

ANNUAL REPORT FOR THE SDFI AND PETORO

08



## CONTENTS

- 01 | About Petoro and the SDFI
- **02** | | Chief executive:
  - USD 40 can strengthen the industry
- 04 I I Key figures
- 06 | | Highlights

## **RECORD/UNCERTAINTY**

- **10** | | Short-term action long-term investment
- **12** | | Making a difference

## COLLABORATE/CHALLENGE

- 16 | | Strengthened relations
- **20** | | Seeing opportunities in the Barents Sea

## CREATE/LEARN

- 24 | | New challenges on the NCS learn wider
- 26 | | Gas market globalisation

## WILL/CAN

- **30** | | Expertise-builder and team player
- 32 | | Safety in 2008 good results
- **34** I Reduced emissions to the air more oil discharged in produced water
- 40 | | Increased environmental commitment

## SDFI/PETORO

- 42 | | Corporate governance
- **46** | | Presentation of management
- 48 | | Presentation of directors
- 50 | | Directors' report
- 62 | | Accounts, notes, auditors' reports



## **FROM PETROLEUM TO GOLD**

Both the Petoro name and its logo reflect the company's goal of converting the state's petroleum to financial assets – or "oro", which is the Spanish for gold. Put another way, Petoro will maximise the financial value of the State's Direct Financial Interest (SDFI) on the Norwegian continental shelf (NCS).

Petoro AS was established as a state-owned limited company on 9 May 2001 to manage the SDFI portfolio. Its creation was a direct result of the partial privatisation of Statoil the month before, which meant that the latter could no longer do the management job.

The SDFI was created in 1985 through an oil policy compromise between the Willoch government and the Labour Party. Roughly half the interests held by Statoil in oil and gas operations on the NCS were transferred to direct state ownership.

Petoro manages this portfolio as the licensee in the production licences and the partner in other joint ventures related to the petroleum industry.

## **THREE-PRONGED STRATEGY**

Petoro pursues three principal strategies to achieve its goal of maximising value creation from the SDFI.

As an area developer, the company aims to create value beyond individual licences by looking at opportunities for synergies and coordination gains. This will be followed up through its work in and between licences and joint ventures for pipelines and landbased plants.

The maturing reserves strategy involves developing proven resources in discoveries and fields so that an investment decision can be taken. As part of this approach, Petoro's stated ambition is to expand the SDFI's petroleum reserves by two billion barrels of oil equivalent (boe) during 2007-15. That guides the way the company sets priorities and acts in the licences.

Early application of technology is another strategy which aims to a great extent at improving oil and gas recovery. Advanced methods for improved recovery, subsea processing, efficient wells and more efficient/integrated operation represent important priorities.

## VISION

I The best partner

## VALUES

- I Safeguard human life and the environment
- I I Boldness and innovative thinking
- I I Commercial orientation
- I I Integrity
- I Collaboration

## MAIN OBJECTIVE

The company will maximise the financial value of the state's oil and gas portfolio on the basis of sound business principles.

## **KEY DUTIES**

- I I Managing the State's Direct Financial Interest (SDFI) in those partnerships where such holdings exist at any given time.
- I Monitoring StatoilHydro's sale of the petroleum produced from the SDFI, as specified in the sales and marketing instruction.
- I Financial management, including accounting, for the SDFI.

## PETORO MANAGES THE STATE'S OIL AND GAS RESERVES

I The Norwegian state owns about a third of Norway's commercial oil and gas reserves through the State's Direct Financial Interest (SDFI). This represents the largest portfolio of oil and gas reserves on the NCS. Petoro, a state-owned limited company, manages this portfolio as the licensee for the production licences on the NCS and the partner in associated processing and transport facilities at sea and on land. Petoro manages these holdings on the basis of sound business principles with the aim of maximising their financial value for the owner.

This activity generated a record cash flow of NOK 155 billion to the government in 2008. Petoro has been able to transfer an annual net cash flow in the order of NOK 100 billion or more to the government for a number of years. This income represents one of the three principal sources for building up the Government Pension Fund – Global (also known as the oil fund). Since its creation in 2001, Petoro has contributed a cash flow of NOK 800 billion in current money.

At 31 December 2008, Petoro was the licensee for holdings in 122 production licences. These included 40 producing fields.

The company is based in Stavanger and currently has just over 60 employees. Its principal duties are to manage the state's interests in partnerships – including production licences – monitor the marketing and sale of petroleum produced from the SDFI, and provide financial management, including accounting, for the SDFI.



## ACTIVITY HIGH IN THE BARENTS SEA

I Where new areas are concerned, Petoro developed four scenarios or projections in 2008 for Barents Sea South – a region opened for exploration of about the same size as the Norwegian North Sea.

On the basis of its scenarios, the company will seek collaboration with other players to ensure adequate exploration and development activity in Barents Sea South. The initial goal is to secure sufficient reserves for a new process train in the Snøhvit gas liquefaction plant at Melkøya. But Petoro believes that maintaining the momentum of operations in this region is also important for the development of the far north as an oil and gas province.

## PETORO MUST DO MORE WORK OF ITS OWN

I Merging Statoil and Hydro eliminated one of the two independent and competent Norwegian operators. The diversity of experience, expertise and technology which represented a source of both creativity and quality control during the first 20-30 years of activity on the NCS has been weakened in many licences. In such conditions, Petoro must do a larger amount of independent technical and commercial work itself in order to manage the state's oil and gas holdings in a satisfactory manner.

The company has already refocused its resources towards sub-surface work and commercial negotiations. By making a commitment to more work in some areas, however, it will be unable to deal with as many fields as it could before the merger and will thereby have to put some value creation opportunities on hold. Petoro is accordingly working to strengthen its organisation so that it can maintain professional and efficient management of more of the SDFI.

## Important fields NORWEGIAN SEA

BODØ

Åsgard Ormen Lange Heidrun Draugen Norne Kristin Important fields
BARENTS SEA

Snøhvi

VARDØ

Melkøya

HAMMERFEST

Snøhvit

Heidrun

## USD 40 CAN STRENGTHEN THE INDUSTRY

The biggest difference between the 2008 profit for the State's Direct Financial Interest (SDFI) and previous years is that this fantastic record of NOK 155 billion will probably stand for a while. Oil prices fell from USD 140 per barrel in the early summer to USD 40 at 31 December – a decline which coincided with the start of a global economic downturn. It could take time to return to the 2008 average of almost USD 100.

I I I I I I I I I A Rain follows sun, and every cloud has a silver lining. The time to prepare for changeable weather is when conditions are stable. Rainy days can be used for planning to make good use of clear skies. Being able to do the right things in times of transition is often what distinguishes winners from losers. In that perspective, 2009-10 are years of opportunity.

> The oil industry has seldom experienced such a sharp transition as the one which occurred last year, when the value of a barrel of crude fell by NOK 700 from summer to the end of December. Multiply that by two million barrels per day and add earnings from a roughly equal amount of gas, and you get a loss of revenue which has a noticeable effect on a country, a people and an economy heavily dependent on the petroleum industry.

> Nevertheless, I believe that the sun is lurking behind the clouds currently hanging over us. USD 40 is not necessarily the right oil price in the longer term. Such a price would probably not match the cost of recovering the new oil and gas reserves the world will need for the foreseeable future – from deep beneath salt layers off Brazil, from the Arctic or from unconventional hydrocarbon sources. Just as the serious oil companies never allowed their long-term business to be dictated by USD 140, so they do not seem to be basing their operations on today's temporary blip.

> The price slump limits cash flow in the short term. That will have an impact on many members of the petroleum family. After several pros

perous years, however, having to slim down a bit may not be so bad. At the same time, companies must remain faithful to their long-term strategy for value creation. It does not pay to starve your family when it is already on the treadmill.

If we succeed in adjusting input factors so that we can live with USD 40-50 per barrel on the Norwegian continental shelf, the benefits will be substantial. We will get through this period without too many scars, we can retain and further develop critical resources and expertise, and we can continue to mature petroleum resources. Failing to do this means that we will experience a shortage of petroleum after the difficult period. That would lead in turn to a sharp rise in prices, which would benefit neither producers nor consumers.

We in Petoro have identified a number of investment opportunities, large and small, for the next decade in licences where we participate. They lie in projects and activities which remain to be sanctioned, but which could add up to an investment of almost NOK 400 billion.

We have taken a close look at 20 or so of these new investment opportunities. Many are profitable even at prices around USD 40-50 per barrel or lower. Others would require oil to cost more than USD 60 per barrel to be commercial. But the fact that a project needs USD 60 with today's costs, technology and production methods does not mean that this will always be the case. Prices are not the only dynamic aspect of the petroleum business.

1 1

I "I have great faith in the efficiency and creativity which will emerge in the wake of an offshore market slow-down. Thinking differently will be a necessary virtue."

A good and relevant "indoor activity" for the industry in the current rainy weather could therefore be to pursue the opportunities available in the licences to mature and adapt them to a price level we probably have to live with for a while.

Changing our technology, production methods and costs may require rather longer than it took prices to fall. And the process will not be painless. But I have great faith in the efficiency and creativity which will emerge in the wake of an offshore market slow-down. Thinking differently will be a necessary virtue.

Responsibility for seizing the new investment opportunities lies primarily with those of us who are licensees on the NCS, and particularly the operators. But the oil companies cannot do this alone. We need contributions and support from – but may also have to put some pressure on – the suppliers of technology, goods and services. To speak plainly, rig rates and other costs must come down, and the efficiency we usually lose during boom times must be restored.

Relations between oil companies and suppliers have always been characterised both by close collaboration and by conflicts of interest. Clients and contractors are nevertheless locked together by a shared fate which, in today's conditions, will help to ensure that the petroleum industry as such finds good solutions.

We in Petoro manage the SDFI and thereby about a third of the oil and gas reserves on the NCS. As far as our capacity, expertise and ability to collaborate allows, we will contribute to improving the industry so that it can continue to deliver the energy the world will also require after the dark clouds have blown away.

## **KEY FIGURES**

Net income for the portfolio in 2008 came to NOK 159.9 billion, compared with NOK 112.6 billion the year before. Total operating revenue was NOK 214.6 billion, compared with NOK 167.7 billion in 2007. Cash flow transferred to the government amounted to NOK 155.4 billion, an increase of NOK 43.1 billion from the year before. Production totalled 1 148 000 barrels of oil equivalent per day (boe/d), which was slightly lower than the 2007 figure of 1 202 000 boe/d.

## FINANCIAL DATA (in NOK million)

	2008	2007	2006	2005	2004
Operating revenue	214 585	167 724	174 979	152 683	120 807
Operating income	157 843	114 493	129 833	113 069	83 653
Net income for the year	159 906	112 641	128 467	113 172	82 343
Cash flow from operating activities	175 548	132 203	146 616	122 181	98 820
Cash flow applied to investment activities	19 948	19 871	19 887	19 661	16 492
Net cash flow	155 420	112 281	126 213	99 175	81 401

OPERATIONAL DATA								
	2008	2007	2006	2005	2004			
Production oil and NGL (1 000 barrels per day)	607	661	723	788	886			
Production dry gas (mill standard cubic metres per day)	86	86	75	72	70			
Oil, NGL and dry gas production (1 000 boe per day)	1 148	1 202	1 198	1 244	1 324			
Remaining reserves (million boe)	7 352	7 736	8 080	8 420	8 770			
Reserve replacement rate* (three-year average in per cent)	18	28	26	95	88			
Reserves added* (million boe)	36	105	97	177	88			
Oil price (USD per barrel)	97.99	71.44	64.50	53.03	37.57			
Oil price (NOK per barrel)	528	418	412	344	254			
Gas price (NOK per scm)	2.40	1.63	1.92	1.47	1.07			

\* Excluding purchase and sale of reserves related to the asset sales in 2001 and 2002.

## Production

Total production from the SDFI portfolio declined by four per cent from 2007 to 2008. This reduction reflected an eight per cent fall in the output of liquids (oil, NGL and condensate) compared with 2007. Gas production remained at the 2007 level, and 2008 was the first year when more gas was produced than crude oil on the NCS, measured in oil equivalent.



## I Oil and gas prices

The price of oil from the SDFI portfolio averaged NOK 528 per barrel in 2008, compared with NOK 418 the year before. In US dollars, the average was 98 per barrel – up by 37 per cent from 2007. After reaching a record USD 140 per barrel, the price fell by more than 70 per cent towards the end of the year. Gas fetched an average price of NOK 2.40 per scm, compared with NOK 1.63 in 2007.



### Expenses

Total operating expenses were 34 per cent higher than in 2007 because it cost more to buy gas. This rise was caused by higher prices, which were also reflected in increased revenues. The cost of operating fields, pipelines and land-based plants was on a par with 2007. Exploration activity rose significantly, with 26 wells completed compared with 15 in 2007, and spending on exploration almost doubled from the year before



## Income and cash flow

Net income for 2008 was NOK 159.9 billion, up by no less than NOK 47.3 billion or 42 per cent from 2007. This record result reflected high oil and gas prices. Total oil and gas averaged 1 199 000 boe/d, compared with 1 251 000 in 2007. Cash flow, transferred in its entirety to the government, was NOK 155.4 billion, an increase of NOK 43.1 billion from the year before.



### Remaining reserves

Estimated remaining oil, condensate, NGL and gas reserves totalled 7.4 billion boe at 31 December. This represents a decline of 386 million boe from the year before. Net addition of reserves in 2008 was 36 million boe, giving a reserve replacement rate of nine per cent as against 24 per cent in 2007. The most important contribution to reserves was improved recovery on Gullfaks, Draugen and Oseberg. Increases were offset by reserve downgrades and delayed projects.



### Safety

The number of serious incidents improved further from 2007 to 2008, and no fatal accidents were suffered in operations related to the SDFI portfolio during the year. Unfortunately, the personal injury frequency of 7.8 per million working hours was no improvement from the 7.3 figure in 2007.





## HIGHLIGHTS

## PROFITABLE RESERVES ON GULLFAKS

I One response by Petoro to the merger between the two major Norwegian companies has been to strengthen its sub-surface expertise and capacity for independent technical work. An example is Gullfaks, where Petoro is now StatoilHydro's only partner. Its own reservoir and well work in 2008 showed that extending tail production from existing wells safeguarded reserves and was highly profitable.

## PARTICIPATION IN SKANLED STUDIES

Petoro reached agreement in the first quarter of 2009 with three east Norwegian energy companies to acquire a total of 25 per cent in the Skanled project after the government approved SDFI participation. As with similar pre-partnerships for Norwegian gas export pipelines, Petoro will participate in the study phase for Skanled. Before a final investment decision. the earnings potential must be further matured and clarified through gas sale/purchase contracts. Skanled involves a new pipeline for gas transport to eastern Norway, Sweden, Denmark and Poland.

## 12 NEW LICENCE STAKES, BUT SMALL DISCOVERIES

Awards in 2008 gave Petoro responsibility for 12 new holdings in production licences. Exploration activity was high, with the number of wells almost doubling from 2007. Petoro participated in 26 exploration wells, which resulted in 16 technical discoveries. A number of the latter are small, however, and much work remains to be done before their commerciality can be determined.



Negotiations between StatoilHydro and six of its partners on the NCS resulted in the share of post-merger restructuring costs paid by the latter being substantially reduced. Petoro covers almost half of the proportion met by the partners, and played a leading role in the discussions. The solution received the support of other partners in licences operated by StatoilHydro. According to the joint operating agreements for oil and gas fields, partners are required to meet their share of restructuring costs providing a benefit can be demonstrated. The dispute centred on documentation and the size of the gain in relation to costs.

## 



## NEW SNORRE-STATFJORD DEAL

Petoro led negotiations on behalf of the Snorre licence to ensure continued processing and storage after the current agreement with Statfjord A expires in 2011. Concluded in the third guarter, these talks resulted in a one-year extension of the contract at reduced tariffs for Snorre's use of Statfiord A. This means a substantial increase in the present value of the SDFI's interest in Snorre. Since the merger between Statoil and Hydro, Petoro has increasingly had to undertake leading roles in connection with commercial negotiations.

## SNØHVIT IMPROVING

After substantial startup problems and shutdowns, Snøhvit achieved an average production of roughly 85 per cent of planned capacity in late 2008 and early 2009. Capacity has been fully utilised for brief periods. Improvements made to the gas liquefaction plant at Melkøya thereby appear to have yielded results. The hope is that major investment in new equipment can be avoided through further upgrades in 2009. Gas from Snøhvit is cooled down at Melkøya for export as liquefied natural gas to several markets around the world. Petoro is the second largest licensee with 30 per cent.

## INVESTMENT ROW IN WEST NORWAY

An agreement reached between StatoilHydro and the Sogn og Fjordane county council in the summer of 2008 and approved by the Gjøa partners became politically contentious. This deal partly concerns infrastructure investment in the Luteland district in exchange for the county council dropping an appeal over power supplies from Mongstad to Gjøa. Petoro and the other Gjøa partners accepted the agreement on the basis of a commercial assessment of the risk for delays and substantial cost increases. Opposition politicians and others have claimed that the infrastructure spending falls outside Petoro's mandate. The company believes the decision has been taken within the Gjøa licence's mandate, and therefore within its own.

## PETORO SCENARIOS FOR BARENTS SEA

Four scenarios or projections for Barents Sea South were established by Petoro during 2008 as a basis for its future work on this area. Based on the scenarios, Petoro has sought increased collaboration with other companies to maintain a high level of activity there. The aim is both to secure additional resources for a second process train in the Snøhvit plant at Melkøya and to achieve commercial progress on the northern NCS.

## RECORD

**BEST-EVER SDFI ACCOUNTS:** NOK 155 BN. HIGHEST-EVER OIL PRICE: USD 140 PER BARREL.

## UNCERTAINTY

PRICE DOWN BY USD 100 PER BARREL TO USD 40. SOME EFFECT IN 2009, BUT GREATER UNCER-TAINTY FOR SUBSEQUENT YEARS.

# SHORT-TERM ACTION – LONG-TERM

A record SDFI result combined with an oil price plunge from USD 140 to USD 40 per barrel made 2008 a year of contrasts. Petoro supports immediate responses by the industry, but will also press for new developments to be matured. It sees investment prospects totalling almost NOK 400 billion in licences with an SDFI holding over the coming decade. Many of these projects can cope with USD 40-50 per barrel, while fundamental conditions indicate higher prices in the longer term.



MARION SVIHUS CHIEF FINANCIAL OFFICER

Concern that a short-term overreaction by the oil companies could reduce investment activity is expressed by Marion Svihus, chief financial officer of Petoro. A response of that kind may mean the industry would be unable to meet a future upturn in demand for oil and gas. "If that happens, we run the risk of another sharp rise in prices. We aren't well served by such wild fluctuations."

She nevertheless supports the immediate moves announced by a number of the companies. "We've long been concerned about the impact of the high level of activity and an overheated supplier market on costs. Many of the developments since last autumn have been a healthy correction, which could make it profitable to invest in a larger number of future projects than would have been possible without such an adjustment."

But Ms Svihus adds that terms for the supplies industry must allow it to continue developing. "This sector must reduce its costs and become more efficient. For the oil companies to reach their goals, however, they must have a competent supplies business with sufficient capacity to undertake the critical jobs we face."

## COMMITMENTS

She emphasises that oil company commitments in the form of sanctioned plans and budgets indicate that the level of activity on the NCS will remain high in 2009 even if priorities become more stringent, costs lower and efficiency greater. But uncertainty increases when she looks ahead to the next couple of years. "Low oil prices when the companies come to set 2010 budgets for licences in the autumn could have a negative impact."

Although the oil industry is characterised by longterm thinking, Ms Svihus points out, current market conditions will influence company liquidity.

"After possibly weak interim results, the willingness – and in some cases the ability – to make a strong long-term commitment to the NCS is likely to be reduced," she says. " In such conditions, it's all the more important for Petoro to press for profitable projects to be continued in a timely manner."

An overview of reporting from operators on the NCS in 2008 reveals 100 or so possible investment projects and activities, large and small, which are probably profitable but which are still not covered by an approved plan.

## INVESTMENT

Capital spending opportunities in licences with SDFI holdings add up to NOK 380 billion over the coming decade. Petoro itself will account for NOK 100 billion of this investment, which covers such aspects as wells, new installations and modifications. Eighty per cent of these activities/ projects relate to existing fields.

A Petoro review of about 20 of these prospects shows that many are robust and generate a positive net present value at oil prices in the range of USD 40-50 per barrel. "Several of the projects which currently require higher prices could be made commercial at a lower level through future maturing, efficiency improvements and cost reductions," Ms Svihus observes.

Exploration activity was high in 2008, with the number of wells almost doubling from the year before. Petoro was involved in 26 exploration wells, which yielded 16 technical discoveries. However, a number of these are small and much work will be needed to determine whether they are commercial. Maturing reserves is an important element in Petoro's strategy. But only 36 million boe of net reserves were added to the SDFI portfolio in 2008, compared with a production of 420 million boe.

"It's very important that we maintain exploration activity," affirms Ms Svihus. "At times when the financial position is tight, we have a tendency to look only at the cash saved today – and exploration is then an easy target. Immature areas with high risk are particularly vulnerable to cuts. They lie far from infrastructure, and possible discoveries there will often face higher development costs than those in mature regions. But exploration is the future in this industry, and we in Petoro will work for these activities to be pursued as far as possible in line with current plans."

## **NEW CHALLENGES**

She says that the Statoil-Hydro merger presents Petoro with new challenges. The company could previously ally itself with either one or the other of the two Norwegian operators, and thereby gain access to solid, independent and competing expertise when working on issues in the licence. These two have now been converted into a single dominant operator, while the major international companies are largely giving priority to applying their technical and commercial expertise on the fields they operate themselves.

"This means we've got to do more independent technical and commercial work as the basis for assessments and decisions in the licences," says Ms Svihus. "Our current resources mean we must limit the number of fields where we can do this. We must therefore allow opportunities for value creation on other fields to pass us by. That's not very satisfactory for an organisation charged precisely with maximising government value. We hope our owner will also see that it would benefit from a genuine strengthening of our resources."

Commercial activities have also become more important for Petoro as a result of the merger. "In the past, Statoil or Hydro could sit on different sides of the table and lead or contribute positively to many negotiations," Ms Svihus notes.

### **BREAK-EVEN OIL PRICES FOR SELECTED PROJECTS**



I The figure shows the break-even price for 22 of the projects studied in detail by Petoro. A number of the earlier schemes are profitable at oil prices seen in the first quarter of 2009.

"Now the merged company is often seated on both sides of the table, so that somebody else must lead the negotiations."

Combined with the fact that the large international companies concentrate on the fields they operate and that the many small newcomers lack the resources to lead major talks, this means Petoro is being chosen more frequently to take charge of negotiations.

Ms Svihus says it is important for the organisation to set goals and to report results in ways which can be benchmarked with the rest of the oil industry. Along with financial targets, the company's balanced scorecard contains goals for additions to reserves, production and associated costs, priority activities and strategic projects, relationship-building, and learning and renewal. "Naturally, our 2008 results primarily reflect the high oil and gas prices," she notes. "But we also did very well in meeting performance targets in areas we can affect."

Petoro is not an operator, so targets can only be achieved through collaboration with and presenting challenges to the operator and the other partners in a licence. Ms Svihus believes that this makes it all the more important to set high but realistic commercial goals. "It keeps us on our toes in seizing business opportunities, while making us a predictable partner. I believe it also helps to create enthusiasm and energy in the organisation."

Information about activities in Petoro's other business areas can be found in further articles in this annual report. 

# MAKING A DIFFERENCE

Petoro is not like other companies. It is the licensee for a third of the oil and gas reserves on the Norwegian continental shelf, but has only just over 60 employees and holds no operatorships for fields, pipelines or land-based plants. The question then is how to secure influence on that basis.



JAN ROSNES VICE PRESIDENT PROJECTS AND STRATEGY

"Our goal is to maximise value creation from the State's Direct Financial Interest (SDFI)," explains Jan Rosnes, Petoro's vice president for projects and strategy. "This portfolio is large, and has breadth and quality. At the moment, we can't pursue strategic goals via portfolio adjustments and special market operations, so we must ask ourselves how we can improve recovery and profitability in our existing holdings. How can we enhance efficiency?"

He points out that Petoro lacks many of the strategic tools available to the other oil companies. "So we must choose our strategy with care. We want to make a positive difference."

That means being able to exert influence, which Petoro achieves in part through its position as the licensee for the largest portfolio of oil and gas reserves on the NCS.

But Mr Rosnes emphasises that assets are not enough – partly because of restrictions on voting power. Influence accordingly depends on the ability to convince others. It builds on expertise. In other words, the formula for being influential is owner position plus expertise.

