

Decarbonization in the value chain (Scope 1&2)



Erik Hodneland, Asset Manager Equinor Brazil
CEBRI workshop, 5th February 2024

OUR PORTFOLIO

Long-term commitment to Brazil, with ambitions to deepen in renewables and O&G

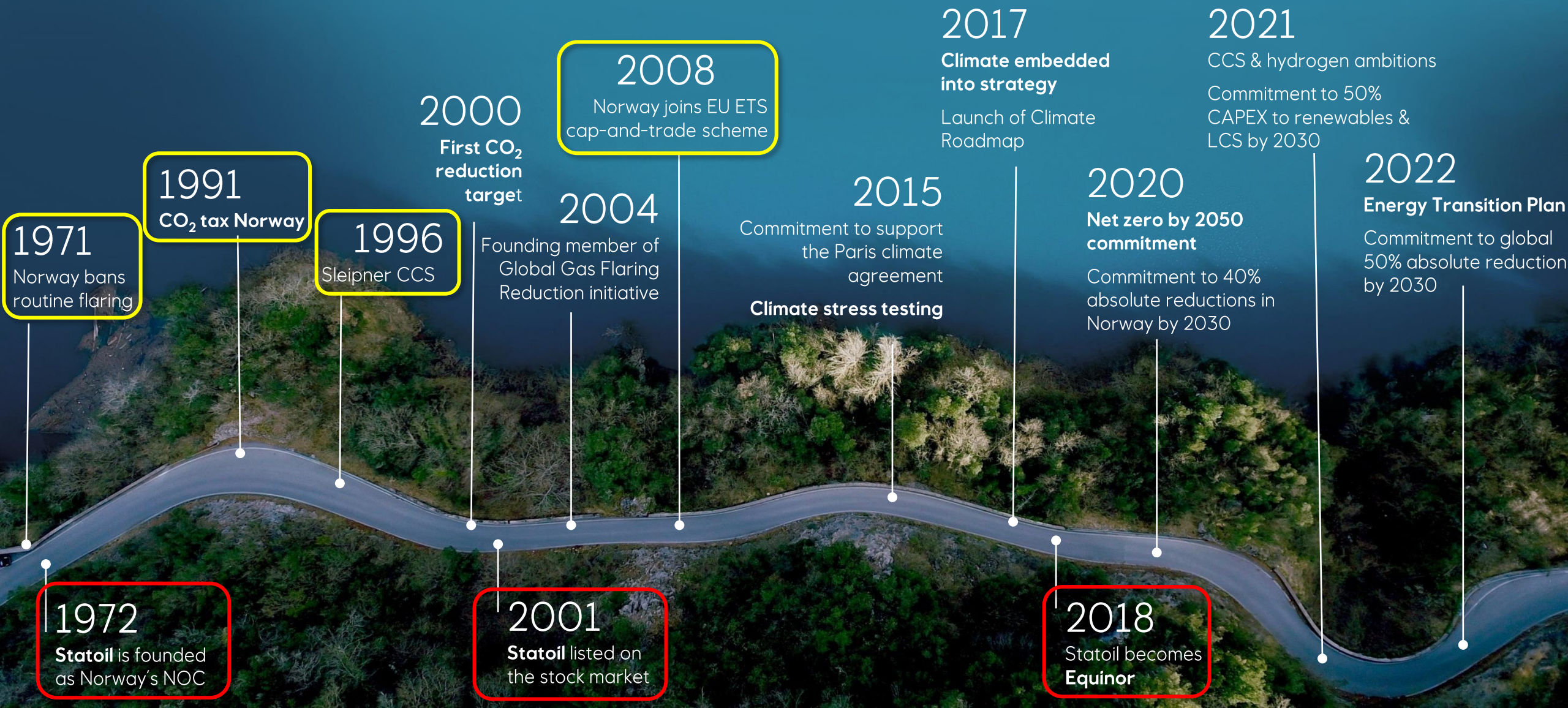


- ~ 900 direct jobs, 90% local resources
- USD 26 Billion invested 2009 – 2030
- More than 100,000 indirect jobs*



(* According to estimates based on the Abespetro study available at: Caderno-abespetro-2017-v2.pdf

