WASTEWATER SYMBIOSIS STUDY TOUR

Draft Itinerary

June 15-21, 2025

Center for Sustainable Infrastructure

MAP OF STUDY TOUR TO DENMARK

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SUNDAY

The Study Tour begins in Copenhagen at 4:00pm!

Welcome orientation & opening dinner.

MONDAY

Morning

State of Green: Denmark's Green Headquarters

Presentation by State of Green on the Danish green transition, Danish strongholds within wastewater management and the Danish Climate Partnership on water.

DANVA: The Danish wastewater sector of today and the future

Meeting with the Danish Water and Wastewater Association to hear about Danish benchmarking, current regulations and the new EU directive on city wastewater and its expected impact on industries' handling of wastewater.

Afternoon

BIOFOS Lynetten WWTP

Tour of BIOFOS's Lynetten Wastewater Treatment Plant, which is energy and climate positive and an example of the potentials and challenges of bringing treatment plants into the future, focusing on recycling and better utilization of resources, including:

- carbon harvesting
- phosphorous recovery
- biogas optimization
- reducing nitrous oxide emissions
- life cycle assessment
- economic impact calculations

TUESDAY

Morning

Topsil: Industrial Water Circularity

Topsil has over 60 years of experience as a supplier of ultra-pure Float Zone silicon for the global semiconductor industry. Production of this material relies on ultra-pure water. The site visit will showcase how different qualities of water can be used and re-used at different points in the production process and new technologies have allowed for water circulartiry to become a reality for Topsil.

Afternoon

Hillerød Utility: Solrødgård Climate and Environmental Park

Tour and presentation of Solrødgård Climate and Environmental Park; a part of Hillerød Symbiosis. The facility includes a highly modern wastewater treatment plant, recycling station, and nature park with recreation facilities with a focus on biodiversity. The utility has piloted removal of pharmaceuticals from wastewater with great success.

Danish Industry Water: Climate partnership on waste, water, and circular economy

A knowledge exchange workshop with Danish Industry Water addressing the current challenges faced by wastewater treatment plants, with case studies from the Pacific Northwest and Denmark.

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WEDNESDAY

Morning

Kalundborg Symbiosis

The Kalundborg Symbiosis is considered the world's pioneer of industrial symbiosis. Launched 50 years ago, the collaboration has grown to involve 18 companies and public operators, sharing surplus energy, water, and material resources. Local benefits include: $30 million annual economic benefit, 600,000 tons of CO2 savings, and 60,000 tons of material cycled, in a city of 17,000 people.

Afternoon

Kalundborg Symbiosis: Multi-Utility

This unique multi-utility is now central to the Kalundborg Symbiosis, supplying local industry and it's 50,000 customers with drinking water, process water, cooling water, wastewater treatment and district heating.

Novonensis

The sister company of international giant Novo Nordisk, Novonensis uses revolutionary clean water cycling technologies to reduce water consumption at their Kalundborg site. Novonensis aims to maintain 100% circular biomass in 2025, and achieve zero waste to landfill by operations by 2030.

THURSDAY

Morning

Nye Treatment Facility

Nye is the first neighborhood in Denmark where all surface water runoff from roofs, roads and the surrounding green space is considered a resource. In Nye, a centralized secondary water solution has been developed where the collected water from the entire urban development area is treated at a fully unstaffed treatment plant before being discharged in a separate pipe network for use in toilet flushing and clothes washing in the areas homes.

Afternoon

Grundfos Global Headquarters

Grundfos is the largest pump-manufacturer in the world, producing intelligent, energy-saving pumps and water solutions.

Water Valley Denmark: Fostering continued innovation and testing

Water Valley Denmark is a national unifying initiative driving the development and innovation of solutions for the water industry. The workshop will focus on collaboration to identify future opportunities for cost-effective water treatment that benefits the larger community. The workshop aims to bring together the Danish water eco system including research institutions, universities, can companies of all sizes to share experiences and challenges with the delegation.

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FRIDAY

Morning

VCS Denmark: Søndersø Treatment Plant Tour

Visit to VCS Denmark's wastewater treatment plant, Søndersø, which operates one of Denmark's first pyrolysis facilites. Digested sludge is used to produce biogas, after which the sludge undergoes pyrolysis. Pyrolysis produces heat and biochar that are resources that can be recovered. Biochar is a much cleaner fertilizer alternative than traditional biosolids application.

Afternoon

VCS Denmark: Ejby Mølle Treatment Plant Tour

Visit to VCS Denmark's wastewater treatment plant, Ejby Mølle, in Odense is a state-of-the-art water resource recovery facility, with very high standards for wastewater treatment. In 2018, the facility reached energy self-sufficiency of 180%. The very high energy production percentage is a result of years of continual optimization coupled with efforts to reduce energy consumption in the treatment process.

Evening

Celebration Dinner

Final dinner to reflect on lessons learned, potential applications at home, big take aways for the delegation.

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SATURDAY

The Study Tour concludes in Copenhagen.

2025 Wastewater Symbiosis Study Tour

Dates: June 15-21, 2025

Got any questions? Ask us!

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