DUAL Ports News

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12. edition of DUAL Ports News
Editor: Wim Stubbe, Lead partner / Josephine Petersen, Communication Officer

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Foreword

Waving 2020 goodbye

2020 has been an inhuman year for entrepreneurs and artists. 2020 has been a dangerous year for fundamental human rights. Populists and politicians have been constantly looking for scapegoats, while they have walked their mink coats with the blessing of an invisible power. 2020 has been a champagne year for speculators, prophets of fake doom and managers. The worshipping of the Holy Umbrella and the

instauration of a tsunami of paper procedures have been blossoming in the light of the drones that enlighten the empty streets of Europe.

2020 has been a tough year for transnational cooperation. The exchange of views and the in depth analyses have been replaced by the compressed video-platforms, whereby everyone could enjoy his/her 5 minutes of internet fame. Human interactions and open conversations were no longer an option. Socrates turns around in his grave, as well as Carl Jacobsen and his father Jacob Christian Jacobsen. The best ideas are still born on the bottom of a beer glass.

2020 has been a promising year for the energy transition. The European Commission has been constructing some of the foundations for greening our societies and industries. But presenting high ambitions is not enough. There will only be food on the table in the winter if the work at the fields can be done in the summer. The drive for innovation within our SME's is very much present, but very fragile. And they need the financial and entrepreneurial support in order to pass the valley of death, as well as strong networks to test their products before entering their markets. The battle is not won. Networking has become a cyclocross track, where only bikes with one wheel are allowed. And the opposition from the global industries is fierce.

2020 has been a promising year for the recognition of the diversified role of the ports in the world of sustainability. Ports are no longer these fossil rocks, that have taken away a stretch of the beach, moving boxes from one side of Europe to the other side. Several policy documents of the European Commission underline the multifunctional role of the ports and the port communities today. Together with the shipowners and industrial partners, ports are not only organising the logistic operations, but they also play an active role in the energy transition. This can go from facilitating bunkering-operations for zero emission fuels, to the set-up of plants to produce these kind of fuels. Also in the fields of waste-treatment and circular economy, the ports play a prominent role. And finally, some ports take a leading role in the development of the blue industry.

Let's put the tasty food and wines of 2020 in our backpacks before taking the road to 2021. Let's work on the restitution of our human rights and duties. And let's work on the reconstruction of our networks with an open and entrepreneurial mindset. The roads in 2021 will be steep and promising.

Wishing you all inspiring celebrations at the end of the year 2020 and a soft landing in 2021.

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Offshore wave technology today and tomorrow

Ocean waves is an abundant yet untapped renewable energy source. Wave energy potential was assessed in a number of studies and has gone from 17 TWh/year based on a study done in 2007 to 92 PWh/year given in another study from 2016. This energy can be available at coastal areas where about 50 percent of the world's population lives. For example, according to the International Energy Agency, world total electricity final consumption in 2018 reached 22.3 PWh.

Specially invented devices, called wave energy converters are used to capture energy from waves and to convert it to a useful electrical power. The history of development in wave energy field continued for more than 200 years. The first patent on a wave

energy converter was registered in 1799 by Girard & Son in France. A new era for wave energy area started in the second half of the 20th century. First commercial WECs were used in observation buoys in Japan and later in USA from 1965. An active wave energy development started in 1970s due to the oil crises and was renewed in 1990s due to climate change and global warming. So far, almost 200 different concepts have been proposed, all of them are different in way they interact with waves, transmit this motion to a generator, different types of generator, electric power transmission, etc.

Despite a long history of wave energy development, wave energy sector is not fully mature yet and can be considered as emerging. While some of the projects and concepts have become a history (TapChan, Wavedragon, LIMPET, Pelamis, Aquamarine Oyster and some others), new technologies are getting more attention and continue active development: CorPower, OE Buoy Ltd, WaveRoller, Wello, Wavepiston, Floating Power Plant, Seabased, Eco Wave Power and many others. Some of them have reached relatively high technology readiness level and have been demonstrated at a full scale in real offshore environment, others are still at a lower technology readiness level and have been tested in a smaller scale or in a protected / controlled environment.

The Offshore Renewable Energy Policy recently announced by the European Commission promotes not only offshore wind (bottom-fixed and floating) but also other ocean energy technologies among which wave energy technologies are included. The motivation is that the European companies working with, particularly, wave energy technologies are currently the forefront and have a potential to contribute to the future renewable energy system by 2050. 40 GW of ocean energy will complement offshore wind by 2050.

Ports are an integral part of global trade and commerce which are known for operating and handling large scale operations which consume sizeable amounts of energy. Port authorities and terminal operators are constantly looking for ways to reduce their fuel bills and carbon footprint. Wave energy converters placed in a proximity of ports or integrated in port infrastructures such as breakwaters can help to produce renewable energy for port needs.

