



RYSTAD ENERGY

EFFECTS OF CHANGING THE NORWEGIAN PETROLEUM TAX REGIME

NORSK FORENING FOR OLJEREGNSKAP OG SKATT
KRISTIANSAND NOVEMBER 8TH 2021

TORE GULDBRANDSØY, SVP

Total collapse of 60% in investments in 40 USD/bbl oil price case

April 2020

NCS Capex frem mot 2027 med Covid-19 og gammelt skatteregime i flatt 40 scenario

NCS Capex
Milliarder NOK

200

180

160

140

120

100

80

60

40

20

0

2015 2016 2017 2018 2019 2020 2021 2022 2023 2024 2025 2026 2027

Prognose

129

98

62

82

93

93

75

67

-60%

Brent oljepris 2019-May 2020

USD per fat

75

50

25

0

January

February

March

April

May

June

July

August

September

October

November

December

January

February

March

April

May

2019

2020

*Capex inkluderer investeringer i brønner og annen produksjonsinfrastruktur (leting, nedstengningskostnader, landanlegg og elektrifiseringsprosjekter er ikke inkludert)

Kilde: Rystad Energy analyser

Energy transition with increased speed and momentum



Net Zero by 2050

A Roadmap



EU taxon

What the EU is

'Fit For 55': Here's What To Expect As The EU Unveils Its Ambitious New Climate Legislation

EU Arctic strategy: a stronger EU engagement for a greener, peaceful and prosperous Arctic. October 2021.



'We want to be the capture, the Qatar Net Zero Strategy

SUSTAINABLE FUTURE

Dutch court rules oil giant Shell must cut carbon emissions by 45% by 2030 in landmark case

ipcc
INTERGOVERNMENTAL PANEL ON climate change
Climate Change 2021
The Physical Science Basis

despread,

G20 pledges to end finance for overseas coal plants



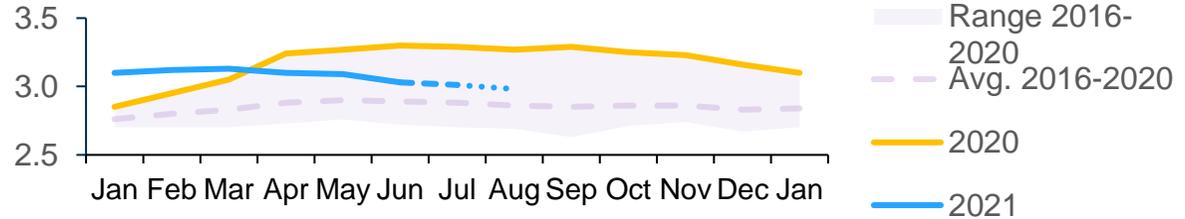
The FT View **The editorial board**
More hot air than progress at COP26
Lack of leadership by the biggest polluters is hampering decisive action

We see record high energy prices this year, but for how long?



