



## **Decarbonizing Energy Infrastructure: Lessons from Northern Europe**

**April 12 to 18, 2026**

**Draft** Agenda – subject to change (revised 11 March)

Welcome to Europe! We are so excited to have you with us, and we hope that you become equally excited about the important lessons we will be learning about different strategies for decarbonizing every aspect of how we produce, distribute, and consume energy.

Our only rules for the trip:

1. We leave exactly on time! We have a lot of ground to cover and want to be respectful of both our hosts and the other participants. This means if you miss a departure from a hotel or site visit you will need to find your way to where we will be on your own. All departure times and addresses of our destinations are clearly noted in this itinerary.
2. We provide preselected wines for all group meals. You can also have your choice of beer or soft drinks. If you would like to have a cocktail or an alternative wine please let the wait staff know that you will be paying for that on your own.
3. Please let us know as early as possible (preferably before noon) if you are not planning to join us at one of the group dinners. We want to be able to inform the restaurants in advance so that good meals don't go to waste!

### **SUNDAY (12 April) – Arrival in the Netherlands**

After arriving at Amsterdam's Schipol Airport go to the train station at the airport and purchase a ticket for any of the Intercity Direct trains to the Rotterdam Central Station. They depart about every 20 minutes, and it's a non-stop, 26-minute train ride.

Once you arrive in Rotterdam walk outside to the front of the Central Station, where you'll find the main tram stop, and take the 3 – Beverwaard tram three stops to Leuvehaven. These run about every 15 minutes. Alternatively, if you find yourself at the Metro station instead you can take either the D - De Akkers or the E – Slinge Metro to Leuvehaven. From Leuvehaven it's a short 5-minute walk to our hotel.

Contact info: Patricia Chase: +1.206.349.4904 | Jayson Antonoff: +1.206.354.2278

You can obviously also take a cab, but it will be considerably more expensive.

*Afternoon – Check into our hotel, Haven Hotel Rotterdam, Curio Collection by Hilton*

*Address: Leuvehaven 77, 3011 EN Rotterdam, Netherlands*

*5.00p to 6.00p – required Introductory meeting at our hotel*

We'll provide some background on the goals of the trip, review the itinerary and rules, and do a quick round of introductions.

*6.00p – Leave our hotel lobby to walk to the Markthal for our welcome dinner*

*Address: Dominee Jan Scharpstraat 298, 3011 GZ Rotterdam*

*6.30p to 8.30p – Group welcome dinner*

*Hotel: Haven Hotel Rotterdam, Curio Collection by Hilton*

*Address: Leuvehaven 77, 3011 EN Rotterdam, Netherlands*

## **MONDAY (13 April) – Rotterdam**

*8.45a – Make sure you are checked out of your room, and your bags are on the bus.*

*9.00a – Leave the hotel lobby and board our bus for a 45 minute drive to the Port of Rotterdam*

