

The logo for OG21, consisting of the letters 'OG' in a large, bold, yellow font, followed by '21' in a smaller, bold, yellow font. The background of the slide is a dark, blue-tinted image of a polluted underwater scene with plastic waste and seaweed.

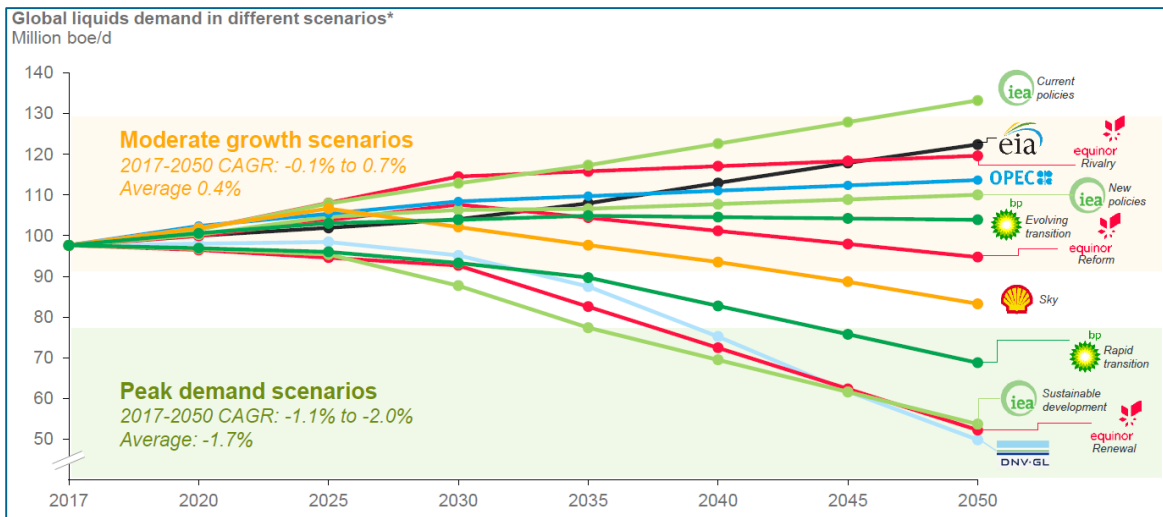
# OG21

## **ET BREDT UTVALG AV NY TEKNOLOGI SKAL GJØRE OSS RASKERE, RIMELIGERE OG RENERE**

OG21-forum, 12.november 2019

Stein Olav Drange, Styreleder for OG21

# STORE MULIGHETER NORSK SOKKEL, MEN VI TRENGER ROBUST STRATEGI SOM TAKLER SVINGNINGER OG USIKKERHET



Mange forhold påvirker konkurransevne:

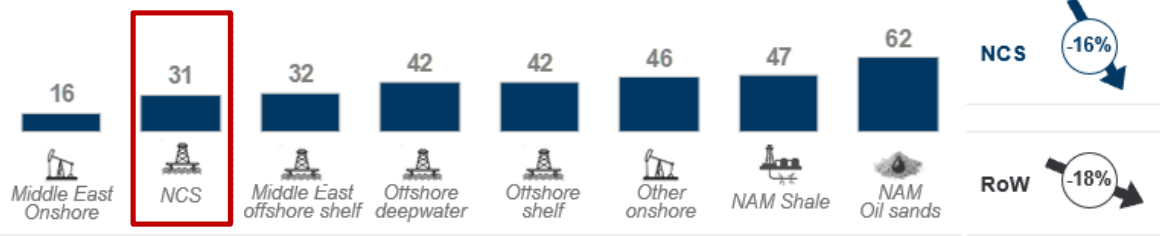
- Lav break-even
- Kjøpp gjennomføringstid
- Lave klimagassutslipp

