

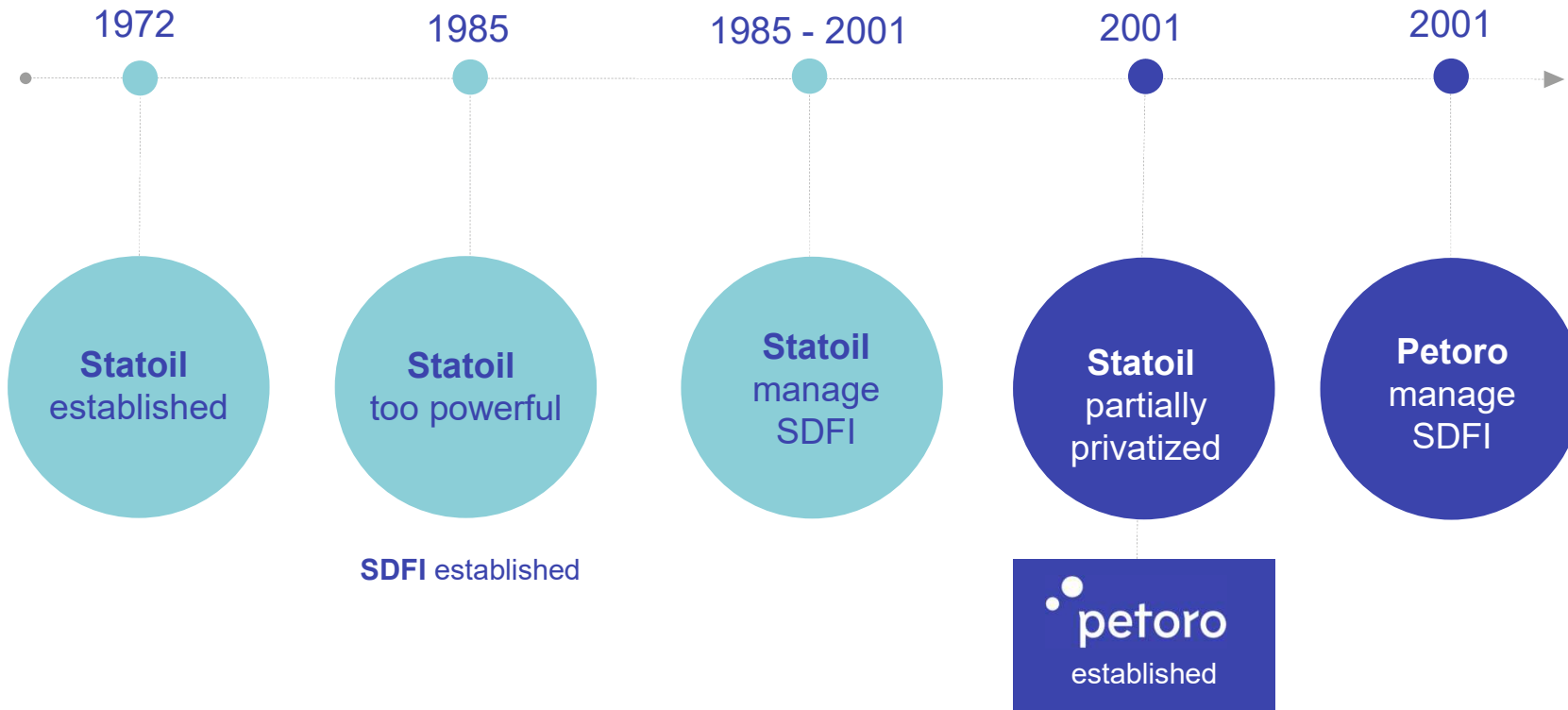


Making the most out of The Norwegian Oil and Gas Industry

ALRDC Gas Lift Workshop, 6 June 2024

Source: Lizette Bertelsen / Johnny Engelsvoll / Equinor

The history of SDFI and Petoro

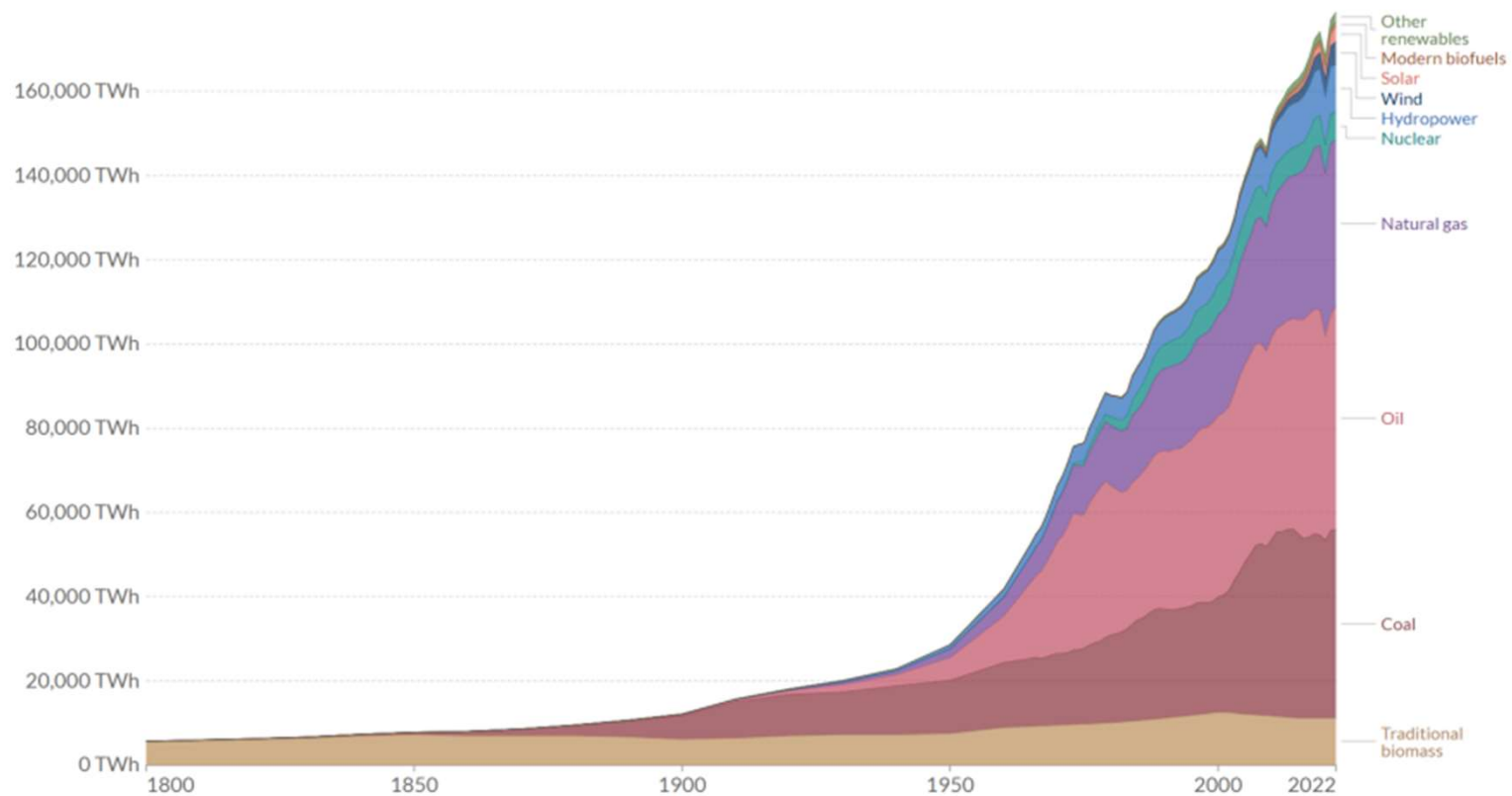


SDFI – State's Direct Financial Interest

The Energy Trilemma



Global Energy Consumption



Source: Energy Institute Statistical Review of World Energy (2023); Vaclav Smil (2017)

