



## CASE STUDY - WASTE-TO-ENERGY IN POLAND

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## KRAKOWSKI HOLDING KOMUNALNY SA W KRAKOWIE

Inspires and implements actions leading to increasing the efficiency of functioning public utility companies in Krakow and provides services related to city economy.

KHK SA as a capital group includes the following companies: Miejskie Przedsiębiorstwo Wodociągów i Kanalizacji SA (*Municipal Water Supply and Sewerage Company*), Miejskie Przedsiębiorstwo Komunikacyjne SA (*Public Transportation Company*), Miejskie Przedsiębiorstwo Energetyki Ciepłej SA (*Municipal Heat Supply Company*) and Agencja Rozwoju Miasta SA (*City Development Agency*). Krakowski Holding Komunalny SA is the owner and operator of the Thermal Waste Treatment Plant in Krakow which is located in the Nowa Huta district at 23 Jerzego Giedroycia street.





## ECO-INCINERATOR means:



Less waste





More green energy



Environmental protection



Proven solutions


-  Capacity: 245 000 Mg/year
-  Energy recovery in cogeneration :
  - electric power approx. 11 MW
  - thermal power 35 MW


## COST AND SOURCE OF PROJECT FINANCING

 **Gross project cost : 819 mln zł**

 **VAT : 153 mln zł**

 **Net project cost : 666 mln zł**

 Co-financing from the EU approx: 372 mln zł  
KHK S.A. own contribution about 295 mln zł of which  
293 mln was a loan from the National Fund for Environmental Protection

 The cost of the plant building was almost 647 mln netto (796 mln brutto)





## IMPLEMENTATION OF THE PROJECT

- 🚧 **November 2008** – preparation, construction and operation of Waste Thermal Treatment Plant in Krakow, realised within POIiŚ [IEOP The Infrastructure and Environment Operational Programme] frame
- 🚧 **April 2011** – a tender was announced for the construction of WTTP in Krakow
- 🚧 **October 2012** – The Krakow Municipal Holding signed a contract with the Korean company Posco Engineering & Construction Co., Ltd. For the construction of the Waste Thermal Treatment Plant in Krakow
- 🚧 **November 2013** – commencement of construction works





- 🌿 **November 2015** – issuing of the use permit decision for the Plant by the Poviast Construction Supervision Inspectorate in Krakow
- 🌿 **December 2015** – inauguration of the installation work - start-up
- 🌿 **May 2016** - the installation was restarted, during which the Technical Supervision Office conducted safety tests. All trials ended with the issuance of the TSU certificate
- 🌿 **June 2016** – KHK S.A. became the owner of the WTTP pursuant to the Taking-Over Certificate issued by the Contract Engineer





## 2021 IN NUMBERS...

- 🌿 Municipal waste  
232 429 Mg
- 🌿 Heat 1 077 015 GJ
- 🌿 Elektricitiy 100 890 MWh
- 🌿 Gate fee 250 zł (53,84 EU)







## INCOME STRUCTURE

- Gate fee 46,8%
- Heat 33%
- Electricity 12,5%
- Renewable energy certificates – 5,2%





## WTTP RECEIVES THE WASTE FROM THE KRAKOW CITY:

-  **20 03 01** – municipal mixed waste (unsorted)
-  **19 12 12** – wastes generated as a result of mechanical treatment (recovery) of separately collected municipal waste fractions, ie material waste, large-size waste, waste and packaging waste





