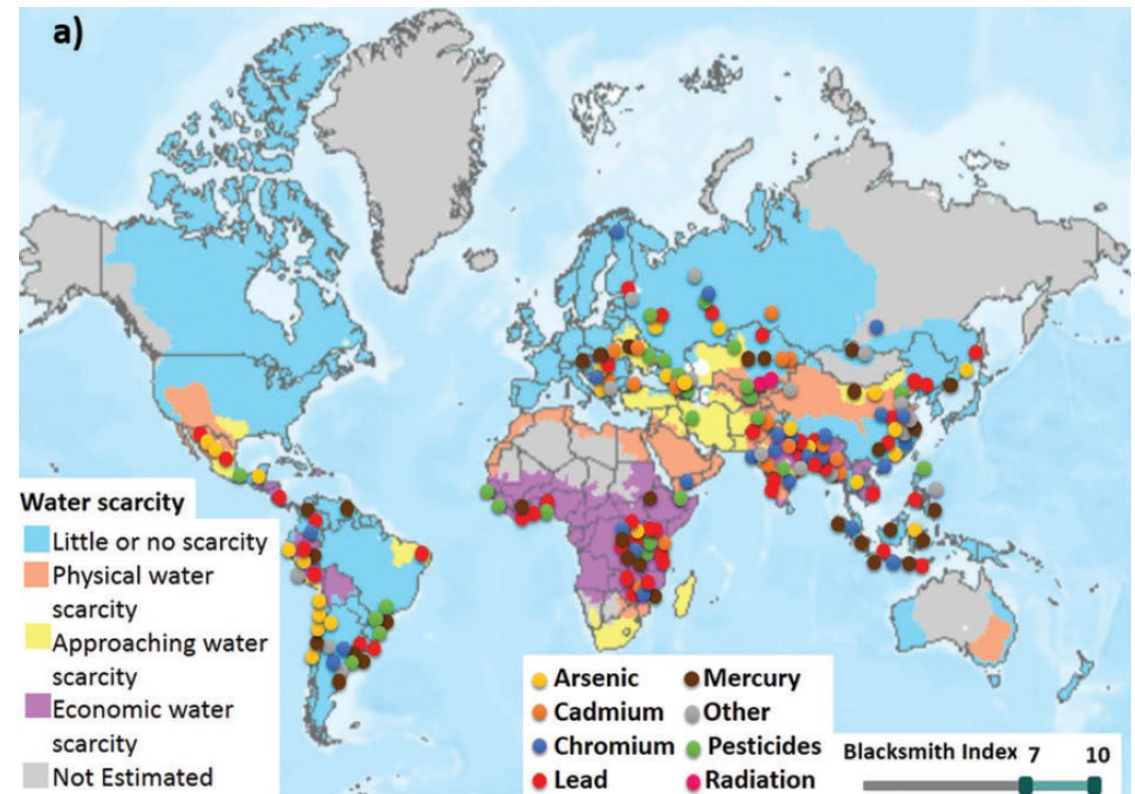
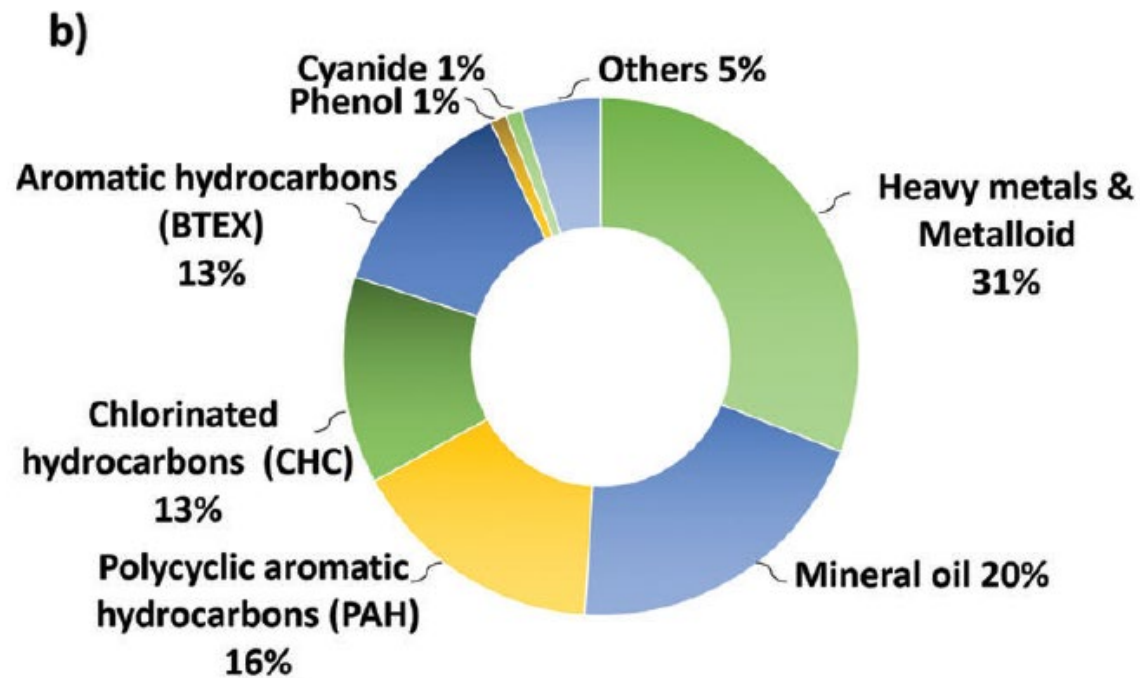


