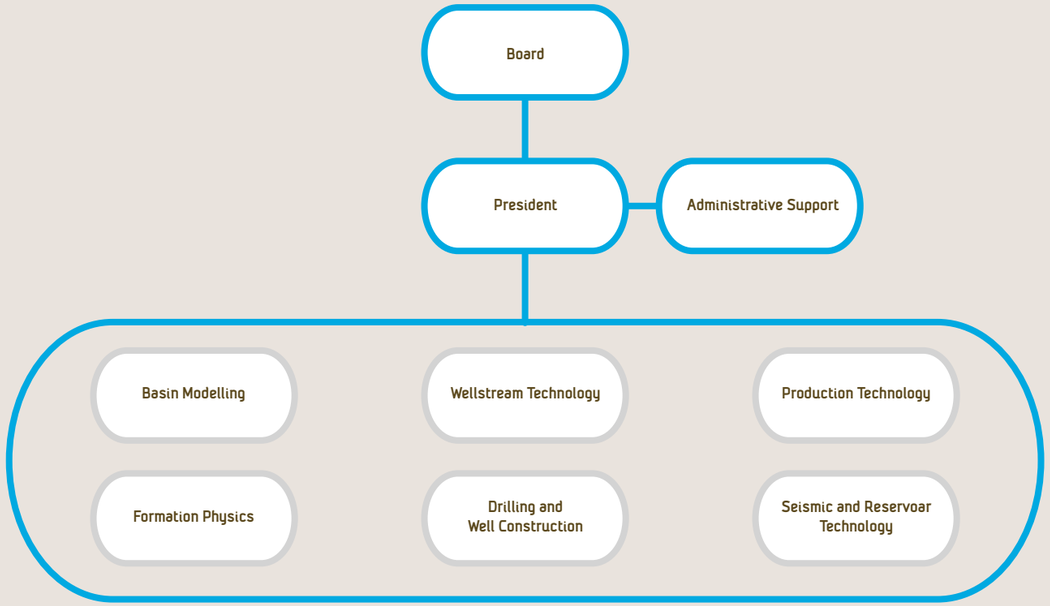
SINTEF Petroleum Research

Annual Report 2006

SINTEF

Organisation as of January 1, 2007



Basin Modelling
We assist oil companies in quantifying exploration uncertainties. By developing, testing, and applying new concepts and modelling technologies we are able to significantly improve quantitative predictions of hydrocarbons in prospects prior to drilling.

Wellstream Technology
Our research enables cost effective and safe transportation of unprocessed production fluids in wells and long distance flow lines. R&D areas cover multiphase flow and cold flow technology including hydrates, scale formation and solids transportation.

Production Technology
We work on optimising well productivity and performance through R&D and advanced technical services related to well diagnostics and treatment.

Formation Physics
Our research covers a number of areas within petroleum-related rock mechanics. The activity embraces a combination of theoretical understanding and modelling, experimental investigations in our advanced rock mechanical laboratory, as well as specialized numerical simulations. Throughout our work we benefit from a close cooperation with NTNU.

Drilling and Well Construction
We focus on R&D and Advanced Technical Services within drilling, completion and well intervention. Our activities include modelling of the processes, small and large-scale experiments, real-time simulators for use in operations and development of holistic process control systems combining real-time data, modelling, visualization and diagnostics.

Seismic and Reservoir Technology
This department consists of two technical groups. The main activities of the Reservoir Technology group are experimental and numerical modelling of reservoir processes with emphasis on methods for improved oil recovery, and aquifer deposition of CO_2. The Seismic group focuses on the development of new methods for processing seismic data, based on the theory of wave propagation in acoustic and elastic media.

http://www.sintef.com/petroleum

SINTEF Petroleum Research

SINTEF Petroleum Research performs research and development and offers advanced technical services and laboratory services within its particular fields of activity.

We concentrate on technologies for the exploration and production of petroleum resources, both nationally and internationally. The institute develops solutions for exploration, field development and production.

Our know-how and technology support the creation of value in one of Norway's most important industries.

We have a 35-year-old track record in petroleum research and we have made considerable contributions to Norwegian exploration and production technology. These are recognised all over the world for their high quality and standards.

The institute collaborates with other research institutes, with a number of universities and in particular with NTNU (The Norwegian University of Science and Technology). We are organised in six departments and are located in Trondheim, Bergen, Stavanger and Houston.

SINTEF Petroleum Research is fully owned by the SINTEF Foundation, the parent company of Scandinavia's largest research organisation. We are associated with SINTEF Energy Research under the name of SINTEF Oil and Energy.

The number of employees as of 31 December 2006 were 102, and our annual turnover is NOK 144 million (2006).

http://www.sintef.com/petroleum

May Britt Myhr | President | SINTEF Petroleum Research

Long-term research focus

The continued strong growth of the petroleum industry in 2006 plays to the considerable research strengths developed among the staff at SINTEF Petroleum Research, and suggests that the steady demand for our research will continue to grow.

Among the most dynamic areas in petroleum research today is the Arctic, home to an estimated 25 per cent of the world's remaining oil and gas resources. SINTEF Petroleum Research has invested considerable effort over the last two decades in studying the complex geology of the Norwegian Continental Shelf, including the Barents Sea. In late 2005, we released a major report on the Barents Sea, with information that helps companies prospecting in the region to target their efforts. In 2006, some of our client companies have participated in our follow-up studies, which have concentrated on some of the most promising areas in the region. Hydro's recent Nucula discovery, 110 km north-east of the Goliat field, has renewed optimism for the region's potential – and shows the relevance for the type of studies that we provide.

Our research efforts have always had a long-term focus, as a way to build breadth and depth into our expertise. Conditions for this long-term research approach were strong in 2006, not the least through the creation and funding of several Centres for Research-based Innovation appointed by the Research Council of Norway last summer. All have an eight-year-long time frame. SINTEF Petroleum Research is a partner in two of these centres: FACE, the Multiphase Flow Assurance Innovation Centre, and the Centre for e-Field and Integrated Operations, both with NTNU and Institute for Energy Technology as partners.

SINTEF Petroleum Research has also been heavily involved in the developing science of CO_2 handling and storage as a way to help control global warming. Our researchers have made important contributions in the decade-long study of CO_2 storage in the Sleipner field, the largest industrial-scale storage of CO_2 in the world. The gas is being pumped at a rate of 1 million tonnes a year into a thick band of sandstone called the Utsira formation. We have also helped develop the use of CO_2 and other gasses in mature oil fields to improve oil recovery.

All of our efforts hinge on the quality of our researchers. We continue to attract top international candidates, with our researchers now representing 18 different nations. Our multinational staff brings fresh perspectives to our work, and also benefits our international efforts in the United States, South America and elsewhere. We hope you will enjoy reading about their good work in this annual report, and we look forward to sharing this expertise with you in the year ahead.

http://www.sintef.no/petroleum/e-drilling

Øyvind Kolnes | Research Scientist | Drilling and Well Construction

This is not a game

Looking at Øyvind Kolnes' office, you might think he just spends his workdays playing with 3D interactive computer action games. His computer monitors are covered with cool, colourful graphics and he is as likely to use a computer joystick as a mouse as he works with his long-distance partners.

And that is just the way his employers at SINTEF Petroleum Research want it.

Kolnes is "playing" at a very serious task: he is part of a team that is using techniques from the computer games industry to develop a new kind of interactive drilling tool, called "eDrilling", which looks like a videogame. But in this case the prize is an oil well drilled as close to perfectly as is possible. The tool also allows people who are thousands of kilometres from the well site to watch, real time, to supervise the drilling or as a way to learn from experienced drillers.

