

NWP Member Tours | 16 – 23 May 2022



NWP Member Tour Dunea

Date: 16 May 2022

Location: Scheveningen

Theme: Drinking water

Dunea supplies drinking water to 1.3 million customers in The Hague and surroundings (southwest Netherlands), using a managed aquifer recharge scheme installed in the coastal dunes in the 1950s. Pre-treated river water is infiltrated in the coastal dunes and pumped up again after six weeks for the production of drinking water. Population is growing and thus water demands are increasing, urging Dunea to develop alternative water resources.

One of the options is the use of brackish groundwater for drinking water production. Brackish groundwater is an excellent feed water for (low-pressure) reverse osmosis membranes, and can be desalinated at acceptable (energy) costs. Extracting brackish groundwater below the freshwater lens in the coastal dunes has a second advantage: deep-well extraction causes hydraulic (groundwater) heads to decrease, resulting in a downward shift of the fresh-brackish groundwater interface and an effective growth of the freshwater lens. Brackish groundwater may thus provide an additional water source and extraction may result in an effective increase in Dunea's strategic fresh groundwater reserves. These combined benefits of brackish water abstraction are referred to as the Freshman concept.

To investigate the potential and optimization of the Freshman concept, a field pilot has been set up at Dunea's primary drinking water production site in the coastal dunes of The Hague. For the pilot, a multi-screened abstraction well for brackish groundwater has been installed, along with an additional abstraction well for fresh groundwater, multiple monitoring wells, and a facility for collection and desalination of the abstracted brackish groundwater. The pilot will run for three years (2022-2024). The pilot will be used to better characterize the hydrogeology, increase our understanding of fresh-brackish groundwater interactions, validate model results, and to gain operational experience with brackish water desalination. Based on the results of the field test and follow-up modelling studies, Dunea will decide whether brackish groundwater indeed is a feasible drinking water source for the near future.

Time	Program
9.00 - 9.30	Welcome
9.30 - 10.00	Presentations
10.00 - 11.30	Tour site visit Dunea
11.30 - 12.30	Networking opportunity

Register:

<https://www.netherlandswaterpartnership.com/events/nwp-member-tour>

NWP Member Tour Elemental Water Makers

Date: 16 May 2022

Location: Scheveningen

Theme: Drinking water from the Sea using Solar energy

You are invited to visit the facilities of Elemental Water Makers in the harbour of The Hague. Elemental Water Makers was founded in 2012 to solve water scarcity using only the sustainable resources of the sea and sun. Their awarded technology turns seawater into clean water using only solar energy and is operational in over 25 countries. At their offices in The Hague, they develop, design and built solar desalination projects that are used by communities, resorts, industries, private properties and municipalities in water-scarce countries. During the tour, you will learn more about the technology and projects of Elemental Water Makers, as well as get to taste freshwater made from the North Sea during a visit to a demo system. Last but not least there will be an opportunity to savour a 270-degree view of the coastline on the roof terrace while enjoying more than just water.

www.elementalwatermakers.com

Time	Program
13.00-13.30	Welcome
13.30-14.15	Presentation Elemental Water Makers
14.15-15.00	Tour site visit: Drinking water from the sea via Solar energy
15.00-16.00	Networking opportunity

Register:

<https://www.netherlandswaterpartnership.com/events/nwp-member-tour>

NWP Member Tour WaterCampus Leeuwarden

Date: 18 May 2022

Location: Leeuwarden

Theme: R&D and Innovation in the water technology sector

WaterCampus Leeuwarden is the physical core of the Dutch water technology sector and has the ambition to play a sector uniting role for the rest of Europe as well. WaterCampus stimulates cooperation between (inter)national businesses, knowledge institutes and governments within the water technology sector, in order to create synergy for world class innovation, education and entrepreneurship. This strengthens the global position of the European water technology sector. Additionally, WaterCampus offers a unique research infrastructure, and is a meeting point for scientists and companies from all over the world.

You will visit the various WaterCampus facilities, such as the Water Application Centre and Wetsus research facilities.

Water Alliance

Water Alliance is a unique partnership of public and private companies, government agencies and knowledge institutes involved in the Dutch water technology. We focus on innovative and sustainable water technology that can be used worldwide and support small and medium sized enterprises in the water technology industry in terms of (international) matchmaking, networking and business development.

Water Alliance is based at WaterCampus Leeuwarden, the Netherlands. The WaterCampus is an innovation eco-system, which brings together a complete chain of innovation for water technology, from first ideas to research & development, specialized laboratories, a water application centre and various demo sites to launching customers and ultimately tangible business. We help companies to find the best way through the innovation chain to cover their needs and speed up their developments.

www.wateralliance.nl

Wetsus

Wetsus, European centre of excellence for sustainable water technology, is a facilitating intermediary for trend-setting know-how development. Wetsus creates a unique environment and strategic cooperation for development of profitable and sustainable state of the art water treatment technology. The inspiring and multidisciplinary collaboration between 106 companies and 25 EU research institutes in Wetsus results in innovations that contribute significantly to the solution of the global water problems.