*Address: Portlantis, Pr. Máximaweg 301, 3199 KG Maasvlakte Rotterdam*

*10.00a to 10.45a – Introduction to the Port of Rotterdam*

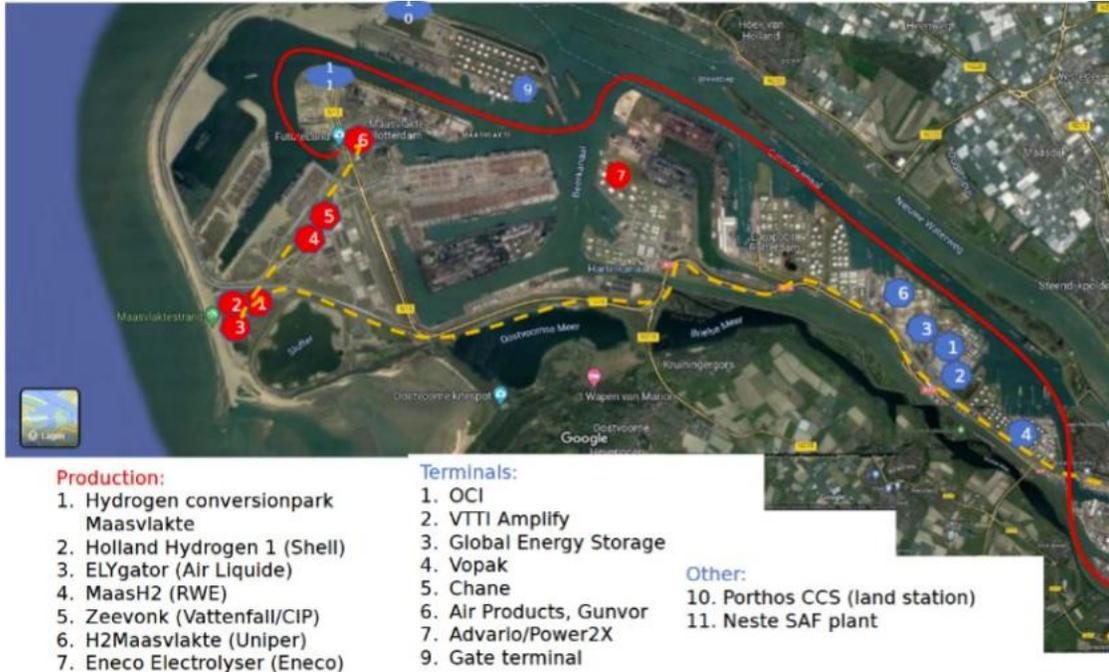
Rotterdam aims to be an international hub for the production, import, and transport of hydrogen and hydrogen carriers such as ammonia and methanol to countries throughout Europe. Dozens of projects are planned or already under construction there to achieve this goal, including several large (200 MW +) electrolyzers, carbon capture and sequestration facilities, storage facilities for hydrogen, green ammonia, and CO<sub>2</sub>, sustainable aviation fuels refineries, and a 19-mile, high-pressure hydrogen backbone pipeline that runs through the Port of Rotterdam and connects all of the providers and users. to enable industrial decarbonization (see <https://www.portofrotterdam.com/en/news-and-press-releases/hydrogen-system-taking-shape#HH1>). The Port's goal is to be able to produce 2 to 2.5 GW of green hydrogen on-site by 2030.

The **Porthos CCUS facility** will receive CO<sub>2</sub> from industries in the Port of Rotterdam and transport it to be stored in depleted gas fields under the North Sea. The companies supply their CO<sub>2</sub> to a collecting pipeline of over 18 miles that runs through the Rotterdam port area. The CO<sub>2</sub> is pressurized at a compressor station and then goes by subsea pipeline to a platform in the North Sea, about 12 miles offshore, where it is injected into depleted gas fields. Porthos will store about 41M tons of CO<sub>2</sub>, which is about 2.8 M tons of CO<sub>2</sub> per year for 15 years.

Contact info: Patricia Chase: +1.206.349.4904 | Jayson Antonoff: +1.206.354.2278

### 10.45a to noon – bus tour of the Port of Rotterdam

We will be driving through the Maasvlakte portion of the Port by bus to see some of the projects now underway, stopping at opportune points to get better views and hear more details about specific projects.



Noon to 1.30p – lunch

Address: TBD

### 1.30p to 3.00p - Tour of Neste SAF Renewable Products Refinery

Address: MV, Antarcticaweg 185, 3199 KA Maasvlakte Rotterdam, Netherlands

Neste's refinery has been modified to produce up to 500,000 tons of Sustainable Aviation Fuels (SAF) per annum, with plans to increase production capacity to 2.7 M tons of renewable products annually, making the refinery the world's largest facility producing renewable diesel and SAF. Neste supplies SAF Alaska Airlines, particularly for flights out of San Francisco International Airport (SFO), through a 4-year offtake agreement, and has provided Boeing with millions of gallons of blended SAF to support its U.S. commercial airplane operations.