"Drillers routinely have access to all kinds of real time information, so much that they can quickly find themselves in information overload," says Rolv Rommetveit, Kolnes' supervisor. The eDrilling program takes all this information and visualizes it so that drillers have the data they need, at a glance.

"There's lots of real-time data that aren't used nearly as well as they could be," Kolnes said. "While you can't have a camera in the hole while you are drilling, this is nearly as good."

Not only will drillers be able to see if the drilling is proceeding as planned, but they will get warnings from the eDrilling program if fluid pressures are reaching critical levels, or if the stresses on the drill string are too high.

"We are developing pop-up warnings to let drillers know what is happening," Kolnes said. "The idea is to diagnose problems earlier than even an experienced driller can."

The data collected can also be archived and played back as a training tool, to analyse how the drilling decisions that were made affected the outcome of the well.

Another technique pioneered by large-scale computer network games played online is their approach to sending a great deal of information quickly, in real time. The SINTEF eDrilling team has built this kind of data packaging into the eDrilling software, which allows for an amazing amount of interactivity from networked computer terminals.

Managers can use the interactivity to call in experts if problems arise during drilling, or they can simply watch the process of the well being drilled, no matter where on the planet they – or the well – are located. Kolnes and the eDrilling team are working with ConocoPhillips to develop the first system using this technology on the Ekofisk field in the Norwegian Sea.

Another pilot project using the technology is being developed for British Petroleum in Azerbaijan, in the Caspian Sea. "Think of it", Kolnes remarked. "They can sit in London and watch what's going on in the Caspian Sea."

http://www.sintef.no/petroleum/kmbco2

Erik Lindeberg | Chief Scientist | Seismic and Reservoir Technology

Workable CO_2 storage

In 1986, Erik Lindeberg entered the debate over carbon dioxide emissions and climate change with a radical idea: why not store CO_2 in oil reservoirs? Better yet, Lindeberg reasoned, why not combine CO_2 injection with enhanced oil recovery? A pilot project ensued, and Lindeberg began a decades-long odyssey in pursuit of finding ways to store CO_2 so that it can't wreak havoc with the Earth's climate – while enabling continued use of petroleum resources.

Lindeberg, chief scientist at SINTEF Petroleum Research, is still on the cutting edge of carbon dioxide research, pursuing his goal. He is not alone. Researchers throughout SINTEF and at the Norwegian University of Science and Technology (NTNU) have more than NOK 60 million worth of research projects investigating carbon dioxide storage.

These days, Lindeberg's largest and most visible project is the Sleipner field, where since 1996, he has worked with a team of scientists and engineers from NTNU and Statoil, studying just what happens when we pump millions of tonnes of CO_2 into storage in a geologic formation 800 metres below the ocean floor.

That is exactly what Statoil has been doing in the North Sea, where CO_2 is being removed from the natural gas being extracted from the Sleipner field. Instead of releasing the CO_2 to the air and contributing to global warming, the gas is being pumped at a rate of one million tonnes a year into a thick band of sandstone called the Utsira formation. Storing the CO_2 instead of releasing it to the air enables Statoil and its partners in Sleipner to avoid NOK 1 million per day in CO_2 taxes. It is also the first, and largest, industrial scale storage of CO_2 in the world.

"Storing CO_2 in deep geologic formations makes intuitive sense," Lindeberg says. "After all, oil and gas have been trapped under the ocean for millions of years," he observes. But Lindeberg and others argue that's not enough.

So Lindeberg is at work on what he calls "Plan B" – a remediation plan that would enable quick action if the unthinkable happens. SINTEF is also managing a project with seven other research groups to develop plans for a field laboratory for monitoring the movement of CO_2 after it has been injected underground. The idea is to develop monitoring tools so that a leak can be detected as quickly as possible. The group has zeroed in on two suitable sites where a subsurface sand deposit provides a perfect natural laboratory – and another world's first in CO_2 research.

"What we really need to know is – will CO_2 leak out?" he said. "And we need to know whether we can discover the leak, if it happens, before it causes problems. Can we find out early enough to do something, if there is a leak? And do we have the technology to do something? That's the frontline research right now."

http://www.sintef.no/petroleum/intwell

Karen Joy Valencia | Research Scientist | Production Technology

A passion for number crunching

Karen Valencia is trying to make oil wells work smarter. The petite 27-year-old Filipina native, with a PhD in petroleum engineering from Australia and a passion for number crunching, is using her expertise to wring every last drop of oil out of Norway's older oil fields. In her work with a SINTEF Improved Oil Recovery (IOR) team for Statoil, Valencia is focusing on the optimised use of smart wells to increase the amount of oil extracted from the Heidrun field.

Here is the problem: When an oil field is new, the reservoir is under pressure and oil flows easily. But when a field gets older, or matures, the situation is trickier. Petroleum engineers have their ways of coaxing mature fields to give up their riches; they can, for example, pump gas down the well to increase reservoir pressures.

But sometimes the well itself is part of the problem. The bottom of an oil well is not a pretty place. It is hot down there. There can be sand. There can be impurities in the oil or in other fluids that coat the well and slow or block oil flow.

So what if a well could be "smart" about these problems? What if the bad parts could be closed off, leaving the rest of the well to work? That is what smart wells are: Engineers have developed well tips with valves that can be opened and closed, to shut out sand or close down blocked parts. Smart well technology also allows the reservoir layers to be treated differently. Layers with lots of water can be shut off, for example, while oil rich layers can be exploited. It sounds simple, but it's not. An oil field has so many valves and so many wells, deciding the right combination of open and closed valves is nearly impossible.

That is where Valencia comes in. Armed with information from tiny sensors that measure conditions in a well hole, along with the ability to manipulate the well valves, Valencia can command a huge computer program to calculate the exact arrangement of open and closed valves to produce the most oil.

There's real money in these results. There's the income from the oil itself, of course, but getting the most oil from mature wells saves the cost of developing new ones, which can cost between NOK 100 and 300 million each to develop.

When Valencia was growing up she learned to play the banduria, a traditional Filipino instrument with 16 strings. Music is really just mathematics made concrete, which may explain why Valencia liked this instrument. Now, Valencia's work with smart wells allows her to see her mathematical efforts made concrete in a different way. "Usually when you're a researcher crunching numbers, you don't have real numbers to work with," she said. "But here, we can apply our clients' actual data – and you can see real results."

At SINTEF, 1900 people in 90 different departments and scientific groups are working to make your everyday life a little better.

Acoustics • Applied Cybernetics • Applied Economics and Operations Research • Applied Mathematics • Applied Mechanics and Corrosion • Aquaculture Technology • Architecture and Building Technology • Basin Modelling • Bio Energy • Biotechnology • Building Process • Building Services, Energy and the Indoor Environment • Coast and Harbour Research Laboratory • Combustion Engineering • Communication Systems • Concrete • Cooperative and Trusted Systems • Current applications • Distribution Asset Management • Drilling and Well Construction • Electric Power Technology • e-Maritime • Energy and Indoor Air Technology • Energy Conversion and Materials • Energy Markets • Energy Processes • Energy Systems • Energy Systems and Environment • Epidemiology • Fisheries Technology • Formation Physics • Gas Technology • High Voltage Components • Health Services Research • Hospital planning • Hydrocarbon Process Chemistry • Hydrodynamic Laboratories and Production • Instrumentation and Microelectronics • Insulation Materials • International Projects and Consulting • International Operations • Knowledge Transfer • Knowledge Work • Living Conditions and Service Delivery • Maintenance Technology • Marine Environmental Technology • Marine Operations and Simulation • Marine Resources Technology • Materials and Structures • Medical Technology • Mental Health Services Research • Metallurgy • Microbiology • Microsystems and Nanotechnology • New Praxis • Offshore Hydrodynamics • Operations Management • Optical Measurement Systems and Data Analysis • Process Technology • Processing Technology • Production Engineering • Production Planning • Production Technology • Productivity and Project Management • Refrigeration Engineering • Road and Railway Engineering • Road and Transport Studies • Rock and Soil Mechanics • Safety and Reliability • School and Education Research • Seismic and Reservoir Technology • Ship and Ocean Laboratory • Ship Technology • Smarter Together • Software Engineering, Safety and Security • Strategy and Logistics • Structural Engineering • Synthesis and Properties • System Dynamics • Transport Safety and Informatics • Water and Environment • Water Resources • Wellstream Technology • Work Physiology