Pollutants and Media theme

Priority pollutants that enter the environment and accumulate in water, on land and in the biosphere



Environmental and Health Impacts



**2 million tons
waste released
everyday to water**



**1.2 billion people
lack access to clean
drinking water**



**Deaths of more
than 14,000 people
daily**

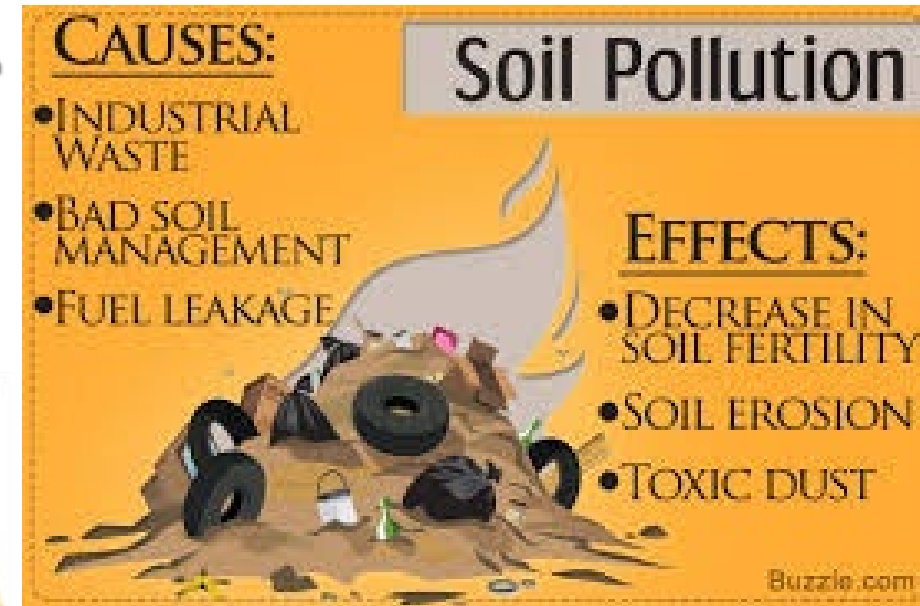
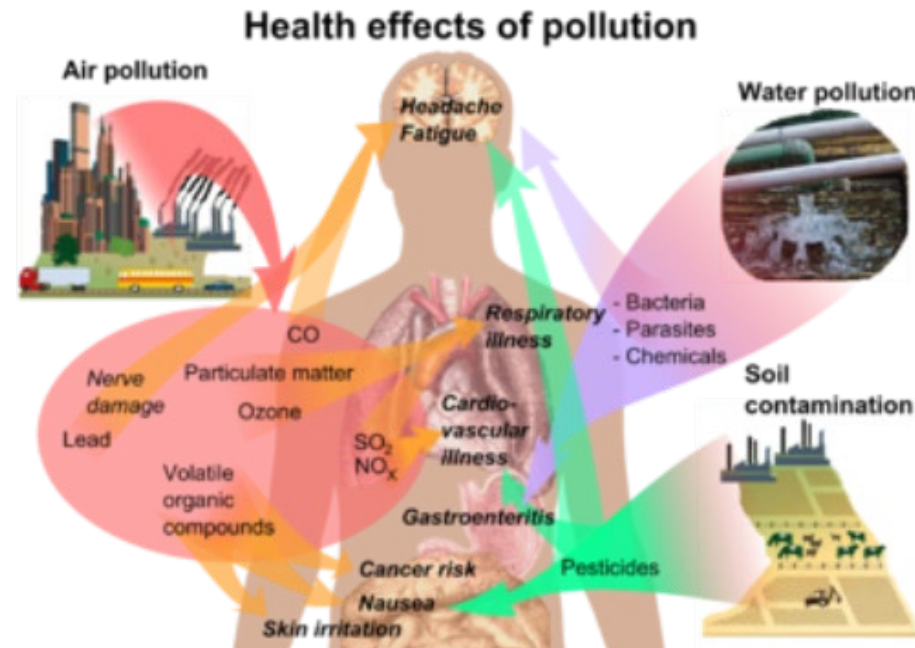


