

# *Towards a sustainable, non-toxic circular economy*



Living well, within  
the limits of our planet

**“How to ensure a clean  
Circular Economy?”**

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Brussels



# European Environment Agency: The European Environment State and Outlook 2015 (SOER 2015)



|   | 5-10 year trends | 20+ years outlook | Progress to policy targets | Read more in Section ... |
|---|------------------|-------------------|----------------------------|--------------------------|
| <b>Protecting, conserving and enhancing natural capital</b> |                  |                   |                            |                          |
| Terrestrial and freshwater biodiversity                     |                  |                   | ☐                          | 3.3                      |
| Land use and soil functions                                 |                  |                   | No target                  | 3.4                      |
| Ecological status of freshwater bodies                      |                  |                   | ☒                          | 3.5                      |
| Water quality and nutrient loading                          |                  |                   | ☐                          | 3.6                      |
| Air pollution and its ecosystem impacts                     |                  |                   | ☐                          | 3.7                      |
| Marine and coastal biodiversity                             |                  |                   | ☒                          | 3.8                      |
| Climate change impacts on ecosystems                        |                  |                   | No target                  | 3.9                      |
| <b>Resource efficiency and the low-carbon economy</b>       |                  |                   |                            |                          |
| Material resource efficiency and material use               |                  |                   | No target                  | 4.3                      |
| Waste management  |                  |                   | ☐                          | 4.4                      |
| Greenhouse gas emissions and climate change mitigation      |                  |                   | ☑/☒                        | 4.5                      |
| Energy consumption and fossil fuel use                      |                  |                   | ☑                          | 4.6                      |
| Transport demand and related environmental impacts          |                  |                   | ☐                          | 4.7                      |
| Industrial pollution to air, soil and water                 |                  |                   | ☐                          | 4.8                      |
| Water use and water quantity stress                         |                  |                   | ☒                          | 4.9                      |
| <b>Safeguarding from environmental risks to health</b>      |                  |                   |                            |                          |
| Water pollution and related environmental health risks      |                  |                   | ☑/☐                        | 5.4                      |
| Air pollution and related environmental health risks        |                  |                   | ☐                          | 5.5                      |
| Noise pollution (especially in urban areas)                 |                  | N.A.              | ☐                          | 5.6                      |
| Urban systems and grey infrastructure                       |                  |                   | No target                  | 5.7                      |
| Climate change and related environmental health risks       |                  |                   | No target                  | 5.8                      |
| Chemicals and related environmental health risks            |                  |                   | ☐/☒                        | 5.9                      |

| Indicative assessment of trends and outlook |                               | Indicative assessment of progress to policy targets |  |
|---|-------------------------------|---|--|
|   | Deteriorating trends dominate | ☒   | Largely not on track to achieving key policy targets |
|   | Trends show mixed picture     | ☐   | Partially on track to achieving key policy targets   |
|   | Improving trends dominate     | ☑   | Largely on track to achieving key policy targets     |

# Conclusions by EEA (SOER 2015)

*“This report has come to the conclusion that traditional incremental approaches based on the efficiency approach will not suffice.”*