Together, we are creating technology for a better society

http://www.sintef.no/petroleum/shadri

Atle Mørk — Research Scientist — Seismic and Reservoir Technology
Hermann M. Weiss — Research Scientist — Basin Modelling

Good geologic data never go out of date

There were times when people thought SINTEF geologists Atle Mørk and Hermann M. Weiss were wasting their time. Long after project accounts had been closed, they insisted on carefully archiving and organising data from nearly seven kilometres of bedrock core col-lected years earlier from the Norwegian Continental Shelf (NCS). Now their work is paying dividends.

With the discovery of the Goliath oil field by the oil company Eni in 2000, the opening of Statoil's Snøhvit gas field off Hammerfest in 2007, and the upcoming development of Russia's enormous Shtokman gas field north of the Kola Peninsula, the cores offer new insights into one of the hottest petroleum regions on the planet – the Barents Sea.

The cores were collected during an extensive, industry-sponsored programme from 1982 to 1993, when roughly 90 shallow stratigraphic coreholes were drilled on the NCS, from the Barents Sea in the north to the Skagerrak at Norway's southern tip. The cores were drilled using an environmentally friendly technique that was also much less expensive than conventional exploration drilling.

Though the data were collected decades ago, the information is still highly valuable. "Good geologic data never go out of date," Mørk says, "The secrets locked in the rocks of the Norwegian Continental Shelf are hundreds of million years old – they won't change in a decade or two."

The goal of the programme was to understand the complex history of the rocks that lie underneath the shelf and, in doing so, to help the Norwegian oil industry understand where and why oil and gas have formed, migrated, and accumulated.

The cores have attracted the interest of established companies looking for new petroleum resources in the area, and newcomers evaluating prospecting possibilities. "They need our data to fully understand the geology there, because nobody else can provide them with the unique combination of cores that nearly continuously cover rock successions of up to 800 m, and high-resolution seismic data that can be correlated to the cores", says Mørk.

However, paper reports written in the pre-PC era are no longer sufficient. "We spent a lot of time digging out old backup tapes, scanning core photos and re-typing tables to provide consistent digital datasets", explains Weiss, whose next goal is to offer complete digital reports. Some information, such as core photos and technical corehole data, is publicly available on SINTEF's website, giving potential customers a good idea of what to expect.

The cores themselves have been donated to NTNU's Museum of Natural History and Archaeology (Vitenskapsmuseet), where they are used in student courses and are open to academic researchers. They are safely stored in the "Core Store", which is located in an old submarine bunker from the Second World War currently being renovated and upgraded. Oil companies who have bought the data from SINTEF regularly hold seminars there, or come to study the rocks. A number of students have also used this material for their master's or PhDs.

Not bad for two determined geologists and a collection of 200 million year old rocks.

http://www.sintef.no/petroleum/houston

Kjell Arne Jacobsen | Director | Administrative Support

"Houston, Texas or bust"

When drillers struck oil in 1901 on a Texas knoll called Spindletop, the find transformed a nearby town into a booming oil capital – Houston, Texas. These days, nearly every petroleum-related firm in the world has a representative in Houston. With its world-class expertise, SINTEF Petroleum Research belongs in Houston, too – and Kjell Arne Jacobsen is the man for the job. He has even got cowboy boots.

"How will SINTEF Petroleum Research establish itself in Houston?"

"SINTEF has already opened an office in Houston through its subsidiary MARINTEK, which gives us an opportunity to have a presence in the US on a continuous basis. This is particularly important now, when Statoil and Hydro have a renewed interest in the Gulf of Mexico and have the rights to several blocks. So there is even the potential to work with Norwegian companies in the US. We won't be starting from scratch."

"Won't it be tough to compete against all those petroleum-related consulting firms?"

"We've tested the market, and found there were two areas where people were especially receptive to Norwegian know-how: advanced drilling techniques and multiphase flow assurance. These are areas where we've got unique world-class knowledge."

"What is multiphase flow assurance and why is SINTEF Petroleum Research such a leader in the field?"

"SINTEF Petroleum Research owns the world's largest multiphase flow laboratory; outside Trondheim. Multiphase flow simply means that oil and gas travel in the same pipeline, which is often the case in oil fields. You have to make certain that liquids in the pipe flow at a steady rate, so you can size the receiving facility to accommodate what's coming in. That means you have to choose the right pipe diameter, and make sure that the gas has the right velocity. If there's too much gas flowing through the pipe, the pressure in the pipe will drop too much. It can also be tempting to oversize the pipe for future spare capacity, but this can cause severe instability and liquid accumulation problems. So the trick is sizing the pipe just right. We can improve the pipe sizing, saving literally millions of kroner – or dollars."

"What about advanced drilling?"

"Advanced drilling means using different drilling techniques to get more oil out of reservoirs. The Troll field is a good example, where the oil layer just below the gas in places is just 12 to14 metres thick. You can bend the well bore and reach more oil, and better target the places where you do drill."

"Is there anything else about SINTEF that makes it especially attractive to oil companies in the Gulf of Mexico?"

"The newest oil and gas finds in the Gulf are in deep water, and Norway is the acknowledged leader in advanced subsea technology. We offer the absolute best technology available to exploit those new finds."

"Do you really have cowboy boots?"

"Well … not yet."

We are working to provide you with new alternatives. It is up to you to use them.

Here are some of the things you can do to reduce greenhouse gas emissions:
Use low-energy bulbs • Lower indoor temperatures a couple of degrees • Use a thermostat • Buy energy-labelled products • Use a water-saving shower • Use a washing line rather than a tumble drier • Turn off the lights in rooms you are not using, and switch off electrical equipment that is not in use • Insulate your house • Recycle your rubbish • Plant a tree, or several • Buy green electricity • Buy locally produced food • Cycle or use public transport whenever possible • Start a car-sharing club – or join one • Check the tyre pressure on your car; with the correct tyre pressure you use less fuel • If you are going to buy a car, choose an environmentally friendly model.

Small contributions can lead to major changes, if enough people make them.

Together, we are creating technology for a better society

Report of the Board of Directors 2006

SINTEF Petroleumsforskning AS (SINTEF Petroleum Research) is a research and development company located in Trondheim, Stavanger and Bergen. The company also has a marketing office in Houston, Texas.

The company made a profit of NOK 10.4 million, equivalent to a result margin of 9.6% of net income. Turnover increased by 11% in 2006 in comparison with the previous year.

Markets and customers

Several years of high petroleum prices have produced a high level of activity in this sector. Investments in oil and gas activities on the Norwegian Continental Shelf (NCS) in 2007 are currently estimated to be around BNOK 105. The estimate for 2007 is BNOK 12 higher than the equivalent estimate for 2006, made at the beginning of the year (Statistics Norway). Total investments also rose by around BNOK 7 from 2005 to 2006. This shows that there is growth in this sector, and there are good prospects across the whole spectrum of petroleum-related industry. Continuing high petroleum prices are also fueling international optimism and support a continued strong demand for research expertise. This has also led to significant competition for expertise at both national and international level.

