



Waste to Energy in the Circular Economy

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Food for thought (...to be taken with a pinch of salt!)

- **600.000** m € savings through EU lex implementation & Circular €
- **600.000** jobs available
- **40-20-15** % material-labour-energy costs in manufacturing industry
- **200.000** more mouths a day to be fed in this planet
- **80/20₍₇₅₎** % most unfair and unsustainable ratio in the world
- **16** t resources used pc/year (6 t waste - 50% disposal)
- **500** kg municipal waste pc/year
- **200** kg of food waste pc/year
- **40** % of a ton of carbon is turned into electricity
- **15** % of a liter of petrol is turned into driving energy
- **13** MS still bury more than 50% of their municipal waste
- **1** % of the 17 rare earth are recycled in the EU
(who cares when we are thinking of asteroid mining?! (planetaryresources.com))

POLICY FRAMEWORK

7th Environmental Action Programme Objectives by 2020

- Waste generation in decline
- Strategy to combat food waste
- Reuse/Recycling increased
- **Energy recovery limited to non-recyclable waste**
- Phasing out of landfilling (limited to non-recoverable waste)
- Use of market-based instruments
- Implementation of the legislation



(Withdrawn) LEGISLATIVE PROPOSAL

- Increased recycling targets for municipal waste and packaging waste
- Phasing out landfilling
- Energy recovery: not specifically addressed

