NEW GROWTH OPPORTUNITIES IN THE NORWEGIAN OIL AND GAS SECTOR

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During recent years fall in global oil price, the production levels on the Norwegian continental shelf have remained at historically high and, with the current reserves, activity will continue to be high for next 50 years.

Up till the peak in oil prices in June 2014 the interest from Swedish sub suppliers targeting the Norwegian oil and gas sector had resemblance with an old fashioned gold rush. With the price fall and the cease in investments the general interest from Swedish companies targeting the sector has been low for the past years.

The Norwegian oil and gas sector has been forced to improve efficiency and cut costs in order to adopt to new market conditions. In consequence, the value chain has experienced consolidations of suppliers and service offerings, making it important for Swedish sub suppliers to build the right network of customers and partners.

Business Sweden believes that the opportunities for Swedish companies in the Norwegian oil and gas sector will come back however within in less traditional areas.
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Since 2015, the Norwegian oil and gas sector has been in a recession, beginning when oil prices dropped from the historically high levels around USD 110 to the low points around USD 30. Investment levels fell in tandem with the oil price as projects were postponed and the current stock of active projects came to completion. The new market conditions forced cost cuts and improvements in operating efficiency, which in turn has made formerly unprofitable projects feasible again. The industry expects investment levels to return to more sustainable levels in coming years while maintaining a historically high activity level on the Norwegian continental shelf (NCS).

Following the first oil findings in Norway 1969 the petroleum sector has developed into Norway’s most important industry, accounting for almost a quarter of the GDP and close to half of the total exports. The sector remains a key driver for the Norwegian economy despite the recent downturn. Estimates indicate that the sector indirectly contributes to around 170,000 jobs in Norway event though the recent downturn has resulted in a loss of around 61,000 jobs.

Estimates for 2018 show that oil investments are expected to amount to NOK 156.5 billion, 1.3 percent higher than the corresponding figure for 2017.¹

The oil price is a key driver for investments

Investments correlates both to production level and exploration activity, which in turn links to the current oil price, recent findings and future expectations.

Combined oil and gas production levels on the NCS are at historically high levels and in 2017 oil production levels rose for the fourth year in a row while gas sales were at about the same record levels as in 2015. Current estimates suggest that 48 percent of total recoverable resources on the NCS have been produced and sold and it is likely that activity will continue to be high for next 50 years.²

The typical life cycle of a production field shows a rapid increase to maximum production rate

followed by a stable high production followed by a gradual decline in production. The production is dependent on new well discoveries or large-scale intervention on existing fields in order to avoid declines. Without investments, production levels decline rapidly. Given the high levels of development activity in recent years, production is expected to remain stable for the next few years.

Historical and expected production in Norway, 1970-2022

The oil price dropped from record levels

The sharp fall in oil prices from the peak in June 2014 is similar to the decline in 2008-2009, at the start of the global financial crisis. While the drop in 2008-2009 was almost entirely due to a collapse in demand, the recent price decline appears to be both supply and demand driven. Since the low in 2016 oil price has plunged to almost USD 75 per barrel.

Investments and operating costs has dropped to more sustainable levels

Historically, major investments have been made in field development, transport infrastructure and onshore facilities in Norway. Substantial investments are also made in the fields in order to improve recovery and extend the lifetime of the fields. This requires new wells, modification of existing facilities and new infrastructure.
Even with the recent decline in investment levels, capital spending will remain historically high and for now remains above 2012 levels.

Sub USD 50 per barrel oil prices presents a challenging environment for companies operating on the NCS. Projects that are currently being pursued rest on:

- a breakeven oil price below USD 50 per barrel
- an expectation of rising oil prices over time
- investment decision which was irreversible at the point when the oil prices began to fall

If the oil price remains around USD 75 for a four to six year period, the bulk of capital spending on the NCS will relate to:

- investments in improved oil recovery (IOR) on existing fields
- tie-ins to existing infrastructure
- investment which could make existing discoveries in the Barents Sea viable

Exploration activity is expected to increase however at a low level

The NCS is segmented into three petroleum provinces, the North Sea, the Norwegian Sea, and the frontier Barents Sea and the industry continuously seeks new and proven technology to be used in the deeper and more extreme northern waters.