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Transnational cooperation

DUAL Ports Hydrogen Fact Finding Tour 2020

At the end of June 2020, a team of Dual Ports partners participated in a fact-finding

tour through Denmark, where they visited several companies involved in the hydrogen industry.

Today, green hydrogen is promoted as one of newer CO2-friendly fuels to be implemented in the shipping industry. More and more different types of ships are considering hydrogen propulsion or the installation of hydrogen fuel cells. From a port perspective, working with this new type of fuel is a challenge but also an opportunity to create new businesses, whereby the ports can play a multiple role. Not only can the port become a storage and bunkering station for green hydrogen, but it can also take up a role in the distribution of green hydrogen and in the production, insofar renewable energy sources are availabe in the neighbourhood.

The fact-finding tour was launched at the port of Hvide Sande. Considering the different sources of renewable energy that are available within the port (wind, solar, wave), the port and the District Heating company are to use the surplus energy for the production of green hydrogen within the scope of grid balancing. Next to the port and the district heating is also the Hvide Sande shipyard committed to build a hydrogen-powered dredging vessel that can be used within the port of Hvide Sande in order to guarantee the maritime accessibility.

The next stop on the tour was the Hy-balance plant in Hobro, a production plant for green hydrogen, that has been realized with European funding. The plant is the result of a cooperation between Hydrogen Valley, Air Liquide, Hydrogenics, Ludwig-Bölkow-Systemtechnik and Centrica. The plant manager gave the delegation a clear insight in the whole value chain of production, storage and distribution of green hydrogen. As to electrolyser, PEM (Polymer electrolyte membrane) technology is used. The whole plant is monitored 24h/24h and 7/7. The fragility of some of the components causes a lot of headaches for the plant manager.

From Hobro, the delegation drove up to Aalborg, where the operation of the hydrogen fuelling station for busses was explained by the project managers, active at the university of Aalborg. The city of Aalborg took 3 hydrogen-powered busses into service in March 2020. The use of these busses will save approximately 60,000 liters of diesel per year and reduce the CO2-emissions by 131 tons annually. In order to produce the necessary green hydrogen, an alkaline electrolyser is used in the plant. Also this pilot project is partly financed by the European Union.

The next was Blue World Technologies, situated at the port of Aalborg. Blue World Technologies is a Danish-Chinese joint venture, where methanol fuel cells are produced in order to replace the traditional combustion engines in cars. Fossil free methanol can be produced through a synthesis of green hydrogen and CO2. According to the managers of the company, the use of methanol fuel cells has a lot of advantages: contrary to electric cars, it can execute a normal travelling range of 1000 kilometers; the refuelling time is very quick, there is a significant fuel cost saving (30% and more) and there are zero harmful emissions. Also the storage of liquid methanol is much easier than the storage of hydrogen. For the production of the hydrogen, PEM technology is used.

The last stop before returning to Copenhagen was the enterprise Green Hydrogen Systems in Kolding. The focus of this company lies on the production of electrolysers, based upon pressurised alkaline technology. According to the CEO of the company, this type of electrolysers have many advantages in comparison with the PEM technology. High efficiency and high durability are 2 selling-points. But surprisingly, this type of alkaline electrolyser is able to handle dynamic operations with variable energy loads. Green Hydrogen Systems is one of the most advanced electrolyser producers in Europe.

The following attended on the Fact Finding Trip:
Wim Stubbe, Lead partner of DUAL Ports
Jens Møller, Front Officer of DUAL Ports
Josephine Petersen, Communication Officer of DUAL Ports
Jens Damgaard, Business Development Manager at Business Vordingborg, Partner of DUAL Ports
Bent Haumann, Business Development Manager af Port of Vordingborg, Partner of DUAL Ports
Martin Halkjær Kristensen, Operations Manager at Hvide Sande District Heating, Partner of DUAL Ports
Kasper Teilmann, Consultant at GEMBA Seafood Consulting, Partner of DUAL Ports
Torben Falholt, on behalf of MEQ