**RASKERE // RIMELIGERE // RENERE**  
Teknologi for høyere produktivitet og lavere utslipp

# KONKURRANSEDYKTIGE I DAG

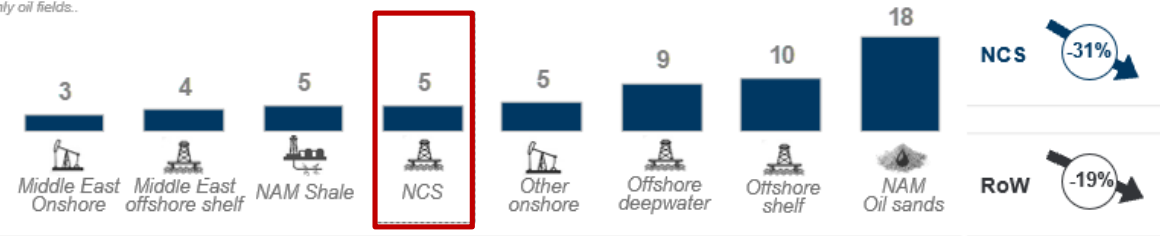
2014-18

**Breakeven oil price\*\***  
USD per boe.



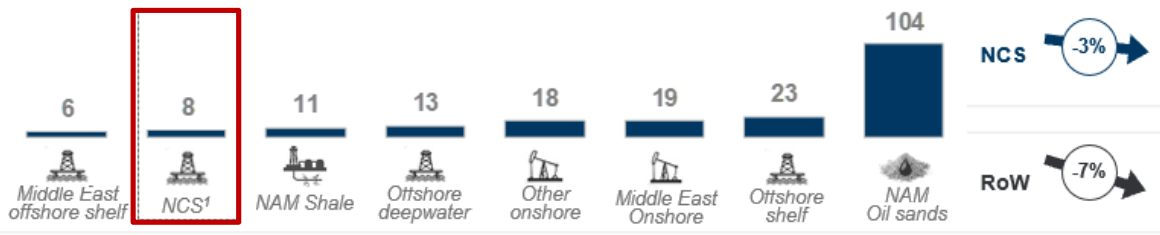
\*\*Breakeven price for oil fields approved in 2018 seen from the approval year – oil price that returns NPV equal to zero at 10% discount rate. Includes only oil fields..

**OPEX per boe.\*\*\***  
USD per boe.



\*\*\* Excludes transportation and tax opex. Includes only opex associated with the production of hydrocarbons, in addition to SG&A.

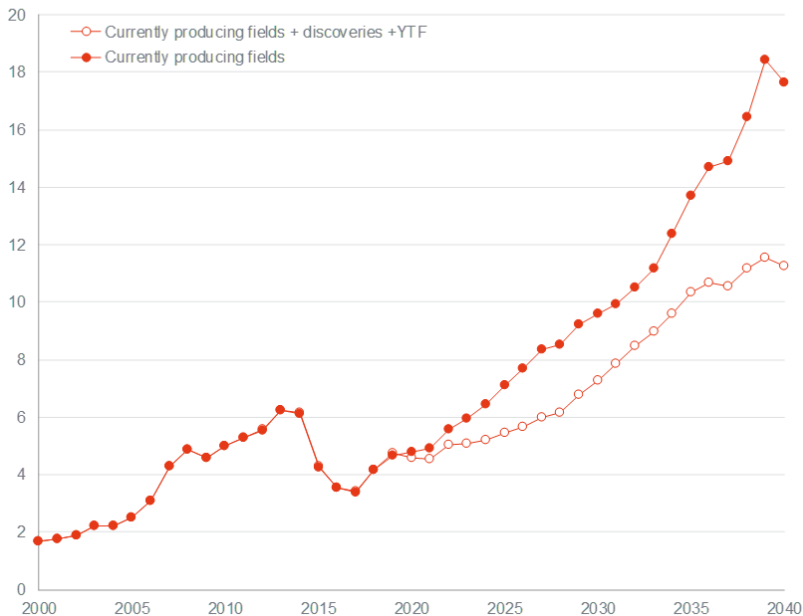
**Upstream CO<sub>2</sub>-intensity\*\*\*\***  
kg CO<sub>2</sub> per boe.



