

SUT Control Downunder Conference 2022

ZEUS - Making Natural Gas a Sustainable Transition Solution

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Gas



Oxygen

CO₂



Power



We solve global
energy challenges
for **future** generations

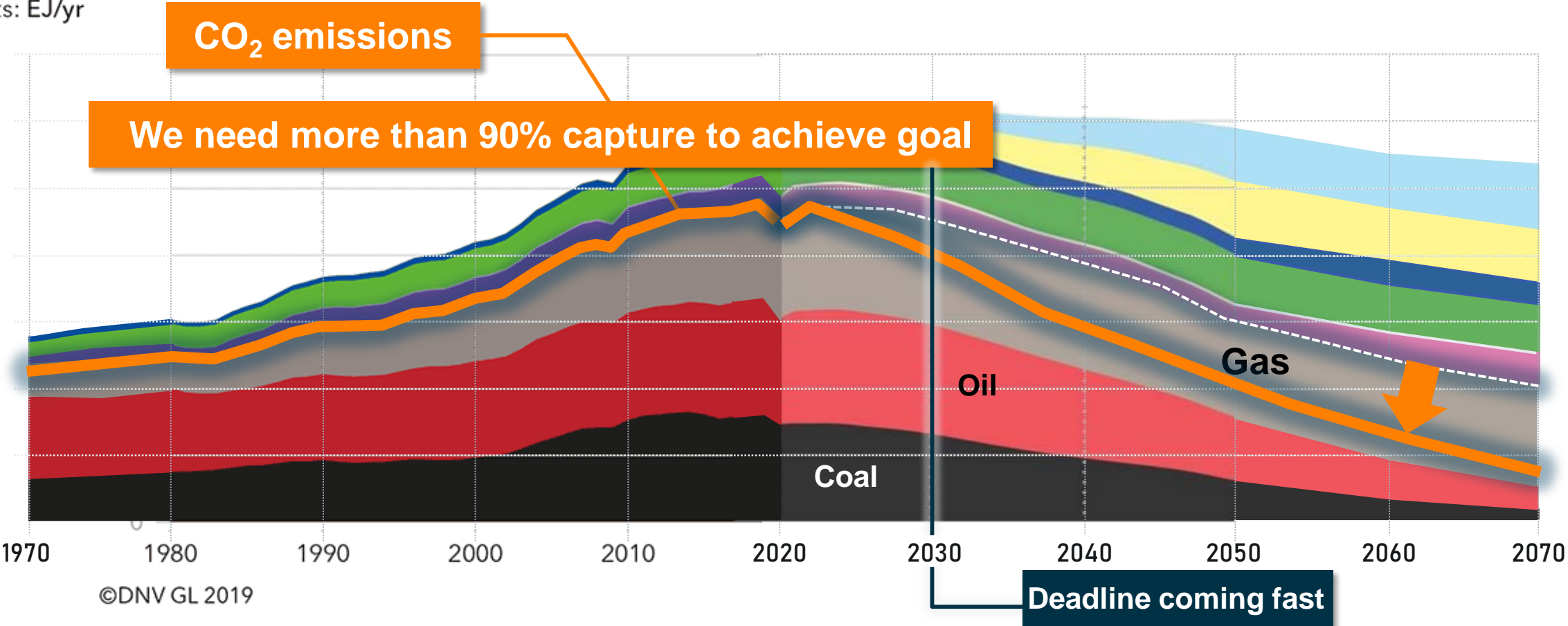


Net Zero Emission

World primary energy supply by source