The hydrogen fuelling station for busses in Aalborg

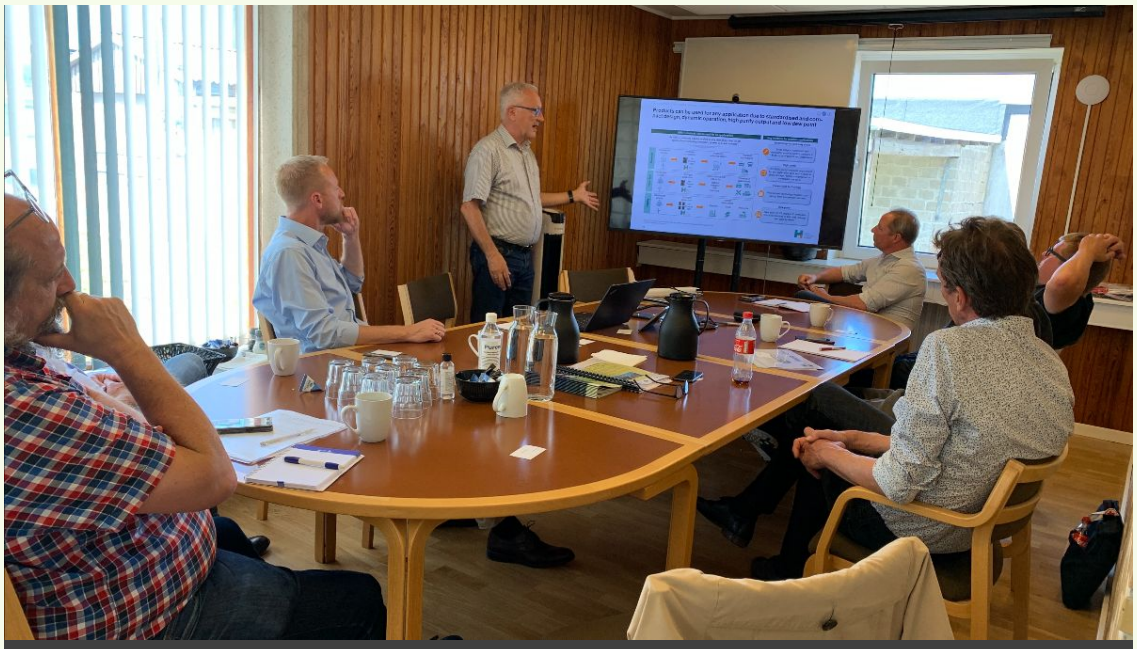
Hy-balance plant in Hobro, Denmark

Hy-balance plant in Hobro, Denmark

The port of Hvide Sande, Denmark

Hvide Sande Shipyard in Hvide Sande, Denmark

Blue World Technologies in Aalborg, Denmark



Green Hydrogen Systems in Kolding, Denmark

DUAL Ports elected as Runner-up on the North Sea Video Awards 2020!

Our new video about the DUAL Ports projects in Hvide Sande, Denmark, has been elected as runner-up in North Sea Region Programmes annual video contest.

Earlier this year we made a special visit to Bent Haumann, business developer at the Port of Hvide Sande, and Martin Halkjær, Operations Manager at Hvide Sande District Heating. The purpose was to create an aesthetically video of the two DUAL Ports partners projects; hydrogen, wind, wave and their own project of solar energy.

We are very pleased with the result and also the recognition the video received as runner-up - announced at the North Sea Conference.

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Cooperation between Dual Ports and InconE60 - today and in the future

On 9.12. 2020, the EU Commission has launched its new Mobility Strategy, entitled "Sustainable and Smart Mobility Strategy", whereby zero-emmission ports and Short Sea shipping are 2 of the pillars.

Also SME and regional ports play an important role in the implementation of this strategy. Considering this new EU strategy, the EU projects InconE60 and DUAL Ports have decided to work together, linking SME and regional ports in the North Sea and the Baltic Sea. Whereby Dual Ports is more focusing on the integration of innovative and sustainable zero-emissions solutions in port management, InconE60 is focusing on the promotion of Short Sea Shipping in order to reduce the CO2 level of logistics. Both ports of Oostende and Vordingborg are partner in these projects.

The InconE60 project aims to develop a concept to launch regular navigation along the international E60 waterway and connect it to the network of other inland waterways - E30, E40 and E70. The idea will cover technical, economic, ecological and social aspects to achieve the best possible economic effects.

The project investigates transport solutions supporting the active development of the peripheral coastal regions of the South Baltic area, focusing on local ports as development centres. It will help increase the competitiveness of the Baltic Sea region and increase its accessibility and attractiveness. One of these solutions will be an open model of cargo flow in the South Baltic region, which will be addressed in particular to the business sector - cargo operators, logistics forwarders and other transport entities operating in this area.

The main results of the INCONE60 project will be:

1. A comprehensive report on the current economic and social situation of regions under the influence of local ports of the South Baltic and in some parts of the North Sea Region. The report will contain the results of detailed research and analyses of the transport system and transport infrastructure in the region

(roads, railways, inland waterways, port infrastructure). The study will also cover the analysis of cross-border cooperation of local ports, investment and development needs and development barriers.

2. Computer model of cargo flow in the South Baltic region and North Sea region. The purpose of this model will be to show the current load distribution, organised by the transport sector and to present an alternative possibility of a modal shift of some cargo to sea-river and SSS transport modes

3. As part of the project, pilot trips will be carried out, the most important of which will be on the route Oostende (Belgium) - Klaipeda (Lithuania) in 2021. The cargo ship will call at Belgian, Danish, German, Polish and Lithuanian local ports. Its purpose will be to show the possibilities of transporting cargo along the International WaterWay E60.

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Flash news of pilot projects

Heat, wind, wave, solar and hydrogen: A synergy of sustainable energy in Hvide Sande, Denmark

Utilizing the wind, waves and sun at the coast of Hvide Sande creates a synergy of sustainable energy.

