

In it for the long haul

by Astri Sivertsen, Norwegian Petroleum Directorate (NPD)

In a world of dwindling petroleum resources, Norway is a lucky exception. More than half of its oil and gas is still waiting to be produced.

This year marks the fiftieth anniversary of the very first exploration well spudded on the Norwegian continental shelf (NCS). Since production began in the early 1970s, the oil and gas industry has contributed more than NOK 12 000 billion in current value to the country's gross domestic product. Roughly 100 fields have been brought on stream during these last four decades, and the petroleum sector has become Norway's largest, in terms of government revenues, investments and export value.

Eighty-two fields were in operation at the end of 2015, compared with 51 ten years earlier. This illustrates the massive development activity that has taken place in recent years.

From production started to the end of 2015, the NCS has yielded 6.9 billion standard cubic metres - over 43 billion barrels - of oil equivalents. According to the Norwegian Petroleum Directorate's estimates, the NCS contains a total of over 14 billion scm oe petroleum.

"More than half of the resources on the Norwegian continental shelf have yet to be produced. This provides a basis for continued oil and gas production for many decades to come," says Bente Nyland, director general of the NPD.

At the turn of the year, 53 companies were involved on the NCS - twice as many as in 2000. New players mean greater diversity, which in turn may spur new and innovative ideas, and thus contribute to further discov-

eries and enhanced value creation, she adds. We may also see more companies joining forces to strengthen their positions, like the recent merger between Det norske and BP Norge. The petroleum industry is currently under pressure from low oil prices and high costs, and Nyland sees a tendency for companies to prioritise short-term earnings over long-term value creation.



Bente Nyland, director general of the NPD, is upbeat about the future of Norway's oil and gas industry. (Photo: Emile Ashley/NPD)

She does, however, acknowledge that the industry has invested a lot of effort in increasing efficiency, and that we are beginning to see results in the form of lower costs. For a selection of fields currently being planned, the cost estimates dropped 20 per cent from the autumn of 2014 to the

autumn of 2015, and has since continued to fall. Furthermore, oil prices have nearly doubled since the beginning of this year. But experience tells us that the industry will probably need a couple of years to gear up to full speed, the director general observes.

Nearly 3 billion scm oe - 20 per cent of the total resource base on the NCS - are still to be discovered. Almost half of this volume is believed to lie in the Barents Sea, and one fourth in the Norwegian and North Sea respectively. As described in the NPD's Resource report of April this year, liquid is likely to account for about half of the total undiscovered resources. The estimate for liquid is highest in the Barents Sea and lowest in the Norwegian Sea. Where gas resources are concerned, the estimate is significantly higher in the Barents Sea than in the other parts of the NCS.

"The Barents Sea has become a very promising petroleum province," says the director general, and refers to the recent, 23rd licensing round where all ten production licences are located in this area. For the first time since 1994, new exploration acreage was made available to the industry, and the new blocks in the southeastern Barents Sea generated a lot of interest. In addition to three production licences in the new area, new blocks near the most promising, previous discoveries were also awarded.

In the southeastern Barents Sea blocks, licensees are required to drill four exploration wells within three years. The first well is planned for next year already.

"The drilling of new wells in this region will provide us with valuable knowledge about the Barents Sea. Hopefully, it will also strengthen the resource base for future developments," Nyland concludes.

Organisations don't innovate—people do

by Katinka R. Kolsaker, Senior Advisor and Partner (translated by Silje Graffer)



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Why innovate? The answer is short and brutal. Changes are increasing in both scope and speed. If things never changed, businesses and organisations could continue to do what they are currently doing, and we wouldn't need to think and work differently. We wouldn't have to worry about situations where new players suddenly appear and jerk the rug from under the feet of established organisations and business areas. We could have taught ourselves new technology when we were tired of the old, instead of having to learn something new when you've just gotten used to the previous. Rapid changes makes us vulnerable. We are reminded about our privileged position when our greatest concern is that our new environmentally friendly diesel-car turns out to be a serious pollution source instead during just one short and cold winter.

Some businesses make a conscious decision to keep changing. It's easy to forget that choosing not to change is also a decision. ROI is usually associated with the risks of investing in assets - meaning "return on investment". However, "risk of ignorance" would also be a correct interpretation of the acronym. Managers are not only responsible for their own decisions, but also for the questions they did not ask, relevant thoughts they left in the back off their minds and the decisions they didn't execute. Thankfully, help is at hand - there's a solution that goes against these pro-

cesses: Employee-driven innovation is about making use of the whole organisation in order to make it equipped to challenge itself, innovate and be better prepared for the future. To open up innovation for all competent minds is smarter, more collaborative and leaves more room for innovative solutions than having only a small group of employees, managers and maybe a few consultants responsible for innovation.

Research on "Workplace Innovation" and employee-driven innovation teaches us how to involve the entire organisation in challenging, renewing and developing every aspects of the business, and how to make management comfortable with innovation management. In collaboration with NTNU (The Norwegian University of Science and Technology) we have transformed research and findings into a practical training methodology for the workplace and identified four priority areas for businesses that want to succeed with "Workplace Innovation" and employee-driven innovation.

Innovation at the workplace - four factors that make us innovative at work

A study by IRIS / NTNU looks at a wide range of twenty organisations, which all have in common that that they succeed with involving employees in renewing, innovation and improvement. From this study and from the participants in the innovation courses we run for organisations, we have discovered some common features worth sharing:

1) Competence in Innovation is the 'you need to smile'-course of our time.