Units: EJ/yr

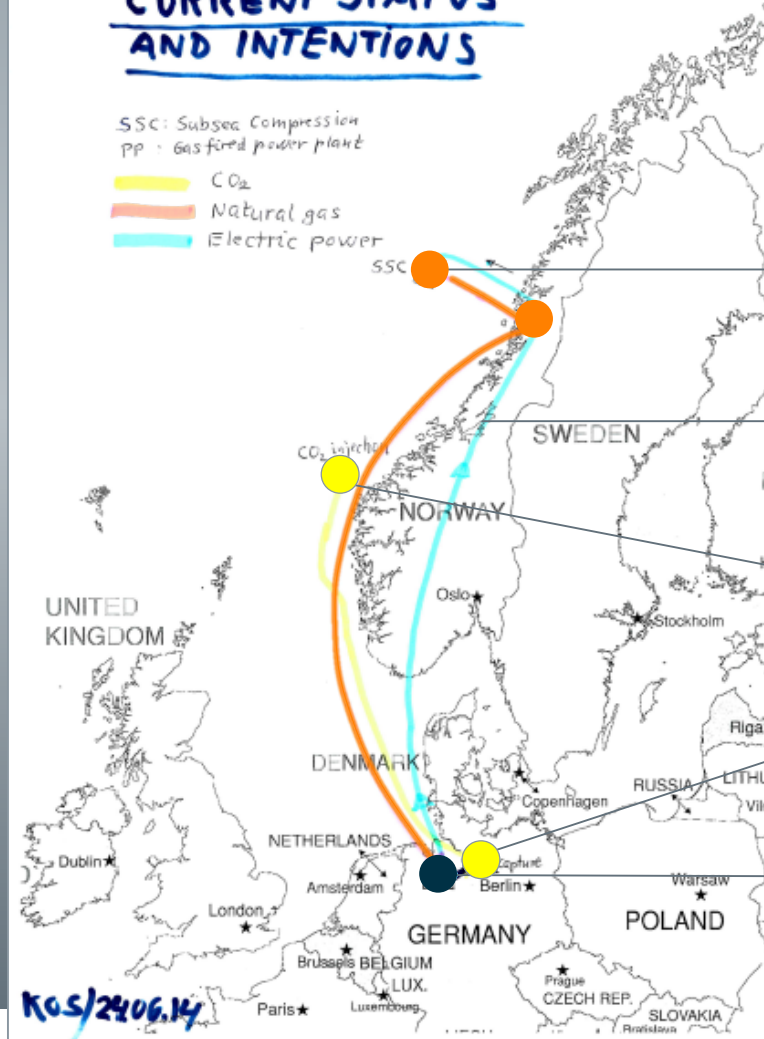
Net Zero-emission scenario



CURRENT STATUS AND INTENTIONS

SSC: Subsea Compression
pp: Gas fired power plant

CO₂
Natural gas
Electric power



TRANSPORTING OIL & GAS FROM OFFSHORE

ELECTRICITY IS TRANSPORTED BACK

CARBON STORED OFFSHORE (CO₂ INJECTION)