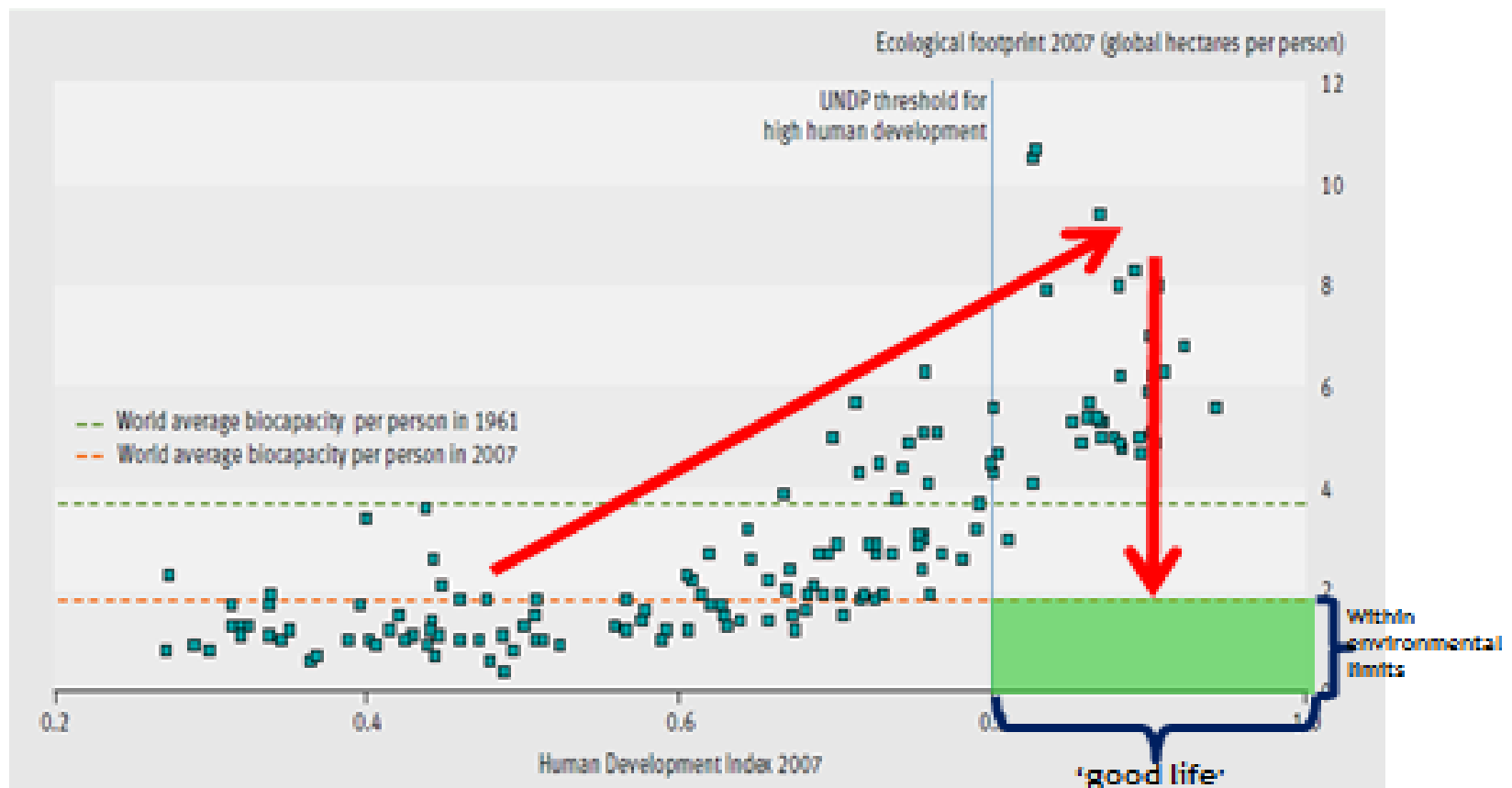
*Rather, unsustainable systems of production and consumption require fundamental rethinking in the light of European and global realities. “*

[own emphasis added]



