



# Plastic pollution & climate change

**Interreg**  
Baltic Sea Region



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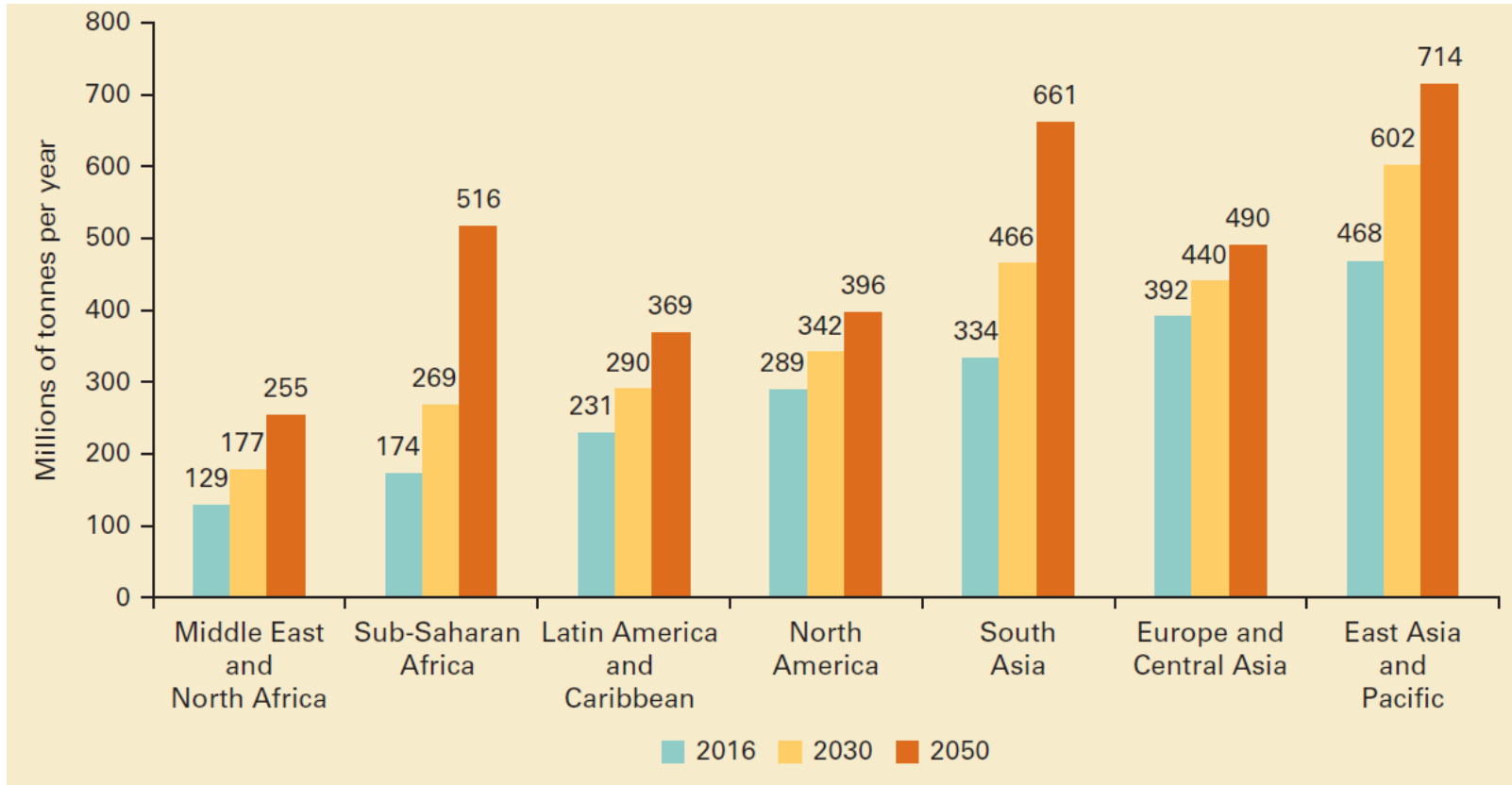
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17.06.2025

