KEY ROLE OF TECHNOLOGY TO REDUCE GHG EMISSIONS FROM THE NCS

IOR Norway 2020 - Webinar, October 20th

Gunnar H. Lille, MD OG21

-40%
in 2030

Near zero
in 2050

Oslo Børs stengt Indeks 879,20 Oljepris 43,18 -0,37% USD 9,24 SEK 104,39 EUR 10,88 BTC 10883,90 Mer DN Investor

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Bred enighet i oljeskattstriden: Slik blir den nye oljeskatten

Partiene på Stortinget er enige om ny oljeskatt. Partiene vil legge bort endringer i selskapsskatten, men øker friinntektene til 24 prosent.

2 min Publisert: 08.06.20 – 13.01 Oppdatert: 4 måneder siden

Det er løsning i det betente spørsmålet om oljeskatt på Stortinget. Her er Ap-leder Jonas Gahr Støre (fra venstre), Høyres parlamentariske leder Trond Helleland og Frp-leder Siv Jensen. (Foto: Vidar Ruud/NTB Scanpix)

50

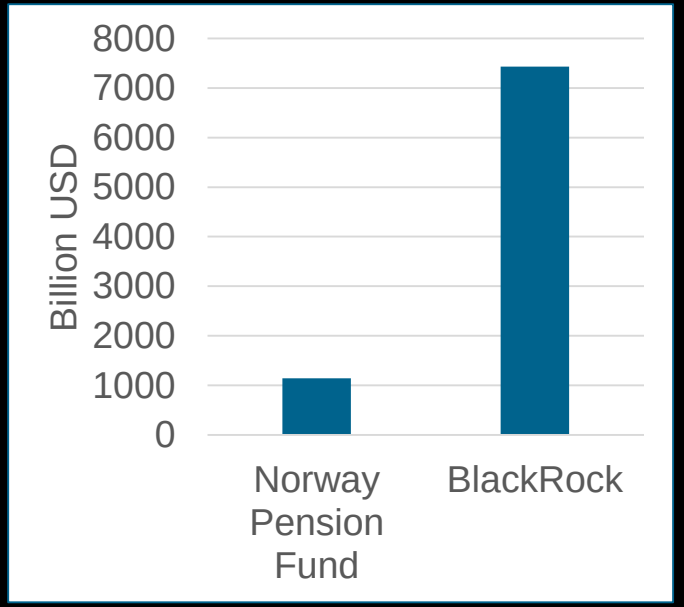
~~-40%~~

in 2030

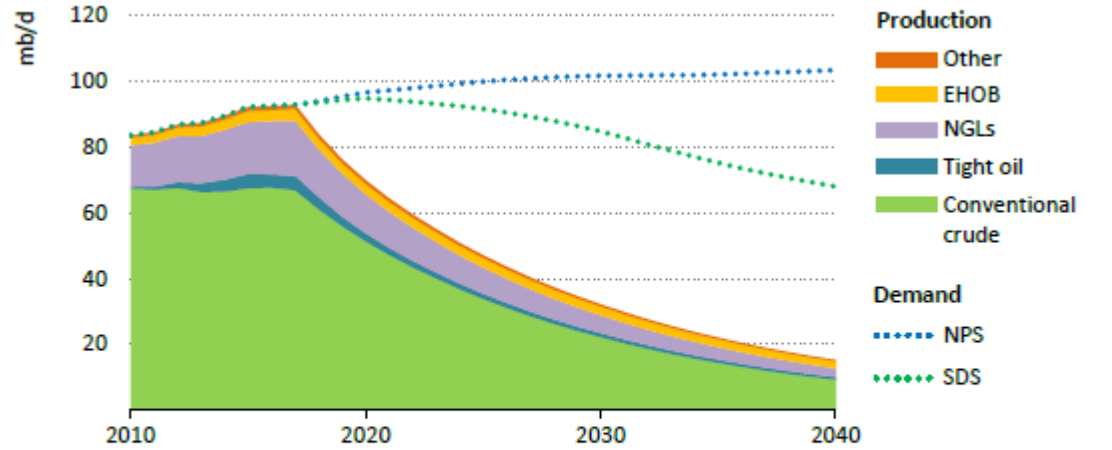
Near zero in 2050

“Climate risk is finance risk”

“In the near future – and sooner than most anticipate – there will be a significant reallocation of capital”

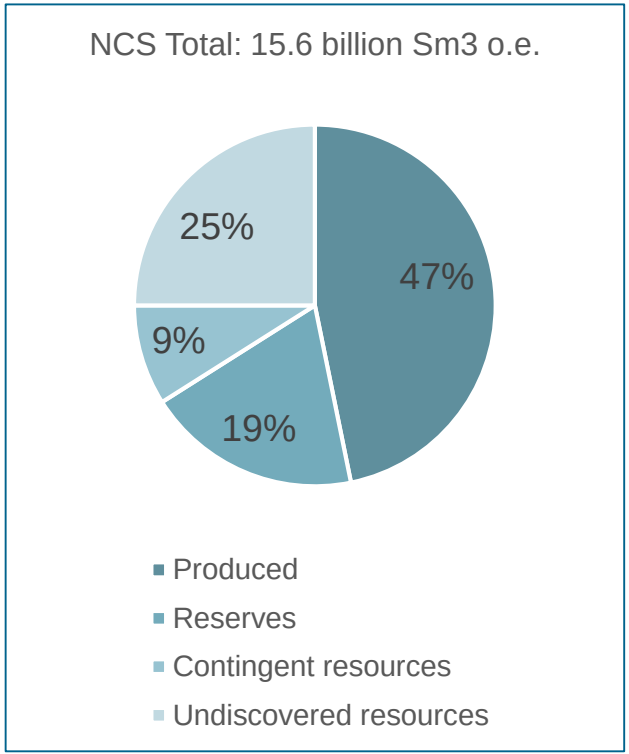


BUT THE WORLD STILL NEEDS PETROLEUM…



With no new investment, global oil production would halve by 2025: an average loss of nearly 6 mb/d every year

Note: EHOB = extra-heavy oil and bitumen; NGLs = natural gas liquids; NPS = New Policies Scenario; SDS = Sustainable Development Scenario.