## FIVE BIN SYSTEM





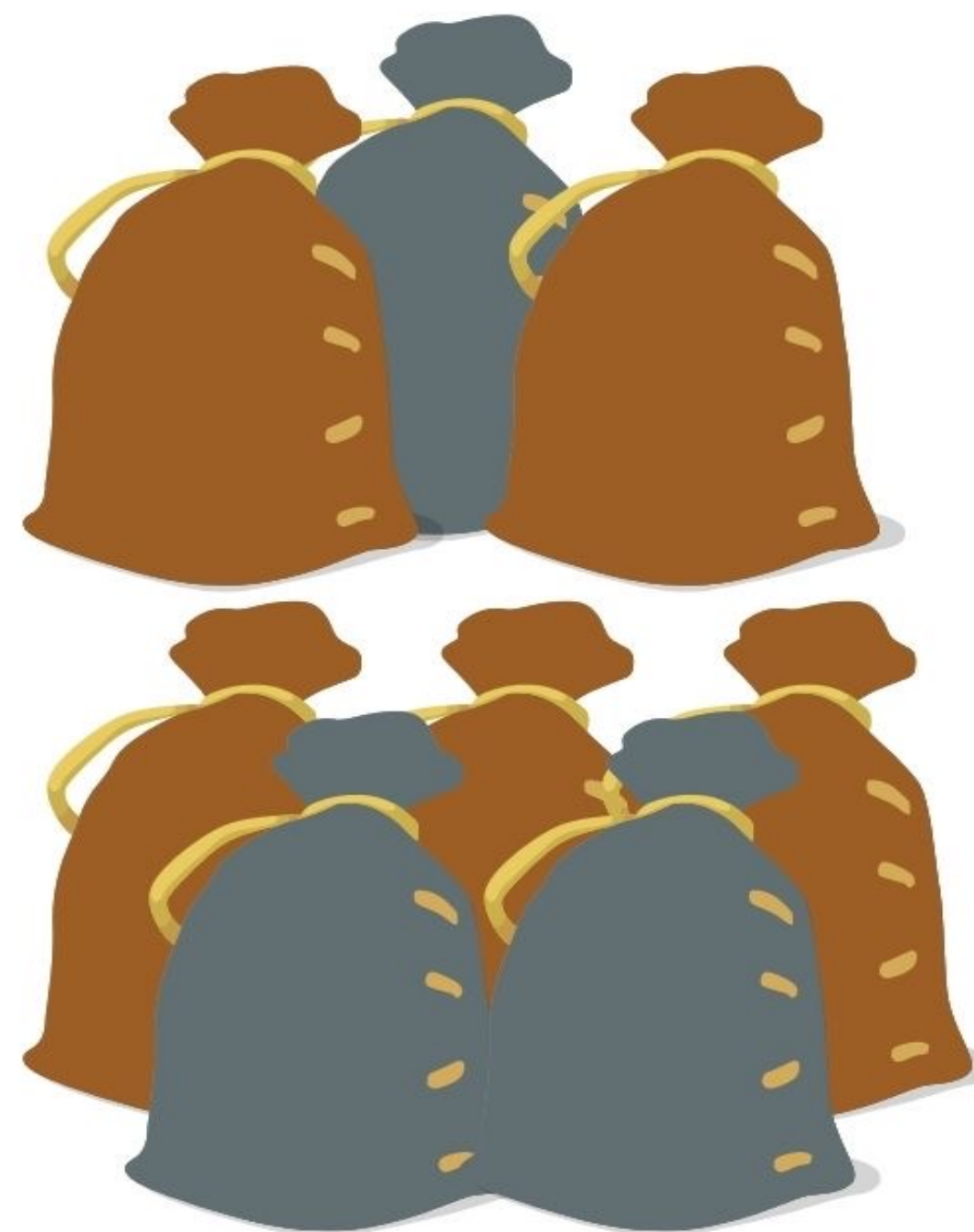
## WASTE IN POLAND

 The amount of waste generated per capita:

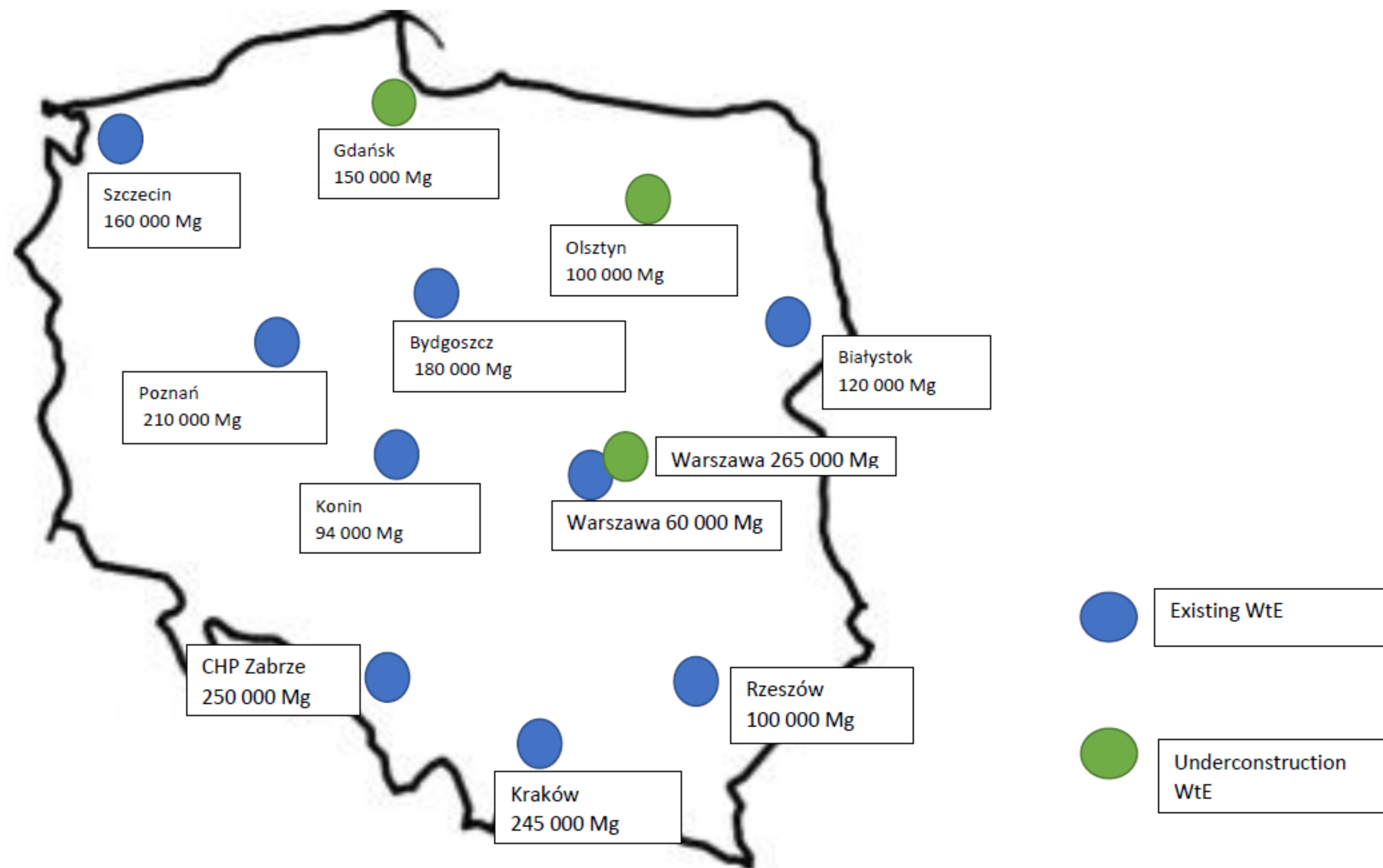
Poland 342 kg

UK 463 kg

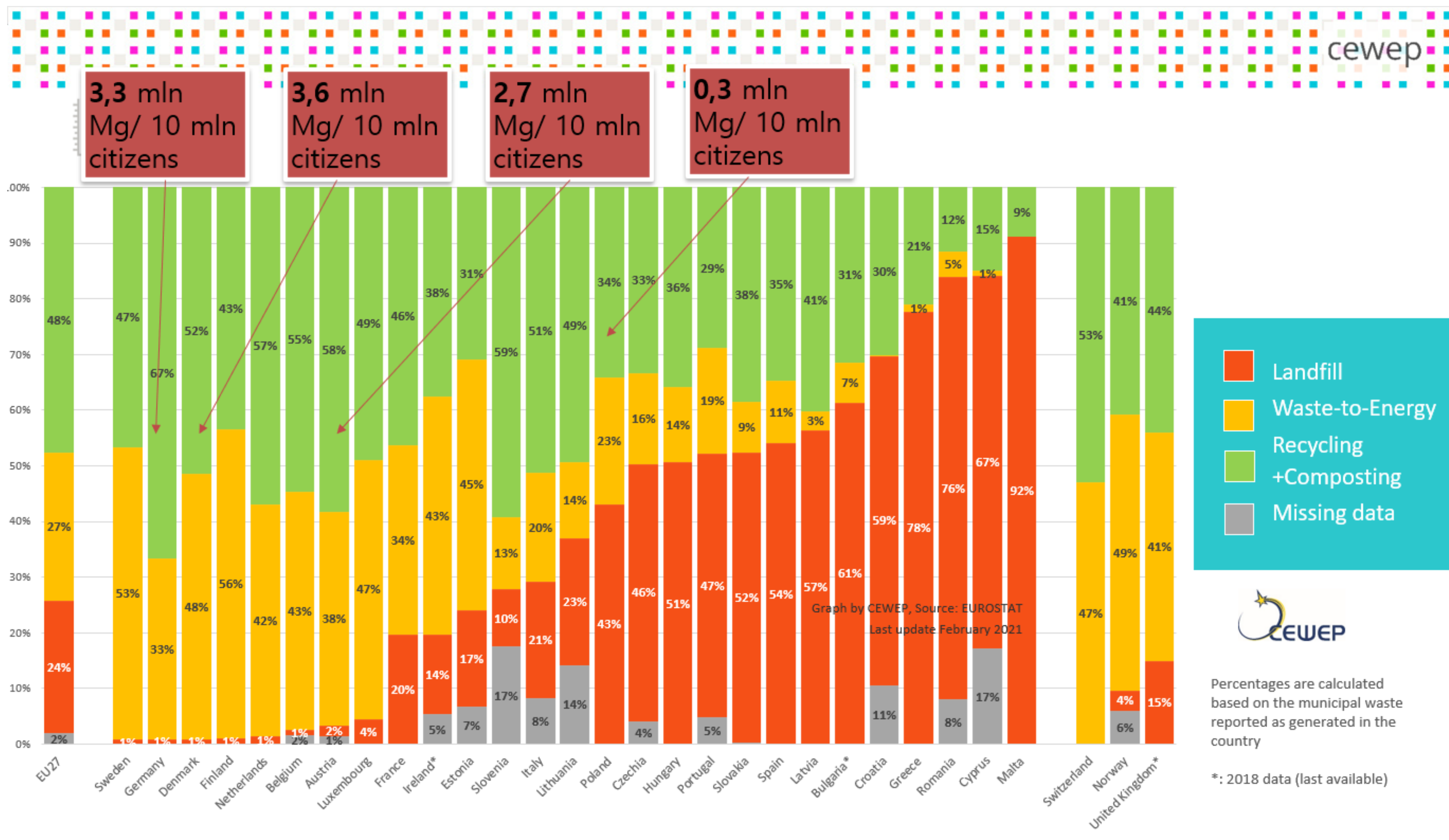
European average 500 kg















**Thank you!**