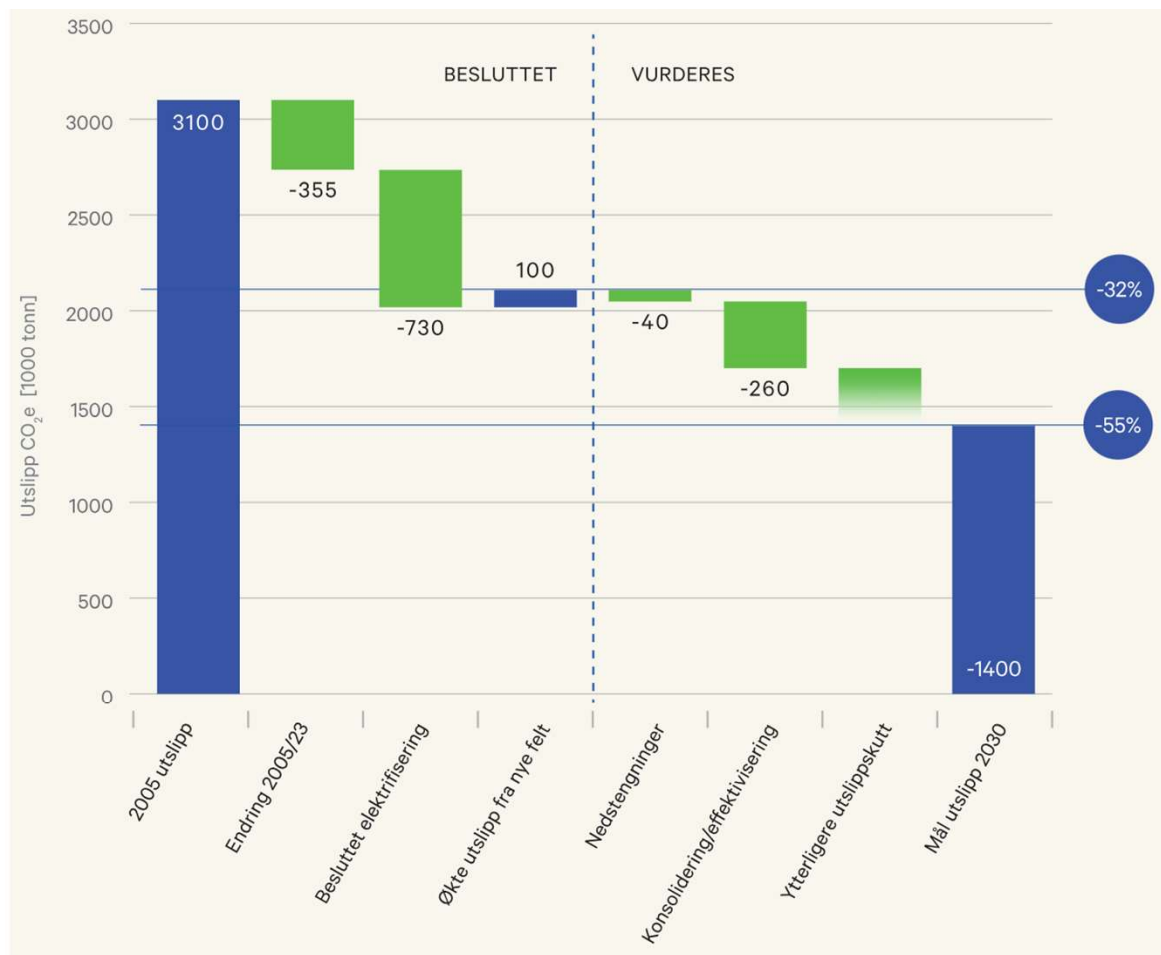
OurWorldInData.org/energy • CC BY



Foto: Hayat Al-Sharif



Reduction of CO₂-footprint – Petoro portfolio

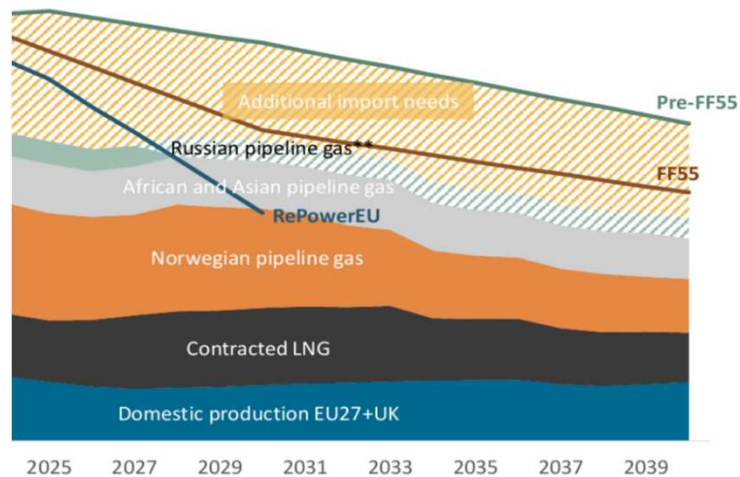




Gas demand and competitiveness

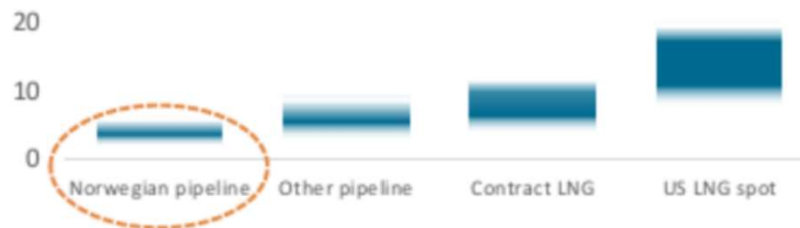
EU27+UK gas sources and gas demand*
Billion cm

Forecast

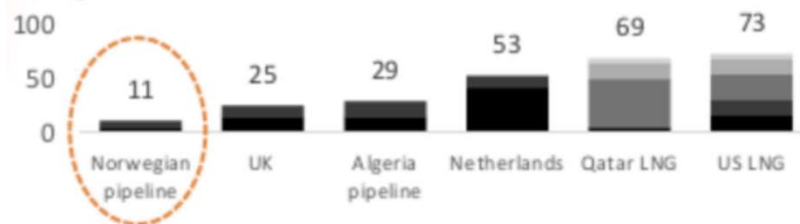