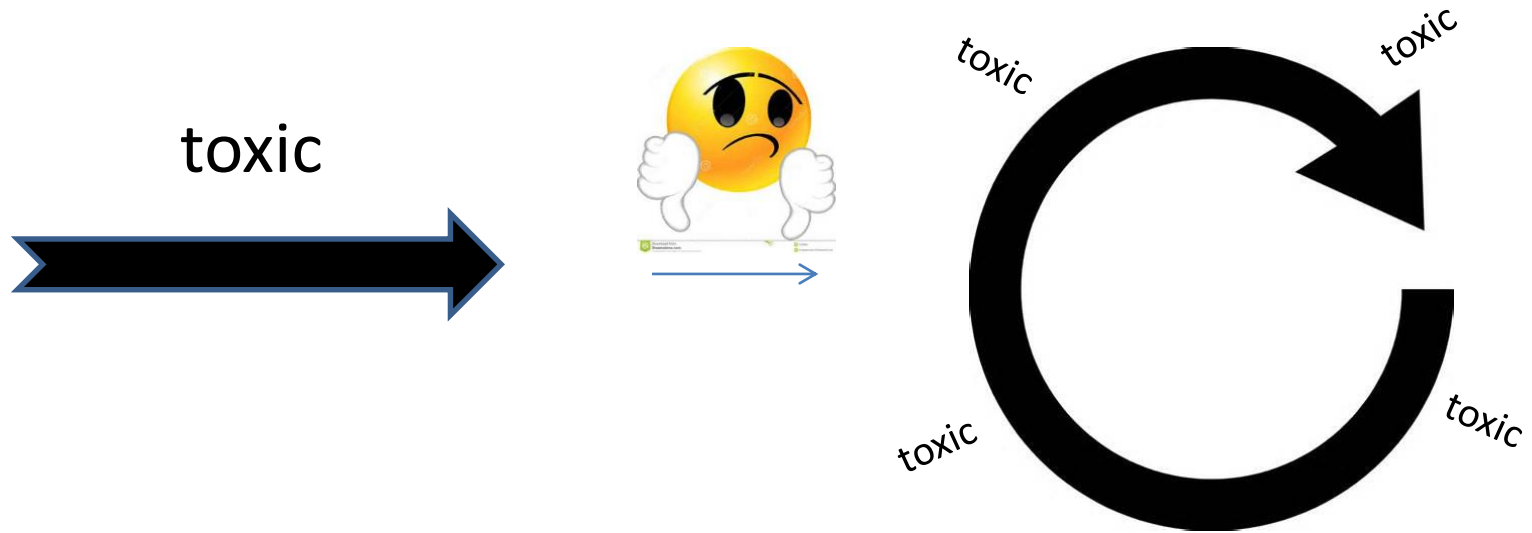
# Potočník (2014): “The growth path we are following is not the right one!”

## **"LIVING WELL... ...WITHIN THE LIMITS OF OUR PLANET"**



Source: UNEP 2012 - GEO5

# Is going circular alone the answer?



No!

Circularity on its own does not solve the problem, it may even increase key problems as long as we still unnecessarily use substances of very high concern

# European Parliament resolution on the interface between chemical, product and waste legislation (September 2018)

“Considers that the primary aim ... should be to prevent hazardous chemicals from entering the material cycle ... “

“Reiterates that ... recycling should not justify the perpetuation of the use of hazardous legacy substances”

“Hopes that innovative recycling practices will help to decontaminate waste containing substances of concern”



# Towards **non-toxic** material cycles



Prevention comes before recycling!

# Is going **non-toxic** and circular the answer?

*“Stresses that by 2050 the EU’s use of resources needs to be sustainable and that this requires, inter alia, an absolute reduction in the consumption of resources to sustainable levels, based on reliable measurement of resource consumption throughout the entire supply chain”* [own emphasis added]