### 3.00p to 6.00p – Travel by bus to our hotel in Groningen

Address: The Market Hotel Groningen– Grote Markt 31, 9712 HS Groningen

### 6.45p – Leave the hotel lobby to walk to our dinner restaurant

Address: TBD

Contact info: Patricia Chase: +1.206.349.4904 | Jayson Antonoff: +1.206.354.2278

## **TUESDAY (14 Apr) – Groningen, Netherlands**

Groningen, located in the northern Netherlands, sits atop Europe's largest natural gas reserve, which has long served as a primary energy source for the Netherlands and much of Western Europe. Historically, this region was one of Europe's most important centers for natural gas production and distribution. However, as the Netherlands phases out natural gas production, existing extraction and purification facilities are being decommissioned.

In response, the region has committed to becoming the Green Hydrogen Capital of Europe, driving the transition from gray to blue and ultimately to green hydrogen in production, distribution, and utilization. This effort is being led by the New Energy Coalition, which coordinates the HEAVENN project, that established the Hydrogen Valley in the northern Netherlands. We will be meeting with several organizations that are part of this initiative.

*8.45a – Make sure you are checked out of your room, and your bags are on the bus.*

*9.00a to 9.30a – Travel by bus to Gasunie*

*Address: Concourslaan 17, 9727 KC Groningen*



*9.30a to 11.00a – Meeting at Gasunie*

Gasunie is a major gas distribution utility in the Netherlands and the northern part of Germany, and is responsible for managing and maintaining the infrastructure for large-scale transport and storage of gas. Although currently this network is primarily serving natural gas, Gasunie is now developing a national hydrogen network, with an initial focus on connecting industrial clusters and facilitating both onshore and offshore hydrogen transport. The company is also involved in international connections and aims to establish the Netherlands as a key hydrogen hub. The Ministry of Economic Affairs and Climate commissioned Gasunie to build a network to ensure that industry has access to hydrogen as a cleaner form of energy. Gasunie subsidiary Hynetwork will be converting around 80 miles of natural gas pipeline and laying another 50 miles of new pipeline, with work expected to be completed by the end of 2027.

The presentation will focus on the development and challenges in building out a hydrogen network, and will highlight some of Gasunie's projects related to hydrogen import, hydrogen storage, and offshore hydrogen.

*11.00a to 11.30a – Travel by bus to the New Energy Academy*

*Address: Nijenborgh 6, 9747 AG Groningen, Netherlands*

*11.30a to 12.30p – Meeting with New Energy Coalition*

The New Energy Coalition, housed at the New Energy Academy, leads the HEAVENN project, which has established the Hydrogen Valley in this portion of the Netherlands. This region was historically one of the most important centers for the production and distribution of natural gas in Europe, but existing extraction and purification installations are being closed down as a result of the phasing out of natural

Contact info: Patricia Chase: +1.206.349.4904 | Jayson Antonoff: +1.206.354.2278

gas production in the Netherlands. The Coalition is looking at opportunities for reuse of this infrastructure to create sustainable energy hubs.

The New Energy Coalition is also helping to lead the H2CoVE project, which focuses on the practical skill sets and training pathways that workers will need in the hydrogen economy. The project team conducted research to identify specific regional skill needs and is now working with educational institutes to develop specific educational courses across the MBO and HBO levels (equivalent in the US to a Vocational High School diploma, a community college associate degree, and a bachelor's degree).

*12.30p to 1.15p – quick lunch at We Go On (Zernike Food Court), a five-minute walk from the New Energy Academy*

*Address: Landleven 12, 9747 AD Groningen, Netherlands*

*1.15p to 1.30p – Walk to the DNV Technology Center*

*Address: Plus Ultra Groningen - Zernikelaan 14, 9747 AA Groningen (Zernike Campus)*

*1.30p to 3.00p – DNV Technology Center*

The specialists at DNV's Technology Centre in Groningen have strong capabilities within a broad range of fuel types including renewables such as biogas, hydrogen and (bio-)LNG. The Centre works on the full-scale implementation of hydrogen as a fuel for industries and households and assists clients in understanding the challenges when converting pipelines, distribution infrastructure and end use equipment such as burners, engines and domestic appliances from natural gas to hydrogen.