"You can't get involved at decision time in a licence and decide issues simply by voting power," Mr Rosnes explains. "When we work on business and project development, we have to build a proper foundation right at the start. We must identify value creation opportunities to ensure that several good options are taken into account. That's when we help to set the agenda, and that gives us genuine influence. After detailed analyses of its own position, Petoro has established a three-pronged strategy:

- area development
- maturing reserves
- early application of new technology.

A small organisation and a broad portfolio make it relatively simple to put together cross-disciplinary teams, providing good opportunities to develop integrated analyses and plans.

"We have a presence in most of the major licences and land-based plants," observes Mr Rosnes. "That can make it easier for us to see the overall picture, and thereby contribute to the best total solutions based on the whole value chain. Good integrated assessments don't rest only on the picture seen by the individual player today, but also take account of future needs."

A large field development project calls for big basic investments. That makes it important to facilitate solutions which yield the best profitability both overall and for all the players. Petoro has contributed both in the Tampen region of the North Sea and around Åsgard in the Norwegian Sea to ensuring good long-term area solutions.

Sub-surface technology is perhaps the most important discipline in the oil industry. The ability to prove hydrocarbons and maximise recovery is crucial.

"Enhancing efficiency will pay dividends, but the real value lies in boosting reserves," notes Mr Rosnes. "We're concentrating our efforts on two phases – from the time when hydrocarbons are proven by new discoveries until the decision on a development solution, and projects related to improved recovery."

He points out that Petoro's portfolio embraces well over 100 improved recovery projects and activities which are likely to be profitable given today's price expectations.

"They provide investment opportunities in the order of NOK 380 billion over the next 10 years. Unfortunately, however, progress with them hasn't been good enough, and we'll be assessing in 2009 whether we need to strengthen our commitment in this area. Improving recovery goes right to the heart of our 'maturing reserves' strategy, and we're keen to make a difference here."

The strategy on early application of new technology is also important for maturing additional resources. Mr Rosnes believes that classic improved recovery techniques can no longer do the job alone, and also stresses that work in this area is no longer relevant only for oil. Players on the NCS must therefore develop strategies for getting more out of the gas reservoirs.

"We must also continue to devise new methods for improving oil recovery," Mr Rosnes emphasises. "So far, we've largely used water and gas injection for that purpose. Injecting carbon dioxide has already been considered. We also see promising opportunities from using chemicals in water injection."

Petoro does no research of its own, but contributes substantial sums every year to projects run by operators within its big portfolio. Technology development and early application of new solutions are key elements in the oil industry's Norwegian success, Mr Rosnes emphasises.

His crystal ball reveals a great future: "I see a sector with big opportunities in which the players continue to invest. I see good interaction between major player StatoilHydro, the international companies and us, where everyone cooperates but simultaneously challenges each other to realise value in a safe and environmentally sustainable manner. I see an attractive industry with exciting tasks which attracts talented young people. I think that'll last right up to 2050."





**01** | | Maturing reserves is an important part of efforts to maximise recovery from the big mature fields on the NCS, such as Troll.

**02** | Area development will be important for achieving profitable projects in the Barents Sea – in part to secure sufficient additional gas volumes for the Snøhvit plant.

**03** | Technology development for the far north could include methods to deal with icing. Other important areas include advanced injection methods, drilling and well technology and subsea processing. (Photos: StatoilHydro)



## COLLABORATE

PETORO WILL MAINTAIN THE BEST RELATIONS WITH STATOILHYDRO IN ORDER TO COLLABORATE OVER THE HIGHEST POSSIBLE VALUE CREATION AND OPTIMUM DEVELOPMENT.

## CHALLENGE PETORO WILL COOPERATE WITH THE BIG INTERNATIONAL COMPANIES TO ENSURE DIVERSITY IN THE LICENCES – AND TO CHALLENGE THE OPERATOR.

# strengthened **RELATIONS**

One of Petoro's most important goals for 2008 was to establish strong and good relations with the merged StatoilHydro, reports Tor Rasmus Skjærpe, vice president for licence management. "That company operates about 90 per cent of our portfolio, and a constructive collaboration is essential for our success. It's also been important for us to develop good relations with other major oil companies to ensure a diversity of expertise, technology and financial strength in the licences – and to be able to challenge StatoilHydro when required."



TOR RASMUS SKJÆRPE VICE PRESIDENT LICENCE MANAGEMENT

He points out that Petoro's vision is to be the best partner. That calls among other things for a high level of expertise, openness and predictability.

"We must ask ourselves how we can provide support, how we can challenge, and what we can do to ensure that StatoilHydro and the other operators are successful. The operator's success is also ours."

## DAVID VERSUS GOLIATH

StatoilHydro deploys a powerful organisation and highly competent personnel. Petoro, on the other hand, has a small but able staff of 63 people and a budget of NOK 250 million. Asked whether this is a case of David versus Goliath, Mr Skjærpe emphasises the need to prioritise and secure solid expertise.

"That's exactly what we've done, and it's yielded results. Our views have won acceptance on a number of issues."

Precisely because Petoro is a small company, with limited resources, its personnel have to think consciously and strategically. The following areas were among those with the highest priority in 2008:

- renegotiating the processing agreement for Snorre
- Gullfaks 2030
- allocation of restructuring costs related to the StatoilHydro merger.

Petoro bore the principal responsibility for renegotiating the Snorre agreement with the Statfjord licence. Aimed at getting down costs, this project ran for nine months and involved a number of people across several disciplines both in-house and externally.

"We cooperated extremely well both among ourselves and with others, and got good feedback from the partners," says Mr Skjærpe. "The goal of substantial cost savings was attained."

## PROFITABLE

Gullfaks 2030 is the strategic plan for further development of this North Sea field, where Petoro is StatoilHydro's only partner. Although mature, Gullfaks still has substantial reserves to be recovered. The goal for both partners is naturally to sustain commercial production for as long as possible.

The operator is currently considering the installation of new drilling equipment on the three Gullfaks platforms at a cost of NOK 2-4 billion per installation. Before a decision is reached, securing the most reliable possible information about the reserve base and reservoir will be essential.

"Our specialists challenged StatoilHydro to take an in-depth look at this issue," says Mr Skjærpe. "We worked closely and well together, and have influenced the operator in a way we hope and believe is positive for both companies. A more



"We're responsible for supporting and challenging.
To do that well, we must cooperate with other
companies which possess technological
and operational strengths."

TOR RASMUS SKJÆRPE, vice president licence management

Petoro's supervision of the SDFI's licences is organised partly by geographic area and partly by the way different fields are connected in the infrastructure. Each area is monitored by a dedicated area team with its own leader. This map shows important fields in the Troll area. The team also deals with Ekofisk.



I I Gas and oil reserves in Troll account for more than a third of the SDFI portfolio's value, and the field is expected to be in production beyond 2050. Plans were submitted in June 2008 for new Troll projects, which include gas injection on Troll B as well as several schemes to facilitate long-term gas production from Troll A and at Kollsnes. A number of measures for improved oil recovery being studied by the licence could provide the basis for capital spending and higher reserves. Investment in the area rose from NOK 4.6 billion in 2007 to NOK 7.6 billion, primarily because of the Gjøa and Vega developments. Plans call for the Gjøa platform to be completed in 2010, and production from these discoveries will make important contributions to the area's output.



<sup>1</sup> Other fields include Ekofisk, Visund and Jotun.

<sup>2</sup> The 17 per cent production fall partly reflects reductions/shutdowns on Kvitebjørn and Visund during 2008 because of damage to the Kvitebjørn gas pipeline. robust decision base has now been acquired. This provides a good example of our ability to challenge successfully. That's even more important after the merger, because we've lost the diversity of views which two large, independent and competing Norwegian operators represented."

The Gullfaks and Snorre projects both reflect areas where Petoro has resolved to strengthen its technical and management commitment, Mr Skjærpe notes.

"To play the role of good partner in the right way, we've got to challenge. But the ability to do that depends on having the necessary expertise and being able to set priorities. We've accordingly chosen to devote greater resources to sub-surface technology and commercial negotiations."

Petoro and StatoilHydro cooperated far more closely over technology strategy during 2008 than in previous years. This proved a useful exercise, with lessons learnt and new insights on both sides of the table.

"We have something to give if people want to talk with us," says Mr Skjærpe. "That's about knowledge and understanding. So we must have the best expertise. Expertise is important for all companies, but it's crucial for us. We don't operate rigs or other infrastructure. Our company is our people."

## MERGER COSTS CHALLENGED

Petoro and ExxonMobil were jointly responsible for heading work related to the discussion on allocating restructuring costs in the wake of the Statoil-Hydro merger. This was a demanding process, where many big players had differing views. But everyone seemed satisfied with the outcome achieved.

The new position with a single dominant operator has brought Petoro closer to the other major players on the NCS, such as ExxonMobil, Shell, Total, ConocoPhillips and Eni. This is another area being given greater attention by the company. Its aim as a partner is to be proactive and to reach out. In that respect, 2008 represented a milestone. Relations became closer.

"Given the position on the NCS, all key players need to make their influence felt," explains Mr Skjærpe. "We're responsible for supporting and challenging. To do that well, we must cooperate with other companies which possess technological and operational strengths. That's why good relations and constructive collaboration are so important. Although we're a small company, we also have our strengths. When we prioritise, we can undertake demanding technical assignments. We also cooperate effectively across disciplines and have simple in-house decisionmaking processes. That helps to make us an attractive collaborator."

Asked whether it is difficult to challenge and still be perceived as a good partner, he says that this is a matter of striking the right balance.

"It's important that our partners know when we disagree with them and why. Good relations build on good communication. This means that disagreement is identified at an early stage, allowing us to get to grips with the problem and do something about it before positions become entrenched and involve prestige. We must be able to distinguish between issues and personalities. We'll be professional and predictable, and our partners will know that."

### MORE PROACTIVE ON HSE

Where health, safety and the environment for the SDFI portfolio were concerned, 2008 saw a decline in serious incidents while the personal injury frequency rose somewhat. Mr Skjærpe is concerned about serious incidents on the NCS, even where the SDFI has no holding. He points, for instance, to the occasion when oil and gas intruded into one of the shafts on a Statfjord platform and created an explosion hazard.

"That's not good enough," he declares. "If we ask how we can contribute to an improvement, the answer is that we must become more proactive, take more forward-looking initiatives and be less concerned with the disturbance they might create. That involves more activity in the licences and at management level. We can make a particular contribution at the project planning phase to secure a good HSE strategy. Once operations have begun, our influence as a partner is reduced."

Another area which will attract more attention from Petoro is the technical condition of the growing number of aging field installations on the NCS, says Mr Skjærpe. "We'll be demanding more insight in this area, and seeking to influence the choice of the best solutions."

Petoro has recently expanded its environmental team. The company has so far concentrated on discharges to the sea, but now sees the need to pay more attention to emissions to the air. During 2009, the new team will produce measures aimed at enhancing in-house expertise and proposals for a longer-term environmental strategy. "Concern for the environment has recently become considerably more significant for our business," says Mr Skjærpe.

Petoro's supervision of the SDFI's licences is organised partly by geographic area and partly by the way different fields are connected in the infrastructure. Each area is monitored by a dedicated area team with its own leader. This map shows important fields in the Tampen/Oseberg area.



I The Tampen/Oseberg area of the North Sea has many late-phase fields. Large remaining reserves nevertheless create the basis for long production lives. Extensive and aging installations with growing modification and maintenance requirements mean high cost and investment levels. Capital spending in 2008 was NOK 5.2 billion. The biggest investments were drilling, development of Oseberg Delta and Rev, the Snorre modification project, and changes required for low-pressure production. Eleven exploration wells yielded six discoveries, several of which will be tied back to existing infrastructure.



\*Other fields include Tune, Huldra, Skirne, Brage, Veslefrikk, the Statfjord satellites, Varg, Ringhorne East, Gimle and Heimdal.

# SEEING OPPORTUNITIES IN THE **BARENTS SEA**

The latest offshore licensing rounds have given Petoro a broad portfolio of holdings in the Barents Sea. Until recently, its attention in the far north was primarily concentrated on securing successful completion of the Snøhvit project. But the company is now ready for the next step.



Petoro's four scenarios for Barents Sea development span a range of reserves, from one billion boe in the Bleak House version to eight billion in the full speed ahead projection. These extremes represent clarified conditions. Full speed ahead reflects an aggressive licensing policy, high prices and big discoveries, and will accordingly attract great interest from well-capitalised players with great expertise and good technology solutions. By contrast, Bleak House envisages a strict global climate regime, low prices and few discoveries, and yields a low level of activity. Petoro sees its biggest challenge as contributing to good progress with the combinations of low gas prices/big discoveries and high oil prices/small discoveries. Read more about the scenarios at www.petoro.no (Publications/Petoro Perspective).

"We've done a detailed job of updating our Barents Sea strategy," explains Jan Rosnes, vice president for projects and strategy. He has headed work on a set of scenarios for these waters.

"Uncertainty related to aspects such as geology, costs and petroleum prices make exploration in

this area risky. We've used scenario-building to illustrate various potential outcomes. Our job is to optimise the development of Barents Sea South, and we have to create a decision base in uncertain conditions. Our scenarios provide useful tools in these circumstances."

These projections are based on resource estimates from the Norwegian Petroleum Directorate and Petoro's own assessments. Outcomes in terms of recoverable reserves range from one to eight billion barrels of oil equivalent (boe) – or from the size of Snøhvit to eight times as large. At 235 000 square kilometres, the Norwegian part of Barents Sea South covers the same area as the country's North Sea sector.

"The Arctic is becoming more important for the petroleum industry," Mr Rosnes points out. "The road to Barents Sea North – and perhaps the area of overlapping claims with Russia – goes via a good development of the southern area. Norway and Norwegian companies have big opportunities, but need early projects to secure competitive advantages in the form of expertise and infrastructure."

Those parts of Barents Sea South already opened to exploration provide one of several possible strategic springboards, but the area is demanding and progress will take time. Several gas discoveries were made in 2008, but these appear to be small and located in difficult reservoirs.

Mr Rosnes notes that the geology differs from the North Sea, with complex reservoirs, "low" reservoir pressures and resources more widely dispersed. "It's crucial that the area is developed on the basis of an integrated long-term strategy. We have no Petoro's supervision of the SDFI's licences is organised partly by geographic area and partly by the way different fields are connected in the infrastructure. Each area is monitored by a dedicated area team with its own leader. This map shows important fields in the Norwegian/Barents Seas.



I Mature developments account for the bulk of production in the Norwegian Sea. Ormen Lange and Snøhvit helped to boost production in 2008, and will account for a growing share of total output. Completion of these developments yielded a sharp fall in area investment to NOK 5.8 billion. Reserve growth came largely from fields in operation, but was rather lower than in 2007. Reserves in Kristin were downgraded. Twelve completed exploration wells yielded eight discoveries – five in the shallow part of the Norwegian Sea and three in the Barents Sea. A high level of activity in the Barents Sea is important for securing new reserves to support a second process train at the Snøhvit gas liquefaction plant. Developing new Norwegian Sea fields depends on access to processing and transport capacity. Interesting new gas discoveries must be assessed in an area perspective to maximise value creation.



\* Other fields include Snøhvit, Njord and Urd.

## 

assurance that a single discovery will prove large enough to justify field and infrastructure investment. Even more than elsewhere, we've got to think unified area development in the Barents Sea."

He says that the next important step is to secure an increase/doubling in processing capacity at Melkøya. Without that, a small gas discovery in a licence awarded during the upcoming 20th licensing round is unlikely to be on stream until 2045-50. A new gas liquefaction train at Melkøya could bring that date forward to 2030-35.

"We have a window where we can incorporate acceleration gains for Snøhvit volumes," he says. "That'll close over a five-year period, so progress is time-critical."

He notes that activity in 2009-11 will require little capital spending. But at least 15 billion cubic metres of gas needs to be proven in addition to Snøhvit phase I before a decision can be taken to build a new facility at Melkøya. Mr Rosnes accordingly believes that the *Polar Pioneer* rig must be devoted to exploration and/or appraisal drilling in the Hammerfest Basin in 2009-10. He adds that the planned Krykkje and Alke wells are good candidates.

Wider progress in the far north calls for a drive to clarify the potential in Barents Sea South. Providing 20th-round allocations are sufficient, Mr Rosnes believes a doubling of the exploration effort in these waters during 2011-14 should be assessed. Securing rig capacity ought to be considered as early as the autumn of 2009.

"Activity in the Barents Sea is at a moderate level today, and that looks appropriate and robust on the basis of the most pessimistic scenarios," he observes. "Should a more positive scenario unfold, however, we need a bigger commitment to seize the opportunities and maximise profitability. Increased activity is therefore needed to clarify the resource base so that we can secure early realisation of the asset value available and install infrastructure which strengthens the region's competitiveness."

## CREATE THE NCS HAS BEEN A LEADING

WORLD LABORATORY FOR OFFSHORE TECHNOLOGY. NEW CHALLENGES CALL FOR DIFFERENT SOLUTIONS.

## 

MANY EXCITING DEVELOPMENTS ARE TAKING PLACE ON THE NCS – BUT ALSO ELSEWHERE. NORWEGIAN INDUSTRY COULD GET BETTER AT LEARNING FROM OTHERS.

# NEW CHALLENGES ON THE NCS – LEARN WIDER

Norway faces different challenges on its continental shelf which call for new solutions, says Roy Ruså, vice president for technology and ICT at Petoro. "We may be a world leader in areas like subsea production and drilling, but we can't rest on our laurels. A lot of exciting things are happening elsewhere today. We must get better at learning from other industries and regions."



ROY RUSĂ VICE PRESIDENT TECHNOLOGY AND ICT

Developments in the information technology sector outside the oil and gas industry are among the examples cited by Mr Ruså, along with improved recovery measures in Saudi Arabia and Brazil's deepwater developments.

Petoro has identified the following areas as particularly important for maturing new reserves and improving recovery from producing fields:

- advanced injection methods
- drilling and well technology
- integrated operation (IO)
- subsea processing.

## MOST FROM THE OLD

Eighty per cent of Petoro's production derives from big fields which have been producing for some time. Roughly two-thirds of its petroleum will still be flowing through these installations in 2025, even though overall output will be substantially lower. In other words, the old workhorses are and will remain crucial for revenue flow from the NCS.

"We've seen a growing tendency in recent years to downgrade recoverable reserves," says Mr Ruså. "If we're going to reverse that and turn these resources back into commercial reserves, we need both investment and highly competent personnel."

Improving recovery through advanced injection methods is one method for boosting reserves. A new solution in which Petoro has faith is the injection of low-salinity water. Now being tested on both Snorre and Heidrun, this method changes moisture properties in the formation. This can be seen to boost recovery.

"We're optimistic and hope that rapid progress can be made," says Mr Ruså. "In our view, recovery could potentially be improved by up to 10 per cent with this method."

## TALKING TINY

Petoro also sees opportunities for applying nanotechnology to improve recovery. This involves tiny particles which could be described as "programmed chemicals", because they have been given properties which alter as the surroundings change. Such particles can be introduced in injection water through flowlines, wells and narrow channels in the formation. At a given temperature, they swell up and block a channel – forcing the injected water to take new routes and thereby wash out additional oil.

Where drilling and well technology are concerned, the operators aim to enhance operational efficiency. This is necessary, but Petoro wants to challenge well solutions on the grounds that this offers scope for innovative thinking.

"Why is the Troll partnership almost alone in intending to use multilaterals?" Mr Ruså asks. "This solution drains reservoirs well and should be given more consideration for other fields."

He also believes that more attention needs to be paid to developments in wireless data transfer and instrumentation with a view to boosting drainage through each well.

## **FLEXIBLE SOLUTIONS**

Other new ideas which could help to increase commercial reserves include flexible development solutions. Conversion of drilling systems is now being planned on the older fields. Petoro wants greater attention paid to modular drilling facilities in order to enhance flexibility. Such systems could be used during a modification process to extend the time available for drilling.

IO between sea and land is an area where Petoro saw the potential for efficiency gains at an early stage. The company has worked actively to promote faster adoption of such new working methods. The basic principles and solutions are now being applied, but Petoro can see the contours of further change and improvement.

"Faster data processing opens opportunities to use the growing flow of information in very different ways from today," Mr Ruså observes. "Rapid data flow can be utilised to model more complex facilities, and to link reservoir, process and pipeline flow models – or to create much larger models than we have today. A case in point is the opportunity to apply reservoir simulation directly to the geological model. We also see possibilities for such simulation becoming a virtually real-time tool."

## MAKING A MARK

Petoro's role on the NCS has become even more central after the merger between Statoil and Hydro. But it is also a small company without operatorships. Its priorities must be carefully chosen. The goal is to be a constructive challenger in areas where the company has its own expertise and position.

"We can play our biggest role over the choice of concept, long-term plans and decisions on the annual work programme," says Mr Ruså. "Priorities are important and, even though we're small, our contribution will be noticed in the projects where we choose to do our own work. We get good feedback."

One of his concerns is that diversity and innovativeness on the NCS could be weakened by a single dominant operator. "StatoilHydro has become more structured. The positive aspect is that the probability of succeeding has increased for those projects which pass the test. But I'd warn against requiring everything to be a success every time. That could reduce innovation."

He notes that progress on the NCS has been driven by the big projects, where the industry has been good at adopting technology. But the future has changed, in that there will be fewer major



I This figure provides a simplified picture of the way normal waterflooding in a reservoir follows the line of least resistance to the production wells, and leaves a good deal of oil which the water fails to come into contact with. Using nanoparticles which "pop" to many times their original size can block the easiest route and force the water to flow through other parts of the reservoir, thereby improving recovery.

developments of that kind. At the same time, the need for new technology is at least as great as it was before, both to secure the highest possible recovery from mature fields and to develop new reserves. "That makes demands on operators and partners. We must continue to be bold. We must become even quicker and more efficient at adopting tested technology, and better at making use of solutions developed elsewhere and for other industries."

# GAS MARKET

Norway's oil adventure may have been impressive, but its gas business is even more so – bigger in terms of remaining reserves, market share and duration. Above all, gas is acclaimed as the climate's white knight. It releases substantially less carbon dioxide than other fossil fuels.



LAURITS HAGA VICE PRESIDENT MARKETING AND SALES

 Norway is on its way to becoming the world's second largest gas exporter after Russia, and Petoro is the biggest gas player on the NCS alongside StatoilHydro. In energy terms, annual Norwegian gas deliveries are eight times bigger than the country's electricity generation and account for roughly 16 per cent of European consumption.

The great bulk of the gas is sold under contracts running for many years, often several decades. A long-term perspective and stability have been key elements in the gas industry, helping to create close relationships between companies and interdependence between buyer and seller.

"But the gas business is changing," admits Laurits Haga, vice president for marketing and sales at Petoro. "Once upon a time, the big gas companies in continental Europe were regional monopolies charged with developing infrastructure and securing long-term deliveries. That has changed radically. Deregulation and liberalisation have altered the market structure and sparked mergers between gas suppliers and electricity generators. These companies are now listed and have tough owners who want to see the highest possible return. That trend has created a more challenging commercial climate for gas players."

The long-term contracts are renegotiated at regular intervals, and the biggest were subject to such redetermination in 2008. This was an extensive and demanding job, with huge assets and associated risks to be allocated. Volumes and long duration also make decimals crucial.

"Modernising these deals was the aim, since many of them were concluded 20 years ago," explains Mr Haga. "One major challenge was to adapt them to today's realities. Our own customers are under pressure from both market and owners, while new business opportunities are opening up."

Despite a more demanding negotiating climate, 2008 yielded record results for both the oil industry and the gas business, with energy prices at a historical peak.

Close follow-up and a hands-on approach are nevertheless necessary to ensure that the goal of maximum value creation can be met. The bulk of the gas is sold under long-term contracts where the price is largely tied to developments for crude prices. A proportion is also sold spot – in other words, at prices determined by short-term supply and demand. Small changes in the market balance can mean big variations in spot prices, Mr Haga stresses.

In recent times, gas importers have increasingly directed their attention at political risk in various countries and regions – particularly after the irregularities in Russian gas transport through Ukraine. Market players in Europe are very concerned with diversification and security of supply. The more suppliers, the more secure the deliveries.

"Significant changes have also occurred in the US market over the past few years," Mr Haga observes. "The supply position differs from the forecasts made when Snøhvit was developed and sales contracts were concluded in America. A big commitment has been made by the players to 'unconventional' sources, including shale gas. That's boosted US output and cut import requirements compared with earlier expectations, which meant that non-US markets were more profitable for Snøhvit gas in 2008."