# Triple planetary crisis



# Waste generation



World Bank



# Marine litter



Circular Solutions

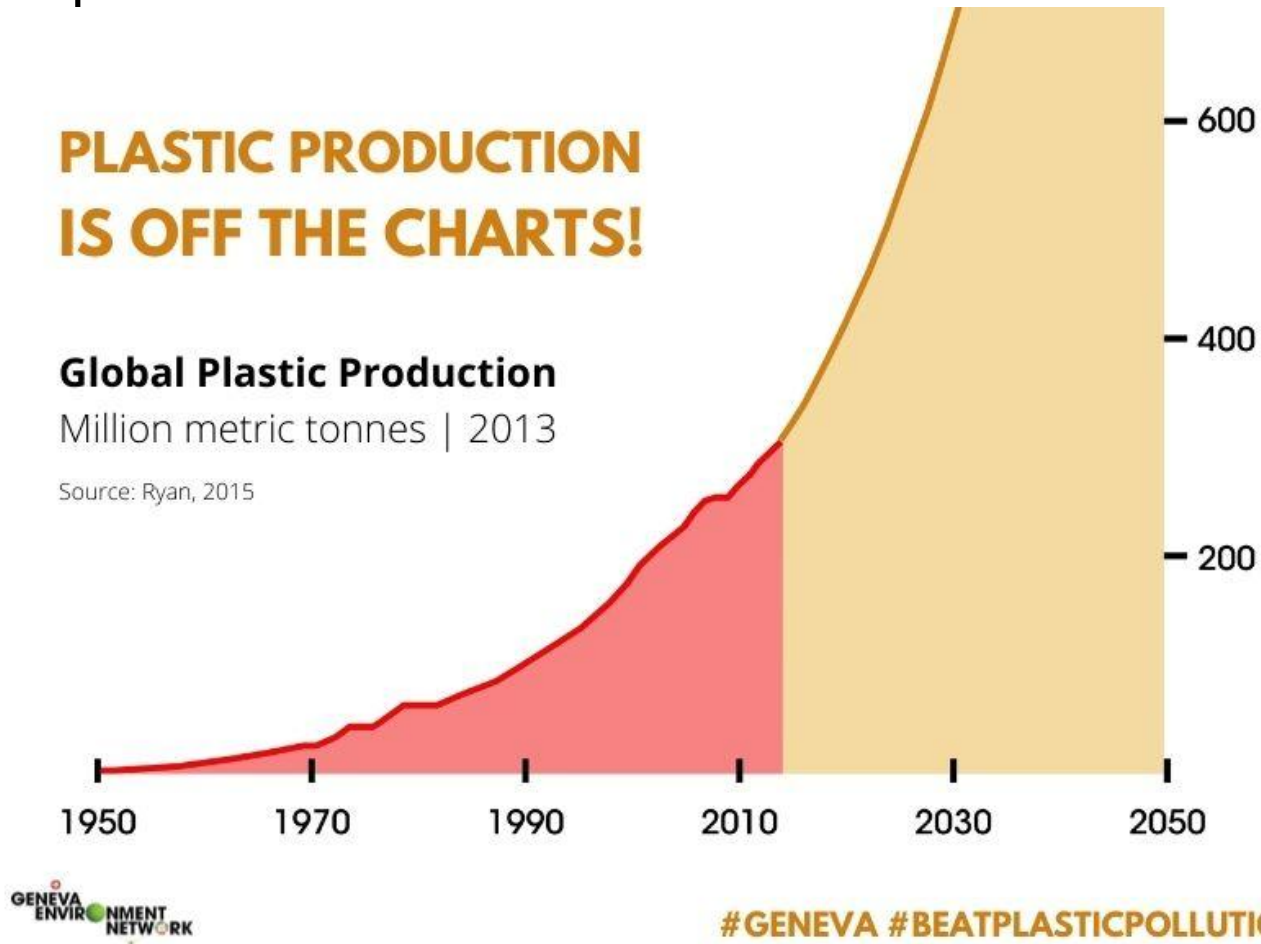
# Plastic production

## PLASTIC PRODUCTION IS OFF THE CHARTS!

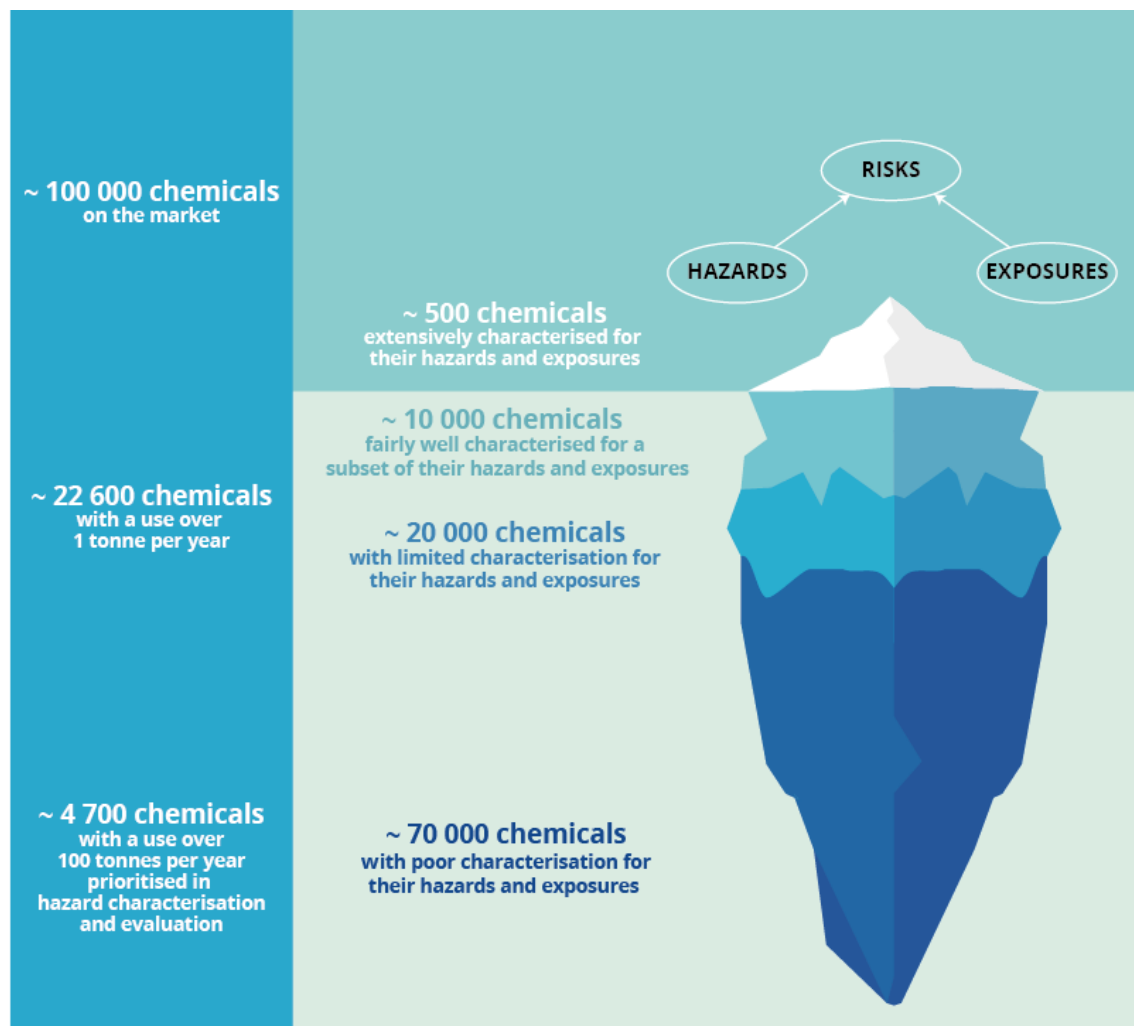
### Global Plastic Production

Million metric tonnes | 2013