The arctic region is opening up exciting new challenges. Hydro's Nucula discovery, which lies 110 km north-east of the Goliat field in the vicinity of the North Cape Basin, has contributed to renewed optimism on the Norwegian side of the Barents Sea. This is because the discovery represents a closure where leakages resulting from uplift and erosion have not had a destructive effect, as has been the case with many other prospects on the NCS in the Barents Sea. In collaboration with its partners, SINTEF Petroleum Research has mapped the uplift and erosion history of large areas of the Barents Sea, in a study that was completed in 2005. A number of oil companies have purchased this study since its completion. In follow-up projects performed for two oil companies, the area surrounding Nucula has also been studied and modelled in more detail, with encouraging results. The geological expertise of the Institute, plus its competence in basin modelling, seismics and rock mechanics, has also led to new research studies at the interfaces of these disciplines. Examples of such studies include the Presseis project, which is financially supported by the Research Council of Norway, Hydro, Total and BGN. The project combines a number of different methods and disciplines, with the aim of providing the best possible pressure prognoses for individual geological formations. It is important to possess good knowledge of these pressures before drilling commences.

Improved oil recovery (IOR) from mature areas represents important values for the future and will require significant efforts in research. At current oil prices, a 10% increase in recovery rates could mean an additional value of BNOK 40 per year. Much of this increase in value can be expected to be derived from adopting and developing methods and technology for integrated operations. According to the Norwegian Oil Industry Association (OLF), the value of the NCS could increase by up to BNOK 250 by 2015, if industry is capable of exploiting advances in integrated operations. In 2006, NTNU, IFE (Institute for Energy Technology) and SINTEF were rewarded a Centre for Research-based Innovation (SFI) in the field of integrated operations. SINTEF Petroleum Research is heavily involved in this Centre. Drilling and well construction, one of the four main activities of the Centre, is being led by our institute. The SFI provides a good basis for carrying out long-term research in this area as well as a link to close collaboration with the supply industry, which is expected to take the technology involved further to the commercialisation stage.

SINTEF Petroleum Research has traditionally had a high level of expertise in the use of gas, particularly CO_2, for IOR. In the course of the past few years, we have concentrated particularly on extending our IOR activities to a broader range of methods, and we are currently working on a project for Statoil in which we are evaluating the usefulness of various IOR methods for the Heidrun and Gullfaks fields.

The entire world is currently highly focused on the rise in atmospheric levels of CO_2. High rates of consumption of hydrocarbons as a source of energy are making an important contribution to CO_2 emissions. SINTEF Petroleum Research is involved in a number of international projects that are focusing on better ways of handling CO_2. Most of these deal with storing CO_2 in geological formations. A well-known example is deposition in the Utsira formation on the Sleipner field. Other projects are focusing on IOR with the aid of CO_2 injection. In 2006, SINTEF was awarded a major research project on CO_2 separation and storage. The project will run for five years and has a budget of more than MNOK 100. It is led by SINTEF Energy Research and its partners include NTNU, the University of Oslo and CICERO. SINTEF Petroleum Research's contributions to the project are in IOR, storage and monitoring.

SINTEF has long had a high level of expertise in pipelines and pipeline flow. This was also recognised by the award in 2006 to IFE, NTNU and SINTEF of an SFI in the field of flow assurance. The centre is known as FACE, and it will study the flow characteristics of heavy oils on micro and macro scales. Our Department of Wellstream Technology is involved in this new centre.

Another important flow assurance project is LEDA, which is being carried out by SINTEF Materials and Chemistry and SINTEF Petroleum Research, with ConocoPhillips and TOTAL as industrial partners. In 2006, the project was in an active phase of software development and testing. The experimental programme, which constitutes most of the Institute's activity in this project, has been postponed. The budget of the project was recently increased by MNOK 20.

The Cold Flow project has generated new knowledge in the field of flow assurance, as well as new technology that holds major potential for cold regions, great water depths and as a means of increasing the distance between existing installations and their satellite wells. In 2006, a new financial framework for this project was developed, and contracts have now been signed with BPN, Total and Statoil, a step that will ensure the future development potential of this technology.

LEDA, FACE and Cold Flow represent important major projects that have been able to exploit our expertise that cuts across SINTEF's departmental and institute boundaries, a development that meets the wishes of our clients for large and highly integrated deliveries.

In 2006, our most important industrial clients were Statoil, ConocoPhillips, Total, Hydro, BPN and Petrobras. Besides pure R&D projects, these are also important customers for advanced technical services. Such services are also an important aspect of out activity, since they enable us to have our research results and numerical tools tested on real data in a wide range of geological and geographical areas. Closeness to our clients' problems and close collaboration with their experts also help to ensure that our research is being taken in a direction that will give our customers important competitive advantages in the future.

Statoil has made it clear on several occasions that the company sees a potential for increasing the volume of the projects it places with SINTEF Petroleum Research. The new frame agreement between Statoil and SINTEF, which was signed last autumn, will make it easier to fulfil such an ambition. This agreement could also function as a model for similar frame agreements with other important clients.

SINTEF's internationalisation strategy targets the EU as its highest priority, and the ambition is to double the activity with the EU in the near future. SINTEF Petroleum Research's contribution to this area will primarily be in the field of CO_2 research, where the Institute is participating in a number of projects and programmes. In the EU's 7th Framework Programme, of our areas of specialisation, only CO_2 treatment will be included. On the other hand, this is a large and important field for the Institute, and we will attempt to maintain our current high level of activity vis-à-vis the EU in this field.

The manpower situation at our Houston office was difficult in 2006, and the office was without staff for periods of time. Nevertheless, the Houston initiative has resulted in seven projects with a total volume of almost MNOK 10. We are currently taking steps to ensure that staffing will be more stable in 2007, with few and dedicated people who will remain there for longer periods of time. The office is concentrating in particular on projects in advanced drilling technology and multiphase transport. Coordination with other SINTEF units is also important, primarily MARINTEK, which has a US subsidiary company. There are also potential areas of coordination with SINTEF Materials and Chemistry and SINTEF Energy Research.

In the course of the past few years, the Institute has expanded its project portfolio in South America, particularly Brazil. We are currently attempting to establish a closer relationship with Petrobras, and the company is encouraging us to open a SINTEF office in Brazil. This possibility will be studied in more detail in 2007 in the course of a visit to Brazil by SINTEF Group's management. MARINTEK has decided to open a sales office in Rio in April 2007, and SINTEF Petroleum Research will keep in close contact with the persons actively involved in this office in order to exploit potential and extend cooperation with MARINTEK.

Scientific activity

Most of the professional development of SINTEF Petroleum Research's personnel takes place as a natural part of our projects. For this reason, long-term research programmes and projects form an important part of our scientific development and strength. Good examples of research topics with a long history include our sand production and shale stability projects, which are led by the Department of Formation Physics. The Petrusca Project, which was launched in 2006, lies within the same area and is representative of this long-term research strategy, with the active participation of several oil companies (e.g. Shell, ConocoPhillips, Chevron, Hydro and Statoil). The project is studying rock mechanics and petrophysical properties, and creates models that show how these properties are affected by stress. This project is also representative of our close collaboration with NTNU, and it forms a natural part of our joint Gemini Centre BRU (Better Resource Utilization), which opened in 2005, and which aims to increase cooperation in petroleum research between SINTEF and NTNU. This close collaboration also involves seeking joint opportunities in international projects. Cooperation between SINTEF and NTNU in petroleum research is largely based on bottom-up initiatives. A new step this year has been the implementation of a joint strategic process by the two institutions. This could help to strengthen our joint efforts and turn us into a leading international centre of expertise, as is our goal.

