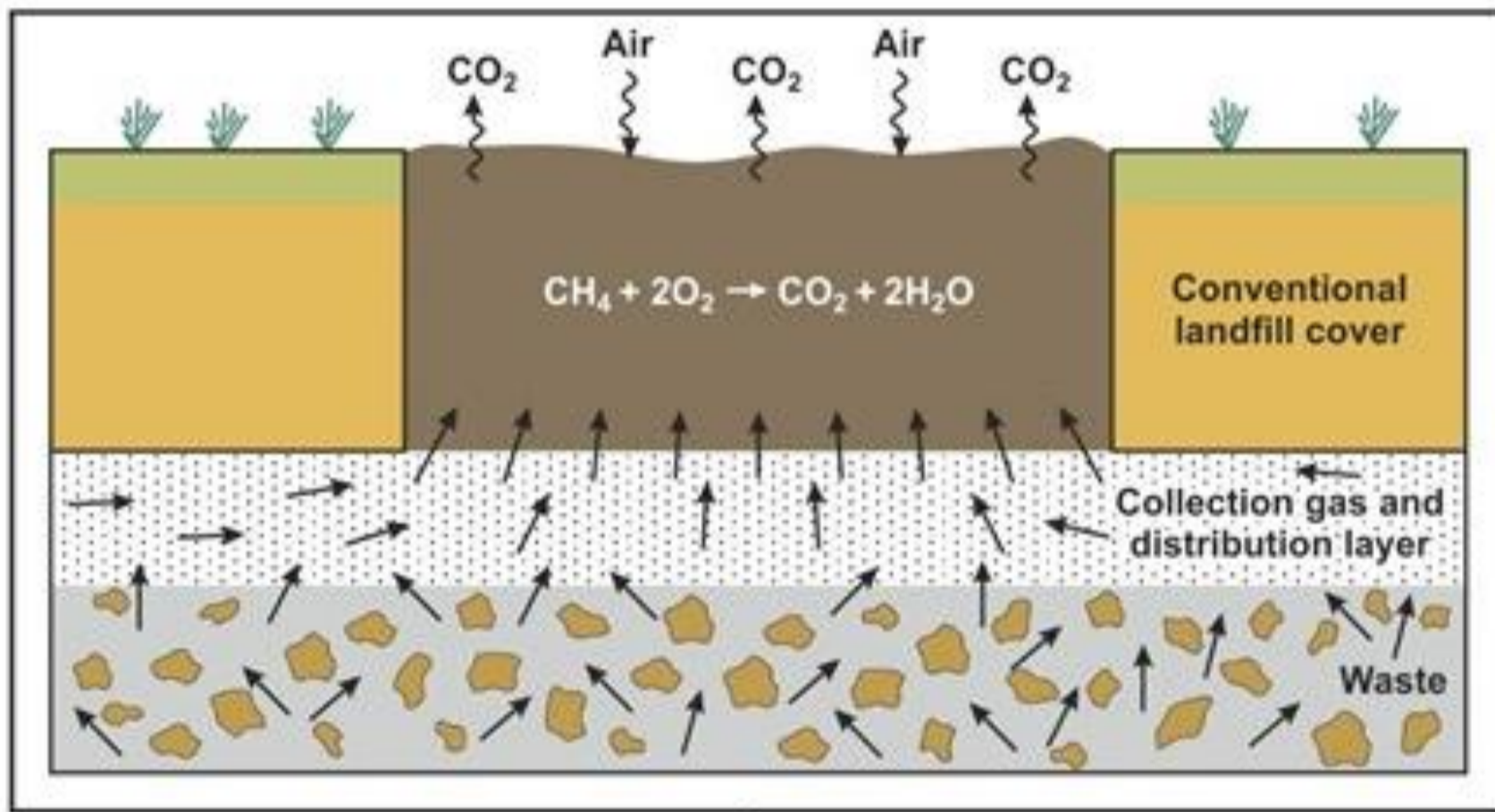
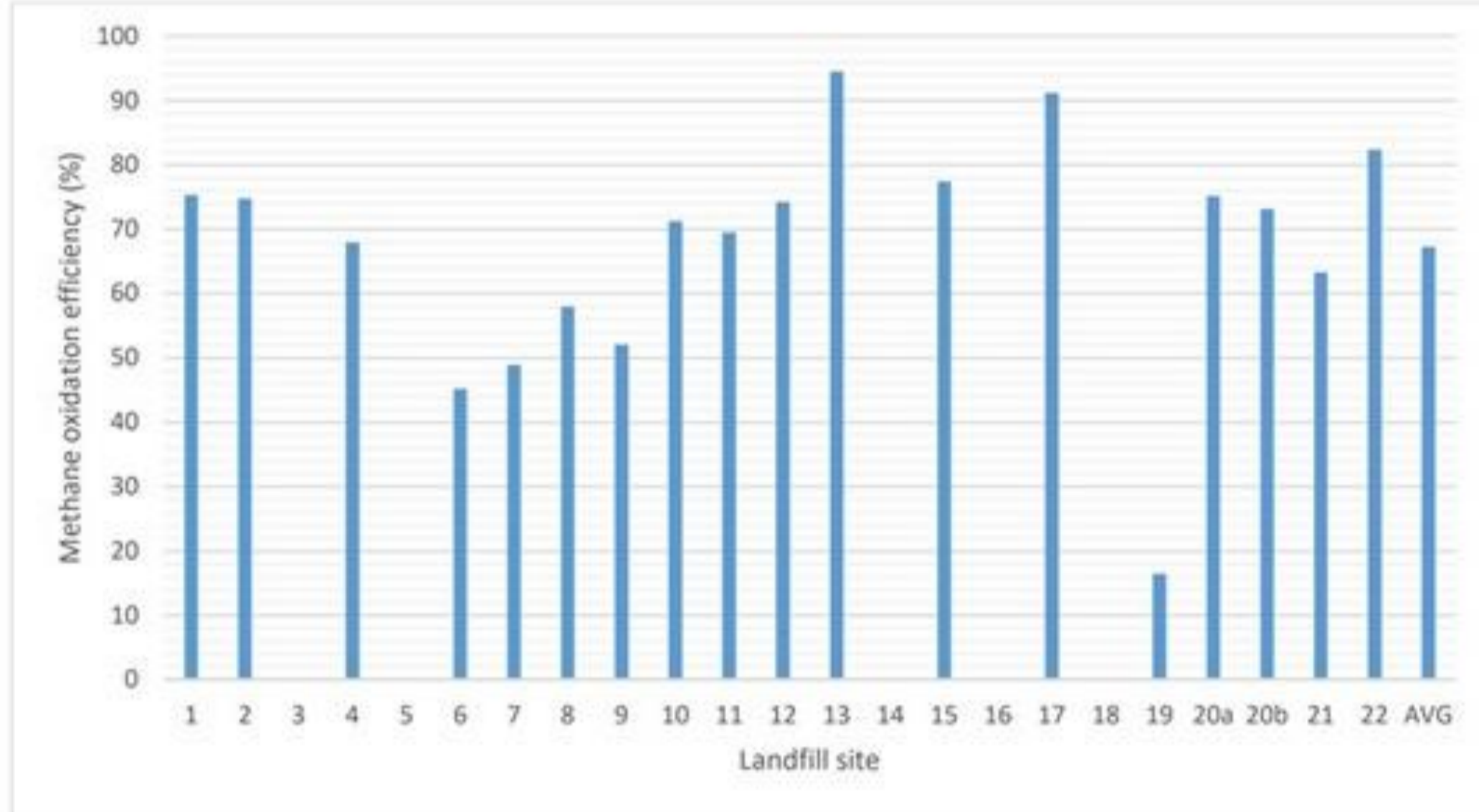