Wetsus is located in Leeuwarden, The Netherlands. Wetsus' scientific research program is defined by the private and public water sector and conducted by leading universities.

www.wetsus.nl

Water Application Centre

The Water Application Centre (WAC) is a fully equipped technology centre where companies, research institutions and other organizations can conduct research on water technological applications. The WAC offers the following facilities: • A research hall with supply of various types of water and gasses available • Chemical and microbiological laboratories • General and specialist laboratory instruments • A workshop • Office facilities.

Enjoying a close cooperation with the Centre of Expertise Water Technology (CEW) there is an optimal connection with highly motivated students who can conduct research on behalf of businesses.

www.waterapplicatiecentrum.nl/

Time	Program
10.00-10.30	Welcome
10.30-11.00	Welcome NWP & WaterCampus
11.00-13.00	Tour site visits (2 groups)
12.30-13.30	Networking opportunity

Register:
<https://www.netherlandswaterpartnership.com/events/nwp-member-tour>

NWP Member Tour RDM campus & IcDuBo

Date: 20 May 2022

Location: Rotterdam

Theme: Sustainable Urban & Port Development / Climate Adaptative Development

RDM Campus in Rotterdam was developed at the old factory grounds of the Rotterdamsche Droogdok Maatschappij, where many large ships were built (and launched), including some of the larger passenger cruise vessels of the glory days of ocean travel. Now, RDM stands for Research Design and Manufacturing – and offers a space for companies, academic and research institutions to collaborate on topics of sustainable and climate-adaptive development. Companies meet educators meet students for the common purpose of propelling the manufacturing industry in the Rotterdam region and contributing to the regional growth and future (responsible and sustainable) development of both port and city.

Tour stops will include Instructiekas Watermanagement en AquaLab, Meet-and-greet with Studenten Community of Practice Hoogwaterveiligheid, Floating development & construction (with Pieter Figdor (Drijvend Paviljoen) and Peter van Wingerden (Floating Farm).

IcDuBo: The Innovation Centre for Sustainable Building (in Dutch; Innovatie Centrum Duurzaam Bouwen = ICDuBo) links between government, education institutions and industry and forms an inspiring, central platform with a permanent, dynamic exhibition of all possible sustainable, innovative building products. Manufacturers are able to present their sustainable products and to conduct experiments in the ICDuBo.

The Innovation Centre for Sustainable Building

- forms the sustainable platform for the building industry with the ambition to exchange knowledge and to stimulate sustainable, innovative applications
- focus on (improving) the cooperation between government, education- and research institutions and the industry
- is the link between sustainable theory and building practice
- stimulates innovation and is an engine of economic growth

www.rdmrotterdam.nl | www.icdubo.nl

Time	Program
12:45 – 13:00	Welcome
13.00 - 15.00	Innovation Tour RDM Campus
15.00 – 16.30	Site Visit IcDuBo
16.30 - 17.00	Networking opportunity

Register:

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NWP Member Tour Dutch Energy from Water Association (EWA)/HZ

Date: 23 May 2022

Location: Vlissingen

Theme: Water and Energy, powering the future with water

You are warmly invited to witness how the future can be powered with water. As a member of NWP you have the chance to visit a brand new tidal stream turbine in the port of Vlissingen and a large-scale lab facility for pumped-hydro storage simulations.

This day is organized together with the Dutch Association for Energy from Water (EWA), a recent NWP member. Since 2010 the association represents members working on hydropower, wave, tidal, OTEC and Salinity Gradient power solutions. As a growing open community of more than 300 people, EWA builds experiential knowledge. It makes sure the common interests of its members are well represented. The association raises awareness and increases visibility of Dutch solutions for energy from water to stakeholders, export markets, public bodies and citizens. EWA influences legislation and regulations, funding and policy.

Monday 23rd you will get the opportunity to meet with members of EWA. They will share their vision about solutions for the energy transition and how we can become more self-reliant on our energy needs. You will visit a new pilot project realised by Water2Energy as part of the INTERREG ENCORE project, in the port of Flushing (Vlissingen). Here, a vertical axis tidal stream turbine is installed in a discharge channel. You will also visit a unique large-scale lab facility for pumped-hydro storage simulations at the HZ University of Applied Sciences. The facility is part of the "Playing with Currents" project.

www.energieuitwater.nl | www.hz.nl

Time	Program
10.00-12.30	EWA ALV (EWA members only)
13.00-13.45	Welcome EWA and NWP members
13.45-14.10	"Playing with Currents", Jacob van Berkel, HZ
14.10-14.30	Tour HZ lab pumped-hydro storage and generation
14.30-15.00	Four quick-fire pitches by EWA members on wave and tidal solutions
15.00-15.30	Walk to discharge channel in the Port of Flushing
15:30-16:30	Visit pilot project Water2Energy

Register:

<https://www.netherlandswaterpartnership.com/events/nwp-member-tour>



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Visiting address
Bezuidenhoutseweg 2
2594 AV The Hague
The Netherlands

Postal address
P.O. Box 82327
2508 EH The Hague
The Netherlands

+31 (0)70 304 37 00
info@nwp.nl
netherlandswaterpartnership.com
dutchwatersector.com

Chamber of Commerce: 27186453
VAT number: NL808998183B01
IBAN: NL95 RABO 032 31 95 555