Equinor's climate journey is an extension of Norway's climate journey



Equinor's climate performance

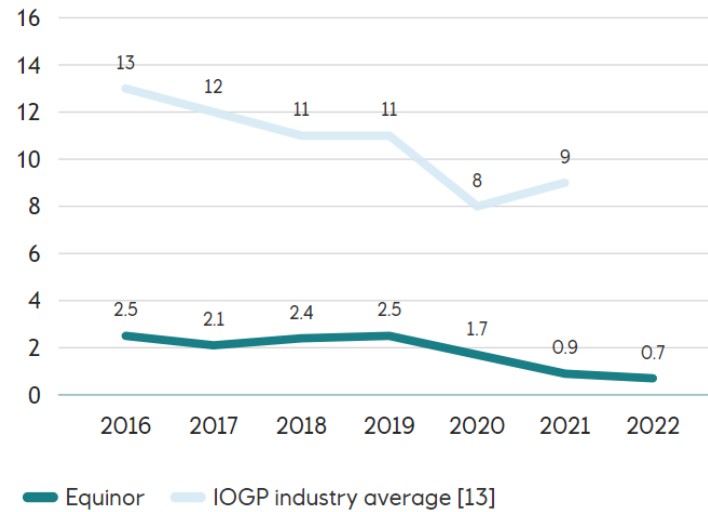
Upstream CO₂ intensity

Kg CO₂ per barrel of oil equivalent, 100% operated



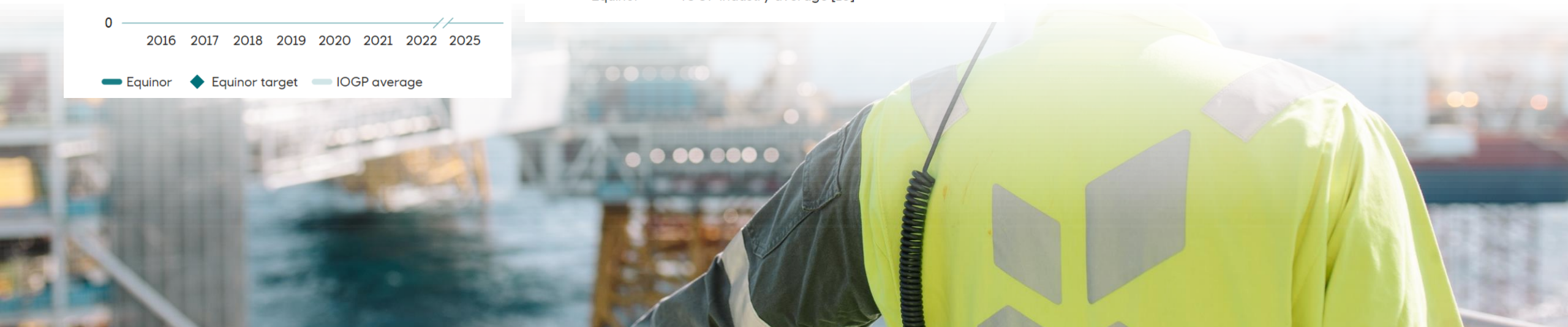
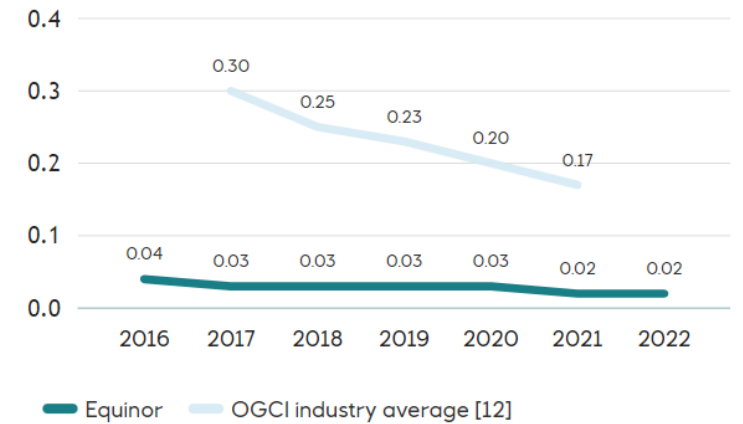
Upstream flaring intensity

Tonnes gas flared per thousand tonnes of hydrocarbons produced



Methane intensity

Methane emissions as share of natural gas delivered to market



Reducing flaring and eliminating methane emissions is critical

Equinor is committed to **eliminating routine flaring** from operated assets before 2030, and to work to achieve the same for non-operated assets

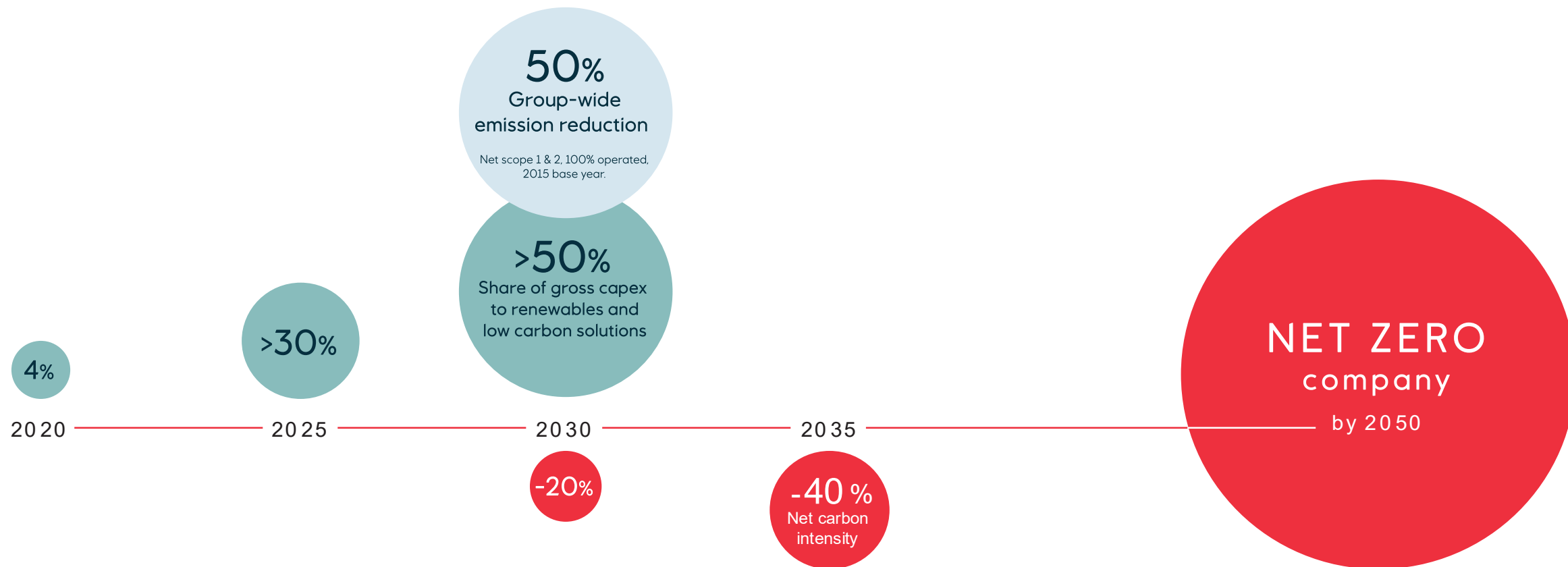
- We work to reduce flaring by:
 - Utilizing **flare gas recovery technology**
 - Applying strict **operational practices**

