

Royal Norwegian Ministry of Petroleum and Energy

Review of Petoro AS, 2002

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Disclaimer

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Petoro and its role

Petoro AS (Petoro) was established on 9th May 2001 in accordance with a resolution made by the Storting on 26th April 2001 on the restructuring of the State's ownership on the Norwegian Continental Shelf (NCS). The Storting decided that the commercial aspects of the State's Direct Financial Interest (SDFI) on the NCS which had previously been managed by Statoil, should, due to Statoil's impending partial privatisation, be managed by a wholly state-owned company.

The overall long term objective for Petoro in managing the SDFI is to create the highest possible economic value from the SDFI portfolio.

Petoro has been given the following mandate:

- 1 Managing the State's participation interest in joint ventures;
- 2 Monitoring Statoil's marketing of SDFI production in accordance with the instructions concerning the marketing and sale of oil and gas by Statoil laid down by the General Meeting of 25th May 2001;
- 3 Financial management, including the keeping of accounts related to the SDFI.

Petoro is regulated by chapter 11 of the Petroleum Act.

Petoro's role is that of manager of the SDFI assets. The Norwegian State is the owner of the SDFI portfolio with Petoro managing the assets on the State's behalf. Petoro acts as a licensee in respect of the SDFI portfolio and has the rights and duties accorded to other licensees under the relevant joint operating agreement and the Petroleum Act.

Revenues arising from the sale of petroleum go directly from Statoil, under its role as the vendor of the petroleum, to the State's account and not via Petoro. Operating expenditure, investments and other expenditure incurred or relating to the management of the SDFI are covered by appropriations from the State. The State also provides funds to Petoro for the management of the company.

Neither Petoro nor the SDFI are liable for Norwegian corporation or special taxes.

The Storting has placed a limit on the staff numbers at Petoro and also determined that Petoro will not take on the role of operator. Neither will it be merely a passive partner. However, it is intended by Petoro and supported by the Ministry of Petroleum and Energy that Petoro will be an active partner, contributing to increased value creation on the NCS.

Petoro is unique in that it has no peers. It is not an oil company and due to the role set for Petoro by the Storting, a limit of sixty is currently in place for the size of Petoro's staff.

Mandate for the project and the role of Wood Mackenzie

Wood Mackenzie Limited (Wood Mackenzie) has been appointed by the Ministry of Petroleum and Energy to undertake a review of the role Petoro has played during 2002 in meeting the mandate which it has been given. The principal aim is to measure and evaluate Petoro's effectiveness in achieving the goals set by the owner.

Wood Mackenzie has therefore focussed on the three elements of Petoro's mandate which are described in the previous section.

As part of this process Wood Mackenzie has undertaken a valuation of the SDFI portfolio to identify changes in value, the reasons for those changes and the extent to which Petoro has contributed to these changes.

Summary and conclusions

Wood Mackenzie has reviewed the success which Petoro had in 2002 in achieving the aims set by the owner. As we discuss elsewhere in this report, 2002 was a year in which Petoro was still recruiting staff, building the organisation and developing its systems and strategies. Therefore it is not necessarily representative of what Petoro can be expected to achieve in future years.

In determining how Petoro has succeeded in managing the State's interests in joint ventures, we have used three different sources of information. Firstly, we have run valuations using the start and end year datasets to determine the extent of value creation. We have supplemented this quantitative approach with interviews with the management and staff of Petoro and with the management of other companies active on the Norwegian Continental Shelf.

In our analysis the value of the SDFI portfolio has remained constant during the course of 2002, but would have increased by NOK 4 billion had price assumptions remained unchanged between the datasets. A number of different factors impact the value, including:

- changes to development plans;
- different perceptions of the portfolio at the start of the year when the SDFI was managed by Statoil and at the end of the year when it was managed by Petoro; and
- value creation or destruction in individual assets through changes in production, reserves or costs.

The different perceptions of assets by Petoro and Statoil, make comparison of certain assets difficult and therefore we have not focussed on exact numbers for individual assets in the text.

During 2002, Petoro developed a strategy which it will implement from 2003 onwards. Since Petoro was managing the assets of the SDFI from the start of the year it was still necessary for Petoro to have a plan in place prior to the development of a longer term strategy. Its approach in 2002 was to focus on larger assets and those assets in the planning stage, such as Troll, Gassled, Ormen Lange and Snøhvit. We believe this was an appropriate route to take during 2002.

Part of Petoro's role is not only to create value, but also to ensure that value is maintained. The maintenance of value is not something which can be readily identified in a purely quantitative value creation study. Thus interviews play an even more important role in such instances.

In our analysis we identified the following:

- Petoro is of the opinion that it has created value in certain assets.
- The other companies which we spoke to as part of this process, generally did not recognise that Petoro had been successful in creating value. We do not necessarily find this reaction surprising, as even where Petoro had played a role, other companies may be unwilling to recognise such external assistance.
- There was recognition that in certain areas and on certain specific assets, Petoro had played a noticeable role. These areas included HSE and the ability to ask searching questions of the operator. Even here however, the responses we received were not in full agreement with what Petoro had been able to add.
- In our value creation analysis, the value of the SDFI portfolio remained constant over the course of 2002. If we remove the impact of changes in oil and gas price assumptions, then the value increases by NOK 4 bn.

- It is very difficult to determine the extent to which Petoro succeeded in contributing to value creation or value protection across the portfolio. Petoro worked with other partners to assist in the changes giving rise to an increase in value on certain assets. The extent to which this would have occurred without Petoro is unclear. On Snøhvit and Ormen Lange, no value increases were noted, but we believe that Petoro did play a role in maintaining value and ensuring an effective outcome on Ormen Lange. On Gassled Petoro did play a role in defending value.

There are two questions which must be answered to determine the success of Petoro.

1. Was value created by the SDFI portfolio during the year?

The answer to this question, based upon the datasets with which we were provided is that value was held constant, but value creation of NOK 4 bn would have arisen had price assumptions been held constant.

2. Did Petoro contribute to this maintenance of value?

The answer to this question is much less clear.

We are of the opinion that an exact quantification is not possible, primarily due to differences in start and end year data assumptions, but also the extent to which subjective judgement is necessary to balance the views of Petoro with those of the third party group of companies.

Petoro has undertaken an internal exercise to provide a quantitative view of its role in creating value and protecting downsides on certain selected assets. It has calculated the value as being around NOK 3 bn to NOK 4 bn. These values have been generated on the basis of certain subjective assumptions and Petoro recognises this range is more of a general guide, than an exact measure of value creation.

In our view Petoro asked many appropriate questions on material assets, carried out the types of role which would be expected of it and used its resources in an efficient manner.