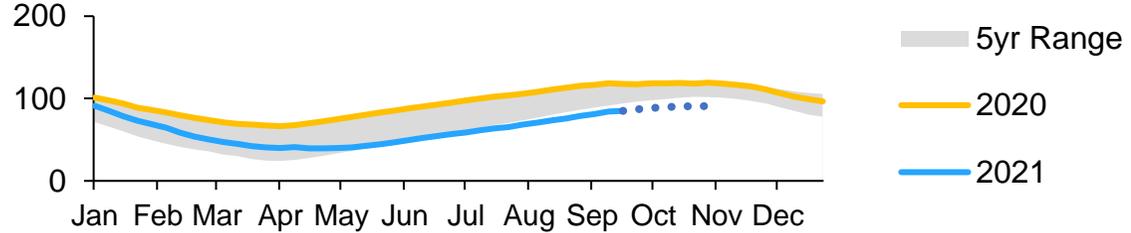
Global crude oil storage - Commercial

Billion barrels



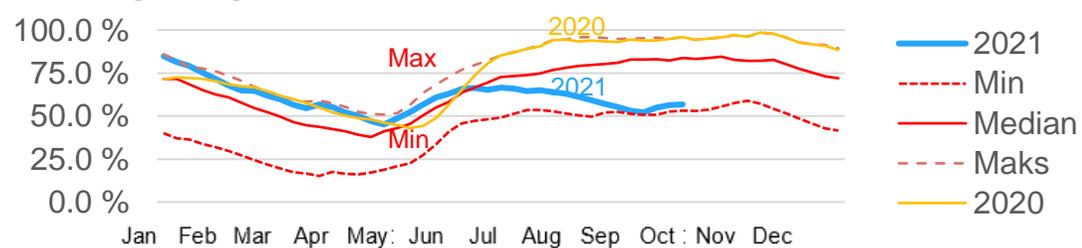
Europe Underground gas storage level

Billion cubic meters



Norwegian hydropower storage level – area NO2

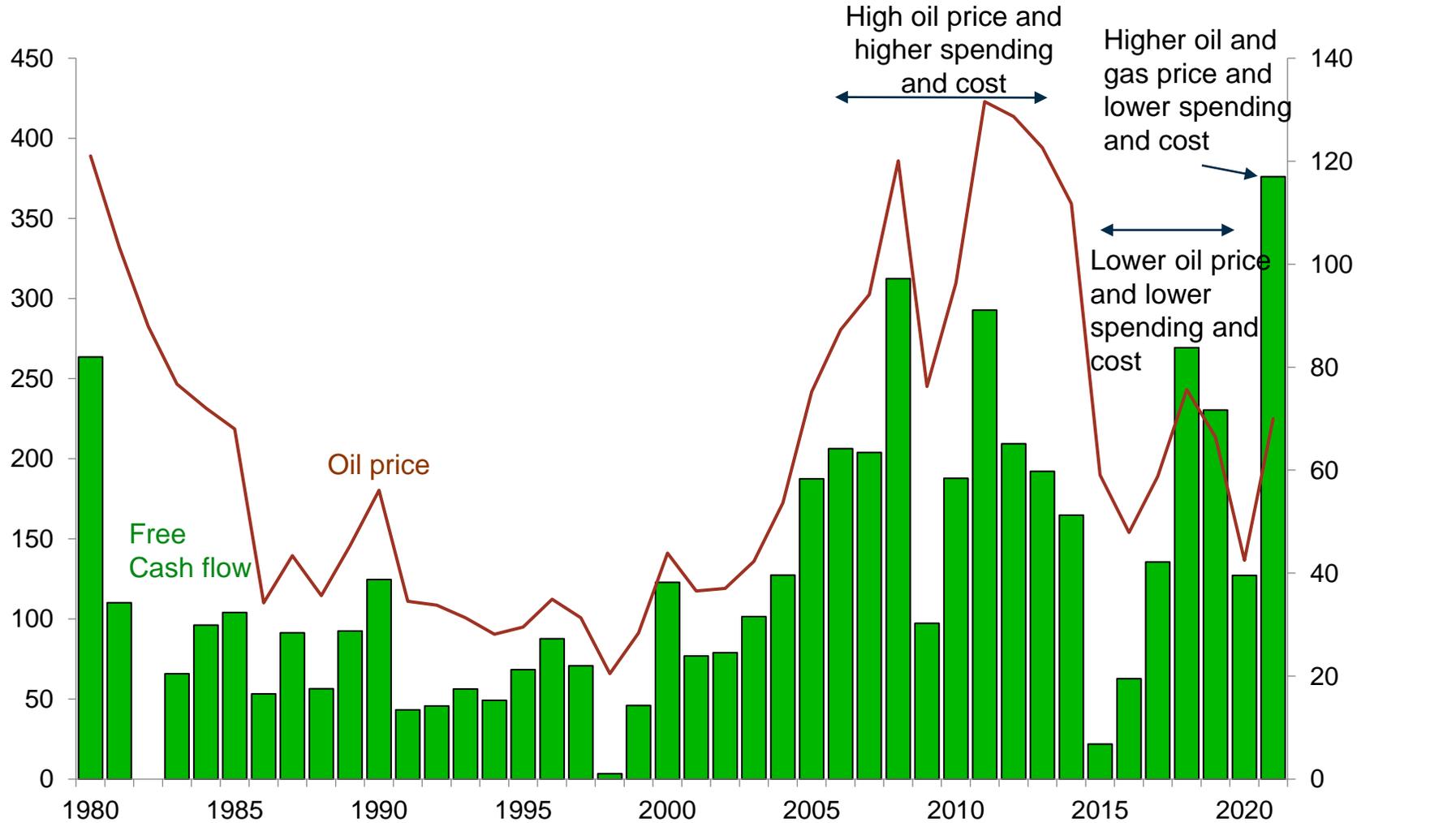
Percentage filling



Source: Rystad Energy research and analysis. Oil market report. Gas market report. NVE. Nordpool. Oil, gas and power prices are from October 26th 2021

2021 to be a record free cash flow year

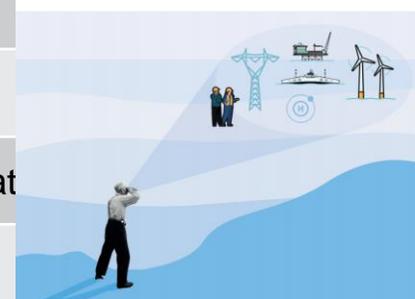
Free cash flow* for all public E&P companies and Brent oil price
 Billion USD (real)



Source: Rystad Energy research and analysis. *Only Upstream revenue minus opex and capex, but no financing cost.

Norway well positioned for most energy opportunities

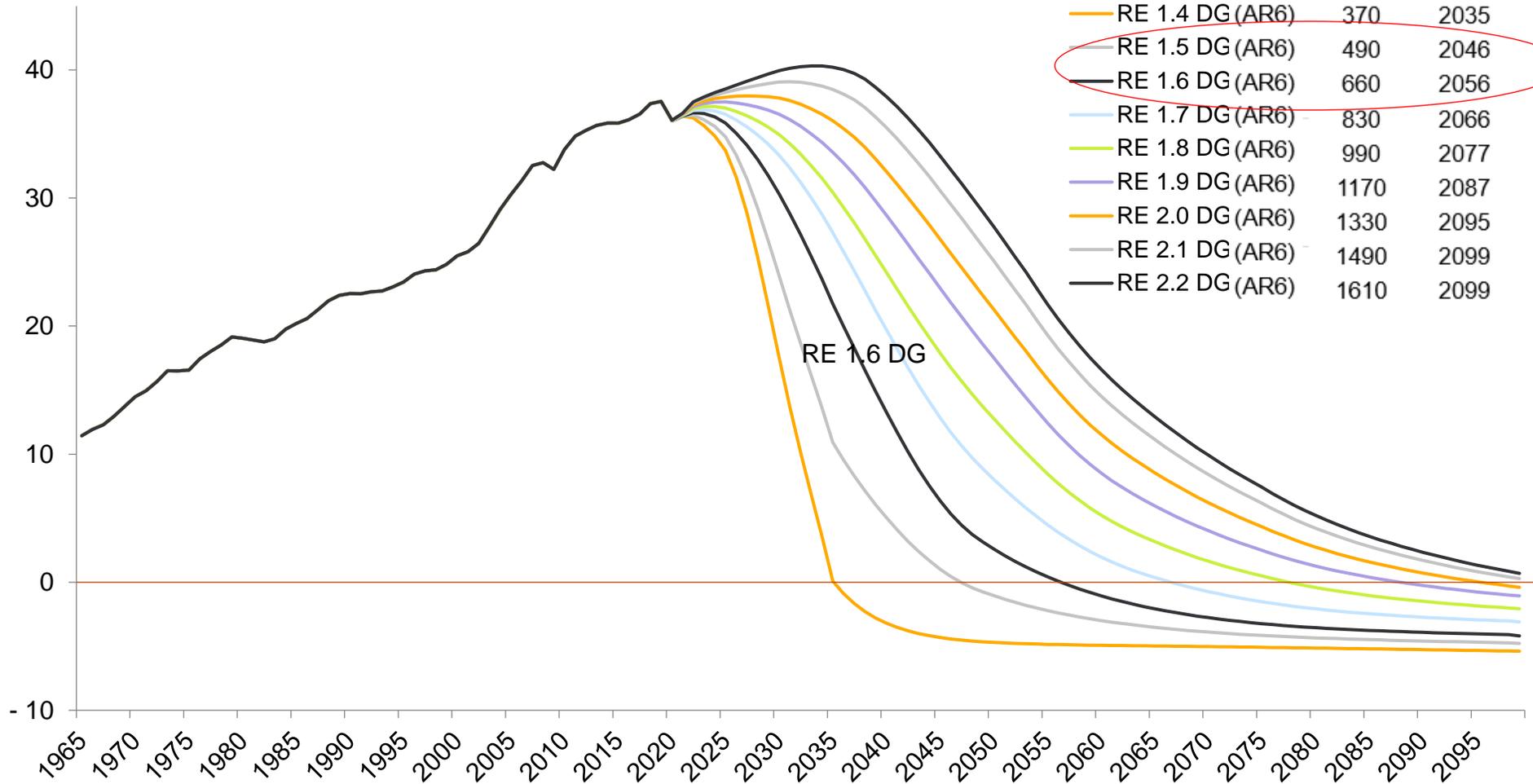
Hydro	Zero emissions but challenge biodiversity
Oil	High value and out of sight, but high emissions scope 3
Natural Gas	High value, better than coal, but high emissions scope 3
Offshore Wind	Low emissions and out of sight, but challenging economics at deep water
Onshore Wind	Low emission, but not out of sight and impact biodiversity
Grey Hydrogen	Good value, but high emissions
Blue Hydrogen	Good value with high CO2 tax and lower emissions, but taxonomy could challenge
Green Hydrogen	Zero emissions, but need subsidies or high CO2 pricing
CCS	Large market across industries, but need high CO2 pricing
Batteries	High value and linked to zero emission targets, but ingredients a challenge
Metals	Offshore now also an opportunity in addition to onshore mining
Solar	Cost down, but large scale still to be proven in Norway
Bio	Different climate effects short, medium and long term



