

Report of the Executive Board for 2006

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The Research Council of Norway is the Government's executive and advisory body for strategic research planning and research-related activities. In the course of 2006, the Council has focused on a number of issues of critical importance to the Norwegian research establishment. Several of these issues involve follow-up of measures and priorities set out in the government white paper *Commitment to Research*. The budget proposal submitted by the Council advocated a level of growth in the research budget consistent with the objectives set out in the recommended escalation plan.

Matters of particular importance during 2006 have included:

- Designation of a research strategy for the Northern Areas and follow-up of the Government's Strategy for the High North.
- The establishment of 14 Centres for Research-based Innovation (CRIs) and eight new Centres of Excellence (CoEs) as part of the effort to strengthen long-term research activities.
- Preparations in connection with the launching of the International Polar Year, which runs from 1 March 2007 to 1 March 2009.
- Major efforts to implement activities targeted toward the thematic and technology priority areas set out in the white paper *Commitment to Research*.
- Extensive activities to further develop international cooperation, with particular emphasis on the 6th and 7th EU Framework Programmes for Research and Technological Development.
- Establishment and planning of new industry-oriented initiatives, such as the Funding Programme for Regional R&D and Innovation (VRI Programme).

Continued high aspirations for Norwegian research

The government white paper *Commitment to Research* set out high goals for Norwegian research and research policy has been given a prominent role on the political agenda in recent years. Nonetheless, there is still a long way to go before the targets set for investment in research have been reached. Greater focus needs to be given to independent basic research, priority thematic areas and initiatives aimed at mobilising R&D in trade and industry.

The amount invested in research by Norwegian companies is lower than the OECD average, and especially compared to our neighbouring countries. However, analyses from the Norwegian Research Institute for Studies in Innovation, Research, and Education (NIFU STEP) indicate that Norwegian companies are more innovative than is shown by the indicators used in the EU Innovation Scoreboard. Norwegian companies utilise R&D and innovation to a large degree through their networks with clients and suppliers. The interplay between companies and public R&D initiatives has emerged as crucial in this context. A close national network for knowledge development and sharing has laid the foundation for the positive development of Norwegian trade and industry. Strong public investment in research through targeted instruments is therefore of essential importance. It is with this in mind that the Executive Board has submitted budget proposals scaled to help achieve the ambitious goal of a public investment level of one per cent of the gross domestic product (GDP).

The Board notes with disappointment that many of the proposals for growth were not realised. The objective set out in *Commitment to Research* to raise private R&D funding to two per cent of the GDP must be maintained as a long-term goal. Achieving this will require targeted efforts to boost capacity through recruitment and investment in advanced scientific equipment.

Quality in research

The Research Council is charged with promoting higher quality in Norwegian Research through national competitive arenas for research funding and by means of evaluations. It is gratifying to see the emergence of several positive trends in this context. For instance, articles by Norwegian authors are being cited with increasing frequency, and Norwegian institutions are showing success as competitors within the EU Framework Programmes. Furthermore, the Centres of Excellence (CoEs) are attracting outstanding researchers from abroad. However, evaluations conducted within the various disciplines reveal that there are still many weak points to contend with.

Centres of Excellence

The CoE scheme was launched in 2003 as part of the effort to enhance quality. In 2006, a midway evaluation of the 13 centres was conducted. The Executive Board is pleased to note that nine of the centres were ranked as “exceptionally good”. The scheme has helped to change the organisation of research in Norway and made Norwegian research more visible to the international researcher community. A new funding round was announced alongside the evaluation, and this has resulted in the establishment of eight new CoEs, to be launched in 2007.

Evaluations

The evaluation of pharmaceutical research was completed in 2006, and evaluations of research activities in economics and history were initiated. A follow-up plan for the 2005 evaluation of engineering sciences has been devised that includes the establishment of several strategic projects supported at the institution managerial level. A separate committee for funding of independent basic research in technology subjects was also established, with the first funding announcement to be issued in 2007.

MST strategy

In response to a request from the Ministry of Education and Research, the Research Council has drawn up a draft national strategy for strengthening basic research in mathematics, science and technology (MST). These efforts were carried out in a close dialogue with the Norwegian Association of Higher Education Institutions, relevant scientific circles and the ministry itself.

The MST strategy focuses particular attention on recruitment. The most important measures proposed include promoting greater interest in science subjects among children, young people and teachers, developing better systems for recruitment at all levels, with a special focus on increasing the number of women in science, and bolstering the quality of research groups by ensuring satisfactory framework conditions.