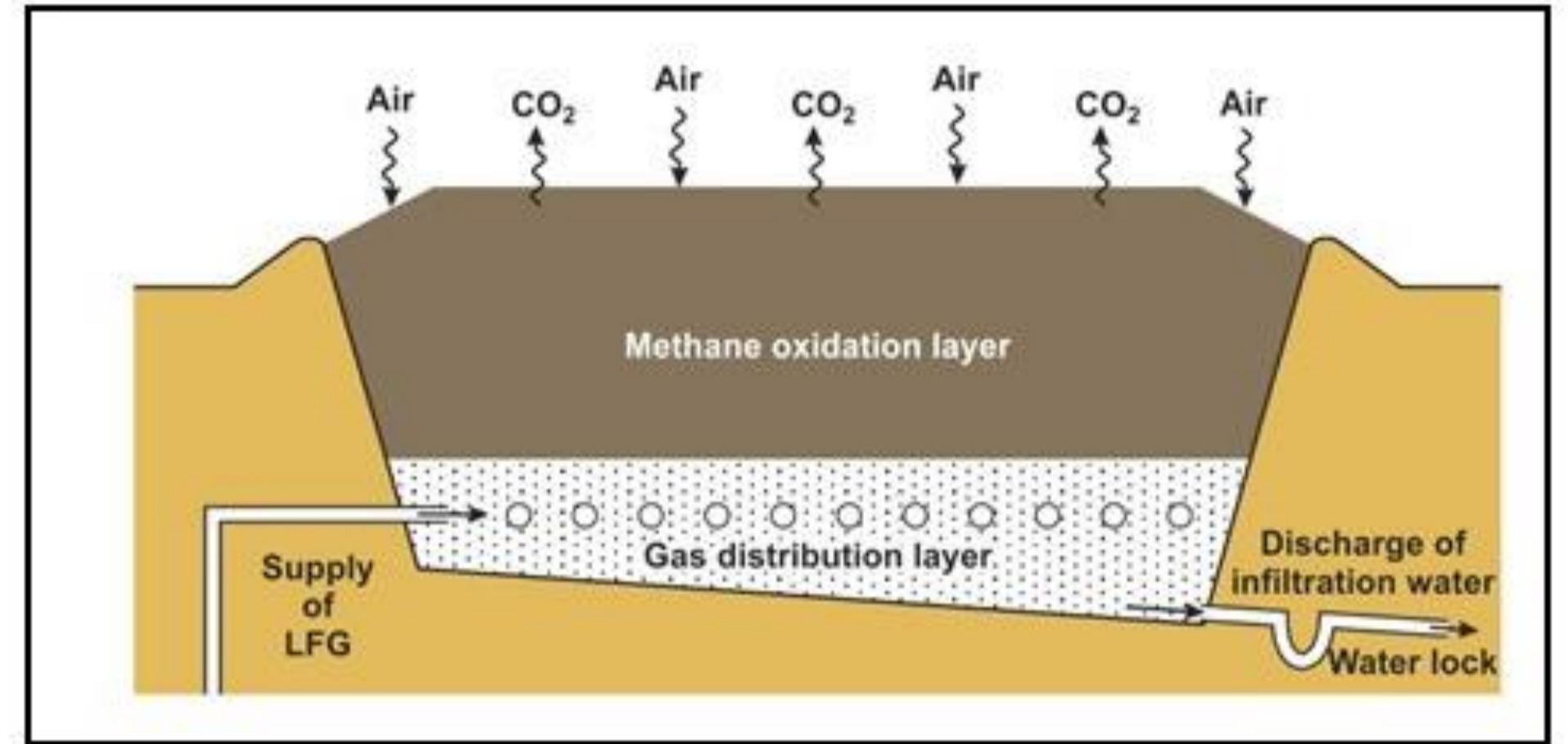


