

Municipal solid waste management in Turkey

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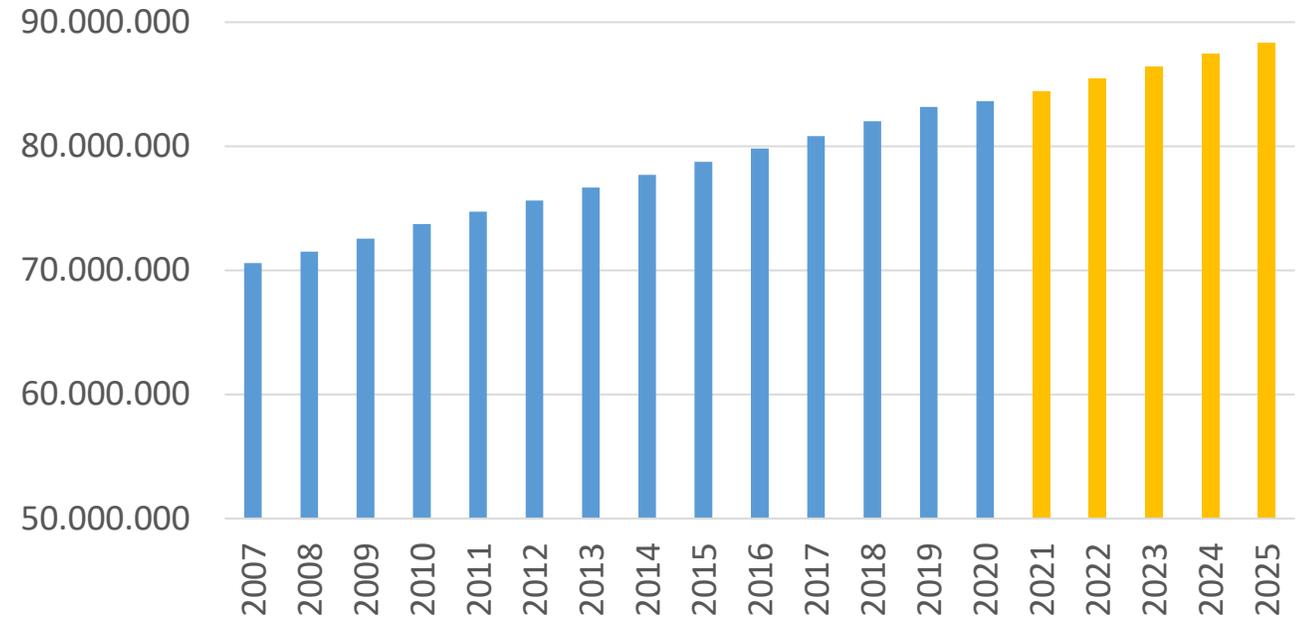
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INTRODUCTION

- Population
 - 71M in 2007; 83M in 2020
 - 18% increase in 14 years
 - 2025 projection: 88M
- Plans/initiatives
 - 35% Recovery from waste goal by 2023
 - Plastic bags are sold for 0.25 Turkish liras (\$0.03) – 50% decrease of use