Advanced equipment and other infrastructure

The availability of advanced scientific equipment plays a key role in determining the quality and capacity of Norwegian research. In 2006 the Research Council completed a first draft of a national strategy for scientific equipment and infrastructure for all fields of study, and will continue its efforts on this issue in 2007 with a view to drawing up a concrete action plan. This action plan will incorporate scientific equipment, other research-related infrastructure, and financing for experiments, qualification of results and verification of the impact of research.

Basic funding system for the independent research institute sector

During 2006 the Research Council has prepared a proposal for a new funding system for the independent research institute sector. One of the overall aims of this effort has been to devise a cohesive, performance-based system that can help to enhance the quality of R&D activities while at the same time enabling the research institutes to further enhance their primary role as

providers of commissioned user-oriented research. The proposal also seeks to ensure that all institutes compete on equal terms and that transparency relating to the allocation of basic funding is maintained. The system will help to clarify and strengthen the Research Council's strategic responsibilities in accordance with the stipulations of the white paper *Commitment to Research*.

Gender equality in research

Greater gender equality is essential if we are to reach the ambitious targets that have been set for Norwegian research with regard to recruitment and priority areas. In 2006 a proposal for a policy document was drawn up that will pose clearer requirements to grant applicants and to the systematic integration of gender equality perspectives in all initiatives and programmes.

Research for innovation

Centres for Research-based Innovation

In 2006, the Executive Board gave the go-ahead to establish 14 Centres for Research-based Innovation (CRIs). The Board expects the CRIs to enhance innovation by promoting long-term research activity in close cooperation between R&D-intensive companies and prominent research communities. The host institutions comprise independent research institutes and universities, as well as one company with significant R&D activity. The CRIs represent a wide range of different research areas.

Programme for User-driven Research-based Innovation (BIA)

The funding instruments under the Division for Innovation were subjected to comprehensive review during 2005, leading to the establishment of the Programme for User-driven Research Based Innovation (BIA), a scheme that provides funding to companies seeking to conduct high-level R&D activities. The scheme applies to all branches of industry that are not explicitly encompassed by other funding measures. Support is provided for exceptionally resource-intensive, high-risk projects with great potential for innovation and value creation. More than half of Norwegian industry's R&D investment is taking place in companies that are not qualified for funding under Research Council programmes other than the BIA Programme. The quantity and quality of applications for outstanding industry-oriented projects submitted thus far indicate that the potential for increasing private investment in research is tremendous.

With regard to research programmes in this sphere, the Research Council proposed the launching of a new programme for maximising value creation in the natural gas chain. This was followed up by allocations for 2007 and the GASSMAKS Programme has now been established. In the long-term, this programme is estimated to have an annual value creation potential of more than NOK ten billion. The programme will run from 2007 to 2016.

Funding Programme for Regional R&D and Innovation (VRI)

The Funding Programme for Regional R&D and Innovation is the Research Council's newest regional initiative. This programme is designed to promote knowledge development, innovation and value creation through cooperative efforts within regions, and to intensify R&D activities within and for the individual regions. A number of the Research Council's regional instruments have been consolidated under the VRI Programme to facilitate better coordination. In addition, the programme will comprise a number of new funding instruments.

Cooperation with other players

In collaboration with Innovation Norway, the Research Council has proposed a new initiative, "Invent in Norway", to motivate foreign companies to invest in and conduct R&D activities in Norway. These efforts will be followed up during 2007 through pilot projects and further identification of tasks.

The Executive Board has followed up the plan to optimise cooperation with the other public agencies working within innovation. Together with Innovation Norway and SIVA – The Industrial Development Corporation of Norway, the Research Council launched a joint Internet portal, *innova-*

sjonstjenester.no, in 2006. This portal is targeted toward companies involved in R&D activities, and is designed to make it easier for companies and other industrial players to find information about the many support schemes and services available.

Thematic priority areas and research for policy-making

The Research Council's *Large-scale programmes* scheme was initiated a few years ago in order to give priority to thematic and technology areas of national importance. At present, the seven Large-scale programmes are:

Research in Functional Genomics (FUGE)

AQUACULTURE – An Industry in Growth (HAVBRUK)

Nanotechnology and New Materials (NANOMAT)

Climate Change and its Impacts in Norway (NORKLIMA)

Optimal Management of Petroleum Resources (PETROMAKS)

Clean Energy for the Future (RENERGI)

Core Competence and Value Creation in ICT (VERDIKT)

The Large-scale programmes encompass basic as well as user-driven/industry-oriented research, and are targeted toward research institutions and industry alike. Each addresses knowledge needs across ministerial sectors. The programmes are all well established, highly visible and have generated widespread participation and interest from among stakeholders in the research sector. Cooperation between different players and a cohesive innovation policy will be crucial to fully realising the potential of the knowledge and technology developed under these programmes.