Exploration costs include costs related to seismic data acquisition to map potential petroleum deposits under the seabed and to drilling exploration wells. When a discovery is made further wells are drilled as appraisal wells to obtain more data on the size and extent of the discovery.

Exploration activity is closely related to oil prices and as a result, the activity on the NCS is expected to remain low in the coming years.

Cutting of operating costs needed for development

The main types of operating costs on the NCS are those related to the maintenance of platforms and wells and the costs of day-to-day operation of the facilities. These include labor costs for personnel involved in running modifications and maintenance of machinery and other equipment.

A key factor for continued development of the NCS will be whether, given current price and
cost levels, new projects may be developed and implemented, as well as how far it will be possible to maintain and exploit current offshore infrastructure.

Since the start of the oil price slump, the oil companies and their suppliers have made vast efforts towards enhancing the efficiency of their operations and these measures are now having an effect. The Norwegian Petroleum Directorate did a survey of eight planned developments approaching kick-off and concluded that investment estimates had collectively fallen from about NOK 270 billion to NOK 150 billion according to the operators own calculations. This reduction of over 40 percent reflects a combination of simpler development solutions and more efficient drilling as well as lower prices for work and equipment. Investments in pipelines and cables have also declined substantially.

Disposal and cessation creates new opportunities

Shutdown of production and removal of facilities is expected on a number of fields over the next few years and it is an important part of the project lifecycle. Authorities have reviewed approx. 20 decommissioning plans, five of them in 2016. Over the next decade, it is expected that between 20 and 30 currently producing fields will shut down production and dispose of their facilities.\(^7\)

The costs related to disposal of facilities are difficult to calculate but the largest costs are related to permanent plugging of wells and removal of the offshore facilities.

Collaboration between licensees, the service and supply industry, the authorities and affected interest groups is crucial for cost-effective disposal while innovation, technology development, experience and knowledge sharing will rise in importance in the future.

Consolidation of suppliers and service offerings affect employment and adjacent sectors

The industry’s focus on increased efficiency and cost reduction has created a climate which encourages consolidation through M&A activity, joint ventures and alliances among oilfield service and equipment (OFSE) companies.

Statistics Norway (SSB) estimates that the petroleum sector directly and indirectly employed 170 200 in 2017 compared to 232 000 in 2013. A decline by approx. 25 percent. The current workforce amounts to roughly six percent of the total Norwegian workforce.\(^8\)

Other sectors which are indirectly affected by the activity in the petroleum sector are retail, ICT services, labor and machinery rental, hotel and restaurant services and legal and accounting services.

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\(^8\) [Norsk Olje og Gass – Konjunkturrapport 2016](http://www.norskpetroleum.no/en/economy/employment/)
Future redistribution of resources – North Sea vs Barents Sea

Even if The North Sea remains the engine in Norway’s petroleum sector the future is predicted to lie in the Barents Sea where the largest findings, without plans for development, are currently located. Close to 65 percent of remaining petroleum, resources are currently located in the Barents Sea with the remaining share evenly distributed between the North Sea and the Norwegian Sea. Even if exploitation is controversial in the Arctic region, an increased activity by Russian exploration crews in the Barents Sea put pressure on Norway to stake a claim and exploit its oil and gas resources in the area. However, it is necessary to develop flexible and robust midstream infrastructure in order for any resources to reach the market in an economically sound and sustainable way.

Challenging market with growth opportunities through new technology

As the NCS continues to mature, the remaining resources are gradually becoming more difficult to produce, both technologically and commercially. New and cost saving technologies within areas such as seismic surveys, interpretation of data, drilling and subsea production will play an important role for the continued development of Norwegian petroleum resources at sustained investment levels.

Investments in ICT and automation are seen as a way to cut operational costs and secure future development. Equinor, previously Statoil, is for example investing NOK 1-2 billion until 2020 on ICT based solutions for efficiency. Future projects will prioritize the use of automation in areas such as drilling and inspection or monitoring and data analytics to achieve the necessary flow conditions for stable subsea production. Fully automated drilling operations and autonomous pipeline inspection through autonomous underwater vehicles (UAVs) and unmanned aerial vehicles (UAVs) are already in use in some projects and trials.