Port of Hvide Sande and Hvide Sande District Heating (located on the port area) are looking into the opportunities to create hydrogen from surplus energy production from their three wind turbines – and transfer the heat from hydrogen production to Hvide Sande District Heating. Within DUAL Ports, Hvide Sande District Heating is working on the HEAT-pilot and they expect to be 94% CO2 neutral in their energy production with help from a new heat pump.

The new heat pump has already been installed in primo October 2020 and it has so far produced 4,500,000 kWh and saved 1,000 CO2 compared to gas production.

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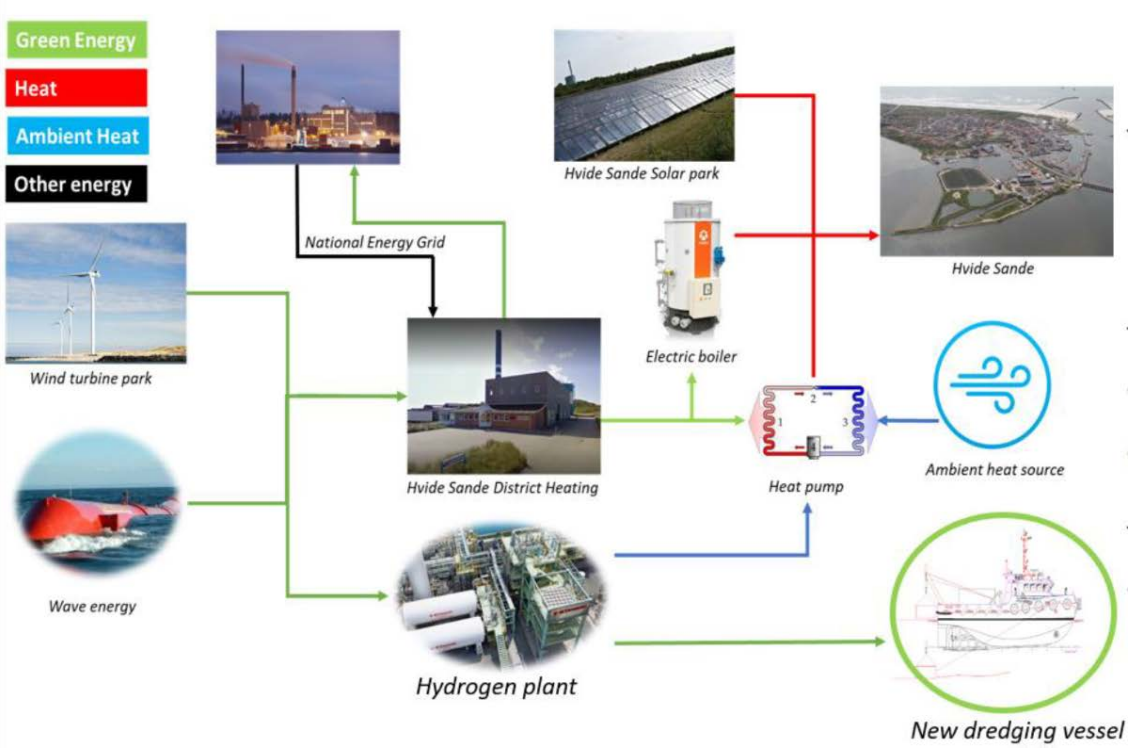

The green energy infrastructure in Hvide Sande, Denmark

Surface pilot: Testing environmental asphalt in Skagen, Denmark

The Port of Skagen is testing an environmentally improved asphalt of 7,300m2 on Vestre Strandvej in Skagen, Denmark.

The new asphalt to be tested is NCC Green Asphalt, which is partly produced from recycled asphalt. In addition, a new production method is used which enables a lower production temperature.

The result will be a savings of CO2 emissions of 8,524 tones, corresponding to a reduction of 25%.

After laying the new asphalt, coating is sprinkled with AirClean® concrete granulate. This makes Vestre Strandvej an active Nitric Oxide (NOx) reducing surface. NOx is also called a nitrogen filter and it is gases formed by the combustion of petrol and diesel in cars and ships.

Read the full article about environmentally asphalt in Skagen

The Port of Skagen is also expanding the port area with 190,000 m2 land and 1,075 m2 quay.

Stage 3 of the port expansion is expected to be completed primo 2021 and will optimize the conditions for business on the harbour. Through a onsite webcam you can follow the work and progress of the port expansion.

Follow the port expansion live

For more information please contact:
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Surface pilot: Asphalt technology in Oostende

Within the scope of the implementation of their pilot projects, the port of Oostende has started with the execution of the works on the terminal in order to test a new type of asphalt that absorbs NOx and SOx. The works should be finalized at the end of January 2021. The asphalt technology that will be installed in Oostende is different from the asphalt that will be laid at the port of Skagen. Contact has been established between the engineers of both ports in order to work out a joint system to monitor the result of the absorption capacity of this asphalt in maritime conditions.