World leading **methane intensity** standard achieved through:

- **Increased quality and transparency** of reported data
- Implementation of technologies and procedures to **detect and reduce** the most significant methane emissions
- Support for the development of sound methane **policies, regulations and industry practices**

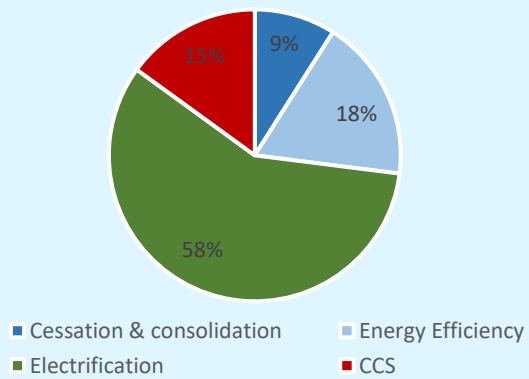


Equinors climate goals – in brief



Equinor emission reduction

Equinor emission reduction from 2005 to 2030



Energy efficiency

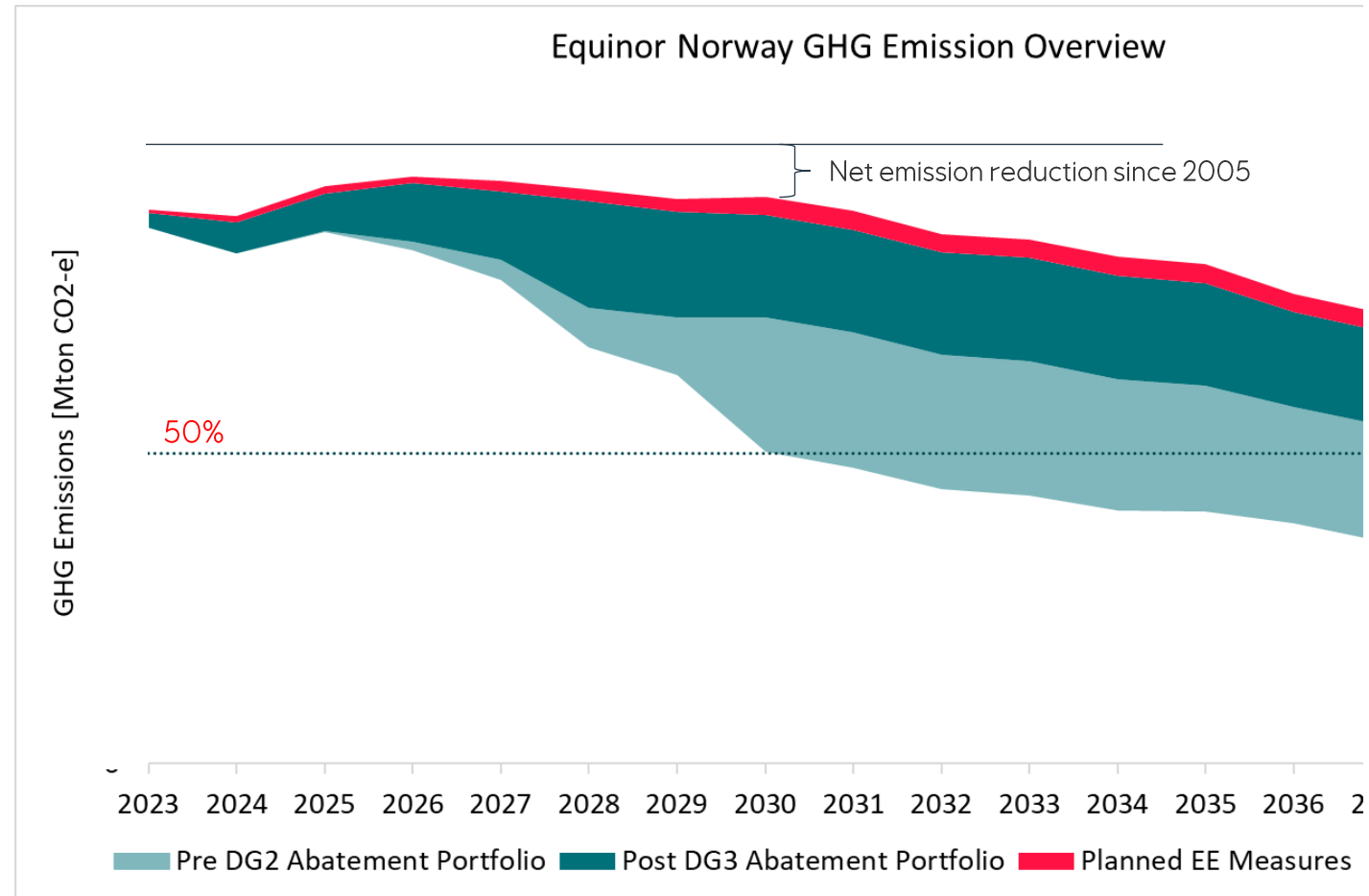
Cessation & Consolidation

Electrification

Main abatement measure

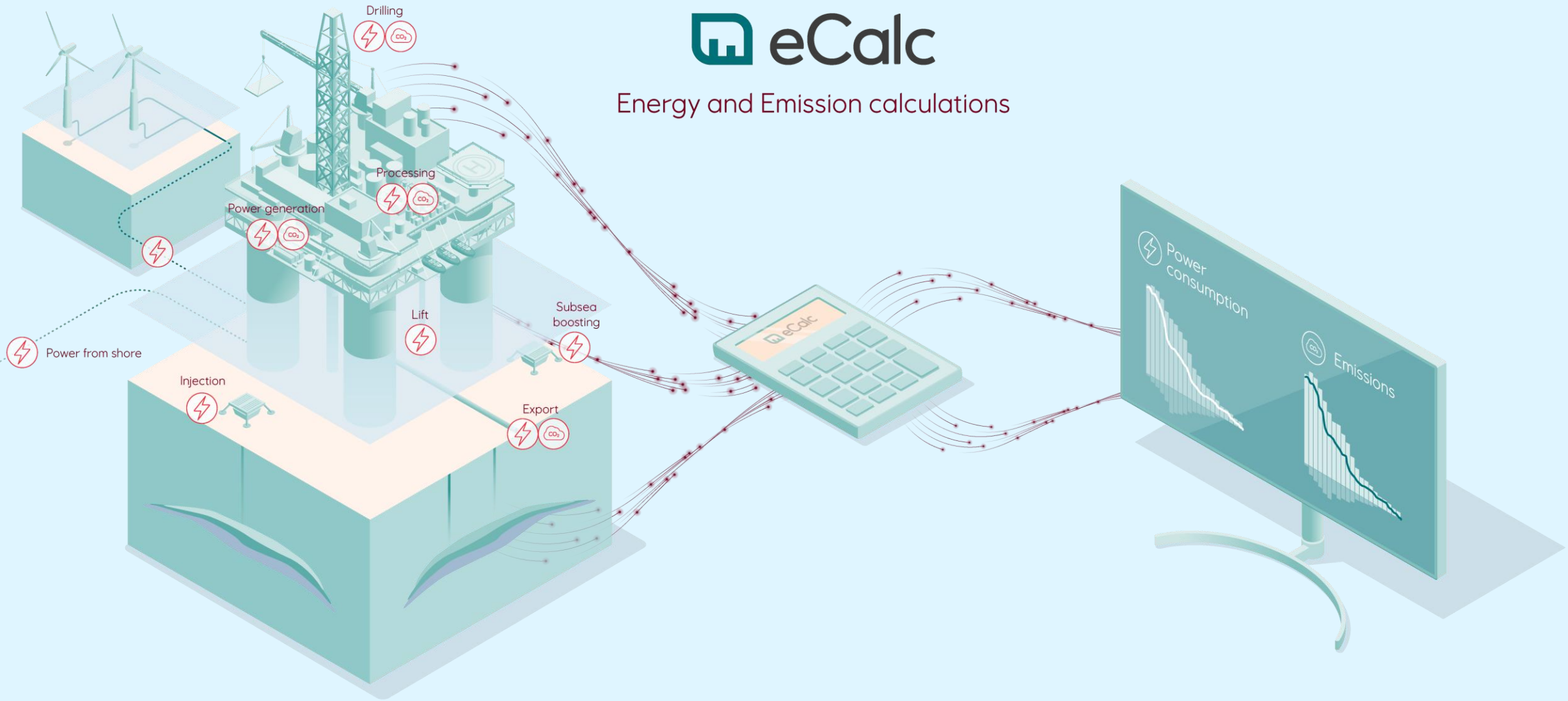
CCS

Transform onshore facilities






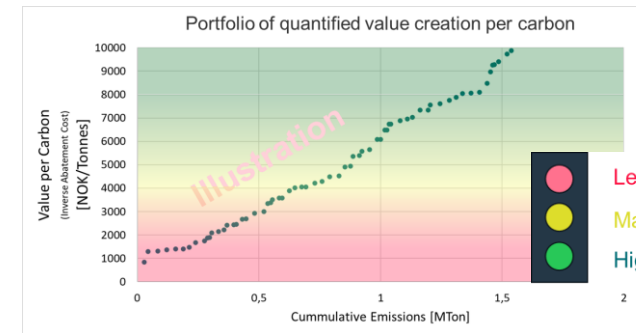
eCalc

Energy and Emission calculations



Step up on long-term energy efficiency

-  Flare
-  Operational measures
-  Modifications



- Less value than CO₂ tax → Stop activity
- Marginal Value for Carbon → Evaluate
- High Value Creation → Continue activity

