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## Activities and results from the year



Johan Sverdrup August 2019.  
Photo: Ole Jørgen Bratland / Equinor

# Activities and results in 2019

Reference is made to the letter of assignment to Petoro AS for 2019, and to the business plan for Petoro AS. The targets set in the letter of assignment and Petoro's performance in relation to these are presented below.

## Safeguarding the state's direct participating interests

Petoro shall be an active partner that helps maximise the value of the SDFI portfolio through comprehensive assessments. The work shall be focused on areas and tasks where the company, based on the portfolio and in interaction with other players on the Norwegian Continental Shelf, can provide a particular contribution toward increased value creation, considering the state's overall financial interests. Petoro shall contribute to efficient and profitable development and operations, as well as the safety of people and the environment.

## Operational targets

**“Petoro will establish operational targets with the aim of maintaining a high level of production in 2019.”**

*Management parameters: Volume figures. Development over time and description of deviations.*

Total production amounted to 964 thousand bbls of oil equivalent (boe) per day, just over 11 per cent lower than in 2018.

Gas production totalled 98 million standard cubic metres (mill. scm) per day in 2019, down 14 per cent from a record-high level of 113 million scm per day last year. The decline in production alongside low gas prices resulted in revenues from self-produced gas of NOK 68 billion, about NOK 21 billion lower than the previous year. The reduction in gas volume was generally associated with use of flexible gas extraction for price optimisation on Troll,

as well as production decline due to operational challenges associated with compression on Ormen Lange.

Liquids production amounted to 349 thousand boe per day, 6 per cent lower than in 2018. This decline was mainly caused by natural production decline, as well as lower production as a result of problems with risers on Snorre. The decline in liquids production was partially offset by the start-up of Johan Sverdrup in October 2019.

Beyond ordinary licence follow-up where the operator and partners stipulate production targets and the operator is challenged on nonconformity management and mitigating measures, Petoro's efforts in 2019 have been particularly aimed at influencing the operator to now both report and follow up on shut-in wells and production efficiency on select fields. Petoro's efforts have also been aimed at completing new wells and implementing planned drilling programmes. These are important tools to increase production from the SDFI portfolio.

**“Petoro will prepare operational targets as regards efficient operations.”**

*Management parameters: Development in operating expenses with description of deviations.*

Efficiency measures on fields in operation has been an important part of Petoro's work in 2019 as well. The company has been a driving force for efficiency measures and cost reductions, particularly within the area of drilling and wells, as well as operations and

maintenance.

The need for efficiency improvements and cost reductions within the drilling and well service area has been an important issue for Petoro over several years. Petoro has followed the development in drilling pace on ten fixed installations on five selected fields in the portfolio over a number of years. The average drilling time and drilling cost was cut in half from 2014 to 2015. The result can mainly be attributed to increased drilling efficiency, simplified well design and increased availability of drilling facilities. Average drilling cost per well was stable for a number of years, but last year saw an increase of 15 per cent compared to the new level. In order to realise reserves in the mature fields and to increase the recovery rate, costs must be reduced through further efficiency measures.

Petoro is also paying attention to the development in production expenses, including costs for operation and maintenance of fields and infrastructure. After a number of years of falling production expenses, costs increased somewhat from 2017 to 2018. Adjusted for the provision for and subsequent settlement in the COSL case on Troll, however, production costs in 2019 were on par with 2018. Petoro follows up costs and efficiency measures, e.g. by using benchmark analyses.

Digitalisation is an important instrument for efficient operations. Petoro has therefore been a driving force for broad implementation across the SDFI portfolio, as well as establishment and follow-up of implementation plans on

select fields. Within drilling, the company has identified concrete improvement opportunities in select licenses and has proposed them in the joint ventures. Petoro also actively participates in select industry forums with particular emphasis on sharing data.