A large spread in possible CO₂ emissions scenarios in our Energy Scenario Cube

Rystad Energy Global CO₂ emissions scenarios

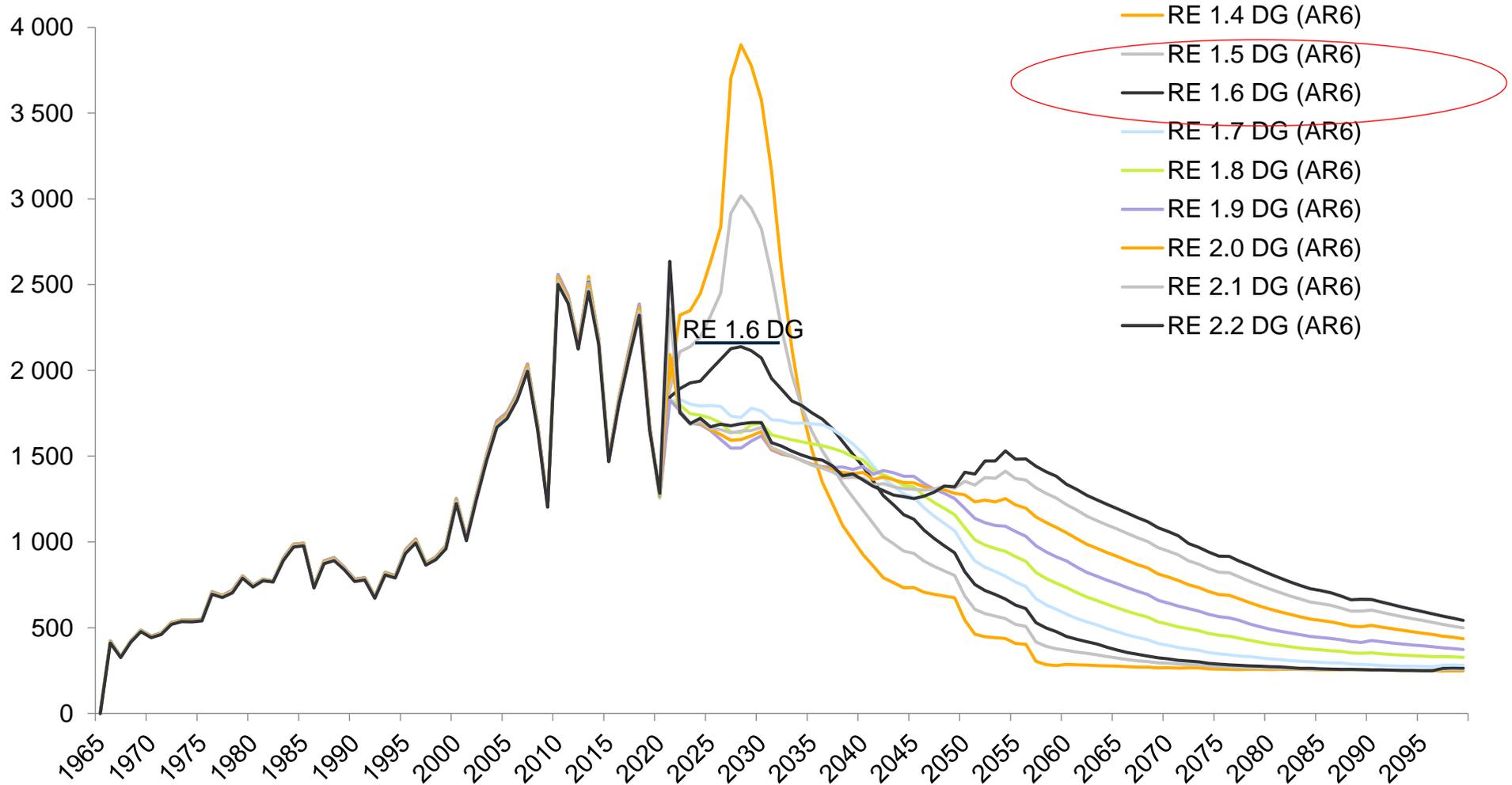
Gt



Source: Rystad Energy Energy Scenario Cube

RE 1.6 DG could be possible based on investments required for fossil and renewables

Energy Investments by scenario – upstream and midstream all primary energies
USD Billion

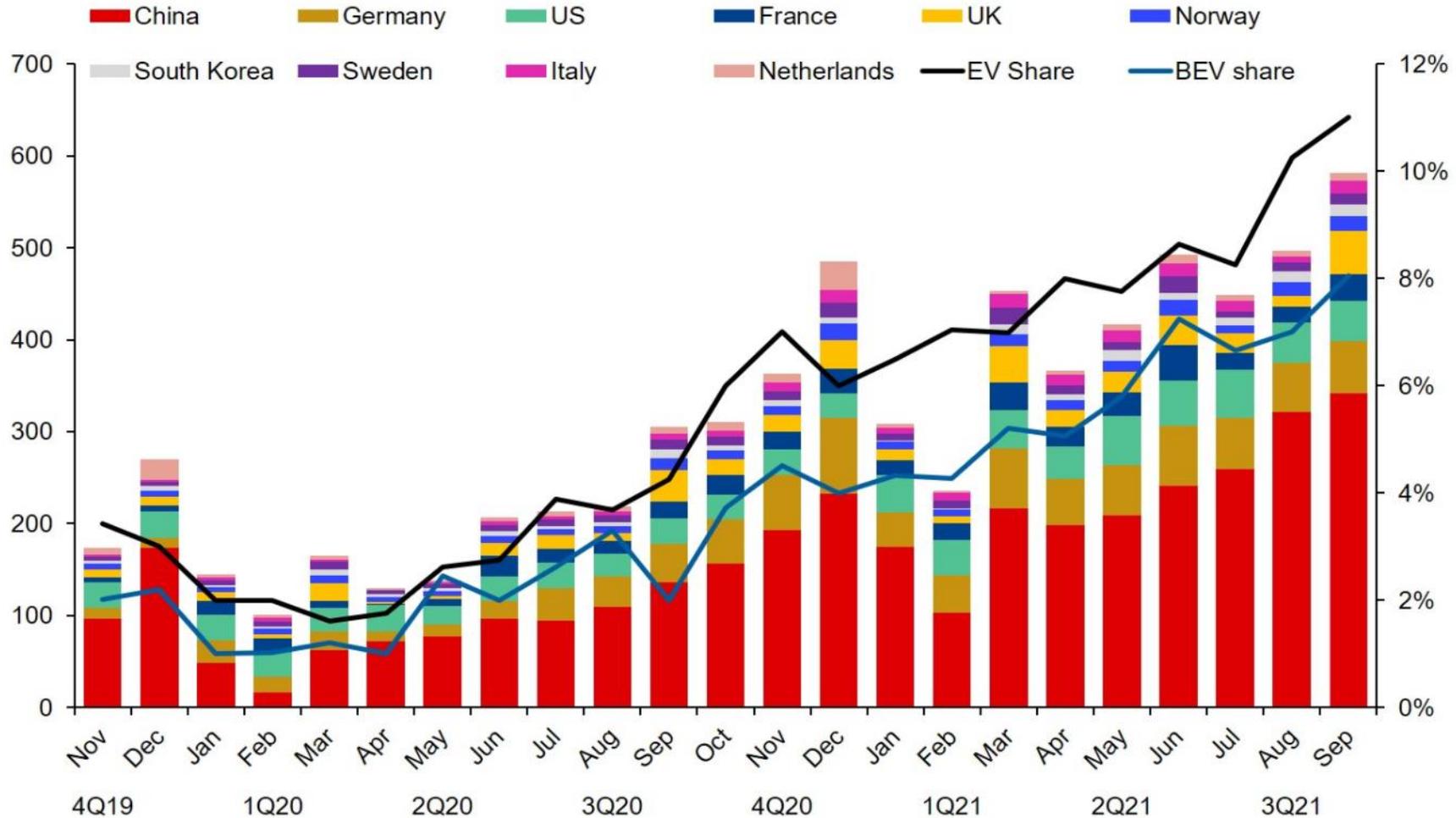


Source: Rystad Energy Energy Scenario Cube. AR6: IPCC Assessment Report 6

Global electric vehicle sale passed 10% in September 2021

Electric vehicle* sales and market share from Nov-19 to Sep-21 (top 10 countries)