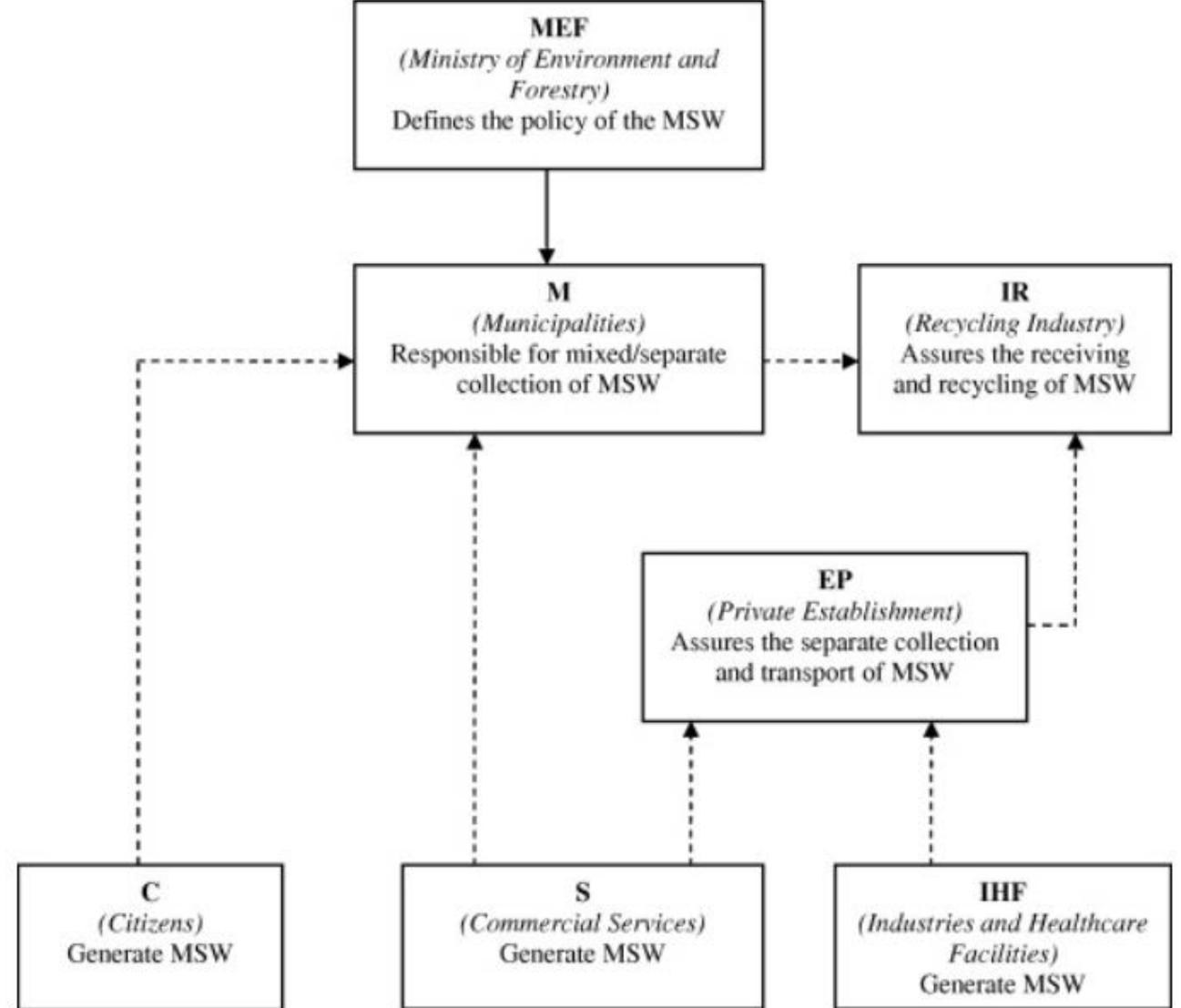
Turkey's population change



LEGAL FRAMEWORK

