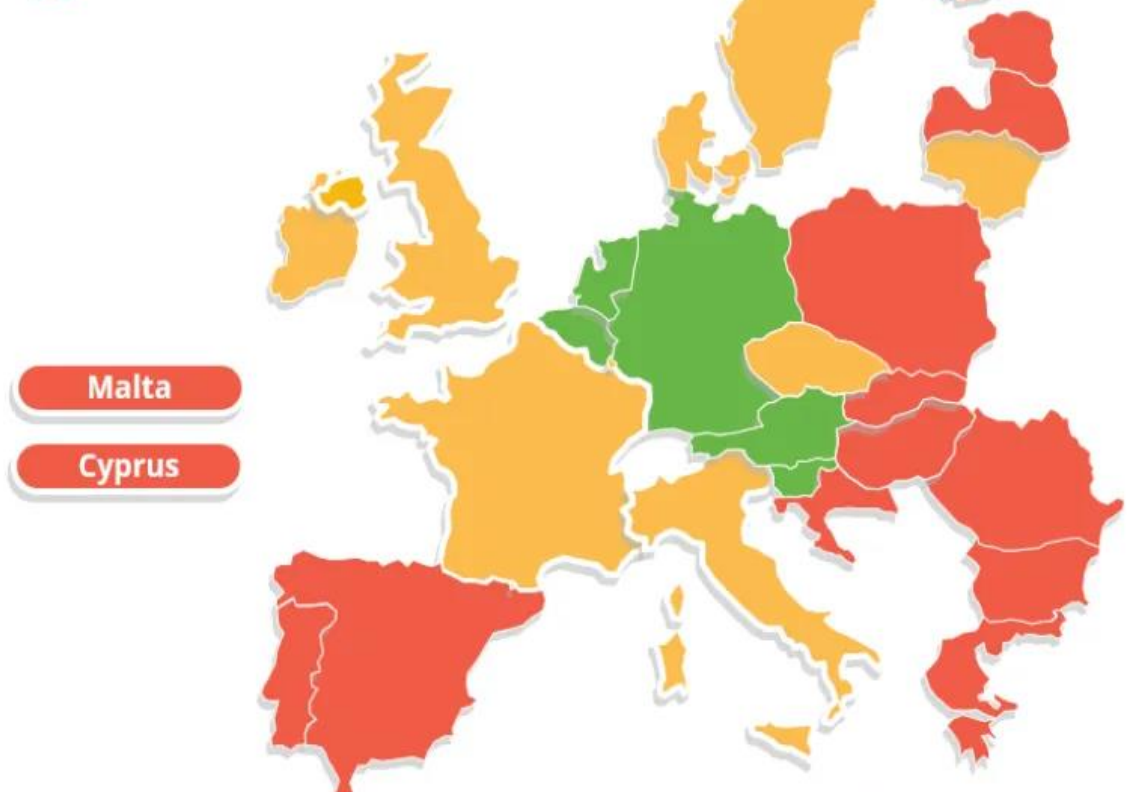


How much of our municipal waste do we recycle?

Much of the waste we throw away can be recycled. Recycling benefits the environment by diverting waste away from landfills and by providing raw materials for new products. Recycling can also encourage innovation and create jobs.



- Target achieved
- On track
- At risk



In Europe, employment related to recycling increased by 45 % between 2000 and 2007.

50 %

EU countries should recycle at least 50 % of their municipal waste by 2020.

45 %

EU countries should recycle at least 45 % of used batteries by 2020.

Sources: Eurostat (2012), EEA, European Commission
Read more: www.eea.europa.eu/waste

Recycling targets progress



Why should we avoid sending waste to landfills?

Diverting waste away from landfills prevents pollution that can harm our health and the environment. Reducing, re-using and recycling waste can bring economic gains and secure access to critical raw materials. More jobs at higher income levels are also created by recycling than by landfilling or incinerating waste.

- 1 **Lost opportunities:**
raw materials, energy, innovation,
business and jobs
- 2 Methane and other gas emissions
- 3 Wasted land space
- 4 Pollution of soil
- 5 Pollution of surface water
- 6 Pollution of groundwater



In the EU,

37%

of municipal waste ends
up in landfills.

