Wastewater Symbiosis

Exploring the Danish approach to wastewater



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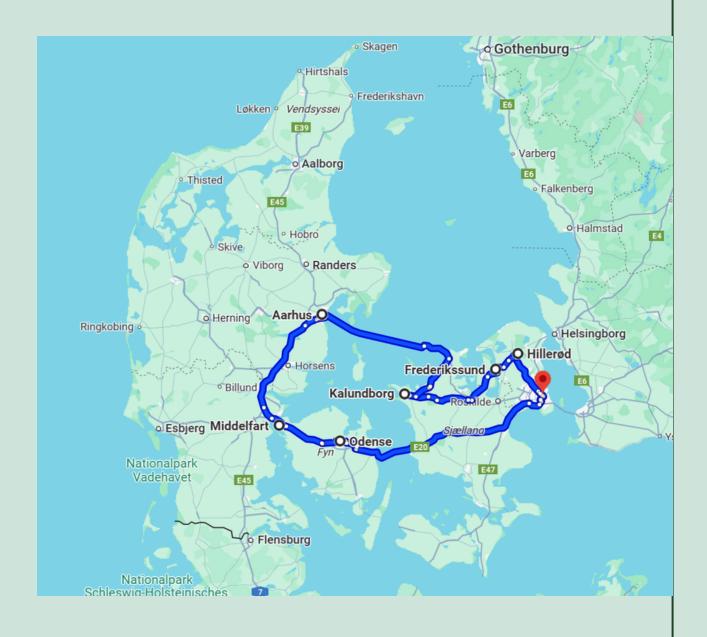
Resource efficiency has been an embedded part of Denmark's journey towards a climate-neutral society for decades. In Denmark, eco-industrial parks have been developed, allowing companies to share energy, water and materials, optimizing resource use, lowering costs and minimizing the environmental impact.

As industries face increasing pressure from water supply challenges, reducing water consumption and treating industrial wastewater for potential reuse becomes vital to maintaining competitiveness. Effective wastewater management not only protects people and ecosystems but also unlocks valuable resources embedded in wastewater, contributing to a more sustainable industrial future.

We hope that the Danish experiences you encounter on your trip will inspire and instigate an even greater appetite for resource efficient measures.



Journey around Denmark



Sunday, 15 June

13:00-16:00 Arrival and check-in at Hotel Scandic Spectrum

Kalvebod Brygge 10 1560 Copenhagen Transportation from Copenhagen Airport to Copenhagen Central Station: Walk to Terminal 3. From here take the train (not the metro) in the direction of Østerport St. Get off the train at København H station, which is Copenhagen Central Station.

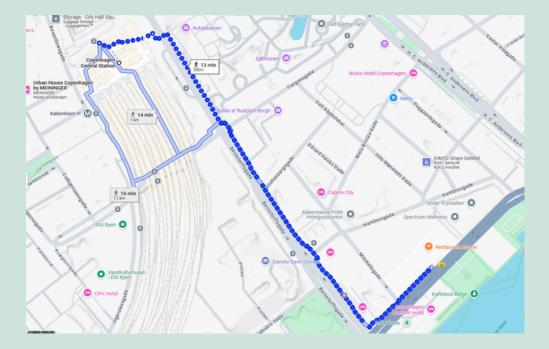
The hotel is walking distance from Copenhagen Central Station.

Christina Østergaard is in charge of the practicalities for this trip and will be in the lobby at 15:00 to meet the delegation.

Contact person:

Christina Østergaard, Event Planner, Østergaard Event

+ 45 28 69 82 48 | christina@ostergaardevent.dk



Sunday, 15 June

13:00-16:00

Suggestion for Free Time: Green Walk

Axeltorv 2 1609 Copenhagen V



If you are keen to explore Copenhagen, you can take State of Green's interactive audio walk to explore Copenhagen's energy-efficient buildings, architectural marvels and life by Copenhagen harbor, while listening to insights about Denmark's green transition. The tour takes you by Copenhagen City Hall, Christiansborg Palace and the Royal Library.

The audio walk starts at Axeltorv 2, 1609 Copenhagen V.

17:00-18:30

Orientation and preview of study tour program

Kalvebod Brygge 10 1560 Copenhagen Hotel lobby (in the corner)

Please be ready to leave for dinner at the Tivoli Gardens directly after the orientation and program preview. Departure will be at 18:35 from the hotel lobby.

19:00-21:30

Opening dinner

Vesterbrogade 3 1630 Copenhagen V Restaurant Brdr. Price Tivoli

Please use the main entrance on Vesterbrogade 3. Please note that the Tivoli Gardens close at 22:00.