*3.00p to 6.00p – Free afternoon to explore Groningen*

Groningen is a vibrant university city known for its youthful energy and rich culture. Visitors love exploring the historic city center with its Martinitoren tower, charming canals, and lively markets. The city combines classic Dutch architecture with modern design, like the striking Groninger Museum. With its bike-friendly streets, cozy cafés, and active arts scene, Groningen offers a perfect mix of tradition and contemporary urban life — all within easy walking distance.

Our bus will drop you off near the center of the city, where you are free to roam this delightful town for a few hours before we drive to our next stop.

Please make sure you are at our rendezvous spot on time for our 6.00p departure! We will be serving a delicious, traditional Indonesian dinner on board the bus.

*6.00p to 8.30p – Travel by bus to our hotel in Bremen*

*Address: Atlantic Grand Hotel – ATLANTIC Grand Hotel Bremen, Bredenstraße 2, 28195 Bremen, Germany*

Contact info: Patricia Chase: +1.206.349.4904 | Jayson Antonoff: +1.206.354.2278

## **WEDNESDAY (15 Apr) – Germany to Southern Denmark**

*8.15a – Make sure you are checked out of your room, and your bags are on the bus. We will have a long bus ride today, so it's a good idea to keep out anything you might want to access to catch up on work or reading.*

**You must wear closed-toe shoes today for the afternoon site visit!**

*8.30a to 12.00p – Travel by bus to Sønderborg, Denmark 12.00p to 1.15p – lunch at Augustenborg Garden, Sønderborg*

*Address: , Palævej 9, 6440 Augustenborg, Denmark*

*1.15p to 1.30p – Travel by bus to the Glansager biogas plant*

*Address: Shell Glansager Biogas – Glansager 4C. DK-6400 Sønderborg*

*1.30p to 3.00p – Tour of the Glansager biogas plant*

Shell's biogas plant in Glansager is the first in the world to commercially increase the production of biogas via electrolysis and biological methanation. An electrolyzer plant converts excess electricity from the sun and wind into hydrogen that is fed into Shell's methanation plant where it is combined with CO<sub>2</sub> to form e-methane, thereby increasing biogas production from the existing biogas plant and reducing the amount of CO<sub>2</sub> released.



**Shell**  
**Low Carbon Solutions**

Biogas

*3.00p to 3.15p – Travel by bus to Fynshav Havn ferry terminal*

*Address: 6230 Rødekro, Denmark*

*4.00p to 4.45p – Travel by ferry to Bøjden*

*4.45p to 5.15p – Travel by bus to our hotel, Hotel Faaborg Fjord*

*Address: Svendborgvej 175, 5600 Faaborg, Denmark*

*7.00p to 8.30p – Group dinner at our hotel (TBD)*

## **THURSDAY (16 Apr) – Odense and Copenhagen**

*8.15a – Make sure you are checked out of your room, and your bags are on the bus.*

*8.30a to 9.15a – Travel by bus to META data center in Odense*

*Address: M. P. Allerups Vej 57, Odense, Denmark*

*9.30a to 11.00a – Site visit at the META data center*

Contact info: Patricia Chase: +1.206.349.4904 | Jayson Antonoff: +1.206.354.2278

META's data center was located and designed with heat recovery in mind from the outset. Fjernvarme Fyn, the local district energy utility, uses their facility adjacent to the data center to recover the low temperature heat generated by the thousands of servers and delivers this heat for free to the community. The goal is to recover and donate 100,000 MWh of energy annually from the servers — enough to warm 11,000 homes.