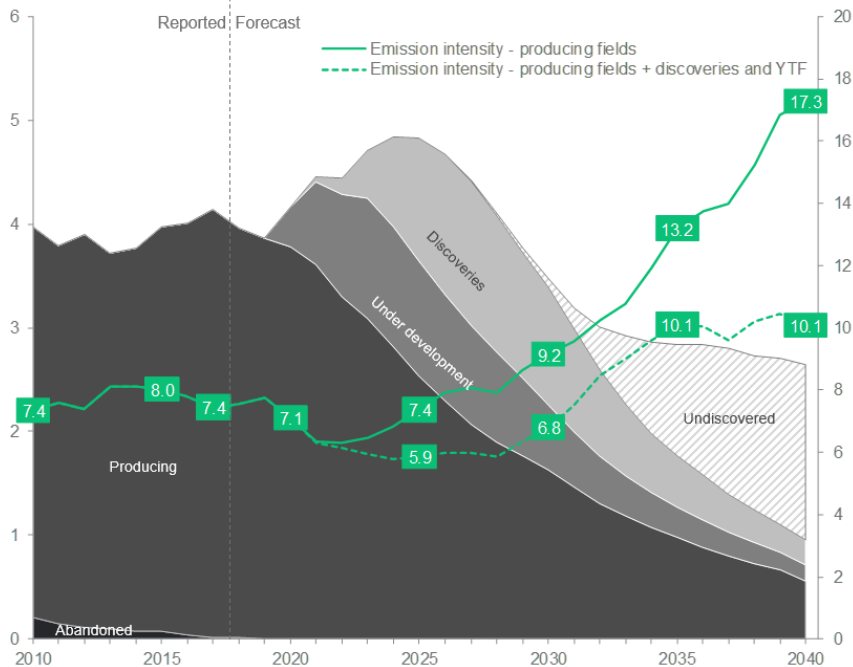
\*\*\*\*Total yearly upstream CO<sub>2</sub> emissions divided according to supply segment production in the same year.

# MEN INGEN GRUNN TIL Å HVILE PÅ LAURBÆRENE

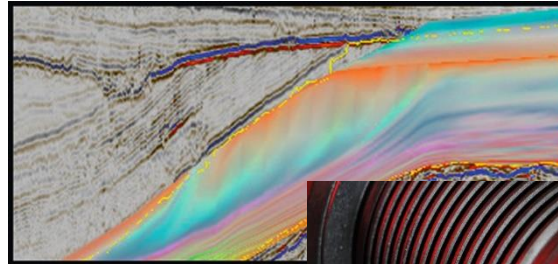
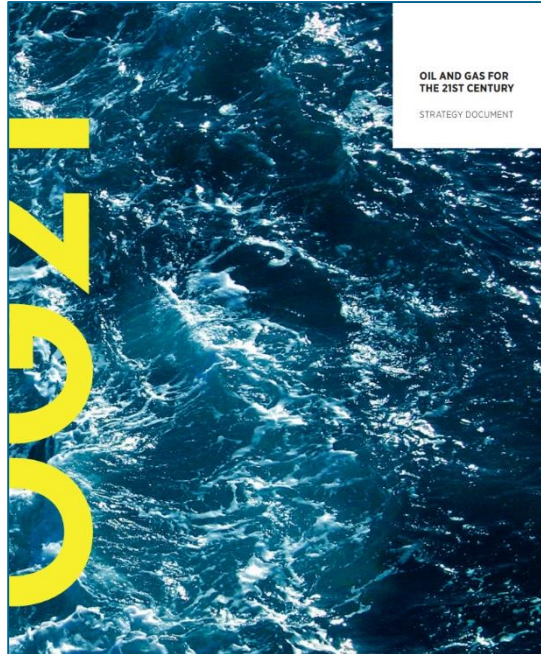
Average lifting cost for NCS  
Opex per boe produced\*