Operational Measures & Modifications

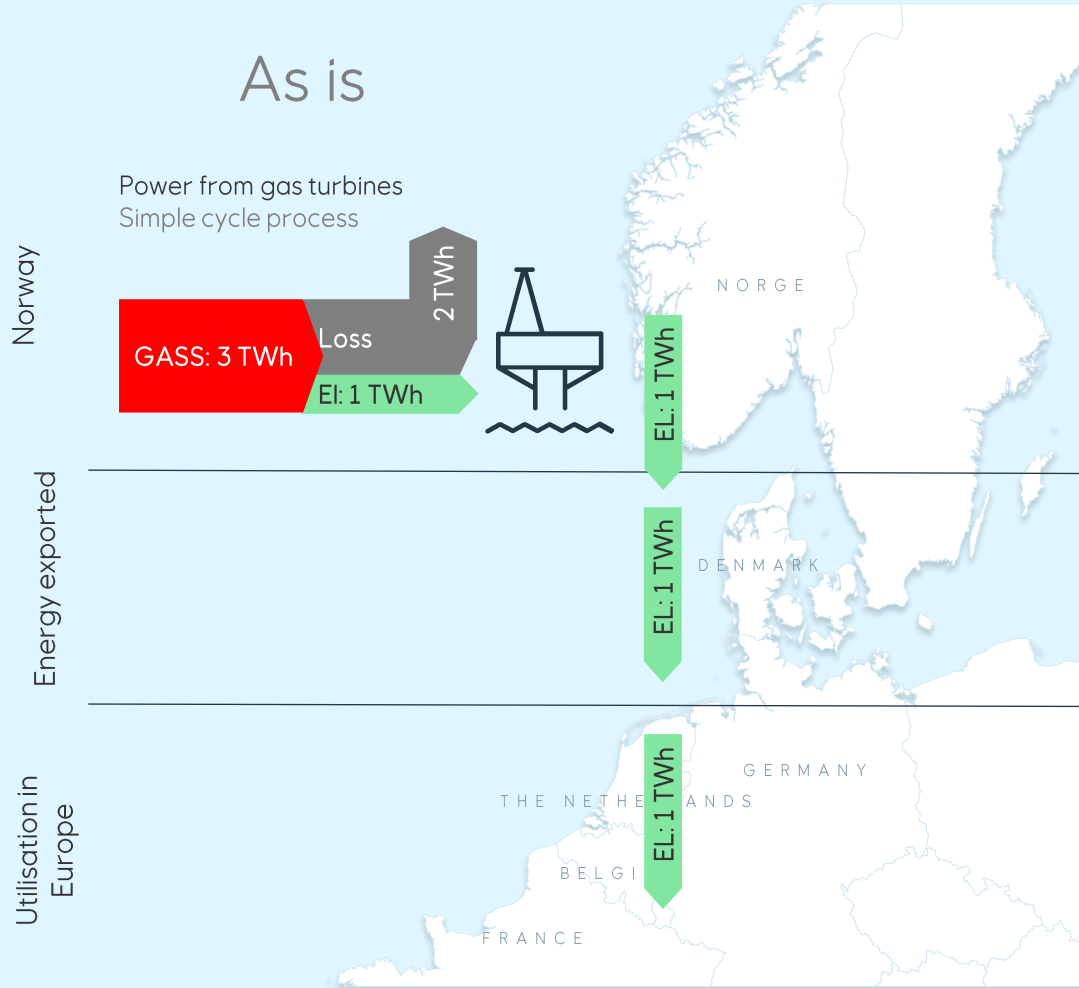
- Include all plans in the forecast
- Systematic hunt for energy efficiency
- Subsurface uncertainty in planning
 - Future energy consumption
 - Timing of modifications

Drainage Strategy

- Categorize & Quantify
 - Drainage strategy, value creation and emissions
 - Soft and hard operational limits
- Quantify value creation per carbon emission
- Remove waste and potentially high-grade value creation

Why electrify?