* All three demand scenarios are based on the UK High Electrification scenario in addition to the respective EU scenario.
Source: Rystad Energy research and analysis; Rystad Energy GasMarketCube

Indicative cost of gas delivered to EU27+UK
USD/MMBtu

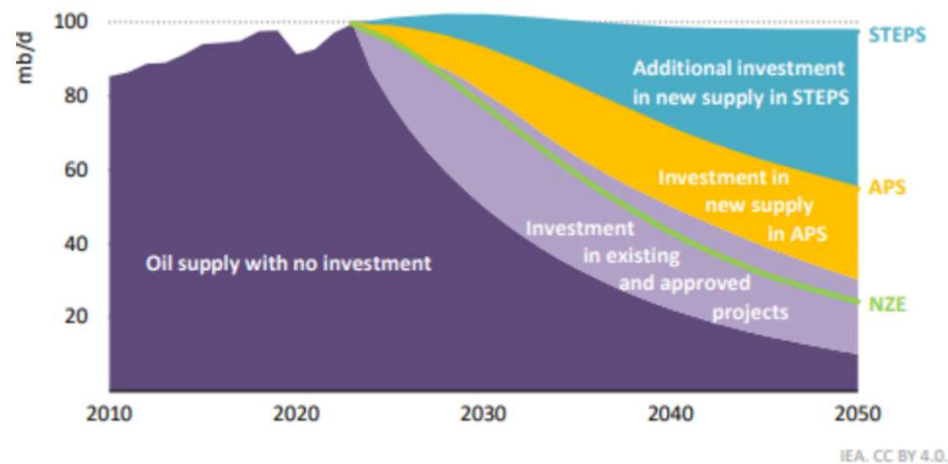
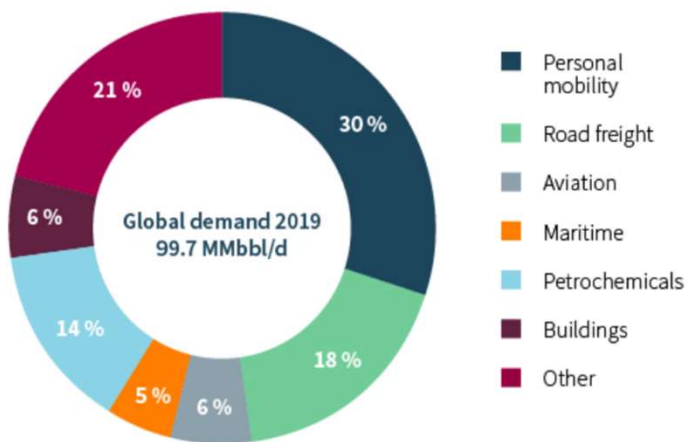