According to estimates by the European Commission,

€ 5250 Mio.

worth of material is sent to landfill
in the EU every year, and over

400.000

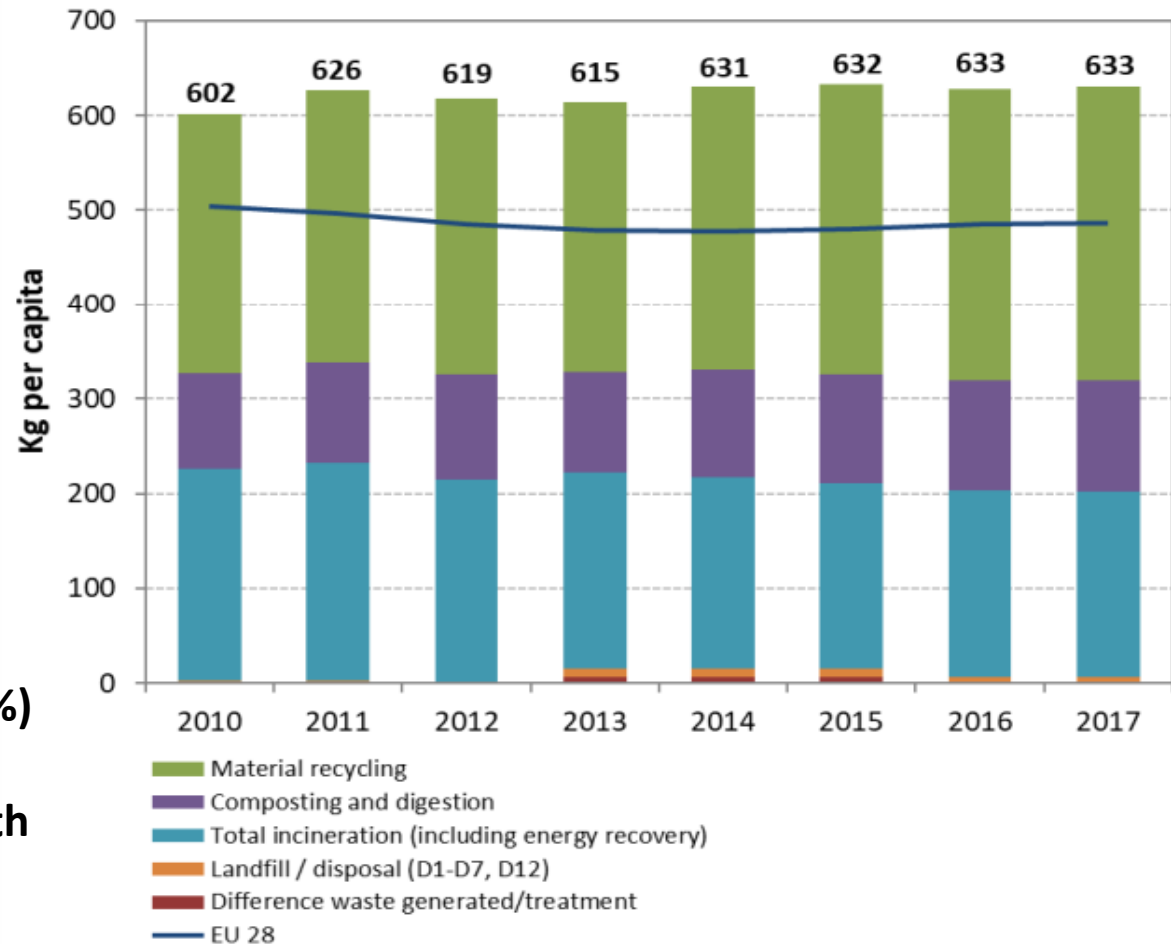
new jobs could be created by full
implementation of the EU waste
legislation.

Germany is among the top performers in the EU with regard to waste management

Waste generation has remained stable for the last five years
633 kg per capita in 2017,
but is above the EU average
487 kg/y per capita

Recycling (68%) + Incineration (31%) + Landfilling (1%)

in 2005, effective ban on the landfiling of waste with a high calorific value.