Production on the NCS by lifecycle  
Million boe/d



# OG21 ANBEFALER: VIDEREFØRE TEKNOLOGIPRIORITERINGER



Økt undergrunns



Økseffektiv subsea



Bilde: Intelliserv

Digitalisering



Bilde: Transocean

Effektiv boring



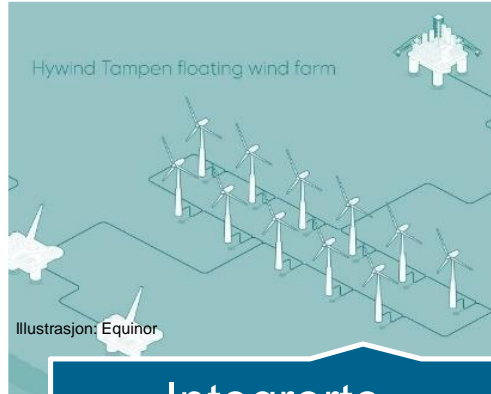
Bilde: Shutterstock

Redusere utslipp

# OG21 ANBEFALER: ØKT INNSATS PÅ LAVUTSLIPPSTEKNOLOGI



Kraft fra land



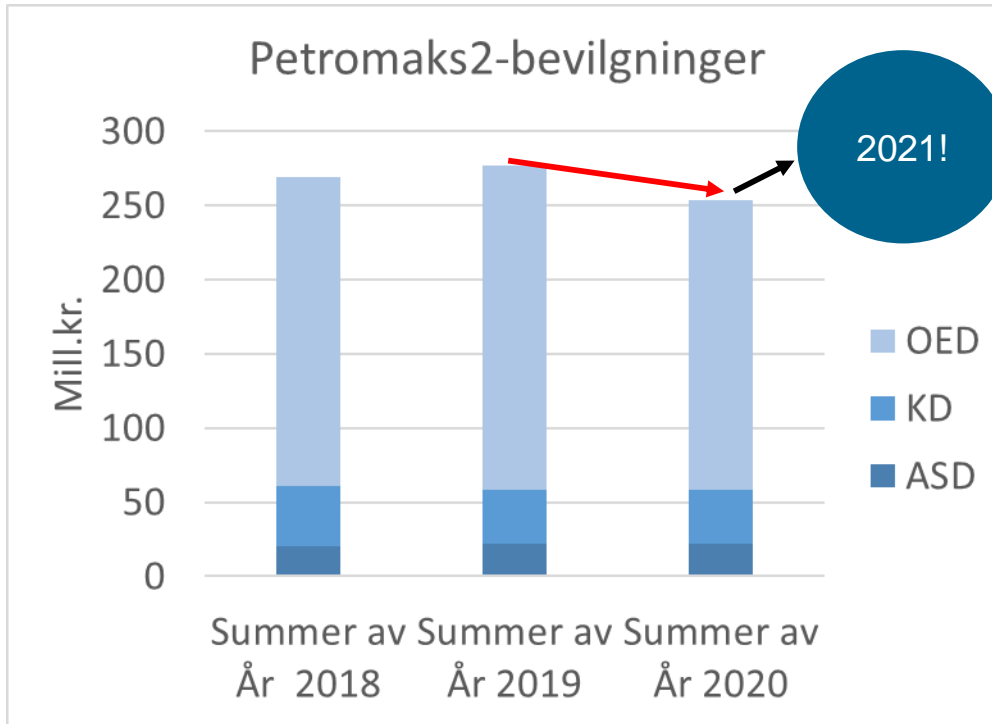
Integrerte  
kraftsystemer



CCUS

+ Vurdere sterkere økonomiske incentiver

# OG21 ANBEFALER: ØKE FOU-BEVLINGNINGER TIL PETROLEUM OG CCUS



# «NO SILVER BULLET» – TRENGER MANGFOLD AV TEKNOLOGIER FOR Å OPPRETTHOLDE KONKURRANSEKRAFT



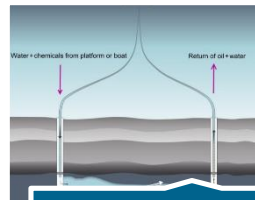
Optimaliserte gassturbiner



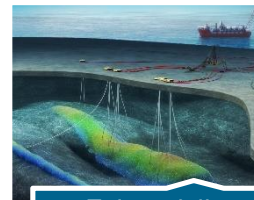
Kraft fra land



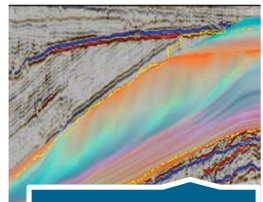
CCUS



Vanddivergering



Feltmodell optimalisering



Stordata-analyser



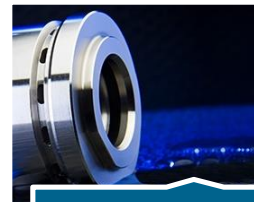
Wired pipe



Slissegjenvinning



Automatisering av boring



Smarte brønner



Prediktivt vedlikehold



Standardiserte subsea-satelitter



Ubemann platformer



All-electric subsea



Flow assurance lange strekk

...og flere



Utfordring 1 - Til industrien:

Ta i bruk ny verdiskapende teknologi!

Utfordring 2 - Til myndighetene:

Øke FoU-bevilgninger!

# Takk for oppmerksomheten.

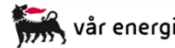
## Rapporter tilgjengelige på [www.og21.no](http://www.og21.no)

Mandat og økonomisk støtte fra:



Olje- og  
energidepartementet

Industristøtte fra:



Lundin  
Norway