Emission intensity for gas delivered to EU27+UK
Kg CO₂/boe



Source: OG21

Oil – investments needed in all scenarios



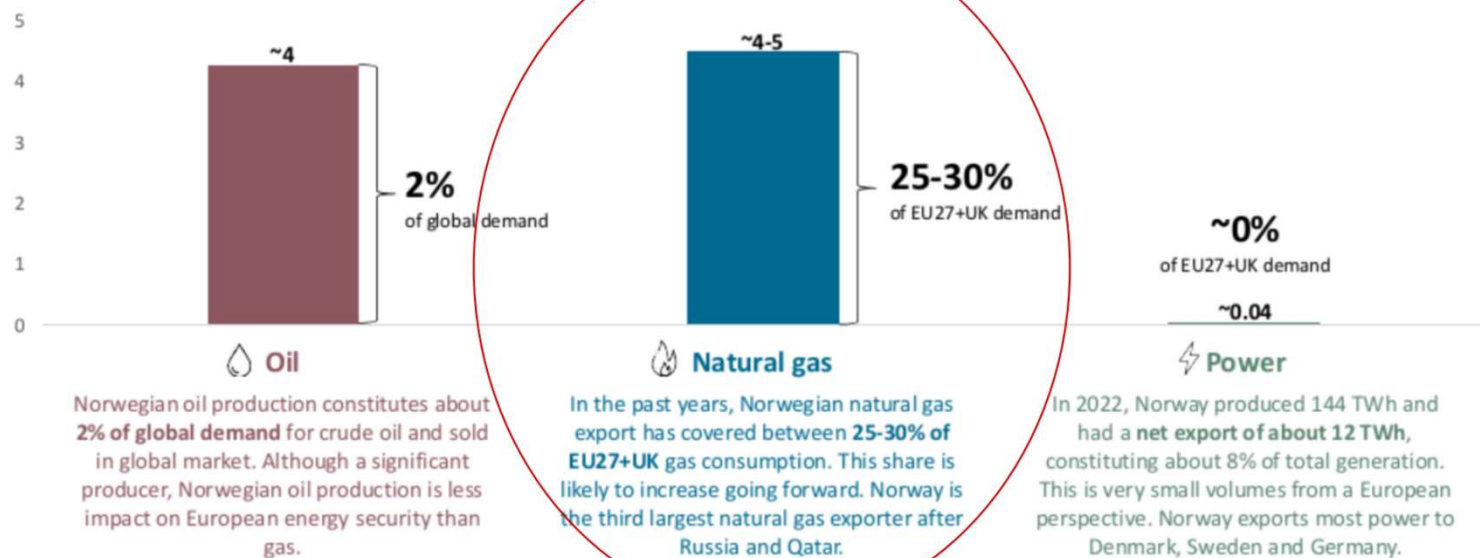
What oil is used for (OG21, 2021)

Significant investments needed to secure sufficient oil supply (IEA, 2024).

Source: OG21

Significance of NCS petroleum

Norwegian 2022 energy export split by source*
Exajoule

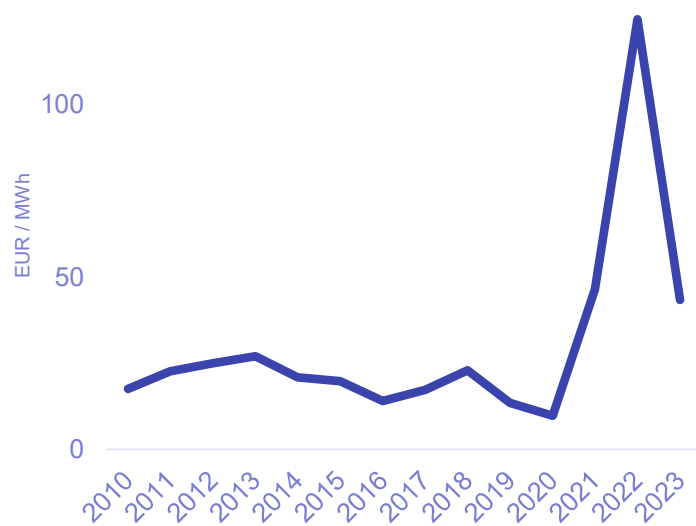


* Power is converted from TWh to EJ using a conversion factor of TWh = 0.0036 EJ.
Source: Rystad Energy research and analysis; Rystad Energy UCube; Norsk Petroleum; Statnett