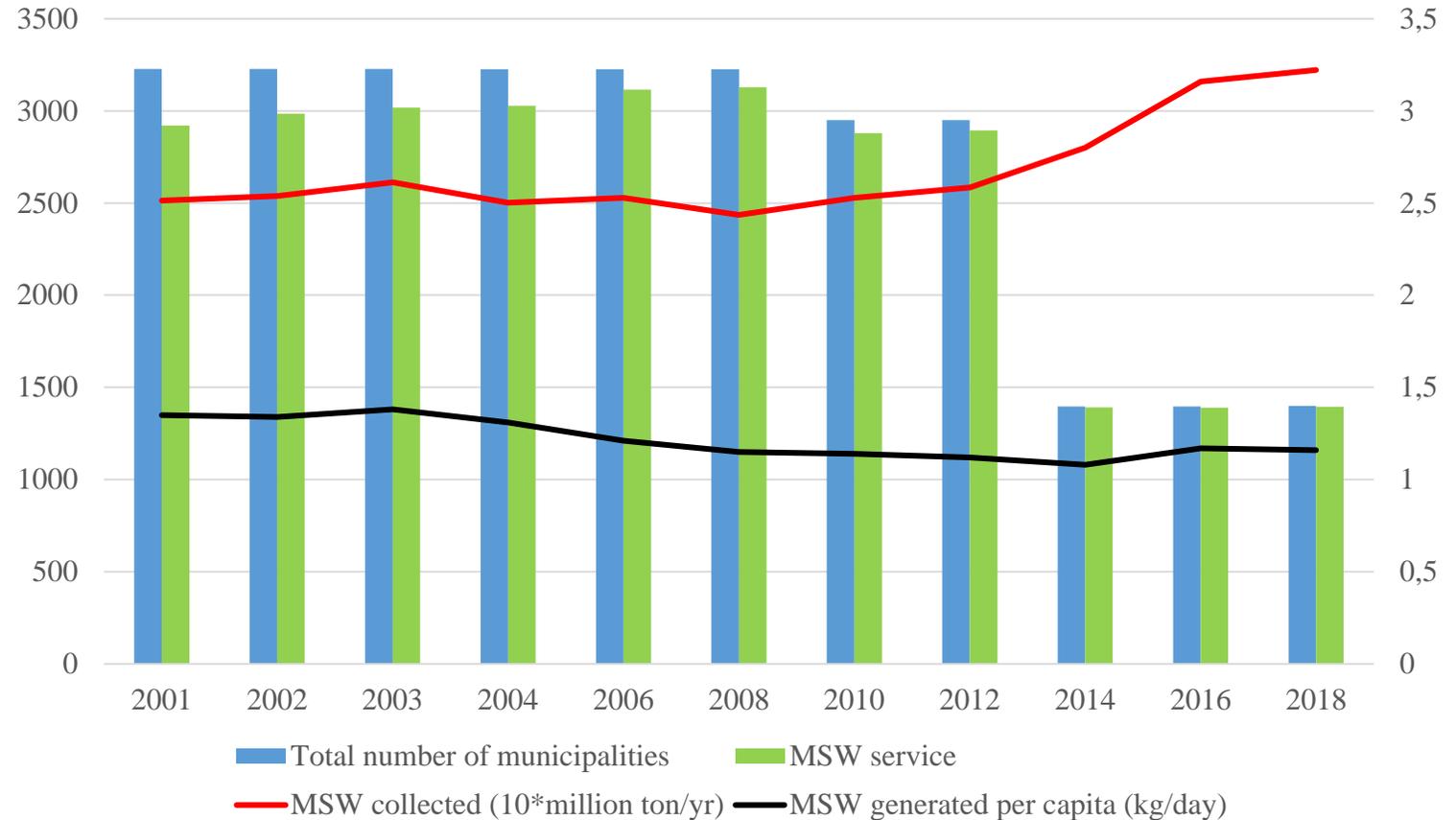
- First Law on Environment - 1983
- Solid Waste Control Regulation - 1991