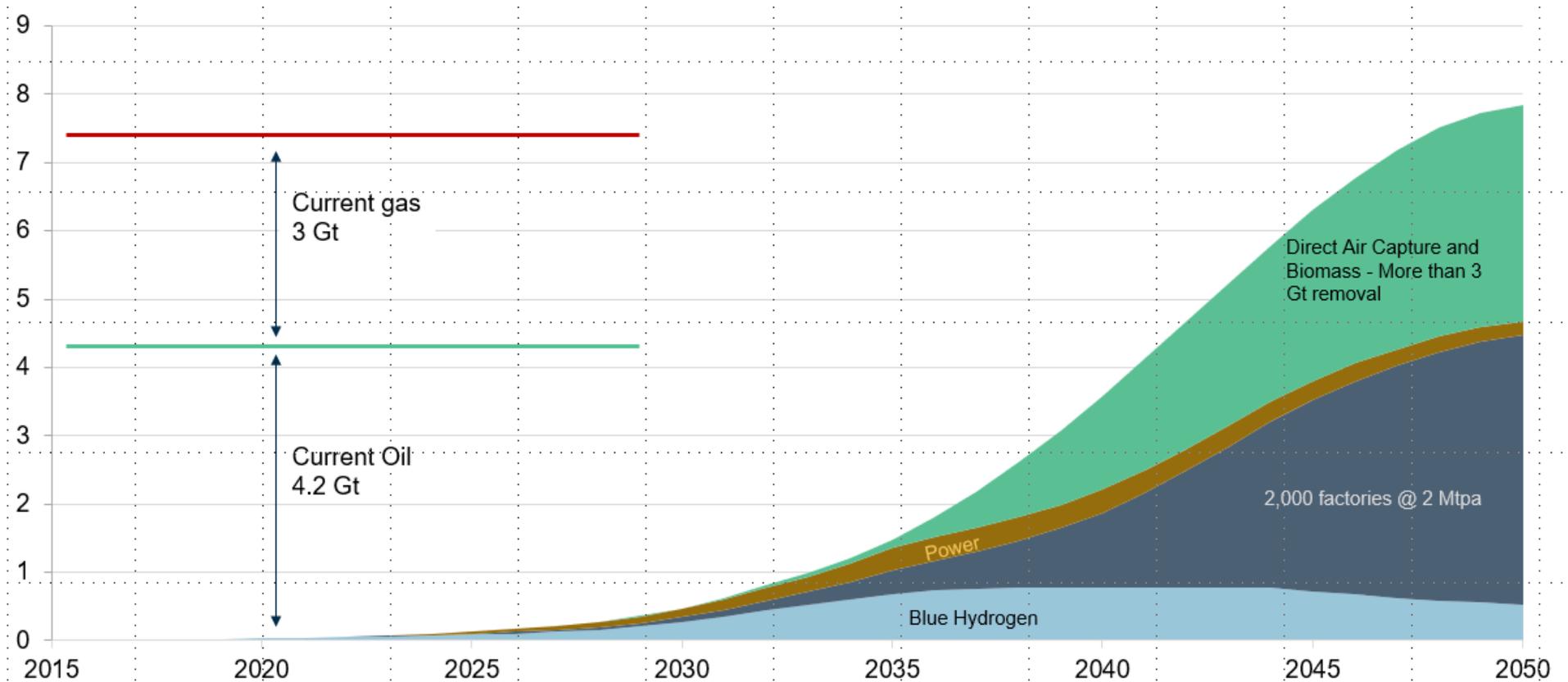
Million bbl/d



Source: Rystad Energy BatteryCube. Electric vehicles include Battery Electric Vehicle and plug-in hybrid vehicle.

Industry and CO2 removal potential larger industry than oil and gas longer term

Captured CO2 Billion tons (Gt)