As is

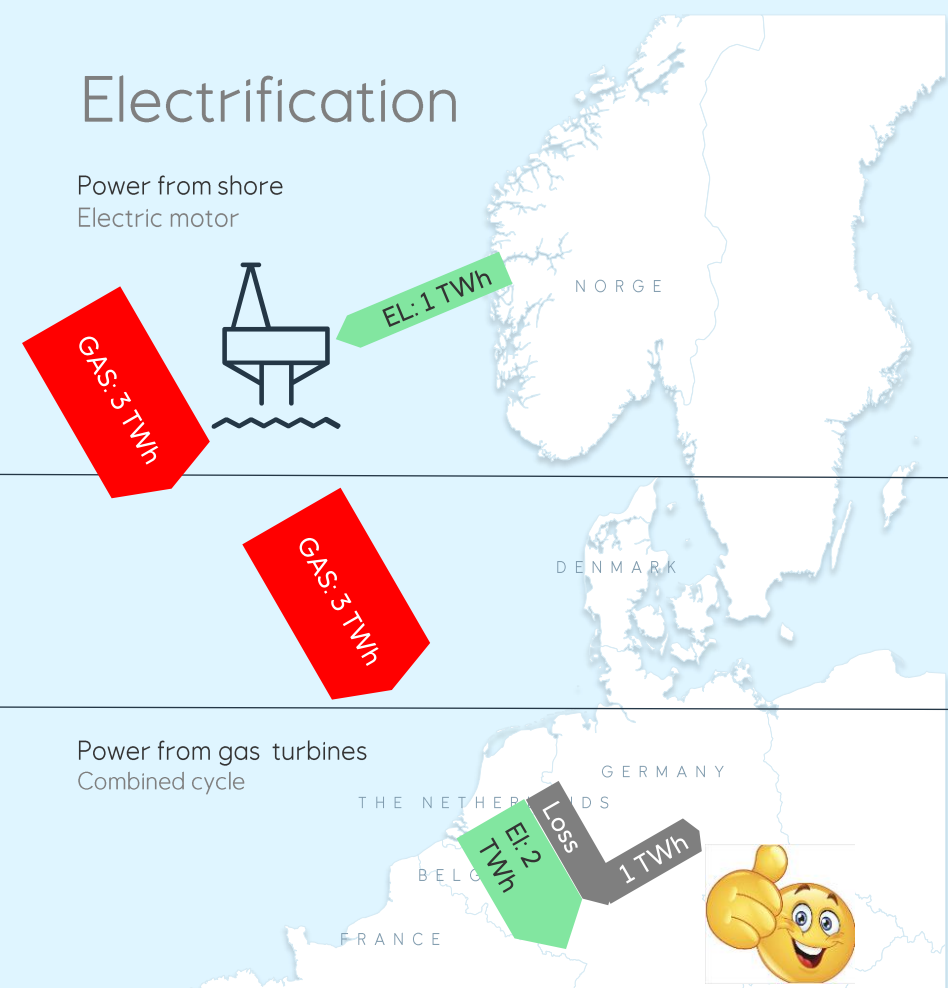


50%

Energy utilised* 2 of 4 TWh

Electrification

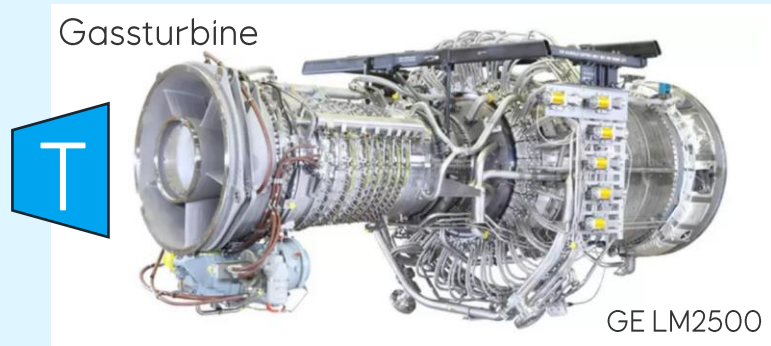
Total input of energy
4 TWh



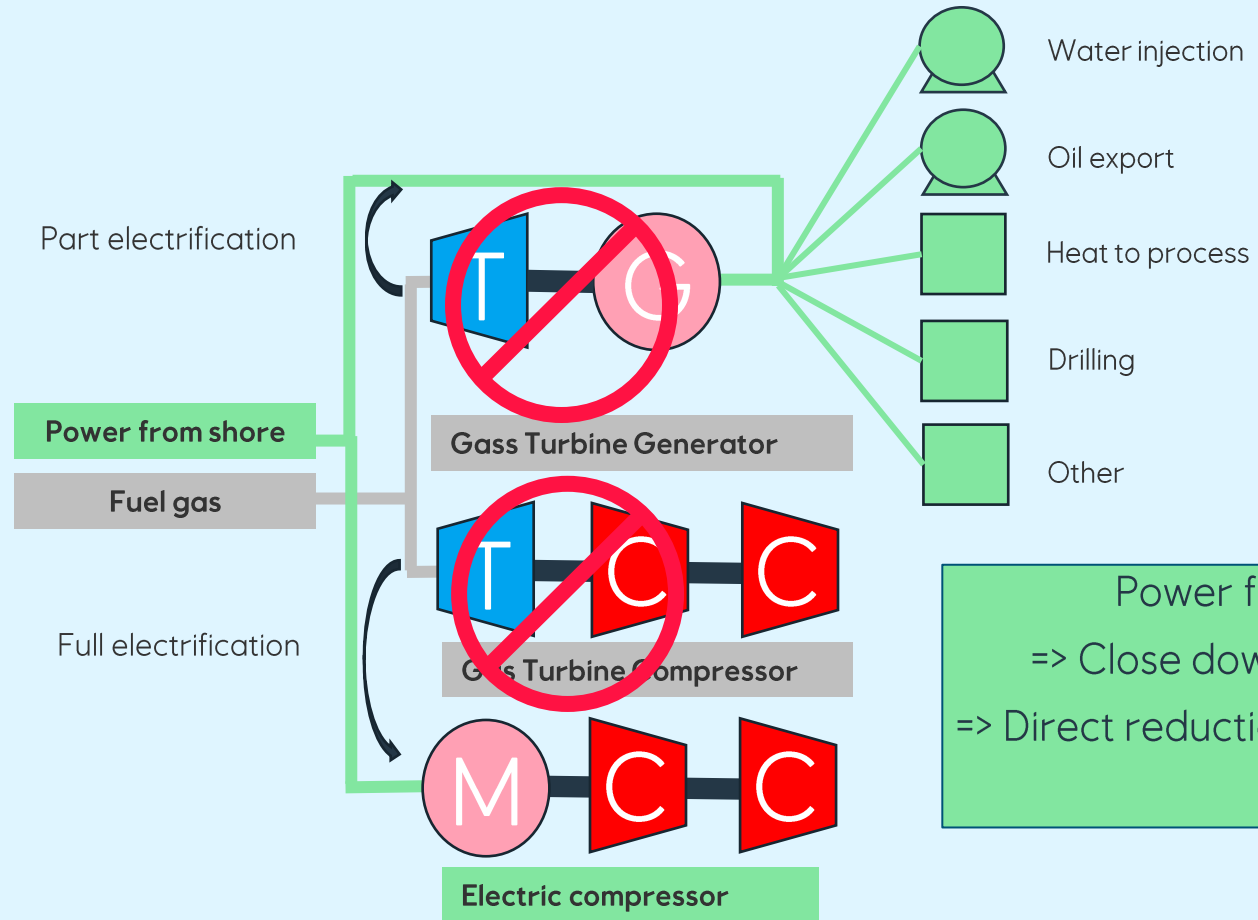
75%

Energy utilised* 3 of 4 TWh

Replace local power generation with power from shore