Monday, 16 June

08:30-09:00 Departure from hotel - Walk to State of Green

09:00-09:30 Visit to House of Green: Welcome to Denmark!

Vesterbrogade 1E 1620 Copenhagen V An introduction to the Danish green transition and the Danish water sector by State of Green.

Contact person:

Victoria Kimberly Kristensen, Senior Project Manager, State of Green +45 21 59 84 74 | vkk@stateofgreen.com

09:30-11:00 Session with DANVA: Water in figures

Vesterbrogade 1E 1620 Copenhagen V

- Introduction to DANVA, the Danish Water and Wastewater Association by Miriam Feilberg, Head of Climate Change Adaptation and Planning.
- Presentation on water benchmarking in Denmark by Thomas Sørensen, Head of Data and Benchmarking.

Contact person:

Thomas Sørensen, Head of Data and Benchmarking, DANVA +45 87 93 35 65 l ts@danva.dk

11:15-13:00 Session with DHI: Living in symbiosis with the harbour

Vesterbrogade 1E 1620 Copenhagen V

Kalvebod Brygge 5-7 1560 Copenhagen

- Presentation on Copenhagen Harbour, a recreational area solving water challenges.
- Visit to Copenhagen Harbour viewing Copenhagen Harbour Baths and HOFOR (Greater Copenhagen Utility) pumping station.

Contact person:

Ole Larsen, Director for Strategic Partnerships, DHI Group ola@dhigroup.com

13:00-13:30 Transfer to BIOFOS Utility - Lunch on bus

13:30-15:30 Tour of Lynetten WWTP: Energy and climate positive treatment

Refshalevej 250 1432 Copenhagen Contact person:

Bjørk Hasager Sørensen, Management Director, BIOFOS

+45 54 58 65 43 l bhs@biofos.dk

15:30 Cultural activity: Exploring the neighbourhood

Refshalevej 167 1432 Copenhagen Lynetten WWTP's neighbourhood offers everything from contemporary art museums and Michellin restaurants to outdoor paddle tennis and street food. Grab dinner and a drink at Reffen street food market and experience Copenhagen as a local.

Closed shoes required this day

Program

Tuesday, 17 June

09:00-10:00 Check-out prior to departure from hotel - Transfer to Topsil

10:00-11:30 Visit to Topsil: Improving water circularity in production

Siliciumvej 1 3600 Frederikssund Topsil produces silicon used for semiconductors, which is a water-heavy process that requires ultra-pure water. With the help of Grundfos Water Treatment, Topsil has managed to decrease water consumption by reintroducing water of different qualities. The visit to Topsil will showcase some of the technologies that have improved the facility's water circularity.

Contact person:

Thomas Reuter Johannsen, Senior Manager, Grundfos Water Treatment +45 50 60 24 73 | tjohannsen@grundfoswt.com

11:30-12:00 Transfer to Hillerød Utility

12:00-13:30 Tour of Solrødgård WWTP: Treating industrial wastewater

Solrødgårds Allé 1 3400 Hillerød Solrødgård Climate and Environmental Park was created with a desire to integrate nature and recreational areas with the utility. The majority of Hillerød municipality's wastewater is treated at Solrødgård WWTP which also includes wastewater from nearby industrial production sites.

Contact person:

Abhilasha (Abhi) Mishra, Chemical Engineer, Hillerød Utility +45 40 90 94 55 l abmi@hfors.dk

13:30-14:30 Transfer to Danish Industry - Lunch on bus

14:30-16:00 Roundtable with DI Water: Tackling current challenges

H. C. Andersens Blvd 18 1553 Copenhagen DI Danish Water Industries is part of Danish Industry, a private business and employers' organisation representing approximately 20,000 companies in Denmark.

This roundtable discussion will explore the tools and solutions that can be implemented here and now to combat the challenges faced by WWTPs today. The roundtable discussion will bring together Danish utilities, water technology providers and water consultancies.

Contact person:

Mads Helleberg Dorff, Head of DI Danish Water Industries, Danish Industry +45 42 80 18 88 I mahd@di.dk

16:00-17:30 Transfer to City of Jyderup

Tornbrinken 24A 4450 Jyderup Check-in at Aggersvolds Estate followed by group dinner at the estate at 19:00.

Wednesday, 18 June

08:00-08:30 Check-out prior to departure from hotel - Transfer to Kalundborg

08:30-15:30 Visit to Kalundborg Symbiosis: The World's leading industrial symbiosis

08:30-09:45: Welcome to Kalundborg Symbiosis

09:45-12:00: Visit to Kalundborg Utility

12:00-13:00: Lunch

13:00-15:30: Visit to Novinesis including site tour.