Sources: IEA WEO 2018, NPD 2019

FASTER!

CHEAPER!

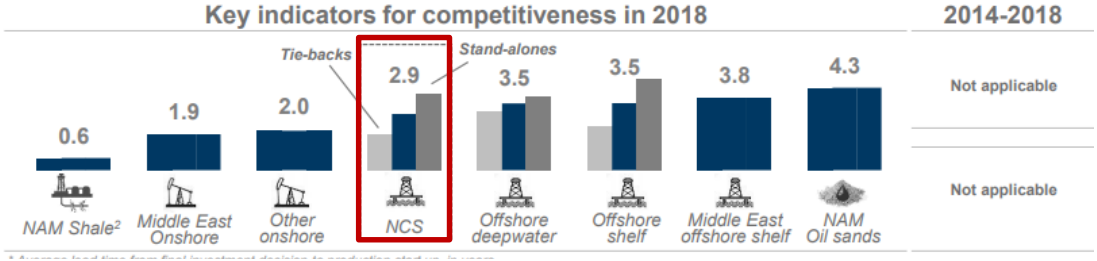
CLEANER!

CURRENT SITUATION – WE ARE COMPETITIVE

Faster

Lead time from FID to start up*

Years.



Cheaper

Cleaner

Sources: Rystad Energy, OG21

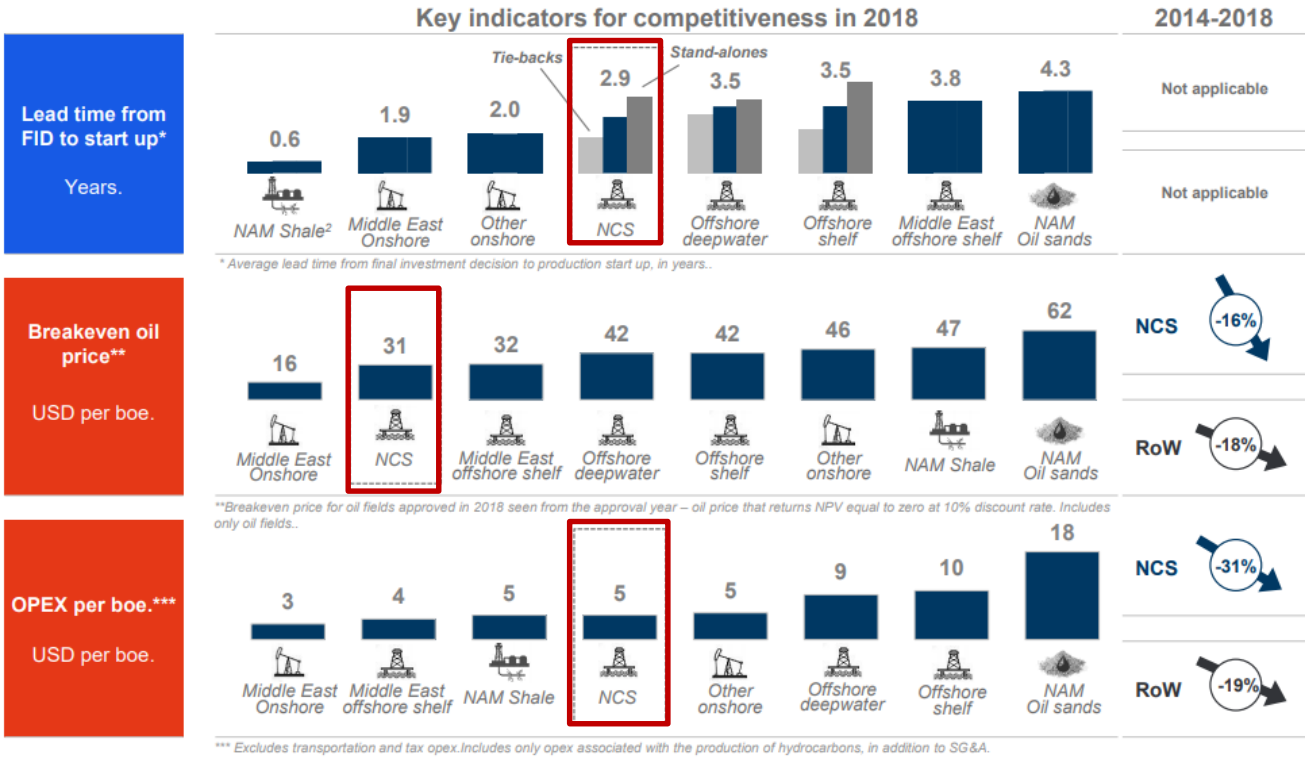
---Total yearly upstream CO_2 emissions divided according to supply segment production in the same year.