**Source: European Parliament Resolution on ‘Resource efficiency: moving towards a circular economy’ (July 2015)**



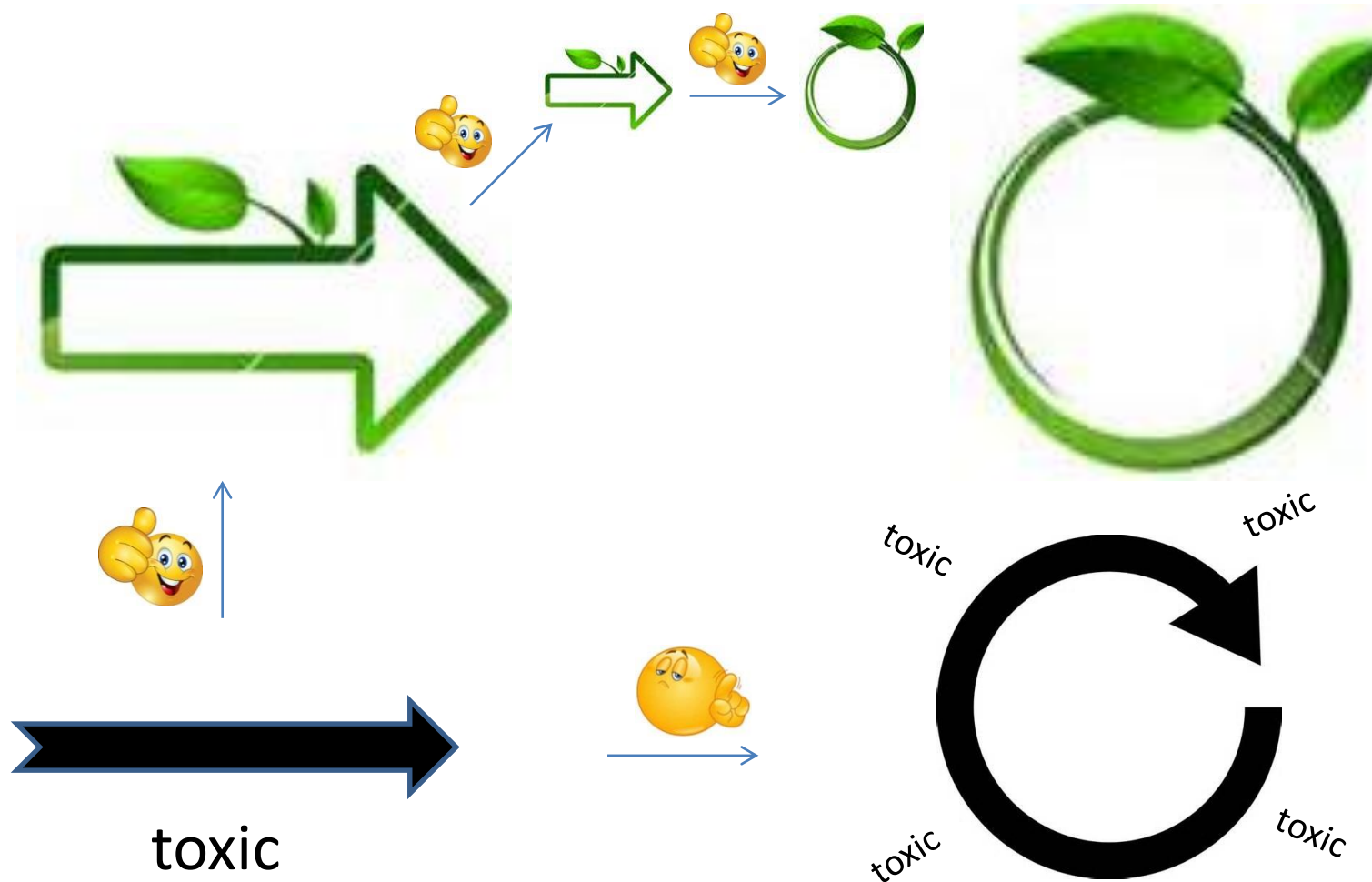


# Towards **sustainable** non-toxic material cycles



We also need to reduce absolute levels of resource consumption in a significant manner to achieve sustainable levels!

# Toxics out, reduce consumption, and then recycle!



# What about existing waste?

Non-hazardous



Critical haz materials

Decontaminated fraction



Critical wastes / no replacement



e.g. waste oils,  
lead-acid batteries

**Decontaminate  
to the extent  
possible**

Haz residues



Hazardous

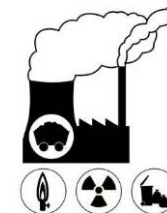


Non-critical



e.g. Soft PVC waste

**Take them out of economic  
cycles**



# What about „Waste-to-Energy“?

## Waste hierarchy:

- recycling is better than WtE
  - WtE **only** for non-recyclable/residual waste
- WtE better than landfill
  - as long as there is non-recyclable/residual waste, WtE will play a certain role
  - ***BUT: WtE is linear, not circular!***

# Summary

We need a **sustainable and non-toxic** circular economy!

- **Prevention first:** qualitative and quantitative
  - Reduce resource use in absolute terms
  - Minimize non-recyclable/residual waste
  - Phase-out substances of very high concern, except where no alternatives, and socio-economic benefits outweigh the risks
- **“Secondary prevention” for haz. waste: **Toxics out, then recycle!****
  - Only hazardous waste with critically important materials /substances should be recycled, following decontamination
  - All other hazardous waste should be safely disposed of to move towards non-toxic material cycles