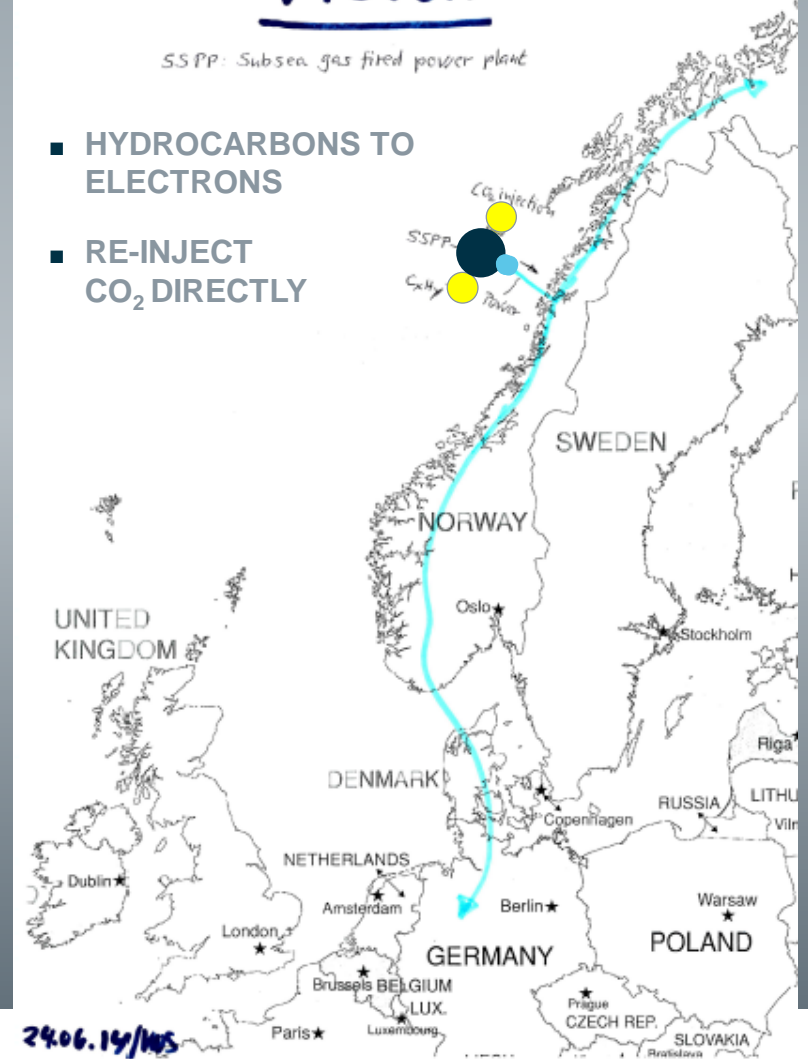
CARBON CAPTURE

TO A GAS-FUELED POWER PLANT

VISION

SSPP: Subsea gas fired power plant

- HYDROCARBONS TO ELECTRONS
- RE-INJECT CO₂ DIRECTLY