CO₂ emissions ~100 kt/year
Turbines produce power and compress gas



Power from shore
=> Close down gas turbines
=> Direct reduction of CO₂ emission

Concepts Electrification by Offshore wind

Isolated

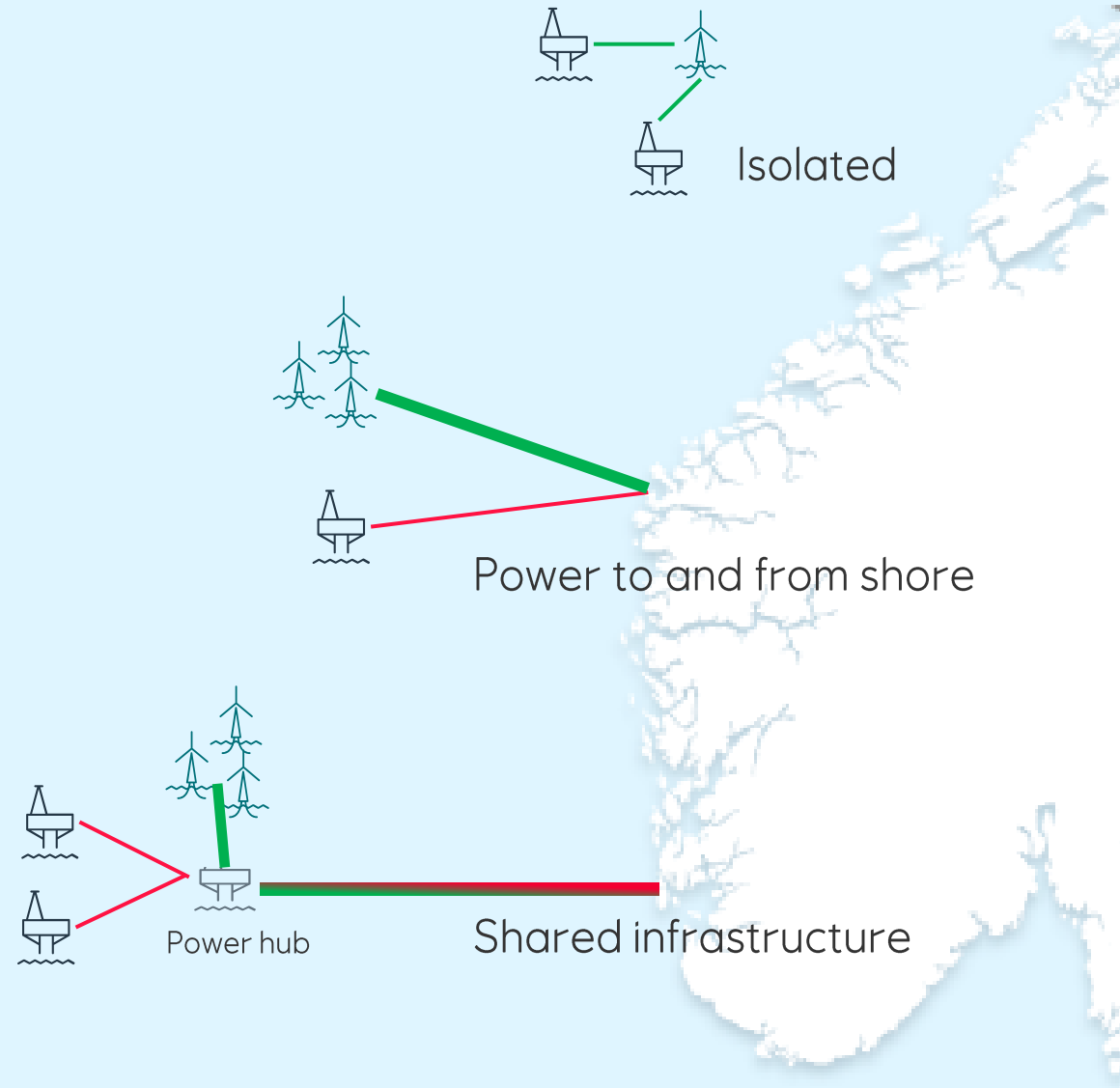
- Limited emission reduction
- Scale limitation

