

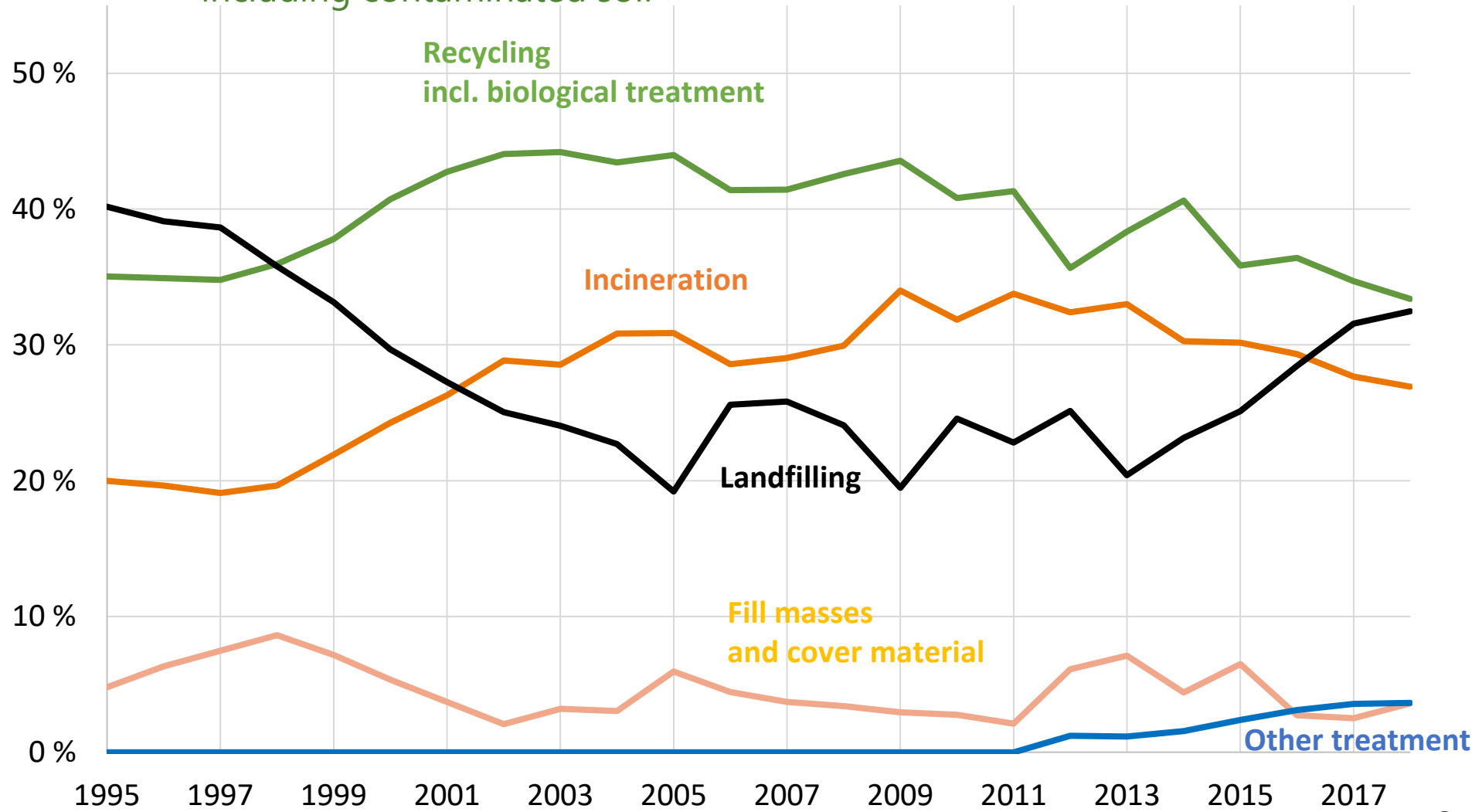


SFI-Centre for Rescue of Earth
Materials and Landfilled Wastes in a
Circular Economy