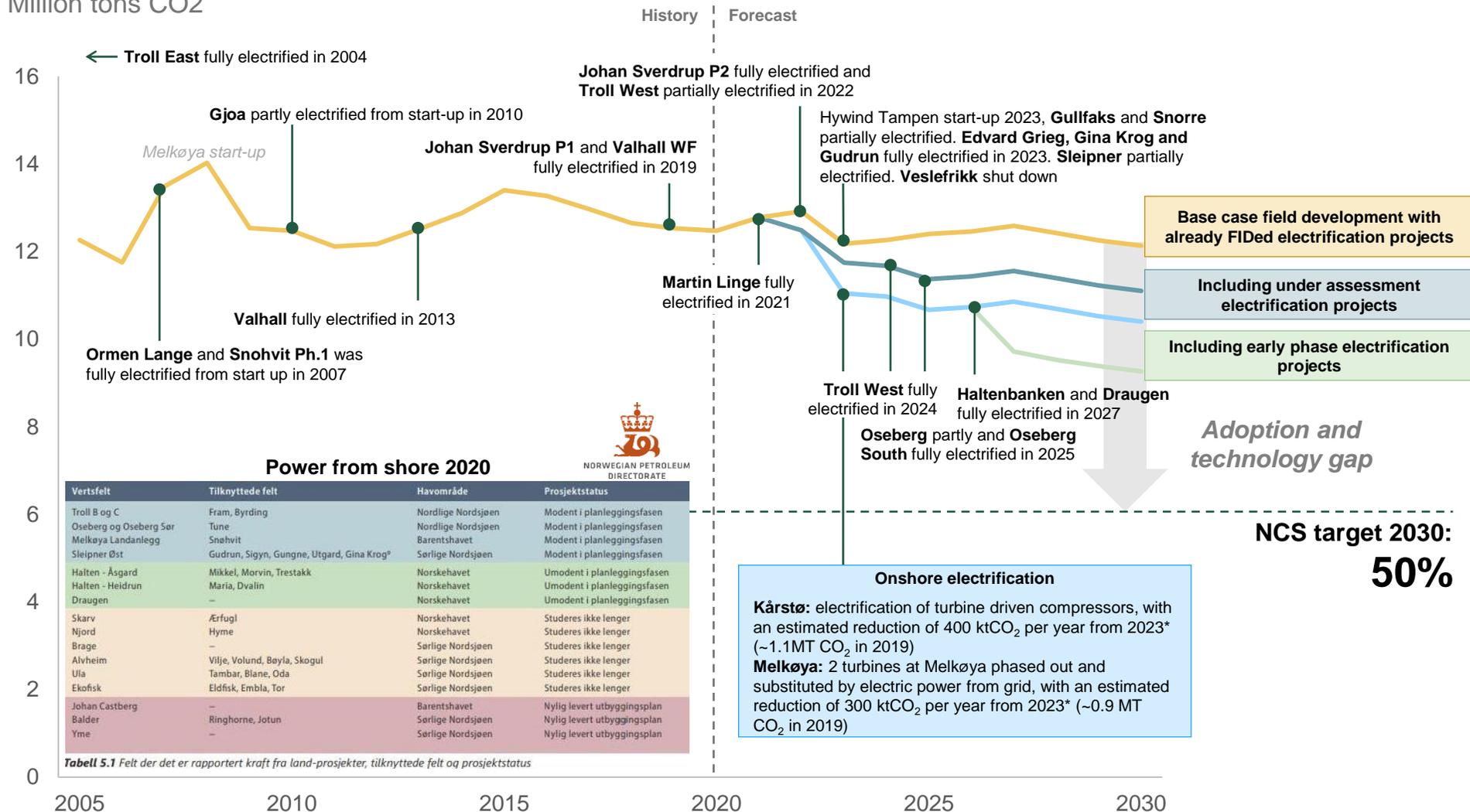


Source: Rystad Energy Energy Scenario Cube 1.6 DG Scenario

Large gap to 2030 CO2 emission target

Upstream emission volumes on the NCS from 2005 to 2030 including flaring

Million tons CO₂

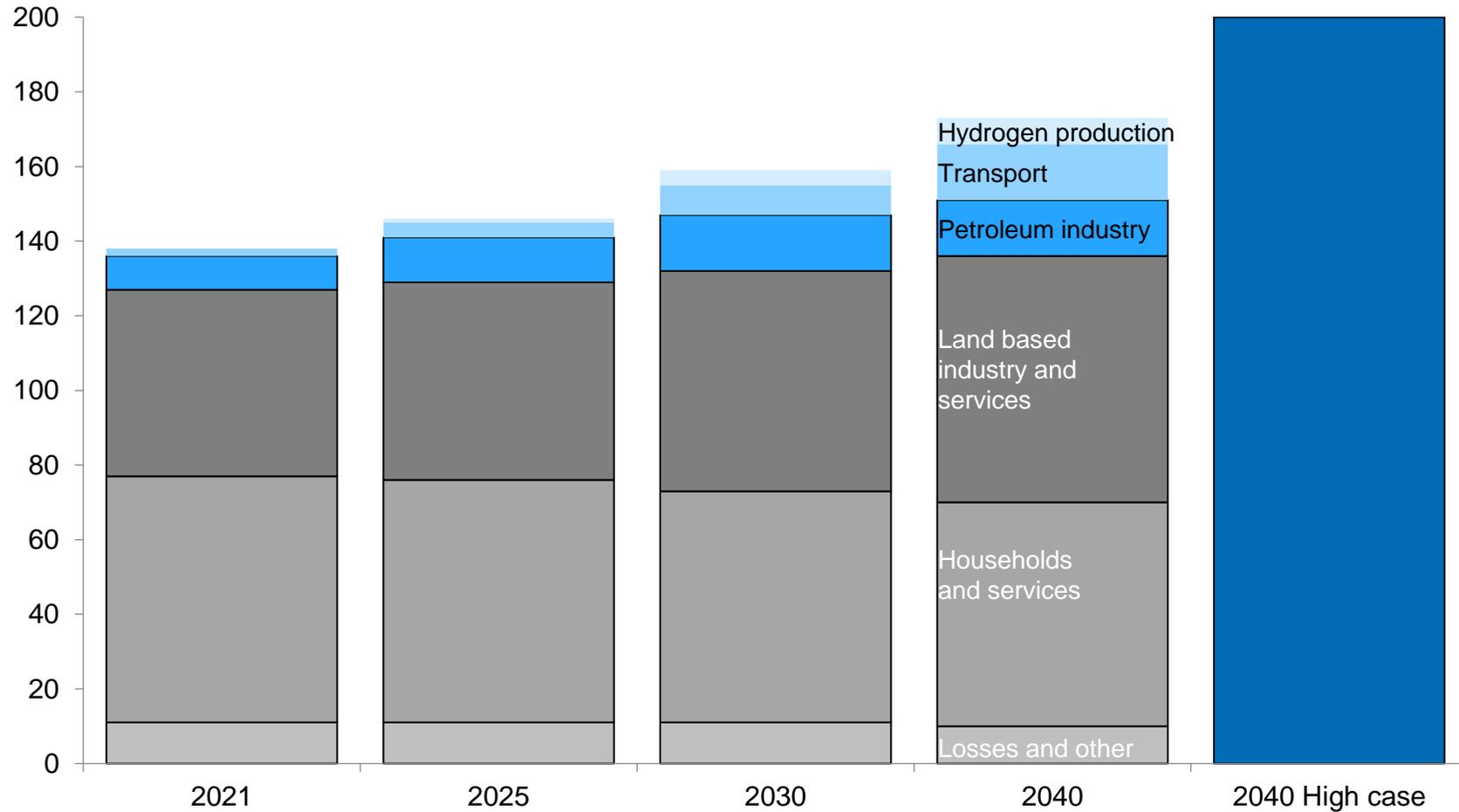


Source: Rystad Energy Ucube and Emission Dashboards. SSB.

...and competition for the electricity between sectors will be high

Norwegian power consumption

Terra watt hours



Source: NVE.

Largest differences relate to uplift and full capex expense year one

May 2020

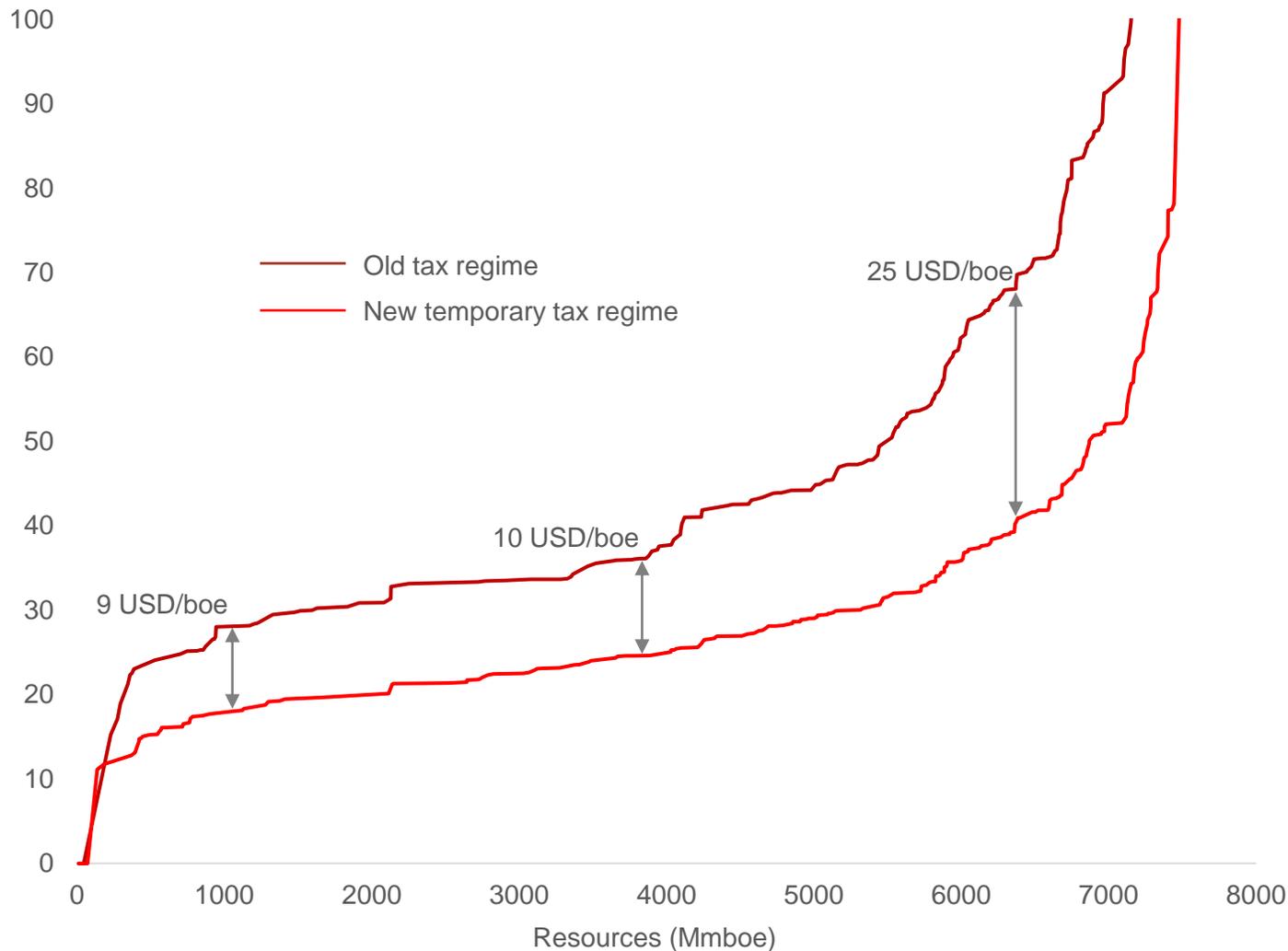
Comparison of the tax systems (Differences in bold)	Petroleum tax system prior to temporary changes June 2020	Temporary changes and implications to the temporary petroleum tax system from June 2020
Corporate tax	Tax rate: 22% Depreciated over 6 years	Tax rate: 22% Depreciated over 6 years
Special tax	Tax rate: 56% All Capex Depreciated over 6 years Capex Uplift: 20.8% over 4 years	Tax rate: 56% All Capex depreciated the same year Uplift Capex : 24% the same year
Investments affected by temporary changes	Complete planned activity in the short term	All investments (including uplift) in 2020 and 2021 e.g. infill drilling
	Complete planned activity (for instance FEED studies) in the short term	Investments made according to PDO/PIO delivered before year-end 2022 and approved by 2023 - Pertains to all investments up to production start
	Improve liquidity for companies with deficits	Cashback to be provided on tax value of deficit in 2020 and 2021 ("terms based)