At the same time, the application of new technology through automation and integration exposes the oil and gas industry to new vulnerabilities and threats that can result in both physical and economic damage and therefore protection of critical infrastructure has never been more important. Globally, ABI Research expects the oil and gas industry spending on cybersecurity to reach USD 1.87 billion by the end of 2018 as the industry becomes the second most targeted after power and utility sector. The industry will value cybersecurity professionals and companies with knowledge that goes beyond traditional IT security and with experience of Supervisory Control and Data Acquisition (SCADA) and other industrial control systems. Also professionals with experience from military, law enforcement or intelligence will be in demand due to the multitude of threat vectors that the industry faces.

Another important factor is information, innovation and knowledge transfer as there is a growing overlap between the petroleum sector and other industry sectors such as ICT, maritime industries, finance, aquaculture, mining and other Norwegian energy industries that face similar challenges in adopting advanced technology, sensors and intelligent tools in their fields.

The mature nature of the Norwegian market can be seen as a challenge for new entrants due to stiff competition from well-qualified and well-established domestic and regional equipment and service suppliers. Most purchases to the oil and gas industry are made from Norwegian and international oil companies operating on the NCS and from local yards and offshore structure contractors building and maintaining offshore installations. There is extensive use of engineering, procurement, construction (EPC) contracts and most of these major contracts are channeled through Norwegian, and international offshore engineering and service companies active on the NCS. Therefore, it is vital for new
players to offer something unique in order to meet the competition and challenge existing relationships.

Key areas, which are especially open to new ideas and companies, will be found within:

- Zero-surface, subsea and deep water technology such as subsea tie-ins that are better able to reach optimum flow conditions for stable production
- Advanced technology facilitating remote/onshore, real time operations
- Automated drilling operations which reduce the need for transportation and the number of personnel having to stay on offshore platforms
- Unmanned systems such as autonomous underwater vehicles (AUVs) and unmanned aerial vehicles (UAVs) and remotely operated underwater vehicle (ROVs) for tasks such as pipeline inspection
- Innovative solutions for improved recovery and marginal field technology
- LNF technology/value chain, including technology facilitating more efficient and clean production and transportation of gas from remote locations as oil and gas fields are depleted and production ceases
- Investments are also needed on abandonment such as rig-less plugging and abandonment (P&A) or alternative use of installations

Finding new opportunities on the NCS demands adapted offering and preparation

In conclusion, the Norwegian oil and gas industry has become and will develop to be more dynamic and challenging in the coming years. Exploration activity will be primarily dependent on short-term price levels and on the industry’s ability to cut costs and develop more efficient processes and techniques in all stages of exploration and field development. This environment will provide opportunities for Swedish companies able to provide specialized high value-added services and products. However, standardized service and product suppliers will find it difficult to penetrate a conservative industry with entrenched local suppliers. Local standards like NORSOK, registration in the supplier database Achilles and ISO certification are also important elements of a successful entry into the industry and projects the image of long-term commitment to potential customers.

Even if the industry is conservative and mature, opportunities may be found within IT security, automation, big data analytics and digitalization as the industry is forced to test and use new solutions to cut costs and increase productivity. Forming alliances and joint ventures with other companies or build cooperation with academic institutions and research centers increase the possibility to penetrate the conservative industry.

Business Sweden recommend companies targeting the Norwegian oil and gas sector to:

- **Show your presents** through registration on the supplier database Achilles in order to increase visibility towards presumptive buyers.
- **Keep yourself updated regarding the demand.** Follow recently awarded contracts in order to see which suppliers might be in need of additional sub suppliers and which decision makers and influencers your need influence.
- **Seek alliances in order to provide a more comprehensive service offering** as customers are coming to expect fewer points of contact as well as responsibility when working with sub suppliers.
- **Reach out to industry clusters and research institutions with new technology** to find partners for trial and pilot projects.
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