Petoro's other roles cover monitoring of Statoil's marketing of SDFI production and financial management. We are of the opinion that Petoro through the development of suitably robust systems has achieved its aims and met its targets in these areas.

We believe that whilst it was important to start the review of Petoro at this stage, a repeat of this review in subsequent years will provide a better understanding of what Petoro can achieve in a full year of operation with a fully developed strategy.

Approach

Wood Mackenzie has developed its approach in conjunction with the Ministry of Petroleum and Energy.

The main focus of the study is to determine whether Petoro has succeeded in creating value on the NCS through its activities. We have approached this using two main methods:

- a valuation exercise which tries to identify whether value has been created over the course of 2002 and
- interviews with the management and staff of Petoro and other selected companies.

Valuations

Petoro has provided Wood Mackenzie with datasets for SDFI assets at two points in time. The start year data are based on the Revised National Budget 2002 (generated in late 2001). This Revised National Budget data is based on data provided by field operators. Some adjustments were made to this dataset by Statoil (which was the manager of SDFI at that point in time). No adjustments have been made to this dataset during 2002.

The end year data are based on the Revised National Budget 2003 (generated in late 2002). Petoro has adjusted production and/or cost profiles on some projects. For this reason the two datasets are not exactly comparable.

Changes to the data may be based upon differences in the operators' expectations from one year to the next, changes to the field or on differences between the perceptions of Statoil and Petoro. We would therefore anticipate a greater level of consistency between the datasets in the future as they will be based on Petoro's perspective and its adjustments to the Revised National Budget data.

A more detailed breakdown of the differences between the modelling of the individual assets in the portfolio between the two datasets is given in an Appendix to this report.

The data has been run using the assumptions described in the methodology section.

Interviews

During the course of our work we have had received presentations and undertaken interviews with Petoro management and staff. During these presentations and interviews we were informed where Petoro focussed its efforts during 2002 and the company's perceptions on where it has made a difference and created value during the course of the year.

As part of the process we have also spoken to other organisations with an interest in the efficient functioning of the Norwegian Continental Shelf (NCS). This includes the Ministry of Petroleum and Energy (MPE), the Norwegian Petroleum Directorate and selected companies which operate or have interests on the NCS.

The companies we spoke to cover a range of participants in oil and gas production in Norway. They are companies which have some overlapping interests with Petoro and had some interactions with the company and its staff during the year. By speaking to such companies we were able to gain an understanding of whether Petoro's views on its contributions are in line with industry perceptions.

Status of Petoro in 2002

During the first half of 2002, Petoro was in the process of recruiting staff and was therefore in a build phase. As mentioned above, the dataset which we received from Petoro reflected the position during late 2002 and therefore covers only a short period when Petoro was fully operational. In the latter part of 2002 Petoro formalised and developed its strategy, providing it with a focussed approach on the opportunities it should be following.

As Petoro was only fully operational during the second half of the year and even during this period was developing its strategy, the difference which Petoro would be expected to make is likely to be less than what will be expected in future years.

Interviews

In this section we provide the feedback from the interview process. This includes feedback from companies on Petoro as well as specific experiences of working with Petoro and discussions on some selected projects.

The Petoro Perspective

We undertook interviews with Petoro staff and management to identify those assets where they believe that they have made a difference which led to the creation of value. Due to the breadth of the portfolio, we did not discuss all of the assets, rather we reviewed those assets where Petoro felt that it had made a material difference, which were typically the larger and more valuable assets in the portfolio.

Petoro stressed in the interviews that contributions to value creation in the SDFI portfolio are indications rather than well founded projections. They help Petoro to identify and focus on areas where their activities could lead to increased value in the portfolio. Petoro underlines that the projected results could only be achieved through efficient co-operation with other licence partners.

The Companies' Perspective

In interviews with companies, we sought feedback on a number of areas about Petoro. This covered certain broader issues such as the general view of what Petoro had done and should be doing. We then discussed specific assets to determine where companies believed Petoro had been active and made a difference and sought responses on the individual assets where Petoro believed it had played a role in creating value.

In this section we review the assets where Petoro believed it had made a difference in 2002, include feedback from the companies on those assets, as well other general comments from the companies.

The interviews with the companies were confidential and therefore we do not identify any of the feedback as being from a specific company.

Perceived Aims of Petoro

We received some feedback on companies' initial views about the philosophy behind the creation of Petoro. However, since Petoro exists as a functioning entity, we have not included such comments, as we believe them to be outwith the scope of this report. The generally held view is that Petoro should take account of the broader picture on what was happening on the NCS.

There is only limited acceptance that Petoro is or will be a generator of solutions and hence a creator of value. Some companies do accept that Petoro can add value on technological issues, but there are also general concerns as to whether Petoro is able to make a difference. One of the comments we received most consistently concerned Petoro's size. Some companies have a preconception that it would be difficult for Petoro to make a difference with only 60 staff.

One area where some companies felt Petoro could make a difference was on health, safety and environment (HSE).

Experience of Petoro to date

□ General view of Petoro

The general view from the third party companies was that it was too early to tell whether Petoro can make a difference.

Wood Mackenzie Opinion:

We agree that since Petoro was fully operational for no more than six months during the year and only finalised its strategy during early 2003, 2002 is not a representative year. We believe that it is still appropriate to review 2002, both to cover the initiatives which were taken and also to form the basis of reviews that the Ministry may wish to develop for future years.

□ Petoro Staff

The clearest message which was received from the companies was that the staff of Petoro were seen as being very competent and well qualified. Indeed one comment was that they may be too well qualified for the role they are playing. There were some concerns about integration, in that Petoro was still the sum of its parts rather than being a fully integrated organisation with its own procedures and approaches. The expectation is that in the medium term a 'Petoro' approach would develop. The comment was made that, whilst recognising the competence of the staff, Petoro was seen as having a weak professional base due to its small size in comparison to many of the oil companies with assets on the NCS

Wood Mackenzie Opinion:

It is clear to us that Petoro has succeeded in attracting well qualified individuals from across a wide range of companies. Due to this diversity of recruitment, no other company's approach should dominate in Petoro, which should be able to develop its own procedures and approaches.

The size of Petoro has been determined by the Storting on the basis that Petoro is not an oil company and its requirement for staff should not be driven by oil company requirements. Petoro has been set up to be an organisation which has a questioning approach and can take ideas to oil companies for them to develop further.

□ HSE

There was some recognition that Petoro has made a difference on HSE. One observation was that Petoro had been challenging on HSE issues and should be able to play a lead role in strengthening the safety culture, but had been no more challenging than other companies. However, another observation identified Petoro as having been eager and proactive on HSE. In particular Petoro had highlighted areas for improvement after having done benchmarking studies on safety. Petoro had done their homework on HSE and were seen to be articulate and constructive.