Research is essential to understanding, preventing and limiting climate change. The development of wealthy and poor countries alike must be adapted to the anticipated changes. Hopefully, the most dramatic impacts can be avoided with the development of new technology. The Executive Board believes that Norway can make a substantial contribution through R&D activity targeted toward CO₂ management and renewable energy sources, and will work actively to increase investment in these fields.

A national plan for climate research has been drawn up and submitted to the Ministry of the Environment.

In December 2005, the Government signalled that it would be giving high priority to initiatives relating to the High North. Subsequent to this, the Research Council drew up a research strategy to focus on the Northern Areas (*forskning.nord*). The strategy incorporates broad-based, dynamic objectives extending beyond the perspective of petroleum activity. It was emphasised that the strategy encompasses *research in* as well as *research for* the North, to encourage national mobilisation and participation in research activities. In December 2006 the Government introduced its overall Strategy for the High North. The Research Council is pleased to note that the Government has attached great importance to knowledge perspectives and the need for research.

In addition to the efforts to devise a strategy for the Northern Areas, Norway has also taken active part in the preparations for the International Polar Year (2007-2009). In the autumn of 2006, close to NOK 300 million was allocated to 26 different projects under Norwegian management.

Many of the research programmes are significant in the context of political decision-making. This was illustrated in connection with the debate on payment of sickness benefits in the autumn of 2006. When the government committee appointed to consider alternative solutions asked for input, there were no fewer than 42 projects that had valuable insights to offer. Another initiative that is relevant to policy-making is the *Europe in Transition* scheme, established to follow up the white paper *Commitment to Research*. This scheme seeks to enhance the knowledge base on European change processes as well as

Norway's role in Europe. In 2006, the programme Norwegian Environmental Research Toward 2015 was launched. This research programme builds on existing research programmes and, together with climate research, represents the most important environmental research initiative for the coming ten-year period.

Internationalisation

Efforts in connection with the internationalisation of Norwegian research will remain a top priority in 2007. Norwegian researchers have been highly successful in obtaining funding under the EU Framework Programmes, and co-authorship between Norwegian researchers and their colleagues in other countries continues to rise. The Executive Board considers the internationalisation of Norwegian research to be of the utmost importance, and will intensify efforts in 2007 to encourage the Norwegian research community to increase its participation in international projects and activities.

EU Framework Programmes

During 2006 the Executive Board has emphasised the internationalisation of Norwegian research as a strategic instrument. In coming years, the international perspective will gain an even greater role in Norwegian research policy. Norway has taken part in 840 projects under the EU Sixth Framework Programme on Research and Technological Development (budgetary period 2003 -2006). This corresponds to ten per cent of all approved projects, which exceeds the figures for the previous framework programmes. The success rate for grant proposals with Norwegian participation is over 26 per cent, which is eight percentage points higher than the average. Independent research institutes comprised 35 per cent of the Norwegian participation, while companies represented 30 per cent and the higher education sector represented 23 per cent. In its summary of performance as of May 2005, the European Commission named Norway as one of the top-five performers.

The Research Council has actively worked to promote synergy between participation in the EU Framework Programmes and its own programme initiatives as a means of reinforcing Norwegian efforts in areas of shared priority. The Research Council takes part in 32 of the more than 60 ERA-Nets that have been launched as collaborative efforts between research-financing organisations in Europe.

In December 2006 the EU approved the Seventh Framework Programme, which will run from 2007 to 2013. The Research Council has helped to shape the substance of the programme by providing political and professional input directly to the European Commission. Close ties with the Commission have been established, and in 2006 the Research Council succeeded in deploying five Norwegians to Brussels to work as case officers for the Directorate-General of Research.

Bilateral research cooperation

Bilateral measures consist of stimulation and networking measures designed to result in new collaborative projects under the normal programme portfolios. These measures have met with great interest in the research community. Research cooperation has been intensified with priority partner countries, including North America, Japan, China, India and South Africa. Nordic research cooperation has been strengthened via NordForsk, NICE, sectoral programmes in energy, agriculture, forestry and fisheries and the Nordic Centres of Excellence (NCoE) scheme.

Cooperation with the new EU member countries has been substantial. This cooperation is made possible by the Norwegian contribution to the EEA membership fees. Norwegian research groups are key partners in a number of projects established under this scheme. The launching of a Polish-Norwegian research fund as from 2007, encompassing an overall budgetary framework of NOK 120 million is perhaps the most important result in this context.

