PORT OPERATIONS IN THE PAST

"1875 - DFDS established the first shipping route"
PORT OPERATIONS TODAY

"5 routes to 26 European destinations"
### Port Dynamics

#### Manufacturing
- Import / Export of Goods
- Logistics

#### Shipment
- Ship brokers
- Ship operators
- Logistics Solutions
- Freight Forwarders

#### Facilities
- Infra structure
- Supra structure

#### Services
- Stevedores
- Agents
- Pilots
- Tugs

### Distance to Production/Storage

<table>
<thead>
<tr>
<th>Port area</th>
<th>&gt; 25 km</th>
<th>&gt; 100 km</th>
<th>&gt; 500 km</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coal, oil, bulk</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Offshore wind</td>
<td></td>
<td></td>
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<tr>
<td>Automotive</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Trailers/Containers</td>
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</tbody>
</table>

### Port Revenues from Cargo Tariffs, Ship Dues and Lease of Land

- Port area: > 25 km
- Port in Germany
- Port in Esbjerg

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**50°28'N 8°26'E**
EXPANDING THE TEN-T NETWORK

The GDP growth in the countries along corridors underpins the possibilities for increased flows of goods, while it is the location of the Port of Esbjerg that determines its competitiveness in the network.

The Port of Esbjerg would be most competitive for modular goods and the trade with the United States, which also other European will benefit from.

The computation depicts that the costs of combined transport by rail and sea between the main cities on the North-Sea Baltic-, Scan-Med- and Orient-East- Corridors and Newark, USA, will be 12% lower using the Port of Esbjerg.
Regulation (EU) No 1315/2013 of the European Parliament provides guidelines for the development of the TEN-T network, where one of the aims is to ensure efficient multi-modality and allow for economic attractiveness for freight forwarders.

Climate considerations are crucial role in developing the multi-modality transport network comprising shipping routes, rail and road. This commences with offshore wind as the predecessor for P2X.
"59 offshore wind parks have been installed from Port Esbjerg"
59 offshore wind parks have been installed from Port Esbjerg.

**PORT ESBJERG PROJECT INVOLVEMENT**
- 59 PROJECTS
- 23.6 GW
- +4,150 OFFSHORE TURBINES

*INCL. PIPELINE

**PORT ESBJERG CAPACITY**
- 3 INSTALLATION SITES
- 4.5 GW PER YEAR
- FULL SUPPLY CHAIN HUB

**GLOBAL PIVOTAL LOGISTICAL HUB**
- NACELLES, BLADES, TOWERS
- SEMI COMPONENTS
- EUROPEAN DISTRIBUTION

MW offshore wind shipped from Port of Esbjerg.
Ports are nodes in vast networks, allowing for the transfer of various goods between sea and land transport. In European context, the TEN-T network is imperative and the continues development hereof depict that expansion is imperative to broaden the trading possibilities.

Equally important is the role of ports in the green transition in Europe. Offshore Wind and P2X must increase to coincide with the plans detailed in ‘The Esbjerg Declaration’, while referring to REPowerEU. These plans aide to Europe’s energy independence.

However, the Oostend declaration depicted various problems with the supply chain. This were in particular production and port capacity, which in the future is ‘intertwined as production is dependent on the port.'
LOCATION FOR INSTALLATION

PORT ESBJERG COVERS 92.8 % OF THE TOTAL NORTH EUROPEAN MARKET

- Offshore wind farms involving Port Esbjerg
- Wind farms
50°28'N 8°26'E

DEVELOPING INDUSTRIAL CLUSTERS

Developing the industrial cluster for offshore wind becomes a key role for port, in order to support the capacity.

Mapping the industrial ecosystem with the stakeholders enhance the common goal and provide confidence in the opportunities in the offshore wind industry.
CATERING FOR THE SUPPLY CHAIN
CATERING FOR THE SUPPLY CHAIN

PORT ESBJERG
INCREASING PRODUCTION CAPACITY
PRODUCTION OF OFFSHORE WIND

50°28'N 8°26'E

Loadout, transport and port cost incl. carbon tax

- Carbon tax
- Annual port cost
- Annual transport cost
- Annual labour cost

Transport og installation
Pre-assembly operation
Area rental
Transport to installation port
Stevedoring and dockers
**GREEN TRANSPORT REQUIREMENTS**

The transition in shipping is driven by the IMO goal of net zero of 40% of the world's merchant fleet in 2040.

The ‘Fit-for-55’ plan will require further investments in port, but also provide opportunities.
THE CLUSTER CAPACITY (P2X)

Factors that contribute to cluster competitiveness:
- Port Esbjerg can be used to install more offshore wind
- TEN-T port
- Area suitable for P2X
- Training and education
- Available for workers
- Supply chain established
- Proximity to the markets
- Multiple service companies
- Municipality open for business
- Collaboration
- Information sharing
- Green power
- TEN-T port
- Training and education
- Available for workers
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- TEN-T port
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- Available for workers
- Supply chain established
- Proximity to the markets
- Multiple service companies
- Municipality open for business
- Collaboration
- Information sharing
- Green power

Factors that prevent cluster competitiveness:
- Infrastructure
  - Roads to the port
  - Suitable sites
  - P2X distribution network
  - Low unemployment rate
- Industry
  - Lack of collaboration
  - Lack of university education
  - Not enough start-ups
- Companies
  - Limited large companies
  - Limited export companies
  - Lack of specialised companies
- Administration
  - Lack of capital
  - Lack of public private partnerships
  - Limited export companies
  - Lack of public investments
  - Climate partnerships
  - Green power
PREPARING FOR THE HYDROGEN ECONOMY

The Hydrogen Back Bone is the concept for the transition from natural gas to hydrogen, which allow from distribution through-out Europe.

One of the pre-requisites is the development of offshore wind and P2X industry in Europe, which also is detailed in 'The Esbjerg Declaration'.

In addition, there will be a need to import hydrogen to Europe, where the Integrated Gas Terminal can become an instrumental part.
STRATEGY IS TO ENSURE A HOLISTIC RETURN

1. Investment in infrastructure
2. Development of the spatial cluster
3. Relevant training & education
4. Attract large companies and capital
5. Digitalization and smart planning

Required to maintain activity
FOLLOW PORT OF ESBJERG ON LINKEDIN AND FACEBOOK - GET VALUABLE INSIGHT ON NORTH SEA OFF SHORE ACTIVITIES