Wood Mackenzie Opinion:

From our discussions we believe that this is an area in which Petoro has been able to adopt a questioning role which has been recognised by other companies.

□ Effective Partner

There was positive evidence from some companies that Petoro has made a difference through being proactive and asking challenging questions. However one comment, was that rather than creating value, this leads to value being destroyed, as a result of the time needed to provide answers and justifications to the many questions being posed and issues raised.

There was some recognition of Petoro's role as a facilitator, through its ability to bring companies with different views together to reach a solution.

Wood Mackenzie Opinion:

Petoro intends to develop its role as a company which can ask searching questions of operators. From the feedback we have received, there appears to be broad recognition that Petoro has been asking such challenging questions. The extent to which this has added value has not been recognised across all companies, but the approach which it is taking is in line with that expected of it by the Ministry of Petroleum and Energy.

□ Commercial Perspective

There was a general concern about the commercial outlook of Petoro. Specifically, there was some concern that since the SDFI is not liable for tax, then Petoro's viewpoint will be pre-tax, which could give rise to different drivers from a company post tax view.

The Ministry of Petroleum and Energy bases its economic decision making on a discount rate of 7% real. Petoro internally uses a 9% real discount rate to value upstream activities and 7% real for infrastructure activities. There were some concerns, that the use of low Ministry discount rates could result in Petoro taking a different commercial view from the companies.

Wood Mackenzie Opinion:

Initially the companies on the NCS were concerned that Petoro would use different economic drivers. The evidence from the interviews shows that Petoro is generally now aligned commercially with the views of the international oil industry and understands the drivers that are important to them. However, Petoro will also need to be responsive to the drivers of the owner.

□ Positioning of Petoro

There were some comments made concerning Petoro's relationship with Statoil and Norsk Hydro. These concerns were that Petoro could be perceived as being too close to Statoil and to a lesser extent Norsk Hydro and always agreed with their viewpoints. It was commented that this could affect Petoro's relationship with other players. There was general recognition that Petoro had been seen as being challenging to Statoil in a number of areas, and one company whilst recognising this, still felt that Petoro was "a tail to Statoil".

Wood Mackenzie Opinion:

It is apparent that in many instances Petoro has been challenging and questioning to operators including Statoil and Norsk Hydro. The primary role of Petoro is to maximise the value of the SDFI holdings and we would therefore expect that in many, if not most cases the decisions which it takes would be in line with that of the operator. The decision making process is likely to require working closely with operators.

Nevertheless, we note the potential concerns if Petoro is seen to be too close to Statoil and Norsk Hydro and always in agreement with them. We do believe that perceptions are important in maintaining the confidence of companies in Petoro. Petoro needs to ensure that it is seen as being independent, even though maximisation of the SDFI portfolio in most cases is likely to mean that it will follow the operators' recommendations.

□ Other issues

A comment was that Petoro appears to take a long time to respond to communications which may be a function of all of the roles Petoro is trying to play and the number of staff.

Another comment was that due to Statoil marketing of its hydrocarbons, the lack of a direct connection to the market is a negative.

Success in 2002 in Value Creation

In overall terms in 2002 there was no acknowledgement that Petoro had succeeded in creating value during the year. Invariably the response which we received from companies was that whilst Petoro may have raised issues, the companies already had the situation under control and Petoro did not add anything which had not already been identified internally.

Petoro's strategy

During the latter part of 2002 Petoro devoted resources to the development of a robust strategy for future years. As part of this strategic development, Petoro developed certain operating, financial and operational objectives. These latter objectives comprised key performance indicators (KPIs), covering financial and operational targets.

The strategy developed in this process is based upon four key areas:

- Efficient operation in core areas;
- Value creation in the gas chain;
- Early application of technology; and
- Long term reserves replacement.

Using these strategic objectives, Petoro has identified twelve strategic projects where it will devote the majority of its resources in 2003. Some of the projects are asset or area specific, whilst others relate to a particular specialisation.

We are of the opinion that Petoro has followed a sound approach in the development of the strategy. We have not however sought to verify this strategy as it was not in place in 2002.

During 2002 and prior to the development of the strategy, the following were the main areas on which Petoro focussed:

Managing the State's participation interests in joint ventures

- Troll production strategy: oil and gas;
- Snøhvit project start;
- Ormen Lange concept selection; and
- Implementation of Gassled and the access and tariff regime.

Monitoring Statoil's marketing of SDFI petroleum

- Define Petoro's role versus Statoil; and
- Systems and procedures for monitoring Statoil.

Finance Management

- QA of SDFI accounts; and
- Establish procedures and control systems.

Other

- Strategy and objectives; and

- Recruitment and organisational development.

In our opinion the objectives on which Petoro focussed during 2002 are in line with the expectations for a developing organisation. These covered what were seen to be most important assets, in particular Troll, the most valuable asset in the portfolio. Snøhvit and Ormen Lange represented future developments whilst Gassled was of importance because of the discussions on ownership which were taking place regarding the newly created entity.

Other areas concentrated around building the company, such as recruitment, the development of a workable strategy and the development of systems and procedures in the finance department and the monitoring of Statoil's marketing role.

Specific Examples of Petoro's Role

In our discussions with Petoro a number of licences have been identified by the company where they believe they have made a difference and demonstrably created value. For each of those licences we have looked at two additional pieces of evidence to determine whether they support the view that Petoro has created value:

- Interviews with third parties

Interviews with third parties can be a powerful way of determining the impact that Petoro had in 2002. Agreement from a range of companies that Petoro made a significant contribution in a licence would provide strong evidence of such a contribution. A negative or non-committal response from companies might require further consideration. Such a response highlights different perceptions from Petoro, but we need to try to determine why these differences arise.

- Quantitative value creation analysis

As we describe in the Approach section there are differences in the datasets which arise from differences in perceptions of the asset between Statoil, SDFI managers at the start of the year and Petoro, SDFI managers at the end of the year. There may be issues about comparability of certain assets.

A significant rise in the value of an asset may show that some activity has taken place which creates value. Value creation alone will not identify the role Petoro has had in value creation and we need to consider value creation in conjunction with the Petoro and third party interviews.

Adding Value and Protecting Downsides

The role of Petoro "is to create the highest possible economic value from the SDFI portfolio". This can be achieved by increasing the value of existing assets, but part of Petoro's role is also the protection of the value of the SDFI's asset base. Some Petoro projects may ensure that the value to all participants is increased or maintained, but it is also necessary for Petoro to ensure that the State's share is not diminished by the transfer of value to other companies on the NCS.