CURRENT SITUATION – WE ARE COMPETITIVE

Faster

Cheaper

Cleaner



Sources: Rystad Energy, OG21

****Total yearly upstream CO_2 emissions divided according to supply segment production in the same year.

CURRENT SITUATION – WE ARE COMPETITIVE

Faster

Cheaper

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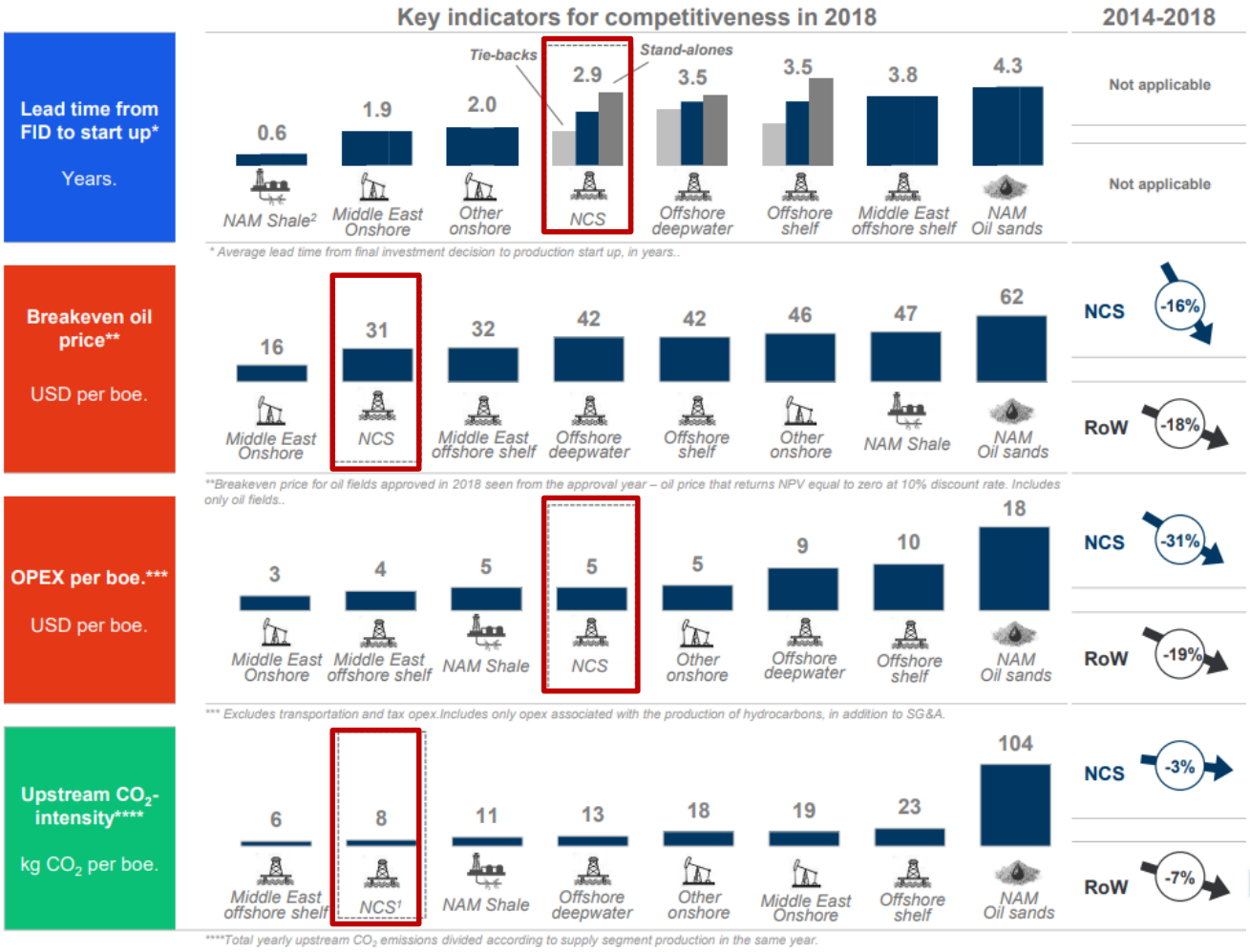
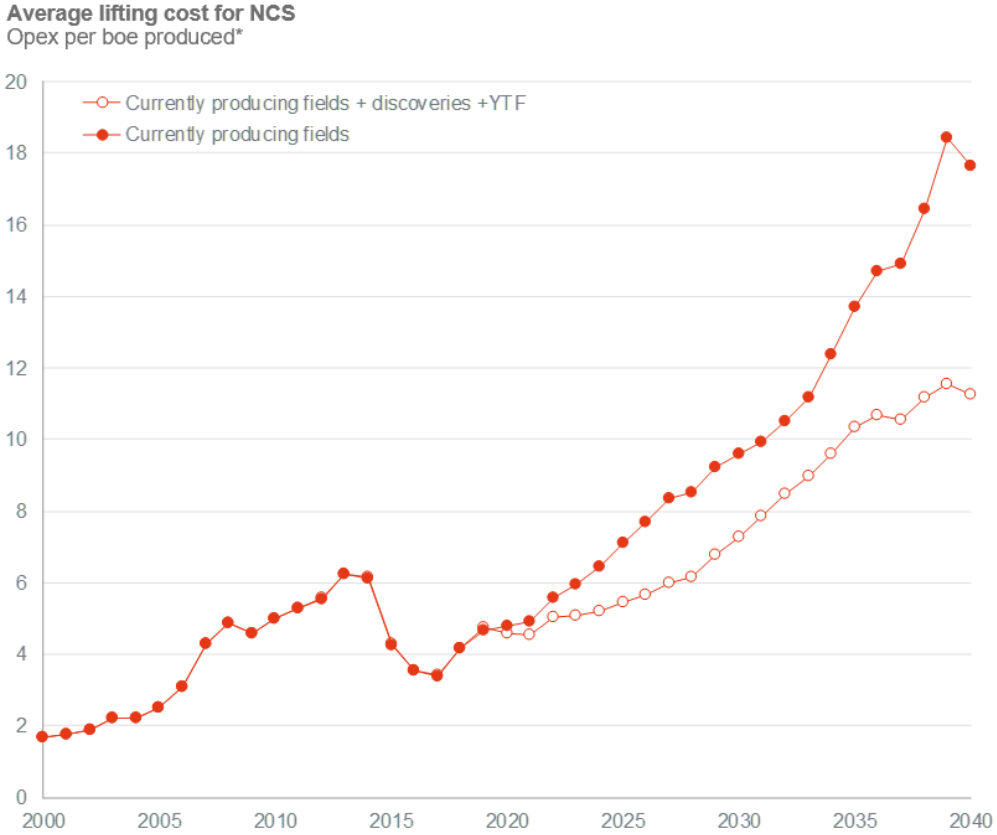
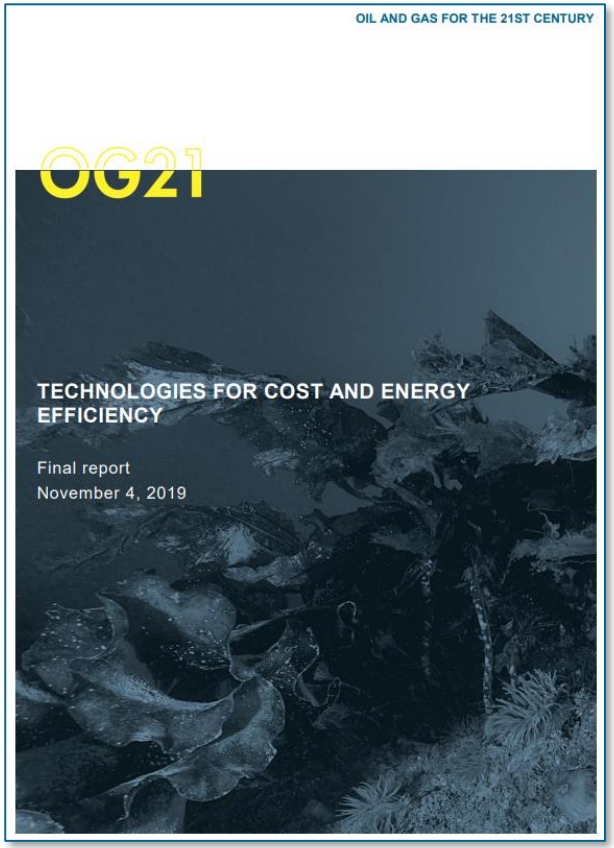