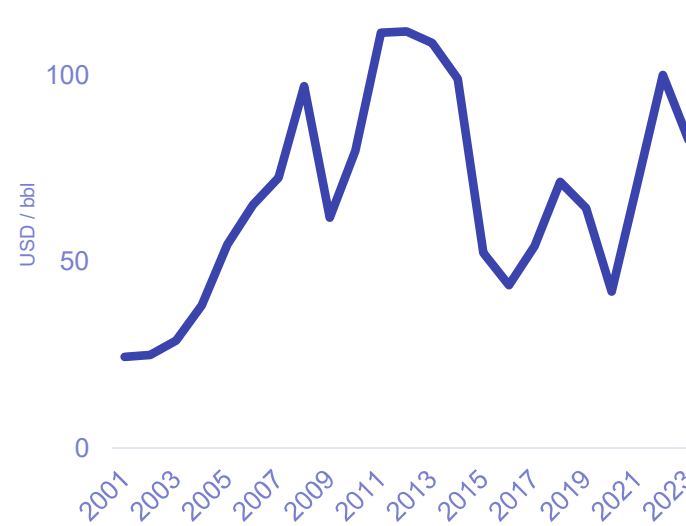
Source: OG21

Volatility in prices

Gas price (yearly average TTF)



Oil Price (yearly average Brent)



We
manage
substantial
values



~21%
of the oil production
at NCS



~1/3
of the gas delivered
from NCS



~1/3
of the remaining
reserves



~NOK 30 bill
investments in 2023



~NOK 12 bill
drilling & well
investments in 2023



~NOK 277 bill
cash flow
in 2023



43 of 92
fields in production



195 licenses
the largest partner
on NCS



72
employees

For reference !



\$



\$



\$



\$



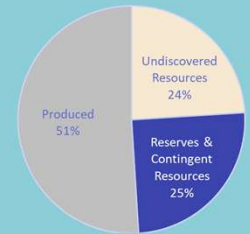
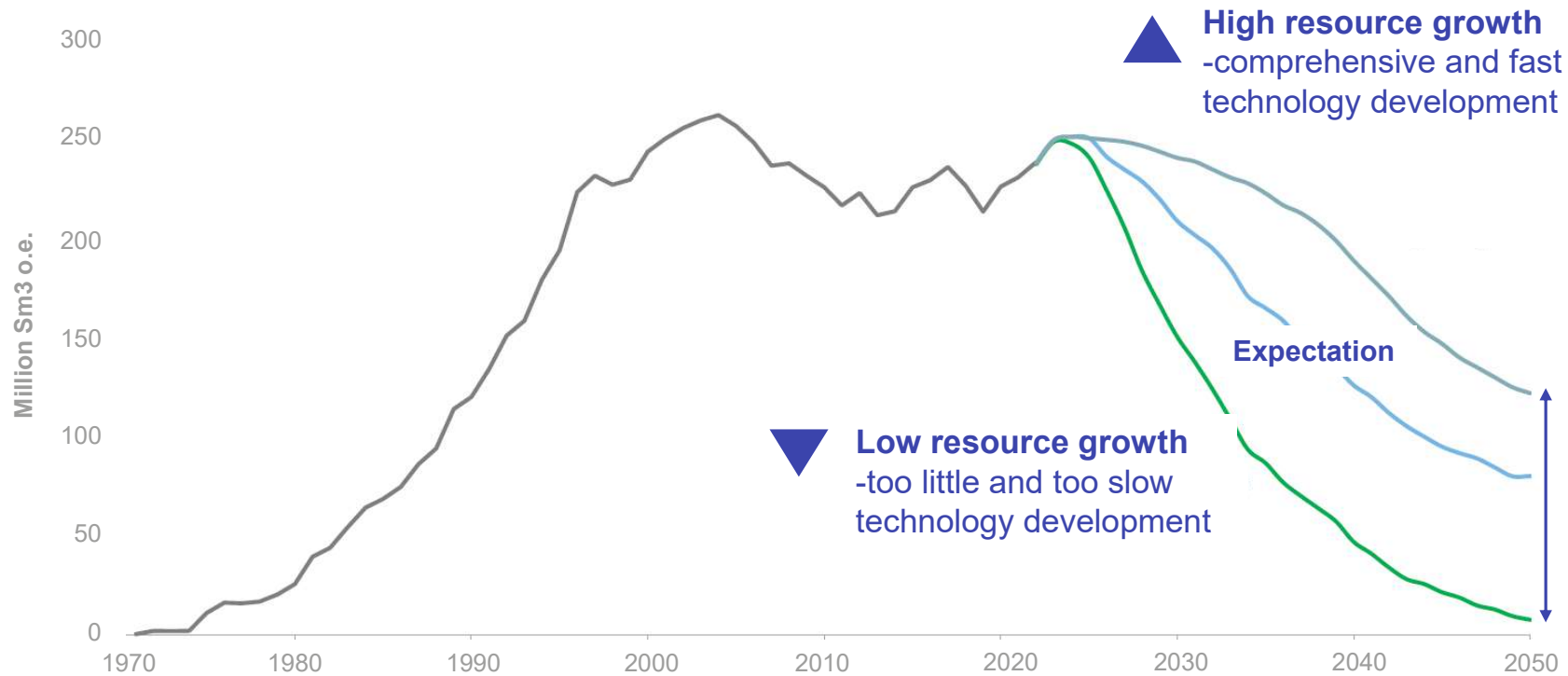
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MAERSK