In this section of the report the following assets have been separately reviewed, based upon Petoro's view of the role it played. Having talked to Petoro, there were four key assets where it felt it had potentially played a significant role:

- Upstream Assets
 - Ormen Lange
 - Snøhvit
 - Troll
- Other Assets
 - **Gassled**

Ormen Lange

Petoro perspective

There are a number of issues which Petoro identified with the Ormen Lange development where it believes that it led to either value creation, or prevention of value destruction. There are three main areas where Petoro believes that it has been able to add value to the project through its presence as a partner and thereby also increased the SDFI's value:

- Location of the onshore terminal: Nyhamna or Tjeldbergodden

Petoro believes that it played an important role in the facilitation of the decision of all parties to use Nyhamna which led to an overall increase in the net present value of the project.

- Location of processing offshore or onshore

There were also differences in the views of partners on whether there should be full processing offshore or if gas should be transported onshore before processing. Again Petoro is of the opinion that it played an important facilitation role leading to an overall increase in NPV for the field participants.

- Increase of plateau production

Through its work, Petoro contends that it helped to play a role in increasing the level of plateau production on Ormen Lange.

There are two supplementary areas which Petoro has identified on Ormen Lange where it believes that it has also helped, or could help, to protect the value of the SDFI interest.

- Avoid 12 month delay

Petoro believes that through the work it undertook, it was able to contribute to decisions being made in a timely manner, thereby avoiding a potential delay of one year in the project. This is an example of value protection, the quantitative identification of which would not be expected to be apparent in the cash flows analysis. Failure to act could have resulted in value destruction on the field.

- Potential for further increase in production

Linked to the increase of plateau production detailed above, a scenario has been identified whereby there is also the potential to increase the plateau rate further.

Third Party perspective

In discussing Petoro's role on Ormen Lange, we received a divergent range of opinions. There was some recognition of the role Petoro played, although this was not universal. We received some feedback which highlighted the role of Petoro in building bridges within the licence group and facilitating the overall decision-making process. The perception was that whilst the parties may have arrived at the same conclusions, it may have taken significantly longer without Petoro's involvement.

Other feedback was less positive on Petoro's role. There was recognition that Petoro would believe it had brought something to the process, but tempered with the comments that they think they added more than they did. There was some further recognition of the facilitation role, but more than one company argued that they convinced themselves through internal processes of the solution which should be finally chosen.

Value Creation

Ormen Lange is a large gas field which has yet to receive development approval. In fields of this nature estimates of costs and production are liable to change, sometimes significantly. Typically during the year one would expect the reliability of the estimates to have improved. Comparing the two datasets, the value of the SDFI share in Ormen Lange has reduced slightly during the year. However, the decisions made have increased the operational flexibility of the project and laid the groundwork for potential upside value through further production increases or third party revenue.

We believe that Petoro has been active in moving the development of Ormen Lange forward, by assisting in bringing divergent views together, possibly to the extent of avoiding a delay in the overall project start-up. Quantification of the benefit based upon a comparison of values for reasons described above would not necessarily have been expected to show a significant value creation.

Snøhvit

Petoro perspective

During 2002 it became known that there would be significant cost overruns on Snøhvit. These were caused by additional costs of the onshore terminal largely due to the requirement for an increase in the size of the barge due to additional weight of the topsides. Petoro was active in monitoring costs and as part of this process employed an external consultant which identified additional costs of around NOK 5 bn.

Petoro's view is that whilst the project has not moved ahead as quickly as was initially expected, it played a role in assisting the development process. There are two areas where Petoro has identified protection of downsides. Firstly Petoro's role in recognising the problems avoided additional delays in the project. Had these additional delays occurred they could have resulted in the failure to meet a weather window and a six month delay in the development of the project.

In addition, Petoro also identified that a 50% reduction in the NOK 2bn of contingency costs could be made due to the lower risk profile that had now been reached through passing several of the major development milestones.

Third Party perspective

The views of the oil companies were generally contradictory to those of Petoro. There was recognition from some companies that Petoro had been active in the budget review process. However, the perception that Petoro was instrumental in identifying and rectifying the issue of cost overruns was challenged.

Companies stated that the costs overruns had already been identified or were being reviewed. It was highlighted on more than one occasion, that one partner was already carrying higher costs which did not need to be revised as part of this review process.

The value of the external consultant's report was widely challenged. Part of the criticism was because the provider of the report was a competitor of a company undertaking a significant part of the project and thus would be expected to challenge what was being done.

Value Creation

Petoro followed the project closely and devoted significant resources to Snøhvit over the course of the year. Due to the timing of the year end dataset the impact of these changes has not been reflected in the values.

Petoro clearly devoted significant resources to the project and helped to identify that additional costs were required, but it is unclear the extent to which other companies had already identified such issues.

Troll

Petoro perspective

There are two areas which have been identified by Petoro as creating value in Troll in 2002, one covers Troll oil and the other Troll gas.

□ Troll oil

Production during 2002 was higher than had been budgeted. There were a number of factors during the year contributing to this, including additional drilling rigs, better production experience from the wells and reduced water treatment, which offset reduced production due to constraints imposed by the MPE to help stabilise oil markets.

A higher production permit was granted during 2002. Petoro viewed its role as being one where it urged the operator and other partners to apply for the permit and was active in arguing for this increase in front of the MPE and NPD. Petoro was in agreement with a higher level of drilling activity and strongly supported the operator's technical work.

□ Troll gas

Petoro worked with other companies to ensure an increase in the production profile of gas from the Troll field, by arguing forcefully for a significantly increased production permit. Similarly Petoro had stated that there were strong indications that increasing gas production will not impact the oil production to the extent which was previously expected. In this regard the operator's work was supported by Petoro.

In Troll, Petoro recognises that the extent of its role in value creation is difficult to quantify, but believes that in Troll oil especially, it did play some role in helping to influence the outcome.

Petoro also believes it achieved influence in the Unit through helping to engineer new voting rules for the Troll Unit.

Third Party perspective

The views of third parties do not fully support the above. The general perception was one of questioning whether Petoro had really managed to add to the overall process. There was some positive feedback that Petoro had been constructive on Troll, bringing a good high level approach and strong general knowledge along the lines of facilitating agreement. Others however questioned whether Petoro had really added anything to the process.

Value Creation

There was a significant increase in value in Troll over the period of review, as would be expected by the rises in the forecast production profile without much additional investment. The main factor contributing to the increase in value is the significantly increased production permit for gas, as outlined above, but the expected production profile was also influenced by the changes to the gas sales system in line with EU legislation and revised estimates for European gas demand.