Sources: Rystad Energy, OG21

WORKING UPHILL



Kilder: Rystad Energy, OG21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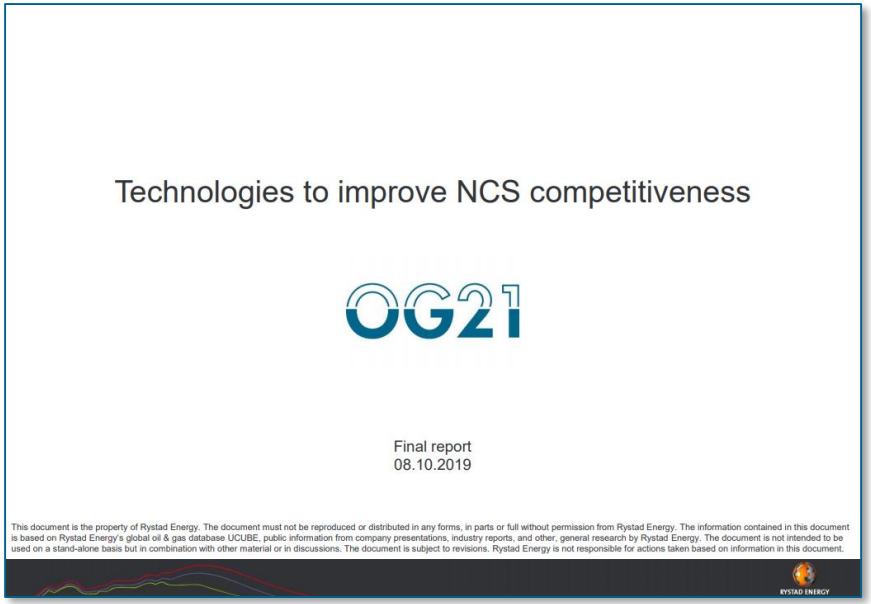
OG21
TECHNOLOGIES FOR COST AND ENERGY EFFICIENCY
Final report
November 4, 2019


