



The NCS market is picking up

Business opportunities are on the up on the Norwegian Continental Shelf (NCS). An impressive NOK 90 billion of new projects are added to the NCS portfolio annually in 2017 and 2018. In 2019 it rises.

This is not wishful thinking, but the dry facts as shown by statistics from the Norwegian Petroleum Directorate (NPD*1).

The added Capex will contribute to maintain NCS as the most important offshore market in Europe, a market with a projected Capex of some NOK 154 billion in 2017 and NOK 144 billion in 2018, Statistics Norway (SSB) states *2).

The optimism is to some degree shared by leading analysts Wood Mackenzie (WoodMac).

“We expect US\$ 80 billion to be invested over the next 5 years in Norway which ranks it 6th globally – the same position it occupied for investment during the preceding 5 years,” says Malcolm Dickson, Research Director with WoodMac.

“In terms of FIDs (Final Investment Decision), Norway continued to sanction projects at a similar rate to before the oil price drop. This is testament to exploration success over the last decade and the level of cost reductions that have been achieved so far, he says,” adding:

“The outlook is similarly optimistic, and we expect 20 projects to get the greenlight over the next 5 years.”

Project boom in 2017

Of the projected NOK 90 billion, for which PDOs (Plan for Development and Operation) are expected submitted to Norway’s authorities this year, the first NOK 20 billion are already in:



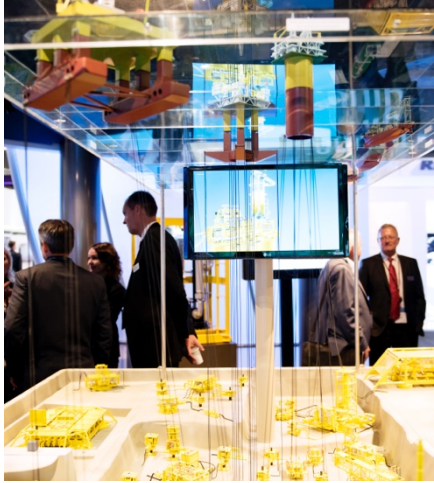
Statoil’s NOK 15.7 billion Njord Future- project, including upgrades of the Njord A semisubmersible production platform and the Njord B storage vessel – as well as the NOK 4.1 billion PDO for the Bauge oil and gas field, a subsea tie back to said Njord facilities.

Bauge is, meanwhile, not the only field planned as a tie-in to Njord, and with a PDO-submittal scheduled for 2017: Operator VNG is aiming to hand in its PDO for the Pil & Bue (“Bow and Arrow”) field, adding installation of two subsea templates hosting a total of 6-8 wells to the NCS workscope.

PDOs for another two major Statoil-projects are expected submitted in 2017, the NOK 49 billion Johan Castberg development, and the NOK 22-25 billion Snorre Expansion Project.

The former is the operator’s first Barents Sea field – development since Snøhvit, and planned developed with a total of 30 subsea production and injection wells, tied back to a Floating Production, Storage and Offloading vessel (FPSO).

The latter is described as an Increased Oil Recovery project on the Snorre field, including upgrades and modifications on the Snorre A tension leg platform TLP), combined with installation of an additional six, 4-slot subsea frames and extensive drilling.



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PDOs submitted/expected in 2017

| Name | Where | Product | Concept | Total Capex | On stream |
|--------------------------|---------------|---------|-------------------------------------|-------------------|-----------|
| Njord Future | Norwegian Sea | oil/gas | Upgrade floaters | 15.7 billion *7) | 2020 |
| Pil & Bue | Norwegian Sea | oil/gas | Subsea tie-back | 10-15 billion *5) | 2020 |
| Snorre Expansion Project | North Sea | oil/gas | Upgrade floater + additional subsea | 20-25 billion *4) | 2020 |
| Bauge | Norwegian Sea | oil/gas | Subsea tie-back | 4.1 billion *7) | 2020 |
| Johan Castberg | Barents Sea | oil/gas | FPSO + subsea | 49 billion *10) | 2022 |

The rush continues in 2018

The NPD expects the rush of incoming projects to continue as we write 2018, adding Capex to the tune of NOK 90 billion to the NCS portfolio.

Not surprisingly, Phase II of the giant Johan Sverdrup field accounts for the lion’s share of the investments. Incorporating another processing platform, as well as several subsea templates and the Utsira power-from-shore projects, Statoil expects to shell out between NOK 45 and 50 billion on the Phase II –scheme.

The operator also has a second major project up its sleeve, this time on its aging gas giant Troll; the Troll Future -project. Extracting additional gas reserves in the west of the field is the aim, and different development solutions have been evaluated, including a straight subsea tie-back to existing facilities and an additional floater, but the licence will not conclude until later in 2017.