Petoro devoted significant effort to Troll and assisted in the process of achieving higher production permits. The extent to which this would have been achieved without Petoro is unclear and even Petoro has recognised that it may be difficult to quantify its achievements on Troll Gas.

Gassled

Petoro perspective

During the course of 2001 and 2002 negotiations took place to restructure ownership of the infrastructure assets which export gas from the NCS. After clarification from the MPE of its role in this area, Petoro challenged the revised split of ownership for the newly created unitised vehicle, which had been arrived at through negotiations between the companies involved.

This restructuring of the ownership of Norway's gas infrastructure grid is known as the Gassled initiative. Under this complex process twelve separate infrastructure assets, most having different ownership, were combined into one unified entity with a common ownership.

Petoro's ownership in the underlying assets that comprise Gassled and timing differences between the participants with regard to the shape of their revenue flows from the assets, resulted in a lack of symmetry with other companies with respect to valuation. This lack of symmetry was principally caused by Petoro's relatively large interests in more modern pipeline systems which have flatter revenue profiles than older systems, in particular Statpipe. An additional complication for Statpipe is the split of its assets across the offshore/onshore fiscal boundary, which adds to the complexity of any valuation process. Petoro calculated that the impact on the value of the SDFI portfolio of this revised ownership split would be to reduce the value of the portfolio by around NOK1.3bn.

Petoro believes that it was instrumental in negotiating with other participants of Gassled during the first quarter of 2002 to change the SDFI ownership to 39.5% from 2003 until 2011 thereafter rising to 49%. This stepped structure of its ownership of Gassled helped to overcome some of the timing issues with respect to revenue flows.

This is an example of where value has been protected by Petoro. Such protection would not be identifiable in the cash flow analysis, but value destruction of the SDFI has been prevented.

Third Party perspective

There was not a strong view from companies of the role Petoro played concerning Gassled. What little feedback we did receive from other companies recognised that Petoro had been responsible for some change, but the companies did not believe the work had caused a material difference. Since Petoro's role was protection of the value of the SDFI, in some cases at the expense of the companies, the failure of companies to identify positively the role of Petoro is perhaps unsurprising.

Value Creation

Gassled was deemed to be a necessary process in tandem with the establishment of Gassco for establishing a new access and tariff regime for infrastructure in line with the new company-based gas sales system. One of the aims of Gassled is to increase the overall efficiency of the infrastructure network and hence create value through the reduction of unit costs.

The start year dataset contains a modelling of the assets on a pre-Gassled individual basis, whereas in the end year dataset the unitised position is modelled. The fundamental difference in the way the projects are now viewed along with the inherent complexity in valuing such assets (as discussed above) makes comparisons between the two datasets particularly difficult to assess. This complexity is emphasised by the significant differences in gas offtake levels that are assumed for some of the fields and the inclusion of new infrastructure projects during 2002.

It is clear that Petoro identified the resolution of the Gassled ownership issue as a priority during 2002. As the State is a major infrastructure owner, Petoro was in a key position to help facilitate a solution to the issues arising from the complexity of company ownership in the various assets. The potential value creation for its portfolio as a whole, through access to a more efficient infrastructure system versus the stand alone question of value add or loss for the Gassled asset in isolation made the issue a difficult equation to solve.

Commercial negotiations

Petoro perspective

Petoro also believes it has increased value of the SDFI portfolio through successful results of commercial negotiations. Negotiations include tie-in and processing agreements, projects that reduce operating costs and increase oil and gas production.

Other Assets

In addition to the above assets we also received feedback from companies during the interview process on the following assets.

Oseberg

Petoro helped in the construction of a new voting structure for the decision making process on the licence. The Oseberg area contains numerous remaining development opportunities, particularly satellite developments. The revised voting structure together with the continuing alignment of company interests in the licence area, should contribute to a more efficient exploitation of the remaining resources and hence lead to additional value creation.

Njord

Petoro used the flexibility of its capacity in gas infrastructure in the area to help solve the problem of gaining access to transport capacity for Njord. This enabled a commercial solution to be formulated for the exploitation of the gas reserves in the field. Previous options that seemed apparent for the evacuation of gas through conventional negotiation with the infrastructure owners in the area struggled to generate a viable solution.

The exploitation of the gas reserves should significantly prolong the production life of the field and lead to value creation. However, the gas development has yet to gain formal development approval and is not reflected in the end 2002 dataset.

Other

There was positive feedback that by the potential use of its voting rights in certain assets, Petoro was able to make operators more accountable to the minority participants. Hence alternative solutions for value creation would be more likely to be given an adequate assessment.

Monitoring Statoil's marketing of SDFI petroleum

The second of the three mandates which Petoro has been given is:

"Monitoring Statoil's marketing of SDFI petroleum in accordance with the instructions concerning the marketing and sale of oil and gas by Statoil laid down by the General Meeting of 25th May 2001".

In these instructions it is stated that the "overall objective of the marketing and sales of petroleum as contained in the instructions is to obtain the highest possible total value of Statoil's petroleum and State petroleum and to ensure a fair distribution of the total value creation."

The State's share of hydrocarbons arising from its SDFI interest, is sold by Statoil.

- Oil is sold to Statoil using a pricing formula agreed between the Ministry of Petroleum and Energy and Statoil. The Reference Price Point is the Norm Price Point or if no Norm price has been decided then the fiscal measurement point will be used. This Norm Price Point is also the reference point for sales of the State's wet gas, except for Oseberg LPG, where the Reference Price Point is the entrance to the storage caverns at Mongstad.
- For dry gas sales, Petoro follows the gas transactions through to delivery to the buyer. The Reference Price Point is therefore the point where it is delivered to the buyer. This will apply irrespective of whether the buyer is Statoil, an Affiliated Third Party or an Independent Third Party.

Petoro has developed a number of controls to ensure that the State receives the correct sums from Statoil. These checks comprise concurrent reviews as well as after the event audit functions.

The systems in place are:

Oil and NGLs

- Monthly checks
Petoro undertakes a monthly check on prices to verify the Brent price formulae are being used correctly. This is a limited review of prices but covers all transactions.
- Quarterly reviews
Petoro has implemented a quarterly review, where selected transactions are reviewed in detail. The detailed reviews focus on issues such as checking quoted differentials and agreeing volumes to operator data. Petoro has informed us that although some relatively small errors were discovered, no systematic problems with Statoil's processes and calculations were identified.
- Quarterly meetings
There is a quarterly meeting with Statoil to review any particular oil sales issues.

Gas

The main controls covering gas fall into two groups. The first group is aimed at ensuring that Petoro is involved in the projects in which it has a right to be involved. The second category, is a detailed annual review of the transactions to ensure their accuracy. The three areas covered by Petoro to ensure the State's inclusion in all relevant projects are:

Monthly meetings

Petoro and Statoil have monthly meetings at which strategic gas matters are discussed. These meetings are also a forum where Statoil will raise any matters which it believes to be relevant for Petoro.