Our close cooperation with NTNU does not exclude the possibility of collaborating with other Norwegian or overseas universities. The Institute's presence in Bergen has made it particularly important to work closely together with the local university. In 2006, cooperation was strengthened by the appointment of two doctoral students, who will work on problems associated with hydrates in petroleum production, as part of a project funded via the Research Council's Petromaks Programme.

SINTEF has a whole came very well out of the SFI allocation round, and we are partners in 8 of 14 SFIs. Our Institute is heavily involved in SFIs in the fields of integrated operations and multiphase flow. In 2006, we were also awarded funding for several strategically important research projects under the Research Council's Petromaks Programme. This is recognition of our high scientific quality, and ensures that such quality will continue to develop. It also offers important positive signals in the field of recruitment, as both the SFIs and the Petromaks Programme provide good opportunities for training doctoral students.

OG21, which is a national strategy committee appointed by the Ministry of Petroleum and Energy, launched a new top-level strategy in 2006. SINTEF Petroleum Research has played an active role in drawing up this strategy, through its membership of the Board of OG21, its membership of technology target areas (TTA) and its participation in seminars and scientific symposia organised by OG21. The Petromaks Programme is one of this new strategy's most important implementation tools.

The Institute continued to have a high rate of activity at international conferences in 2006. In the course of participation in conferences, our scientists presented 89 contributions. These cannot be detailed here but it is worth mentioning, for example, that we had a significant presence, in terms of personnel and presentations, at two conferences in Brazil, as well as presentations given at a symposium organised by Petrobras and Statoil in Houston. Eight articles published in refereed journals included SINTEF Petroleum Research staff among their authors. This is equivalent to 0.1 publications per year of scientific work. In the forthcoming year, we intend to focus more sharply on publications in refereed journals.

Personnel and competence

In 2006, SINTEF Petroleum Research experienced a high rate of personnel replacement, and this will continue to be one of our most serious challenges in the future. Even though SINTEF once again found itself very high on the list of attractive work places for technology students (no. 3), we still lie behind Statoil and Hydro, with whom we compete for staff. This means that it is important for SINTEF Petroleum Research to profile its special character and to capture the sort of people who will value the freedom to develop and other advantages that we can offer.

Gaining a better understanding of our markets and our customers through closer cooperation is essential for our Institute. In recent years we have hired out a number of our researchers to oil companies, but we have very often found that they resign at the end of their period there, so that the Institute's own scientific milieu gains little from such arrangements. In understanding with selected oil companies, we are now testing new models of cooperation, with the aim of creating win-win situations. One good example of this approach is a strategic scheme for Statoil's Halten-Nordland business area, whereby SINTEF Petroleum Research will assume greater, more independent responsibility for field development studies. This model involves people from the oil companies and hired personnel from consulting companies. Competence development, both for the oil company involved and for the Institute, is one of the goals of this scheme, and a separate team from SINTEF Petroleum Research is working on the project on our own premises and with Internet-based links to the client's network. This is a fine challenge for several of our scientific staff, which could make us more attractive as a work-place, thus in turn making it easier to retain core competence. Another good example is a major project for Hydro, in which people from our Production Technology Department are leading a special group that is surveying well leaks and proposing measures to deal with them.

In 2006, Rolv Rommetveit, Research Director in Drilling and Well Construction, was appointed head of SINTEF's Bergen office. An important task for Rommetveit will be to bring SINTEF personnel in Bergen under one roof. This could mean that 15 SINTEF staff would be sharing office premises by spring 2007, which would be highly advantageous for all concerned. We are currently working to ensure that SINTEF will have sufficient office space for expansion in both the near future and the long-term.

As of December 31, our Stavanger office had a staff of six, while one of our Trondheim-based employees spends 25% of his time in Stavanger. This milieu is still too small to be stable, and we need to increase the number of staff to about ten to make it more attractive and stable. In addition to making new appointments and our own temporary placements, we would encourage other SINTEF units to make use of our Stavanger office and employ their own personnel in that city.

Organisation

The company performed 101 person-years of work in 2006. At the year's end, the company had 102 employees, of whom 79 are research scientists, 38 of whom hold doctorates. A further 7 are currently working on their doctoral theses. A total of 18 colleagues left the company in 2006, and 12 new members of staff joined us. Seventeen people were employed on an hourly-paid basis, and the Institute had contracts with seven consultants and advisors. A further 14 persons were working at the Institute, either for their doctorates or on project or diploma projects.

In 2006, SINTEF Petroleum Research comprised six scientific departments plus administrative support functions, which consist of the central staff and the data-processing department. On March 2, 2006, the acting President was appointed on a permanent basis. The Department of Production Technology was set up on January 1, and the Departments of Seismic and the Department of Reservoir Technology were merged on the same date. One research director resigned in 2006, and another moved to another position within the Institute. In both cases, we have recruited new research directors from other SINTEF units.

The Institute has 26 international members of staff, from 18 different countries. Of our 12 new appointees in 2006, four were recruited from abroad. One research director, one senior scientist and two research scientists have had periods of stay in the USA, Hawaii and Brazil respectively, and we have hosted a visiting scientist from Japan.

Annual conversations with each individual member of staff are an important element of the company's organisational development strategy. Ninety-three per cent of our staff has had such conversations in the course of 2006.

Equal opportunities

At the end of 2006, SINTEF Petroleum Research had 102 employees, 26 of whom were women. The proportion of women among the research staff is 16%, and in the company as a whole, 26%. The Board has ten members, two of whom are women. One of the goals of the Board is to raise the proportion of women among its members. The President and one out of six research directors are women. At the end of the year, the Institute's management team consisted of 12 persons, 5 of whom are women.

Work environment

The Institute was under investigation by Økokrim (The Norwegian National Authority for Investigation and Prosecution of Economic and Environmental Crime) through-out 2006. The Iran affair has led to the introduction of a number of organisational development measures through-out the SINTEF Group, and these have also brought about improvements for our own Institute. Several meetings have been organised, both for the management team and for employee representatives throughout the SINTEF Group. These have focused on ethics and communication. SINTEF has also appointed an ethics ombudsman and an ethics council. A new measure that was adopted in 2006 was the introduction of HSE as the regular first item on the agenda of all meetings.

Major changes in the management team, a new organisational structure and a large number of new staff appointments have also made it necessary to implement management and organisational development measures at both institute and departmental level. The management team and all our departments have held meetings in the course of the year focusing on professional development and team-building.

On the survey side, safety audits of all our premises have been carried out, as have risk assessments of all laboratories and areas. We have also performed a separate risk assessment of chemicals. A work environment survey of the whole of the SINTEF Group was carried out in 2006.

The results for SINTEF Petroleum Research were good, particularly bearing in mind that the survey was carried out at the end of a particularly challenging autumn and winter, when the Økokrim affair was still fresh in people's minds and there had been major changes in our management and strategy. As a result of the survey, targets for improvement have been drawn up at institute and departmental level, and these are currently being pursued.

HSE training for management and safety representatives was introduced in 2006. Protective equipment was a high-priority subject of the laboratory courses that were held in 2005, and this was thus a natural topic for follow-up in this year's laboratory risk assessment evaluation.

The Institute has implemented a range of activities designed to prevent health problems; these include encouraging staff to increase their levels of physical activity. Financial support is provided for team sports and physical training. Our company cabin is also a popular measure that provides opportunities for various types of outdoor activity in addition to the social aspect. A lockable cycle shed has also proved to be a good way of raising the number of people who cycle to work.

In 2006, sick leave was 3%, as against 4% the previous year. Doctor's certificates were provided for 2.25%, while the remainder was self-reported. Long-term cases of sick leave are followed up on an ongoing basis, as is continuous registration and follow-up of cases of sick leave due to work-related illnesses.