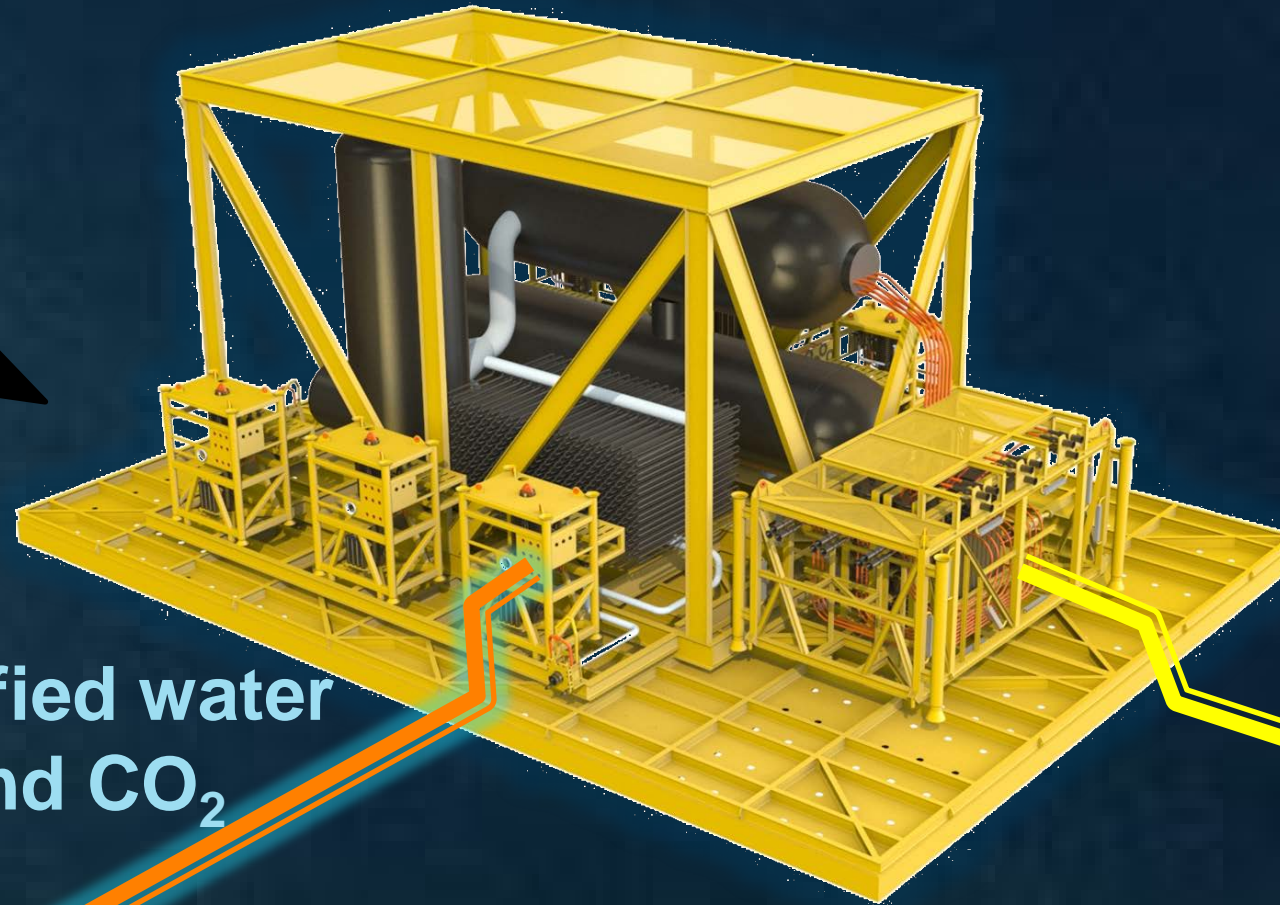


Zero Emission Underwater power Station – ZEUS

Natural gas
incl CO_2

Liquified water
and CO_2

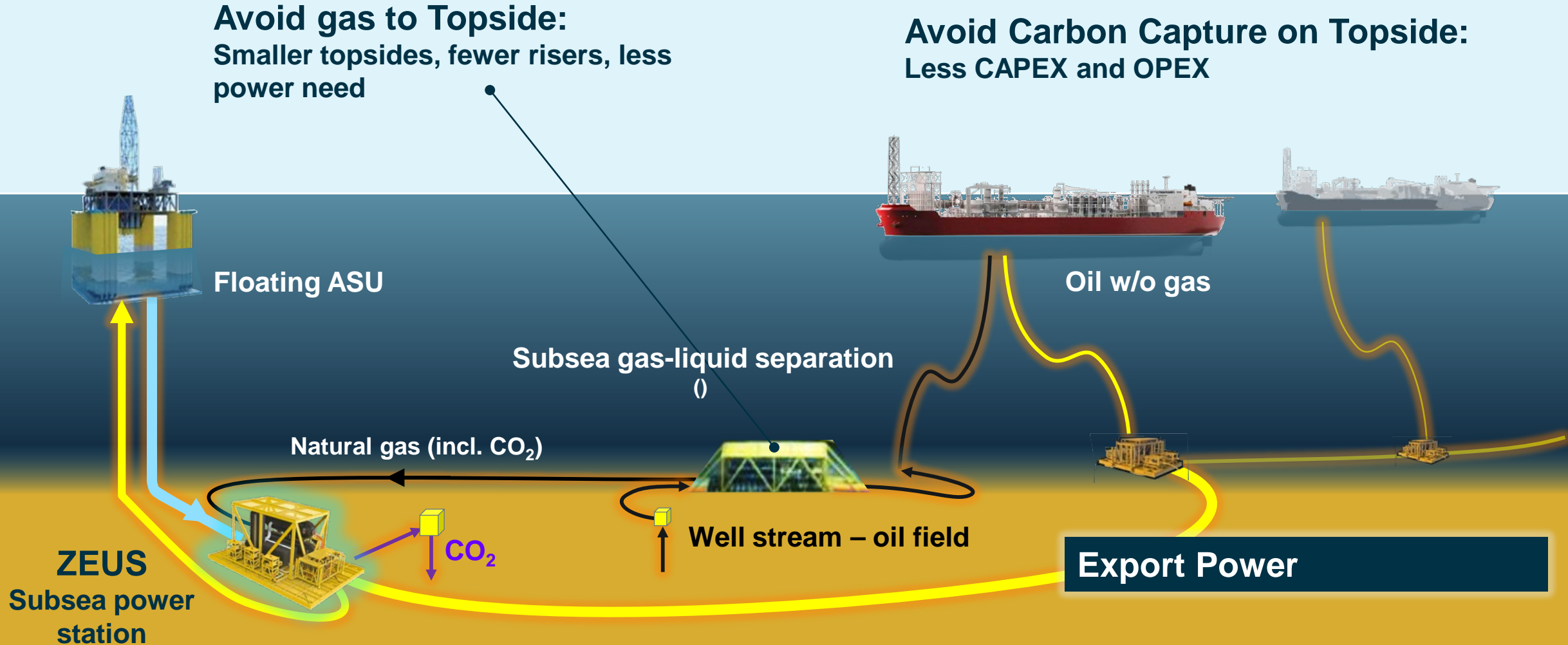
Electric
Power



ZEUS Application Areas

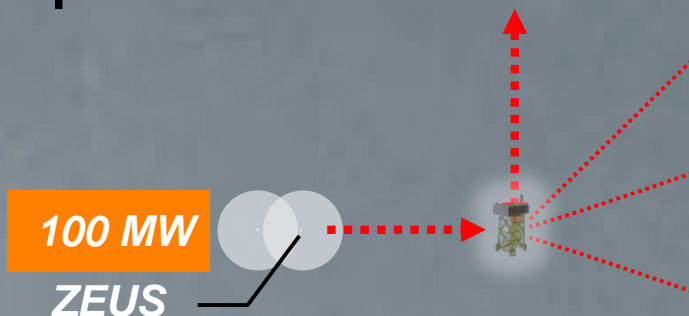
- Decarbonising Existing Assets
- Liberalise Offshore Wind
- Complement Green hydrogen production
- Monetize stranded gas