- MSW management is done by municipalities



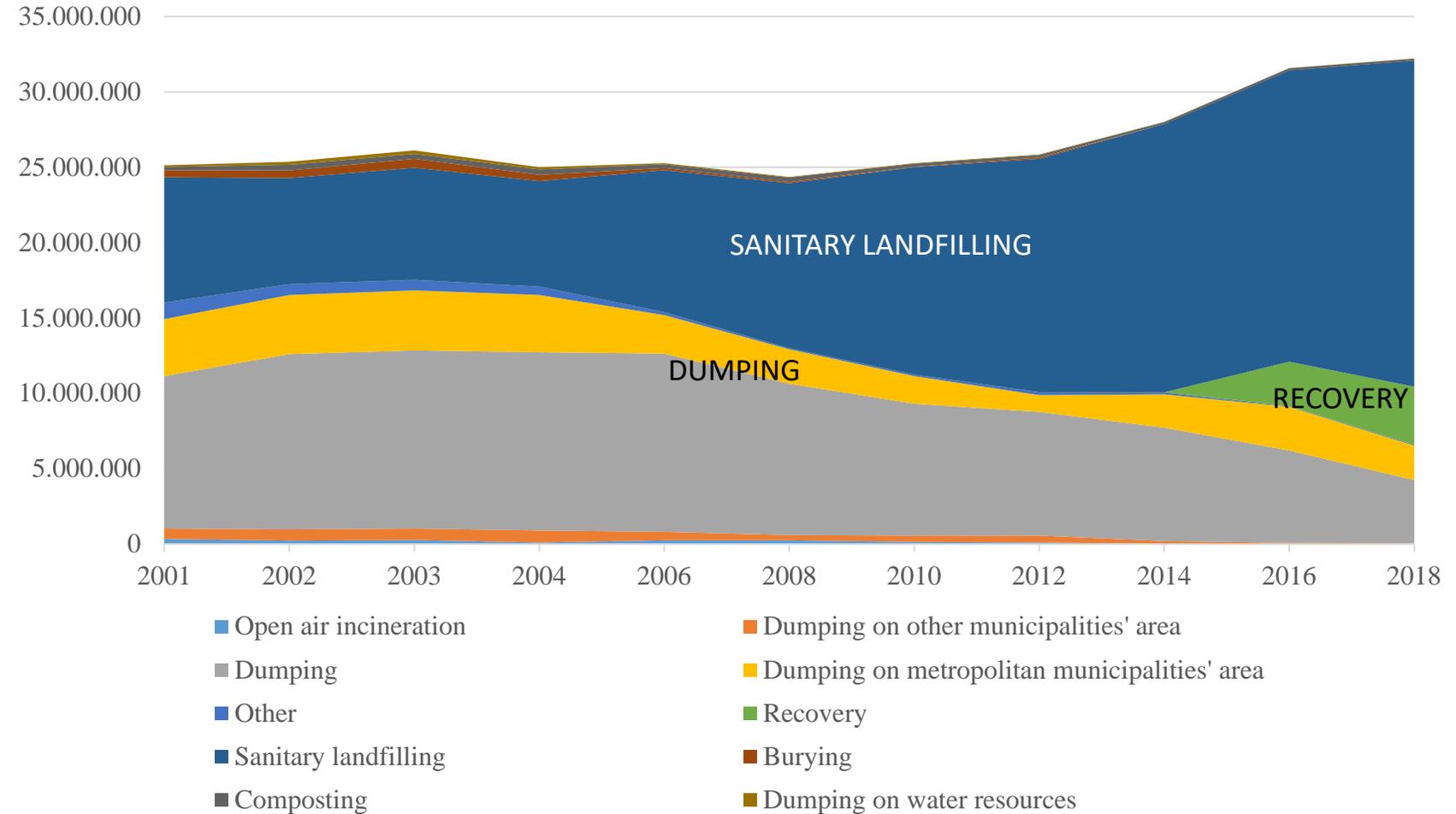
- Rate of municipalities in service increased in years
- MSW generated per capita was around 1.4 kg/day in 2001; 1.16 kg/day in 2018
- Collected MSW amount was 25 million tons in 2001; reached 32 million tons in 2018.

MSW management in Turkey



- Sanitary landfilling ratio is increasing
- Dumping ratio is decreasing
- Recently recovery is becoming common

MSW management in Turkey (ton/year)