*11.00a to 1.00p – travel by bus to Copenhagen*

*Address: State of Green, Vesterbrogade 1E, 1620 København, Denmark*

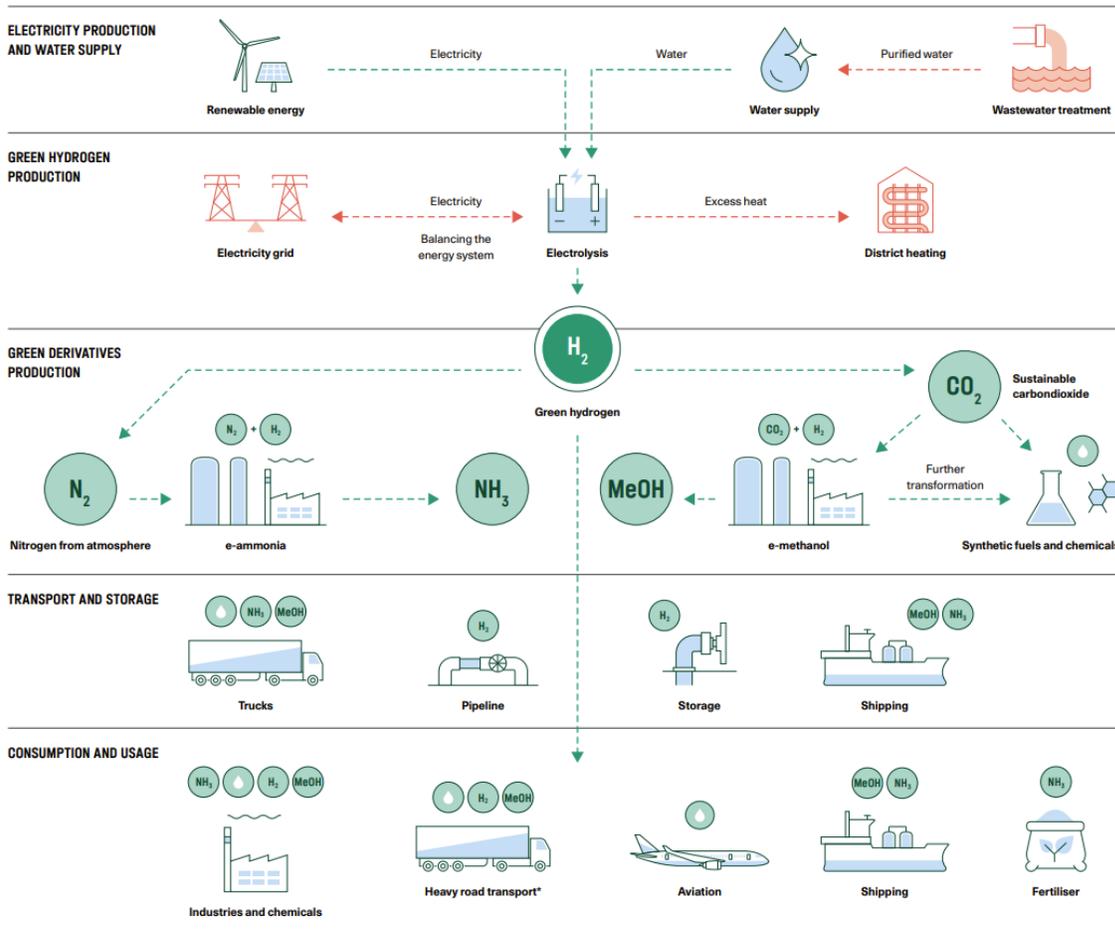
We will be serving a brown bag lunch on board the bus

*1.30p to 3.30p – Series of meetings at State of Green*

This is a locked facility. You must be at the front door with the group by 1.20p to be let in for our meetings.

Contact info: Patricia Chase: +1.206.349.4904 | Jayson Antonoff: +1.206.354.2278

1.30p to 2.30p - State of Green/Danish Energy Agency - Biogas, PtX and Green Hydrogen Initiatives



Denmark’s Green Transition has been a fifty-year story of embracing sustainable energy solutions through public-private partnerships, broad political agreements, strong research and development and a private sector bold enough to take action at an early stage. The State of Green is a not-for-profit, public-private partnership – working with both the Danish Government and the leading business organizations in Denmark to facilitate this transformation.