Technologies to improve NCS competitiveness
OG21
Final report
08.10.2019
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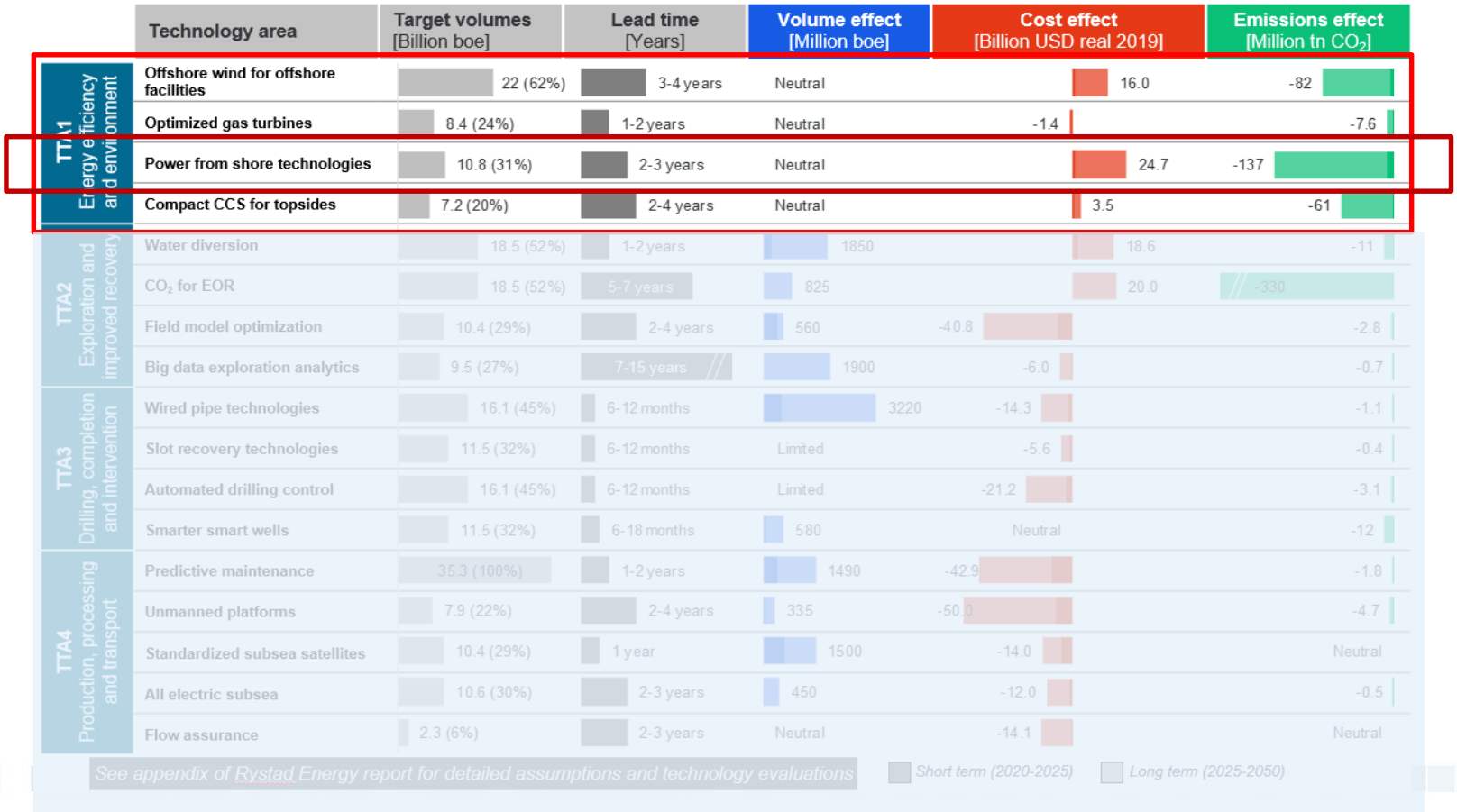
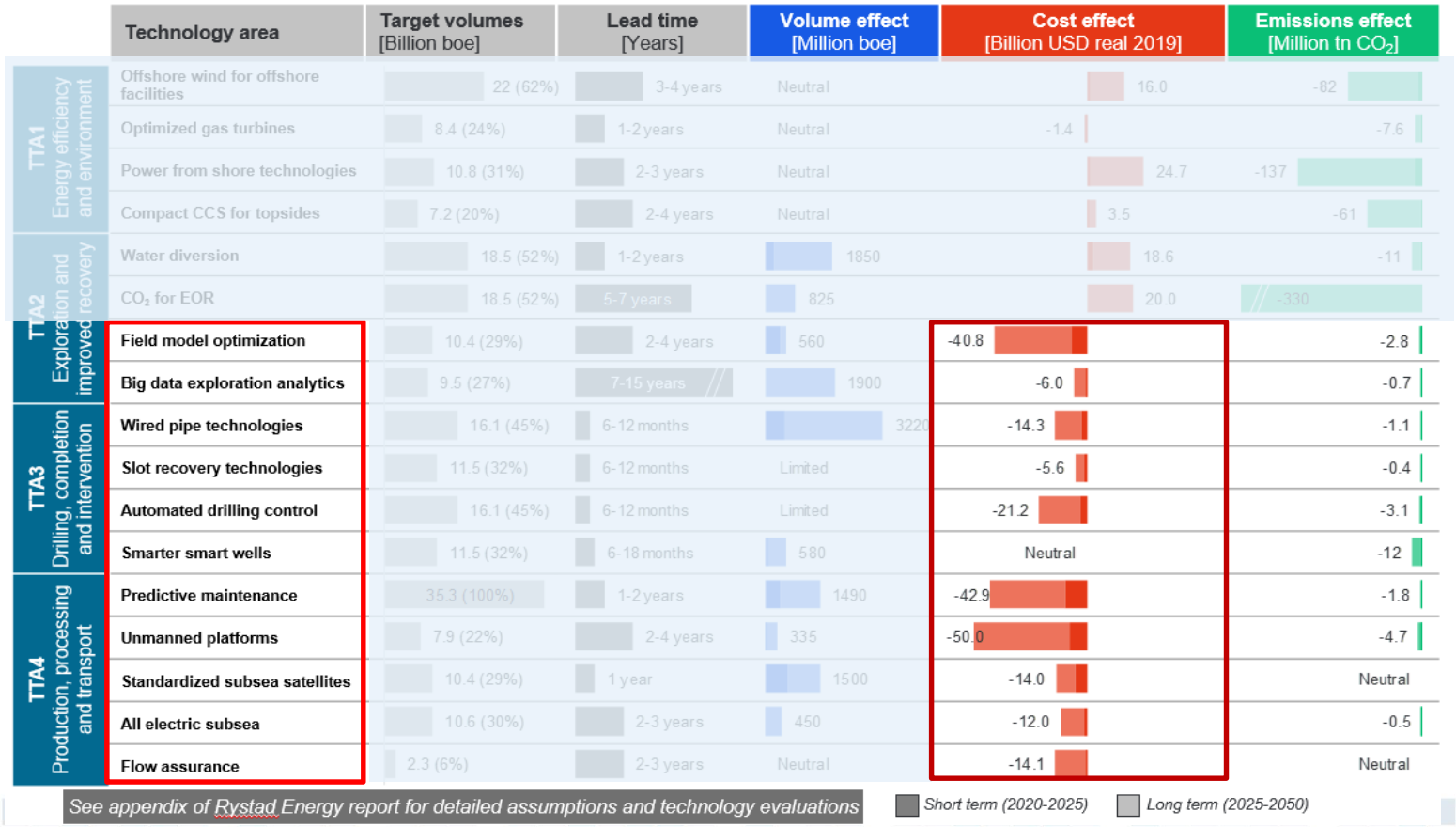
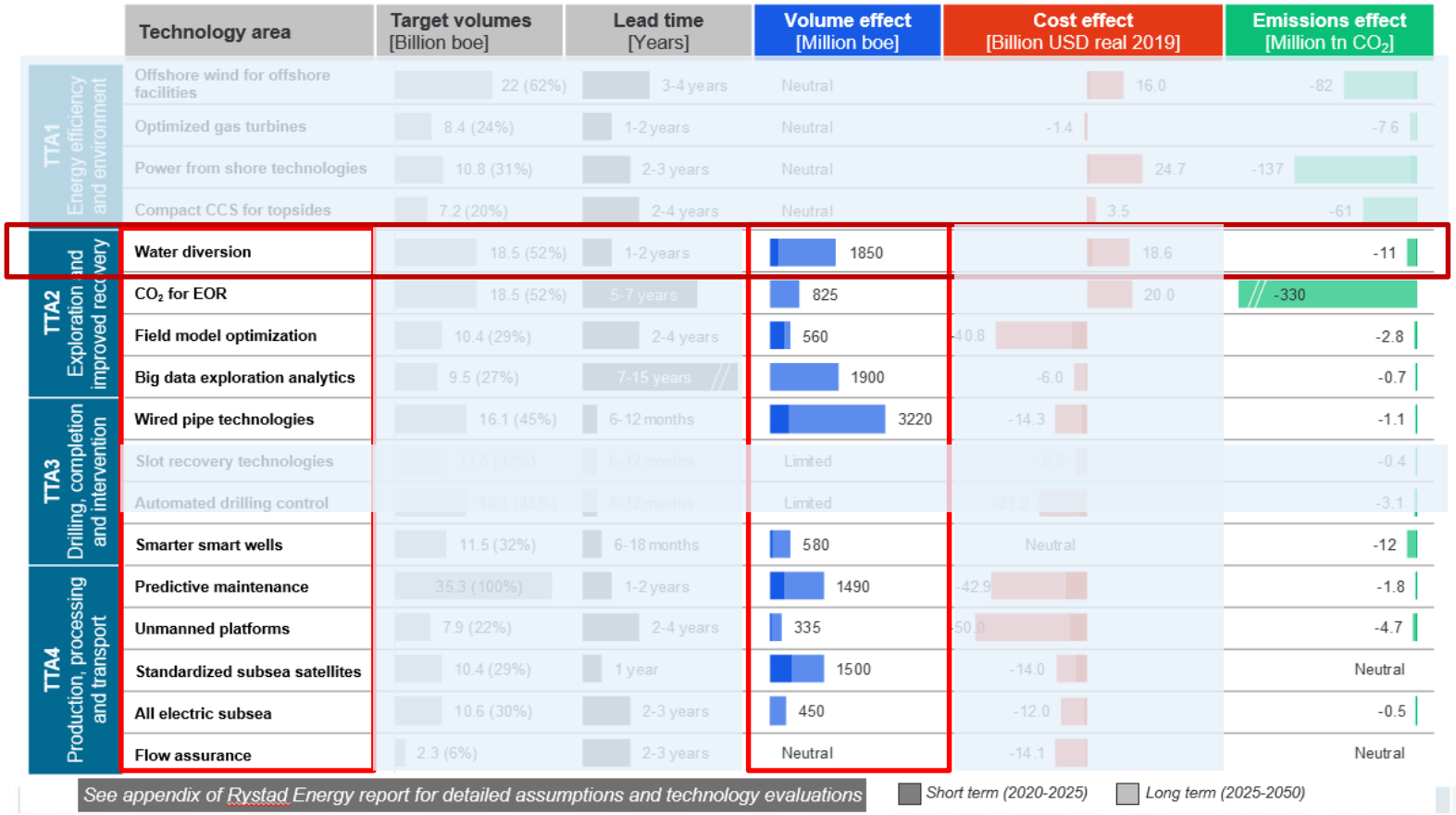
NO «SILVER BULLET» – LOW EMISSION TECHNOLOGIES COME WITH ADDED COSTS