Source: Ryan, 2015



# Chemicals in plastic



# Plastic production & chemicals

More Plastic Production

=

More Plastic Pollution

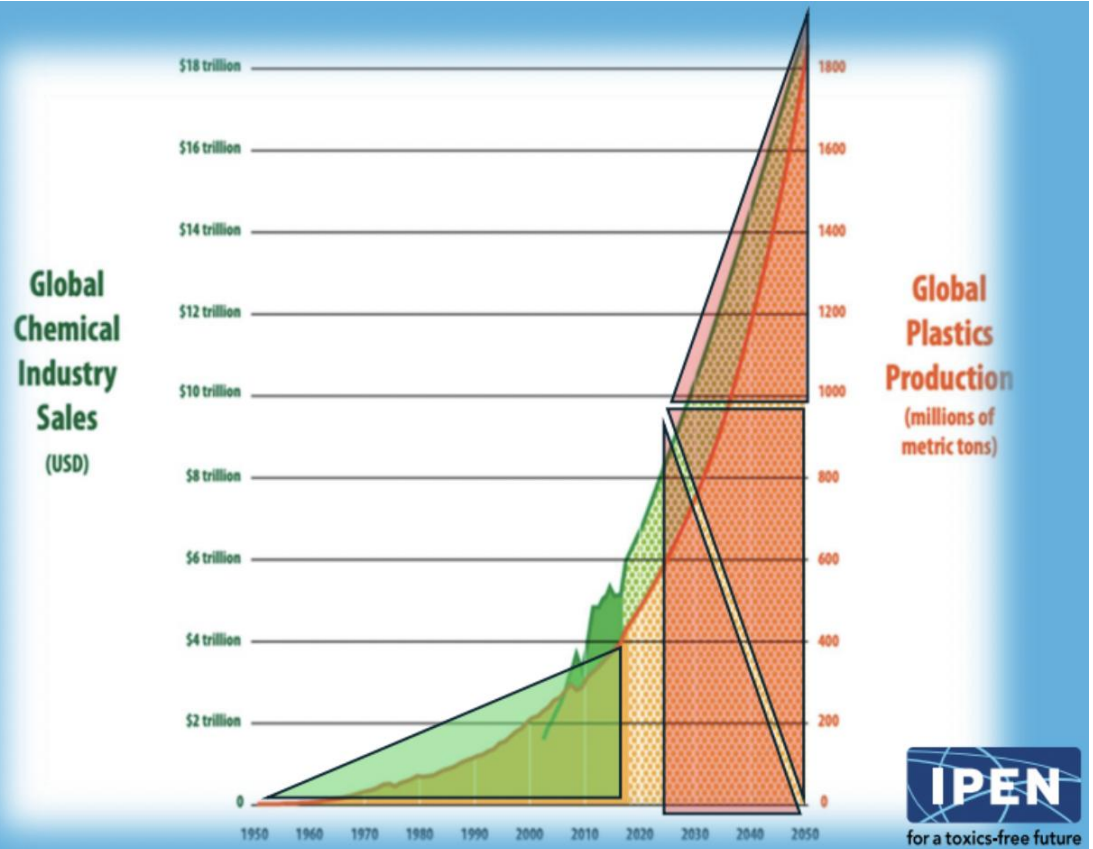
More Chemical Pollution

Plastic Production

300% Growth by 2050

1% of Chemicals Controlled

99% Out of Control