**“Petoro will prepare operational targets as regards safeguarding safety and environmental concerns.”**

*Management parameters: Serious incidents and CO<sub>2</sub> emissions.*

*Development over time and description of deviations.*

The objective that the Norwegian petroleum activities shall be world-leading in health, safety and the environment remains firm. This means that the industry must continue working to continuously improve the safety level. In 2019, Petoro has been concerned with putting safety first and has clearly communicated the company's expectations as regards HSE management and HSE culture. At the same time, Petoro has been concerned with learning across the portfolio and quality in risk assessments in a major accident perspective. Petoro also conducted a number of management visits in 2019, focusing on health, safety and the environment on selected fields and onshore plants.

HSE results for 2019 show no incidents with major accident potential. The serious incident frequency, defined as the number of actual and potential serious near-miss incidents per million hours worked, is still too high. The frequency in 2019 was 0.9, compared with 0.7 in 2018. Most incidents were associated with falling objects and the industry bolstered its efforts in 2019 to prevent such incidents. The personal injury frequency, i.e. the number of personal injuries per million hours worked, increased from 3.8 in 2018 to 3.9 in 2019. No serious discharges to sea were recorded in 2019.

In light of the climate challenge, a unified Norwegian oil and gas industry

has launched a new climate roadmap and new climate targets. Through this, the industry is clearly signalling that it is taking the climate challenge and the Paris Agreement seriously. The oil and gas industry will reduce its greenhouse gas emissions by 40 percent in 2030 compared with 2005, and further reduce emissions to near-zero in 2050. This will require vast investments, technology development and industrial expertise. At the same time, it will presume considerable efforts from all industry players. Petoro wants to be a driving force to ensure that the Norwegian shelf leads the world in tackling the climate challenges and is already working closely with operators and partners in the licenses to investigate which opportunities should be pursued.

Petoro prepares the “Annual External Environment Report” each year, which is published alongside the annual report. The 2018 report states that the emissions of carbon dioxide (CO<sub>2</sub>) from the SDFI portfolio in 2018 amounted to 3 million tonnes, which is 0.2 million tonnes lower than in 2017. The decline in CO<sub>2</sub> emissions is mainly caused by the shutdown of a gas turbine and CO<sub>2</sub>-reducing measures offshore. SDFI's share of overall emissions from the Norwegian shelf amounted to 25%. Emissions of CO<sub>2</sub> per produced unit (emission intensity) from the SDFI portfolio went down from 8.0 kg/boe to 7.6 kg/boe from 2017 to 2018. This is 16% lower than the average for the Norwegian shelf, where emission intensity was 9.0 kg/boe.

**Priority targets and activities in 2019**

In 2019, Petoro will particularly prioritise larger ongoing commercial processes in the industry where Petoro, through its participation, can secure and increase values in the SDFI portfolio.

**“Petoro will contribute to the greatest possible profitable production and value from mature fields”**

*Management parameters: Initiatives, measures and work initiated by Petoro,*

*achieved results and their effects*

In line with Petoro's strategy, the company has focused special efforts in 2019 toward the Heidrun, Maria, Åsgard, Oseberg and Grane fields. Well maturation and digitalisation have also been addressed as special topics for the entire field portfolio. Within digitalisation, the company has employed strategic collaboration with a supplier, aimed special efforts toward improving quality and streamlining work processes in reservoir modelling.

On Heidrun in 2019, Petoro has carried out dedicated simulation studies of the northern part of the field. Through this work, Petoro identified a potential for drilling several new wells and associated development of new infrastructure. Petoro has also studied various gas disposal solutions for Heidrun, which revealed a potential for increased oil reserves through gas injection in deeper reservoir layers.

On Åsgard, the company used its own studies in 2019 to identify and specify projects that could contribute to increase the recovery rate to the field's target recovery rate of 60 per cent.

On Oseberg in 2019, Petoro has carried out a study to map the effect of increased gas export from the field's main structure. Petoro has identified seven new profitable drilling targets and the study supports the licence's strategy with a stepwise escalation of gas export leading up to 2022. In connection with increased gas exports, it will be necessary to upgrade gas capacity at the Oseberg Field Centre. Petoro has been a driving force to maximise the value by the project by early phase-in of pre-compression. The concept choice was made in December, and the plan is to start pre-compression in 2024.