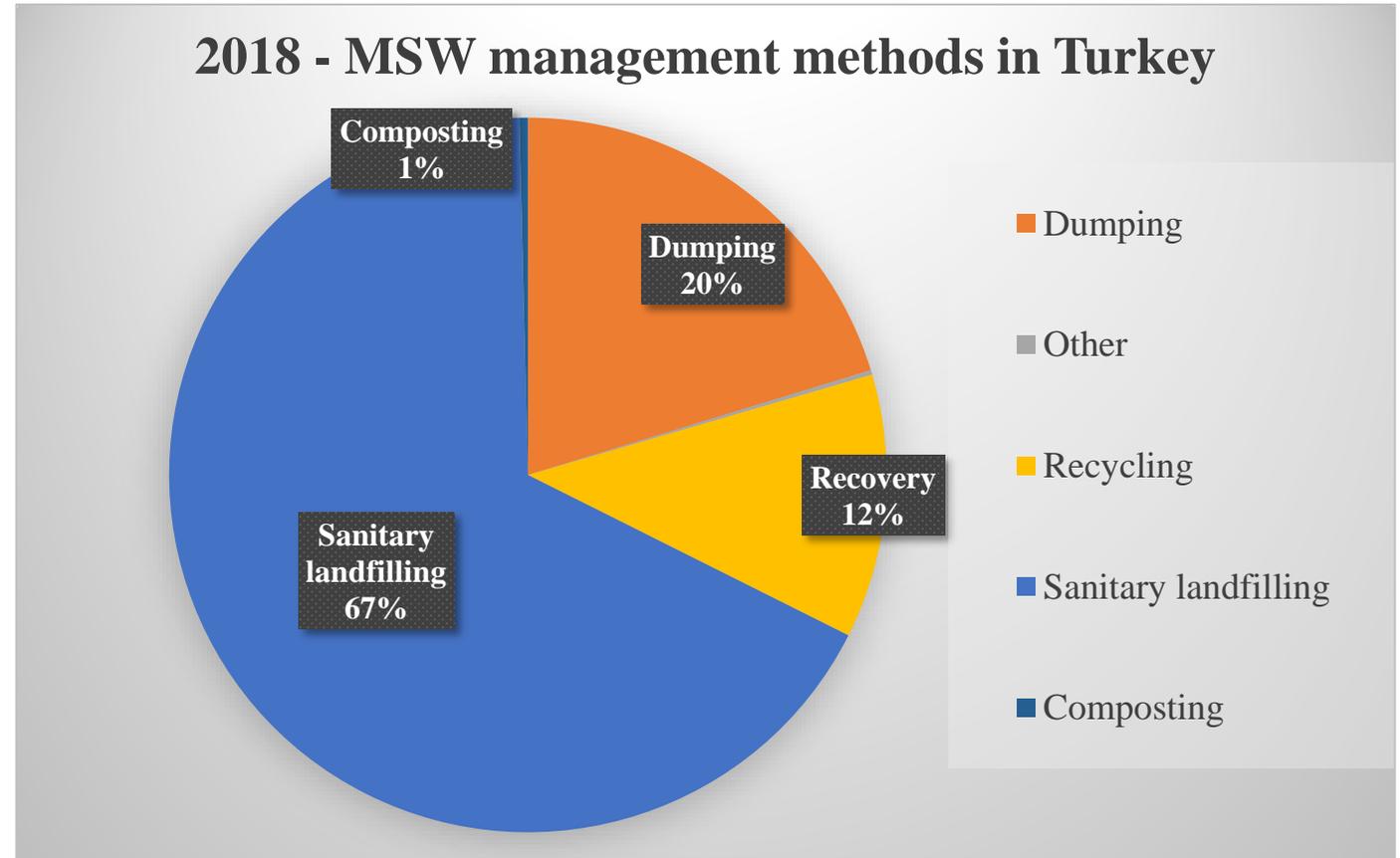


Sanitary landfilling > 22M tons

Dumping > 6.5M tons

Recovery > 3.5M tons

Composting > 300Thousands tons



Landfilling - Dumping



<https://atikyonetimi.ibb.istanbul/galeri/>

<https://buyukmersin.com/gundem/mersinde-vahsi-depolama-tarih-oluyor/>

Recovery

- Recovery=Material+Energy
 - Material: Not known in detail how much material are recycled
 - Energy recovery: 37 Biogas plants from waste: ~ 245 MW
- Mostly at industrial level
 - Plastic,
 - Glass,
 - Paper
 - Metal