Source: Rystad Energy research and analysis

Temporary tax regime improves break-evens in order of magnitude 10 USD/bbl

May 2020

Cost-of-supply curve for resources in oil and gas discoveries by tax regime
USD/boe



- The chart illustrates breakeven prices for all Norwegian oil and gas discoveries under the old and new tax regime.
- The upper line is based on the old tax regime, while the lower line is based on the new tax regime approved in May 2020 in light of the COVID-19 situation.
- The new tax regime will have an increasing positive effect on breakeven prices with increased resource base and results in on average 40% lower breakeven prices.
- The new regime changes uplift of special tax from 20.8% over 4 years to 24% with direct expensing.
- Only pre-start-up investments made in accordance with PDO's delivered before end of 2022 and approved before end of 2023 are affected by the new tax regime.

Source: Rystad Energy research and analysis

Largest differences relate to removal of uplift and 100% depreciation first year

August 2021

Comparison of the tax systems (Differences in bold)		Petroleum tax system prior to temporary changes June 2020	Proposed new tax system August 2021 to be valid from 2022 if approved and implications
Corporate tax		Tax rate: 22%. Depreciated over 6 years.	Tax rate: 22%. Depreciated over 6 years.
Special tax		Tax rate: 56%. Depreciated over 6 years. Uplift: 20.8% over 4 years.	Tax rate: 71.8%. Corporate tax deducted from tax basis. Total tax still 78%*. All Capex depreciated the same year. Uplift removed.
Key areas affected by new proposed tax system	New capex projects		Accelerated cash flow. Break even improved**. Neutral before and after tax. More risk on companies as Capex paid by companies increased from 12% to 22.3%.
	Exploration and cease of operation		Exploration and cease of operation refund removed. Replaced by refund of special tax value following year of spending. Remaining 6.2% to be realized when in tax position, no interest rate and lost if losses not utilized or sold.
	Liquidity and financing		One off pay out in 2022 for any historic tax losses. Companies in tax position with improved liquidity. Exploration companies not in tax position reduced liquidity**. Non-exploration companies not in tax position improved liquidity.**
	M&A		Fewer tax driven E&P deals based on tax losses to be realized. Less need for new companies to acquire to producing assets. Reduced benefit of owning gas or oil infrastructure for tax benefits.

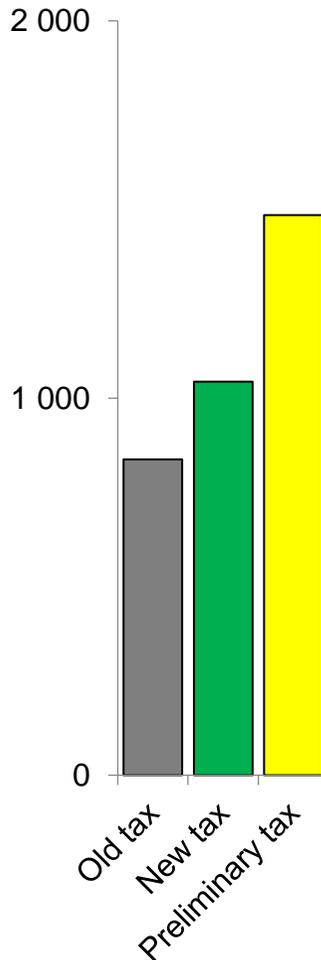
Source: Rystad Energy research and analysis*Total tax constant so special tax adjusted to 71.8% based on : $22\% + (1 - 0.22) * 71.8 = 78\%$. **Debt security related to losses to be refunded following year to be evaluated.