On Grane, Petoro prepared a technical basis for development in 2019 of the Bredablikk deposit through a joint simulation model for the Grane and Bredablikk reservoirs. The purpose of

the Bredablikk project is to develop resources north of the Grane unit by utilising the capacity in existing infrastructure, which will also contribute to extend the field's production lifetime.

On Maria, the company has taken an active role in 2019 in identifying measures to increase production in light of disappointing production after start-up. One key measure will be a new injection well, where results from Petoro's own reservoir studies are used as a basis for well placement. Petoro has worked to define a long-term solution to develop the field which will contribute to increase reserves.

**“Petoro will contribute to good operational preparations for projects in the implementation phase.”**

*Management parameters: Initiatives, measures and work initiated by Petoro, achieved results and their effects.*

In 2019, Petoro followed up a major portfolio of large development projects with development decisions and which will start producing in the years to come: Johan Sverdrup Phase 1 and 2, Johan Castberg, Snorre Expansion Project, Martin Linge, Dvalin and Troll Phase 3. The follow-up has been focused on factors that affect HSE, climate and implementation risk as well as ensuring sound preparations for operations.

While project implementation has generally been good, the Martin Linge project has been characterised by multiple significant delays, but operations are expected to start in 2020. Petoro maintained substantial focus on the project last year as well, with primary focus on achieving a safe and good field start-up.

In 2019, Petoro paid special attention to operation preparations for Johan Sverdrup Phase 1, which came on stream on 5 October – more than two months ahead of schedule. The project was delivered at a cost considerably lower than budgeted. Future-oriented choices have been made as regards

digital solutions that can also be utilised elsewhere in the portfolio. The area solution for power from shore to the Sverdrup field and the surrounding area means that a total of ten fields on the Utsira High in the North Sea can now receive power from shore. Along with Phase 2, which will start up in 2022, the field will produce up to 660,000 bbls per day at plateau and provide a considerable contribution to production on the Norwegian Shelf for decades to come.

**“Petoro will contribute to realising new development projects as well as utilising time-critical infrastructure in fields and transport systems.”**

*Management parameters: Initiatives, measures and work initiated by Petoro, achieved results and their effects*

In 2019, a Plan for Development and Operation (PDO) was submitted for the Hywind Tampen offshore wind farm, which will reduce the need for power from gas turbines and provide renewable power to the Snorre and Gullfaks fields. A PDO was also submitted for the Gjøa P1 project, which will extract additional resources from the Gjøa field, and Tor II which is a further development of the previously shut down Tor field.

The SDFI portfolio also includes a number of future development projects in the planning phase, which will be matured toward an investment decision in a few years. The future projects primarily consist of further development projects and electrification projects on mature fields, but also a few minor discoveries. As regards new fields in the portfolio, Petoro's efforts are associated with assessing various development solutions leading up to a concept choice. Petoro emphasises the selection of development solutions with the capacity and expansion opportunities to realise the field's full value potential.

In 2019, Petoro has seen significant activity associated with maturing measures to electrify fields and

onshore facilities. The electrification measures are decisive in order to satisfy requirements and expectations for a reduced carbon footprint from production on the Norwegian Shelf, as e.g. forecasted in the roadmap from the industry. While new field developments were previously the most relevant candidates for electrification, work is currently also under way on concrete plans to electrify a number of fields already in operation with power from shore.

Electrification is included as part of a comprehensive further development of the mature fields. Electrification often takes place alongside a licensee's desire for extended installation lifetime, or a need for more power for e.g. gas compression, in both instances to increase recovery and value. Petoro will continue to work actively to mature climate impact-reducing measures, as well as ensure good technical and cost-effective solutions. Electrification of mature fields is a time-critical measure as the projects' income potential is reduced when the remaining operating period is curtailed. Petoro therefore actively works with operators and partnerships to maintain progress on these projects.

In 2019, Petoro has also worked on improved recovery of gas on the important gas fields Ormen Lange and Snøhvit, where concept choices were made in 2019. The solution involving lowering wellhead pressure while simultaneously installing increased gas compression capacity will yield increased reserves at a low break-even price.