Thomas Hartnik,
Head of R&D and Innovation, Lindum

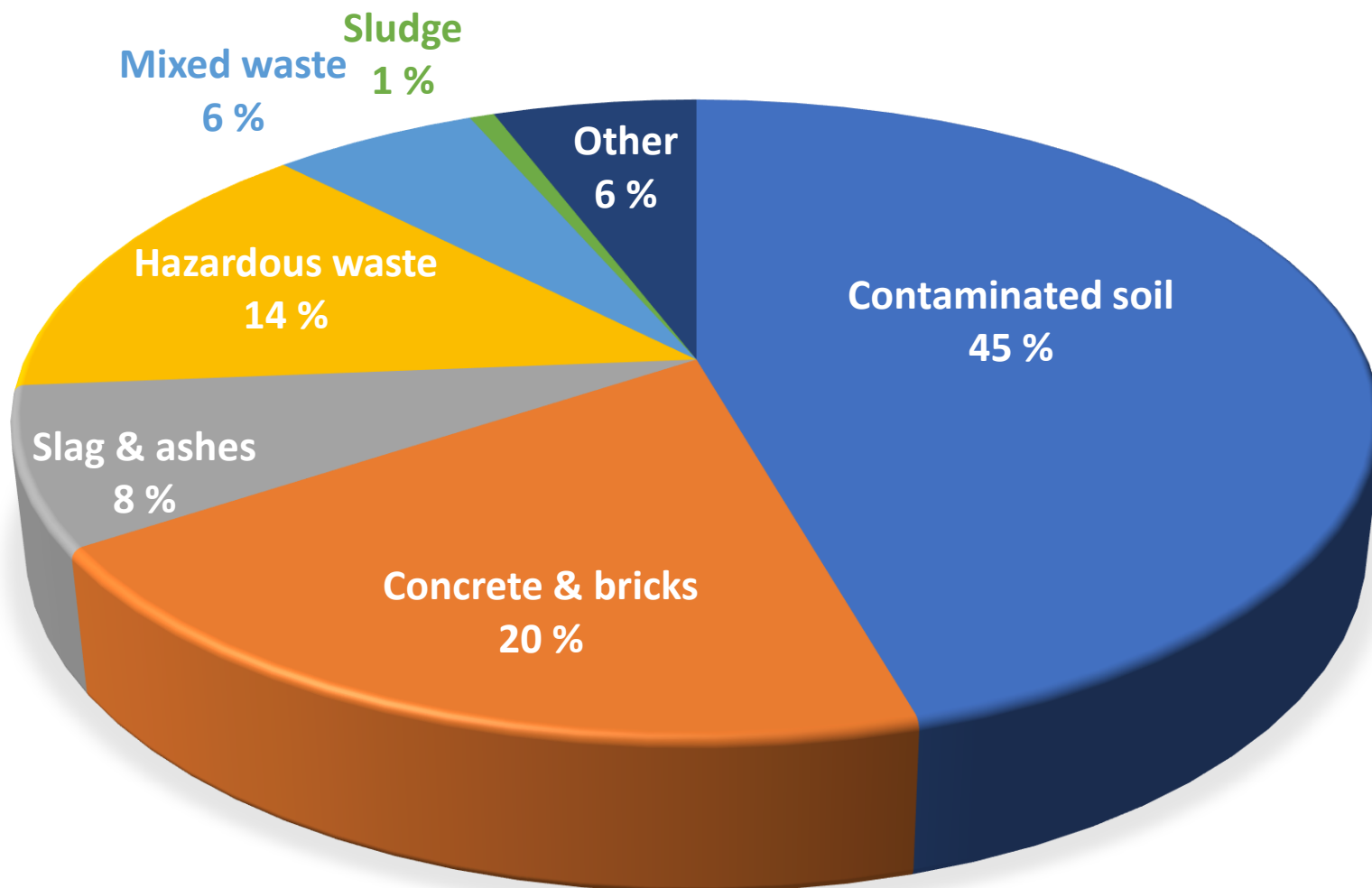
Waste treatment 1995-2018 (SSB, 2020)