Internal Dialogue

The Oil and Gas Market and Sales team also rely on regular dialogue within Petoro from the Licence group to identify areas where there may be matters that require further investigation.

Gas Leadership Agenda Report

Petoro has agreed with Statoil that it will have access to the Gas Leadership Agenda report which is issued every two weeks. This provides Petoro with the ability to undertake an independent check, to identify any matters which are not raised through the monthly meeting with Statoil.

In addition to the above, there is a further review:

Annual Review

An annual review is carried out to ensure that the revenues received by Petoro for its gas sales are correct. This review is designed to ensure that the income received and costs allocated are correct, the split of revenues between Statoil and Petoro is accurate and confirms the systems in place are functioning correctly.

Pricewaterhouse Coopers has been appointed to carry out this review in 2003 covering 2002 sales. Their report has not yet been completed, but we have been informed by Petoro that the preliminary report has not identified any problems with the structures or systems currently in place, Statoil's controls having been determined to be good with no systematic errors identified.

No separate checks on revenues received from individual gas contracts are undertaken. Petoro is of the opinion that the checks which are already in place, one through the buyer of the gas and two in different departments at Statoil are sufficient to ensure the accuracy of the payments Statoil receives.

Whilst we have had the opportunity of discussing the processes that Petoro uses to monitor the sale of hydrocarbons, we have not been given access to the pricing formulae and have not sought to review any of the calculations which Petoro has made.

We have been informed by Petoro that the oil price received is based upon a published Brent price with a quality adjustment and a deduction of a marketing fee for Statoil. All sales of SDFI crude are made at the norm price point. Any profit which Statoil makes from its trading operations downstream of this point is solely for Statoil's account.

There is no State participation in any value creation arising from the trading of hydrocarbons beyond the initial sales point. However, amongst other initiatives pursued by the Marketing department in 2002, two helped towards the State acquiring an interest in onshore gas storage projects relevant to gas marketing activities. These were the Cove Point LNG terminal in the USA and a planned gas storage facility in the UK.

As well as speaking to Petoro staff and management, we have also spoken to Deloitte and Touche, which reviewed the sale of SDFI hydrocarbons as part of their SDFI internal audit. Deloitte and Touche reviewed the procedures which were undertaken by Petoro to check the sales made by Petoro and did not identify any problems.

Conclusion

Relying upon the information we have been provided in the discussions detailed above and the explanation of the control mechanisms which Petoro has in place, we believe that Petoro is meeting its obligations in the monitoring of the sale of SDFI petroleum.

Financial management

The third of the three mandates which Petoro has been given is:

“Financial management, including the keeping of accounts related to the SDFI”.

This includes maintaining financial records and meeting reporting requirements of the Ministry of Petroleum and Energy. Petoro has set up a Finance and Procurement team which deals with the financial management operations. Not only does Petoro maintain the financial records of Petoro AS, it also maintains the financial records of the SDFI.

Many of the rules governing Petoro’s responsibilities with regard to the SDFI are contained within Chapter 11 of the Petroleum Activities Act. Under section 11-7 the Duties of submission of the Board of Directors (of Petoro) are defined. These require the Board of Directors to submit the following matters to the General Assembly:

- a) plans for the coming year, as well as outlook for the intermediate term and significant changes in any of these;
- b) plans regarding projects of major significance to the State’s participation in activities according to this Act;
- c) main features of the budget for the coming year;
- d) principles relating to engagement of managers;
- e) annual report and annual accounts in respect of the participating interests of the State as mentioned in Section 11-8.

The key factors relating to the financial management are contained within paragraphs c) and e).

Under paragraph c), the Board of Petoro must submit the main features relating to the budget for the coming year. During 2002 four budget milestones were set for the SDFI covering the 2002 updated budget, the 2003 budget and a longer term budget. In addition there are two budget milestones set for Petoro AS, one an update of the 2002 budget and the budget for 2003.

Section 11-8 requires the Board of Directors to render accounts for revenues and expenditure in respect of the State’s participating interests. The Board of Directors shall also submit an annual report containing an overview of the participating interests managed by the company, including a resource account.

During the course of 2002 the main direction for Petoro’s Finance group had been the implementation of systems, procedures and routines. There are four main topics detailed below:

- Budgets/Financial statements

In this area Petoro introduced systems which covered:

- Accounting for the SDFI portfolio
- Accounting for Petoro AS
- SDFI budgets
- Budget and costs control of Petoro AS

The main system which was implemented during 2002 was SAP. This used an existing version that Accenture, to whom much of the accounting had been outsourced, already had and therefore initial implementation was undertaken in two to three months. This period is much shorter than would normally be expected. Ongoing implementation occurred during spring of 2002 so that the version of SAP was adjusted to use SDFI definitions.

In addition to SAP, Petoro also implemented a data warehouse system. This system enabled Petoro to prepare budgets and compare actual outturn to budgets.

Although Petoro had to start implementation from scratch, having no existing system avoided the need for any interface between old and new systems.

- Management administration

The four main tasks in this area were:

- Decision support for licence, infrastructure and the marketing departments
- Duties of the licence holder
- Cost reduction in licences and infrastructure
- Procurement

Petoro has developed models and systems to deal with these issues. During 2002, Petoro established the procurement processes and signed agreements with those companies which it will work with in the future.

In looking at cost reduction Petoro used the data warehouse described above to look at actual and budget spending as well as using other cost benchmark data.

- Measurement/steering

The main areas covered here were:

- Business control model
- Key performance indicators (KPIs)
- Reporting to the Board of Directors and the owner
- Reporting in general

The business control model was developed during 2002 to identify where decisions should be made: which decisions could be made by staff and which decisions needed to be passed to the Board. The model was based upon external advice and the knowledge and experience of Petoro management and employees. The responsibilities of the Board were defined first and then the group worked through the organisation defining responsibilities.

The model also includes an archive system which controls and documents decisions made in the company. The model also needed to reflect Norwegian law and the responsibilities placed upon the Board and its members.

Development of the key performance indicators, also took place during the year. As is discussed in the strategy review, this area was developed during 2002 and implementation of the KPIs occurred in 2003.

Reporting fell into two areas, firstly reporting to the Board and the owner and secondly the reporting of taxation, statistics and financial information. Petoro believes that it has met the reporting requirements. We have confirmed with the Ministry of Petroleum and Energy that all of the financial reporting requirements for the company were met during 2002.