This illustrates the way the gas market is being globalised. A growing share of demand worldwide is being met by liquefied natural gas, and a number of new import terminals for LNG have been built in Europe. Although Norway is producing more gas than ever, its share of the market should decline because of rising demand.

Mr Haga says many challenges and opportunities exist for gas. One consideration is the geopolitical position and the growing focus on security of supply. Another is the environmental challenges, which could put pressure on fossil fuels – including gas, despite being the cleanest of them.

Demand for oil and gas is expected to grow over time even if other energy sources are increasingly utilised, Mr Haga stresses. "We should be prepared, for instance, to see a renaissance for nuclear power. To create predictability, a large portion of the gas portfolio is sold under longterm contracts where our concern is to secure the best possible terms. In addition, we want to be able to manage price uncertainty and have robust strategies for selling available gas at the highest possible spot price."

Where disposal is concerned, the relationship between StatoilHydro and Petoro is governed by the marketing and sales instruction issued by the Norwegian government. This regulates the division of roles between the two companies. Statoil-Hydro is responsible for marketing and sale of the SDFI's gas, oil and other petroleum products. Petoro's role is to check that the highest possible value is created from the overall portfolio and that expenses and revenues are equitably divided between StatoilHydro and the SDFI. This is done by supporting and challenging StatoilHydro.

"We have regular meetings with the StatoilHydro management, and maintain a good and close collaboration based on our respective roles," explains Mr Haga. "We assess strategies and plans, discuss market developments and solve practical problems. In addition, we have a particular role in ensuring correct pricing in those cases where StatoilHydro is also a gas buyer.

"We and StatoilHydro are linked all along the value chain as far as we opt to participate, and share both costs and risk. That calls for collaboration and agreement on key decisions. We're jointly committed to developing a global business. Our job at Petoro is to ensure the highest possible value creation." Monitoring StatoilHydro's sales of the government's oil and gas is one of Petoro's principal tasks. This job is handled by the department for marketing and sales, which also looks after the state's holdings in pipelines and land-based plants belonging to the transport infrastructure. The map shows the pipeline network on the NCS, where Petoro manages the largest holding.



I The government's gas, oil and other petroleum products are marketed by StatoilHydro. Petoro checks that the highest possible value is created from the overall portfolio and that costs and revenues are shared equitably between StatoilHydro and the government. The gas is primarily sold under long-term contracts, with the remainder traded on the spot market. Petoro is concerned to safeguard value in a challenging market and exploit opportunities for value creation throughout the gas value chain from field to market. The company manages the SDFI share – the largest – in the Gassled joint venture, which embraces 7 800 kilometres of pipelines, platforms and terminals for Norwegian gas exports. Petoro is very concerned with maintaining the regularity and integrity of these facilities to ensure stable gas deliveries to customers.



1 Norpipe (Germany) II 2 Europipe I (Germany) 3 Europipe II (Germany) II 4 Zeepipe (Belgium) 5 Franpipe (France) II 6 Langeled (UK) 7 Vesterled (UK) II 8 Tampen Link (UK)



ANNUAL REPORT 2008 PETORO'S OPERATIONS 29

PETORO MUST STRENGTHEN ITS EXPERTISE. COLLABORATE WITH OTHERS. BUILD RELATIONS AND ALLIANCES. INFLUENCE.

# EXPERTISE-BUILDER AND TEAM PLAYER

Petoro must be creative and curious, says Sonja Samsonsen, its vice president for human resources and expertise development. "We must encourage innovation. Our employees must be able to ask the good questions. We must hold 'yes, and' meetings, and we must be able to build on each other."



SONJA SAMSONSEN VICE PRESIDENT HR AND EXPERTISE DEVELOPMENT

When Petoro's employees go home, they take the company's most important asset with them, Ms Samsonsen observes. "We don't operate platforms or plants and, even though our biggest holdings lie deep beneath the NCS, I'd claim that our most important asset is the knowledge concentrated in our staff. So positive collaboration and good utilisation of our expertise are vital for success."

As the best partner, Petoro will contribute to enhancing value creation on the NCS by challenging and supporting the big operators – and particularly StatoilHydro, which operates 90 per cent of the SDFI portfolio. The company can only do that by adding value in the form of knowledge and insights.

"We're looking primarily for people with 10-15 years of experience," Ms Samsonsen explains. "A background from the big operators is attractive, because such people have usually been exposed to different specialisations and issues.

"Our staffing in each discipline is low compared with the operator companies, so our representative is often alone in contexts where the other companies field a number of people. Each of our employees accordingly bears a big responsibility on our behalf."

She looks for both broad and in-depth expertise. Personnel must preferably function well in a number of disciplines. Petoro has also made certain strategic choices for prioritising its activities. These make sub-surface expertise and negotiating skills particularly important. Since the Statoil-Hydro merger, Petoro has strengthened its own sub-surface capabilities by recruiting people with strong qualifications and broad experience in geology, geophysics and reservoir subjects. The company currently has 14 staff in this area.

"Choosing the right candidate in the recruitment process is nevertheless only the start," Ms Samsonsen notes. "Once they're in place, we must systematise their expertise. Sub-surface technology is very advanced, so we must also seek to build good teams while facilitating knowledgesharing and further development."

With big and demanding projects, Petoro supplements its own capabilities with external leading-edge expertise and networks. "Our ability to learn from others is important both for our own development and future, and for our reputation," says Ms Samsonsen.

Commercial expertise in such areas as negotiations has also become more important after the significant recent changes to player composition – both the Statoil-Hydro merger and the award of licence interests to a number of small companies.

"Our role as a challenger has become even clearer," Ms Samsonsen notes. "We must highlight alternatives and make constructive suggestions. If we're going to achieve results, however, we must collaborate with others. So we give weight to personal qualities in such areas as relationship- and alliance-building as well as the ability to communicate well and influence others.



From the company get-together in the spring of 2009, when organisational development was the main topic.

"We must constantly ask where we want to be in coming years. That means being conscious in our choice of arenas and the exercise of our role. We must know what expertise we possess and where we need to be stronger."

The working environment in Petoro is good, she says. The last survey showed that sickness absence was two per cent – or a wellness ratio of 98 per cent, as Ms Samsonsen prefers to put it. That bears witness to high levels of job satisfaction and morale. Nor can Petoro complain about a staff turnover of seven per cent in 2008, at a time when the ablest specialists were in strong demand.

"We'd prefer not to lose valuable expertise, because replacing it is both demanding and expensive," Ms Samsonsen observes. "Our goal is to be an attractive employer both in good times and when conditions are more turbulent. The aim must furthermore be to create a robust, reputable and forward-looking organisation, where employees choose to stay because they experience a healthy balance between organisational and financial stability, and have individually tailored and challenging jobs. With such a strategy, rooted in our values, I take a positive view of our future." 



## SAFETY IN 2008 GOOD RESULTS

Petoro has changed its main parameter for health, safety and the environment (HSE) from the personal injury frequency to the serious incident frequency (SIF). The number of serious incidents in 2008 improved from 2.4 per million working hours the year before to two. Gas leaks also declined in number, but dropped-object incidents remained too frequent. The best aspect was that no fatal accidents occurred in the SDFI portfolio during 2008.

> The 2008 figures show that the goal of reducing the personal injury frequency was not met for the SDFI portfolio. This figure came to 7.8 per million working hours – a worsening from 7.3 in 2007.

> > Petoro participated in eight inspections on fields and installations during the year in order to exercise its compliance responsibility and its role as a visible and demanding partner with a focus on safety work.

> > The Petroleum Safety Authority Norway (PSA) conducted an audit of the attention paid by Petoro's executive management and board to preventing major accidents. No requirements for further measures by the company were identified through this exercise.

Petoro again registered many cases of dropped objects in 2008. This appears to be the dominant reason for personal injuries and serious conditions on the NCS. Such incidents largely involve accidents while working at a height and during lifting operations. Preventing events of this kind is largely a matter of developing the right attitudes among employees, so that they contribute to protecting themselves and their colleagues and look after their tools while doing a job.

## **STEADY IMPROVEMENT SINCE 2000**

Results for personal injuries are disappointing in light of the big commitment made by players on the NCS to raising awareness and changing attitudes. But work on building attitudes take time, and is still expected to yield better safety. Figures from the PSA reinforce this optimistic view – after rising in the late 1990s, the number of personal

## ACROSS AREAS AND LICENCES

I Health and safety are a line responsibility, which is followed up in the management committees of the licences. To disseminate experience and share expertise between its own staff, safety and health are in focus at regular management-level meetings and among Petoro's area teams. The executive management also holds regular bilateral meetings with the biggest operators where HSE is a key topic. In addition, Petoro's HSE manager is a driving force and resource in cross-licence work on following up results and measures. Statistics from the various installations clarify good and less positive results, and make it possible to identify lessons which can be transferred to other installations and licences. These results also lay the basis for Petoro's decisions on follow-up and action.


field manager after each SI Consider meeting

partner inspection. II Measure 4: Hold meeting at

management level Initiate and execute partner

inspection Consider meeting at company level.

at management level Consider requesting

The colour gradation represents Petoro's pattern of response to the rising seriousness of personal injuries and serious incidents.

#### SERIOUS INCIDENTS AND PERSONAL INJURY FREQUENCY

 Installations in the SDFI portfolio  Results for personal injuries and serious incidents Average for 2008

Source: PSA/Trends in risk level 2007

II Measure 5: Hold meeting at company level

Norway

Consider meeting with Petroleum Safety Authority

Measure 1: Challenge in licences Consider meeting at field/area level. II Measure 2: Meeting at field/area level Assess operator measures and implementation Consider doing own analysis II Measure 3: Perform own analysis Call

and serious injuries has shown a declining trend since 2000.

#### **DEVELOPMENTS ON THE NCS**

After rising up to 2000, the serious injury frequency on the NCS showed a clearly declining trend until 2007. While the figure shows the injury frequency on production installations, the same positive trend has been seen on mobile units.

The risk of major accidents, weighted for their potential for loss of life, remains stable, and a concentration on serious conditions is accordingly an important element in improving safety on the NCS. See the graph on the right.

The figures are derived from the project on trends in risk level headed by the PSA. This aims to secure a realistic picture of risk and HSE challenges in the petroleum sector in order to improve prioritisation of necessary commitments by both the industry and the authorities. **RISK INDICATOR FOR MAJOR ACCIDENTS** 



Total indicator, production installations, normalised against working hours, three-year rolling average (The value is set to 100 for 2000). Source: PSA

I Petoro aims to be a proactive partner in efforts to reduce the scale of personal injuries and undesirable incidents on the NCS. Interests in a large number of licences put the company in a special position to work on safety and health. By participating actively and learning in each licence, Petoro contributes to a transfer of experience between licences, areas and operators. The goal of this work is to influence the operators and the industry to make continuous improvements to the level of offshore safety.

# **REDUCED EMISSIONS TO AIR –** MORE OIL DISCHARGED IN PRODUCED WATER

Carbon emissions from the State's Direct Financial Interest (SDFI) in 2008 were on a par with the year before, while volumes of nitrogen oxides, sulphur oxides and volatile organic compounds released fell fairly sharply. Oil discharged to the sea in produced water rose by 10 per cent from 2007, primarily because of an expected increase in the water cut on mature fields. The SDFI portfolio released virtually no environmentally harmful chemicals to the sea, while the figure for substances with little or no damaging effect was roughly the same as in earlier years.

> Emissions/discharges from petroleum production in the SDFI are affected by declining oil production and rising gas output. The actual portfolio changed little during 2008, with the exception of new production licences which did not affect emission/ discharge figures for the year. At 31 December, the portfolio managed by Petoro as the licensee embraced 122 production licences and seven joint ventures for pipelines, terminals and land-based plant. It included 40 producing fields.

> The development of emissions/discharges related to SDFI holdings is presented in this report as absolute annual amounts and as the amount per unit produced. The latter provides a representative view of the historical trend, unlike the absolute figures alone.

Graphs and figures are derived from operator reports to the Norwegian Oil Industry Association (OLF) and the Norwegian Pollution Control Authority (SFT) in 2008. All emission/discharge figures are related to the SDFI portfolio and calculated from total volumes for the installations. Only emissions/discharges covered by the reporting requirements in the information duty regulations are included.

The reported emissions/discharges are not allocated by ownership of production, but related to the point of release. Emissions/discharges from downstream processing of oil and gas in plants without an SDFI holding are not included in this accounting. Similarly, processing of all oil and gas in plants with an SDFI holding is included, even if the SDFI has no equity interest in the upstream fields delivering the petroleum.

#### CARBON EMISSIONS STABLE

Carbon emissions in 2008 were 3.4 million tonnes, on a par with 2007 – the rise was less than one per cent. The increase from 2006 to

I Greenhouse gases are a collective term for the six substances covered by the Kyoto protocol: carbon dioxide, methane, nitrous oxide, hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and sulphur hexafluoride. Carbon emissions account for the bulk of greenhouse gases, or about 82 per cent measured in tonnes of carbon equivalent. I Carbon equivalent is a unit which designates the effect a specified volume of a greenhouse gas has on global warming, converted to carbon dioxide emissions with a corresponding impact. I Carbon tax and emission trading The carbon tax and the Emission Trading Act are the key tools for reducing Norwegian carbon emissions. At 1 January 2008, the tax was NOK 0.45 per litre of oil and NOK 0.45 per scm gas. Allowances are freely tradable permits to release greenhouse gases. One allowance corresponds to one tonne of carbon emissions.



emissions per volume of oil and gas produced from the SDFI

sions and emissions per volume of oil and gas produced

emissions per volume of oil and gas produced

\* Sulphur oxide emissions declined

by 58 per cent from 2007 to 2008 for

Petoro's holdings. The correspond-

ing figure for the NCS as a whole was

a fall of 27 per cent. It is particularly

gratifying that specific sulphur oxide emissions have more than halved from

earlier years.

T 1 1 1

2008 seen in figure 1 reflects technical start-up and operating problems with the Snøhvit plant at Melkøya. This facility has been in a more stable operating phase since late 2008-early 2009. Melkøya and Troll Oil each accounted for 12 per cent of the SDFI's carbon emissions in 2008. Åsgard was responsible for 11 per cent.

While land-based industry provided 27 per cent of Norway's total greenhouse gas emissions of 55.1 million tonnes in 2007, the oil and gas sector contributed 26 per cent and road transport 19 per cent.

Emission trading in the European Union allowance system began in 2008. Unlike the initial period from 2005-07, this system embraces carbon dioxide released from all fossil fuels including volumes previously subject to Norway's carbon tax. This tax will be reduced for offshore petroleum installations. The aim is that the

total cost of emissions for the offshore industry, including tax and allowance purchases, will remain roughly at today's level.

#### NITROGEN OXIDES NINE PER CENT DOWN

SDFI emissions of nitrogen oxides totalled 12 160 tonnes in 2008, down nine per cent from the year before. The main reason is reduced flaring by the Snøhvit plant at Melkøya. Offshore fuel gas consumption with associated nitrogen oxide emissions also fell. The amount released by the SDFI was the lowest since 2003. See figure 2. Emissions per unit produced also declined during 2008.

National nitrogen oxide emissions must be reduced to meet Norway's obligations under the Gothenburg protocol. The Norwegian authorities introduced a nitrogen oxide tax of NOK 15.85 per kilogram on these emissions from 2007. Fourteen industry organisations, including the OLF, joined forces to create a nitrogen oxide fund to

Nitrogen oxides are flue gases released when burning oil and gas. They cause acid precipitation and boost concentrations of ground-level ozone. Emissions can damage ecosystems and vegetation, and are harmful to human health.

The Gothenburg protocol, . which came into force in 2005. focuses on various gases which cause pollution, over-fertilisation and the formation of ground-level ozone. These are sulphur dioxide, nitrogen oxides, ammonia and non-methane volatile organic compounds (nmVOC). Norway's obligation under the protocol is to cut emissions to 156 000 tonnes of nitrogen oxides and 23 000 tonnes of ammonia by 2010.

Industry nitrogen oxide fund: Founded in 2008 and operates on the full-cost principle. All payments to the fund are applied to the cost-effective reduction of nitrogen oxide emissions.

which companies can contribute rather than paying the tax. This aims to cut emissions by 30 000 tonnes of nitrogen oxides during 2010.

The three dominant sources of nitrogen oxide emissions are inland shipping and fishing, oil and gas operations and road transport. The petroleum industry contributed 28 per cent of the 2007 figure. The nitrogen oxide fund reduced emissions by 2 000 tonnes in its first year. To achieve its nitrogen oxide target under the Gothenburg protocol, Norway must cut these emissions by a further 17 per cent by 2010. Now that 90 per cent of all companies liable to the tax have joined the fund, the country has a good chance of meeting this target.

#### **SULPHUR OXIDES 58 PER CENT DOWN**

Emissions of sulphur oxides from SDFI holdings totalled 70.5 tonnes in 2008, a decline of 58 per cent since the year before. A cut of 27 per cent was achieved for the NCS as a whole. The most important reason for the big drop was that Statoil-Hydro, together with its suppliers, measured the sulphur content in diesel oil more accurately.

Total sulphur dioxide emissions have fallen sharply in Norway over the past 20 years, from 136 000 tonnes in 1980 to less than 20 000 tonnes in 2007. This means that the Norwegian commitment under the Gothenburg protocol to cut these emissions by 2010 has been met two years in a row. Acid precipitation in Norway as a result of emissions in other countries has also declined sharply over the past 30 years. Figure 3 provides an overview of historical sulphur oxide emissions.

Processing and heating in the process industry is Norway's biggest source of sulphur oxides, accounting for 68 per cent of the 2005 total. Oil and gas production contributed two per cent in the same year.

#### **CARGO EMISSIONS 37 PER CENT DOWN**

Emissions of non-methane volatile organic compounds (nmVOCs) totalled 11 2000 tonnes for the SDFI's holdings in 2008, a drop of 37 per

cent from 2007. See figure 4. NmVOCs are particularly released during loading and discharging of oil on the NCS, and the reduction relates in part to a 10 per cent decline from 2007 in oil volumes loaded from SDFI holdings. The biggest falls were on Norne and Gullfaks, at 88 and 42 per cent respectively – in other words, more than 2 000 tonnes per field.

Ninety per cent of the total volume loaded on the NCS in 2008 was transferred via facilities for nmVOC reduction. The proportion was 86 per cent the year before.

Norway is approaching the goal of no more than 195 000 annual tonnes set by the Gothenburg protocol for 2010. Accounting for roughly 40 per cent of total national nmVOC emissions, the petroleum sector has collaborated for many years to install technology for reducing the volumes released from offshore loading. This has cut its nmVOC emissions every year since 2001.

The SFT has ordered the industry to achieve a regularity of 95 per cent for emission-reducing plants in offshore loading. However, this has proved difficult to achieve, primarily because of the complexity of the facilities and consequent downtime. The industry is cooperating to establish stable operation of such plants in 2009.

#### **PRODUCED WATER DOWN – SHARE UP**

The actual volume of produced water – which accompanies petroleum up from the reservoir – on fields with SDFI holdings declined by five per cent from 2007 to 2008. But its share of total liquid production continued to rise, as it has been doing for many years. See figure 5.

The proportion of water in total liquid output typically increases as a field ages. It has risen steadily from about 40 per cent in 2003 to roughly 60 per cent in 2008, and is likely to continue growing in the years to come. The decrease in discharges during 2008 reflected a small decline (one per cent) in total produced water output as well as a 14 per cent rise in the

I Sulphur oxides are a collective term for a series of compounds, with sulphur dioxide as the one primarily formed from combustion of sulphurcontaining substances – primarily oil and gas – in a number of industrial processes. Since sulphur monoxide and sulphur trioxide form through subsequent chemical processes, these three gases are often equated in emission terms. Sulphur oxides cause acid precipitation, which acidifies rivers and damages buildings and other infrastructure. Inhaling these gases also harms the human respiratory system.

Along with nitrogen oxides, ammonia and nmVOCs, sulphur dioxide is covered by the Gothenburg protocol. Norway's annual emissions of this gas are required to be below 22 000 tonnes in 2010.



Figure 4 | | SDFI's annual nmVOC emissions and emissions per scm of cargo loaded

Figure 5 | | SDFI's discharges of produced water, and water cut

**Figure 6** I Total discharges of oil to the sea, and oil concentration in produced water

volume injected back below ground rather than released to the sea.

The biggest contribution to cutting produced water discharges was made by Gullfaks and Troll Oil, which account for the largest volume of such liquid released to the sea in the SDFI's holdings.

#### **OIL IN WATER UP 10 PER CENT**

The main source of oil discharged to the sea is its residual content in produced water. For fields with an SDFI holding, this volume increased by 10 per cent. Draugen and Veslefrikk made the biggest contribution to the increase, while Troll Oil and Gullfaks were the largest single contributors in 2008 with 32 and 16 per cent respectively of the oil discharged in the SDFI portfolio.

The curve for oil concentration presented in figure 6 shows a small increase in the volume of oil discharged to the sea in relation to the total quantity of produced water released. The average oil concentration in produced water from the SDFI's fields was 11.6 milligrams per litre in 2008, up slightly from the year before. Securing a further cut in the oil content of produced water represents a challenge. Much has already been achieved through an increased commitment to the C-Tour and Epcon treatment technologies.

Certain developments - such as Gullfaks and Troll Oil - have a relatively low oil concentration in produced water, while others -including Heidrun, Grane, Oseberg South and Kristin - are struggling to get below the official ceiling of 30 mg/l in produced water released to the sea. One reason on Heidrun, Grane and Oseberg South is that they inject produced water. More than 90 per cent was disposed of in this way during 2008, and the goal is to increase that proportion. In the meantime, an injection system shutdown may mean that a treatment facility with rather lower capacity must be used. For its part, Kristin has a very low water cut of only 13 per cent. So even if the concentration has sometimes been rather high, the volumes discharged are small.

**I nmVOC** – non-methane volatile organic compounds – is a collective term for gases given off during loading and discharging of crude oil.

NmVOC reacts with nitrogen oxides under the influence of sunlight to produce ground-level ozone. High levels of the latter can be harmful for human health, vegetation and materials. NmVOC also influences the greenhouse effect by forming carbon dioxide when it reacts with the air.

Like nitrogen oxides, ammonia and sulphur dioxide, nmVOC is covered the Gothenburg protocol. Norway is required to limit its emission of nmVOC to 23 000 tonnes in 2010. Industry collaboration: Operators for NCS fields with offshore loading established a collaboration in 2002 to coordinate technology adoption and fulfil emission standards set by the Norwegian authorities in an appropriate and cost-effective manner. The main source of other oil discharges is acute spills. Only small amounts of oil are released in water drainage, displacement, jetting of separators and well testing. Generally speaking, acute spills in 2007 and 2008 were small, but their number has increased in recent years for the NCS as a whole. On the other hand, acute spills were stable on fields with SDFI holdings from 2006 to 2008. Twenty-eight spills occurred on SDFI fields in 2008, compared with 25 in the two previous years.

#### HARMFUL CHEMICALS ALMOST ZERO

The Norwegian oil industry is "best in class" for environment-friendly use of chemicals, which is also reflected in discharge figures from the SDFI portfolio. But attention will continue to be paid to achieving zero discharges of environmentally-harmful substances. The zero discharge philosophy was launched in 1997, and the trend on the NCS has been very positive since then. Environmentally-harmful chemical discharges have been cut by more than 99 per cent. Although the offshore industry has virtually achieved zero discharges of environmentally harmful chemicals to the sea, reducing these even further wherever possible is still an important target.

Chemicals remain necessary on the NCS for technical and safety reasons, but great emphasis is placed on minimising any negative effects on the environment. Substances used in drilling operations represent by far the largest proportion of total chemical consumption, accounting for about 80 per cent both in the SDFI portfolio and on the NCS as a whole.

Official regulations divide chemicals into green, yellow, red and black categories. The last two are designated as environmentally harmful (see page 39). Virtually all chemicals used on the NCS are now in the yellow and green categories. Discharges of such substances have remained stable since 2005 at just under 25 000 tonnes per year for SDFI fields. In practical terms, no environmentally-harmful chemicals are discharged on fields part-owned by the SDFI. Black and red chemicals used on the NCS consist by and large of thread compounds, corrosion and deposition inhibitors, emulsion breakers and cement components.

Figure 7 shows total chemical discharges on SDFI fields. The bars present the release of green and yellow substances, while the curve shows the total for red and black chemicals.

A closer look at the very small discharges of environmentally-harmful chemicals reveals a sharp decline in discharges of red chemicals on fields in which the SDFI has holdings (figure 8). The SDFI had interests in 24 fields with discharges of red chemicals in 2008. The amounts involved declined by 49 per cent from 2007.