petoro

High value creation potential

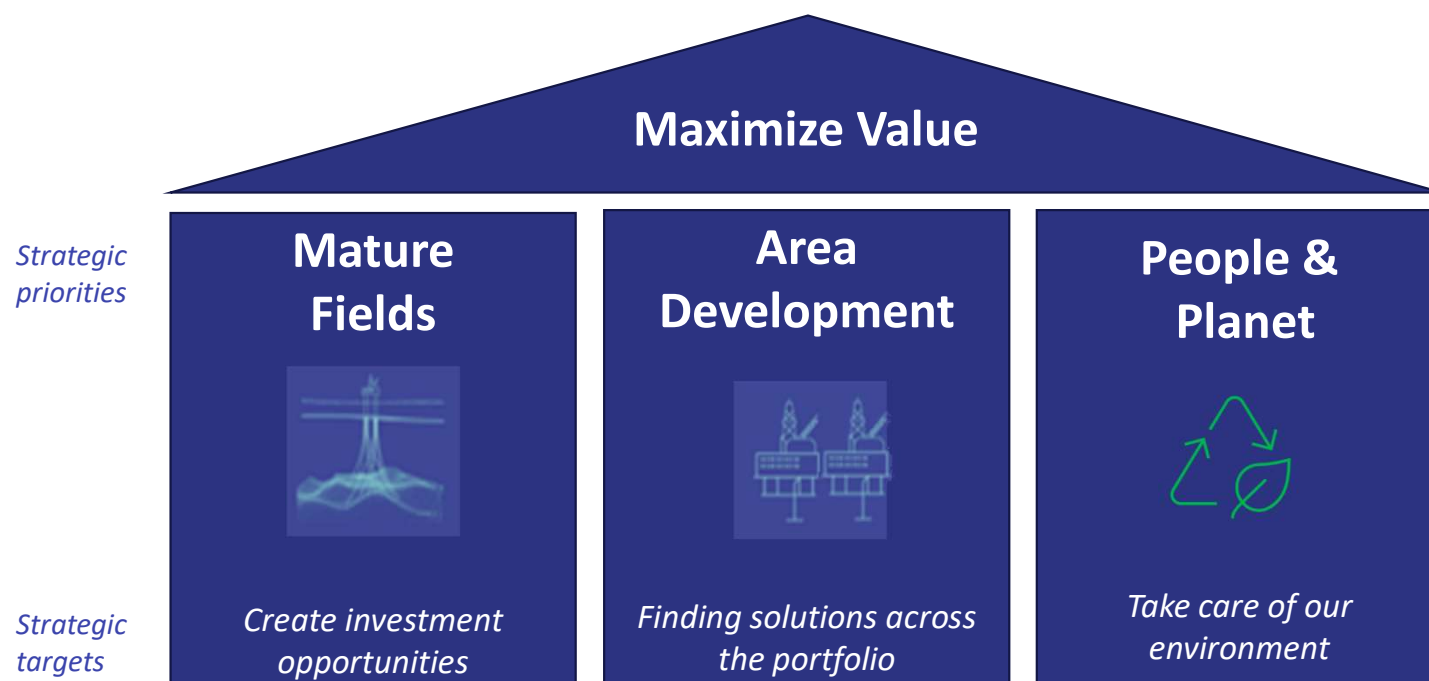


Here are the possibilities



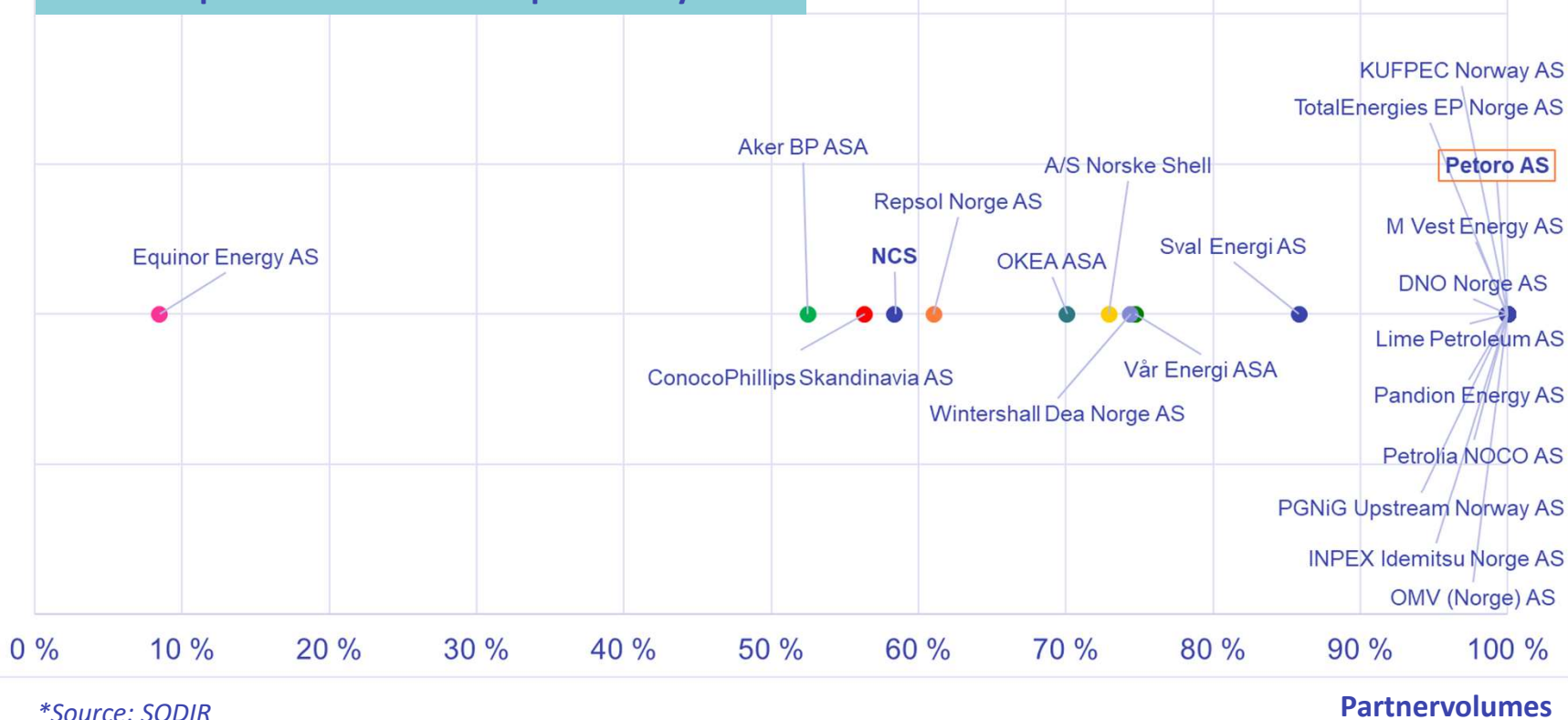
Source: Norwegian Offshore Directorate

Strategy



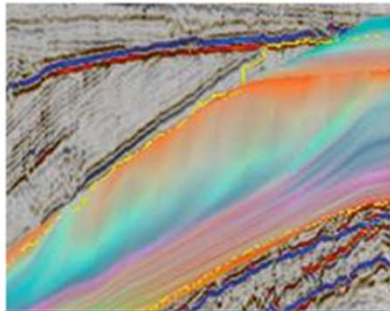
Licenses/JVs – collaboration important

Share of production fra fields operated by others



*Source: SODIR

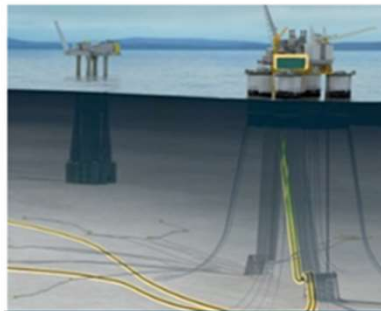
Technology needs NCS



Improved subsurface understanding



Cost-efficient drilling and P&A



Efficient use of infrastructure



Unmanned installations and subsea tie-backs



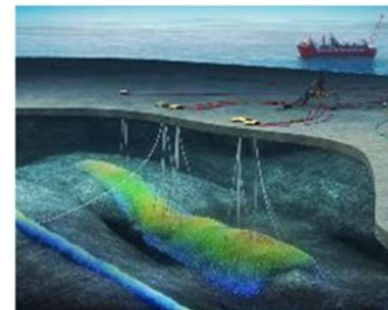
Energy efficiency and cost-efficient electrification