**Affects the
entire
biosphere**

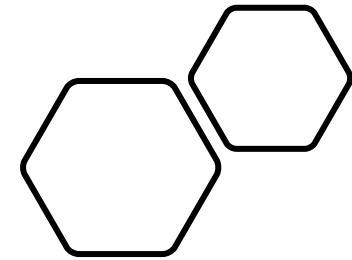
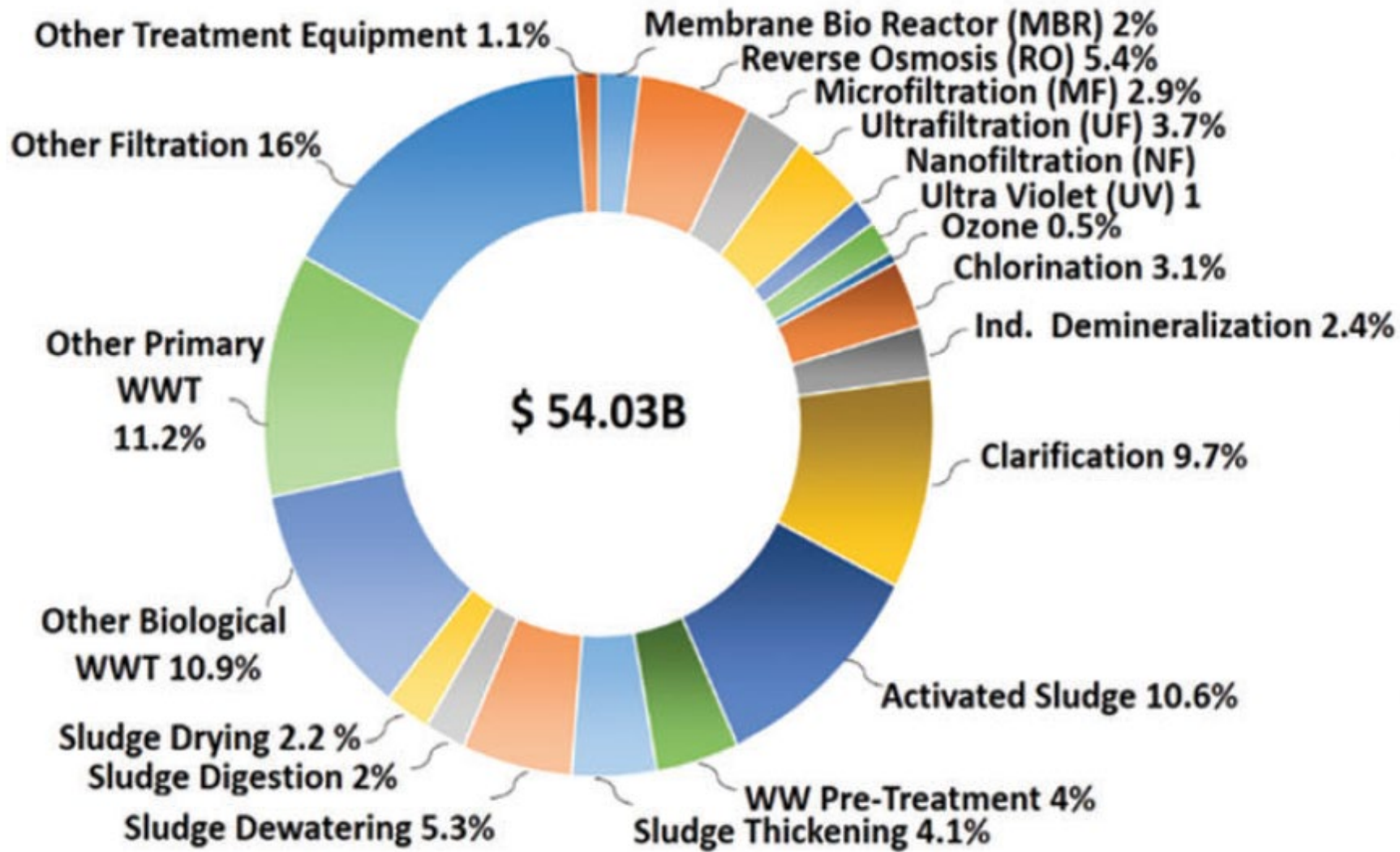
Environmental and Health Impacts