The definition of Innovation is *to develop new solutions that are so attractive and useful that they are selected and are applied.* Only one out of four major organisations in Norway think they succeed in some or a greater degree when it comes to innovation. Many have a false start, with an idea and a thought about something that seems to be "smart, exciting and something that's definitely achievable." Even though you could imagine such a solution and you enjoy the challenge, the chances are that you are unlikely to succeed. However, if the end goal is rooted in a need for change based on actual challenges in the business rather than a preconceived idea or solution, the chances for success doubles, according to the research.

Innovation is about far more than just products, services and new technology. It includes everything from how the business is organised, who to collaborate with, to how we communicate and create commitment and engagement to the values and attitudes we choose to promote. At a societal level innovation can be about finding new and effective solutions to municipal structures, solve challenges arising from an aging population, reception and inclusion of asylum seekers and refugees into the Norwegian society and the development of new industries where cornerstone companies downsize and are forced to close

down. MDG (The Norwegian Green Party) define themselves as being on nature's side and refuse to be defined within the more socialist or conservative parties policies on the issue. Thus, we as a society are challenged to think in new ways when it comes to the dimension of party-ideology. When Robert Reich speaks to students about the need for cohesion in the US economy, he is urging them to innovate and contribute to the development of new political and ideological solutions for the country.

Many are - with good reason - unsure how to create new solutions. "Where do you start with innovation and what procedures need to be followed?" Many in Norway remember Jan Carlzon's unrelenting focus on spreading high quality customer service into the SAS organization in the 80s. Competence in Innovation is the 'you need to smile'- course of our time. It is a skill everyone within an organisation need to have at heart if the organisation wants to challenge itself, be able to handle change quickly and improve and renew every component of its value chain.

Many people misunderstand innovation as a trial and error process only. Employee-driven innovation is about equipping people in the

organisation with knowledge about innovation and training them to be able to identify needs and develop solutions and new values around creation. When we cultivate the ability to innovate within all levels of an organisation we become more adaptable and sturdy in the face of change. We can develop valuable improvements and in some cases the value added will be formidable. Without having such expertise internally the process of innovation can be costly trial and error experience, or become nothing at all - which in time can mean the end of the business.

2) A culture that discourage or encourage innovation

When it comes to culture we think of how we do things here in our culture. The Swedish author Selma Lagerlöf said that "culture is what is left when you have forgotten what you have learned." Businesses that succeed with employee-driven innovation have some cultural similarities: The culture is characterised by **mutually trusting** relationships, both between employees and in relation to management. It feels **safe** to share knowledge and ideas. Employees identify themselves with the business and experience joy and **pride** in being able to help develop it further. The culture

within the business is characterised by **tolerance** about the fact that everyone's different, and that we can all make mistakes and be open about it so that everyone can learn from it. **Openness** is cited as the main factor. Everyone having a good understanding of the organisation and having an expectation of everyone's need to contribute to the development of the business lifts both the ability to innovate and the level of engagement from the employees.

3) A good work- and employee- environment ('Medarbeiderskap') welcomes innovation with open arms

'Medarbeiderskap' is a term that exists in both Norwegian and Swedish, that directly translated means 'Employee-ship'. This term is rooted in the Nordic culture where equality, equal worth and democratic mindset are existing qualities and values that are taken for granted both in society and at work. We see managers more like a colleague with some management responsibility than as a distant and elevated position. 'Employee-ship' in this sense stands for a human-centred organisation, a mindset focusing on partnership and participation rather than a 'top-down' hierarchical structure.



Good 'Employee-ship' means that managers and employees have a shared responsibility for their own development, to develop each other and the business. Employees need room and the possibility to control their own work to see the possibilities, think in new ways and act accordingly. The relationship between autonomy and engagement is evident in businesses that succeed with employee-driven innovation. You yourself might test how creative and innovative you are when you are disengaged and feel like you aren't being listened to. A study conducted by VIRKE (The Enterprise Federation of Norway), shows that entrepreneurs have more job satisfaction than others. This also applies to employees who has the safe space to innovate and develop new projects in their work. Having both the organisation and the employees in development fuel positive ripple effects. Organisations that have succeeded with employee-driven innovation may experience significant additional benefits in terms of increased attendance, productivity and reduced sick-leave.

Employee-driven innovation demands a team spirit where every player helps each other to grow and values their individual strengths.

PhD and Associate Professor in Innovation at the Department of Learning at The University of Aarhus, Lotte Darsø, defines competence in innovation as a social intelligence and competence where we are good at cooperation and benefitting from each other's differences. We have experienced innovation team that has failed because they cooperated and communicated poorly and others that failed because they worked so closely that they went into the 'group think' trap. A third danger is becoming so welded and introverted that you as a group disregard involvement of important stakeholders outside the group.

4) A culture of innovation requires innovation in how the management operates too

For managers to encourage their employees to excel at innovation, it is required that managers at all levels have a good understanding of what distinguishes innovation from other processes and projects, and how much more fragile and sensitive innovation can be in comparison to other processes. It is a finely tuned balancing act for managers to stop ideas and innovation that aren't relevant, whilst simultaneously not killing the innovation initiative. We have experienced the horror scenarios where engaged employees deliver

dreams and visions for the business and then having to defend the idea in front of a leadership acting like a ruthless courtroom. Other times, we have seen leaders who take the credit for their employee's idea and then end up losing their most valuable employees to another employer where they hope to be appreciated.

The new oil is not in the ocean or deep within the mountains. It is found in the underused resource of employee-driven innovation - we just need new methods of encouraging it.

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