The Danish Energy Agency, established in 1975, is an agency of the Danish Ministry of Energy, Utilities and Climate and Energy. It is responsible for activities related to energy production, supply and consumption, as well as Danish efforts to reduce carbon emissions. This includes responsibility for the regulations regarding government subsidies and other support for sustainable biogas and hydrogen production. The Agency will discuss how the government’s policies have accelerated the

Contact info: Patricia Chase: +1.206.349.4904 | Jayson Antonoff: +1.206.354.2278

growing biogas economy, and will provide an overview of climate goals and government policies related to green hydrogen production through Power to X (PtX).

Biogas (also referred to as RNG) is a methane-containing gas produced during the anaerobic decomposition of organic residues and waste products. It plays an important role in the green transition, as it can be upgraded to biomethane which can directly replace the use of fossil natural gas. The share of biogas in the Danish gas system was almost 40 percent in 2023, and by 2030, Denmark aims to rely 100% on green gas (both biomethane and biogas).

PtX covers several technologies, all of which are based on converting water into hydrogen through electrolysis. The hydrogen can then be combined with nitrogen or CO<sub>2</sub> to produce green e-fuels such as ammonia, methanol or kerosene. The Danish Energy Agency views PtX as an important piece in meeting the government's goal of climate neutrality by 2045, as PtX fuels can be used to serve energy intensive sectors that are historically challenging to electrify - such as heavy industries like steel manufacturing or cement production; aviation and maritime transport; and agriculture.

### 2.30p to 3.30p – Meeting with Dansk Metal

Dansk Metal is the union that represents the metal workers in Denmark, with workers in automotive, IT, telecommunications, construction, aviation, and other industries. Dansk Metal is also building new homes – including student and dormitory housing, as well as apartments – at the Sydporten in Copenhagen, where members of Dansk Metal have the first right to rent. The union represents many of the workers who are key to the growth of the green economy in Denmark. We will be hearing about their initiatives to provide training and workforce development for these critical skills. In May of 2025 Dansk Metals president Claus Jensen was announced as the most influential person in Denmark, illustrating the important role that labor unions play in Denmark.



### 3.30p to 4.00p – Travel by bus to Copenhill

*Address: Vindmøllevej 6, 2300 København, Denmark*

The Happy Hour at Copenhill is optional. If you don't want to attend, the bus will take you to our hotel immediately after dropping the others off at Copenhill.

### 4.00p to 5.00p – Happy Hour at Copenhill (optional)

Contact info: Patricia Chase: +1.206.349.4904 | Jayson Antonoff: +1.206.354.2278

Amager Bakke, also known as Copenhill, is combined heat and power, waste-to-energy plant and recreational facility, within view of the city's downtown. It is the world's cleanest and most advanced waste processing plant, comfortably outperforming the EU's standards for best practice. The plant is currently working toward achieving carbon neutrality, with a carbon capture demonstration plant that captures up to 4 tons of CO<sub>2</sub>/day. Although we won't be touring the waste management and energy production aspects of the plant, the building itself demonstrates how an industrial facility, typically designed to be hidden from public view, can be sited close to an urban center and provide important public amenities. The roof of the building is an urban ski slope, with its own lift system and covered with green artificial snow mats, while the exterior wall contains the tallest artificial climbing wall in the world, at more than 250 feet high. These recreational components, as well as the 10 hiking trails, are used by an estimated 40 to 60 thousand visitors annually. Our happy hour will be at the Café Copenhill, at the top of the building, which provides sweeping views of Copenhagen and the surrounding areas. Seating is outdoors so, depending on weather conditions, you may want to dress warmly!



*5.00p to 6.30p – Work your way back to our hotel*

*Address: Copenhagen Island, Kalvebod Brygge 53, 1560 København, Denmark*

Our bus will be available for anyone who would like a ride directly to our hotel. If you prefer, and have the energy, it's a very scenic walk of about 3.5 miles (about an hour and a half) to our hotel, meandering along the waterfront and passing through the older sections of the city, including Freetown Christiania, a bohemian haven on the outskirts of Copenhagen (see <https://www.ricksteves.com/watch-read-listen/read/articles/copenhagens-christiania-just-another-brick-in-the-wall>).