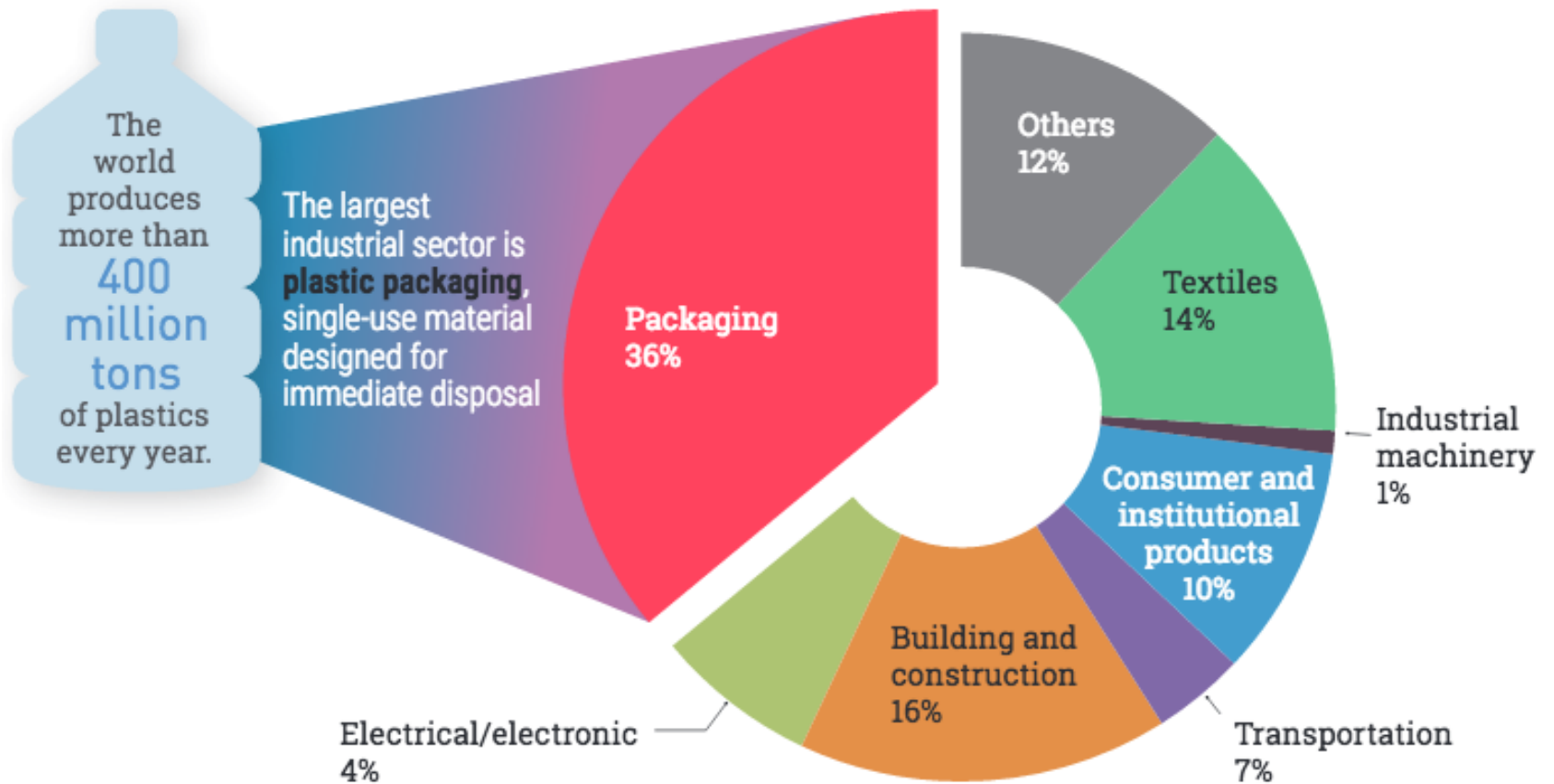




# Recycling?







Source: Adapted from Geyer, Jambeck, and Law, 2017

# Plastic & Climate

Plastic is a key driver of the climate crisis

More than 99% of plastic is made from fossil fuel



# Plastic & Climate: key impacts

Greenhouse gas emissions from plastic production are substantial and growing