In the course of 2006, the Institute did not suffer any accidents, but there was one near-accident that could have led to material damage. Around 150 improvement initiatives have also been recorded.

Via the Work Environment Committee, the company enjoys close cooperation with its staff in the exchange of information and important aspects of the work environment. Three meetings of the committee were held in 2006.

External environment

The company's HSE system meets the requirements of the Norwegian Work Environment Act, which helps to ensure that our laboratory activities and handling of chemicals do not lead to contamination of the work environment or the external environment. This means that all chemicals are handled in accordance with the regulations and that waste products are deposited in an approved manner. In 2006, the company produced no emissions that required an emission permit. We are currently under no obligation to take any specific actions by the Norwegian Labour Inspectorate.

Profit and loss accounts and balance sheet

The company enjoys a solid financial base. The company's equity is MNOK 95, which is equivalent to 56% of its total capital, of which the company's share capital in turn is MNOK 9. This is a satisfactory basis for continued operation of the company, which is the assumption on which the accounts have been drawn up.

Gross revenues rose from MNOK 130 in 2005 to MNOK 144 in 2006, i.e. a rise in turnover of 11%. Net revenues rose from MNOK 100 in 2005 to MNOK 108 in 2006.

SINTEF Petroleum Research made a profit of MNOK 10.4 in 2006 (MNOK-3.9 in 2005). The operating result for the year ended up at MNOK 8.1 (MNOK -7.3 in 2005) and net financial revenue for 2006 was MNOK 4.3 (MNOK 3.4 in 2005).

The operating result includes a provision of MNOK 1 as bonus payments to our staff, and additional provision of MNOK 1 to meet the costs of the Økokrim case.

On February 7, 2007, the Institute was informed that Økokrim has fined it for corruption in a case that dates back to 2002 - 2004. The Board resolved to accept the MNOK 2 fine, which has been entered as an extraordinary cost in the accounts for 2006.

Investments and acquisitions of scientific equipment in 2006 came to MNOK 3.8 and MNOK 1.0 respectively, i.e. a total of MNOK 4.8.

The cash-flow analysis shows a positive net cash flow of MNOK 8.5. Our cash holdings rose from MNOK 63.5 in 2005 to MNOK 72.0 in 2006. Company liquidity is good, with grade 1 liquidity equal to 1.8. No measures to modify the company's liquidity risk are due to be introduced.

SINTEF Petroleum Research is exposed to exchange rate fluctuations, in that its project revenues are in other currencies, while most or all of its costs are in Norwegian kroner. This exposure is largely vis-à-vis EUR and USD. In order to reduce the exchange rate risks involved, the company utilises foreign exchange futures contracts. The company is also operating in an international competitive market in which several of our competitors are located within the Euro zone.

In conjunction with the other members of the SINTEF Group, SINTEF Petroleum Research has set up a joint scheme for placement of the Group's considerable liquid reserves. The portfolio is placed in accordance with the "Guidelines for Financial Management" of May 2006.

The accounts as submitted, comprising the balance sheet, profit and loss account and notes, offer a true overview of the company's results and development, and of its position at year's end.

Core risk and uncertainty factors for the company are related to the personnel situation and the company's reputation.

The Board is not aware of any circumstances that have arisen, since the accounts were balanced, that are of significance for evaluating the economic position of the company.

Disposition of the result

The result for the year of MNOK 10.355 will be transferred to the company's equity capital.

Future development

The stable high price of petroleum gives grounds for optimism at national and international level, and underpins the continued high demand for research competence such as is provided by SINTEF Petroleum Research.

The Institute has won a number of strategically important long-term projects in the course of the past year, and we see interesting possibilities for the future, on both national and international markets. At the end of the year, the Institute's project portfolio for the forthcoming year was at record level, while the portfolio for later years was also considerable.

Given the good project situation, an ability to deliver high-quality products on time will be the most important parameter for success in the future, and maintaining an adequate research staff will be fundamental. The Institute is working consciously to attract and retain competent scientific and managerial staff, and will continue to pay close attention to this topic in the coming year. The development of capable project managers will be another core activity.

It is important to exploit the SINTEF Group's brand image and size on the international market. The coordination of subjects and joint efforts will add weight to our efforts and attract more international attention. Pipeline technology and flow assurance are examples of such joint efforts. It will also be easier to staff our overseas offices if several SINTEF units join them. Houston and Rio de Janeiro are the most important international nodes for SINTEF Petroleum Research in the near future. NTNU will be an important partner for our international efforts.

In view of the Institute's exciting, long-term project portfolio, and the growing awareness within the organisation of its own distinctive qualities and advantages, the Board believes that the Institute has every possibility of creating a satisfactory staffing situation that in turn will provide a foundation for good scientific and financial results in 2007.

Acknowledgements

The Board wishes to thank all of SINTEF Petroleum Research's clients and partners for their cooperation in 2006. The Board also wishes to thank members of staff for their excellent work, which it believes will continue in the year to come.

Trondheim, March 14, 2007

Unni Steinsmo
Chair of the Board

Inge M. Carlsen

Reidar Bye

Terje Eidesmo

Erling Fjær

Jens Hagen

Ane E. Lothe

Torstein Haarberg

Martin Landrø

Ingve R. Theodorsen

May Britt Myhr
President

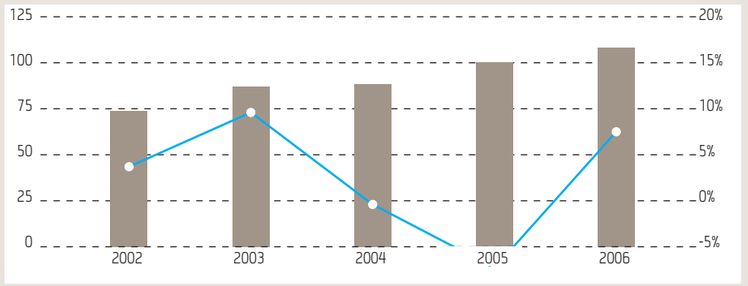
Annual accounts

Key financial figures

KNOK	2002	2003	2004	2005	2006
Income statement					
Gross operating revenue	108 372	113 517	115 043	130 266	143 955
Net operating revenue	73 960	87 289	88 579	100 113	108 174
Operating result	**2 752**	**8 418**	**-377**	**-7 263**	**8 080**
Annual result	**8 139**	**14 308**	**2 482**	**-3 882**	**10 355**
Balance					
Long-term assets	8 460	6 287	9 057	32 879	32 794
Liquid assets	113 633	128 400	124 928	113 906	138 651
Total assets	122 093	134 687	133 985	146 786	171 445
Equity	72 250	86 558	89 039	85 158	95 512
Liabilities	49 844	48 130	44 946	61 628	75 932
Total equity and liabilities	**122 093**	**134 687**	**133 985**	**146 786**	**171 445**
Profitability					
Operating margin %	3.7	9.6	-0.4	-7.3	7.5
Total profitability %	7.2	11.9	2.2	-2.6	7.9
Return on equity %	11.9	18.0	2.8	-4.5	11.5
Liquidity					
Cash flow from operations	-3 193	27 268	-11 782	-27 564	8 465
Degree of liquidity	2.3	2.8	2.8	1.9	1.8
Solidity					
Equity in %	59	64	66	58	56
Current capital			74 091	47 214	61 688

Distribution of gross operating income

Trend in net operating revenue (MNOK) and net operating margin (%)