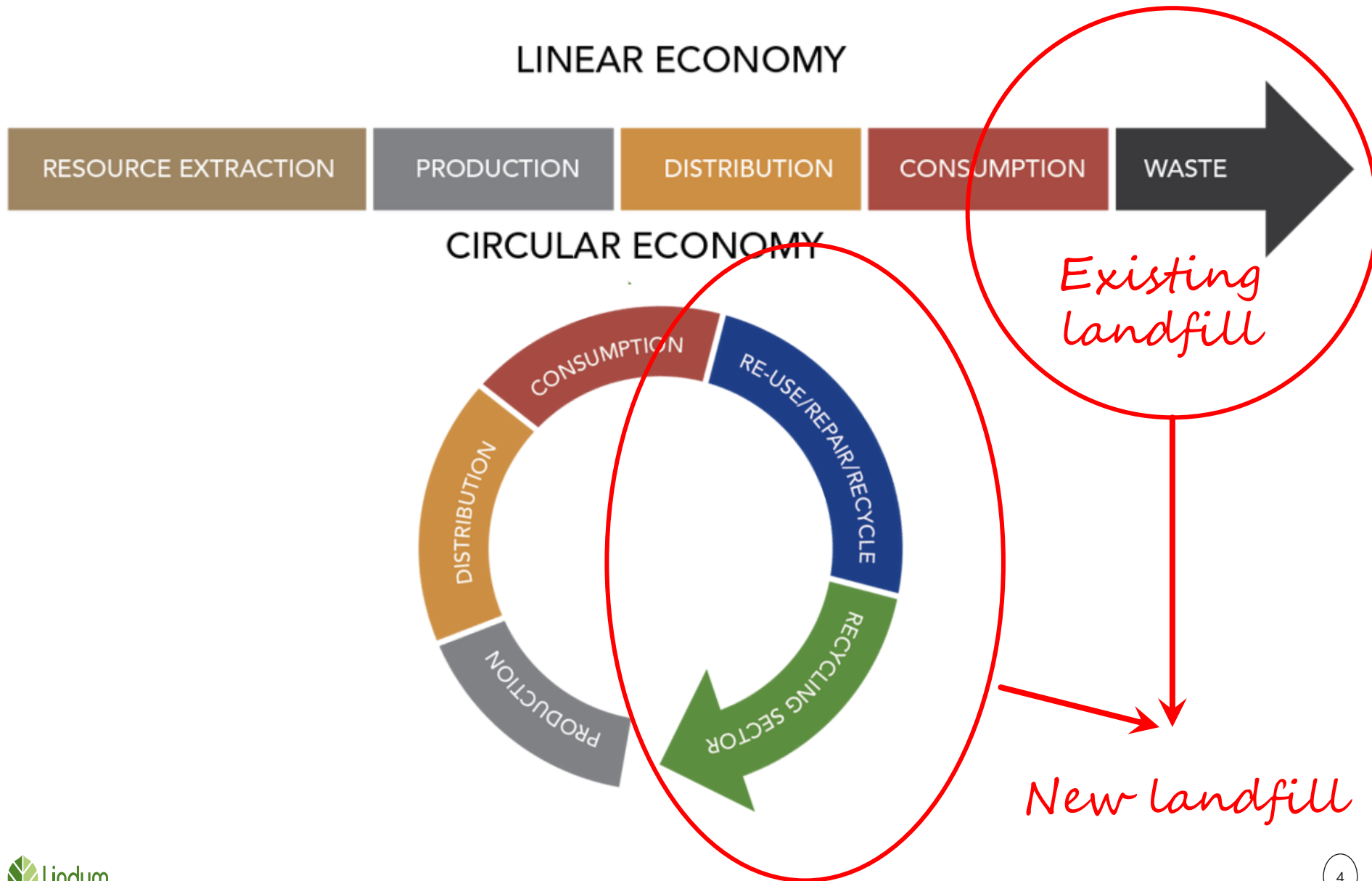
* including contaminated soil



Landfilled waste in 2018

Totally 5.8 million tons , SSB2019





Ambition for earthresQue

become the nationally leading and internationally renowned research and innovation centre for sustainable use of waste and earth materials.

The objective is to develop

- treatment technologies for recycling and reuse of surplus masses and wastes and reduce the environmental footprint of landfills
- models and methodologies to assess sustainability of recycled materials and treatment methods
- a governance framework for the most sustainable management and treatment of wastes.

8 Research Institutes

21 User partners

Host/coordination: NMBU (Helen French)

Total funding: 230 MNOK

Research council: 96 MNOK

20 PhDs, 50 master grades

Research partners:

- **NMBU**
- **NGI**
- **NIBIO**
- **NIVA**
- **NILU**
- **BI**
- **IFE**
- **NORSUS**

Midt-Norge

- Innherred renovasjon
- AF-Decom
- Forsvarsbygg

Vest-Norge

- Bergen kommune
- Forsvarsbygg
- AF-Decom

Sør-Vest Norge

- Rogaland fylkeskommune
- Forsvarsbygg

Sør-Norge

- Eyde cluster
- Forsvarsbygg

Bodø Regionen

- Iris Produksjon
- Mivanor
- Forsvarsbygg

Tromsø Regionen

- Perpetuum
- Forsvarsbygg

Østlandet og Oslo Regionen

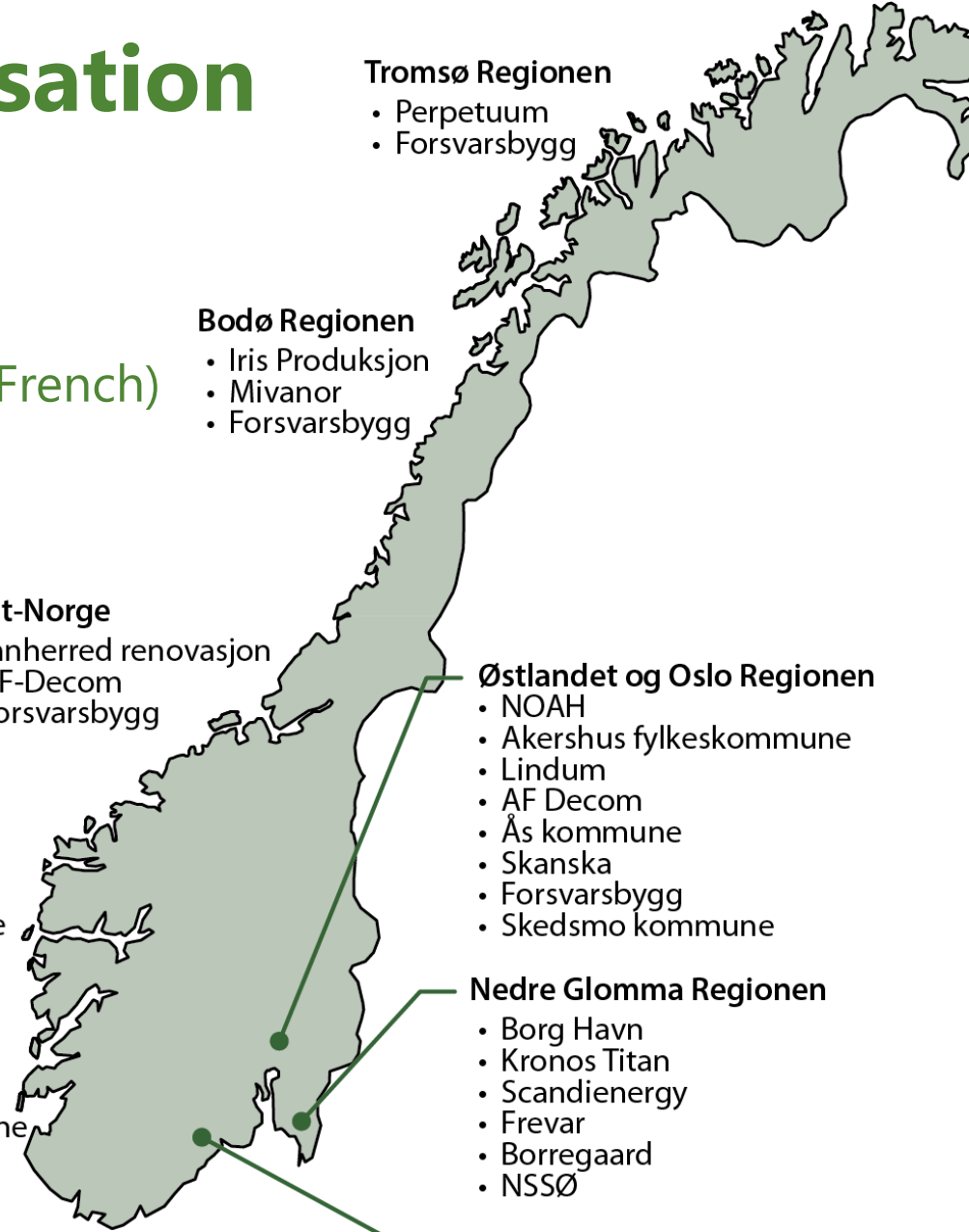
- NOAH
- Akershus fylkeskommune
- Lindum
- AF Decom
- Ås kommune
- Skanska
- Forsvarsbygg
- Skedsmo kommune

Nedre Glomma Regionen

- Borg Havn
- Kronos Titan
- Scandienergy
- Frevar
- Borregaard
- NSSØ

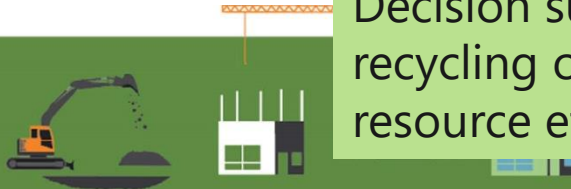
Grenlands Regionen

- Skien kommune
- Bjorstaddalen næring



Deliverables

Reduction



Effective economic and regulatory means and measures to increase recycling and use of waste-based materials

Decision support systems for reuse and recycling of wastes balancing env. impact, resource efficiency and sustainability.