Economics improved on key metrics from old to new system

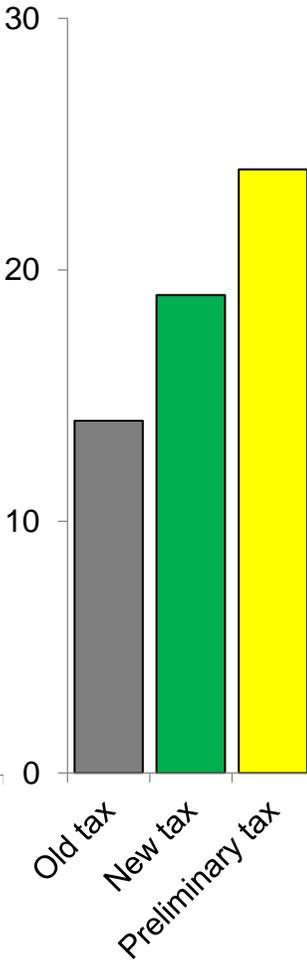
Example
Johan Castberg

Key economic parameters for E&P's

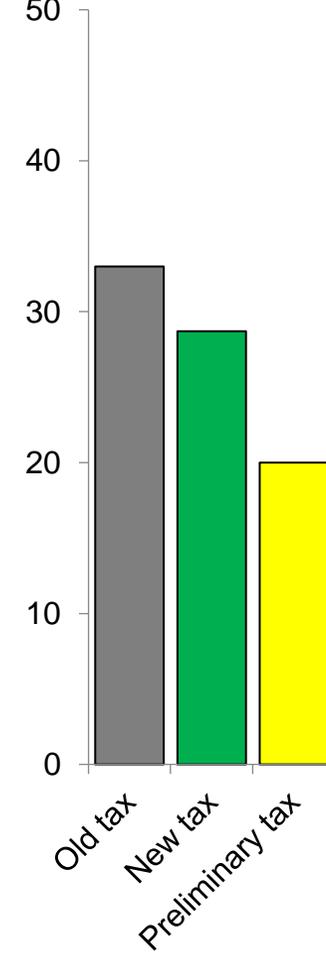
NPV
Million USD



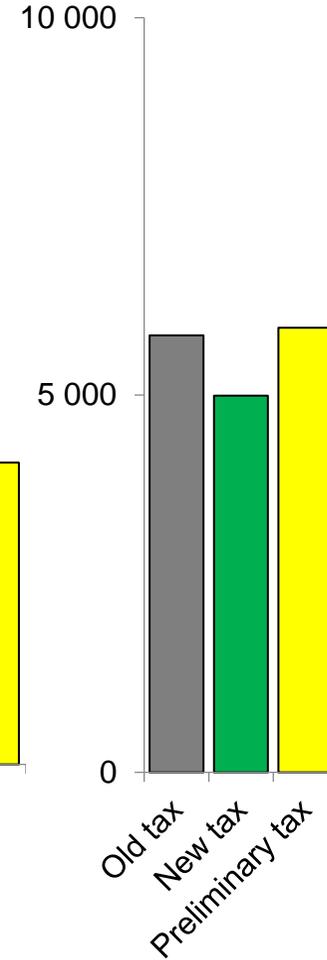
IRR
%



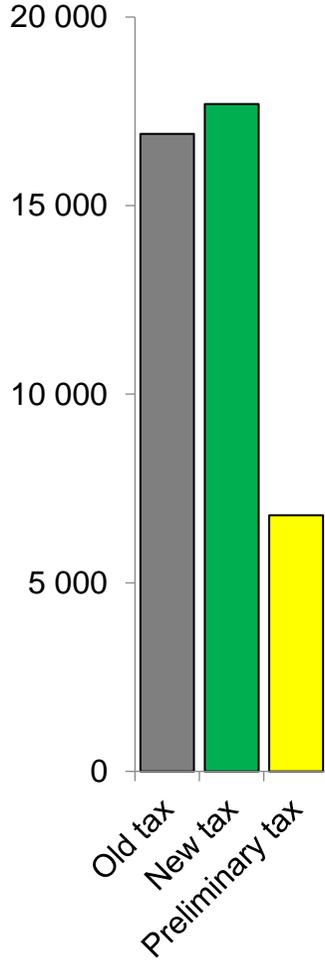
Break Even
USD per boe



Cumulative company income
Million USD



Cumulative government income
Million USD



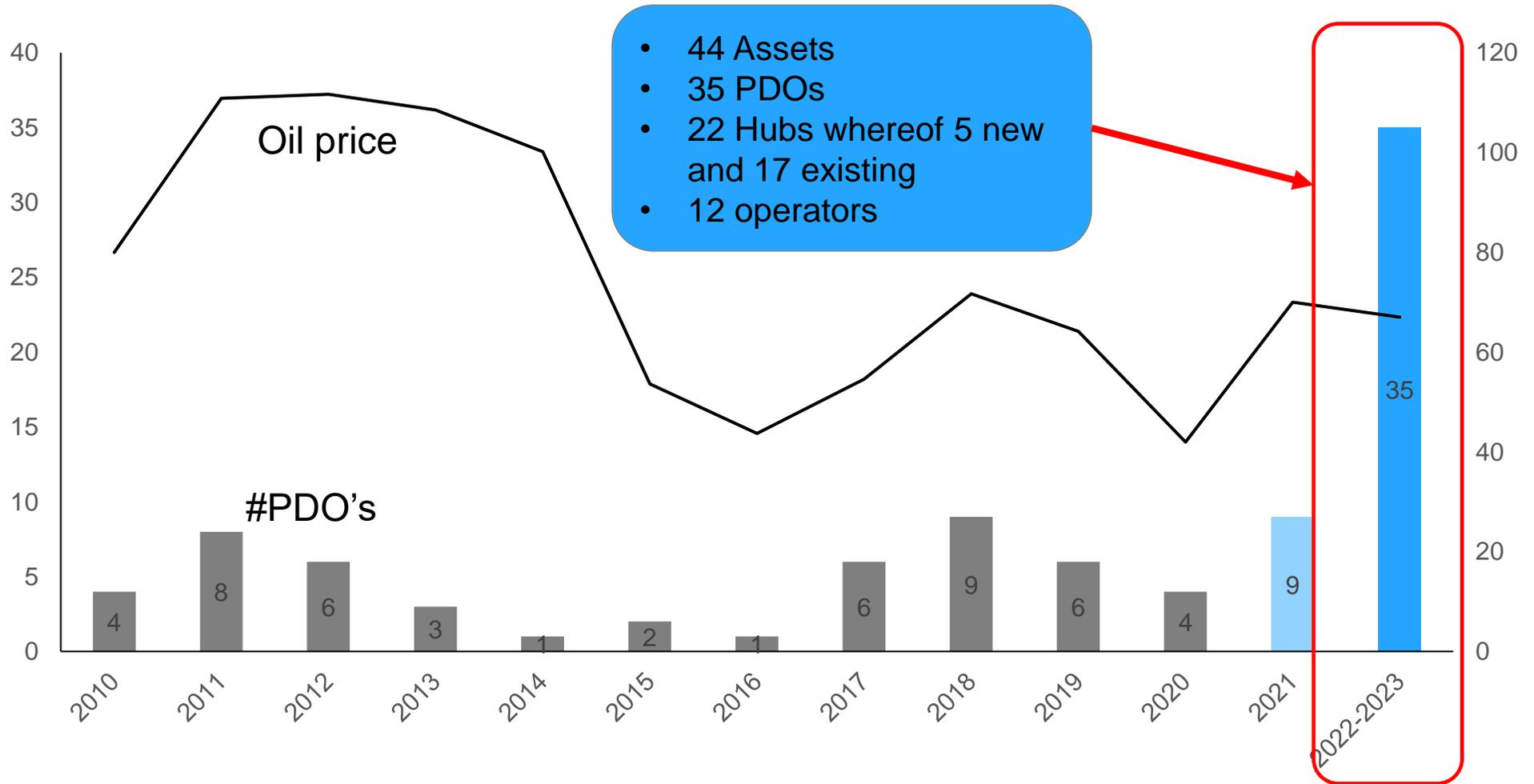
*Old system excludes the incentives introduced in 2020 ** Based on Rystad Energy base case. 10% discount and 2.5% inflation rate

25 PDOs, 40 assets, 22 hubs and 12 operators as part of 2022-2023 PDO approvals

Historical and potential NCS sanctioning activity by approval year 2010-2023 and oil price