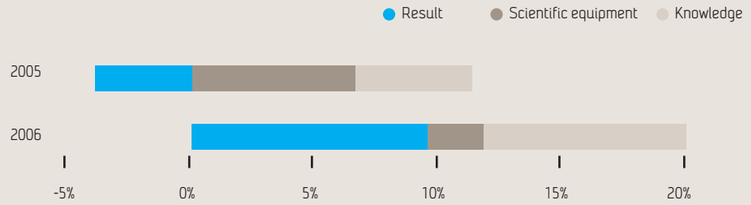


Income statement

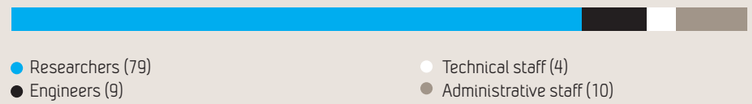
for the period 1 January – 31 December (figures in NOK thousand)

KNOK	2006	2005
OPERATING INCOME		
External projects	115 233	101 858
Project funding from The Research Council of Norway	22 863	23 750
Basic funding from The Research Council of Norway	5 500	4 500
Other income	359	158
Gross project income	**143 955**	**130 266**
- Direct project expenses	35 780	30 153
Net operating income	**108 174**	**100 113**
OPERATING EXPENSES		
Wages and social expenses	69 341	76 962
Ordinary depreciation	4 147	3 040
Other operating expenses	26 607	27 375
Total operating expenses	**100 095**	**107 376**
OPERATING RESULT	8080	-7 263
FINANCIAL INCOME AND EXPENSES		
Interest	4 497	3 597
- Financial expenses	222	216
Net financial income	**4 275**	**3 382**
PROFIT BEFORE EXTRAORDINARY ITEMS	12 355	-3 882
Extraordinary income		
Extraordinary expenses	**2 000**	
RESULT OF EXTRAORDINARY ITEMS	-2 000	
Income before tax	**10 355**	**-3 882**
ANNUAL RESULT	10 355	-3 882
Dispositions		
Transferred to/from the equity	**10 355**	**-3 882**

Investments in knowledge and scientific equipment, and results as percentage of net revenue



Distribution of employees by position

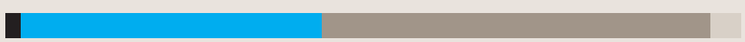


Balance sheet

for the period 1 January – 31 December (figures in NOK thousand)

Assets	**2006**	**2005**
FIXED ASSETS		
Scientific equipment	7 237	8 266
Office equipment, vehicles, inventories, etc.	2 761	2 338
Fixed assets	**9 998**	10 604
Share investments	22 199	19 275
Deposits, companies within the SINTEF Group	597	3 000
Financial long-term assets	**22 796**	**22 275**
Total fixed assets	**32 794**	**32 879**
CURRENT ASSETS		
Work in progress	**3 290**	**1 973**
Accounts receivable	59 824	46 127
Accounts receivable, companies within the SINTEF Group	1 709	1 642
Other accounts receivable	1 835	637
Receivables	**63 368**	**48 405**
Bonds and other securities	**61 304**	**58 065**
Cash, bank accounts	**10 688**	**5 463**
Total current assets	**138 651**	**113 906**
TOTAL ASSETS	**171 445**	**146 786**
EQUITY AND LIABILITIES		
EQUITY		
Share capital (900 shares at NOK 10,000)	9 000	9 000
Other equity	86 512	76 158
Total equity	**86 512**	**85 158**
LIABILITIES		
Pension liabilities	2 242	652
Long-term liabilities	**2 242**	**652**
Delivery liabilities	8 494	7 942
Liabilities, VAT, tax deductions, social security, etc	11 415	9 414
Payment in advance	38 819	26 594
Liabilities, companies within the SINTEF Group	2 371	6 487
Other short-term liabilities	12 591	10 539
Current liabilities	**73 691**	**60 976**
TOTAL LIABILITIES	**75 932**	**61 628**
TOTAL EQUITY AND LIABILITIES	**171 445**	**146 786**

Publication of SINTEF Petroleum Research in 2006



- Popular science articles and lectures (4)
- Scientific articles (101)
- Reports (78)
- Publications with referees (8)

Management

May Britt Myhr	President
Inge M. Carlsen	Research Director, Production Technology Department
Kjell Arne Jacobsen	Vice President Strategic Efforts
Jon Harald Kaspersen	Research Director, Wellstream Technology Department
Ute Mann	Research Director, Basin Modelling Department
Jostein Mårdalen	Research Director, Formation Physics Department
Marie-Laure Olivier	Research Director, Seismic and Reservoir Technology
Rolv Rommetveit	Research Director, Drilling and Well Construction Department
Marit Sneen	Financial Manager

Laboratories

SINTEF Multiphase Flow Laboratory
SINTEF's Multiphase Flow Laboratory in Trondheim, Norway, was established in 1982 as the world's largest industrial scale multiphase flow laboratory. Today, the laboratory has been developed into a complete Multiphase Flow Assurance Laboratory with the following facilities: The Large Scale Flow Loop, The Medium Scale Flow Loop, The Gas Hydrate Laboratory, and the high pressure real fluid Flow Characterisation loop (The Weel Laboratory).

The laboratory's main activity is flow assurance related research for the petroleum industry. It has contributed significantly to the development of multiphase flow simulators, and this is still an ongoing activity. Development of hydrate cold flow technology and sand transport studies are currently also main topics.

The laboratory is available for multiphase flow and flow assurance research. In addition, it is well suited for testing of process equipment and instrumentation, and for concept and pilot studies.

Reservoir Laboratory
Since 1977, SINTEF Petroleum Research has performed flooding experiments and fluid studies related to petroleum production. Our laboratory holds high technological standards. We use advanced equipment both in standard experiments for service work, as well as in completely new set-ups for research.

Our laboratory is particularly well equipped for reservoir condition services within special core analysis, pVT characterisation, IFT measurements and other fluid studies. Numerical and analytical modelling can increase the value of laboratory experiments. This is also offered as a service.

Our laboratory facilities and experimental equipment is based on commercial components, but we continuously improve the precision and reliability of our measurements by improving the equipment itself, and the methods applied. New high pressure instruments are being designed and built for special purposes.

Formation Physics Laboratory
The Formation Physics Laboratory provides laboratory services covering a wide variety of aspects of petroleum rock mechanics and related areas. We do testing for external clients and testing as part of the Formation Physics Department's research projects.

Experiments include constitutive tests, physical model experiments and index testing. The flexibility of the laboratory opens for combinations of various physical and mechanical measurements, and we try to meet any request.

SINTEF's Organic Geochemistry Laboratory
The Organic Geochemistry Laboratory is integrated into the Basin Modelling Department. Activities concentrate on artificial maturation experiments to investigate processes of formation and cracking of petroleum fractions in source rocks and their expulsion. The models developed from the results of these experiments are used to simulate these processes in the geological history. The laboratory also carries out carbon and sulphur analyses, solvent extraction and analyses of liquid hydrocarbons (GC-FID and GC-MSD) and natural gases (GC-FID/TCD).

SEM-XRD Laboratory
Scanning electron microscopy (SEM) and X-ray diffraction analyses (XRD) are, together with traditional optical microscopy, currently applied for characterisation of sedimentary rocks, and for examination and visualization after rock mechanic experiments.
The analyses are offered to external clients both separately and integrated in larger projects.

X-Ray CT and NMR Laboratory
The Reservoir Technology and Formation Physics departments collaborate with NTNU on and x-ray CT instrument. We also have two low field NMR units with compatible core holders.

Scale Build-up Laboratory
A special laboratory is being used together with NTNU for experimental work of scale build-up in the near wellbore area and production tubing. Studies include precipitation kinetics and porosity-permeability damage experiments on cores.