Reuse



Technologies for removing contaminants and improving geotechnical properties

Recycling



Production of high quality secondary products

Cost-benefit and LCA-models for reuse and recycling of earth materials

Backfilling



Development of new value chains, business models and material flow analyses for earth materials and wastes

Landfilling



New monitoring technology

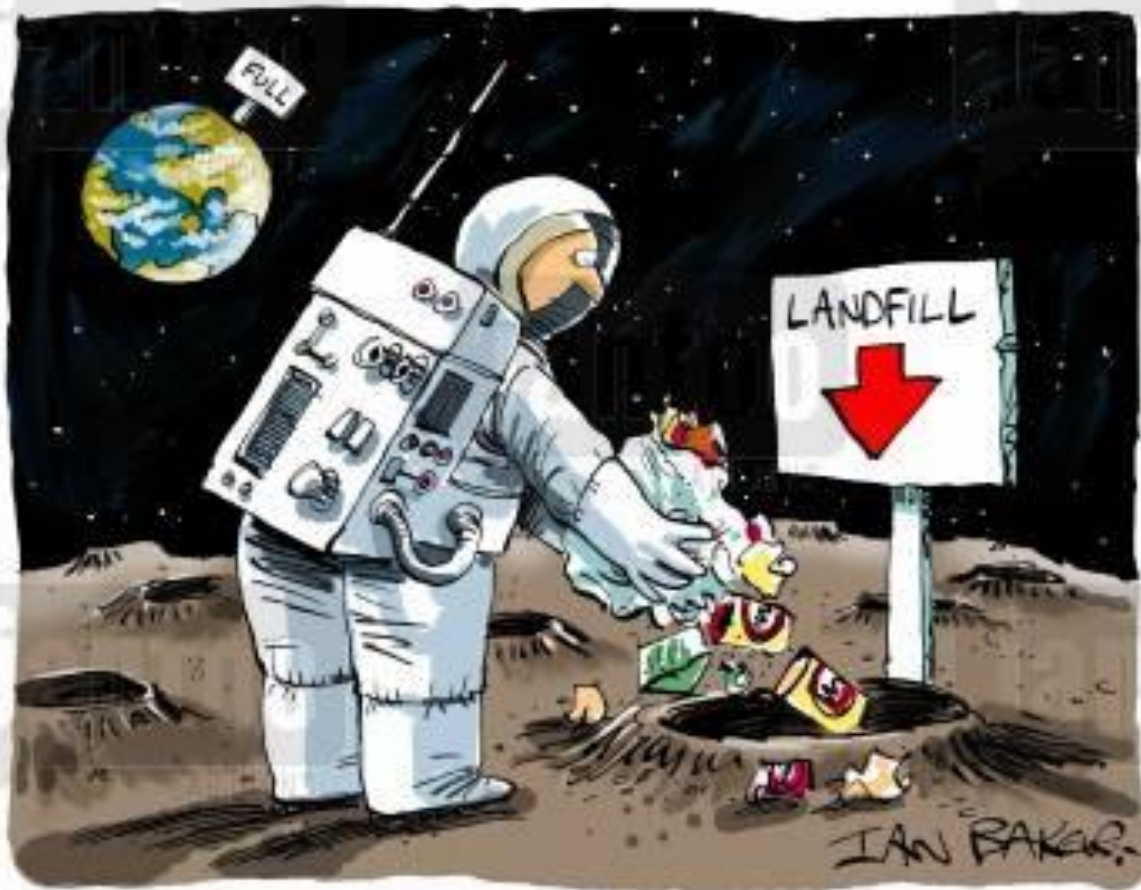
Technical solutions to reduce the env. footprint of new and old landfills.

Landfill mining for separation and reuse of landfill waste

Case Studies and pilots

1. Landfill mining: Excavation of former landfills (Slettebakken, Bergen and Kjørbekk landfill, Skien)
 - Environmental impact, sorting and recycling of landfilled waste
2. Brånåsdalen landfill (Skedsmo): Reducing the env. impact of a closed landfill
3. Lindum Oredalen landfill and Perpetuum, Tromsø – develop treatment technologies for concrete, bottom ash, contaminated soil and acid draining bedrock
4. Nes Miljøpark (AF Decom): Separation technology for contaminated soil
5. Skanska: circular handling of surplus masses

Thank you for your attention!



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