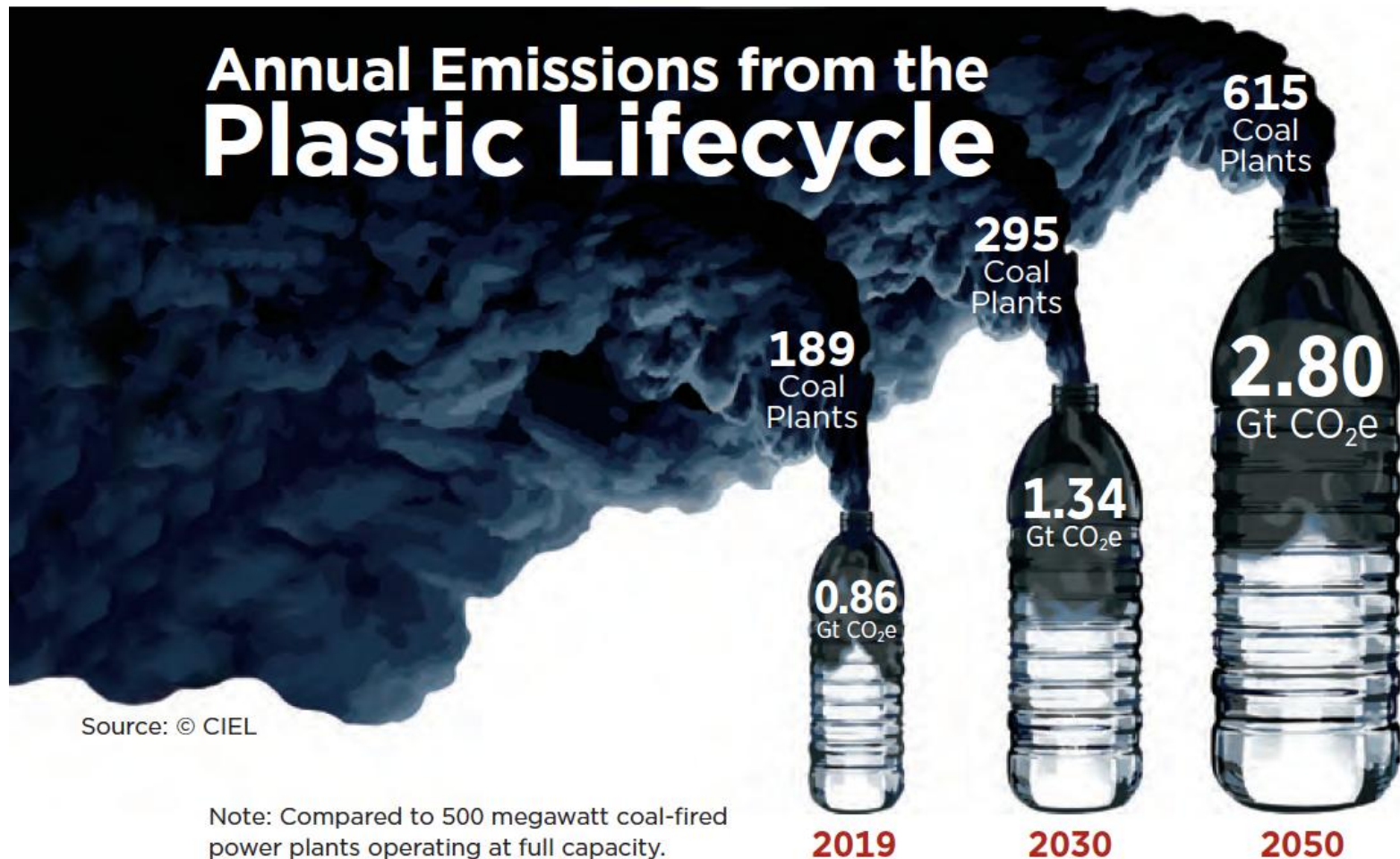
End-of-life & unsustainable waste management exacerbate emissions

Single-use plastics disproportionally contribute to waste, emissions, and resource consumption

Plastic demand is expected to rise, making the climate problem worse unless mitigated

Hidden / secondary climate effects

GHG emissions from plastic are growing





# SUPs significantly contribute to emissions



SUP plastic items have very short functional life span

The environmental and climate costs per use are very high when compared to reusable alternatives.