Land pollution

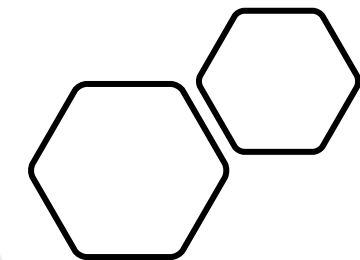
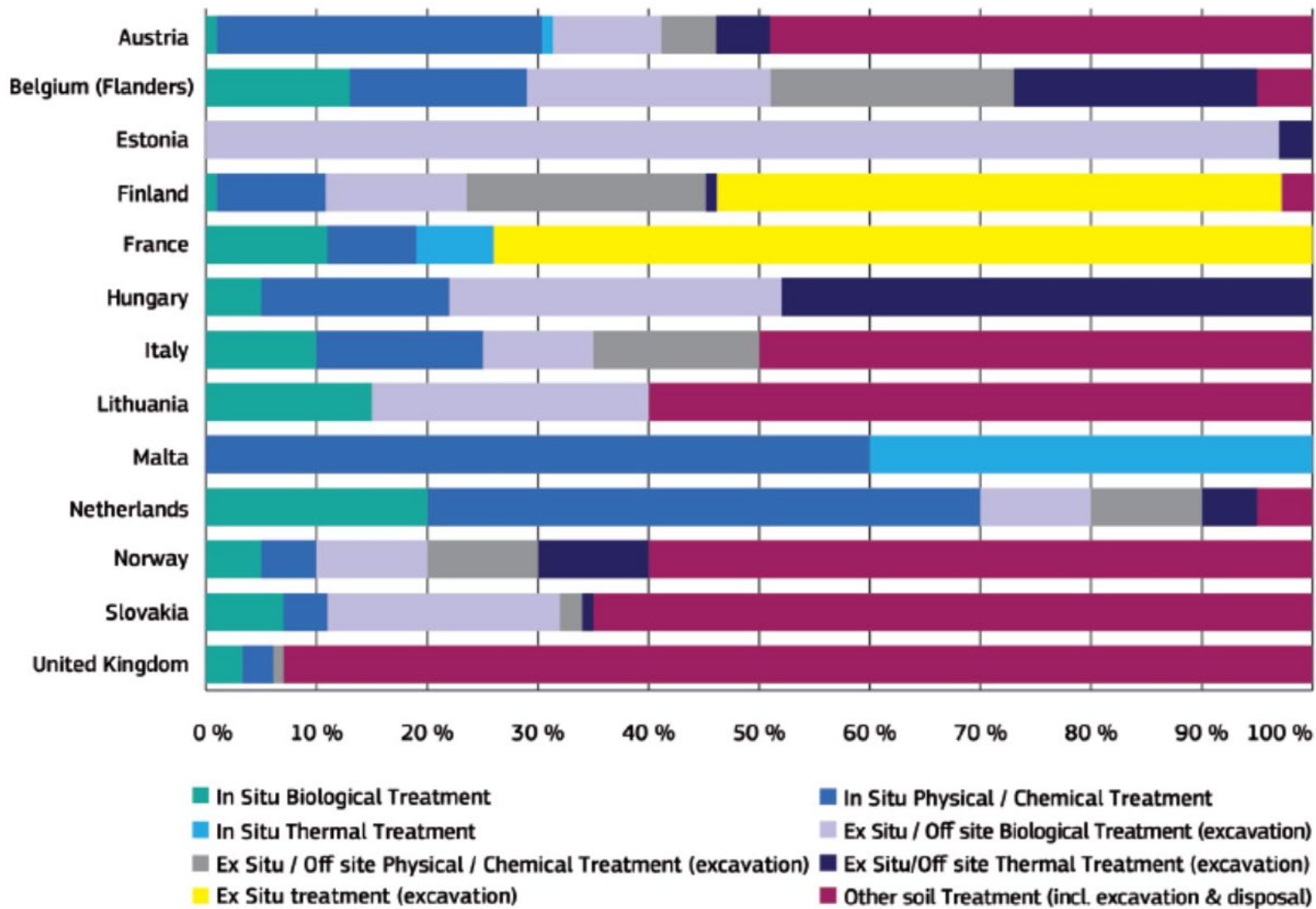
leads to the loss of 24 billion tons of topsoil every year.



Global estimates of total degraded land range widely from less than 1 Gha to over 6 Gha.



**Wastewater/
Water
Treatment
Technologies**



Soil Remediation Treatment Technologies

Theme aim and objectives

- To identify key pollutants and potential emerging technologies for their treatment;
- To prioritise the research needs and develop a road map and a white paper for implementation;
- To identify and interact with all stakeholders in promoting solutions and influencing policy

The theme links closely to the Bioscience to Engineering and the Technological Interface themes



UK Research
and Innovation





Challenges and Opportunities

- Scale and cross sectoral challenges
- Options for low carbon, sustainable remediation still limited
- Micropollutants, Mixtures and Gross contamination (i.e. plastics)
- Potential for integrated biotechnological solutions proven but still limited implementation
- Bio-based remediation could provide environment-friendly and cost-effective solutions



Challenges and Opportunities

- Understanding of the sources, fate and transport, and risk of new and emerging chemical mixtures
- Design of effective and sustainable treatment technologies
- Guidance and tools for monitoring and remediation of contaminants (i.e. biosensors vs bioreporters, early warning systems)
- Enabling risk managers, engineers and policy makers to make better-informed decisions on the appropriate uses of chemicals and levels that can prevent environmental and human health problems

Get in touch



Prof Frederic Coulon

Cranfield Water Science Institute
Faculty of Engineering and Applied Sciences
Email: f.coulon@cranfield.ac.uk
Telephone: +44 (0)1234 754 981

- **Assoc Prof Tony Gutiérrez**
- Heriot Watt University
- School of Engineering & Physical Sciences
- Email: Tony.Gutierrez@hw.ac.uk
- Telephone: +44 (0) 131 451 3315