## Monitoring Equinor's marketing and sale of the state's petroleum

Petoro will monitor to ensure that Equinor conducts the marketing and sale of the state's petroleum alongside its own in accordance with the marketing and sale instruction issued to Equinor ASA. This includes contributing to rightful distribution of income and costs.

**“Petoro will monitor the marketing and sale of the state’s petroleum with attention to the market situation, potential differences in interests, as well as issues of significant importance as regards value.”**

*Management parameters: Describe which initiatives and activities have been carried out and which considerations form the basis for the company’s priorities. What results have been achieved through the activities and what impact have they had as regards value.*

In line with the allocation letter, Petoro has focused its risk-based follow-up on prioritised issues within the marketing and sale of oil. In this context, Petoro has maintained particular focus on Equinor’s management and follow-up system as regards maximum value creation and rightful distribution.

Petoro is concerned with ensuring that the products are marketed and sold in the markets where the highest price can be achieved, in addition to ensuring that the portfolio’s flexibility is used to achieve the highest possible value creation. In this context, optimal further development, regularity, utilisation of capacity and flexibility in production facilities and infrastructure are of significant importance in order to achieve maximum value creation.

Selected verifications have been conducted to ensure that the SDFI receives its rightful share of sales-related costs and revenues.

## Financial management

**“Petoro will:**

- **ensure good financial management and control of SDFI pursuant to the Regulations on Financial Management in Central Government and instructions for financial management of the SDFI**
- **prepare and follow up budgets and forecasts, conduct accountancy and perform periodic variance analyses and reporting on the SDFI’s financial standing and development.”**

In 2019, Petoro has ensured sound financial management and control of the SDFI in line with the Regulations on Financial Management in Central Government and instructions for financial management of the SDFI.

Petoro has furthermore prepared and followed up budgets and forecasts, been responsible for accountancy through an external accountant and performed periodic variance analysis and reporting on the SDFI’s financial standing and development in accordance with deadlines specified in the Allocation Letter.

The company also received a clean audit report from the Office of the Auditor General for 2018.

## Efficient operations

Petoro will work systematically to utilise its allocated resources in an efficient manner. The company will prepare operational targets and indicators that demonstrate the efficiency of the company’s operations and which can be compared over time.

**“Petoro will design its performance of the company’s primary tasks in an efficient manner”**

*Management parameters: Initiatives, measures and work initiated by Petoro and demonstrating the effect thereof.*

Petoro aims to carry out its activities as efficiently as possible. In recent years, the company has carried out a number of efficiency and cost-reducing measures, for example by negotiating contracts for services the company uses, implementation and use of new digital tools and systems, as well as simplification of administrative processes and routines.

Petoro’s portfolio of production licences has increased steadily since the company was established and at the end of 2019, the portfolio consisted of 200 production licences with SDFI ownership interests. The company has organised its licence follow-up

in an efficient manner, such that new production licences the company receives for administration are also included in the follow-up within the same staffing framework. Over the course of the year, Petoro has carried out a number of measures to develop the organisation’s ability to solve its tasks and deliver results in accordance with the company’s vision, strategy and goals. A new organisation structure and executive team has been established and implemented as of 1 January 2020. Petoro has also completed its update of the company’s management system, as well as entered into a contract with a new accounting supplier for the SDFI as of 1 March 2020.

**“Petoro will utilise its opportunities for efficient operation by applying digital solutions and digital data sharing”**

*Management parameters: Initiatives, measures and work initiated by Petoro and demonstrating the effect thereof.*

Petoro works continuously to specify how digitalisation can be utilised to conduct the activities as efficiently as possible. The company’s goal is to reduce the time spent on routine tasks, streamline reporting and supervisory tasks, as well as improve the company’s influence through better insight, analyses and decision documentation.

In 2019, Petoro has prepared a digital strategy plan that will facilitate the realisation of gains through further development, skills development and increased use of digital tools in the company’s work processes. Also during the course of the year, Petoro has implemented and utilised new digital tools and systems within the company’s three main areas, as well as for collaboration across the company. This work has made the company’s administrative information more accessible as well as streamlined work processes and data management.