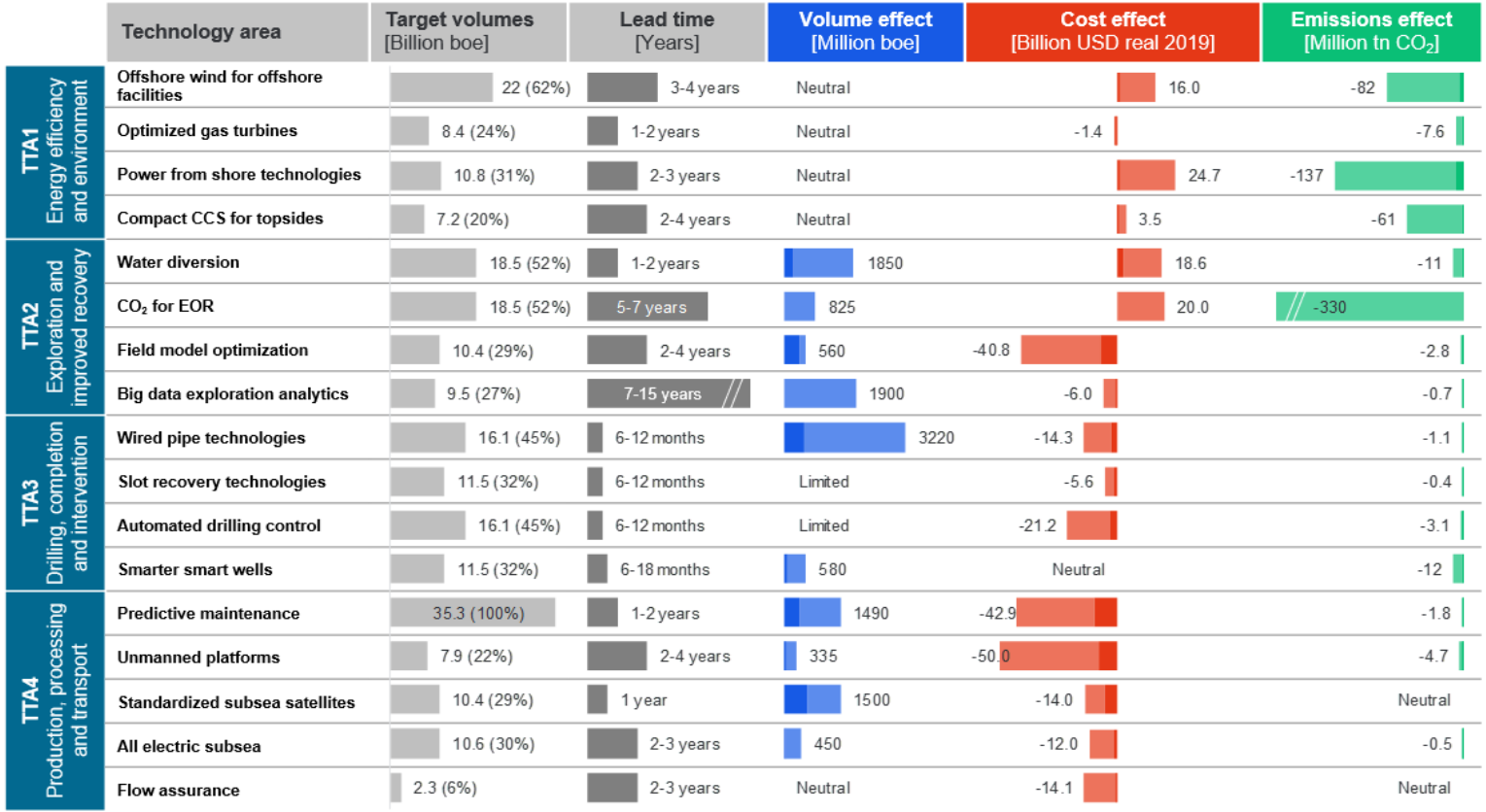
NO «SILVER BULLET» – MOST COST REDUCING TECHNOLOGIES HAVE MODEST EMISSION EFFECT