Carbon capture and storage



World leading HSE and environment



Digitalization

Sustained production from mature fields = lots of wells

Oljeproduksjon Sm³/dag

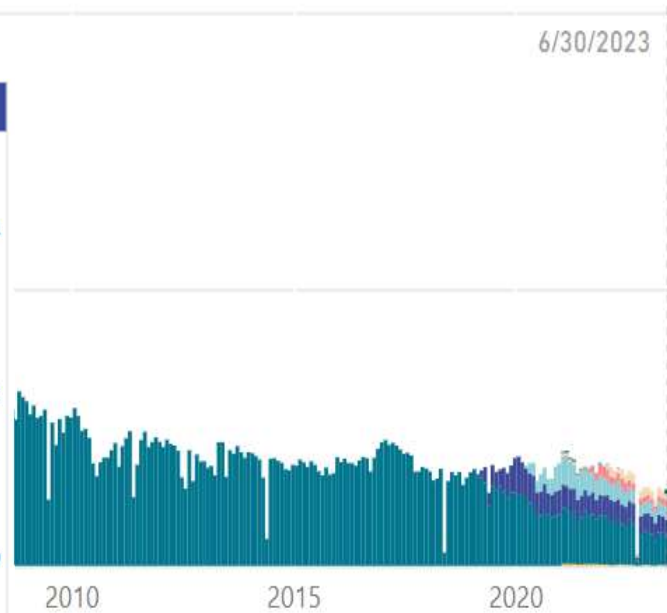
Brønnbane: Alle

Årsgruppe (Blank) ->2018 2019 2020 2021 2022 2023

100K

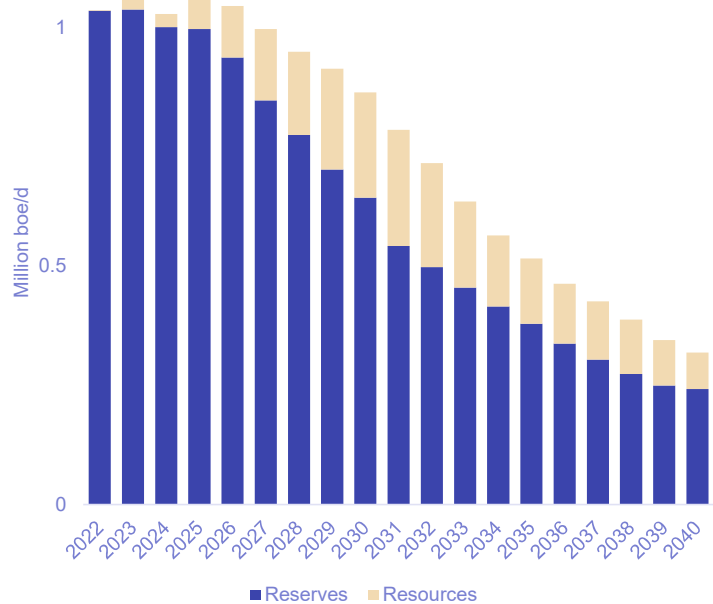
6/30/2023

BORETAKT VS SNITT KPI FELT



Drilling and drainage are critical themes

- Significant value in improved drainage, need more wells, faster



64

% share of wells from
MOUs on NCS

50

% of current oil
production comes from
last 3 years drilling

40

Drilling in % of total
capex next 4 years

700

of wells to be drilled
next 10 years

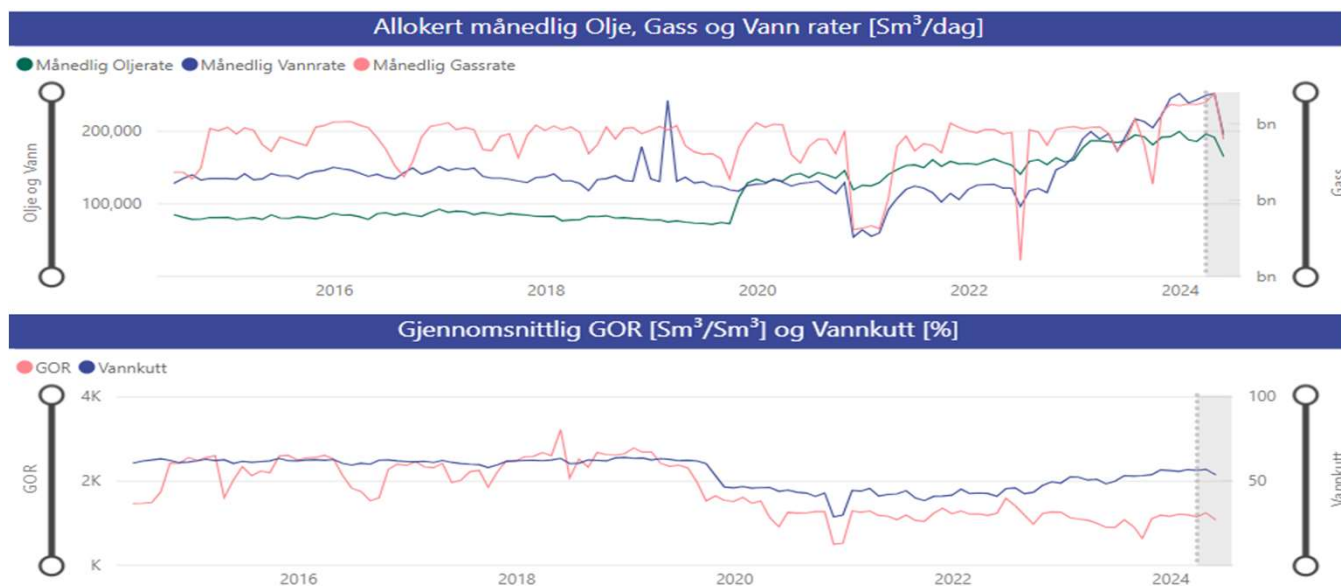
360

Billion NOK

Potential future Petoro
revenue from unproven
resources

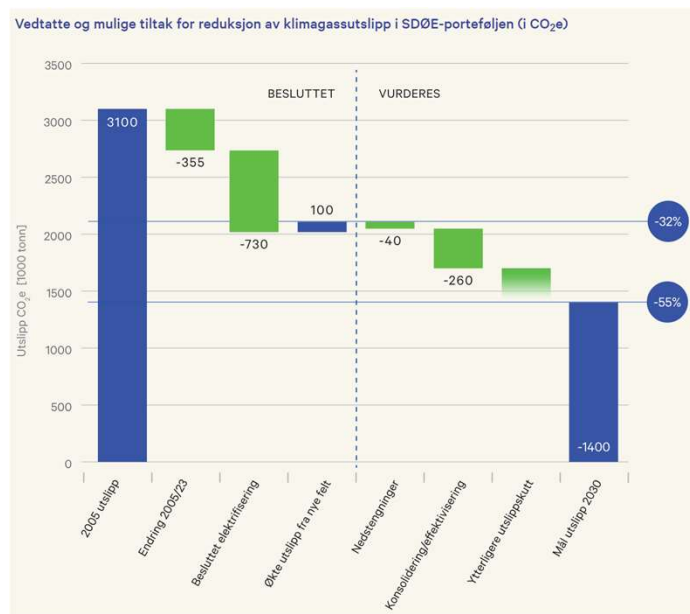
Gaslift is very important for our liquid production

>85% of Petoro oil production is dependent on gaslift



- 20 producing fields with gaslift (platform & subsea)
- ~ 1,2 million bbls/d oil and 1,5 million bbls/d water (100% of field)
- Gaslift is the dominant artificial lift method

Gaslift & water injection - energy intensive



- Gaslift and associated PWRI are energy intensive
- Water cut is now over 50% on average for our gaslifted fields – and increasing
- We need energy efficient technology gains
- We need to be able to optimise for power usage



Thank
you!

Source: Øyvind Gravås and Even Kleppa/©Equinor.

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