A few red chemicals are difficult to replace with less environmentally harmful substitutes. Small quantities of these were used on a number of fields. A sharp decline in fields releasing red chemicals is expected over coming years as replacements are found for the remainder of these substances on the NCS.

Where black chemicals are concerned, the SDFI had discharges from 12 fields in 2008 totalling less than 0.7 tonnes in all. While the use of such substances increased by no less than 48 per cent from 2007 (figure 9), that was nevertheless from a very low base. Discharges for 2008 were moreover 24 per cent lower than in 2006 and on a par with the levels for 2004-05. Seventy-seven per cent of black chemical discharges in the SDFI portfolio derived in 2008 from the Ekofisk area and Troll Oil.

Generally speaking, these discharges come from older installations with hydraulic systems which have no fluid return line. Such products have largely been replaced by more environment-friendly chemicals, and discharges are expected to continue declining gradually over the next few years as newer and more environment-friendly substitutes are adopted.

**1 I** How oil in water is analysed. After freon and the IR method were phased out in 2002, ISO-9377-2 was introduced as a new standard for analysing dispersed oil in water. Also known as the oil index, it was adopted in response to requirements from the SFT and the Oslo-Paris convention for the protection of the marine environment of the north-east Atlantic (Ospar).

The method originally quantified hydrocarbons with boiling points corresponding to the C10-C40 fractions. It was modified in 2007 to ISO-9377-2 (Mod), which also includes the more volatile C7-C10 fractions. This change means that results up to 2006 and from 2007 are not directly comparable. However, ISO-9377-2 (Mod) will theoretically yield somewhat higher results for the concentration of oil in water, depending on the proportion of light fractions in crude oil from each field. With effect from 2007, the official requirement for the maximum permitted oil concentration in discharge water (monthly average) is 30 mg/l, compared with 40 mg/l earlier.



Figure 7 | | – SDFI's share of chemical discharges per year in tonnes Figure 8 | | SDFI's share of annual red chemical discharges. Figure 9 | | SDFI's share of annual black chemical discharges

#### 

#### ENVIRONMENTAL ASSESSMENT OF CHEMICALS IN ACCORDANCE WITH THE SFT'S CATEGORIES

The operator companies assess chemicals on the basis of their environmental properties. As a general rule, substances are classified as follows:

- Black: Chemicals which basically cannot be discharged. Permits are given in special cases.
- **Red:** Chemicals which pose an environmental hazard and should therefore be substituted. Permits are awarded on condition that special priority is given to identifying substitutes for these substances.
- Yellow: Chemicals in use but not included in any of the other categories. Normally permitted without specific conditions.
- Green: Chemicals on the list from Ospar covering substances considered to pose little or no risk (Plonor). Permitted without specific conditions.

Categorisation	Category
Water	Green
Chemicals on the Plonor list	Green
Hormone-disruptive substances Substances which are thought to be or are harmful to genes or reproduction. Hazard labelling Rep1, Rep2 or Mut1, Mut2	1 (Black) 1.1 (Black)
Chemicals found on the priority list in White Papers no 25 (2002-2003) and no 21 (2004-2005)	2 [Black]
Biodegradability less than 20 per cent and log Pow equal to or greater than five	3 [Black]
Biodegradability less than 20 per cent and toxicity EC50 or LC50 equal to or less than 10 mg/l	4 [Black]
Two out of three: biodegradability less than 60 per cent, log Pow equal to or greater than three, EC50 or LC50 equal to or less than 10 mg/l	6 [Red]
Inorganic and EC50 or LC50 equal to or less than one mg/l	7 [Red]
Biodegradability less than 20 per cent	8 [Red]
Other chemicals	Yellow

. . . . . . . . .

# INCREASED ENVIRONMENTAL COMMITMENT

The natural environment, and particularly the climate challenges, has attracted greater public attention. A lot is happening in this area which could be very important for the Norwegian petroleum industry. The industrial challenges could also become highly significant for Petoro's commercial operations.

> Against that background, Petoro expanded its environmental team in the autumn of 2008. This group will initially help to enhance the company's expertise on climate and environmental issues, and then propose areas where an environmental commitment should be made.

> Led by Britt Bjelland from the technology department, the team otherwise comprises personnel from the departments for licence management, finance, marketing, and projects and strategy.

> In-house and external resources will be utilised to enhance Petoro's general expertise on environmental challenges facing the petroleum sector, reports Ms Bjelland. Greater attention to and discussion of these issues will also be encouraged. This activity is important for understanding how the natural environment will influence the company's commercial issues, she adds. "We must understand how we can tackle the environmental challenges while simultaneously meeting our goals for value creation."

> Her team has also discussed possible priority areas for Petoro: "We're a small company with limited capacity, and must set strict priorities on the environment as in all other areas. Our initial aim will be to achieve the highest possible value for Petoro, and we'll be looking for areas where we can contribute something extra – often ones which aren't already well covered by others in the industry."

> Issues which the team will continue to develop with an eye to Petoro's priorities include:

• energy efficiency, including integrating power supply between different fields and installations

- how improved oil recovery (IOR) measures could be achieved with acceptable environmental consequences
- how environmental considerations can be taken into account in long-term plans for licences.

Work is already under way in the last of these areas on the Gullfaks field.

"The main goal of IOR projects is to get out as much oil as possible, and thereby enhance value creation," Ms Bjelland observes. "At the same time, IOR on existing field will often be more environmentally effective than securing the corresponding volumes through exploration and the development and operation of new fields."

In addition, environmental impacts will differ according to the way IOR projects are implemented and their effects. The use of nanoparticles which "pop" to a larger size and force injection water into new areas of a reservoir, for instance, can improve recovery without increasing energy consumption.

This method also cuts the amount of produced water which comes up with the oil. That leads in turn to lower discharges to the sea, or reduces energy consumption – and emissions to the air – for injecting produced water below ground. At the same time, however, challenges could be faced in using chemicals for such a method.

Ms Bjelland says that the oil and gas industry must also contribute to reaching the nation's climate goals, and that it has already done so through a number of measures. Norwegian



I Members of the environmental team at work. From left: Frank Huth, Arild Stavnem, Britt Bjelland and Knut Kvalheim.

petroleum production, for instance, is among the very best in the world in terms of carbon emissions per unit produced. But she also sees substantial challenges, particularly in relation to the maturing of the NCS.

"More energy is needed to recover the last barrels of oil and cubic metres of gas than the first ones. And the NCS is shifting from oil to gas production, with a consequent increase in the need for power to provide compression in export pipelines. That'll boost emissions per unit produced. At the same time, further measures to cut greenhouse gas emissions are expensive. So it's important to seek the biggest environmental effect for the money."

She expects the industry to be as conscious of its responsibility for the environment as it is for other parts of the business. "It does this best by setting specific targets and drawing up good plans which are efficiently applied. Results are then assessed before launching the next round, even better equipped than before. From my experience of this industry, that's the way to achieve results."



FINANCIAL MANAGEMENT AND ACCOUNTING FOR THE SDFI IS ONE OF PETORO'S PRINCIPAL DUTIES. ACCOUNTS AND NOTES. PAGES 63-83

# PETORO

OPERATIONS BY PETORO AS ARE FINANCED THROUGH APPROPRIATIONS OVER THE GOVERNMENT BUDGET. ACCOUNTS AND NOTES. PAGES 84-91

# **CORPORATE GOVERNANCE**

Petoro manages substantial assets on behalf of the Norwegian state. The SDFI portfolio embraces a third of Norway's oil and gas reserves. That responsibility makes stringent demands on integrity and depends on the trust of the owner and the community.

> Petoro's principal object is to create the highest possible financial value from the state's portfolio on the basis of sound business principles. The board gives weight to good corporate governance in order to ensure that the state's portfolio is managed in a way which maximises financial value creation.

> By observing principles for good corporate governance, Petoro lays the basis for ensuring that its owner, its employees, the oil industry, other stakeholders and the community at large have confidence in the company. Petoro's governance system is based on the Norwegian code of practice for corporate governance to the extent that this is relevant for the company.

> The governance system is tailored to the nature of the business and satisfies the requirements for corporate governance specified in the government's financial regulations. Its principles build on and are intended to support a healthy corporate culture with long-term value-creating attitudes. It embraces both ethical concerns and other business-wide considerations, including a system for discharging licensee responsibilities and obligations for health, safety and the environment on the NCS.

> Petoro has clear guidelines on commercial ethics which specify the principles which will govern its business operations and employee behaviour. All its employees sign an annual confirmation that they have studied and accepted these guidelines. Rules on commercial ethics also form part of all standard contracts with the company's suppliers.

> The company continuously receives information which is not publicly available and which is subject

to a duty of confidentiality. Instructions have been developed for handling information received which is clearly "inside information" within the meaning of the Norwegian Securities Trading Act.

Petoro's values form an integrated part of its commercial activities.

The purpose of the values adopted is to provide the company and its employees with a common foundation for attitudes and behaviour in Petoro. These values are:

- Safeguard human life and the environment
- the business is organised to avoid ill health for or injury to people
- Petoro protects the environment wherever it conducts its business
- Boldness and innovative thinking
- employees think along innovative lines and are adaptable – boldness and stamina are important for securing improvement
  Commercial orientation
- commercial orientation
- Petoro seeks in all its activities to increase the financial value of the portfolio by acting as an orderly and constructive partner and by striking a balance between immediate and long-term business goals
- Integrity
- employee behaviour meets the highest ethical standards

Collaboration

• employees collaborate to improve results, and value the expertise and experience of other people

#### THE BUSINESS

Petoro is a limited company owned by the Norwegian state. The company's object is defined in its articles of association and by its principal goal: to maximise financial value from the state's oil and gas portfolio on the basis of sound business principles. Petoro's main duties are defined by the Ministry of Petroleum and Energy.

The company has three principal duties:

- management of the state's participatory interests in the joint ventures where the state has such interests at any given time
- monitoring StatoilHydro's marketing and sale of the petroleum produced from the state's direct participatory interests, pursuant to the marketing and sale instruction issued to StatoilHydro
- financial management, including preparation of budgets and keeping of accounts, of the state's direct participatory interests.

Petoro's operations are subject to the Norwegian Act on Limited Companies and the Norwegian Petroleum Activities Act, and to the government's financial regulations – including the rules on appropriations and accounting. Its activities are governed by the Ministry of Petroleum and Energy's instruction for financial management of the SDFI and the annual letter of award.

The company is a licensee – with the same rights and obligations as the other licensees – in holdings in 122 production licences and 14 joint ventures and companies for pipelines and terminals.

Through article 11 in Petoro's articles of association and the marketing and sale instruction issued to StatoilHydro, the government has made Petoro responsible for monitoring that StatoilHydro performs its duties in accordance with the instruction. As the majority shareholder in StatoilHydro and the sole owner of Petoro, the government exercises a common ownership strategy through the marketing and sale instruction approved by the general meeting of StatoilHydro.

In-house instructions for dealing with inside information received by Petoro apply to the company's board, employees, auditor, advisors or others in a relationship with the company who receive information expressly defined as "inside information" within the meaning of the Securities Trading Act. A special system has also been established for approving external directorships held by employees.

Petoro presents separate accounts for SDFI portfolio transactions, which form part of the government's accounts and are audited by the Auditor General of Norway. Cash flows generated from the portfolio are transferred to the government's own accounts with the Bank of Norway.

The limited company's own operating expenses are covered by annual appropriations over the central government budget, which are presented as operating revenues in the accounts of the limited company.

#### **GENERAL MEETING**

The Ministry of Petroleum and Energy, in the person of the minister, represents the government as sole owner and serves as the company's general meeting and highest authority. The annual general meeting is held before the end of June each year. It considers matters as specified by Norwegian law, including amendments to the articles of association and approval of the annual accounts. The Petroleum Activities Act lays down guidelines for issues to be considered by the company's general meeting. The general meeting elects the board of directors, with the exception of the worker directors, and the company's external auditor.

#### **BOARD OF DIRECTORS AND ITS WORK**

Petoro's board comprises seven directors, of whom five are elected by the general meeting. Two are elected by and from among the company's employees. Directors are elected for two-year terms. They have no commercial agreements or other financial relations with the company apart from the directors' fees established by the general meeting and contracts of employment for the worker directors.

The board has overall responsibility for the management of Petoro, including ensuring that appropriate management and control systems are in place, and for exercising supervision of the day-to-day conduct of the company's business. The work of the board is based on rules of procedure which describe its responsibilities and mode of working. Ten to 12 meetings are normally held during a year. Additional meetings are called as required. The board met 14 times in 2008.

As an appendix to the instructions for its work, the board has adopted supplementary provisions for matters to be considered by it. An annual schedule of meetings has been established, with the emphasis on considering strategies, budgets and interim results. The board utilises a balanced scorecard system as a key instrument for monitoring results.

The board continuously considers major investment decisions within the portfolio as well as substantial issues related to activities in the licences and monitoring of gas sales. It also assesses the overall risk picture and the company's strategy. The board has opted to organise its work related to compensation through a sub-committee. In the event of conflicts of interest, the practice has been for the director concerned to abstain from consideration of the matter by the board.

An annual self-assessment is conducted by the board, embracing an evaluation of its own work and mode of working and of its collaboration with the company's management.

#### **RISK MANAGEMENT AND INTERNAL CONTROL**

Risk management in Petoro supports the company's strategic development and attainment of goals. The board gives weight to the risks and opportunities which Petoro itself can influence through its own measures within the frameworks available to it. The company works continuously on maturing and developing the risk management process in line with updated principles for integrated risk management and development of the company's risk picture. These principles build on an internationally recognised Coso/ERM framework for internal control and the in-house team in the company.

Identification and management of risk form an integrated part of Petoro's business processes. The company works systematically on risk management to handle conditions which could affect its ability to reach specified targets and to implement chosen strategies, as well as those which could affect its ability to submit accurate accounts. Risk management is an important tool for reducing uncertainty in Petoro's strategy and performance monitoring processes and for creating understanding of the risk picture across the business.

The internal control function at Petoro is charged with ensuring that the business is conducted in accordance with the established governance model and that requirements specified by the government are observed. This function forms an integrated element in Petoro's management processes, and is responsible for ensuring that integrity and completeness are assessed for all management information and that management systems are effective.

The framework for internal control has been formulated to provide a reasonable level of assurance that goals will be met in the following areas:

- purposeful and cost-effective operation
- reliable reporting of accounts
- compliance with applicable law and statutory regulations.

Petoro's internal audit function is provided by an external audit company, which audits the internal control systems in accordance with a plan approved by the board.

Guidelines have been adopted by Petoro to facilitate internal reporting of conditions in the business which are open to criticism. Whistleblowers who want to preserve their anonymity or who do not wish for other reasons to raise the matter with their superior can notify the internal auditor.

#### REMUNERATION OF THE BOARD AND SENIOR EMPLOYEES

The general meeting determines the remuneration of directors. The board determines the remuneration of the president and CEO. The chief executive determines the remuneration of the other members of the company's senior management. Details of the actual remuneration paid in 2008 to directors, to the president and CEO, and to the management team as a whole are provided in the notes to the annual accounts.

#### INFORMATION AND COMMUNICATION

The Petoro board has established a communication strategy to ensure that an open dialogue is pursued both in-house and externally, so that the company's employees and other stakeholders are well informed about its business activities.

Information is published via the company's website, through press releases and in the interim and annual reporting of its results. Petoro's annual report is prepared in March/April and provides a broad description of its operations, the directors' report and the annual accounts, as well as coverage of health and safety and the impact of the business on the natural environment.

#### AUDITOR

The Auditor General is the external auditor for the SDFI portfolio pursuant to the Auditor General Act and instructions. It checks that the company's management of the portfolio accords with the decisions and assumptions of the Storting (parliament), and audits the annual accounts for the SDFI portfolio. On the basis of this work, the Auditor General submits its report in a final auditor's letter.

In addition, the board has resolved that the company will appoint an external audit company to serve as the internal auditor for the SDFI. The internal auditor conducts a financial audit of the portfolio's accounts and submits an auditor's report pursuant to Norwegian auditing standards and cash accounting principles, including the RS800 standard on auditor's reports for specialpurpose audits. Deloitte is currently the internal auditor for the SDFI portfolio.

Erga Revisjon AS has been selected by the general meeting as the external auditor for Petoro ASA.

# PETORO'S EXECUTIVE MANAGEMENT

#### 2. TOR RASMUS SKJÆRPE (1950)

#### Vice president licence management

Education: MSc engineering, Norwegian Institute of Technology (NTH). Career: Long experience of Norwegian oil and gas operations, most recently as head of Petoro's technology department and before that as head of Norsk Hydro's operations in the Tampen area of the North Sea.

#### 4. KJELL PEDERSEN (1952)

President and CEO

Education: MSc petroleum technology, Norwegian Institute of Technology (NTH).

**Career:** Has had a long international career, holding a number of leading posts both upstream and downstream in Exxon and Exxon-Mobil. President of ExxonMobil Norway before joining Petoro.



#### 1. LAURITS HAGA (1954)

#### Vice president marketing and sales Education: Economics degree.

**Career:** Long experience from the Norwegian and international oil and gas business. Held a number of management posts with Mobil and was head of the gas division in ExxonMobil Norway before joining Petoro.

#### 3. MARION SVIHUS (1956)

#### Chief financial officer

**Education:** MSc in business economics, Norwegian School of Economics and Business Administration, Bergen.

**Career:** Long experience from Statoil, where she held a number of senior management position in the fields of economics, analysis, finance and strategy. Also eight years of experience from the banking and financial sector.

#### 5. OLAV BOYE SIVERTSEN (1951)

Vice president legal affairs Education: Law degree Career: Came from the job of legal affairs officer at ExxonMobil, and prior to that was head, legal affairs department, Mobil Norway. Has held posts in the Ministry of Petroleum and Energy, Ministry of Labour and Local Government, and Norwegian Petroleum Directorate. International experience from Mobil's US business.

#### 6. ROY RUSÅ (1956)

Vice president technology and ICT Education: BSc petroleum, Rogaland Regional College.

**Career:** Long experience of the Norwegian oil and gas business from Statoil and Baker Hughes Inteq.

#### 8. SONJA SAMSONSEN (1971)

Vice president human resources and expertise development

Education: Business economics degree, Norwegian School of Management; English and personnel management courses, Stavanger University College.

**Career:** Long and broad experience of HR and personnel management from the shipping and international oil industries, most recently as human resources manager for Halliburton.



#### 7. SVEINUNG SLETTEN (1953)

#### Vice president external affairs

**Career:** Broad experience from both oil companies and the media. Has been manager public affairs for BP and Amoco, editor-in-chief, Statoil and Noroil Publishing House, and journalist with *Stavanger Aftenblad* and others.

#### 9. JAN ROSNES (1965)

Vice president projects and strategy

Education: MSc petroleum engineering, Stavanger University College.

**Career:** Broad experience from project and strategy work with Shell in Norway and the UK and with Statoil, among others. Has been asset manager at Petoro for the Tampen and Oseberg areas of the North Sea.

# **BOARD OF DIRECTORS OF PETORO**

#### 6. KRISTIN JOHNSEN (1961)

Director\*

Years of election/re-election: 2008/2010 Occupation: Advisor, technology, Petoro AS

Education: MSc engineering

**Career:** A number of years of experience from ExxonMobil and Statoil with various reservoir technology evaluations related to field development and producing fields.



#### 3. NILS-HENRIK VON DER FEHR (1960) Director

Years of election/re-election: 2005/2009

**Occupation:** Professor of community economics, University of Oslo. **Education:** Economics degree.

**Career:** Has held a number of academic posts at the University of Oslo, and also lectured at the Universities of Heidelberg and Oxford. In addition, he has held a number of public and private posts, including member/chair of several official committees.

#### 2. HILDE MYRBERG (1957)

Deputy chair

Years of election/re-election: 2006/2009

Occupation: Executive vice president, Orkla

**Other directorships:** Elkem AS, Borregård Ind Ltd, several Orkla subsidiaries.

Education: Law degree, MBA from Insead

**Career:** Head, market sector, Hydro Oil & Energy 2002-06, and otherwise held a number of posts in Hydro, including business development for Hydro Energy, head of marketing activities in the power area, corporate legal executive and board secretary.

\* Elected by the employees.

#### 7. ARILD STAVNEM (1956)

Director\*

Years of election/re-election: 2008/2010

**Occupation:** Senior advisor, licence management department, Petoro. **Education:** MSc engineering, Heriot Watt University

**Career:** Various posts, most recently as head, engineering department, Draugen, Norske Shell 1981-1998, project manager, drilling and well technology, Snorre B development, Saga Petroleum 1998-2000, business development, Norsk Hydro, 2000-2002.

#### 4. PER A SCHØYEN (1947)

Director Years of election/re-election: 2007/2009

Occupation: Partner, Kluge Advokatfirma DA, Stavanger Education: Law degree, various management programmes Career: Partner at Kluge since 2005. With Esso/ExxonMobil 1977-2004,

head of corporate affairs from 1989, other positions in Norway and abroad. Also deputy judge and assistant police attorney.



#### 1. GUNNAR BERGE (1940)

Chair

Years of election/re-election: 2007/2009

**Other directorships:** Stavanger Boligbyggelag, University of Stavanger, Western Norway Regional Health Authority.

Education: Technical college, 1957-58, Trade union college, 1966, and various courses. Skilled plate worker.

Career: Director-general, Norwegian Petroleum Directorate,

1997-2007, minister of local government, 1992-96, minister of finance, 1986-89, member of the Storting (parliament) for Rogaland, delegate to the UN general assembly, a number of important posts in the Norwegian Labour Party, including parliamentary leader and key committee posts in the Storting and party organisation, industrial worker in the 1950s and 1960s.

#### 5. MARI THJØMØE (1962)

#### Director

Years of election/re-election: 2007/2009

**Occupation:** Chief financial officer, Norwegian Property ASA. **Other directorships:** Oslo Børs VPS, Seilsport.

Education: MBE, Norwegian School of Management, authorised financial analyst, Norwegian School of Economics and Business Administration.

**Career:** Executive vice president, KLP Forsikring, senior vice president investor relations, Statoil 2000-2005, Norsk Hydro 1988-2000. Responsibilities in Hydro included financial management and control as well as financial markets and information.

# **DIRECTORS' REPORT 2008**

Petoro manages the State's Direct Financial Interest (SDFI), which represents a third of Norway's total oil and gas reserves. The company's principal object is to create the highest possible financial value from this portfolio on a commercial basis.

> Net income for the portfolio in 2008<sup>1</sup> came to NOK 159.9 billion, compared with NOK 112.6 billion the year before. Total operating revenue was NOK 214.6 billion, compared with NOK 167.7 billion in 2007. Cash flow transferred to the government amounted to NOK 155.4 billion, an increase of NOK 43.1 billion from 2007. Production totalled 1 148 000 barrels of oil equivalent per day (boe/d), which was slightly lower than the 2007 figure of 1 202 000 boe/d.

#### **INCOME, COSTS AND RESERVES**

The main reason why net income for 2008 improved by NOK 47.3 billion from the year before was a substantial increase in realised oil and gas prices. Lower oil production and higher operating costs offset this positive effect to some extent. Overall oil and gas sales for the year averaged 1 199 000 boe/d compared with 1 251 000 boe/d in 2007<sup>2</sup>. A large number of mature fields in the portfolio again yielded a decline in oil production for 2008. This development was countered by higher gas sales. Measured in oil equivalent, gas represented a higher proportion of total sales than oil for the first time in 2008.

Income before financial items came to NOK 157.8 billion. Net financial revenues of NOK 2.1 billion comprised net realised and unrealised currency gain related to a strengthening of the USD against the NOK.

Revenue for the year from dry gas sales totalled

2 Sales of entitlement oil, NGL and gas in 2008 totalled 1 147 000 boe/d compared with 1 201 000 boe/d the year before.

NOK 90 billion as against NOK 57.8 billion in 2007. The volume of equity gas sold was on a par with 2007, at 31.5 billion standard cubic metres (scm) or 541 000 boe/d. Troll accounted for 41 per cent of total gas revenue. The average gas price for the year was NOK 2.40 per scm as against NOK 1.63 in 2007.

Total revenue for the year from oil and natural gas liquids (NGL) was NOK 112.8 billion, compared with NOK 98.5 billion the year before. The sales volume was 222 million boe or a daily average of 607 000 boe. Production of oil and NGL fell by eight per cent from 2007. This reflected reduced output from the mature oil fields. The average oil price for the year for the SDFI portfolio was NOK 528 per barrel, compared with NOK 418 the year before. The oil price in US dollars averaged USD 98 per barrel.