Municipal waste by treatment in Germany
2010-2017

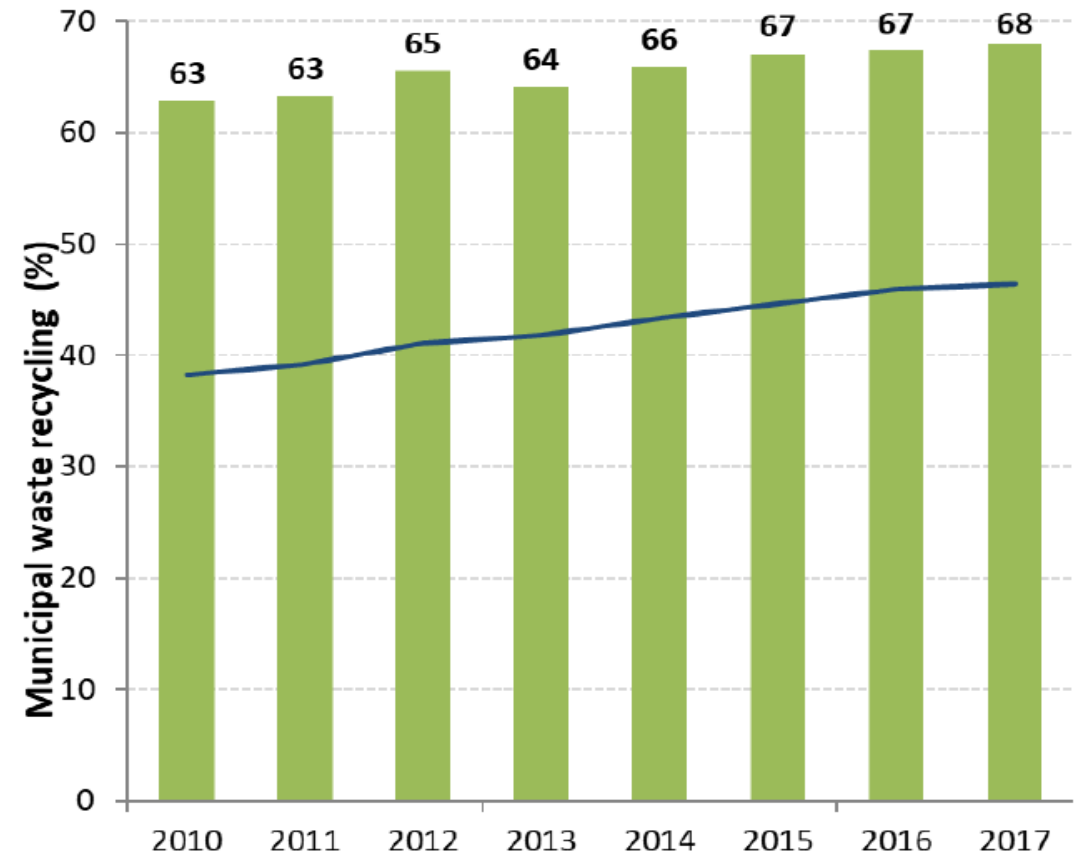
Germany is among the top performers in the EU with regard to waste management

Germany has already reached the EU 2020 recycling target of 50 %, above EU average: 45%

Successful PAYT and EPR

2019 priority actions

- Introduce new policy instruments, including economic instruments, to promote prevention, make reuse and recycling more economically attractive.
- Shift reusable and recyclable waste away from incineration.