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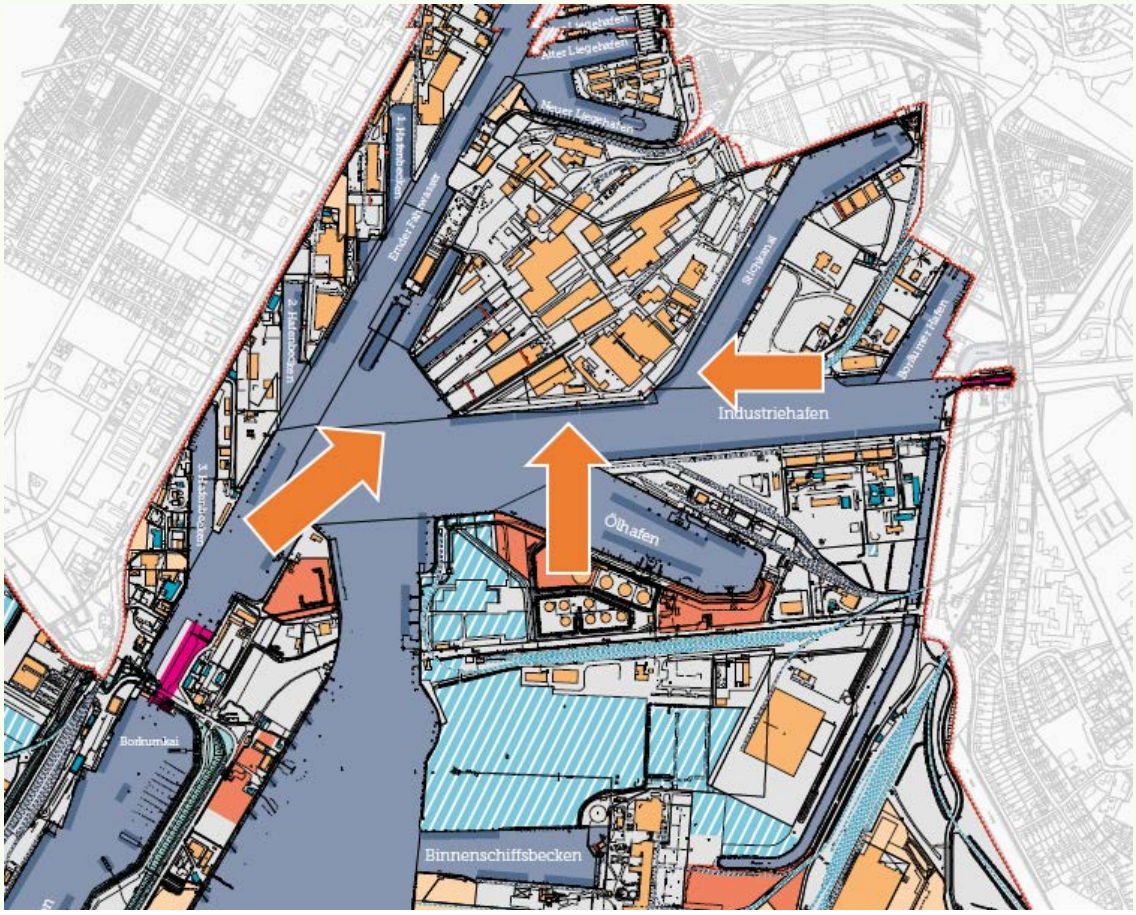
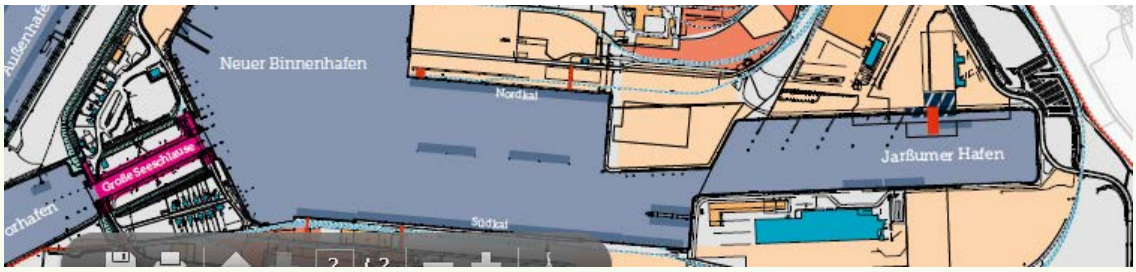
Sediment pilot: innovative removal of pollutants in sediment





Contaminated sediments are a major challenge for ports. In some parts of the port of Emden in Germany, the sediment is polluted with environmental pollutants. This prevents the use of water depth preservation measures and thus the long-term use of certain parts of the port. Therefore, the Sediment pilot within DUAL Ports is looking at an innovative and sustainable concept for the removal of pollutants in the sediment, in order to keep the port attractive to customers and maintain port operations there in the long term.