Total investment in 2008 was NOK 21.3 billion as against NOK 20.5 billion the year before, with the biggest spending related to Gjøa and Vega. The increase in investment from 2007 was primarily attributable to the development of these fields.

The cost of operating fields, pipelines and landbased facilities was NOK 15.6 billion, on a par with 2007. Expenses in the latter year included a provision of about NOK 1.3 billion for restructuring costs in the wake of the merger between Statoil and Hydro's oil and gas business. The high level of activity put pressure on capacity and led to substantially higher prices in the supplies market. Increased costs were also a consequence of greater maintenance and modification work on the older fields in the portfolio.

<sup>1</sup> All figures are based on the accounts compiled in accordance with the Norwegian Accounting Act.

Exploration-related costs amounted to NOK 2 billion, of which NOK 0.5 billion was capitalised as investment related to discoveries and NOK 1.5 billion expensed as exploration costs from dry wells. Correspondingly, exploration expenses totalled NOK 1.4 billion in 2007, of which NOK 0.6 billion was expensed. A total of 26 exploration wells were completed during the year, compared with 15 in 2007. Sixteen of the 2008 wells yielded technical discoveries<sup>3</sup>, whilst 10 were dry. Several discoveries around Oseberg and close to Grane could be booked as reserves in the relatively near future.

At 31 December, the portfolio's expected remaining oil, condensate, NGL and gas reserves comprised 7 352 million boe – a decrease of 386 million boe from the year before. Petoro reports the portfolio's expected reserves on the basis of categories 1-3 in the Norwegian Petroleum Directorate's classification system <sup>4</sup>.

The portfolio's gross addition of expected reserves in 2008 came to 64 million boe. Improved recovery from Troll, Draugen and Gullfaks made the most important contributions to this increase.

A number of changes were made to reserve estimates, including downgrades for producing fields, which corresponded to a reduction of 28 million boe. The net reserve replacement rate for 2008 was nine per cent, compared with 23 per cent the year before. An average replacement rate of 18 per cent was achieved by the portfolio over the past three years. The corresponding percentage for 2005-07 was 28 per cent. This decline is a matter of concern, demonstrating as it does that the NCS is becoming more and more mature and that few and small discoveries are failing to replace the diminishing production portfolio.

#### **BOOK ASSETS AND EQUITY**

The book value of assets totalled NOK 200.4 billion at 31 December 2008. These assets primarily comprise operating facilities related to field installations, pipelines and land-based plants, as well as current debtors.

Equity at 31 December amounted to NOK 141.8 billion. Long-term liabilities totalled NOK 38.4 billion, of which NOK 36.6 billion related prima-

4 These are defined as remaining recoverable petroleum resources in deposits with an approved plan for development and operation, and reserves which the licensees have resolved to develop. rily to future removal liabilities. These liabilities are calculated in accordance with an established industry standard based on existing technology. Great uncertainty exists both over the removal estimates and over the timing of removals. Current liabilities, which comprise provision for costs incurred but not paid, were NOK 20.2 billion at 31 December.

Petoro served at 31 December as the licensee for the government's interests in 122 production licences and 14 joint ventures covering pipelines and terminals, including the interests in Mongstad Terminal DA, Etanor DA and Vestprosess DA. It also managed the shares in Norsea Gas AS and Norpipe Oil AS.

#### STRATEGY FOR PETORO

Petoro's chosen strategies are area development, maturing reserves and early application of technology.

Area development: Its broad portfolio gives Petoro opportunities to contribute to added value by seeking unified solutions in the interaction between fields and areas, and in assessments across the value chain. Area development rests on individual fields, and opportunities increase when an integrated view is taken of several fields and a range of infrastructure. Business opportunities arise through good knowledge of each field, the area infrastructure and market conditions.

Maturing reserves: Petoro has two principal arenas for maturing reserves – mature parts of the NCS and less explored areas. Focusing attention both on improved recovery from existing fields and on exploration for additional resources is important for value creation.

Early application of new technology: Substantial value creation can be achieved from the SDFI portfolio through early application of technology. Recovering reserves is gradually becoming more demanding in technical terms. Petoro has an important role in ensuring timely implementation of new solutions. It exerts influence through early involvement at the concept selection stage for both new field developments and major conversion projects.

In its pursuit of the chosen strategies, Petoro will act as a constructive challenger by carrying out independent work where the company has expertise, capacity and position.

After an assessment of the company's strategy in the light of general developments, the board concluded that it remains appropriate. Petoro

<sup>3</sup> A discovery is a standard designation applied by the Norwegian Petroleum Directorate to categorise the result of a well. It is not necessarily capable of commercial development.

will give priority to identifying good area solutions for the SDFI, and propose them to the operators at an early stage to ensure that they receive consideration. Continued work on strategic projects for improved oil recovery (IOR) will ensure the launch of measures which support the company's ambitions for maturing reserves. Attention will be directed at the early application of new technology and at a clarification of Petoro's role in this work. In the case of major decisions, the company will become involved before a choice of concept is made and priority will be given to sub-surface work on key fields.

#### PETORO'S CONTRIBUTION TO ADDED VALUE

Petoro again created substantial added value during 2008 through its work in several arenas. On behalf of the participants in the Snorre joint venture, the company led negotiations with Statfjord over a reduction in costs for processing, storing and loading of petroleum from the Snorre field. Petoro also carried out its own work on Gullfaks during the year, which showed that extending production from a number of old, centrally placed wells would contribute substantial oil despite their high water cut. Without the company's efforts, some of these wells would have been shut down in favour of new drilling targets, with a consequent loss of reserves. Petoro initiated and headed work in cooperation with five other large oil companies on the treatment of restructuring costs following the merger between Statoil and Hydro's oil and gas business. This work led to agreement with StatoilHydro on a lower cost than the original claim - an outcome with which the company is satisfied.

An annual assessment is conducted of the results achieved by Petoro in individual projects. Its contribution is estimated to have generated added value in the order of NOK 2-3 billion per year, or about 10 times the annual appropriation for Petoro over the central government budget.

#### **DEVELOPMENT OF THE SDFI PORTFOLIO**

Management of the SDFI portfolio is organised in three business areas – Troll, Tampen/Oseberg and the Norwegian/Barents Seas. Management of participatory interests in non-field-specific pipelines and land-based plants is handled as a separate area.

#### The Troll business area

This embraces the producing Troll Oil, Troll Gas and Kvitebjørn developments and the pipelines tying them to the Mongstad and Kollsnes terminals, as well as the Vega and Gjøa developments and a number of production licences in the exploration phase. Troll is the largest component in the SDFI portfolio and alone accounts for roughly 37 per cent of its estimated remaining net present value of NOK 815 billion. This field is expected to remain on stream beyond 2050.

Total production from the business area in 2008 was 412 000 boe/d, down by 17 per cent from the year before. Output from Kvitebjørn was reduced during the first half of 2008 because of damage to its gas pipeline, and the field was shut down in the second half to await repairs. As a result, gas exports also ceased from Visund for the second half.

Operating expenses for the area came to NOK 2.5 billion, with the rising trend experienced in recent years strengthening in 2008. The increase for the year primarily reflected well and maintenance costs and expenses related to reservoir management. Unit costs for the area are growing but remain relatively low because of the high level of production from Troll.

Capital spending in the Troll area increased from NOK 4.6 billion in 2007 to NOK 7.6 billion, primarily because of the Gjøa and Vega developments.

The Troll partnership has worked on a long-term plan to extend oil production from the field, and a plan for development and operation (PDO) for a set of Troll projects was submitted to the government in June 2008. These embrace gas injection on Troll B, a move to larger-diameter production tubing, a new gas pipeline from Troll A to Kollsnes and an expansion of the living quarters on the A platform. A number of measures are under consideration which could form the basis for investment decisions in coming years and which will help to increase reserves.

New wells on Troll boosted reserves in 2008, but estimates for other fields were also reduced. The net addition of reserves in the Troll area was accordingly modest.

Three exploration wells were drilled in the area during 2008, with two discoveries in the Pan and Pandora prospects on Visund.

Petoro is concerned to ensure optimum value creation from Troll by ensuring a good balance between oil and gas reserves. Doing so could allow the long-term ambition of increased oil production to be realised, while opportunities for improving gas recovery from the area can be assessed. The contribution of this area to production in the future depends on the Gjøa and



Vega projects as well as on successful further development of Troll's oil reserves. Access to rig capacity and more efficient drilling are essential if this potential is to be realised.

#### The Tampen/Oseberg business area

Activities in this area are dominated by the challenges faced with mature fields. The largest producers Oseberg, Gullfaks, Snorre and Grane, and a number of smaller fields are in a late phase. Possible new reserves have also been identified in Hild, Valemon and production licence 169. The area still has large remaining reserves, while a substantial resource potential exists close to existing infrastructure. Work is therefore under way to identify measures for improved recovery, facilitate cost-effective operation, identify resources close to infrastructure and ensure their timely phasing-in, and adapt aging installations for an extended economic life.

Total production from the area in 2008 was 337 000 boe/d, somewhat lower than the year before. Liquids accounted for 77 per cent of this total, and showed a decline of 10 per cent. Three small developments close to Oseberg came on stream in 2008, helping to offset the oil production decline from the mature fields. Gas offtake from the area was 77 000 boe/d, with Gullfaks and Oseberg as the most important producers. The level of gas offtake is governed by the value potential of gas injection for IOR.

Operating expenses for the area have been rising over a number of years, and grew by 10 per cent from 2007 to NOK 6.2 billion. The bulk of this increase related to more extensive well maintenance as well as the price and volume of injection gas purchases for Grane. Costs for basic operation and maintenance also grew. A combination of many older installations with an increasing need for maintenance and higher prices from suppliers contributed to this development. Identification of future savings from the planned restructuring of the offshore organisation for fields operated by StatoilHydro is under way, and a possible effect is first expected to make a contribution in 2010.

Capital spending in this part of the North Sea remains high and came to NOK 5.2 billion in 2008, down by NOK 0.2 billion from the year before. The biggest investments related to drilling, development of Oseberg Delta and Rev, the modification project on Snorre, and development and modifications for low-pressure production.

The increase in reserves for the area was moderate in 2008, with the biggest contributions related to improved recovery and new discoveries.

Eleven exploration wells were completed in the Tampen/Oseberg area during 2008, with four drilled as sidetracks into exploration prospects when drilling new producers. The result was six discovery wells. Several of these will be tied back to existing infrastructure in the area.

Work to ensure and further develop good governance in the joint ventures was again given priority in 2008. Good practice has been established and provides a solid foundation for purposeful further development, good decision processes and risk management in the production licences.

Petoro also focused attention on the projects for Snorre further development, Gullfaks 2030 and upgrading of drilling facilities, as well as on such issues as rig availability, integrated operation and measures to improve oil recovery. Assessments related to low-pressure production as well as the potential for increased water and gas injection and other advanced injection methods have played a key role in identifying new IOR measures. Extensive work was also carried out with Snorre to arrive at a future solution for processing, storing and transporting oil from the field through existing or possible new pipelines. Petoro has led negotiations with relevant bidders to provide such services from competing fields. This work is expected to be completed in 2009.

#### The Norwegian/Barents Seas business area

This area embraces eight producing fields on the Halten Bank and one in the Barents Sea, plus 17 discoveries from earlier drilling which are now under evaluation. Exploration activity has been substantial, with attention concentrated on maturing reserves and proving new fields – particularly in the deepwater parts of the Norwegian and Barents Seas.

Production in 2007 derived primarily from the Åsgard, Ormen Lange, Heidrun, Draugen, Norne and Kristin fields. Total output from the area in 2008 came to 398 000 boe/d, compared with 348 000 the year before. This increase primarily reflects the build-up of production from Ormen Lange and improved regularity on Snøhvit.

More than half the area's output in 2008 derived from the oil producers. Gas production is rising rapidly and should account for more than 50 per cent the area total from 2009, primarily as a result of growing output from Ormen Lange and Snøhvit.

Three new wells on Ormen Lange began production in the autumn of 2008. The Snøhvit operator has faced problems with the gas liquefaction plant on Melkøya. A total of 84 turnaround days were worked during 2008, and the facility was shut down for 57 days. After the most recent shut-down in the autumn, plant capacity has shown a marked improvement. A PDO for Yttergryta was approved in May 2008, and the field came on stream in January 2009.

Operating costs for the area in 2008 rose from the year before to NOK 5.3 billion. That reflected higher costs for basic operation and maintenance as well as increased activity on Ormen Lange and Snøhvit.

At NOK 5.8 billion, total capital spending was significantly lower than in 2007. Completion of the Snøhvit and Ormen Lange developments during 2007 were the most important reason for this reduction. Reserve addition in the area was again positive, but somewhat lower than in 2007. The increase came generally from fields in operation as well as Yttergryta. Kristin downgrades pulled down the growth in reserves to some extent.

Twelve exploration wells were completed in the area during 2008, including two drilled as sidetracks. The result was eight discovery wells. Five were in the shallow areas of the Norwegian Sea - Dompap is a small oil discovery north of Norne, while Galtvort and Noathun are small gas/condensate deposits north-west and north of Norne respectively. Two new gas finds, Ververis and Arenaria, were made on the Bjarmeland platform in the Barents Sea. Ververis is the most promising. More work is required on these discoveries, which could contain mostly gas and be demanding to develop. In addition, an appraisal well drilled on Nucula in Barents Sea South yielded less oil than expected. Work to assess the size of this discovery will continue during 2009. An exploration well was spudded on the Obelix prospect in early December, and its results will be available in the first quarter of 2009.

Petoro has increased its commitment to commercial negotiations in the Norwegian Sea as a result of the changes in the licensee structure following the Statoil-Hydro merger. The company is thereby leading negotiations on behalf of the Åsgard and Norne partners related to phasing new fields into the established infrastructure in the area.

#### Pipelines and land-based plants

Gassled is a joint venture comprising gas infrastructure and terminals on or in association with the NCS. The SDFI's revenues from Gassled in 2008 were NOK 9.8 billion, while capital spending and operating costs came to NOK 1.5 billion and NOK 2.1 billion respectively. The Gassled partners are very concerned with regularity and plant integrity in order to ensure stable gas deliveries to customers in continental Europe and the UK. Regularity at Gassled's export points to the markets was 99.8 per cent in 2008. In addition, the partners are paying particular attention to the level of operating costs.

A priority in 2008 was to ensure good execution of the sanctioned modification and upgrading project at the Kårstø complex. Petoro is actively involved in planning new projects to ensure good technical solutions through to concept selection. It was resolved in 2008 to incorporate the Norne gas transport system, Etanor DA and the Kvitebjørn gas pipeline in Gassled with effect from 1 January 2009.

#### MARKETING AND SALE OF THE PRODUCTS

All oil and NGL from the SDFI portfolio is sold to StatoilHydro, which is responsible for marketing all the natural gas together with its own gas as a single portfolio but at the government's expense and risk. Petoro is responsible for monitoring that StatoilHydro's sales of the SDFI's petroleum achieve the highest possible overall value, and for ensuring an equitable division of total value creation and expenses. Petoro concentrates in this work on StatoilHydro's marketing and sales strategy and risks, issues of great significance in value terms, matters of principle and questions relating to incentives.

Energy market developments in 2008 were affected by major economic fluctuations, with a substantial increase in prices during the first half followed by an even stronger decline during the second half. From a level of USD 97 per barrel at 1 January, Brent Blend spot prices rose to a peak of USD 145 in July before slumping to just under USD 40 at 31 December. This yielded an average price of roughly USD 98 per barrel. Oil price changes in Norwegian kroner were somewhat less extreme because the USD exchange rate was low when prices were high and strengthened as they fell. Reduced demand for oil as a result of high prices and an economic downturn is the main reason for the price slump. Opec conducted several rounds of production cuts during the autumn, but these were not enough to push up crude prices.

The bulk of the SDFI portfolio's gas production is sold under long-term contracts in which the price of gas is calculated on the basis of the price for oil products over a specified number of preceding months. Prices for gas sold under such contracts accordingly rose during 2008. Sales under long-term contracts accounted for about 90 per cent of the gas sold. The rest was sold in the spot market and is included in total gas sales revenues. The main goals for spot sales are to ensure delivery regularity under existing commitments, bring available supplies to market at attractive prices, and maximise value creation for the portfolio.

Low oil prices will first exert their full effect on the price of gas under long-term contracts in 2009. Gas sold to the UK is primarily priced in accordance with market quotations which reflect the balance between supply and demand. Prices in the UK grew up to July in line with the general price rise in energy markets, but showed a declining trend during the second half despite increasing prices under long-term contracts and a tighter seasonal supply balance. The average gas price for the SDFI portfolio in 2008 was NOK 2.40 per scm, compared with NOK 1.63 the year before.

StatoilHydro's marketing and sales strategy for gas gives weight to exploiting opportunities for value creation and optimisation throughout the value chain. As a participant in the overall chain, Petoro is concerned to ensure maximum value creation for the gas portfolio - including realisation of the value potential in the long-term sales contracts. A large part of the portfolio of longterm contracts was subject to price redetermination during 2008. Petoro also wants to ensure that available gas is marketed and sold in the market at the highest price, and that flexibility in the production line is exploited to optimise the delivery time. An example of price optimisation is provided by the LNG chain, where Snøhvit cargoes have been delivered to Japan as well as to Europe and the USA.

Petoro has also monitored that petroleum sales to StatoilHydro's own facilities are made at their market-based value. Checks have been made to ensure that the SDFI is being charged an equitable share of costs and receives its equitable share of revenues. The arrangement is functioning as intended, with divergences which arise being followed up through dialogue with StatoilHydro and corrected.

#### HEALTH, SAFETY AND THE ENVIRONMENT

To increase the attention paid to the risk of major accidents, the company has changed its principal parameter for monitoring HSE performance on the fields from the personal injury frequency to the serious incident frequency (SIF). An improvement in the number of serious incidents was achieved in 2008 compared with the year before. Continued improvements were also registered for the number of gas leaks, while the level of other serious incidents – dominated by dropped objects – remained too high.

The number of serious incidents per million hours worked (SIF) was two in 2008, compared with 2.4 the year before.

Petoro participated in several HSE management inspections on selected fields and installations during 2008. The company seeks to influence the operators and the industry as a whole to achieve a reduction in personal injuries and serious incidents with long-term consequences on the NCS.

The Petroleum Safety Authority Norway (PSA) audited Petoro for the attention devoted by the

executive management and the board to preventing major accidents. No need for further measures by the company was identified by the PSA.

No major oil spills occurred from the fields in Petoro's portfolio. Operating problems with Snøhvit led to more gas flaring and increased emissions to the air at Melkøya.

No fatal work accidents occurred within the SDFI portfolio during 2008.

#### WORKING ENVIRONMENT AND PERSONNEL

Working environment

Petoro has an expressed vision of being the best partner. Its working environment will be characterised by this vision as well as by the company's values. These are to safeguard human life and the environment, boldness and innovative thinking, a commercial orientation, integrity and collaboration. Petoro had 61 employees at 31 December, up by five from 2007. In addition, two people had signed contracts of employment with the company.

Petoro plans some increase in its workforce during 2009. The average age of employees in 2008 was 45, while average seniority was four years. Turnover for the company, calculated as the number of resignations during the year compared with employees the previous 31 December, was seven per cent.

Petoro conducts an annual workplace climate survey. Results for 2008 were good compared with other companies in Norway. The survey attracted a high response rate and covered such issues as management, expertise, development opportunities and the working environment.

An organisational development project was launched in the autumn of 2008 with the aim of releasing even more energy, enthusiasm and commitment in the organisation to support Petoro's operations. This project will continue into 2009.

Petoro's ability to achieve its goals depends on working actively to attract and retain the right expertise. Weight is given to facilitating good development opportunities in the company, in part through annual job reviews which yield individual competence plans. Expertise development measures for the company's personnel in 2008 included participation in key assignments, a management development programme, and courses and conferences.

The board resolved in 2007 to introduce a vari-

able pay scheme on a trial basis in Petoro. At the initiative of the Ministry of Petroleum and Energy, this scheme will cease from 2009. The company remains committed to offering competitive rates of pay, but will not lead the industry in this area.

Collaboration with Petoro's working environment committee and works council lays an important basis for achieving a good climate of in-house cooperation. Work in these bodies functioned well.

Sickness absence in Petoro was 1.91 per cent, compared with 1.45 per cent in 2007. With a wellness ratio of 98 per cent, the basis exists for continued progress in creating a healthy working environment. Petoro has concluded an agreement on being an inclusive workplace (IA), and has good routines for active follow-up of sickness absence.

#### Equal opportunities

Petoro seeks to promote diversity and equal opportunities in its working environment through recruitment and in its human resources policy. Women accounted for 33 per cent of total employees, compared with 34 per cent in 2007. The proportion of women on the company's board and in its executive management was 42 and 22 per cent respectively, unchanged from 2007.

#### **RESEARCH AND DEVELOPMENT (R&D)**

Petoro contributes to research and development through its interests in production licences on the NCS. These funds are managed by the respective operators. The SDFI meets its share of the R&D costs in accordance with its participatory interest in the respective production licences. This is in the order of NOK 500-600 million per annum, and an estimated 30 per cent of R&D expenses in the production licences with SDFI interests.

#### **CORPORATE GOVERNANCE**

The board gives weight to good governance to ensure that the government's portfolio is managed in a way which maximises long-term value creation. Petoro's management system will contribute to this, in part through paying constant attention to the company's risk picture. An internal audit of Petoro's corporate governance and risk management was conducted in 2008, and concluded that the company satisfies all the requirements specified in the government's accounting regulations.

Petoro has guidelines on the business ethics which govern its commercial operations and the behaviour of its employees. Together with its



values base and instructions on treating inside information in Petoro, these guidelines define the principles for in-house corporate governance and for the company's behaviour in the joint ventures and in other commercial relationships. Information from the company will be credible, timely and consistent.

Petoro seeks a corporate culture characterised by commitment, innovative thinking and positive attitudes to new opportunities, which also sees the value of a good internal control regime.

#### WORK OF THE BOARD

The board held 14 meetings in 2008. An annual meeting plan has been established for the board's work, with the emphasis on the consideration of strategy, budgets and interim results. A key instrument used by the board to monitor performance is measuring against established goals (balanced scorecards). The board considers major investment decisions in the portfolio as well as following up and considering the commercial business, including monitoring the marketing and sales instruction, and the overall risk picture. The board has chosen to organise work related to compensation arrangements in a sub-committee. Conflicts of interest are a fixed item on the agenda at board meetings, with the good practice that a director with such a conflict abstains over the relevant issue. The board conducts an annual evaluation of its own work.

Petoro's board is chaired by Gunnar Berge, with Hilde Myrberg (deputy chair), Nils-Henrik M von der Fehr, Per Arvid Schøyen and Mari Thjømøe as the other shareholder-elected directors, and with Arild Stavnem and Kristin Johnsen as directors elected by and from among the employees.

#### RISK

In assessing the company's risk, the board gives weight to the risks and opportunities which Petoro itself can influence through its own action within the frameworks available to it. Petoro is exposed to risk throughout the value chain from exploration activity to the sale of oil and gas in the market. Risk management in Petoro involves identifying, analysing and managing risk along the whole value chain, and supporting the company's strategic development and achievement of targets.

The company worked in 2008 on maturing and developing its risk management process in line with its updated principles for integrated risk management. These principles are based on the internationally recognised Coso/ERM framework for internal control and on in-house expertise.

The board assesses the risk picture and the need for compensatory measures on a continuous basis. It paid particular attention in 2008 to following up risk related to the merger between Statoil and Hydro's oil and gas business. This embraces the risk that Petoro will be inadequately strengthened to ensure its ability to exert sufficient influence over StatoilHydro, and the risk of an increased threat of HSE incidents on the NCS. A major accident in these waters will have significant consequences for the government's portfolio. Petoro works to increase the weight given to HSE parameters and the use of risk management in decision processes within the licence arena.

As a result of the global financial crisis which began in the second half, and the uncertainty related to further development of and consequences for the NCS, the board will devote great attention in the future to the possible effects of a weakened real economy in Norway and the world on the government's portfolio. Assets in the portfolio as well as activity plans and investment programmes are exposed to the market and to changes in oil and gas prices. Historically, such economic downturns have resulted in stronger capital discipline in the industry, with consequences for the level of activity and employment.

Financial instruments used to hedge future gas sales are related to forward contracts and sale for future delivery managed by StatoilHydro pursuant to the marketing and sale instruction. Petoro continuously monitors StatoilHydro's marketing and sale of petroleum from the SDFI.

Further details of risk management and internal control are provided in a separate presentation of corporate governance in this annual report.