Employees as of January 1, 2007

Legend			
A	Administrative personnel	P	President
D	Director	RD	Research Director
E	Engineer	S	Scientist
		T	Technical staff

P Myhr May Britt (President)

Administration Support
E Berg-Hanssen Harald
E Flo Rune
T Fossum Berit
A Guldseth Bodil
D Jacobsen Kjell Arne
A Påsche Elin
A Sagmo Mette Amundsen
A Sneen Marit
A Vinge Torun

Basin Modelling
S Grøver Arnt
S Helset Hans Martin
S Inthorn Maik
E Lind Kristin
S Lothe Ane Elisabet
RD Mann Ute
S Ritter Ulrich
S Tømmerås Rolf Are
S Weiss Hermann M
S Zweigel Janine

Well Stream Technology
S Dahl Arne Morten
T Gustavsen Karl Gustav
S Habetinova Eva
S Høiland Sylvi
RD Kaspersen Jon Harald
S Kjølaas Jørn
S Krampa Franklin
S Krogh Espen
S Ladam Yves
S Larsen Roar
S Larsen Rolf Eirik Malones
S Lund Bjørnar
S Onsrud Gisle
T Rekkebo Arne Erik
T Sneeggen Cecilie
S Straume Erlend Oddvin
S Unander Tor Erling
A Wanvik Hilde
S Wolden Marita
S Ytrehus Jan David M.
E Øyangen Terje

Production Technology
S Abdollahi Jafar
S Borge Hans
RD Carlsen Inge Manfred
A Gabrielsen Anette R.
S Randhol Preben
S Totland Nils
S Valencia Karen Joy
S Vrålstad Torbjørn

Formation Physics
S Bakk Audun
S Bøe Reidar
S Cerasi Pierre
S Fjær Erling
S Holt Rune Martin
S Larsen Idar
S Lavrov Alexandre Vadimovich
S Li Liming
S Lund Hans Karl
RD Nes Olav-Magnar
S Ojala Ira
S Papamichos Euripides
S Skjetne Tore
S Stavrum Johannes
S Stenebråten Jørn
S Sønstebø Eyvind Frode
A Tiller Ingunn

Well and Production Technology
S Bjørkevoll Knut Steinar
S Frøyen Johnny
S Halsey George W.
A Horvei Mona H.
S Jaising Hitesh Y.
S Kluge Roald
S Kolnes Øyvind
S Larsen Hans Freddy
S Molde Dag Ove
S Nybø Roar
S Petersen Johnny
RD Rommetveit Rolv

Seismic and Reservoir Technology
S Akervoll Idar
S Alerini Mathias
S Bergmo Per Erik
S Bjørkvik Bård Johan Arnt
A Bjørseth Eva Kristin
S Dillen Menno
S Drysdale Robert
E Frigård Oddmund
S Georgescu Sorin
S Ghaderi Amir
S Grimstad Alv-Arne
S Holt Torleif
S Haave Øyvind
S Idris Yagoub Mohamed
S Lescoffit Séverine Pannetier
S Lindeberg Erik Gøsta Bruno
S Mørk Atle
S Nag Steinar
RD Olivier Marie-Laure
S Polak Szczepan
S Ravaut Celine
S Traub Bärbel
E Utne Svein Arild
S Wessel-Berg Dag

This is SINTEF

The SINTEF Group is the largest research organisation in Scandinavia. Our vision is "Technology for a better society", and our aim is to contribute to increased value creation, improved quality of life and sustainable development. SINTEF sells research-based knowledge and associated services based on deep insight into technology, the natural sciences, medicine and the social sciences.

Our basic values are honesty, generosity, courage and solidarity. SINTEF's aim is to become the most respected research institution in Europe.

The SINTEF Group comprises the SINTEF Foundation, plus four limited companies and SINTEF Holding. We are a competitive research group with a significant potential to make a positive contribution to the development of society at regional, national and international level.

We contribute to the development of existing knowledge-based employment and to the creation of new workplaces. Our business concept is that of promoting the closer interaction of business and research cultures.

Key figures

At the turn of the year the SINTEF Group had 1901 employees, who generated new knowledge worth NOK 2 billion in 2006.

Contracts for industry and the private sector and project funding provided by the Research Council of Norway account for more than 90% of our income. Around seven per cent takes the form of basic grants from the Research Council.

Partners in cooperation

SINTEF cooperates closely with the Norwegian University of Science and Technology (NTNU) and the University of Oslo. NTNU personnel work on SINTEF projects, while many SINTEF staff teach at NTNU. Our collaboration involves widespread common use of laboratories and equipment, and more than 500 people are jointly employed by NTNU and SINTEF.

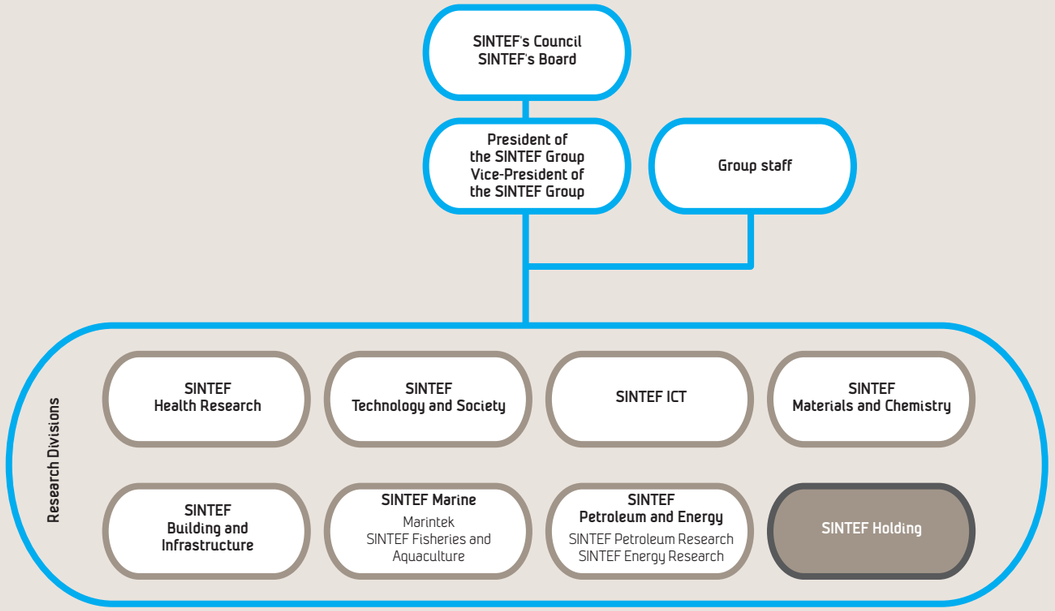
International activity

In 2006, 12.6 per cent of our turnover derived from international contracts. About one third of our international turnover comes from the EU's research programmes. We give these high priority, because we believe that it is important to participate in multinational knowledge-generation efforts, and because such projects give us access to interesting networks.

The rest of our international turnover comes from contract research projects performed on behalf of overseas clients. Our ambition is to grow in other countries, and for this reason we are investing in areas in which we are particularly strong: oil and gas, energy and the environment, materials technology and marine technology.

Commercial spin-offs

SINTEF also acts as an incubator for new industrial companies. In 2006, we were involved in the commercialisation of 12 SINTEF technologies, through licensing agreements and the establishment of new companies. We are active owners of our start-up companies, and we help them to continue to develop. Selling our shareholdings in successful spin-offs realises liquid assets that we subsequently invest in the generation of new knowledge. Nevertheless, the most important part of our work is the development of existing industrial companies. Every year, SINTEF supports the ongoing development of some 2000 Norwegian and foreign companies via its research and development activities.



SINTEF Petroleumsforskning AS
SINTEF Petroleum Research

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