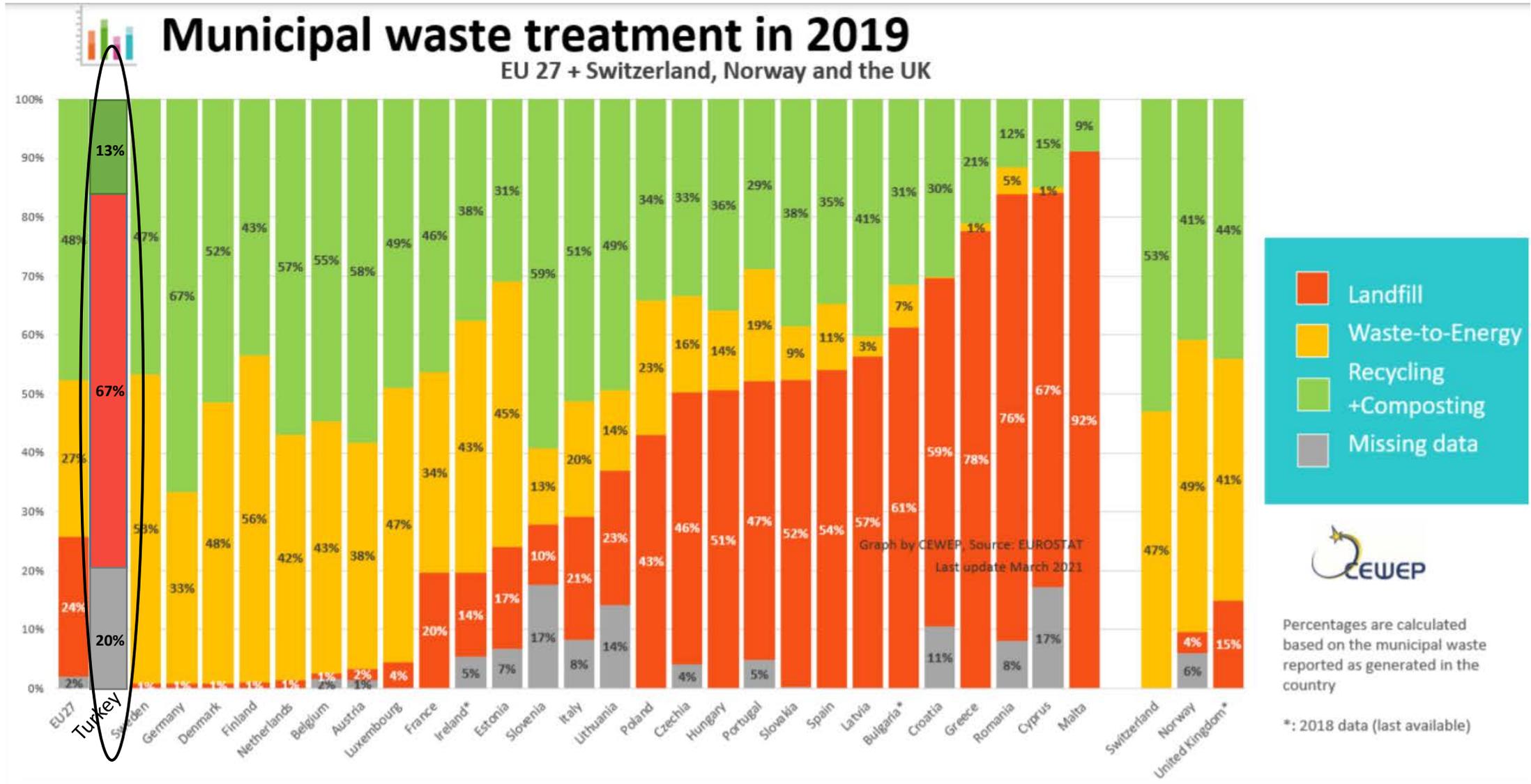


A new & biggest WTE plant in Istanbul

- Incineration type
- Planned to be in operation in 2021
- 3000 tons/day ~ 1M tons/year (15% of Istanbul's solid waste)
- 300M Euros capital cost
- 78 MW capacity
- 1.3 M tons of GHG emission reduction

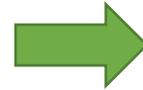


Comparison with EU



Problems

- Solid wastes are collected from the same container
- Open dumping is still being used
- Recycling efforts are very little, done by scrap dealers mostly.
- Public opinion research is lacking



Solutions

- Separation at the source must be enforced by the municipalities
- Open dumps must be rehabilitated and changed into sanitary landfills
- Some enforcements, incentives can be applied to improve recycling rate
- Public Opinion research must be conducted to estimate people's behaviour towards optimized MSW.

Questions?