Power from and to shore

- Higher cost
- + Scale
- + High emission reduction

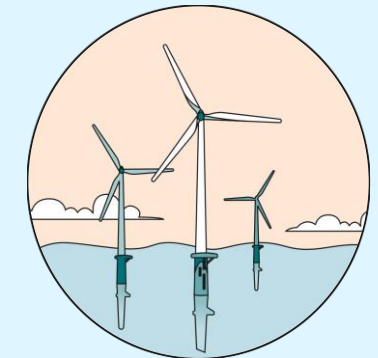
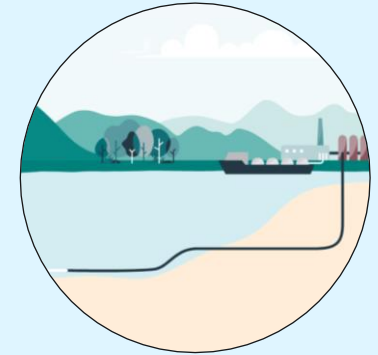
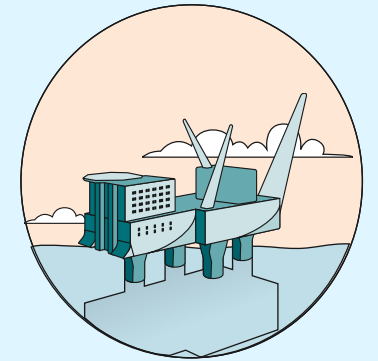
Shared infrastructure

- + High emission reduction
- + Synergy
- + Scale



Summary

- **Carbon taxes** and a **ban on routine flaring** underpin Norway's climate performance
- **Reducing flaring** and **minimizing methane emissions** are essential early steps
- **Equinor's ambitions on emissions reduction**
- **Energy efficiency** measures and **large-scale CO₂ abatement** can follow.
- **Electrification** largest contributor in removing CO₂
- **Energy measuring and forecasting** connected to value creation and emissions necessary
- **Many similarities** in opportunities for **Brazil and Norway** within emissions reduction

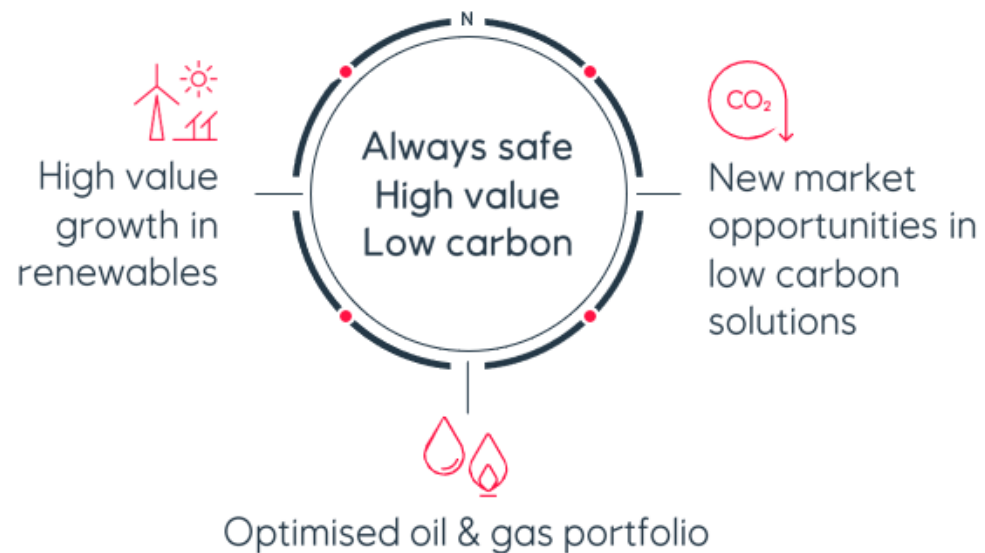


Equinor – A leading company in the energy transition

NET ZERO BY 2050



STRATEGY



LOW CARBON AMBITIONS

15-30 MILLION TONNES PER ANNUM
CO₂ transport and storage capacity by 2035
Equinor share

3-5 MAJOR INDUSTRIAL CLUSTERS
Clean hydrogen projects by 2035

50 % OF GROSS INVESTMENTS
Renewables and low carbon solutions by 2030