For a detailed overview of Wednesday's program, please ask Emma Titaley, Knowledge Exchange Coordinator at Center for Sustainable Infrastructure.

Contact person:

Mette Wendel, Senior Project Manager, Kalundborg Symbiosis +45 21 60 07 72 l mecr@kalundborg.dk

16:00-19:00 Transfer to City of Aarhus (via ferry)

Banegårdspladsen 14 Check-in at Scandic The Mayor. 8000 Aarhus

Suggestion for dinner: Aarhus Street Food located at Ny Banegårdsgade 46, 8000 Aarhus

Thursday, 19 June

08:30-09:00 Check-out prior to departure from hotel - Transfer to Nye

09:00-10:30 Visit to Nye neighbourhood: The facility of the future

Kørvelrækkerne 20 8200 Aarhus N Nye is a newly established neighbourhood located in the northern part of Aarhus. The neighbourhood has been designed to reuse collected rainwater for flushing and washing. The neighbourhood's water treatment facility is operated by Aarhus Vand Utility yet is completely unmanned.

Contact person (until 13:00):

Kristian Brunmark, Dissemination Director, Aarhus Vand Utility

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10:30-10:45 Transfer to Risvangen

10:45-11:15 Visit to Risvangen neighbourhood: Preparing for extreme rain events

Risvang Allé 8200 Aarhus N Risvangen is the first large neighbourhood in Denmark where climate adaptation efforts have been implemented as a combination of surface handling and pipes.

Contact person:

Kristian Brunmark, Dissemination Director, Aarhus Vand Utility

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11:15-11:45 Transfer to Aarhus Vand Utility

11:45-13:00 Tour of Aarhus Vand Utility: A modern and innovative utility

Hasselager Allé 29 8260 Viby J Aarhus Vand Utility is one of Denmark's largest utilities. During recent years, the utility has undergone a modernazation and centralization which has included the construction of a new HQ. The tour is followed by a lunch.

13:00-15:30 Workshop with Water Valley Denmark: Innovating for the future

Hasselager Allé 29 8260 Viby J Water Valley Denmark is a national initiative driving the development and innovation of solutions for the water industry. They connect the entire water sector in partnerships fostering open innovation. This workshop will focus on innovating for future global water challenges that utilities will face.

Contact person:

Pia Jacobsen, Head of Global Innovation, Water Valley Denmark +45 29 20 91 69 l pja@watervalleydenmark.com

15:30-17:00 Transfer to City of Middelfart

Karensmindevej 3 5500 Middelfart Check-in at Comwell Middelfart followed by group dinner at the hotel at 19:00.

Friday, 20 June

08:15-09:00 Check-out prior to departure from hotel - Transfer to Odense

09:00-09:45 Tour of Se

Tour of Søndersø WWTP: WWTP test and demonstration

Gørtlervej 5 5471 Søndersø Projects/topics:

· Pyrolysis installation

· MABR installation and testing

Contact person (all day):

Per Henrik Nielsen, Project Director, VCS Denmark

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09:45-10:15 Transfer to Ejby Mølle

10:15-11:00 Session with VCS Denmark: Introduction VCS Denmark

Ejby Møllevej 20 5000 Odense C

The presentation will focus on VCS Denmarks WWTP operations and projects.

11:00–11:40 On-site demonstration by Estech: From CO2 to resource

11:40-12:30 Tour of Ejby Mølle WWTP

Topics covered:

Energy production

· Emission reduction

Carbon Capture

12:30-15:00 Transfer to Copenhagen - Lunch on bus

19:00-22:00 Celebratory Closing Dinner!

End of official program

Meet the team in Denmark



Victoria Kimberly Kristensen

Senior Project Manager, State of Green



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State of Green is your one-stop-shop to more than 600 Danish businesses, agencies, academic institutions, experts and researchers. State of Green connects you with leading Danish players working to drive the global transition to a sustainable, low-carbon, resource-efficient society.



Christina Østergaard

Event planner, Østergaard Event



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østergaard event

Christina Østergaard runs a professional event planning team and is responsible for planning the logistics around the delegation's trip to Denmark. Christina travels with you around the tour.

Meet the team from CSI



Rhys Roth

Excecutive Director, Center for Sustainable Infrastructure





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CSI is the trusted Pacific Northwest-based non-profit with a mission to catalyze state-of-the-art sustainable infrastructure solutions that help communities of every kind thrive economically, socially and environmentally.