#### PROSPECTS

Following the merger between Statoil and Hydro's oil and gas business, Petoro has been concerned to secure continued diversity and competitiveness on the NCS. This makes new demands on the other partners, and particularly on Petoro as a substantial licensee in these waters. The board has assessed and adjusted the company's strategy to reflect this position, as shown by a reshaping of resource priorities to strengthen the commitment to commercial negotiations and to increase technical work related to the most important fields. The decision to strengthen technical disciplines, particularly in terms of sub-surface expertise, was followed up in 2008. The commercial team was also reinforced so that the company can accept responsibility for leading selected commercial negotiations where incentives between the players have changed as a result of the merger. However, this strengthening has been implemented with minor increases in available financial resources, and has required a strict prioritisation of assignments. Appropriated funds for 2008 and 2009 permit further cautious growth.

Great uncertainty prevails about the development of the world economy and the consequences for future oil and gas prices. The high level of activity in recent years has contributed to a very high level of costs. A lower level of activity can be expected, with opportunities for reduced costs in the industry.

Oil production from the portfolio is likely to decline in the years to come, while gas output

will increase. Viewed overall, total production is expected to remain at today's level over the next few years.

The level of investment will be determined in the future by the projects which the industry succeeds in maturing, but will be affected by price trends in the market for goods and services and by the continued development of the world economy.

A positive effect of recent market developments could be a decline in operating costs. It should also be possible to reduce these through efficiency improvements achieved by operators from the implementation of integrated operation, and through the new operations model for fields operated by StatoilHydro. Petoro will devote great attention to the possible effects on activity from developments in the world economy and the dispositions made by other companies on the NCS.

The board expects oil and gas prices in 2009 to be lower than in 2008. On the demand side, great uncertainty prevails over global economic trends and associated consumption of oil and gas. Where supply is concerned, Opec's adjustment of its production to the level of demand represents the primary source of uncertainty.

Imports of LNG to north-western Europe are expected to increase in 2009, with a substantial expansion in capacity for such purchases compared with earlier years - primarily in the UK. This will tie European gas price trends more closely to the development of global prices. Although declining gas production in European countries is boosting the need for imports, the balance between supply and demand is expected to weaken. In addition to economic developments, the formulation of environmental and climate policies plays a key role for the future competitiveness of gas. Security of gas supply is also expected to attract greater attention following the problems with Russian deliveries through Ukraine.

# PETORO AS – SHARE CAPITAL AND SHAREHOLDER

The company's share capital at 31 December 2008 was NOK 10 million, divided between 10 000 shares. All the shares are owned by the Ministry of Petroleum and Energy on behalf of the Norwegian government. Petoro's business office is in Stavanger.

#### PETORO AS - NET INCOME AND ALLOCATIONS

Administration of the portfolio by Petoro is subject to the accounting regulations for the govern-

ment. The company maintains separate accounts for all transactions relating to the participatory interests, so that revenue and expenses for the portfolio are kept apart from operation of the company. Cash flows from the portfolio are transferred to the central government's own accounts with the Bank of Norway. The company prepares separate annual accounts for the SDFI, with an overview of the participatory interests managed by Petoro and associated resource accounting. Accounts for the portfolio are presented both on the cash basis used by the government and in accordance with the Norwegian Accounting Act and Norwegian generally-accepted accounting principles (NGAAP). All amounts cited in this directors' report are based on NGAAP.

Petoro's operating revenue takes the form of a contribution from the government, which is directly liable for the commitments accepted by the company under contract or in other forms. The government contribution for 2008 was NOK 242 million, compared with NOK 222 million the year before. This sum includes VAT, so that disposable revenue was NOK 193.6 million as against NOK 177.6 million in 2007. Recorded income, including financial income, for 2008 was NOK 202.1 million, compared with NOK 185.7 million the year before. Operating expenses were NOK 195.8 million for the year, compared with NOK 185.5 million in 2007. These expenses related primarily to payroll and administration expenses and to the purchase of external services. The purchase of leadingedge expertise relating to supervision of production licences in the SDFI portfolio accounts for a substantial proportion of the company's operating expenses. Attention was devoted by the board in 2008 to the company's overall resource position and the need for greater financial flexibility within each budget period.

Net income after net financial income came to NOK 5.4 million. The board proposes that this income be transferred to other equity. The company's equity position is good, and it has little exposure to financial risk. Its non-restricted equity totalled NOK 26.4 million at 31 December.

Pursuant to section 3, subsections 3 and 2a, of the Norwegian Accounting Act, the board confirms that the annual accounts for the portfolio and the company give a true and fair picture of the company's assets and liabilities, financial position and results of the business, and that the annual accounts have been prepared under the assumption that the company is a going concern.

7

Gunnar Berge

Stavanger, 20 February 2009

Hilde Myrberg Deputy chair

Kristin Johnsen Director\*

Nils-Henrik M von der Fehr

S-Henrik M von der Director

Mari Thjømøe Director

Kjell Pedersen President and CEO

Per Arvid Schøyen

Director

Arild Stavnem Director\*

\*Elected by the employees

### CONTENTS

#### Accounts SDFI

- **63** | | SDFI Appropriation accounts
- 64 | | SDFI Capital accounts
- 65 | | SDFI Income statement
- 66 | | SDFI Balance sheet at 31 December
- 67 | | SDFI Cash flow statement

#### Notes SDFI

- 70 | | Note 1: Asset transfers and changes
- 70 | | Note 2: Specification of fixed assets
- 71 | | Note 3: Specification of operating revenue
- 71 | | Note 4: Specification of operating revenue by product
- 71 | | Note 5: Specification of other operating expenses
- 72 | | Note 6: Interest
- 72 | | Note 7: Net financial items
- 72 | | Note 8: Government petroleum insurance fund
- 72 | | Note 9: Close associates
- 73 | | Note 10: Trade debtors
- 73 | | Note 11: Abandonment/removal
- 73 | | Note 12: Other long-term liabilities
- 74 | | Note 13: Other current liabilities
- 74 | | Note 14: Financial instruments and risk management
- 75 | | Note 15: Leases/contractual liabilities
- 75 | | Note 16: Other liabilities
- 75 | | Note 17: Significant estimates
- 76 | | Note 18: Equity
- 77 | | Note 19: Auditors
- 77 | | Note 20: Expected remaining oil and gas reserves
- 78 | | Note 21: SDFI overview interests

#### Auditor

83 | | Auditor's report

#### Accounts Petoro AS

- 84 | | Petoro AS Income statement
- **85** | | Petoro AS Balance sheet
- 86 | | Petoro AS Cash flow statement

#### **Notes Petoro AS**

- 87 | | Note 1: Government contribution and other income
- 87 | | Note 2: Deferred revenue
- 88 | | Note 3: Rayroll expenses, number of employees, benefits, etc
- 88 | | Note 4: Tangible fixed assets
- 89 | | Note 5: Other debtors
- 89 | | Note 6: Bank deposits
- 89 | | Note 7: Share capital and shareholder information
- 89 | | Note 8: Equity
- 89 | | Note 9: Pension costs, assets and liabilities
- 90 | | Note 10: Other current liabilities
- 90 | | Note 11: Auditor's fees
- 90 | | Note 12: Business management agreements
- 90 | | Note 13: Leases
- 90 | | Note 14: Significant contracts
- 90 | | Note 15: Close associates

#### Auditor

91 | | Auditor's report

# **SDFI APPROPRIATION ACCOUNTS**

Expenses and revenue	Notes	NOK
Investment	2	19 997 731 704.24
Total expenses		19 997 731 704.24
Operating revenue	3, 4	(216 722 172 295.70)
Operating expenses	5	39 869 834 799.03
Exploration and field development expenses		1 962 801 867.13
Depreciation	2	15 741 102 413.38
Interest	6	6 572 804 079.56
Operating income		(152 575 629 136.60)
Depreciation	2	(15 741 102 413.38)
Transfer from Government Petroleum Insurance Fund	8	(707 829 809.91)
Interest on fixed capital	6	(6 559 903 974.00)
Interest on intermediate accounts	<u> </u>	(12 900 105.56)
Total revenue		(175 597 365 439.45)
Cash flow (net revenue from the SDFI)		(155 599 633 735.21)

## SDFI CAPITAL ACCOUNTS

All figures in round NOK	Notes	NOK	NOK	NOK
Open account government 31 Dec 08				10 582 708.61
Fixed asset before write-down			142 930 708 515.79	
Write-down	2, 8		(49 714 032.60)	
Fixed asset account	2		142 880 994 483.19	142 880 994 483.19
Total				142 891 577 191.80
Open account government 1 Jan 08			168 922 247.34	
Total expenses		19 997 731 704.24		
Total revenue		(175 597 365 439.45)		
Cash flow		(155 599 633 735.21)	(155 599 633 735.21)	
Net transfer to the government			155 420 128 779.26	
Open account government at 31 Dec 08			(10 582 708.61)	(10 582 708.61)
Fixed assets 1 Jan 08			(138 674 079 224.93)	
Investments for the year			(19 997 731 704.24)	
Depreciation for the year			15 741 102 413.38	
Write-down			49 714 032.60	
Fixed assets 31 Dec 08			(142 880 994 483.19)	(142 880 994 483.19)
Total				(142 891 577 191.80)

Stavanger, 20 February 2009

Gunnar Berge Chair

de Hilde Myrberg

Deputy chair

Was Nils-Henrik M von der Fehr Director

nne  $\mathbf{7}$ Kristin Johnsen

**istin Johnsen** Director\*

Per Arvid Schøyen Director

du

**Kjell Pedersen** President and CEO

Mari Thjømøe Director

\* Elected by the employees

Rould 20 Arild Stavnem Director\*

enen

# **SDFI INCOME STATEMENT**

All figures in NOK million	Notes	2008	2007	2006
OPERATING REVENUE				
Operating revenue	3, 4, 8, 9	214 585	167 724	174 979
Total operating revenue		214 585	167 724	174 979
OPERATING EXPENSES				
Exploration expenses		1 536	621	940
Depreciation and amortisation	2	17 915	17 946	15 898
Other operating expenses	5, 8, 9, 10	37 292	34 664	28 308
Total operating expenses		56 742	53 231	45 146
Operating income		157 843	114 493	129 833
FINANCIAL ITEMS				
Financial income		9 851	4 316	4 339
Financial expenses	11	7 788	6 169	5 705
Net financial items	7	2 063	(1 852)	(1 366)
Net income for the year	18	159 906	112 641	128 467

## **SDFI BALANCE SHEET AT 31 DECEMBER**

All figures in NOK million	Notes	2008	2007	2006
ASSETS				
Intangible fixed assets		1 404	1 132	1 302
Tangible fixed assets	17	168 670	157 046	157 130
Fixed assets	2	170 075	158 178	158 432
Stacks		051	777	EQE
	0.10	20.007		
	9,10	29 207		20 108
		104	2/ 101	00.75(
Current assets		30 3 1 1	26 121	20 / 56
Total assets		200 385	184 299	179 188
EQUITY AND LIABILITIES				
Equity at 1 January		136 998	136 748	134 554
Paid from/(to) government during the year		(155 420)	(112 281)	(126 213)
Net income		159 906	112 641	128 467
Translation differences*		297	(110)	(60)
Equity	18	141 781	136 998	136 748
l ong-term removal liabilities	11 17	36 576	27 465	29 202
Other long-term liabilities	12	1 858	1 657	2,7202
Long-term liabilities		38 434	29 123	31 228
Trade creditors		2 790	2 611	1 909
Other current liabilities	9, 13	17 381	15 567	9 303
Current liabilities		20 170	18 178	11 212
Total equity and liabilities		200 385	184 299	179 188

\* Relating to translation difference and settlements after the 2001 asset sale.

Stavanger, 20 February 2009

Gunnar Berge Chair

Mari Thjømøe

Director

Hilde Myrberg

Deputy chair

Arild Stavnem

Director\*

NO

Nils-Henrik M von der Fehr Director

Ø. Kristin Johnsen

Director\*

Per Arvid Schøyen Director

N Kjell Pedersen

President and CEO

# SDFI CASH FLOW STATEMENT

All figures in NOK million	2008	2007	2006
OPERATING ACTIVITIES			
Cash receipts from operations	217 350	163 712	176 737
Cash disbursements to operations	(41 800)	(31 590)	(30 052)
Net interest payments	(2)	80	[69]
Cash flow from operational activities	175 548	132 203	146 616
CASH FLOW FROM INVESTMENT ACTIVITIES			
Pro and contra from government sale	0	0	(10)
Investments	(19 948)	(19 871)	(19 867)
Cash flow from investment activities	(19 948)	(19 871)	(19 877)
CASH FLOW FROM FINANCING ACTIVITIES			
Change in working capital in the licences	987	377	(984)
Change in under/over calls in the licences	(1 164)	(342)	446
Net transfer to the government	(155 420)	(112 281)	(126 213)
Cash flow from financing activities	(155 596)	(112 246)	(126 751)
Increase in bank deposits of partnerships with shared liability	(4)	86	(12)

## **ACCOUNTING PRINCIPLES (Norwegian Accounting Act)**

#### GENERAL

Petoro's object, on behalf of the government, is to be responsible for and manage the commercial aspects of the State's Direct Financial Interest (SDFI) in petroleum operations on the Norwegian continental shelf (NCS) and associated activities. The company's overall goal is to maximise the total financial value of the portfolio on a commercial basis.

Petoro served at 31 December 2008 as the licensee on behalf of the SDFI for interests in 122 production licences and 14 joint ventures for pipelines and terminals. The company also manages the government's commercial interests in Mongstad Terminal DA, Etanor DA and Vestprosess DA as well as the shares in Norsea Gas AS and Norpipe Oil AS. Petoro has the same rights and obligations as other licensees, and manages the SDFI on the NCS on a commercial basis.

The company maintains separate accounts for all transactions relating to its participatory interests, so that revenue and costs from production licences and joint ventures are kept separate from the operation of the company. Cash flows from the portfolio are transferred to the central government's own accounts with the Bank of Norway. Petoro prepares separate annual accounts for the SDFI, with an overview of the participatory interests managed by the company and associated resource accounting.

Administration of the portfolio is subject to the accounting regulations for the government. Accounts for the portfolio are presented both on the cash basis used by the government and in accordance with the Norwegian Accounting Act.

The principal difference between the profit based on the Accounting Act and on a cash basis is that the latter includes cash payment for investments and excludes depreciation. Adjustments are also made for accruals of income and expenses on a cash basis, with a corresponding adjustment to debtors and creditors in the balance sheet. Realised currency loss/gain related to operating expenses and income is classified on the cash basis as operating expenses and income. The accounts based on the Accounting Act show realised currency loss/gain as financial expenses/income, and these items are accordingly not included in the operating profit.

#### **ACCOUNTING PRINCIPLES**

The SDFI's interests in limited companies and partnerships with shared liability relating to the production of petroleum are included under the respective items in the income statement and balance sheet in accordance with the proportionate consolidation method for the SDFI's share of income, expenses, assets and liabilities. The same applies to undivided interests in oil and gas operations, including pipeline transport, which are not organised as companies.

Dividend from the shares in Norsea Gas AS and Norpipe Oil AS is recorded as a financial item. In addition, revenue and expenses from production licences with net profit agreements (relates to licences awarded in the second licensing round) are recorded as other income using the net method for each licence.

#### Principles for revenue recognition

All oil, NGL and condensate from the SDFI is sold to StatoilHydro, and all gas is sold by StatoilHydro at the SDFI's expense and risk. The SDFI records the revenue from its sold share of oil and gas when the products are delivered to the customer.

Revenue from ownership in pipelines and land-based production plants is recorded when the service is rendered.

Gas swap and borrowing agreements where settlement takes the form of returning volumes are accrued as a general rule using the sales method. This method means that the sale is recognised in the period when the volumes are lifted and sold to the customers. At the same time, a provision is made for the associated production costs in the event that the SDFI has lent/borrowed gas. When lending gas from the SDFI, the lower of production expense and estimated net present value of the future sales price is capitalised as a pre-paid expense at the date of the loan. Furthermore, the SDFI's share of location swaps related to the purchase or sale of third-party gas is recorded net as operating revenue. The SDFI's share of time swaps is recorded gross.

Liabilities arising because too much crude oil has been lifted in relation to the SDFI's share of the production partnership are valued at production cost, while receivables due from the other partners in the production partnerships are valued at the lower of production cost and fair value.

#### Purchases and sales between fields and/or transport systems

Internal expenses and revenues relating to purchases and sales between fields and/or transport systems in which the SDFI is both owner and shipper are eliminated, so that only costs paid to third parties appear as net transport costs.

#### **Foreign currencies**

Transactions in foreign currencies are recorded at the exchange rate prevailing at the time of the transaction. Monetary items in foreign currencies are valued at the exchange rate prevailing on the balance sheet date. Unrealised currency losses and realised currency gains and losses are recorded as financial income or expenses.

#### **Classification of assets and liabilities**

Assets intended for ownership or use over a longer period are classified as fixed assets. Other assets are classified as current assets. Debtors due within one year are classified as current assets. Similar criteria are applied for classifying current and long-term liabilities.

#### **Tangible fixed assets**

Tangible fixed assets and investments are carried at historical cost with a deduction for planned depreciation. Expenses for major alterations and renewals which significantly increase the economic life of fixed assets are capitalised. Fixed assets under construction are carried at historical cost.

Fixed assets leased on terms which largely transfer the financial risk and control to the company (financial leasing) are capitalised under
tangible fixed assets and the associated lease commitment is recognised as a commitment under long-term interest-bearing debt at the net present value of the leasing charges. The fixed asset is subject to planned depreciation, and the commitment is reduced by the leasing charge paid after deduction of calculated interest costs.

Each time the accounts are made up, assets are reviewed for indications of a fall in value. Should the recoverable value be lower than the book value, and this decline is not expected to be temporary, the asset is written down to its recoverable value.

The SDFI does not take up loans, and incurs no interest expenses associated with the financing of development projects.

### Depreciation

Ordinary depreciation of oil and gas production facilities is calculated for each field and field-dedicated transport system using the unit of production method. This means that the acquisition cost is depreciated in line with the relationship between volume sold during the period and reserves at the beginning of the period. Investments in wells are depreciated in line with the reserves made available by the wells drilled.

Petoro determines the reserve base for depreciation purposes on the basis of estimated remaining reserves per field, which are adjusted downwards by a factor calculated as the relationship between the Norwegian Petroleum Directorate's sum of low reserves in production and the sum of basis reserves in production for oil and gas reserves respectively. This reserve adjustment totalled 74.1 per cent of expected remaining oil reserves in 2008, while the corresponding figure for gas fields was 84.8 per cent. The reserve estimates are revised annually. Possible changes affect only further depreciation expenses.

Ordinary depreciation for land-based plants and transport systems as well as for riser platforms used by several fields is calculated on a straight-line basis over the remaining licence period at 31 December.

Other tangible fixed assets are depreciated on a straight-line basis over their expected economic lifetime.

### Exploration and development costs

Petoro employs the successful-efforts method to record exploration and development costs for oil and gas operations by the SDFI in the SDFI accounts. This means that expenses related to geological and geophysical surveying are expensed. However, expenses related to exploration drilling are capitalised in anticipation of evaluation. Such expenses are expensed should the evaluation show that the discovery is not commercial. Considerable time can elapse between the drilling of a well and a final development decision. Capitalised exploration expenses are accordingly assessed quarterly to determine whether sufficient progress is being made in the projects so that the criteria for capitalisation continue to be met. Dry wells or those where progress is insufficient are expensed.

Expenses relating to development, including wells, field installations and production facilities, are capitalised. Costs for operational preparations are expensed on a continuous basis.

### Maintenance expenses

Expenses related to repair and maintenance are expensed on a continuous basis. Expenses for major replacements and renewals which significantly extend the economic life of the tangible fixed assets are capitalised.

### **Research and development**

Research and development expenses are expensed on a continuous basis. In addition to spending on direct research and development in each partnership, the operator also charges expenses for general research and development to the partnership in accordance with the size of exploration, development and operating expenses in the partnership. The utility value of general research and development for the NCS must be documented by the operator.

### Abandonment and removal expenses

Under the terms of a licence, the authorities can require the licensees to remove offshore installations when their production life comes to an end. The estimated fair value of liabilities for removal and clear-up is recorded in the accounts in the period when the liability arises, normally when wells are drilled and installations are built and ready for use. The liability is capitalised as part of the acquisition cost of wells and installations, and depreciated together with this. Changes to estimated removal costs are recorded and capitalised in the same manner and depreciated over the remaining economic life of the assets. The discount rate applied when calculating the fair value of a removal liability is based on the interest rate for Norwegian government bonds with the same maturity as the removal liability. An extrapolated interest rate derived from foreign rates is applied for liabilities which extend beyond the longest maturity for such bonds.

### Intangible fixed assets

Intangible fixed assets are carried at their fair value at the time of acquisition. They are amortised over the expected contract period or their expected economic lifetime.

#### Stocks

Stocks of spare parts and operating materials are valued at the lower of acquisition cost in accordance with the Fifo principle and net realisable value. Spare parts of insignificant value for use in connection with the operation of oil or gas fields are expensed at the time of acquisition. Spare parts of significant value are recorded as stock at the time of acquisition and expensed when they are used in operations. Petoro accepts the assessments made by operators regarding which materials should be capitalised and which expensed.

### Debtors

Trade debtors and other debtors are carried at face value less a provision for expected loss. This provision is based on an individual assessment of each debtor.

#### Bank deposits

Bank deposits include cash, bank deposits and other monetary instruments with a maturity of less than three months at the date of purchase. Cash flows from oil and gas sales are transferred to the government on a daily basis. Booked bank deposits accordingly include the SDFI's share of bank deposits in partnerships with shared liability in which the SDFI has an interest.

### **Current liabilities**

Current liabilities are valued at their face value.

### Taxes

The SDFI is exempt from income tax and royalty in Norway. The SDFI is registered for VAT in Norway. Virtually all the SDFI's sales of oil and gas products from its activity take place outside the geographic area to which Norway's VAT legislation applies (the continental shelf and exports). The SDFI invoices these sales to the buyer free of tax. At the same time, the SDFI can deduct possible VAT incurred on invoiced costs which are relevant to its activity.

### **Financial instruments**

Since the SDFI is included in the government's overall risk management, only limited use is made of financial instruments.

Such instruments are valued at their market value on the balance sheet date. Unrealised losses relating to financial instruments are recorded as expenses. Unrealised gains are recorded as income if all the following criteria are fulfilled: the instrument is classified as a current asset, is part of a trading portfolio with a view to onward sale, is traded on an exchange, an authorised marketplace or similar regulated market outside Norway, and has a good ownership spread and liquidity. Valuations are based on a portfolio assessment where this is regarded as the most sensible approach given the nature of the financial instruments, and where the portfolio is balanced in volume and time.

The valuation rules for fixed assets are applied to financial instruments not classified as current assets.

### NOTE 2 SPECIFICATION OF FIXED ASSETS

### **Contingent liabilities**

Probable and quantifiable losses are expensed.

NOTE 1 ASSET TRANSFERS AND CHANGES

Twelve production licences with SDFI participation were allocated in connection with licensing awards in 2008. These participatory interests were formally awarded by the Ministry of Petroleum and Energy on 29 February 2008 in connection with the awards in predefined areas (APA) for 2007. The government retained the right to participate in eight new production licences in connection with the awards of predefined areas for 2008 (APA 2008). These were formally awarded in a letter dated 23 January 2009 and are accordingly not included in the SDFI overview of interests, note 21.

The following production licences were relinquished in 2008:

- production licence 85 D was relinquished with effect from 1 January
- production licence 384 was relinquished with effect from 1 April
- production licence 253 was relinguished with effect from 12 May
- production licence 347 was relinquished with effect from 14 December

The SDFI farmed into production licence 263 C with a 19.95 per cent interest during 2008.

No transactions took place in 2008 related to pro and contra settlements.

All figures in NOK mill	Historical cost at 1 Jan 08	Accu- mulated deprecia- tion 1 Jan 08	Addition 2008	Write- down 2008	Disposal* 2008	Transfers 2008	Deprecia- tion 2008	Book value at 31 Dec 08
Fields under development	1 883	0	3 580	0	0	31	0	5 495
Fields in operation	300 259	(179 075)	23 128	0	[6]	0	(16 341)	127 966
Pipelines and terminals	54 566	(21 939)	2 501	0	[2]	0	(1 533)	33 593
Capitalised exploration expenses	1 346	0	1 353	(1 056)	0	(31)	0	1 612
Other fixed assets	167	(162)	0	0	0	0	0	4
Total tangible fixed assets	358 222	(201 176)	30 562	(1 056)	(8)	0	(17 874)	168 670
Intangible assets	1 183	(52)	147	166	0	0	[41]	1 404
Total fixed assets (NGAAP)	359 405	(201 227)	30 709	(890)	(8)	0	(17 915)	170 075
Translation to cash basis	(34 790)	15 286	(10 711)	840	8	0	2 174	(27 194)
Total fixed assets on cash basis	324 615	(185 941)	19 998	(50)	0	0	(15 741)	142 881

\* When net addition investments and change in removal liability are negative, they are shown as a disposal.