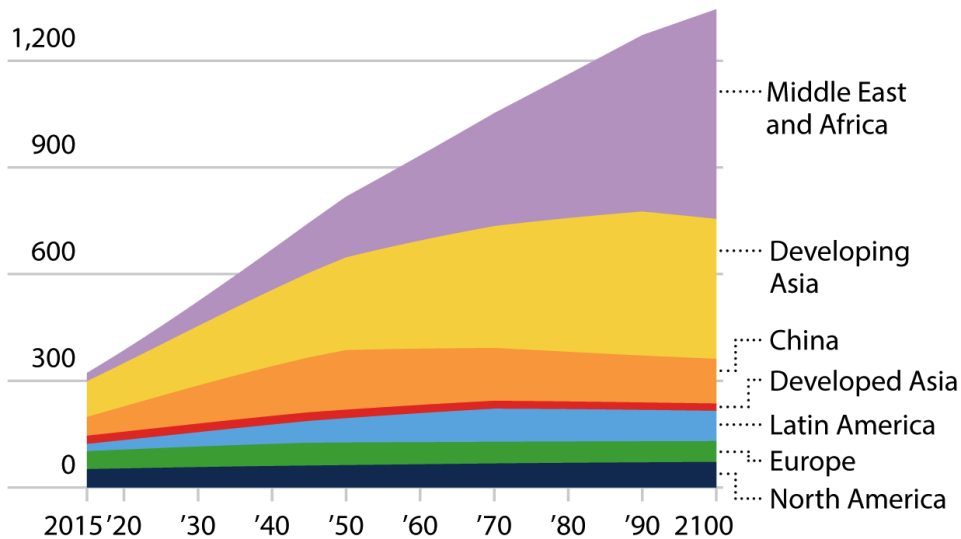
# Plastic demand is expected to rise

## World Plastics Demand May Increase Significantly

Projections based on business-as-usual growth predict markedly increased plastic use through 2100.

Plastics Demand by Region, 2015 to 2100

1,500 million tons per year

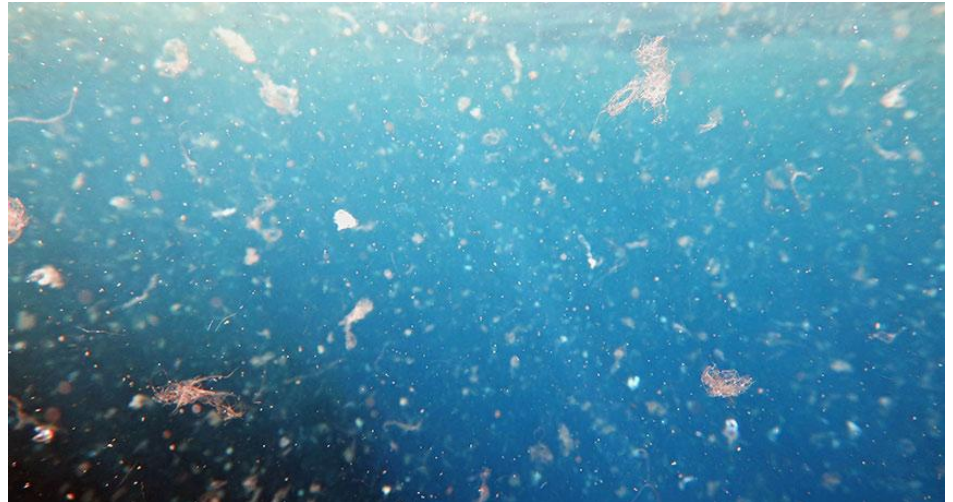


Source: Material Economics, The Circular Economy (2018).

Some forecasts suggest plastics could be responsible for ~19% of global greenhouse gas emissions by 2040 under a business-as-usual scenario.