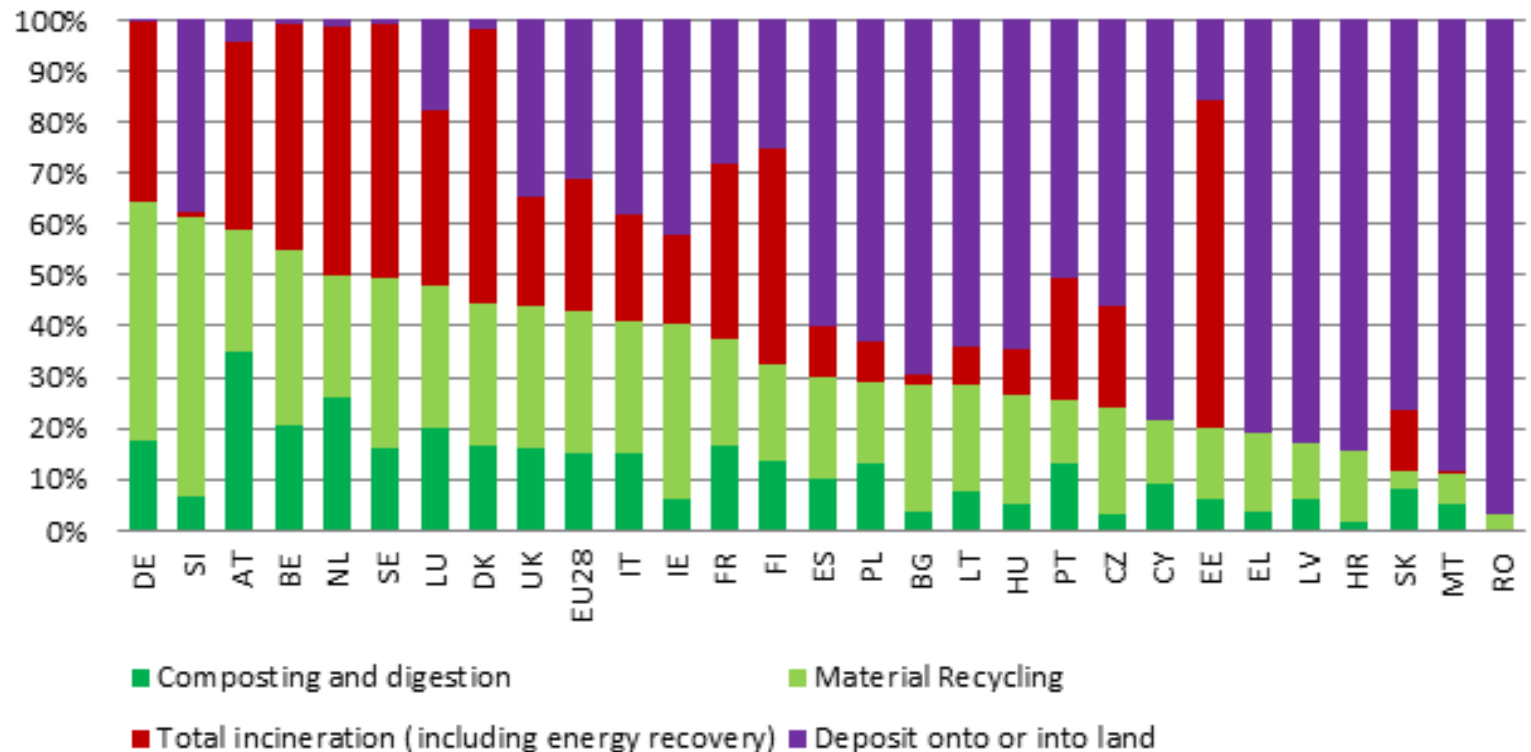


CURRENT SITUATION

Future Circular Economy proposal

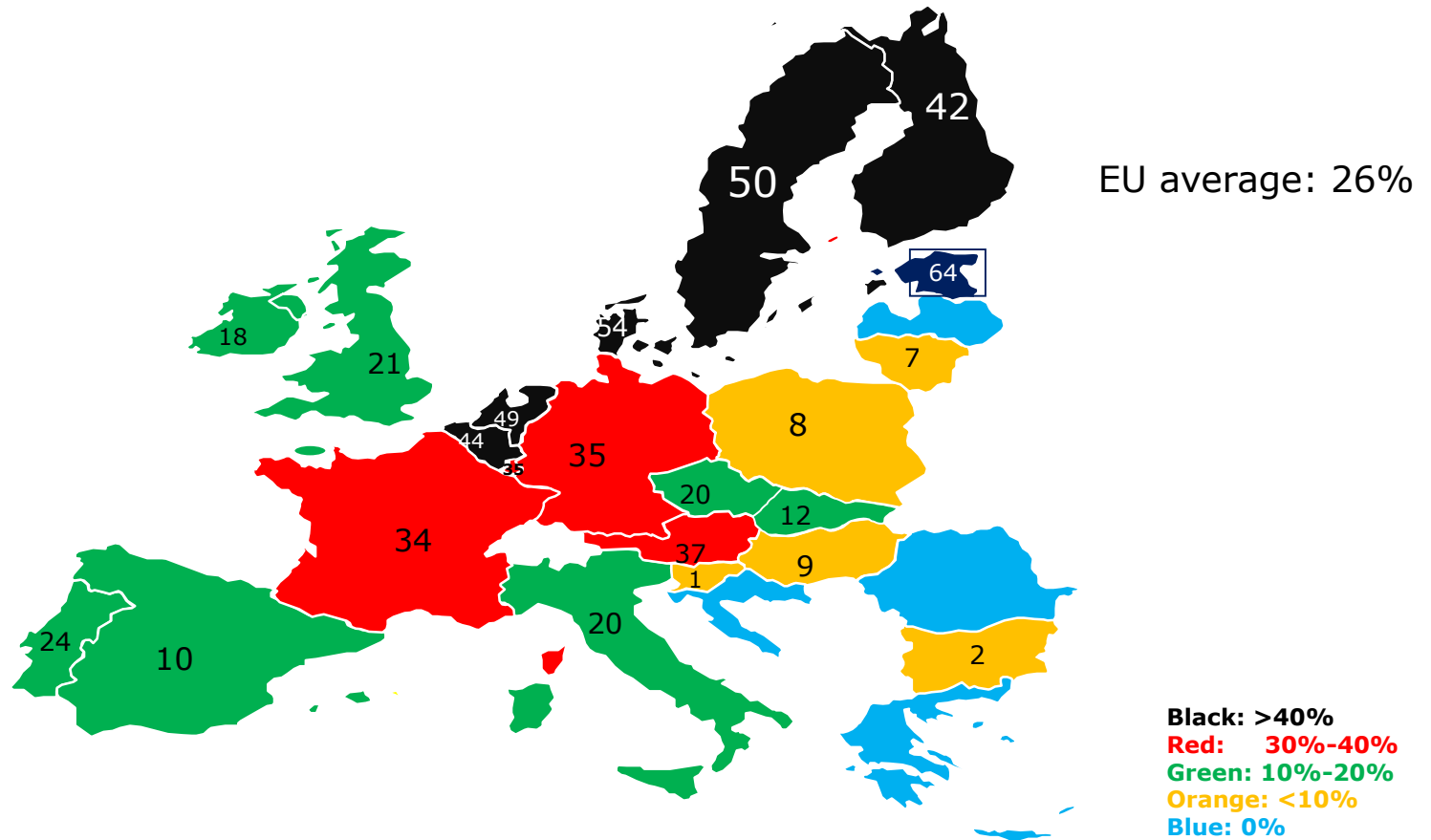
- Broader and more ambitious
- Addressing "the other half of the circle" e.g. eco-design, env. technologies, behaviour change.
- Submission by the end of 2015