Recycling rate of municipal waste 2010-2017

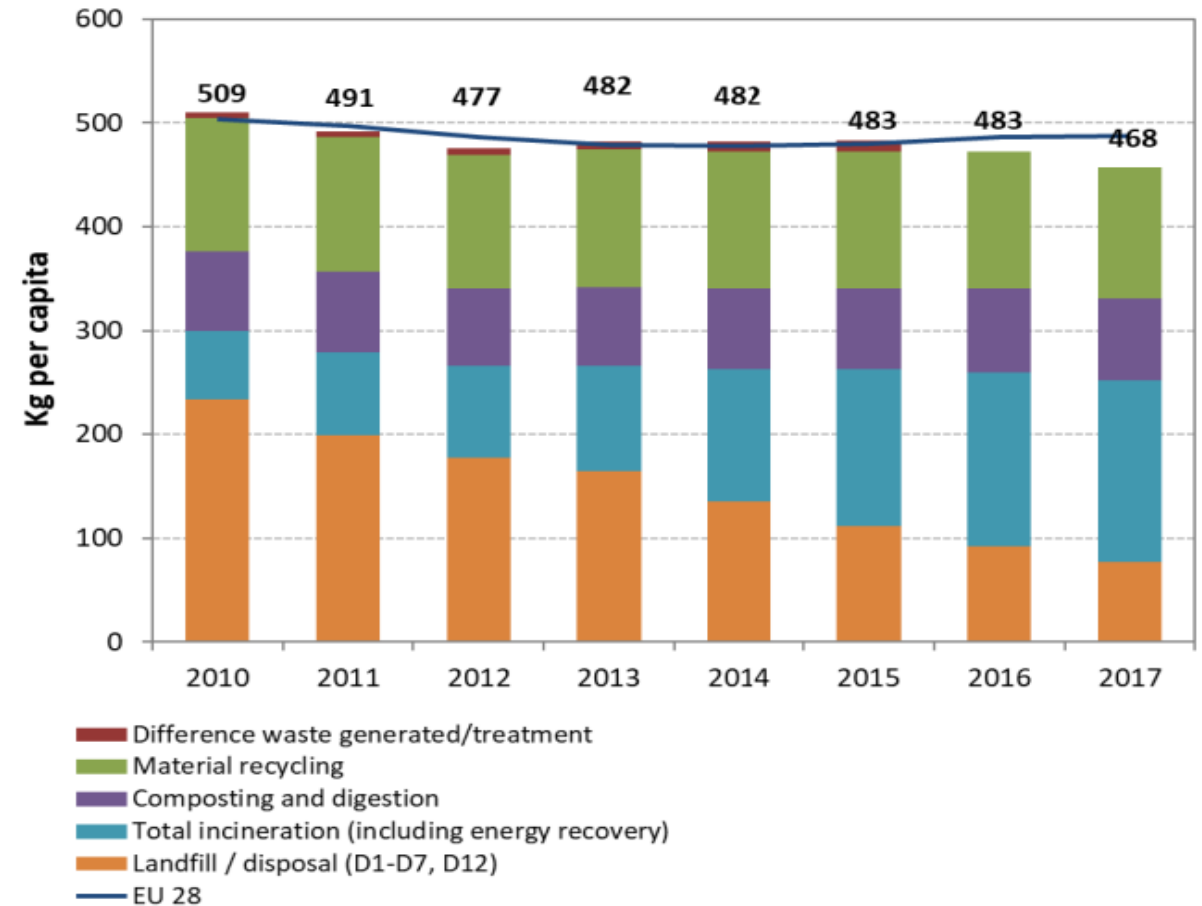
The UK's performance in municipal waste generation has been stable

In 2017: the amount of waste generated was below the EU average (468 kg/y/inhabitant compared to 487 kg/y/inhabitant).

Recycling (44%) + Incineration (37%) + Landfilling (16%)

Incineration is above the EU average (27%)

Landfilling is below EU average (24%)