- Cost/Income Control and Audit

- Cost income control and internal audit
- External audit
- Audit and the instruction re marketing and sale of petroleum
- JV audit

The financial statements of Petoro AS are audited by Deloitte and Touche. The financial statements of the SDFI are audited by the State Auditor, with Deloitte and Touche supplementing the work, by undertaking an internal audit function of the SDFI's financial statements. Much of the accounting function of managing the SDFI has been outsourced to Accenture.

In reviewing the Financial Management activities of Petoro we have had the opportunity of speaking to the management and staff in Petoro's financial management team. We have also spoken to Deloitte and Touche and have been provided with translations of their audit reports to clarify the work they undertook on the financial statements of Petoro and the SDFI. Their audit reports were unqualified. We have not been given the opportunity of speaking to the State Auditor.

The finance team supports the marketing team in auditing Statoil's role in selling the SDFI petroleum. The overall role of Petoro in monitoring Statoil's sales are described in the previous section of this report "Monitoring Statoil's marketing of SDFI petroleum".

The JV audit is also an important role for Petoro where the accuracy of the JV accounts and reasonableness of costs allocated to the JV by the partner are determined. The audit is carried out by an external auditor with Petoro reviewing the auditor's report. The JV audit is recognised by Petoro as an area where in future it may need to review and strengthen its processes and resources.

Wood Mackenzie has not undertaken any other independent verification of the financial management systems, either through a review of the systems or accounting records.

Conclusion

Based upon the feedback we have received from Petoro, Deloitte and Touche and the Ministry of Petroleum and Energy we believe that Petoro has fully met its obligations with regard to financial management.

Valuations

Summary

Value Creation Comparisons

In undertaking our valuation we have initially valued the datasets to show the value of the start 2002 dataset at 1 January 2002 and the end 2002 dataset at 1 January 2003. To ensure comparability of the datasets, we have adjusted the datasets as described below.

- 1 Deducted the cash flows arising during 2002 from the start 2002 dataset. These cash flows have been discounted to reflect the value of NOK 62 bn in start 2002 terms. The value arising is NOK 411 bn.
- 2 Restated the end 2002 dataset value of NOK 445 bn to start 2002 terms by deflating the dataset to convert it into start 2002 terms and then discounting from the start of 2002. This gives a value of NOK 411 bn.

The impact of these adjustments is such that if the 2002 actual cash flows and future expectations at the start of 2003 were those predicted at the start of 2002, value would neither be created nor destroyed. A higher value for the end year dataset than the start year dataset plus 2002 cash flows, would show value creation. By contrast a lower value for the end year dataset would show value destruction.

The table below summarises the start and end year valuations of commercial assets as calculated and the reconciliation between the two figures.

Value Component	Value (NOK Billion)*	Value (NOK Billion)*
Start 2002		473
Cash Flow 2002	64	
Discounted Value of 2002 Cash Flow		62
Start 2002 value less 2002 discounted cash flow		411
End 2002	445	
Restated to Start 2002 terms		411
Value Creation		0

* Pre-Tax, discounted at 7% in real terms. Totals may not add due to rounding

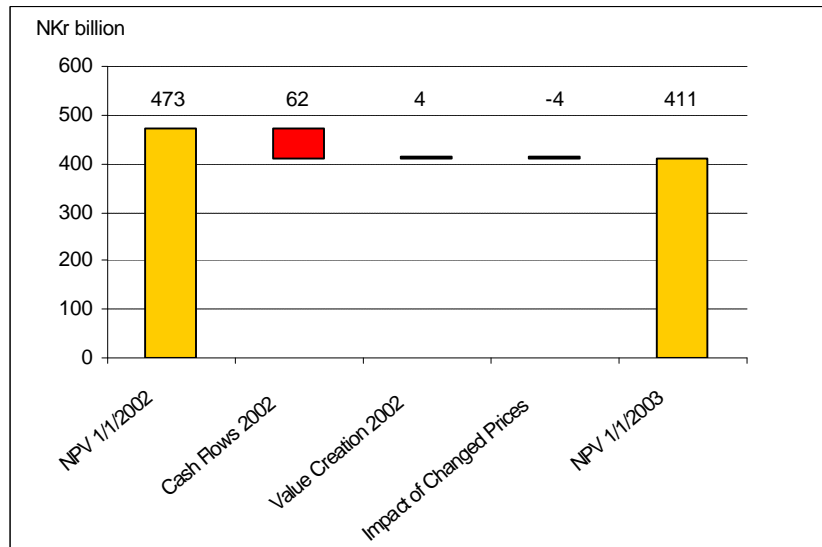
In addition to determining the overall value creation, we have calculated the extent to which changes in oil and gas price assumptions have impacted on the value creation. We have therefore run the end 2002 dataset using start 2002 oil and gas price assumptions, to isolate the impact of changes arising from different oil and gas price assumptions.

The following table shows the analysis we have undertaken. Using start 2002 assumptions, the value of the end 2002 dataset rises from NOK 411 bn to NOK 415 bn. By changing the assumptions during the year, the value of the portfolio has therefore fallen by NOK 4 bn. Thus the value increase of the underlying asset base excluding the impact of changes to the assumptions is NOK 4 bn.

Oil price Impact

Value Component	Value (NOK Billion)
End 2002 restated to Start 2002 terms	411
End 2002 as above using start 2002 prices	415
Value Decrease due to revised prices	(4)
Total Value Creation above	0
Value Creation based on constant price assumptions	4