# Hidden/secondary climate effects

- Disruption of ecosystems: plastics (especially microplastics) in oceans, soil etc. may impair biological processes that sequester carbon (e.g. phytoplankton, soil microbiota).
- Land use and extraction: extraction of fossil fuels for plastic feedstocks causes emissions, both from the extraction itself and from associated land disturbance, deforestation or habitat conversion.
- Leakage of emissions beyond CO<sub>2</sub>: e.g. methane leakage from natural gas used in plastics feedstocks; release of volatile compounds during use or degradation.



# EU-level: climate impact and policy lever

Plastics are a non-trivial slice of EU industry emissions

Packaging is the main waste stream (and recycling rate is relatively low)

Some of single-use plastics face binding EU constraints

New EU packaging rules tighten the screws on waste and single-use plastic



# Baltic Sea region: where plastic + climate intersect



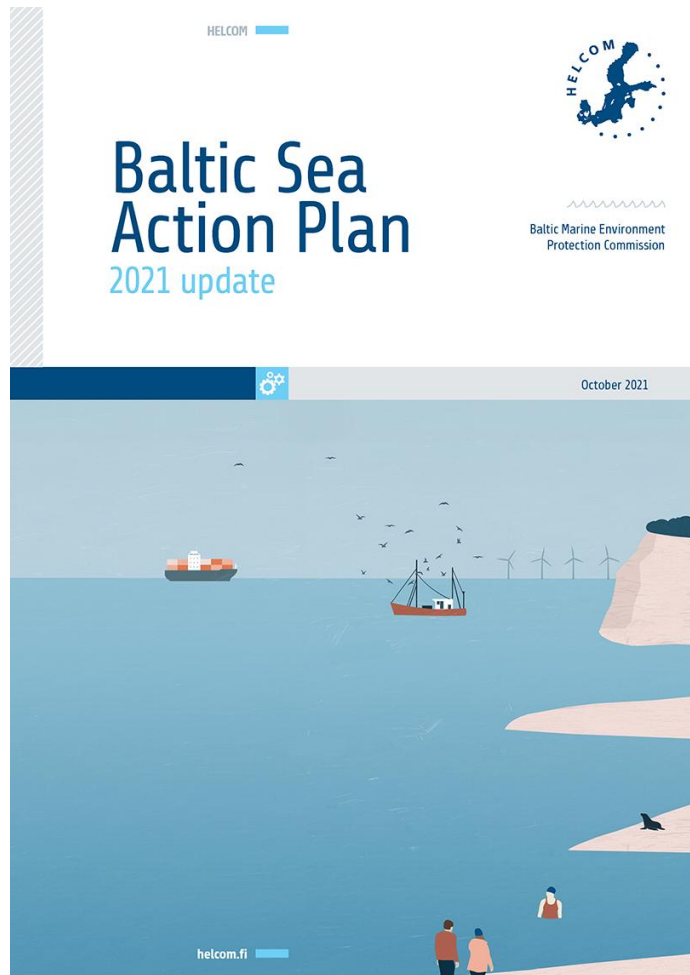
# Baltic Sea region: where plastic + climate intersect

Single-use plastics dominate Baltic marine litter



HELCOM's assessment shows **plastic litter—including single-use items—makes up 32–93%** of counted beach litter items across sub-basins

# Baltic Sea region: where plastic + climate intersect



HELCOM Regional action plan targets single-use sources and waste handling



# Baltic Sea region: where plastic + climate intersect

Nordic Waste-to-energy dependence = plastic-driven fossil CO<sub>2</sub>





# Climate-smart decisions in the Baltic region

- Prioritise prevention & reuse
- Design for durability and recyclability
- Implement microplastics & pellet-loose controls



# Ways to engage to plastic and climate issues

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**#baltiplastcampaign**

# Ways to engage to plastic and climate issues



CIEL report: <https://www.ciel.org/plasticandclimate/>



for a toxics-free future

<https://stoppoisonplastic.org/>

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