



TOTAL

Northern Lights

A European CO₂ transport and storage network

4th Int. Workshop on Offshore Geologic Storage, 11-12 February 2020

Project status and drilling of the confirmation well Eos 31/5-7

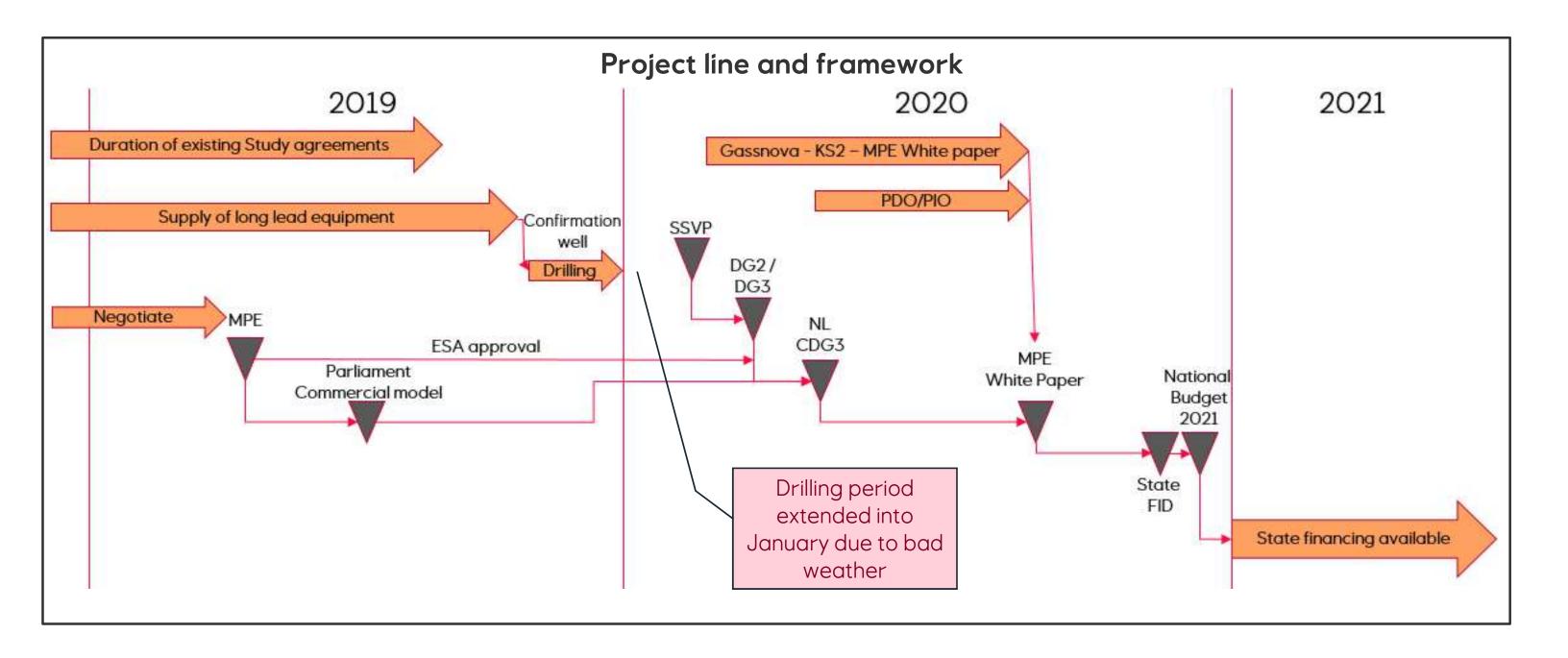
The Northern Lights Hub

- Business development team have been very successful in selling the "open storage" facility
- Now part of an EU Project of Common Interest (PCI)