Within this pilot, a pollutant cadastre was developed in 2020, which provided information on the local pollutants. For this purpose, 17 deep boreholes were carried out from which a total of 62 samples were taken and analysed (the project area is in the area of the shipyard sites, see picture). The pollutant register is the basis for the development of innovative approaches within DUAL Ports. The aim is to clean up the sediments as locally as possible and, if necessary, make them usable e.g. in port construction. Students from Leibniz University are also involved in developing approaches together.

One pollutant is to be cleaned locally in a pilot test: TBT (tributyltin) which is an additive from anti-fouling paint degrades when in contact with oxygen. The test is planned for 2021 and is intended to provide information on the extent to which the large-scale degradation by aeration of the sediments is successful.

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Sail cargo testing pilot: Wind propelled cargo transport by Celttic Cruises

The pilot project's objective is to prove that wind propelled cargo transport via a modern specifically designed sailing cargo vessel, SV Lo Entropy, is cost effective and viable – and the future for achieving the goal with SV Lo Entropy is set.

Celtic Cruises aims to transform the way that road transport cargo, short sea containerized and palletized cargo is moved cost effectively with a reliable, fossil fuel free.

"We are changing the configuration of our cargo sailing vessel, SV Lo Entropy. The work will increase our hold capacity to enable the ship to carry 76 Euro pallets or approximately 50 tons equal to 2 of the largest capacity EU truck loads – 38 Euro pallets/24 tons per vehicle and more than the capacity of 3 forty foot containers). We have to set this goal as to fit into land transport's, or road, and short sea transport's supply and logistic's chain, using a common transport unit size; the Euro pallet. This will allow not only for an efficient intermodal transport operation, but will be price competitive with these other transport modes besides being truly environmentally friendly and emissions free transport mode," says Geoff Bourne.

Th SV Lo Entropy will, after the transformation, have the ability to undertake 468 voyages per year (234 voyages in each direction) carrying at full capacity – a total of 23, 400 tons or 35, 568 Euro pallets (120 x 80 x 146 cm high). Each voyage cycle (loading, sailing and off-loading) will be of an 18-hour duration allowing for 36 voyages every four weeks. Furthermore, SV Lo Entropy can transport 12 passengers in four cabins.

The SV Lo Entropy is expected to be ready for sail with full cargo for the first tim in May; its first green transport cargo via wind propelled sailing cargo vessel and the route is Oostend-Ramsgate.

No fuel, no emissions

Further, and as a secondary goal, Celtic Cruises is in conversation with other parties in designing and implementing an absolute zero emissions transport mode, a "no fuel,

no emissions" concept. The aim is to produce and store hydrogen via onboard renewable energy sources; hydro (from the free spinning propeller whilst under sail), wave/flap technology, wind and solar renewable energy, and then via either a fuel cell or a converted combustion engine to use this stored hydrogen for propulsion and all domestic vessel needs. Discussions are ongoing, and should this aim be achieved, a suitable update will be released.

For more information please contact:
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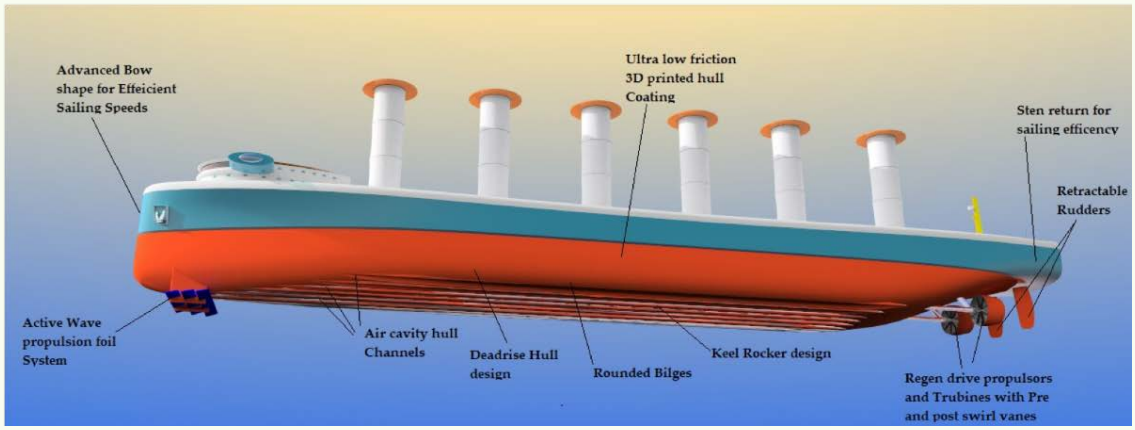
Sail pilot: Today's zero emissions technology for tomorrow's zero emission fleet



Zero Emissions Ships (ZES) are possible today. However, zero-emissions shipping is not. Why? Because although we have the technology but policy, economics, and a lack of green hydrogen stand in the way. Fortunately, the regulatory and financial landscapes are rapidly changing, putting zero emissions (ZE) vessels and green hydrogen infrastructure on the near horizon.