The bus will have already dropped off everyone's luggage at our hotel, so your bags should be waiting for you when you arrive there.

*7.00p – Leave the hotel lobby to walk to our casual dinner restaurant*

*Address: TBD*

Contact info: Patricia Chase: +1.206.349.4904 | Jayson Antonoff: +1.206.354.2278



## **FRIDAY (17 Apr) – Copenhagen**

We will be staying at our hotel for a second night, so no need to pack your bags today!

*9.00a to 9.30a – Travel by metro to The Mærsk McKinney Møller Center for Zero Carbon Shipping  
Address: Marmorvej 8, 2100 København, Denmark*

We'll depart from the hotel lobby at 9.00a and then walk a few minutes to the nearby Havneholmen metro station. Then we take the M4 metro toward the Orientkaj station for 7 stops, getting off at Nordhavn. From there it's another 10-minute walk to our destination.

We will be providing all day metro passes for everyone.

With its unique harbor position and an area covering the size of 625 football grounds, Nordhavn (North Harbour in English), where we will be spending our morning, is Scandinavia's largest and most ambitious city development project in recent times. The vision is to transform the old port area into an attractive and sustainable city of the future. Nordhavn has set the standard for environmental, social, and sustainable development – both in Denmark and internationally. Nordhavn is the only new urban district globally to receive [DGNB's highest gold certification for sustainability](#). Nordhavn was designed as a "5-minute city" so people can reach shops, institutions, workplaces, cultural facilities, and public transport within 5 minutes' walk from any point in the district, while providing the opportunity for 40,000 people in Copenhagen to have nature at their doorstep – right in the center of the city. It also was designed as a CO2-neutral urban area, accommodating energy forms such as district cooling, district heating, and geothermal energy, while solar cells provide electricity. A geothermal energy plant will deliver low-carbon heat to Nordhavn and parts of the nearby Østerbro city district, and the world's biggest heating storage facility will store surplus heat in the summertime which can be released when needed in the wintertime.

Contact info: Patricia Chase: +1.206.349.4904 | Jayson Antonoff: +1.206.354.2278

### *9.30a to 10.30a – The Mærsk McKinney Møller Center for Zero Carbon Shipping (MMMCZCS)*

Originally founded by Maersk Shipping, MMMCZCS is now an independent research and development center looking to accelerate the transition towards a net-zero future for the maritime industry. The Center combines deep specialist knowledge with an industry wide perspective through strong partnerships. They drive the development of the needed technological solutions and provide strategic guidance. R&D activities are structured to support the need for technological advancements as they assess the individual solutions, their gaps and risks to increase transparency and de-risk decision making.

### *10.30a to 11.00a – Walk about 1 mile to Bjarke Ingels Group (BIG) headquarters*

*Address: Sundkaj 165, 2150 København*

### *11.00a to 12.30p – Ground source heating and cooling at BIG*

Ground source heating and cooling systems (geothermal systems) take advantage of the relatively constant temperatures beneath the earth's surface - this constant earth temperature is higher than average winter temperatures, and lower than average summer temperatures. At the BIG headquarters building a Pile Thermal Energy System (PTES), designed by Energy Machines, uses energy piles to transfer the ground temperature to the heat pumps that serve the building's heating and cooling system. Energy piles are specially manufactured concrete foundation piles equipped with energy storage capabilities. BIG's 50,000 sf headquarters stands on 222 energy piles, each about 50 feet deep. With this system, 84% of the building's heating and 100% of cooling is derived from renewable energy.



### *12.30p to 1.00p – Walk back 0.5 mile to our lunch restaurant in Nordhavn*

*Address: Wulff & Konstali – Århusgade 130, 2150 København*

### *1.00p to 2.00p – Lunch at Wulff & Konstali*

### *2.00p to 5.30p – Free afternoon to explore Copenhagen*

You are free to roam the streets of Copenhagen, but are responsible for getting back to the hotel in time for our afternoon debrief meeting.