Municipal waste per treatment 2013



Source: Eurostat, 2015

% rates in incineration of MSW - 2013



Source: EUROSTAT, 2015

Cyprus & Malta



WtE in a Circular Economy

- A sound alternative to non-recyclables phased out from landfills
- Energy recovery and material reclamation pumped back into the economy
- A potential for the 2015 Strategic Framework for the Energy Union = **Communication by the end 2016**
- An energy substitute in the EU. In 2012, WtE yielded:
 - 1.3% of the total EU energy consumption
 - Energy equalled to 19% of Russian gas imports in 2012 (source: CEWEP)



Challenges for the WtE sector

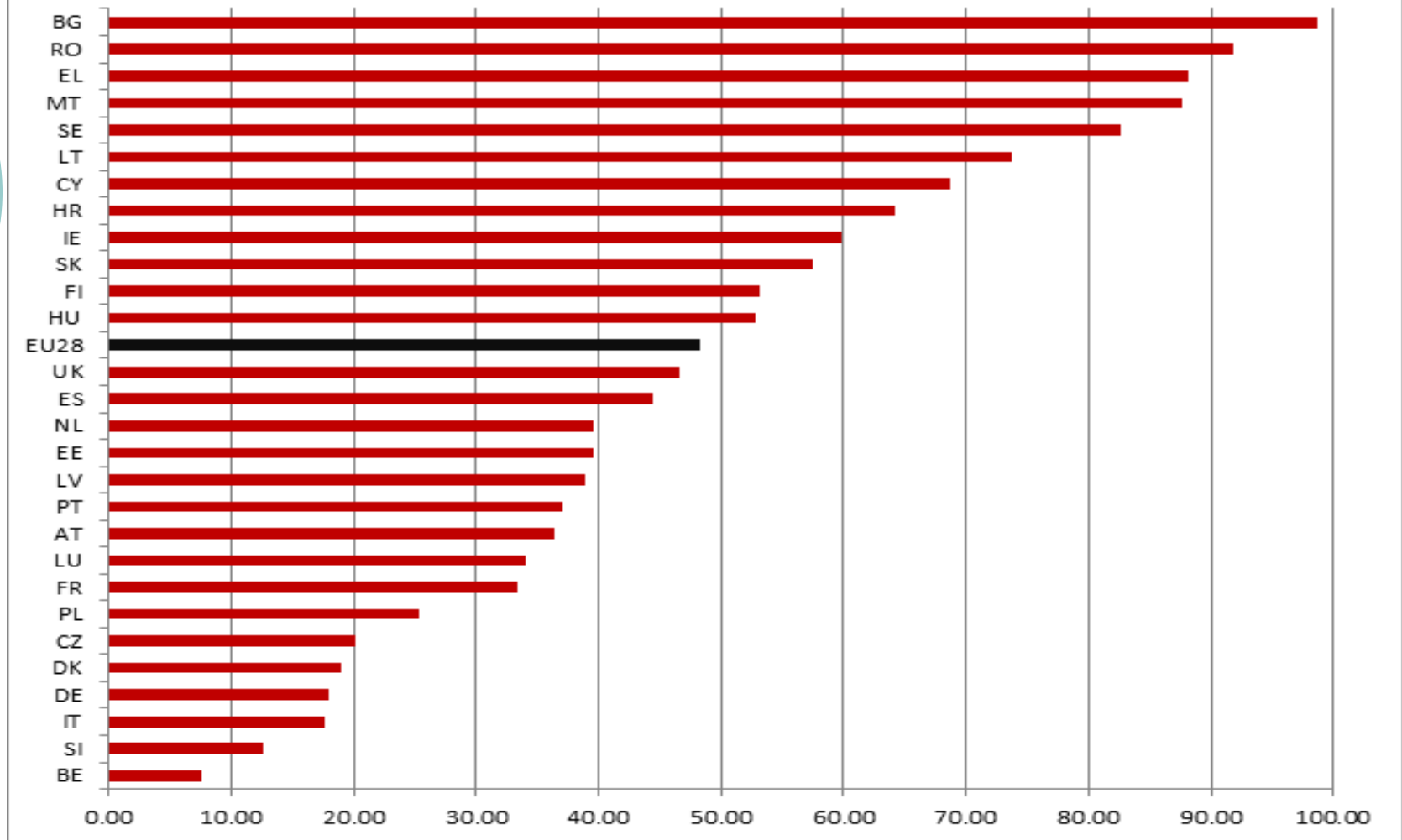
- To end the practice of incinerating unsorted waste.
- Addressing social acceptance
- Pushing the boundaries of energy efficiency in WtE plants and optimising waste-derived fuels (SRF)
- Recycling residues from incineration
- Effective use of the WtE capacities in the EU (shipment of waste for incineration)

ONLY ONE EARTH



<http://ec.europa.eu/environment/>

Percentage of landfilled waste by MS



Source: Eurostat, 2012