To be in line with IPCC recommendations of 1.5, **shipping will need to be zero emissions by 2034**.

To achieve this shipping requires (1) a zero GHG fuel that can be used in existing vessels, (2) Zero Emissions Ship Technologies (ZEST) that can be retrofitted to existing vessels, and, most importantly, (3) all vessels designed from today should be zero emissions, or at the very minimum, must be zero ready. Especially given that vessels designed today, under normal circumstances, will be in service after 2050.

The good news is that we have the technology. However, much of the tech is pre-market and therefore requires a shift in the regulatory environment as well as increases in development and seed funding to become widely available.

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Read the full article here

Hydrogen pilot: New hydrogen course developed in Orkney approved by MCA

A course developed in Orkney to prepare local seafarers for working on and alongside hydrogen powered vessels has been approved by the Maritime and Coastguard Agency (MCA).

The approval represents a significant milestone in the Innovate UK funded HyDIME (Hydrogen Diesel Injection in a Marine Environment) project.

The course was developed by Orkney College UHI's Maritime Studies department, based at the 'Nav School' in Stromness and covers such subjects as the specific characteristics of hydrogen and the design and use of the safety features required for storage, transport and consumption of the fuel.

The course, which follows on from an earlier training programme focused solely on handling of hydrogen, will be jointly delivered by both Orkney College and Orkney Ferries staff, providing a credible mix of theoretical and industry input for the best possible outcome.

About the HyDIME project
The HyDIME project is focused on demonstrating the use of hydrogen as a fuel in marine transport and will see the integration and trial of hydrogen/diesel injection

technology on board the MV Shapinsay to power the auxiliary units of the vessel.

For more information please contact:
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Learn more about the hydrogen course

Soil Project: Further expansion at the Port of Vordingborg

A unanimous and visionary port council recommended the initiation of yet another port expansion, which has been approved by the local municipal council of Vordingborg. The tender business was commenced in autumn 2019 with an expected start of the actual construction work in 2021.

Stage 4 of the port expansion is a land reclamation project that will expand the port area by approx. 200,000 m2. In addition, a quay facility of approx. 150 m will be built. Today Vordingborg Port has approx. 180,000 m2. The new project will result in more than a doubling of the existing land.

Since the costs of establishing Stage 4 are covered through payment for receiving the

soil, the port does not have to raise loans.

A recovery project
The project is to contain the area and subsequently fill it up with soil and recycled products from other construction projects. Today, huge amounts of soil and other industrial residual products are generated from the many construction projects around Denmark. By establishing a recovery project in South Zealand, companies in the municipality and in the area will have easier access in terms of getting rid of soil close to their construction projects. Vordingborg Port has an extensive experience within recovery projects, as the port has been a partner in the EU Interreg project DUAL Port. Stage 4 is part of the original master plan and is therefore a natural extension of these experiences. In the recently completed port expansion, a number of recycled products were also used.

Business and maritime hub
The latest port expansion finished in March 2019 which has led to investments from local businesses in port terminals, machines and manpower. In 2013 there were only few employees - now the Port of Vordingborg employs 40 persons. Just a few years ago, there were 3 companies on the port area - now there is 13 different companies within the business of exporting and importing feed, grains, fertilizers and raw materials among others.

With the further port expansion there will be room for more new companies and in the spring 2021 a new gas station will be build on the port that can provide further service.

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LED Light and Smart Security pilot in Oostende

For Smart LED lights, the port of Oostende has launched a tendering to improve the lighting at the warehouses 3 and 4, as to bring more safety on the places, where a lot of trucks and truckdrivers are passing the night before making the crossing to the UK. The works are planned to be executed during the month of February 2021.

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What is to come in 2021?

Project workshops 2021

- Week 14: Wave workshop and partnership meeting at Uppsala University, Sweden
- Week 24: Heat and Port workshop and partnershipp meeting in Hvide Sande, Denmark
- Week 37: Midterm Conference in Copenhagen
- Week 45: Green Energy and Ports workshop in Glasgow, Scotland

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Transnational Events

27.-29. April 2021: WindEurope Electric city in Copenhagen, Denmark

18.-20. May 2021: Breakbulk Europe in Bremen, Germany

June 2021: North Sea Conference in Brugge, Belgium

1.-12. November 2021: 26th UN Climate Change Conference of the Parties (COP26) in Glasgow, Scotland

Project news

New exciting future for director of Business Vordingborg, Susanne Kruse Sørense

A new opportunity emerged for director of Business Vordingborg, Susanne Kruse Sørensen, this summer. Susanne is now working on fulfilling Esbjerg Airport's ambitions as their new airport manager (Denmark).

