Cycle-based waste management system and carbon capture from waste in Oslo

KLEMETSRUD-ANLEGGET

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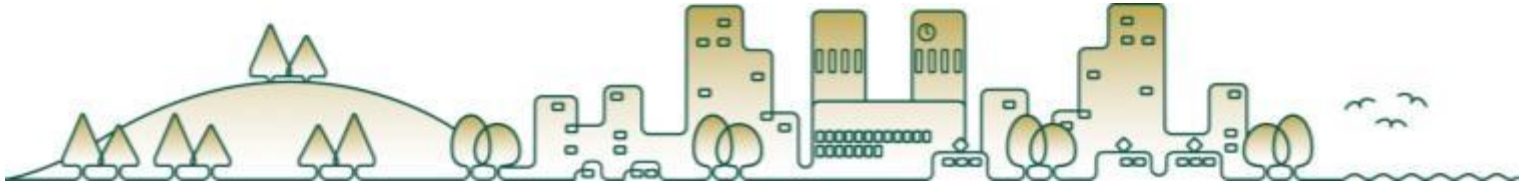
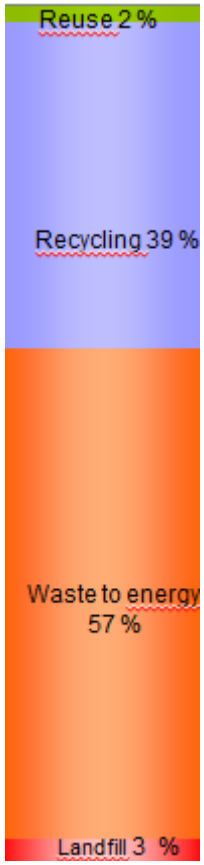
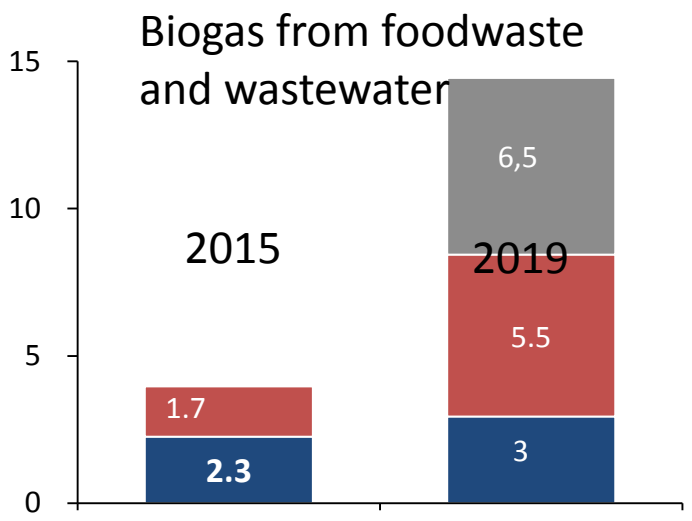


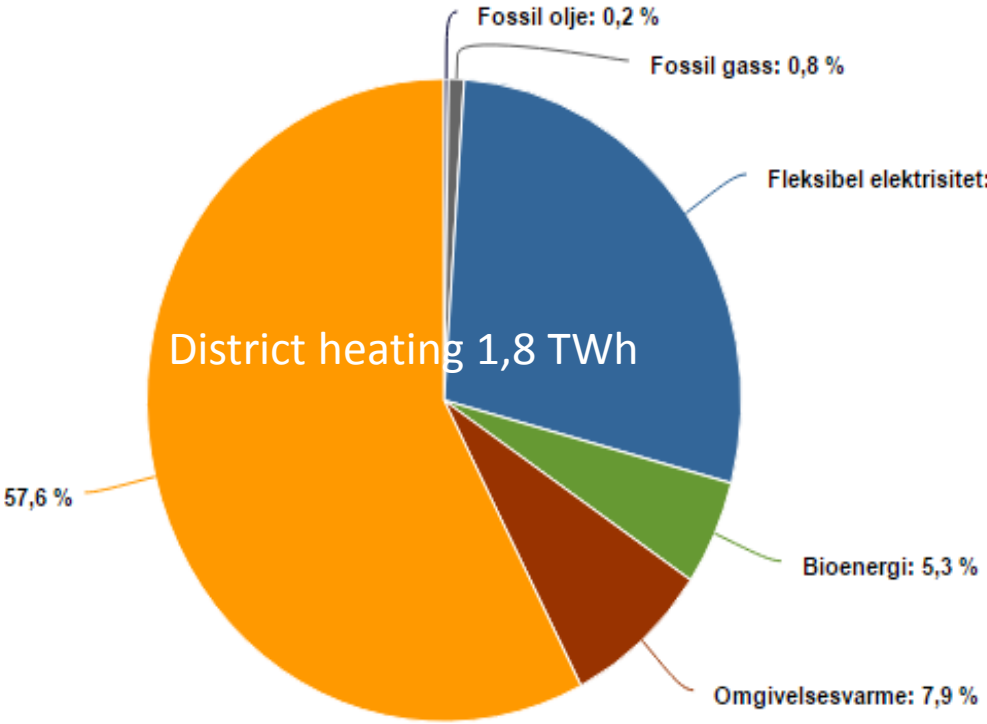


Recovering 50% of plastics

Recovering 66% of food waste



Mill Nm^3 similar to mill liter diesel



All residual from biogas-production used as fertilizer

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Waste-to-Energy

Two plants, located in the north and south perimeter of the city

- Capacity: 450 000 t./year approx 175 MW
- Electricity: 175 GWh/year
- Heat production: 1000 GWh/year

Reduced emissions of GHG in the complete valuechain

1. Waste avoided from landfill – saves methane production and -slip
2. Sorted waste saves CO_2 by replacing fossil products
3. Energy recovered rest waste saves CO_2 in district heating and electricity
4. CO_2 – post incineration capture saves CO_2 for either reuse or storage
5. Carbon criteria in waste tenders will push carbon further up the waste hierarchy
6. BioCCS – “carbon negative”

EGE
Waste-to-Energy agency

Carbon capture at Klemetsrud

- Pilot plant showed CO_2–capture stable and reliable at 90%
- Energy penalty below 0,5 MWh/ton waste (1,14 ton CO_2)
- Creating and building competence in Norway – large global transferability - 450 energy recovery plants in Europe, 100 in China, 75 in the US, 1100 in Japan
- Part of the Norwegian full-scale CCS-project
- Project ready to operate in 2022
- Waste-to-energy must replace landfill
- CO_2–capture from WtE will provide a steady source of bioCCS in the foreseeable future

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Thank you for your attention!

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