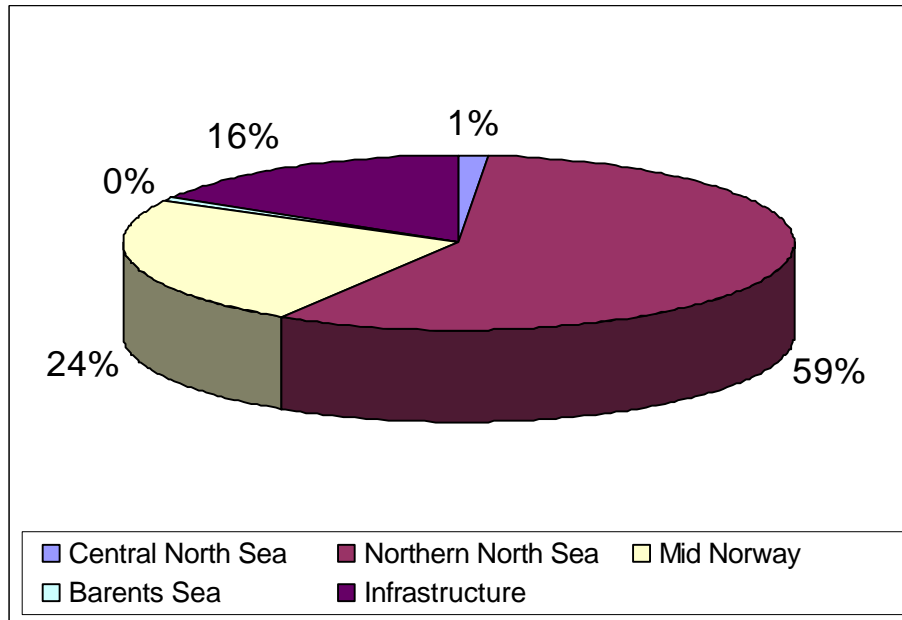
Value Creation During 2002



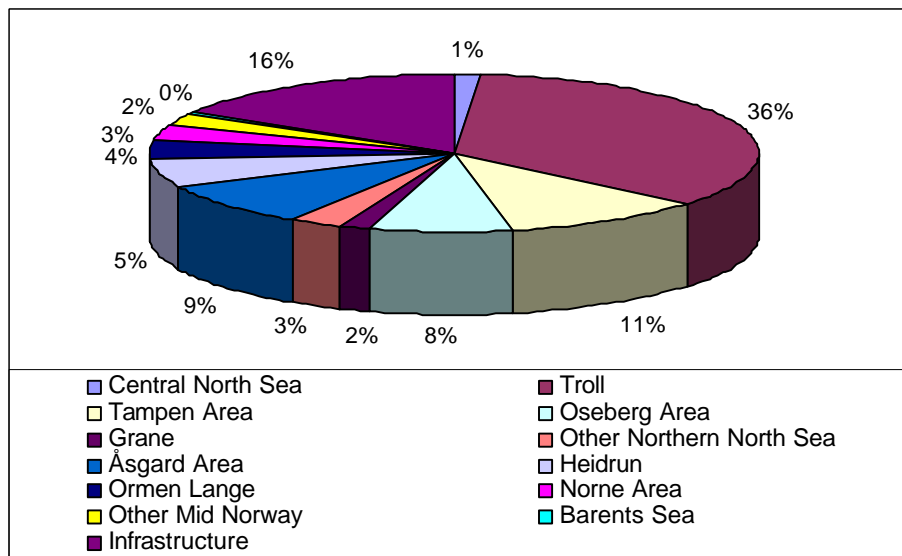
Regional Analysis

In the following charts the value distribution of the SDFI portfolio by location on the Norwegian Continental Shelf is portrayed. The first chart shows the split by region, whilst the second shows the split by core asset area.

Value Distribution by Region



Value Distribution by Core Area



Methodology and Assumptions

The SDFI portfolio has been valued by Wood Mackenzie based on the methodology outlined below and in accordance with assumptions which are also set out in this section.

Standard Valuation Methodology

Wood Mackenzie's standard methodology for valuing oil and gas assets is designed to determine the price that would be paid by a willing buyer of assets in an open market transaction. The valuations are not derived from a solely mechanistic valuation, but are adjusted to reflect market conditions at the time of the valuation.

Since the value of the SDFI portfolio is calculated on a pre-tax basis, the valuation is not intended to reflect the price that could be achieved in the marketplace, as any buyers would be subject to Norwegian upstream taxation. The values are therefore those which are arrived at using a mechanistic approach based upon field data provided by Petoro and economic assumptions provided by the MPE.

Commercial Fields, Pipelines and Onshore Assets

The SDFI portfolio contains interests in a number of "commercial fields" – defined by Wood Mackenzie as being those in production, under development or where government consent for the development is likely within the next 2-3 years. It also has an interest in a number of offshore pipelines which transport produced oil and gas to the market and in several onshore industrial projects directly related to its upstream activities.

The principal methodology used by Wood Mackenzie to value the commercial fields pipelines and onshore projects within the SDFI portfolio has been to construct a cash flow analysis for each field, pipeline and onshore project.

The cash flows have been run on the oil (and gas) price scenario pertaining to the relevant start or end year position and discounted using a 7% discount rate in real terms to derive a pre-tax net present value ("NPV") for each asset.

Valuation Price Scenarios

The valuation of the assets has been undertaken on two different oil price scenarios (as supplied by the MPE):

- one case, which is that used in the 2002 budget submission and which is relevant to the valuation of the SDFI portfolio as at 1 January 2002;
- a second case, which is that used in the 2003 budget submission and which is relevant to the valuation of the SDFI portfolio as at 1 January 2003;

These scenarios are outlined in more detail on the following page.

Data Sources

Petoro has provided all the data that we have used to form our conclusions on the valuation of the assets included in this report, with the exception of several minor projects where Wood Mackenzie assumptions have been utilised. The data consists of, inter alia, production, sales volumes and cost profiles for individual fields and infrastructure projects.

The information has either been produced internally by Petoro for budgeting and planning purposes or has been supplied by other companies that operate the particular assets concerned. Petoro has also provided access to its personnel to discuss matters arising from our examination of the data.

Upstream - Key Assumptions

Oil and Gas Prices

We have valued Petoro's oil and gas assets in this report using two sets of oil/NGL/gas price assumptions (as supplied by the MPE) which are those used in the 2002 and 2003 Revised National Budget submissions. These are set out in the following table:

Oil/NGL/Gas Price Assumptions in real (2003) Terms

Scenario	2002 Budget			2003 Budget		
	Oil Price NOK/bbl	NGL Price NOK/tonne	Gas Price NOK/Sm ³	Oil Price NOK/m ³	NGL Price NOK/tonne	Gas Price NOK/Sm ³
2002	203.2	1400.1	1.17	202.6	1416.2	1.08
2003	172.7	1186.4	1.00	180.0	1264.1	1.03
2004	152.4	1062.9	0.87	150.0	1064.4	0.88
2005	147.3	1039.0	0.82	145.0	1028.0	0.81
2006*	142.2	993.6	0.80	140.0	985.4	0.78

*All prices are essentially flat in real terms thereafter

Differentials to the Brent price (as supplied by Petoro) have been applied to specific fields in order to reflect crude quality/price differences beyond that of the portfolio average.

Inflation

All the data has been compiled and run in real terms.

Exchange Rate

All the data has supplied and run in NOK terms.

Discount Date

Future cash flows has been discounted to 1 January 2002 or 1 January 2003 as appropriate.

Discount Rate

The discount rate used for valuing all the assets is 7% per annum in real terms.

Corporate Overheads

A forward estimate of corporate overheads (as provided by the MPE) over and above those applicable to specific assets has been modelled as a separate 'asset' within the SDFI portfolio. These take the form of three items: Petoro's Budget from the MPE, insurance provisions and costs related to Statoil's marketing of oil and gas.