"There is great potential in further developing Esbjerg Airport, which arouses my interest. And it is, among other things, my work at Business Vordingborg that I will bring with me as I begin a new exciting chapter in my career," says Susanne.

Business Vordingborg is Communication Officer of DUAL Ports. Susanne Sørensen and Josephine Petersen, Marketing Consultant at Business Vordingborg, are responsible for the communication task. After Susanne's departure, Josephine will continue the work within DUAL Ports in cooperation with her colleague Jens Damgaard, Business Development Manager at Business Vordingborg.

Departure of Laminaria as DUAL Ports partner

The covid19 pandemic has also made victims within the DUAL Ports partnership: the company Laminaria has stepped out of the project. Notwithstanding their preparation of a series of intensive test-sessions of the Laminaria wave device in Scottish and Basque seas, the enterprise has been forced to go into administration, due to a legal dispute with one of their suppliers.

The experts, appointed by the court, were unable to come to a conclusion and the legal procedure was estimated to last for at least another 5 years. Considering this timepath of 5 years of legal action, the enterprise Laminaria was not longer able to raise capital from its investors in order to finalize the research on its technology and to execute the planned test-sessions.

On the 29th of May 2020, Laminaria finished all industrial activities. During the summer break, the owners of Laminaria have been taken a time-out, and from September on, they have raised their heads, starting a new company, still in the world of waves and renewable energy. Wishing them good luck with the new enterprise!

Welcome to new DUAL Ports partner

During the DUAL Ports partnership meeting of the 14th of December 2020, a new candidate partner has been presented, willing to join the DUAL Ports family. It concerns the Swedish company Greenpipe from Väckelsang.

Greenpipe is a family company, specialized in the production of divisible cable protection pipes, that can be installed around electrical and fibre optic cables under water and in seas. These pipes are produced out of recycled plastic, derived out of discharged car bumpers. Compared to virgin plastic, it saves up to 80%in CO2-emissions. And the finished product is recyclable up to 9 times.

Within their pilot project, they will test their cable protection pipes within the installation of floating solar panels, that are interested to use recycled plastics in their production of the frames and the floaters.

Within Dual Ports, Greenpipe will implement two pilots projects, one at the port of

Hvide Sande and one at the port of Oostende. At the port of Hvide Sande, it is to aim to investigate if the onshore photovoltaics farm, that is situated behind the sea lock in the Ringkoebing fjord, can be combined with the construction of an offshore farm of solar panels, whereby the export and anchoring cables will be protected by the products of Greenpipe.
At the port of Oostende, a test installation of floating solar panels will be set up in real marine conditions within the port. The aim is to monitor the effect of the sea, the waves and the salted water on the energy efficiency of the installation, and on the infrastructure of the farm and the pipes, that need to protect the export and anchoring cables. Local enterprises have shown their interest in this pilot, considering the future multifunctional use of the offshore windfarms.

Looking forward to the decision of the Monitoring Committee of the Interreg VB North Sea Programme to welcome Greenpipe as a full partner.

Movie from the port of Oostende in Euronews, commissioned by DG Mare

Mid November 2020, Euronews Ocean has made a movie, commissioned by DG Mare about the future of Energy in Europe. In this movie, particular attention goes to the construction of offshore wind parks in the Northsea and the Channel region. Next to wind park developer Orsted, the ports of Oostende and Cherbourg are the main actors. Please enjoy: What will the future of energy in Europe look like? | Euronews

Merry Christmas!

DUAL Ports wishes you a merry Christmas and a happy New Year!

Christmas is only a few days away and the year 2020 has soon passed. For DUAL Ports, 2020 has been both a though and interesting year of progress and challenges.

The pandemic came upon the world in 2020. Both homes and businesses has been affected and DUAL Ports is no exception. Plans have been delayed, work has been changed and our transnational cooperation has found a new level of online activites. But considering the challenges, 2020 has also been a year of progress.

In 2020, the possibilites of each pilot project has been the focus in close cooperation between DUAL Ports partners, ports, industries and research institutions. We look forward to even better work and more progress in innovative and technological development in sustainable ports, notwithstanding the challenges from covid-19 that might follow us for hopefully only a partial of the year 2021.

We wish you and your families a merry Christmas and a happy New Year. We hope that you will also join us next year where we will continue our many activities towards decarbonizing ports.

Love sincerely,
DUAL Ports Partners

Port of Oostende
Business Vordingborg
Port of Vordingborg
Port of Skagen
Orkney Islands Council Marine Services
ITM Power
Fair Winds Trust
Seabased
TBC: GreenPipe

Niedersachsen Ports GmbH & Co. KG Branch Emden
Port of Zwolle
Hamburgisches Welt-WirtschaftsInstitut (HWWI)
Port of Hvide Sande
Hvide Sande Fjernvarme A.m.b.A.
Uppsala University
Celtic Cruises

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To learn more about DUAL Ports, visit www.dualports.eu

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