Fixed assets for the Snøhvit field include a capitalised long-term financial charter for three ships used for LNG transport from the field. These vessels will be depreciated over 20 years, which is the duration of the charter. Intangible assets of NOK 1 404 million relate mainly to:

- Capacity rights for regasification of LNG at the Cove Point terminal in the USA, with an associated agreement on the sale of LNG from Snøhvit to StatoilHydro Natural Gas LLC (SNG) in the USA. These rights are associated with LNG from Snøhvit. Straight-line depreciation over the 20-year duration of the agreement on these rights began in October 2006 at the same time as the obligation to deliver LNG to SNG.
- Investment in rights related to the storage of gas in the UK. The development of gas storage at Aldbrough will provide a combined capacity for the SDFI and StatoilHydro of 140 million scm, of which the SDFI share is 48.3 per cent following the merger between Statoil and Hydro's oil and gas business (originally 57.7 per cent). Plans call for the facility to come into commercial operation during the first quarter of 2009, more than a year later than earlier planned. The amount invested will be depreciated on a straight-line basis over the estimated 20-year economic life.

Other fixed assets relate to machinery and technical equipment in Statpipe and Åsgard Transport. These are being depreciated over five years. The SDFI also owns shares in Norsea Gas AS with a book value of NOK 3.98 million, and a shareholding in Norpipe Oil AS transferred free of charge from Statoil with effect from 15 October 2005.

### NOTE 3 SPECIFICATION OF OPERATING REVENUE

-		_	
All figures in NOK million	2008	2007	2006
Troll	64 574	54 154	58 002
Tampen/Oseberg	60 892	53 238	55 680
Norwegian and Barents Seas	66 047	47 943	47 182
Gassled and other infrastructure	11 310	10 740	11 173
Net profit agreements	2 222	1 718	1 359
Other revenue	13 774	4 377	5 922
Elimination internal tariff income	(4 235)	[4 447]	[4 339]
Total operating revenue	214 585	167 724	174 979

### NOTE 4 SPECIFICATION OF OPERATING REVENUE BY PRODUCT

All figures in NOK million	2008	2007	2006
Crude oil and NGL*	112 753	98 486	104 945
Gas	89 999	57 827	59 375
Transport and processing revenue	8 962	8 890	9 684
Other revenue	648	803	(384)
Net profit agreements	2 222	1 718	1 359
Total operating revenue	214 585	167 724	174 979

\* Includes condensate.

In accordance with the marketing and sales instruction, all crude oil and NGL are sold to StatoilHydro. Gas is sold mainly to customers in Europe. A small quantity is sold to the USA.

### NOTE 5 SPECIFICATION OF OTHER OPERATING EXPENSES

All figures in NOK million	2008	2007	2006
Troll	7 933	8 486	8 001
Tampen/Oseberg	9 396	9 318	9 295
Norwegian and Barents Seas	9 987	8 106	6 005
Gassled and other infrastructure	1 664	3 527	1 603
Other operating expenses	12 547	9 674	7 743
Elimination internal purchases	(4 235)	(4 447)	(4 339)
Total other operating expenses	37 292	34 664	28 308

Other operating expenses primarily comprise the cost of purchasing gas for onward sale.

### NOTE 6 INTEREST

Interest on the government's fixed capital is recorded in the accounts compiled on a cash basis. The amount of interest is calculated as specified in Proposition no 1 Appendix no 7 (1993-94) to the Storting (the Finance Bill) and in item 5.6 in the 2008 Letter of Award to Petoro AS from the Ministry of Petroleum and Energy.

Interest on the government's fixed capital is charged to operations in order to take account of capital costs and to provide a more accurate picture of resource use. This is a calculated cost without a cash flow effect.

The accounts compiled on a cash basis include an open account with the government for the difference between recording by chapter/ item in the appropriation accounts and liquidity movements.

Interest on the open account with the government is calculated as specified in item 5.7 in the 2008 Letter of Award to Petoro AS from the Ministry of Petroleum and Energy. The interest rate applied is the rate earned by the government's current account with the Bank of Norway, and interest is calculated on the average monthly balance in the open account with the government.

#### NET FINANCIAL ITEMS NOTE 7 All figures in NOK million 2008 2007 2006 28 28 24 Interest 71 Other financial revenue 64 66 Currency gain 9 578 4 222 4 2 4 4 [6 298] (5 0 5 2 ) [4 867] Currency loss Interest costs (240) (23) (174) (1 250) Interest on removal liability (1094)(663) Net financial items 2 0 6 3 (1 852) (1 365)

### NOTE 8 GOVERNMENT PETROLEUM INSURANCE FUND

The SDFI has received transfers from the Government Petroleum Insurance Fund which relate to the settlement of insurance claims. These amounts are added to investment, operating revenue and operating expenses, depending on the type of claim and the accounting treatment in the operator's accounts.

### NOTE 9 CLOSE ASSOCIATES

The government (represented by the Ministry of Petroleum and Energy) owned 66.42 per cent of StatoilHydro and 100 per cent of Gassco at 31 December. These companies are classified as close associates of the SDFI.

StatoilHydro is the buyer of the government's oil, condensate and NGL. Sales of oil, condensate and NGL to StatoilHydro totalled NOK 112.8 billion (corresponding to 222 million boe) for 2008 and NOK 98.5 billion (241 million boe) for 2007.

StatoilHydro markets and sells the government's natural gas at the government's expense and risk, but in StatoilHydro's name and together with its own production. The government receives the market value for these sales. The government sold dry gas directly to StatoilHydro to a value of NOK 373 million in 2008 and NOK 287 million in 2007. StatoilHydro is reimbursed by the government for its relative share of costs associated with the transport, storage and processing of dry gas, the purchase of dry gas for onward sale and administrative expenses relating to gas sales. These reimbursements amounted to NOK 17 billion in 2008 and NOK 15.5 billion in 2007. In addition came costs associated with the activity in the USA. Open accounts with StatoilHydro totalled NOK 8.5 billion in favour of the SDFI, converted at the exchange rate prevailing at 31 December.

Open accounts and transactions relating to activities in the production licences are not included in the above-mentioned amounts. Hence, no information has been included with regard to open accounts and transactions relating to licence activities with StatoilHydro and Gassco.

### NOTE 10 TRADE DEBTORS

A small provision has been made for bad debts following an assessment of possible losses on debtors from trading in the UK. No losses were confirmed during the year.

Trade debtors and other debtors are otherwise recorded at face value.

### NOTE 11 ABANDONMENT/REMOVAL

The liability comprises future abandonment and removal of oil and gas installations. Norwegian government legal requirements and the Oslo-Paris (Ospar) convention for the protection of the marine environment of the north-east Atlantic provide the basis for determining the extent of the removal liability.

The liability is calculated on the basis of estimates from the respective operators. Great uncertainty relates to a number of factors underlying the removal estimate, including assumptions for removal and estimating methods, technology and the removal date. The last of these is expected largely to fall one-two years after the cessation of production. See note 21.

Interest expense on the liability is classified as a financial expense in the income statement. The discount rate is based on the interest rate for Norwegian government bonds with the same maturity as the removal liability. An extrapolated interest rate derived from foreign rates is applied for liabilities which extend beyond the longest maturity for such bonds.

The estimate for removal costs has been increased by NOK 4.6 billion as a result of upward adjustments in estimates from operators. This adjustment primarily reflects the change to a common estimating methodology on fields operated by StatoilHydro. Estimates for removal expenses include operating costs for rigs and other vessels required for such complex operations.

All figures NOK million	2008	2007	2006
Liability at 1 Jan	27 465	29 202	18 538
New liabilities	0	883	17
Actual removal	(492)	(81)	(131)
Changes to estimates	4 594	(2 653)	13 081
Changes to discount rates	3 737	(981)	(2 966)
Interest expense	1 250	1 094	663
Liability at 31 Dec	36 554	27 465	29 202

### NOTE 12 OTHER LONG-TERM LIABILITIES

Other long-term liabilities comprise:

- debt related to financial leasing of three LNG carriers delivered in 2006
- debt relating to the final settlement of commercial arrangements concerning the move to company-based gas sales.

Three financial leasing contracts were entered into in 2006 on the delivery of three ships for transporting LNG from Snøhvit. These contracts run for 20 years, with two options for five-year extensions. The future minimum payment for financial leasing totals NOK 1 089 million. Of this, NOK 159 million falls due for payment in 2009, NOK 634 million in the subsequent four years, and the residual NOK 455 million after 2013.

Other long-term liabilities falling due longer than five years total NOK 417 million.

### NOTE 13 OTHER CURRENT LIABILITIES

Other current liabilities falling due in 2008 comprise:

- provisions for unpaid costs accrued by licence operators in the accounts at November
- provisions for accrued unpaid costs at December, adjusted for cash calls in December
- other provisions for accrued unpaid costs not included in the accounts received from operators
- current share of long-term liabilities.

### NOTE 14 FINANCIAL INSTRUMENTS AND RISK MANAGEMENT

The SDFI makes very limited use of financial instruments (derivatives) to manage risk. This is primarily because the SDFI is owned by the state and is accordingly included in the government's overall risk management. The SDFI does not have significant interest-bearing debt, and all crude oil and NGL are sold to StatoilHydro. Instruments used to hedge gas sales relate to forwards and futures. Eliminations are made where legal rights are available to counterclaim unrealised loss and gain, or where paid and capitalised deposits/margins exist which reflect the market value of the derivatives. At 31 December 2008, the market value of the financial instruments was NOK 2 698 million in assets and NOK 2 155 million in liabilities. The comparable figures at the end of 2007 were NOK 607 million and NOK 2 194 million respectively. The figures include the market value of unlisted instruments. When calculating unrealised loss/gain for 2008, a portfolio assessment was made for the trading business in the UK and for the business related to Norsk Hydro Energie. Since the unrealised gain in the latter was substantially higher than the unrealised loss, the loss has been recorded as zero. A net unrealised loss was incurred for the trading business in the UK, and the whole of the unrealised loss has been included in the 2008 accounts.

### Price risk

The SDFI is exposed to fluctuations in oil and gas prices in the world market. StatoilHydro purchases all oil and NGL from the SDFI at market-based prices. SDFI revenue from gas sales to end users reflects market value. Based on the arrangement relating to the marketing and sales instruction together with the SDFI's participation in the government's overall risk management, the SDFI's strategy is to make limited use of financial instruments (derivatives) to counteract fluctuations in profit and loss owing to variations in commodity prices.

### **Currency risk**

The most significant part of the SDFI's revenue from the sale of oil and gas is billed in USD, EUR or GBP. Part of its operating expenses and investments is also billed in equivalent currencies. When converting to NOK, currency fluctuations will affect the SDFI's income statement and balance sheet. The SDFI does not make use of currency hedging in relation to future sales of the SDFI's petroleum, and its exposure in the balance sheet at 31 December 2008 was largely related to one month's outstanding revenue.

### Interest risk

The SDFI is primarily exposed to credit risk through financial leases. It has no other interest-bearing debt exposed to interest rate fluctuations.

### **Credit risk**

The SDFI's sales are made to a limited number of parties, with all oil and NGL sold to StatoilHydro. In accordance with the marketing and sales instruction, financial instruments for the SDFI's operations are purchased from other parties with sound credit ratings. Financial instruments are only established with large banks or financial institutions at levels of exposure approved in advance. The SDFI's credit-related risk during consecutive transactions is accordingly regarded as insignificant.

### Liquidity risk

The SDFI generates a significant positive cash flow from its operations. Internal guidelines on managing the flow of liquidity have been established.

### NOTE 15 LEASES/CONTRACTUAL LIABILITIES

All figures in NOK million	Leases	Transport capacity and other liabilities
2009	3 682	1 461
2010	2 774	1 572
2011	2 211	1 562
2012	2 193	1 524
2013	1 845	1 385
Beyond	6 387	17 684

Leases represent operation-related contractual liabilities for the chartering/leasing of rigs, supply ships, production ships, helicopters, standby vessels, bases and so forth as specified by the individual operator. The figures represent cancellation costs.

Transport capacity and other liabilities relate to the sale of gas, and consist mainly of transport and storage liabilities in the UK and continental Europe as well as terminal capacity liabilities relating to the Cove Point terminal in the USA. The SDFI's share of installations and pipelines on the NCS is generally higher than or equal to the transport share. Hence, no liabilities are calculated for these systems.

In connection with the award of licences to explore for and produce petroleum, licensees may be required to undertake to drill a certain number of wells. Petoro was committed at 31 December to participate in 17 wells with an expected cost to the SDFI of NOK 835 million. Of this, NOK 348 million is expected to fall due in 2009.

The company has also accepted contractual liabilities relating to the development of new fields, represented by field development costs. These obligations total NOK 5 billion for 2009 and NOK 3.6 billion for subsequent periods, a total of NOK 8.6 billion. The SDFI is also committed through approved licence budgets to operating and investment expenses for 2009 which will be at the same level as the 2008 figure. The above-mentioned liabilities for 2009 are included in this total.

In connection with the sale of the SDFI's oil and gas, StatoilHydro has issued a limited number of warranties to vendors and owners of transport infrastructure relating to operations in the USA, the UK and continental Europe. Warranties issued in connection with trading operations are provided as security for the financial settlement.

The SDFI and StatoilHydro deliver gas to customers under common gas sale agreements. SDFI gas reserves will be utilised in accordance with the SDFI's share of production from the fields selected to deliver the gas at any given time.

### NOTE 16 OTHER LIABILITIES

The SDFI could be affected by possible legal actions and disputes as a participant in production licences, fields, pipelines and land-based plants, and in the joint sale of the SDFI's gas together with StatoilHydro. The SDFI is involved in current disputes relating to issues in joint ventures in which Petoro is a licensee. Provisions have been made in the accounts for issues where a negative outcome for the SDFI portfolio is thought to be more likely than not.

### NOTE 17 SIGNIFICANT ESTIMATES

The SDFI accounts are presented in accordance with the Norwegian Accounting Act and Norwegian generally accepted accounting principles (NGAAP), which means that the management makes assessments and exercises judgement in a number of areas. Changes in the underlying assumptions could have a substantial effect on the accounts. Where the SDFI portfolio is concerned, it is presumed that assessments of reserves, removal of installations, exploration expenses and financial instruments could have the largest significance.

Recoverable reserves include volumes of crude oil, NGL (including condensate) and dry gas as reported in resource classes 1-3 in the NPD's classification system. Only reserves for which the licensees' plan for development and operation (PDO) has been sanctioned in the management committee and submitted to the authorities are included in the portfolio's expected reserves. A share of the field's remaining reserves in production (resource class 1) provides the basis for depreciation. A share of oil and gas respectively is calculated annually for the portfolio to represent the relationship between low and basis reserves. This common share is used to calculate the depreciation basis for each field. The downwardly adjusted basis reserves which form the basis for depreciation expenses have great significance for the result, and adjustments to the reserve base can cause major changes to the SDFI's profit.

Reference is otherwise made to the description of the company's accounting principles and to notes 11 and 14, which describe the company's treatment of exploration expenses, uncertainties related to removal and financial instruments.

### NOTE 18 EQUITY

All figures in NOK million	2008	2007	2006
Accumulated earnings at 1 Jan	1 015 354	902 713	774 246
Net income for the year	159 906	112 641	128 467
Cash transfers to the Bank of Norway	(1 013 802)	(858 382)	(746 100)
Capital contribution	9 082	9 082	9 082
Accumulated transfer of interests in 2001-02	(29 922)	(29 922)	[29 922]
Implementation effect, new removal model 2004	1 044	1 044	1 044
Translation differences	118	(179)	(69)
Total equity	141 781	136 998	136 748

Accumulated earnings at 1 January represent accumulated operating income since the SDFI was established on 1 January 1985.

Cash transfers to the Bank of Norway are the net amount which the government has received from the SDFI less a capital contribution of NOK 9.1 billion. This capital contribution is the sum paid to Statoil at 1 January 1985 for the assets acquired by the SDFI from Statoil.

Accumulated transfer of interests relates to the sale of 15 per cent of the SDFI's value in 2001 and 6.5 per cent in 2002.

The transfer of assets from the SDFI to Statoil in 2001 has been recorded using the pooling of interests method, since it occurred between units under common control. This method implies that assets in the SDFI accounts for 2001 were reduced by the book value of the transferred assets, with equity as the contra entry.

Asset transfers in 2002 occurred between independent parties. These transfers are recorded using the transaction principle, with the associated calculation of accounting gain and loss.

Under intangible fixed assets in the balance sheet, the SDFI has recorded sales and processing rights for LNG at the Cove Point terminal in the USA. The SDFI's share of these rights is denominated in foreign currency, but has been converted to and recorded in the accounts in NOK. The share has been converted at the exchange rate prevailing on 31 December, and possible changes to the NOK figure owing to changes in exchange rates are recorded as a translation difference in the accounts.

### NOTE 19 AUDITORS

The SDFI is subject to the appropriations regulation and to the regulations and provisions concerning government financial management. In accordance with the Act on the Auditing of Governmental Accounts of 7 May 2004, the Office of the Auditor General is the external auditor for the SDFI. The Auditor General issues a final audit letter (report) concerning the SDFI accounts and budget, which is first published after the government accounts have been submitted and when the Auditor General's annual report, Document no 1, is submitted to the Storting (parliament).

In addition, Deloitte AS has been engaged by the board of directors of Petoro AS to perform a financial audit of the SDFI as part of the internal audit function. Deloitte submits its audit report to the board in accordance with Norwegian auditing standards.

Deloitte's fee is expensed in the Petoro accounts.

### NOTE 20 EXPECTED REMAINING OIL AND GAS RESERVES

	20	08	2(	007	20	06
Oil* in mill bbl Gas in bn scm	Oil	Gas	Oil	Gas	Oil	Gas
Expected reserves at 1 Jan	1 886	930	2 047	958	2 311	971
Corrections for earlier years**			[1]	[1]		
Change in estimates	(26)	(0.4)	(26)	0	(101)	(1)
Extensions and discoveries	1	0.3	4	0	63	16
Improved recovery	64	(0.4)	104	3	39	1
Purchase of reserves					0	0
Sale of reserves					0	0
Production	(222)	(31)	(241)	(31)	(264)	(28)
Expected reserves at 31 Dec	1 703	898	1 886	930	2 048	959

\* Oil includes NGL and condensate.

\*\* Vega's reserves in 2006 were inaccurately reported, and were corrected in 2007.

The SDFI added 64 million boe in new reserves during 2008. At the same time, reserves in certain fields were downgraded. The net addition of reserves was 36 million boe.

At 31 December, the portfolio's expected remaining oil, condensate, NGL and gas reserves totalled 7 352 million boe. This represented a reduction of 386 million boe from the end of 2007. Petoro reports the portfolio's expected reserves in accordance with the NPD's classification system and on the basis of resource classes 1-3.

The gross increase in new expected reserves for the portfolio during 2008 was 64 million boe. The most important contributions to the growth in recoverable reserves were improved recovery on Troll, Draugen, Gullfaks South, Oseberg, Grane and Norne.

However, a number of changes were made to reserve estimates, including downgrading of reserves in producing fields. These reductions corresponded to 28 million boe. The net reserve replacement rate for 2008 was thereby nine per cent, compared with 23 per cent the year before. The average reserve replacement rate for the portfolio over the past three years was 18 per cent. The corresponding figure for the 2005-07 period was 28 per cent.

## NOTE 21 SDFI OVERVIEW OF INTERESTS

	At 31 Dec 08	At 31 Dec 07
Production licence	Interest (%)	Interest (%)
018	5.0000	5.0000
018 B	5.0000	5.0000
018 C	5.0000	5.0000
028 C	30.0000	30.0000
034	40.0000	40.0000
 036 BS	20.0000	20.0000
037	30.0000	30.0000
037 B	30.0000	30.0000
037 E	30.0000	30.0000
038	30,0000	30.0000
 038 C	30,0000	30.0000
040	30,0000	30,0000
043	30,0000	30,0000
043 BS	30,0000	30,0000
050		30,0000
050 B		30,0000
050 C	30,0000	30.0000
050 D	30,0000	30.0000
050 D		30.0000
051	31 4000	31 4000
052	37.0000	37.0000
052 B	37.0000	37.0000
052 C	37.0000	-
053	33.6000	33.6000
053 B	25.4000	25.4000
054	40.8000	40.8000
055	13.4000	13.4000
055 B	13.4000	13.4000
055 C	33.6000	33.6000
057	30.0000	30.0000
062	19.9500	19.9500
064	30.0000	30.0000
074	19.9500	19.9500
074 B	19.9500	
077	30.0000	30.0000
078	30.0000	30.0000
079	33.6000	33.6000
085	62.9187	62.9187
085 B	62.9187	62.9187
	56.0000	56.0000
000 D		20,000
002	47,9900	
	47.8800	47.000
074	14.9500	14.9500

	At 31 Dec 08	At 31 Dec 07	
Production licence	Interest (%)	Interest (%)	
094 B*	35.6900	35.6900	
095	59.0000	59.0000	
097	30.0000	30.0000	
099	30.0000	30.0000	
100	30.0000	30.0000	
102	30.0000	30.0000	
103 B	30.0000	30.0000	
104	33.6000	33.6000	
107	7.5000	7.5000	
110	30.0000	30.0000	
110 B	30.0000	30.0000	
110 C	30.0000	30.0000	
120	16.9355	16.9355	
120 B	16.9355	16.9355	
124	27.0900	27.0900	
128	24.5455	24.5455	
128 B	54.0000	54.0000	
132	7.5000	7.5000	
134	13.5500	13.5500	
152	30.0000	30.0000	
153	30.0000	30.0000	
 153 B	30.0000		
169	30.0000	30.0000	
 169 B1	37.5000	37.5000	
 169 B2	30.0000	30.0000	
 171 B	33.6000	33.6000	
176	47.8800	47.8800	
185	13.4000	13.4000	
190	40.0000	40.0000	
193	30.0000	30.0000	
	35.0000	35.0000	
 195 B	35.0000	35.0000	
199	27.0000	27.0000	
208	30.0000	30.0000	
209	35.0000	35.0000	
237*	35.6900	35.6900	
248	40.0000	40.0000	
	40.0000	40.0000	
250	45.0000	45.0000	
253		20.0000	
255	30.0000	30.0000	
256	20.0000	20.0000	
264	30.0000	30.0000	
	19.9500	-	
265	30.0000	30.0000	
275	5.0000	5.0000	
277	30.0000	30.0000	
 277 B	30 0000	30 0000	
	00.0000	00.0000	

\* Production licences 094 B and 237 were inaccurately reported as 35 500 in 2007.

	At 31 Dec 08	At 31 Dec 07
Production licence	Interest (%)	Interest (%)
281	20.0000	20.0000
283	20.0000	20.0000
309	33.6000	33.6000
315	30.0000	30.0000
318	20.0000	20.0000
318 B	20.0000	20.0000
327	20.0000	20.0000
327 B	20.0000	20.0000
328	20.0000	20.0000
329	20.0000	20.0000
331	20.0000	20.0000
345	30.0000	30.0000
347	-	7.5000
348	7.5000	7.5000
374 S	20.0000	20.0000
384	-	20.0000
393	20.0000	20.0000
394	15.0000	15.0000
395	20.0000	20.0000
396	20.0000	20.0000
400	20.0000	20.0000
402	20.0000	20.0000
423 S	20.0000	20.0000
438	20.0000	20.0000
439	20.0000	20.0000
448	30.0000	30.0000
448 B	30.0000	-
461	20.0000	-
473	19 9500	
/79	1/, 9500	-
(82	20,0000	
	20.0000	-
407.5		-
400	30.0000	-
487	20.0000	-

### Net profit licences\*\*

···· • • • • • • • • • • • • • • • • •	
027	
028	
029	
033	

\*\* Production licences where the SDFI is not a licensee, but has a right to a share of possible profit.