Municipal waste by treatment in United Kingdom 2010-2017

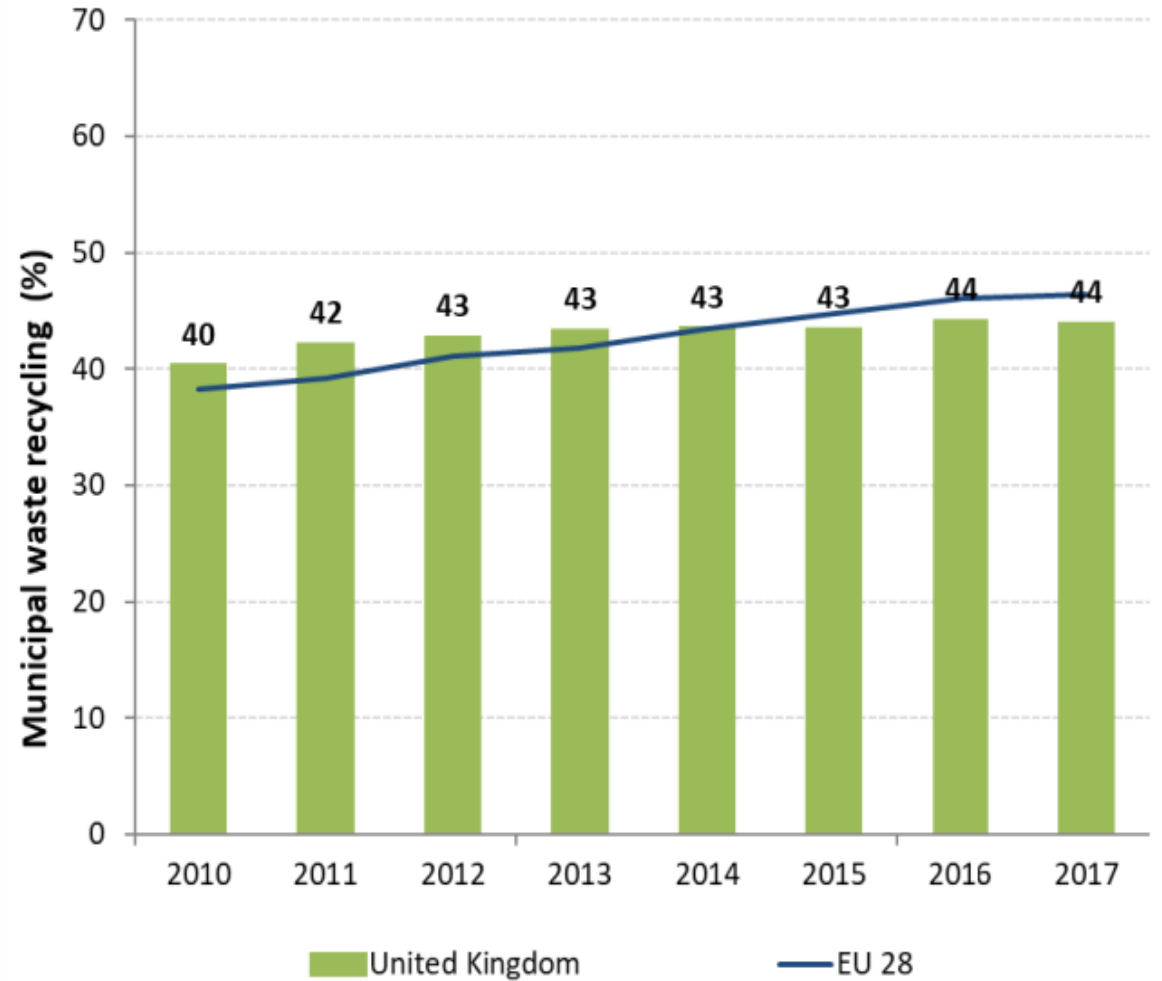
In UK there are separate waste policy arrangements

the UK is not considered at high risk of missing the 50 % recycling target by 2020

One of the highest landfill taxes in EU
Since 2015: the plastic bag charge is estimated to have taken **15.6bn** plastic bags out of circulation

Decrease landfilling further
Cautious investments in Incineration or MBT plants
PAYT and EPR improvements

Northern Ireland (2017)
Recycling (48%) + Incineration (20%) + Landfilling (32%)