Decarbonize Topsides: Use Associated gas

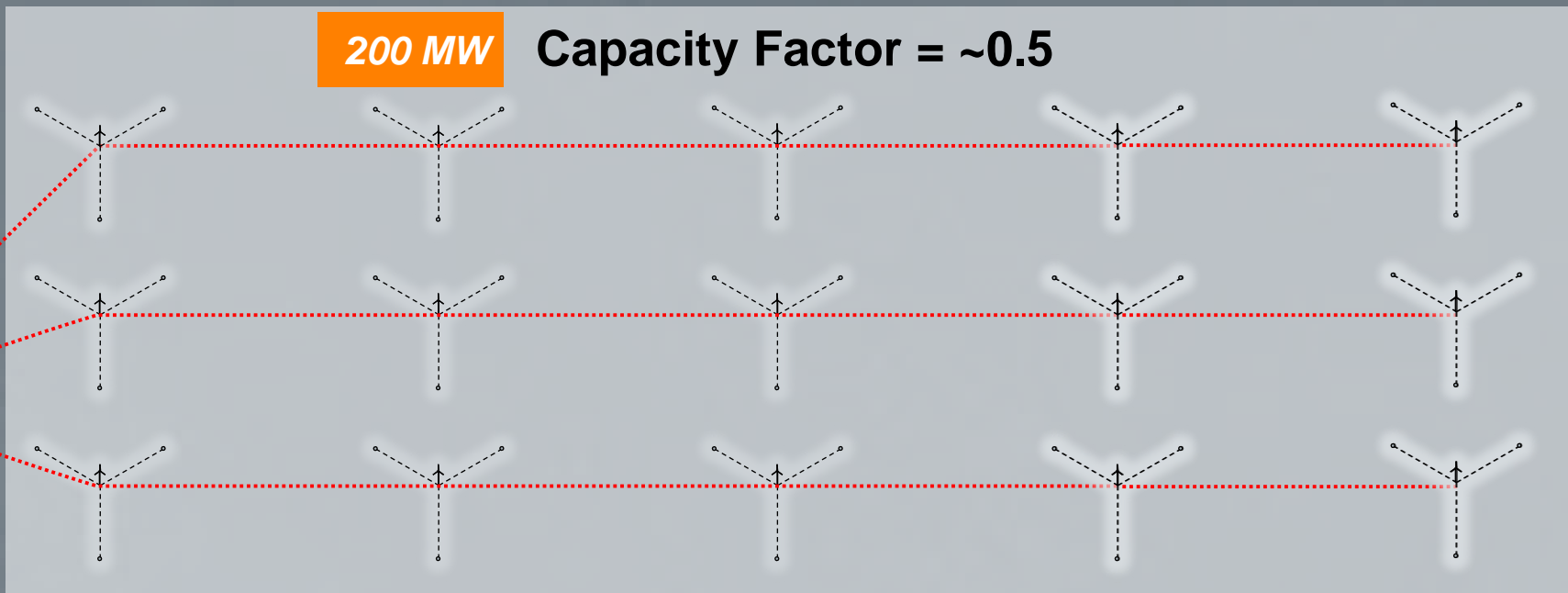


Liberalise Offshore Wind: Guarantee minimum delivery

- Guaranteed: 100 MW
- Optional max.: 200 MW

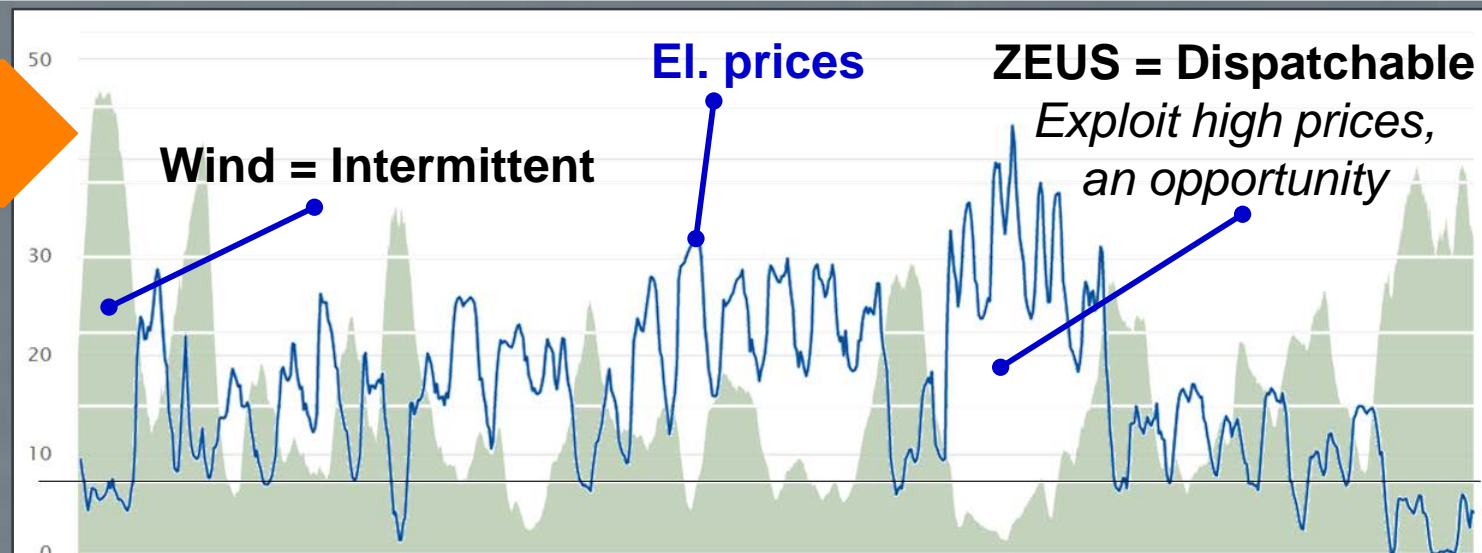


200 MW Capacity Factor = ~0.5

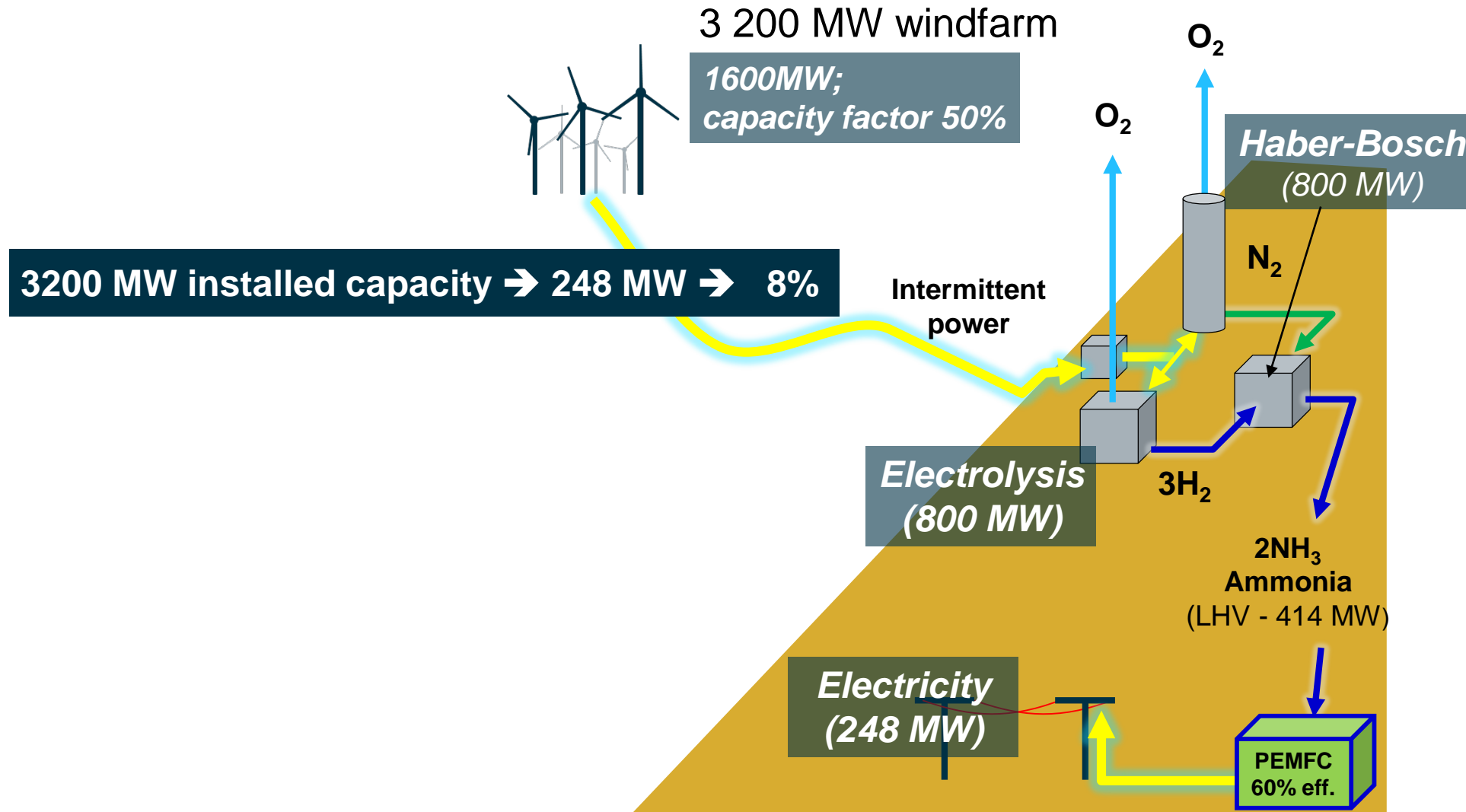