### *5.30p to 6.30p – Mandatory debrief meeting at our hotel*

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We'll use this time to discuss what we saw during the week, its significance, its relevance to our own region, and potential next steps. Participation in this meeting is mandatory for all scholarship recipients, in order to receive your travel reimbursement.

*7.00p – Leave the hotel lobby for our farewell group dinner*

*Address: TBD*

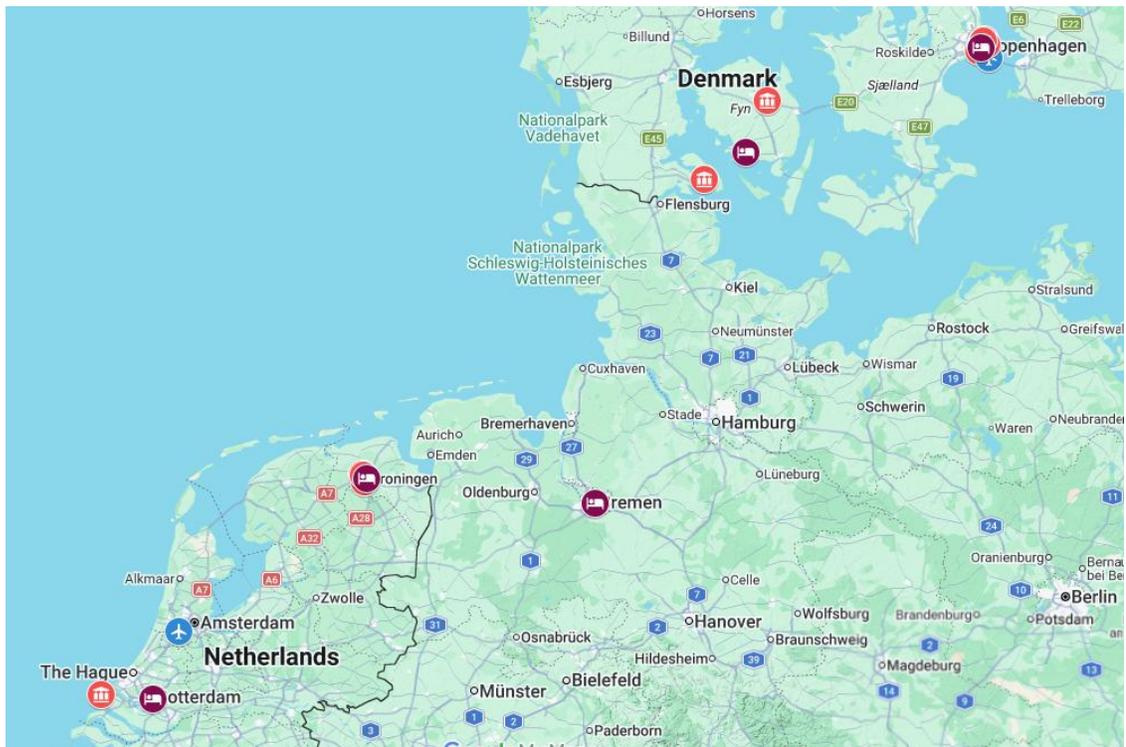
## **SATURDAY (18 Apr) - Departure**

Our i-SUSTAIN program is over!

### *Getting to the airport*

The easiest way to get to Copenhagen Kastrup Airport is by Metro, which takes about 30 minutes. Simply walk to the Havneholmen Metro Station, about 10 minutes away, and then take the M4 Metro toward Orientkaj for 4 stops to the Kongens Nytorv Station. From there it's a quick transfer to the M2 Metro toward Københavns Lufthavn for 8 stops, where you will arrive right at the airport terminal.

Click [here](#) to go to an interactive, on-line map with labels for all the places we will be visiting.



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