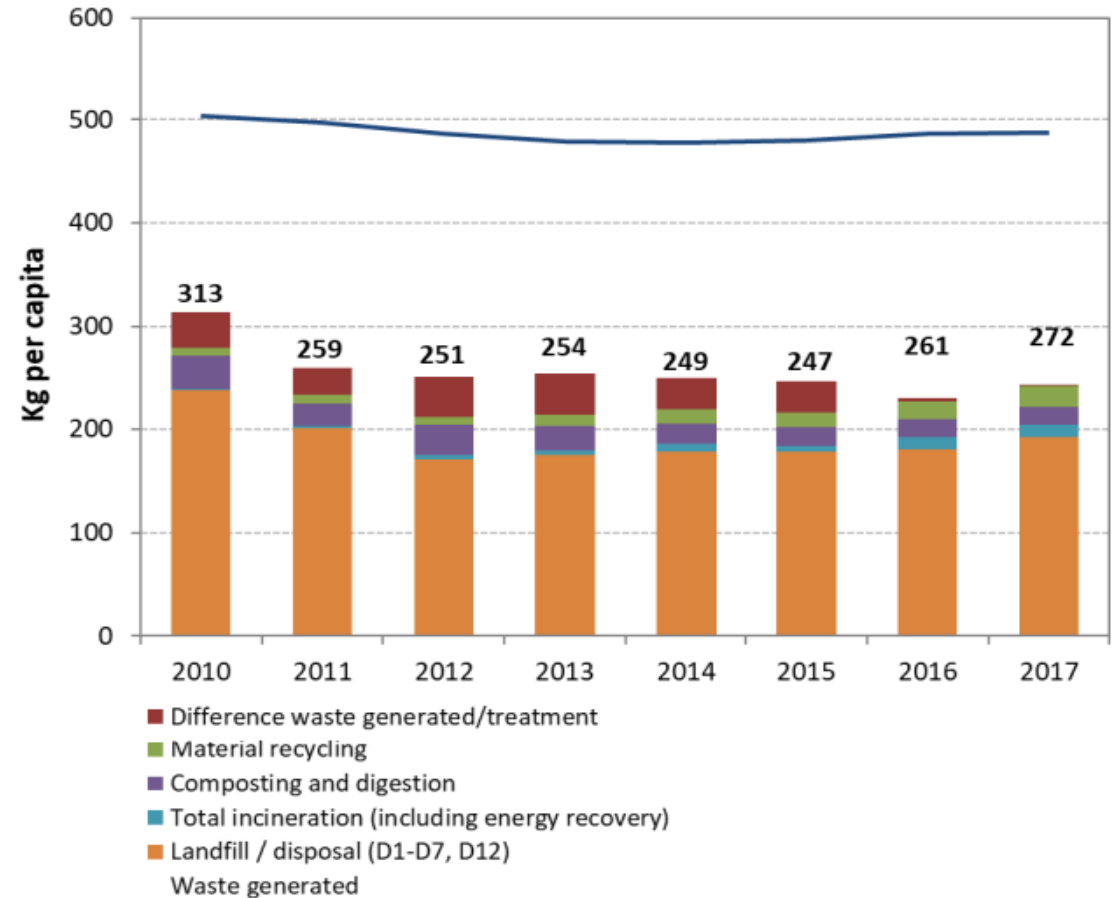
Recycling rate of municipal waste 2010-2017

Waste management remains a key challenge for Romania

In 2017, the municipal waste generation per capita in Romania was 272 kg, a 18 kg increase from 2013 but still considerably below the EU average of around 487 kg

Recycling (14%) + Incineration (4%) + Landfilling (82%)

Moreover, recycling rates have been stagnating since 2013



Municipal waste by treatment in Romania 2010-2017

Waste management remains a key challenge for Romania

Romania will have to close and also rehabilitate 101 non-compliant landfills

For biodegradable municipal waste, Romania took up the option to postpone by 4 years the attainment of its 2016 35 % landfill target

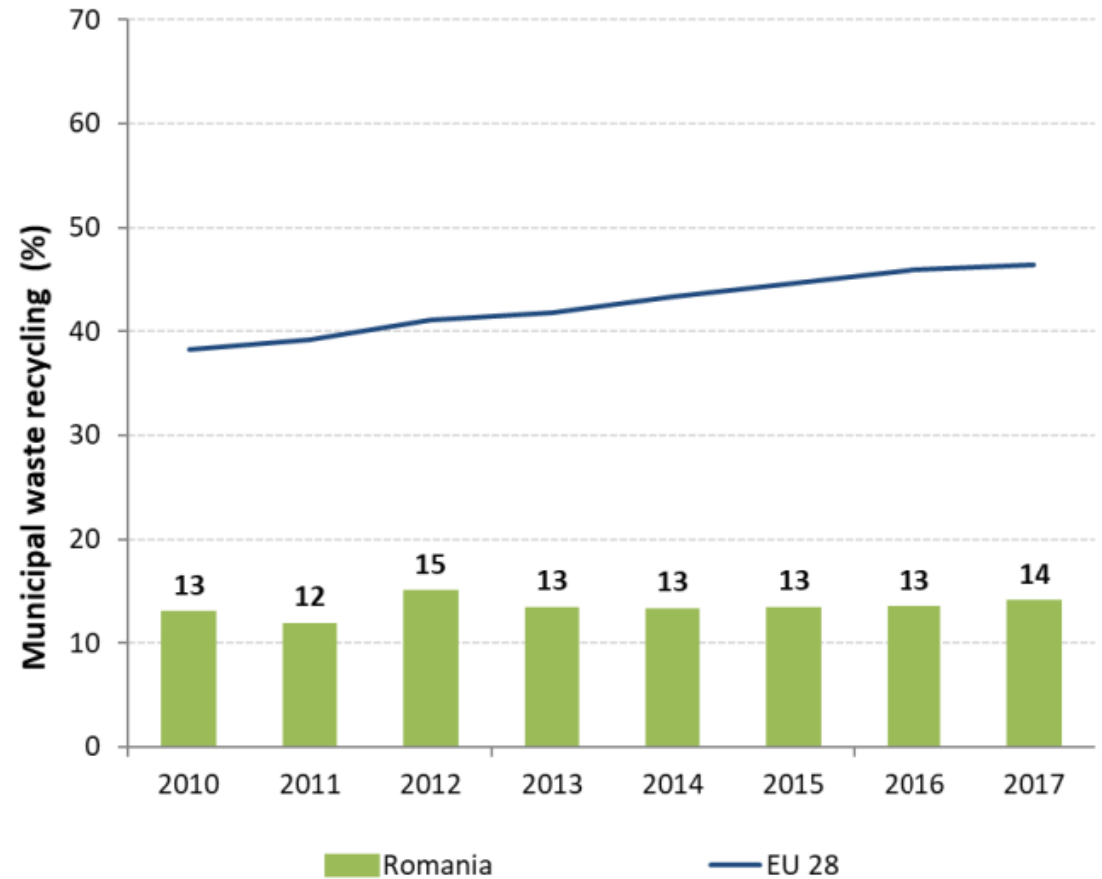
Future works:

extend the network of mechanical-biological treatment plants

a plan to build the first dedicated municipal waste incinerator with energy recovery in Bucharest

Extend separate collection

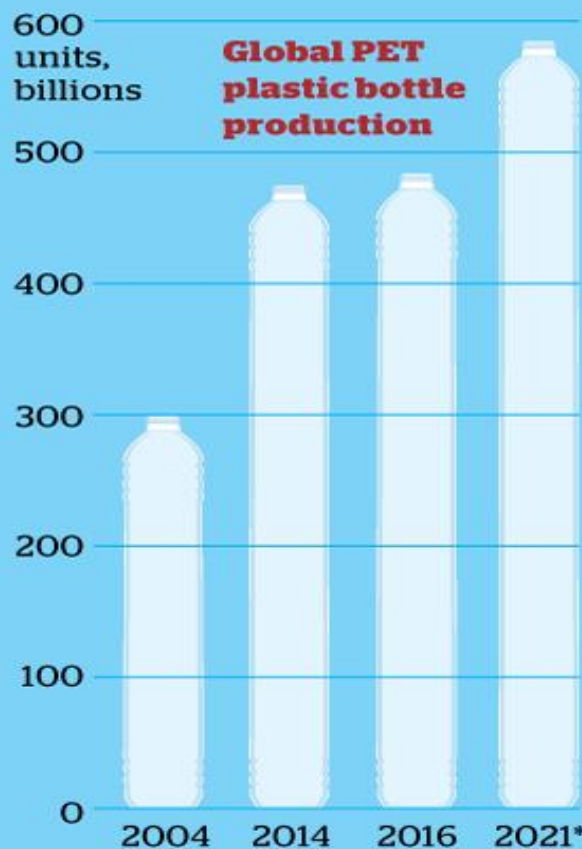
Adopt landfill tax + efficient PAYT + EPR



Recycling rate of municipal waste 2010-2017

Carrying a lot of plastic

Currently, a third of plastic waste in the European Union is sent to landfill or worse, millions of tonnes find its way to our oceans. With each EU citizen creating over 30kg of plastic waste a year and plastic productivity on the rise, legislative and incentivised solutions need to be implemented, especially in countries producing the most waste per person.



*FORECAST.