ZEUS + Wind = Guaranteed Power

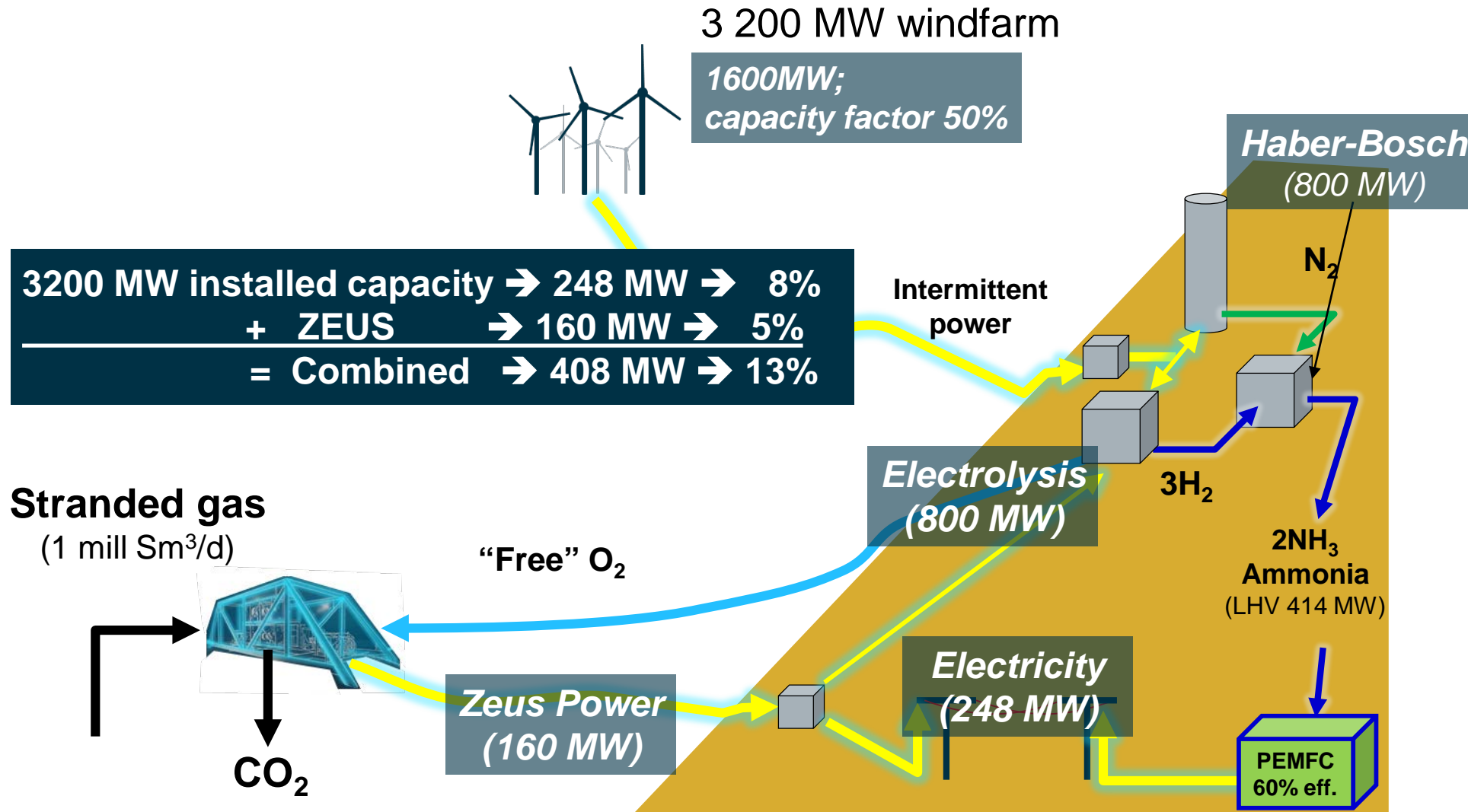
**ZEUS = Exploit high prices,
improve economy**



Complement Green Hydrogen



Green Hydrogen + ZEUS : 50% higher efficiency



Monetize **stranded gas** – exporting electricity

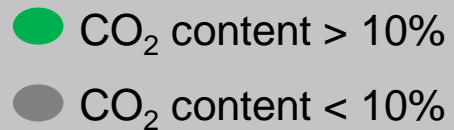
Conventional Offshore Development

Offshore facilities
+
Gas pipeline to shore
+
Power plant onshore w/CC
+
CO₂ pipeline offshore again



Monetize CO₂ rich gas

- ZEUS process is **not limited by CO₂ content**
- Minimise the conventional **infrastructure cost with CO₂ rich gas**



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