	At 31 Dec 08	At 31 Dec 07	Remaining	
Unitised fields	Interest (%)	Interest (%)	production period	Licence term
Brage Unit	14.2567	14.2567	2027	2015
Gimle Unit	24.1863	24.1863	2020	2023
Grane Unit	30.0000	30.0000	2030	2030
Halten Bank West Unit (Kristin)	19.5770	19.5770	2029	2027
Heidrun Unit	58.1644	58.1644	2036	2024
Hild Unit	30.0000	30.0000	2033	2012
Huldra Unit	31.9553	31.9553	2012	2015
Jotun Unit	3.0000	3.0000	2015	2015
Njord Unit	7.5000	7.5000	2021	2021
Norne Unit	54.0000	54.0000	2021	2026
Ormen Lange Unit	36.4750	36.4750	2033	2040
Oseberg Area Unit	33.6000	33.6000	2033	2031
Ringhorne East Unit	7.8000	7.8000	2023	2030
Snorre Unit	30.0000	30.0000	2042	2015
Snøhvit Unit	30.0000	30.0000	2037	2035
Statfjord East Unit	30.0000	30.0000	2020	2024
Sygna Unit	30.0000	30.0000	2020	2024
Tor Unit	3.6874	3.6874	2030	2028
Troll Unit	56.0000	56.0000	2056	2030
Visund Unit	30.0000	30.0000	2039	2023
Åsgard Unit	35.6900	35.6900	2029	2027
Fields				
Draugen	47.8800	47.8800	2026	2024
Ekofisk	5.0000	5.0000	2030	2028
Eldfisk	5.0000	5.0000	2028	2028
Embla	5.0000	5.0000	2028	2028
Gjøa	30.0000	30.0000	2024	2028
Gullfaks	30.0000	30.0000	2029	2016
Gullfaks South	30.0000	30.0000	2027	2016
Heimdal	20.0000	20.0000	2012	2021
Kvitebjørn	30.0000	30.0000	2036	2031
Rev	30.0000	30.0000	2015	2021
Skirne	30.0000	30.0000	2012	2025
Statfjord North	30.0000	30.0000	2020	2026
Tordis	30.0000	30.0000	2021	2024
Tune	40.0000	40.0000	2014	2032
Urd	24.5455	24.5455	2021	2026
Varg	30.0000	30.0000	2020	2021
Vega	40.0000	40.0000	2022	2035
Veslefrikk	37.0000	37.0000	2022	2015
	00.0000		2022	2027

Albuskjell		
Cod		
Edda		
Frøy Unit		
West Ekofisk		
East Frigg		

### PIPELINES AND LAND-BASED PLANTS

	At 31 Dec 08	At 31 Dec 07	
Oil pipelines	Interest (%)	Interest (%)	Licence term
Frostpipe	30.0000	30.0000	
Oseberg Transport System (OTS)	48.3838	48.3838	2028
Troll Oil Pipeline I and II	55.7681	55.7681	-
Grane Oil Pipeline	43.6000	43.6000	-
Kvitebjørn Oil Pipeline	30.0000	30.0000	-
Norpipe Oil AS (holding)	5.0000	5.0000	-
Oil – land-based plants			
Mongstad Terminal DA	35.0000	35.0000	-
Gas pipelines			
Gassled***	37.8920	38.2450	2028
Haltenpipe	57.8125	57.8125	2020
Gas – land-based plants			
Dunkerque Terminal DA	24.6298	24.6298	-
Zeepipe Terminal JV	18.5671	18.5671	-
Etanor DA	62.7000	62.7000	-
Vestprosess DA	41.0000	41.0000	-
Kollsnes (gas processing plant) (operation)	37.8920	37.8920	2028
Snøhvit gas liquefaction plant	30.0000	30.0000	-
Norsea Gas AS (holding)	40.0060	40.0060	-

The SDFI also has intangible fixed assets relating to sales and processing rights for LNG in the USA and gas storage in the UK.

\*\*\* The interest in Gassled including Norsea Gas is 39.01%.



Executive officer Dag Tvedt, +47 21 54 08 77 Our date Our reference 03.03.2009 2.3 200900338/ TAH/DDT Filing code 680 Your date Your reference

The State's Direct Financial Interest c/o Petoro AS P.O. Box 300 Sentrum 4002 Stavanger Norway

Audit of the 2008 accounts of the State's Direct Financial Interest

Pursuant to Act no 21 of the 7th of May 2004 relating to the Office of the Auditor General (Auditor General Act), the Office of the Auditor General of Norway is the auditor for the State's Direct Financial Interest.

Following its annual audit, the Office of the Auditor General will issue a final audit letter (Report) which summarises the conclusions of its audit work. The audit letter will first be made public when the Office of the Auditor General has reported the results of the audit to the Storting (Parliament) in the beginning of October, pursuant to section 18 of the Auditor General Act.

The board of directors and possibly the annual general meeting of Petoro AS will be briefed on the results of the audit for the year.

Yours sincerely Hans Conrad Hansen

Director General

Tom Arild Hanekamhaug Deputy Director General

Postal address P.O. Box 8130 Dep N-0032 Oslo

Office address Telephone 0167 Oslo

E-mail/internet Fax

Pilestredet 42 +47 22 24 10 00 +47 22 24 10 01 riksrevisjonen@riksrevisjonen.no 7694 05 06774 www.riksrevisjonen.no

Bank acc. no. Org. no. 974760843

# PETORO AS INCOME STATEMENT

All figures in NOK 1 000	Notes	2008	2007	2006
OPERATING REVENUE				
Invoiced government contribution	1	193 600	177 600	180 000
Other revenue	1	3 806	987	27
Net deferred revenue recorded	2	(1 367)	181	5 292
Total operating revenue		196 039	178 769	185 319
OPERATING EXPENSES				
Payroll expenses	3, 9	92 712	82 171	74 621
Depreciation and write-down	4	3 812	3 632	7 464
Administrative fees	12, 15	2 435	2 817	2 301
Accounting fees	14	16 702	14 113	13 936
Office expenses	13	8 439	8 110	7 403
ICT expenses	14	18 064	12 629	12 500
Other operating expenses	11, 14, 15	53 639	62 066	51 715
Total operating expenses		195 802	185 537	169 940
Operating income/(loss)		237	(6 768)	15 379
FINANCIAL ITEMS				
Financial income		6 035	6 953	2 170
Financial expenses		(877)	(422)	(284)
Net financial result		5 158	6 531	1 886
NET INCOME/(LOSS)		5 395	(237)	17 265
TRANSFERS				
Transferred to/(from) other equity		5 395	(237)	17 265
Total transfers		5 395	(237)	17 265

# PETORO AS BALANCE SHEET

All figures in NOK 1 000	Notes	2008	2007	2006
ASSETS				
Operating equipment, fixtures, etc	4	8 989	7 622	7 803
Total tangible fixed assets		8 989	7 622	7 803
Trade debtors		1 068	1 507	34
Other debtors	5	10 183	4 102	267
Bank deposits	6	96 295	85 393	73 280
Total current assets		107 546	91 002	73 581
TOTAL ASSETS		116 535	98 624	81 385
EQUITY AND LIABILITIES				
Share capital (10 000 shares at NOK 1 000)	7	10 000	10 000	10 000
Other equity	8	28 076	22 681	22 918
Total equity		38 076	32 681	32 918
Pension liabilities	9	31 725	24 653	15 740
Deferred revenue government contribution	2	8 989	7 622	7 803
Total provisions		40 714	32 275	23 544
Trade creditors	15	11 492	13 223	10 426
Withheld taxes and social security		5 741	8 095	3 118
Other current liabilities	10	20 512	12 350	11 380
Total current liabilities		37 745	33 668	24 923
TOTAL EQUITY AND LIABILITIES		116 535	98 624	81 385

Stavanger, 20 February 2009

inn b

Gunnar Berge Chair

Mari Thjømøe Director

Hilde Myrberg

Deputy chair

Arild Stavnem

Director\*

WQ

Nils-Henrik M von der Fehr Director

Kristin Johnsen

Director\*

me  $\mathbf{7}$ 

Per Arvid Schøyen Director

ide Kjell Pedersen

President and CEO

# PETORO AS CASH FLOW STATEMENT

	All figures in NOK 1 000	2008	2007	2006
	LIQUID ASSETS PROVIDED BY/USED IN OPERATING ACTIVITIES			
	Provided by operations for the year*	9 207	3 394	24 729
+/-	Change in debtors	439	[1 473]	2 411
+/-	Change in trade creditors	(1 731)	2 797	(210)
+/-	Change in accrued items	8 165	10 845	(9 625)
	Net change in liquidity from operating activities	16 081	15 563	17 305
-	LIQUID ASSETS PROVIDED BY/USED IN INVESTING ACTIVITIES			
	Invested in tangible fixed assets	(5 179)	(3 450)	(1 915)
	Net change in liquidity from investing activities	(5 179)	(3 450)	(1 915)
	LIQUID ASSETS PROVIDED BY/USED IN FINANCING ACTIVITIES			
+	+ Proceeds from share issue	0	0	0
	Net change in liquidity from financing activities	0	0	0
	Net change in liquid assets	10 903	12 113	15 390
+	+ Cash and cash equivalents at 1 January	85 393	73 280	57 890
	Cash and cash equivalents at 31 December	96 296	85 393	73 280
*	This figure is obtained as follows:			
	Net (loss)/income	5 395	(237)	17 265
+	Ordinary depreciation and write-downs	3 812	3 632	7 464
	Provided by operations for the year	9 207	3 394	24 729

# PETORO AS NOTES

### ACCOUNTING PRINCIPLES

### Description of the company's business

Petoro AS was established by the Ministry of Petroleum and Energy on behalf of the Norwegian government on 9 May 2001. The company's object is to be responsible, on behalf of the government, for managing the commercial aspects of the State's Direct Financial Interest (SDFI) in petroleum activities on the Norwegian continental shelf, and activities related hereto.

The state is the majority shareholder in StatoilHydro ASA and the owner of the SDFI. On that basis, StatoilHydro handles marketing and sales of the government's petroleum. Petoro is responsible for monitoring that StatoilHydro discharges its responsibilities under the applicable marketing and sales instruction.

Petoro is also responsible for presenting separate annual accounts for the SDFI portfolio, and the cash flow for the SDFI is accordingly excluded from the limited company's annual accounts.

### Classification of assets and liabilities

Assets intended for ownership or use in the business for a longer period are classified as fixed assets. Other assets are classed as current assets. Debtors due within one year are classified as current assets. Similar criteria are applied for classification of current and long-term liabilities.

### Fixed assets

Fixed assets are carried at historical cost with a deduction for planned depreciation. Should the fair value of a fixed asset be lower than the book value, and this decline is not expected to be temporary, the asset will be written down to its fair value. Fixed assets with a limited economic lifetime are depreciated on a straight-line basis over their economic lifetime.

### Debtors

Trade debtors and other debtors are carried at face value.

### Bank deposits

Bank deposits include cash, bank deposits and other monetary instruments with a maturity of less than three months at the date of purchase.

### Pensions

The company's pension scheme for employees is a defined benefit plan. The capitalised obligation relating to the defined benefit plan is the present value of the defined obligation at 31 December less the fair value of the plan assets, adjusted for unrecorded change in estimates. The pension obligation is calculated annually by an independent actuary on the basis of a linear earnings method and expected final pay. The pension plan is valued at its expected fair value. The net book obligation includes payroll tax.

Net pension expense is included in payroll expenses and com-

prises pension rights earned over the period, interest charges on the estimated pension obligation, expected return on pension plan assets, the recorded effect of estimate changes and accrued pavroll tax.

Changes made to estimates as a result of new information or changes in actuarial assumptions in excess of the larger of 10 per cent of the value of the pension plan assets or 10 per cent of the pension obligations are recorded in the income statement over a period which corresponds to the employees' expected average remaining period of employment.

### **Current liabilities**

Current liabilities are assessed at their face value.

### Income taxes

The company is exempt from tax under section 2-30 of the Income Tax Act.

### **Operating revenue**

The company receives an operating grant from the government for services provided to the Ministry of Petroleum and Energy in accordance with the company's object. This operating grant is appropriated annually by the Storting (parliament). The operating contribution is presented in the accounts as operating revenue. The contribution applied to investment for the year is accrued as deferred revenue and specified as a liability in the balance sheet. The deferred contribution is recorded as income in line with the depreciation of the investments and specified as deferred revenue in the income statement.

### Cash flow statement

The cash flow statement is prepared in accordance with the indirect method. Cash and cash equivalents include cash, bank deposits and other short-term liquid instruments.

### NOTE 1

**GOVERNMENT CONTRIBUTION AND OTHER INCOME** 

The company received an operating contribution from the Norwegian government totalling NOK 193.6 million excluding VAT in 2008. The net profit after financial items was NOK 5.4 million, which it is proposed to transfer to other equity. Other revenue primarily relates to invoicing of services provided to operators of joint ventures and other joint venture partners.

#### DEFERRED REVENUE NOTE 2

The change in deferred revenue recorded in the income statement comprises deferred revenue related to NOK 5.2 million in investment made in 2008 as well as NOK 3.8 million in depreciation and write-down of investment in earlier years.

### NOTE 3 PAYROLL EXPENSES, NUMBER OF EMPLOYEES, BENEFITS, ETC

All figures in NOK 1 000	2008	2007	2006
Payroll expenses (All figures in NOK 1 000)			
Pay	63 803	56 691	49 979
Payroll taxes	8 555	7 767	7 198
Pensions (note 9)	17 478	15 482	15 094
Other benefits	2 876	2 231	2 351
Total	92 712	82 171	74 621
Employees at 31 Dec	61	56	53
Employees with a signed contract who had not started work at 31 Dec	2	5	5
Average number of work-years employed	58	54	53

Remuneration of senior executives (All figures in NOK 1 000)	Pay	Recorded pension	Other benefits
President and CEO	3 020	2 205	399
Management team (eight people)	10 456	3 517	1 441

The president's retirement age is 62. He can choose to retire on a full pension upon reaching the age of 60. Should he exercise this right, he must make himself available to the company for 25 per cent of full-time employment until the age of 62.

Two other members of the management team have the opportunity to retire on a full pension upon reaching the age of 62. Four more can opt to retire upon reaching the age of 65 on a reduced pension for the first two years. Recorded pension obligation represents the actuarially-estimated cost for the year of the pension obligation for the president and the rest of the management team.

### **Directors' fees**

Fees paid in 2008 totalled NOK 300 000 for the chair and NOK 1 355 000 for the other directors combined.

### 4 TANGIBLE FIXED ASSETS

All figures in NUK 1 UUU	Fixed fittings	Equipment, etc	ICT	Total
Purchase cost 1 Jan 08	3 563	6 553	17 635	27 750
Additions	435	1 944	2 800	5 179
Disposals			(189)	(189)
Purchase cost 31 Dec 08	3 998	8 496	20 246	32 740
Accumulated depreciation 1 Jan 08	1 299	4 960	13 869	20 128
Reversal of accumulated depreciation			(189)	(189)
Depreciation and write-downs for the year	341	1 103	2 369	3 812
Accumulated depreciation 31 Dec 08	1 640	6 063	16 049	23 751
Book value at 31 Dec 08	2 358	2 433	4 197	8 989
Economic life	Until lease	3-5 voars	3 10255	

Economic life	expires in 2014	3-5 years	3 years	
Depreciation plan	Linear	Linear	Linear	
Operational lease charges	0	184	0	

Operational leasing contracts include the hire of cars as well as office equipment and machines. The initial hire period is three-five years.

### NOTE 5 OTHER DEBTORS

Other debtors consist in their entirety of pre-paid costs relating primarily to rent, insurance, licences and subscriptions for market information.

### NOTE 6 BANK DEPOSITS

Bank deposits total NOK 96.3 million, including NOK 43 million in withheld tax and pension plan assets.

### NOTE 7 SHARE CAPITAL AND SHAREHOLDER INFORMATION

The share capital of the company at 31 December 2008 comprised 10 000 shares with a nominal value of NOK 1 000 each. All the shares are owned by the Ministry of Petroleum and Energy on behalf of the Norwegian government, and all have the same rights.

NOTE 8 EQUITY			
Figures in NOK 1 000	Share capital	Other equity	Total
Equity at 1 Jan 08	10 000	22 681	32 681
Change in equity for the year			
Net income	0	5 395	5 395
Equity at 31 Dec 08	10 000	28 076	38 076

### NOTE 9 PENSION COSTS, ASSETS AND LIABILITIES

The company is legally obliged to have an occupational pension plan pursuant to the Act on Mandatory Occupational Pensions. The company's pension plan complies with the requirements of this Act.

The company has pension plans covering all its employees, which give the right to defined future benefits. These depend primarily on the number of years of pensionable earnings, the level of pay at retirement and the size of national insurance benefits.

Net pension cost			
Figures in NOK 1 000	2008	2007	2006
Present value of benefits earned during the year	14 427	13 427	12 944
Interest expense on pension obligation	4 349	4 728	3 880
Return on pension plan assets	(3 474)	(4 671)	(3 821)
Recorded change in estimates	142	85	84
Payroll tax	2 034	1 913	2 007
Net pension cost	17 478	15 482	15 094
Capitalised pension obligation	2008	2007	2006
Estimated pension obligation at 31 Dec	122 500	83 818	94 420
Pension plan assets (market value)	(56 652)	(53 510)	(74 977)
Net pension obligations before payroll tax	65 849	30 308	19 443
Unrecorded change in estimates	(38 044)	(9 928)	(5 790)
Payroll tax	3 920	4 273	2 087
Capitalised pension obligation	31 725	24 653	15 740

The following financial assumptions have been applied in calculating net pension cost and obligation:

All figures in per cent	2008	2007	2006
Discount rate		5.0	5.0
Expected return on plan assets	6.3	6.0	6.0
Expected increase in pay/NI base rate	4.5	4.0	4.0
Expected increase in pensions	2.0	1.6	1.6

The actuarial assumptions are based on common assumptions made in the insurance business for demographic factors.

### NOTE 10 OTHER CURRENT LIABILITIES

Other current liabilities relate almost entirely to provision for costs incurred but not invoiced as well as for outstanding pay and holiday pay.

### NOTE 11 AUDITOR'S FEES

Erga Revisjon AS is the elected auditor of Petoro AS. Fees charged by Erga Revisjon to Petoro for external auditing in 2008 totalled NOK 0.2 million.

In accordance with the Act on Government Auditing of 7 May 2004, the Auditor General is the external auditor for the SDFI. Deloitte AS has also been engaged to conduct a financial audit of the SDFI as part of the company's internal audit function. Deloitte charged NOK 1.4 million for this service in 2008. Deloitte has also performed other services, including partner audits, totalling NOK 3.6 million.

### NOTE 12 BUSINESS MANAGEMENT AGREEMENTS

To ensure efficient resource utilisation with an organisation totalling 61 employees, Petoro sets priorities for its work commitments in and between the interests it manages in the various joint ventures. This prioritisation reflects the significance of each joint venture to the overall value of the portfolio and risk assessments related to the various phases in a joint venture (exploration, development and production). To permit such prioritisation, Petoro has concluded business management agreements with licence partners such as StatoilHydro ASA, A/S Norske Shell, Talisman Energy Norge AS, Total E&P Norge AS, Norwegian Energy Company ASA (Noreco) and BG Norge AS. These agreements delegate daily administrative supervision of selected production licences in the portfolio. Petoro nevertheless retains the formal responsibility, including responsibility for on-going financial management of the interest in the production licence.

NOTE 13 LEASES

The company entered into a lease with Smedvig Eiendom AS for office premises in the autumn of 2003. The remaining term of the lease is seven years, with options for a further two periods of five years each. Rent for the year was NOK 7.3 million, which includes all management and shared expenses.

### NOTE 14 SIGNIFICANT CONTRACTS

Petoro has concluded an agreement with Accenture in 2002 covering accounting-related voucher management, transaction processing and system applications for the SDFI. This agreement ran for five years, with an option for a further two years. Upax has been selected as the new supplier of these services with effect from 1 March 2009. The recorded accounting fee in 2008 was NOK 13.9 million. Other purchased services totalled NOK 3.1 million, of which NOK 0.1 million has been capitalised.

### NOTE 15 CLOSE ASSOCIATES

StatoilHydro ASA and Petoro AS have the same owner in the Ministry of Petroleum and Energy, and are accordingly close associates. Petoro purchased services in 2008 relating to business management agreements, cost sharing for the audit of licence accounts, insurance services for the Government Petroleum Insurance Fund and other minor services. NOK 4.6 million was recorded in 2008 for the purchase of services from StatoilHydro. These were purchased at market price on the basis of hours worked. At 31 December 2008, Petoro had a trade credit of NOK 0.3 million with StatoilHydro. NOK 5.1 million has been charged for services sold to StatoilHydro ASA at cost price on the basis of hours worked by Petoro personnel and contract staff. The open account at 31 December 2008 was NOK 0.9 million, which is recorded as a trade debt.

## ERGA REVISJON as



THE +42.51.51.03.70 Fast: +47.51.51.03.71 Jans Zethregt.47 Boschola 67.2 N-4000 Storanger Org. no. 950.024.679 - new Statisautorisert revisor mollan av Den marske Revisorførening

To the annual general meeting of Petoro AS

### Auditor's report for 2008

We have audited the annual financial statements of Petoro AS at 31 December 2008, showing a profit of NOK 5 395 000. We have also audited the information in the directors' report concerning the financial statements, the going concern assumption and the proposal for allocating the profit. The financial statements comprise the income statement, the balance sheet, the cash flow statement and the accompanying notes. The rules of the Norwegian Accounting Act and Norwegian generally accepted accounting principles have been applied to produce the financial statements. These financial statements are the responsibility of the company's board of directors and president. Our responsibility is to express an opinion on these financial statements and on the other information pursuant to the requirements of the Norwegian Act on Auditing and Auditors.

We have conducted our audit in accordance with the Norwegian Act on Auditing and Auditors and good auditing practice in Norway, including auditing standards adopted by the Norwegian Institute of Public Accountants. These auditing standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatements. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by the management, and evaluating the overall presentation of the financial statements. To the extent required by law and good accounting practice, an audit also comprises a review of the management of the company's financial affairs and its accounting and internal control systems. We believe our audit provides a reasonable basis for our opinion.

### In our opinion,

- the financial statements are prepared in accordance with the law and regulations, and give a true and fair view of the financial position of the company at 31 December 2008 and of the results of its operations and its cash flows for the year then ended in accordance with Norwegian generally accepted accounting principles
- the company's management has fulfilled its duty to produce a proper and clearly set out registration and documentation of accounting information in accordance with the law and good bookkeeping practice in Norway
- the information in the directors' report concerning the financial statements, the going concern assumption and the proposals for allocating the profit are consistent with the financial statements and comply with the law and regulations.

Stavanger, 20 February 2009 Erga Revisjon AS

Sven Erga State authorised public accountant (Norway)

Note: the translation from Norwegian has been prepared for information purposes only.

### **PETORO'S FINANCIAL CALENDAR 2009**

**12 May:** First quarter report

5 August: Second quarter report

5 November: Third quarter report

### ADDRESSES

Petoro AS

Øvre Strandgate 124 P O Box 300, Sentrum NO-4002 Stavanger Telephone: +47 51 50 20 00 E-mail: post@petoro.no Website: www.petoro.no Register of Business Enterprises: Org no NO 983 382 355

### EDITORIAL TEAM/PRODUCTION

Editorial team, Petoro: Sveinung Sletten (texts, responsible editor), Oddfrid Bråstein (accounts section) Text contributors: Petoro; Wenche Skorge (interviews) English translation: Rolf E Gooderham Counselling, design and graphics: Gazette AS Printer: RK Grafisk AS Photo: Cover: Alex Misiewicz/Getty Images; page 1: Daisy Gilardini/Getty Images; page 3: Tom Haga; page 6 (upper left and right): Tom Haga; pages

6-7: Sami Sarkis/Getty Images; page 7 (upper left): Harald Pettersen/StatoilHydro; page 7 (upper right): Øyvind Thorsdalen/StatoilHydro; page 8: Whit Preston/Getty Images; page 10: Tom Haga; page 12: Tom Haga; page 13 (upper left): Marit Hommedal/StatoilHydro; page 13 (upper right): StatoilHydro; page 13 (below): Eiliv Leren/StatoilHydro; page 14: Stephen Frink/Getty Images; page 16: Tom Haga; page 17 (upper): Rune Johansen/ StatoilHydro; page 17 (below): StatoilHydro; page 23: Hiroshi Watanabe/Getty Images; page 24: Tom Haga; page 26: Tom Haga; page 29: Sami Sarkis/ Getty Images; page 30: Tom Haga; page 31: Kjetil Alsvik; page 41: Tom Haga; page 43: Sean Davey/Getty Images; pages 48-49: Kjetil Alsvik; pages 50-51: Kjetil Alsvik.