WORDS: VALERIE BROWNE
 GRAPHIC: NICK COLES
 SOURCE: EU COMMISSION, EUROMONITOR, EUROSTAT

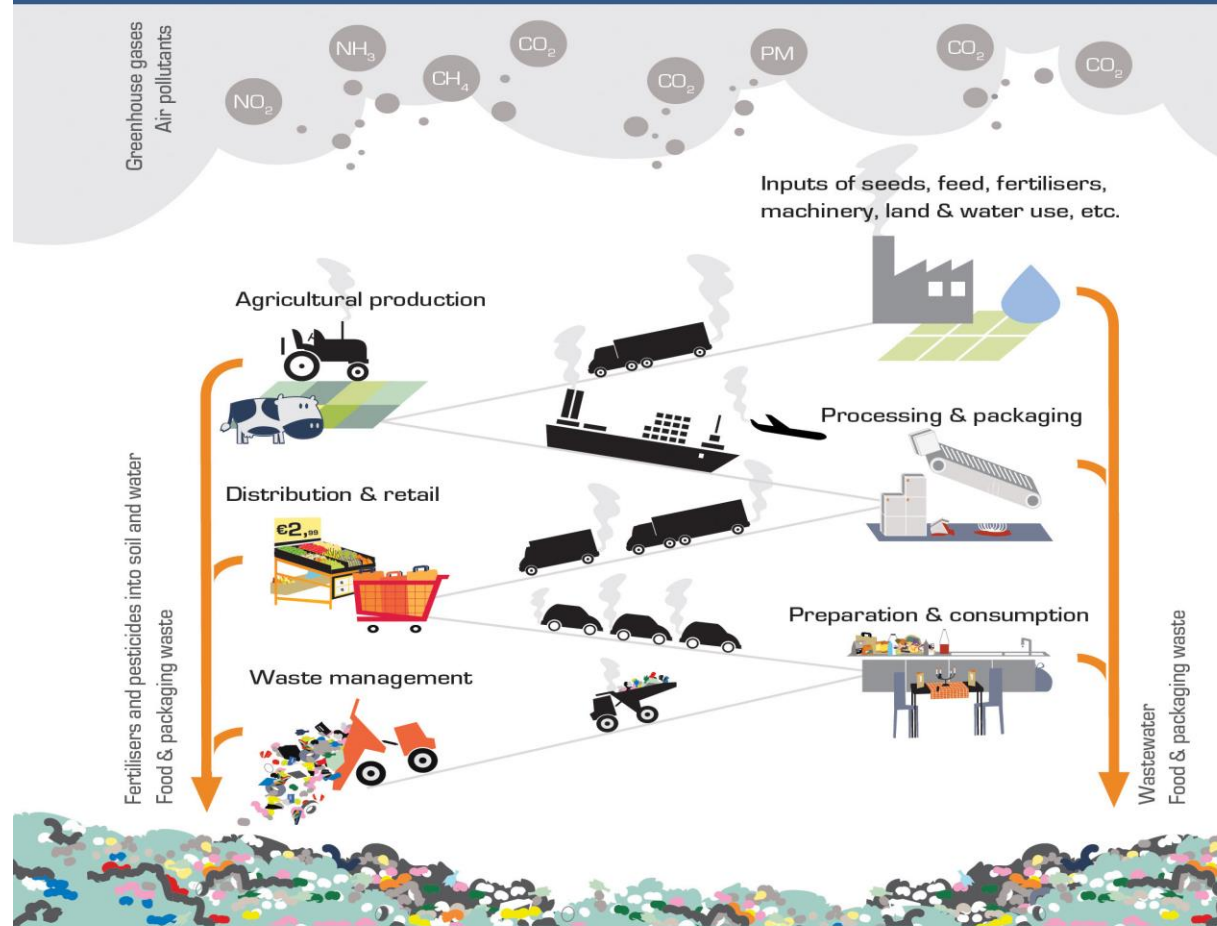
Plastic packaging waste produced in EU countries per person in 2015



FIGURES FOR DENMARK ROMANIA AND CYPRUS ARE 2014

How does the food we buy, eat and don't eat impact the environment?

Before reaching our plates, food needs to be produced, processed, packaged, transported and distributed. Every step uses up resources and generates more waste and pollution.



In Europe, agricultural production of food, fibre and fuel accounts for:

90 %

of ammonia (NH_3) emissions,
impacting air quality

50–80 %

of nitrogen load in freshwater
bodies, affecting water quality
and aquatic ecosystems

10 %

of greenhouse gas emissions
(incl. 80 % of methane emissions)
contributing to climate change

Source: EEA

Questions

- Are you aware about waste related campaigns?
- What is happening to the waste after it is collected?
- Do you know who is your waste regional operator?
- How do you recycle your waste in school/at home?
- Can you identify any hazardous waste in your home?