Krafla is another Statoil-operated project for which a PDO is expected in 2018, and while the operator in early phases were planning a subsea tie-back to Oseberg, a stand-alone development is being considered. Again; a concept choice is expected in 2017.

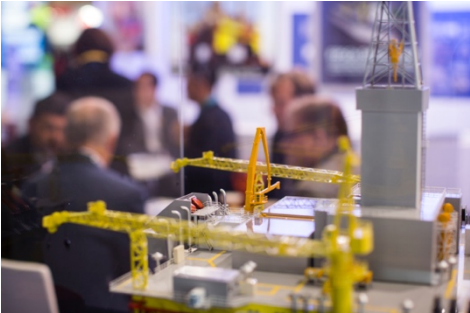
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Some of the PDOs expected in 2018

| Name | Where | Product | Concept | Total Capex | On stream |
|--------------------------------------|-------------|---------|--|-------------------|-----------|
| Troll Future (AKA Phase III) | North Sea | gas | Concept choice 2017 | | 2021 *3) |
| Askeladd (AKA Snøhvit Future) | Barents Sea | gas | Subsea tie-back to <u>Snøhvit</u> | | 2021 *3) |
| Eirin | North Sea | gas | Subsea tie-back to Dagny *6) | | 2021 *3) |
| Skarfiell | North Sea | oil/gas | Subsea tie-back to <u>Gjøa</u> | | 2021 |
| Krafla | North Sea | oil/gas | TBA | | 2022 *3) |
| Johan Sverdrup Phase 2 | North Sea | oil/gas | Processing platform (jacket) + subsea + power from shore *8) | 45-50 billion *3) | 2022 |

High activity level

The fact that the future on NCS looks relatively bright and an upturn in investments is projected in 2019, does not mean that there is not already a high level of activity on the shelf. At the turn of the year, 12 major development projects were in various stages of development, with only three of which to be completed in 2017.



Ongoing projects

| Name | Where | Product | Total Capex | On stream |
|------------------------|---------------|----------------|-----------------------|-----------|
| Gina Krog | North Sea | oil/gas | NOK 31.7 billion *9) | 2017 |
| Byrding | North Sea | oil | NOK 1 billion *1) | 2017 |
| Polarled | Norwegian Sea | gas pipeline | NOK 23.1 billion *9) | |
| Oseberg Vestflanken 2 | North Sea | oil/gas | NOK 8 billion *1) | 2018 |
| Aasta Hansteen | Norwegian Sea | gas | NOK 37.7 billion *9) | 2018 |
| Martin Linge | North Sea | oil/gas | NOK 35.5 billion *9) | 2018 |
| Maria | Norwegian Sea | oil/gas | NOK 15.5 billion *9) | 2018 |
| Johan Sverdrup Phase 1 | North Sea | oil/gas | NOK 105.7 billion *9) | 2019 |
| Utgard | North Sea | gas/condensate | NOK 1.9 billion *1) | 2019 |
| Oda | North Sea | oil | NOK 5.4 billion *1) | 2019 |
| Trestakk | Norwegian Sea | oil | NOK 5.5 billion *1) | 2019 |
| Dvalin | Norwegian Sea | gas | NOK 10 billion *1) | 2020 |

The future is bright

It might not be prudent to break out the shades just yet, but there is more than just a gleam of light on the horizon. Here are but a few of the news fuelling the NCS optimism this spring:

- On the 18th of May, the NPD published its "Geological assessment of petroleum resources in eastern parts of Barents Sea north 2017" report. The report says expected recoverable resources for the eastern part of Barents Sea North are estimated at 1.37 billion standard cubic metres of oil equivalent (scm oe). Out of this, 825 million scm oe is expected to be fluids and 545 billion scm oe gas.

- Less than a month later, on June 15th, NPD published its "2017 Resource Report," showing that less than half the resources on the NCS have been produced. It further points out that there are at present 77 discoveries on the NCS being considered for development, the resources in which amount to 700 million scm oe. The report further claims an additional 850 million scm oe can be produced through increased oil recovery measures.

- Finally, and maybe most important, MPE on 21. June heralded the opening of Norway's 24th licensing round, including acreage in a total of 102 blocks, 93 of which in the Barents Sea.

Sources:

- *1) NPD's "Sokkelåret 2016"
- *2) SSB 2Q, 2017
- *3) Statoil Capital Markets Update 2017
- *4) Statoil's Snorre Expansion Project white paper
- *5) VNG's Pil & Bue project white paper
- *6) Statoil's Eirin project white paper
- *7) Njord Future/Bauge PDOs
- *8) Statoil.com, "Johan Sverdrup"
- *9) MPE State Budget 2016/2017
- *10) Statoil's Johan Castberg white paper

Images:

- Malcolm Dickson, Photo: Wood Mackenzie
- All other images are from the ONS Exhibition in 2016, and are used for illustrative purposes only. The images do not relate to the projects mentioned in the article.