Preliminary methane oxidation efficiencies (%) measured at 22 Danish landfills after installation of biocover systems designed to optimize biological methane oxidation.



Biowindow design



Biofilter design

Biocover systems are available in different designs, including passive biowindow and active biofilter concepts, which are often together in a combined solution.

## PROJECT DESCRIPTION

- Due to their decreased cost efficiency, older and smaller landfills present a challenge for utilizing landfill gas for energy purposes.
- As of 1997, organic waste has not been sent to landfills in Denmark.
- In 2017, the Biocover Initiative was established with 25 million Euro (€) in governmental support to obtain methane emission reductions from older landfills containing organic waste.
- The initiative relies on bio-oxidation technology which microbially converts methane to biogenic carbon dioxide by filtering the landfill gas through compost layers.

## RESULTS ACHIEVED

- Biocover systems are currently in place at 22 Danish landfills.
- Preliminary results from 18 of the 22 established systems show an average methane oxidation efficiency of almost 70% higher than the average extraction efficiency of Danish landfill gas utilization facilities (50%).
- The Biocover Initiative's work will conclude in 2026. The Initiative will produce a final report highlighting the initiative's findings and lessons learned, including mitigation costs for the established systems (in €/tons carbon dioxide equivalents).

## PARTNERS INVOLVED IN PROJECT

- Environmental Protection Agency, Ministry of Environment of Denmark
- Technical University of Denmark



**Ministry of Environment of Denmark**  
Environmental Protection Agency



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