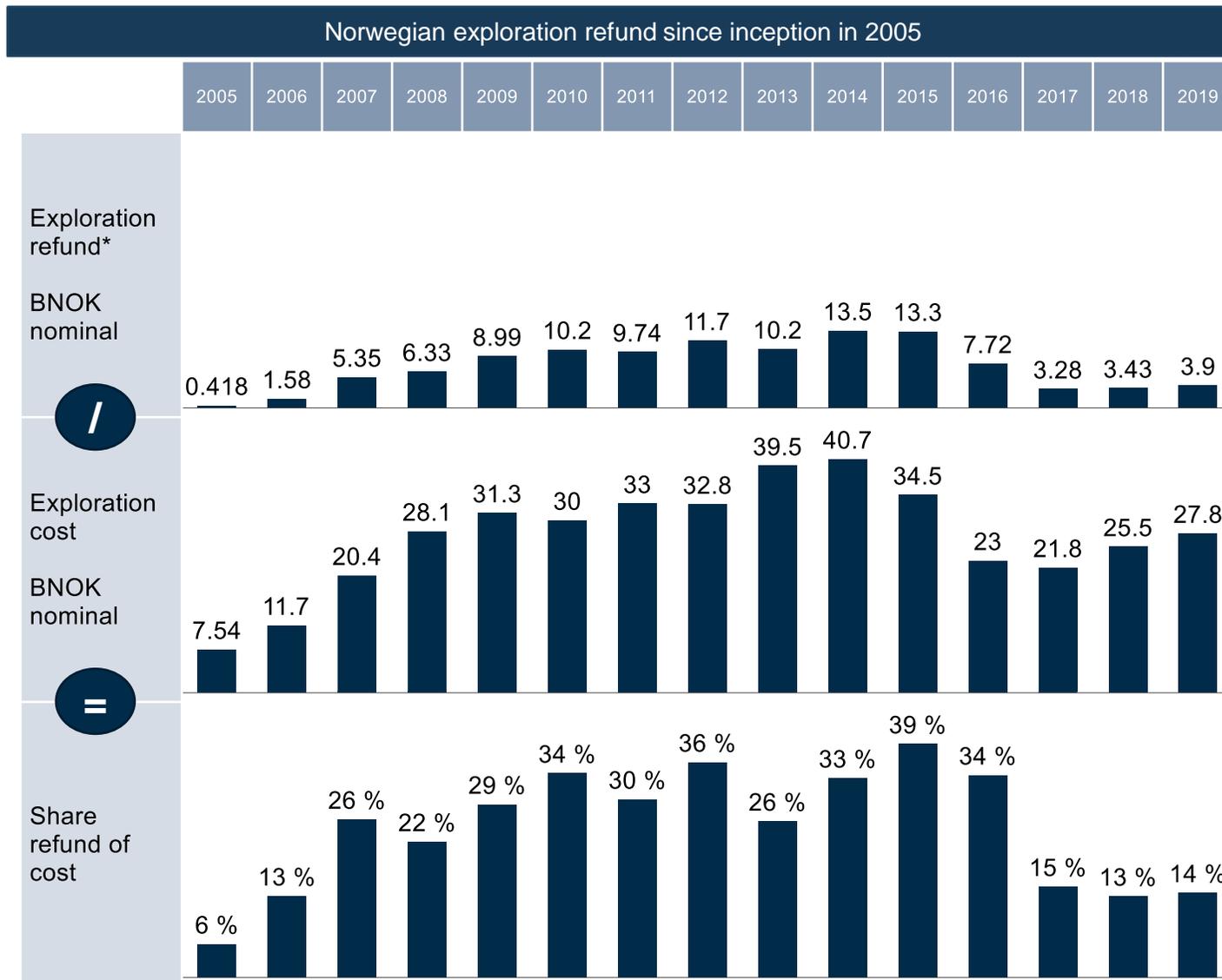
Number of projects

USD/bbl



*Approval year equals year when PDO is approved by Norwegian authorities
Source: Rystad Energy UCube

Exploration refund with less importance since 2016

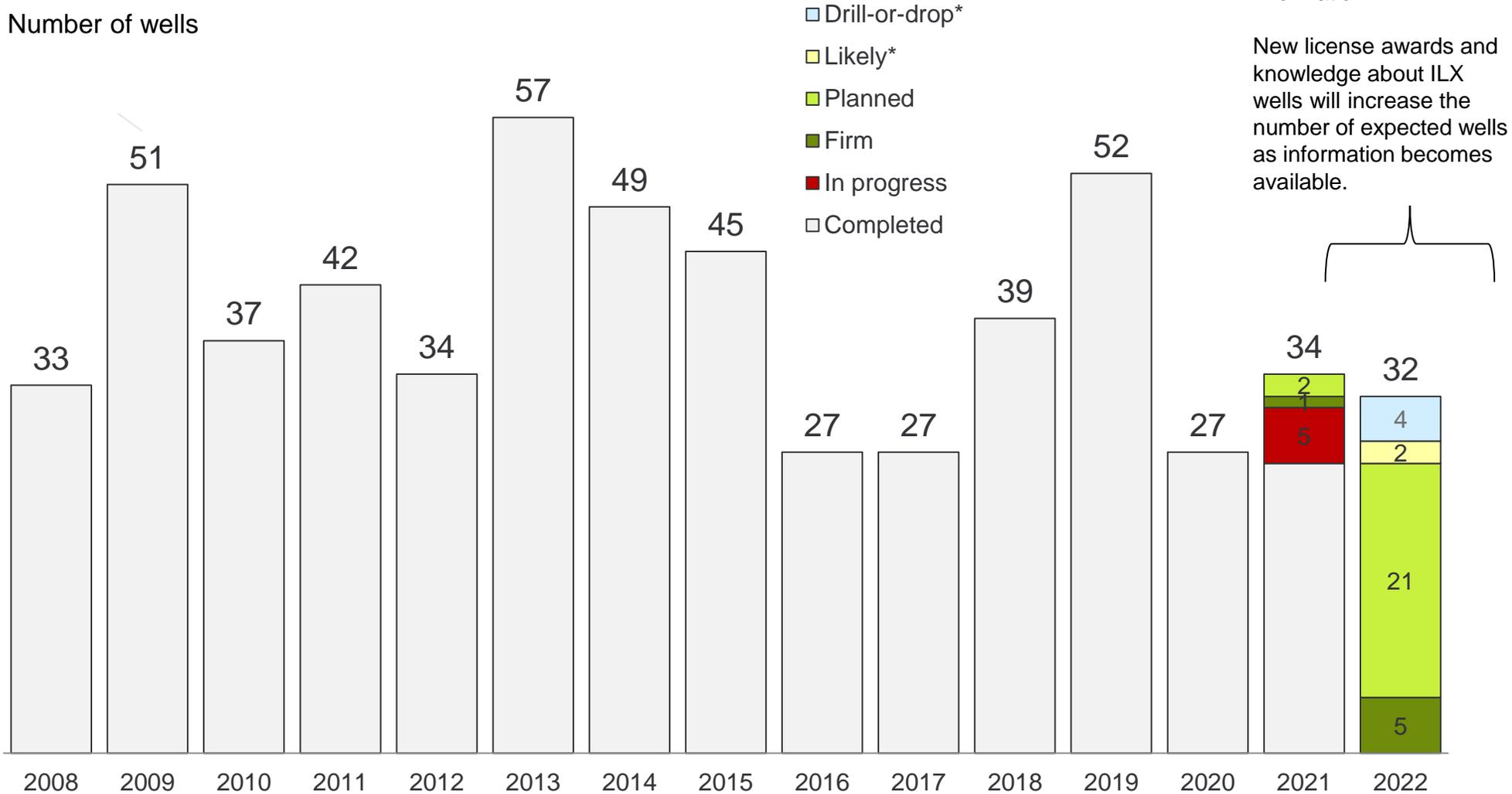


*Converted to nominal numbers using SSB reported CPI
 Source: Rystad Energy research and analysis, SSB, Skatteetaten

Exploration activity increase in 2021 – 2022 could be even higher as new prospects matured

Exploration wells 2008-2022 excluding side-tracks

Number of wells



The number represent current public domain information.

New license awards and knowledge about ILX wells will increase the number of expected wells as information becomes available.

* Drill-or-drop wells risked with 20%. Likely wells risked with 50%
 Source: NPD, company presentations, Rystad Energy research and analysis



RYSTAD ENERGY

Rystad Energy is an independent energy consulting services and business intelligence data firm offering global databases, strategy advisory and research products for E&P and oil service companies, investors, investment banks and governments. Rystad Energy is headquartered in Oslo, Norway.

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