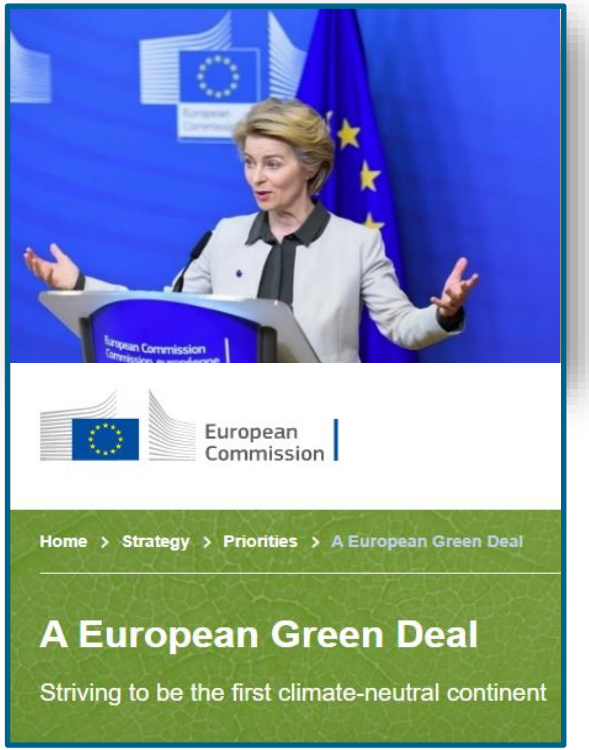


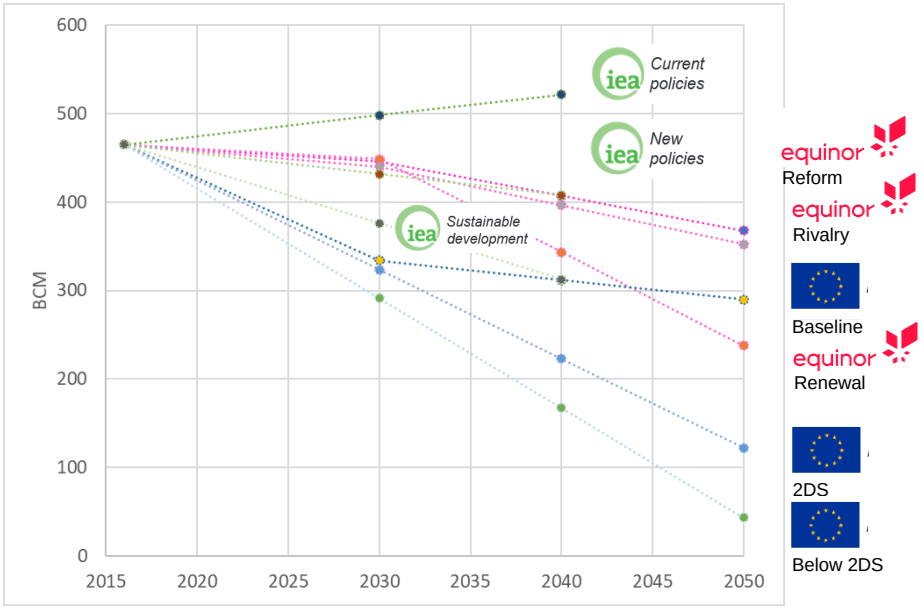
NO «SILVER BULLET» – MOST VOLUME ADDING TECHNOLOGIES HAVE MODEST EMISSION EFFECT



NO «SILVER BULLET» – NEED RANGE OF NEW TECHNOLOGIES







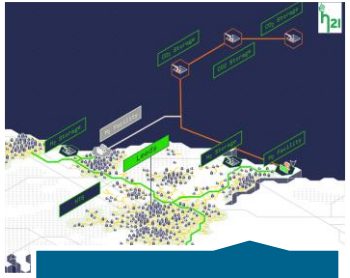
Sources: European Commission, IEA, Equinor, OG21 research