Project time-line overview

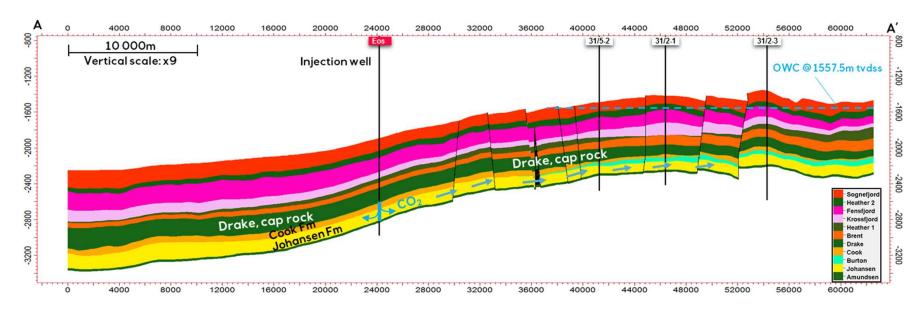


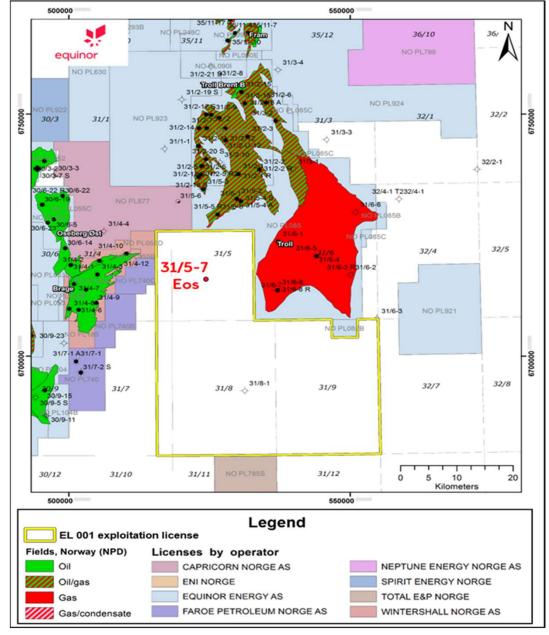


Northern Lights Eos 31/5-7

Well objectives:

- Confirm presence of the Johansen and Cook sandstone formations
- Confirm sealing potential of Drake Fm
- Confirm ability to inject CO₂ into the Johansen sandstone
- Keeper well CO₂ injector

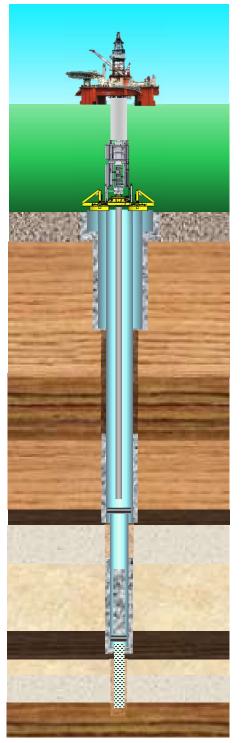




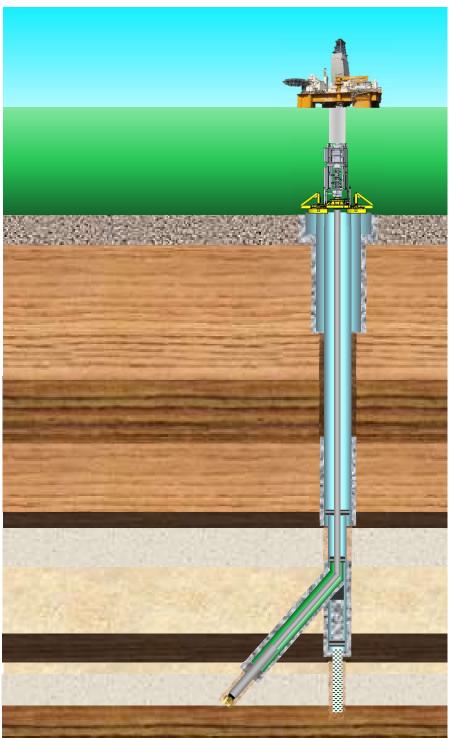
Northern Lights Eos 31/5-7 Confirmation Well to CO_2 injector



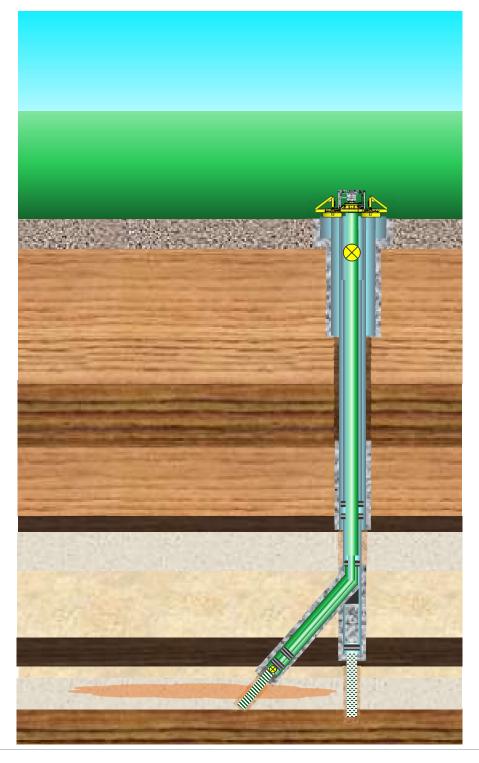
2020



2022



2023 - 2048





Northern Lights well - Eos 31/5-7

- Well reached TD of 2865m TVD MSL on 14th Jan 2020
- Summary of data collected:
 - Drilled cuttings
 - Earth stress measurements
 - Logging (LWD)
 - Formation water samples
 - Two stress tests performed in Draupne and Drake formations
 - Wireline logging, image logs
 - Production tests
 - Cores cut in Drake shale (caprock), Cook sandstone and Johansen sandstone (target)
 - Measured formation pressures in overburden and reservoir (Cook, Johansen and Statfjord formations)

Well data still being assessed – but all indications so far are positive