Potential hydrogen markets

Maritime transport

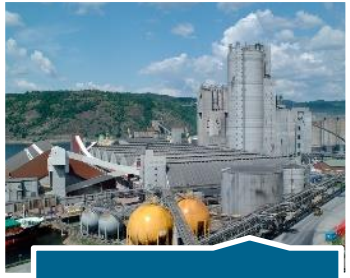
Power generation

Road transport



Heat in buildings

Steel production



Industry

Photos, illustrationsNorled, ASKO, Yara, ThyssenKrupp, H21, Vattenfall

“Longship” – Full scale CCS project

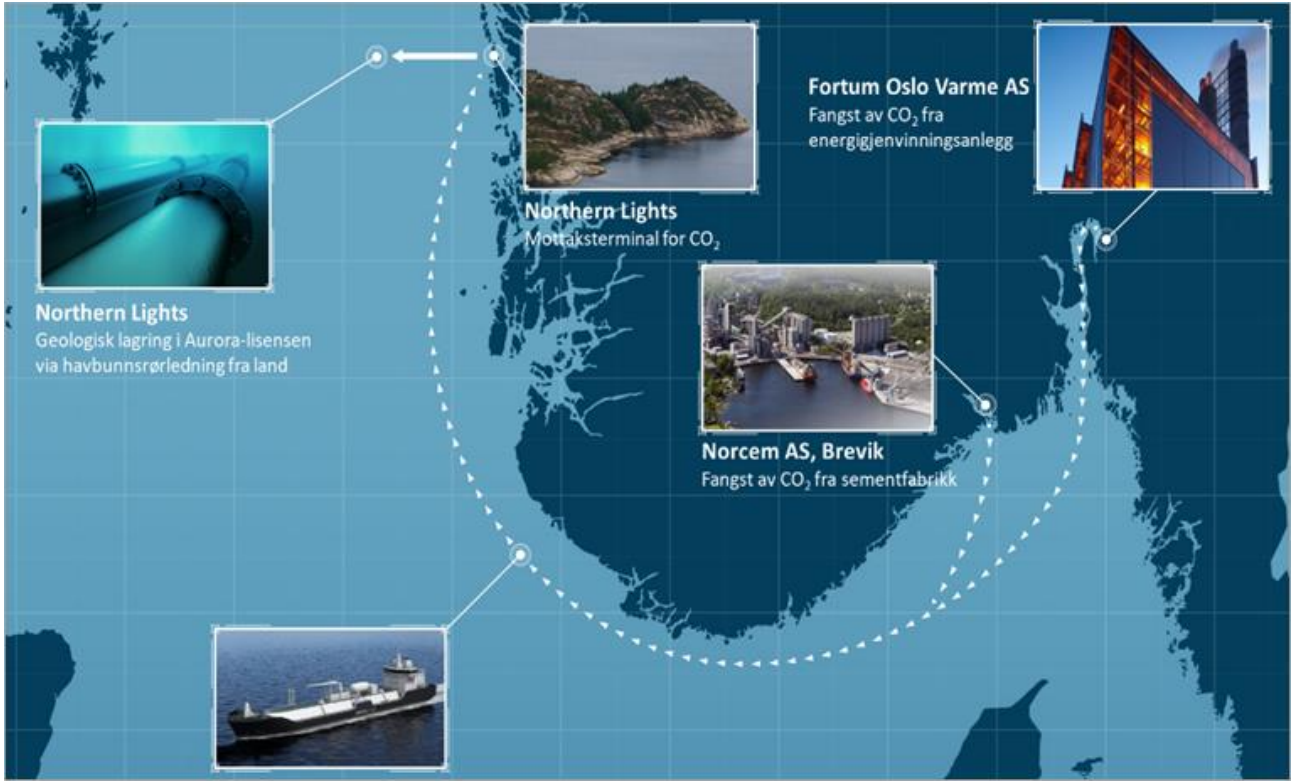


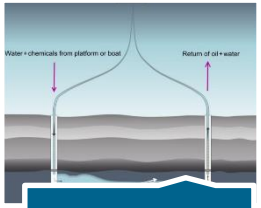
Illustration: Gassnova

EXCITING TIMES AHEAD – NEED VARIETY OF NEW TECHNOLOGIES TO MAKE US FASTER, CHEAPER AND CLEANER

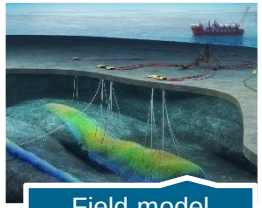

Optimized gas turbines


Power from shore

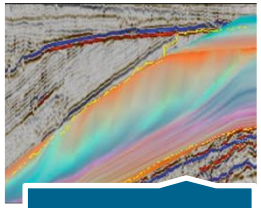

CCUS



Water diversion


Field model optimization

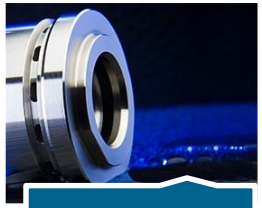

Hydrogen

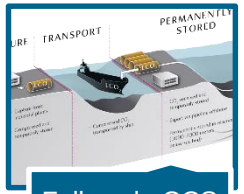

Big data analytics


Wired pipe


Slot recovery


Drilling automation


Smart wells



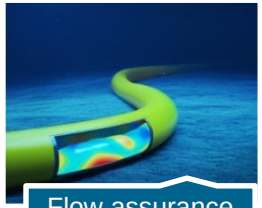
Full scale CCS


Predictive maintenance


Standardized subsea satelites


Unmanned plattforms


All-electric subsea


Flow assurance long distances

Photos, illustrations: AkerSolutions, Equinor, AkerBP, Schlumberger, IntelliServ, GettyImages, WESTGroup, InflowControl, DNV GL, Ramboll, Shutterstock

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