The Executive Board has introduced a major new initiative to enhance and build good Norwegian research groups in the field of global health and vaccination research. At the global level, less than ten per cent of public and private investment in health research is used to study the health problems that

comprise 90 per cent of the disease burden. In Norway, investment in this type of research has been even lower.

Dialogue with society and dissemination of research to the public

National Science Week (Forskningsdagene)

The Research Council has continued its efforts to maintain an ongoing dialogue with society and disseminate research to the public at large. One of the measures for achieving this is National Science Week, an annual event that is one of the largest measures of its kind in Europe in terms of its focus on broad-based dissemination of research. In 2006, National Science Week featured over 1 000 events hosted at 200 institutions throughout Norway. The Research Council is responsible for this initiative and hosts the secretariat.

National Science Week took part in the European science festival project WONDERS 2006, in which participating countries exchange science communication events. The Research Council received funding from the EU in 2006 to participate in *Researchers' Night*, a European initiative to provide information about and generate greater interest in recruitment to researcher careers. The Norwegian event was organised as part of National Science Week.

The Research Council is continuing to develop its initiatives for children and young people, for instance through the school-oriented *Nysgjerrigper* Science Knowledge Project. There are now 84 000 primary school members of the *Nysgjerrigper* project. The measure has attracted interest in other countries, and the teaching methods have been “exported” to teaching institutions such as the Scandinavian School in Brussels.

The Research Council as an organisation

Internal evaluation

The Ministry of Education and Research asked the Executive Board to conduct an internal evaluation to assess what has been achieved in the first period after the reorganisation of the Research Council. The internal evaluation was conducted using the primary objectives for the reorganisation of the Research Council as a basis. The Executive Board discussed the evaluation over several meetings, and also consulted with the division research boards.

In its evaluation, the Executive Board concluded that the reorganisation process has been successful, and many of the objectives have been realised, including the achievement of greater transparency and improved contact and coordination with the research sector. According to the Executive Board, the Research Council's greatest challenge involves the need to further refine its advisory role. The dialogue with the ministries is especially important in this context, but the foundation for enhancing the advisory functions also lies partly in capacity and expertise within the organisation itself, and partly in the ability to inspire constructive input and studies from the research community. The internal evaluation also pointed to the need to review the framework for administrative ties between the Council and the ministries. In particular, the ministerial administration of funding is perceived to be very detailed, and the Board is seeking to draw up proposals for how this can be changed so as to enable the Research Council to better fulfil its role.

Organisational strategy

A new organisational strategy for the period from 2007 to 2010 was laid down in 2006. This strategy is based on the Research Council's overall strategy *Research Expands Frontiers*. In addition, ethical guidelines have been drawn up and reviewed and discussed at all levels of the organisation. The internal impartiality committee reviews matters that come up in the various programme boards on an ongoing basis, thus enabling the organisation as a whole to maintain and further develop the highest possible ethical standards for its activities.

In 2004-2005 a trial project was conducted to test how new technology, workplace adaptation and work methods could be used to enhance cooperation, communication and learning. In 2006 a decision was taken to expand this project.

IT developments

The process of improving and refining the electronic administrative solutions has been continued in 2006. All grant applications and progress reports are now submitted and processed electronically. The IT systems Agresso (financial management system) and DocuLive (archive system) have been upgraded and integrated more closely. A large-scale pre-project for revision of the Research Council's website was launched in the autumn of 2006, and efforts were already well underway by the beginning of 2007. In response to a request from the universities, the Research Council took action to implement an eAdministration module that will become operational in the spring of 2007.

Results of the year's activities

The Research Council's revenues totalled NOK 5 554.9 million in 2006. Of this, allocations from the ministries totalled NOK 5 345.2 million. The yield of the Fund for Research and Innovation comprised NOK 709 million, and now constitutes the third largest source of revenues. Operating expenses, including both R&D funds and administrative expenditures, came to NOK 5 130 million. The Research Council's net result for 2006 was NOK 428.8 million. Of this, the increase in research obligations comprises NOK 427.7 million, which is used to increase capitalised research obligations. The result after research obligations came to NOK 1.1 million, which will be added to the Research Council's equity and other obligations.

The gross value of research obligations is NOK 1 499.7 million. This gives capitalised research obligations (previous transfers) totalling NOK 1 226 million, which is somewhat higher than 2005. There is no uncertainty associated with the accounts that is of significance to the submission of the financial statements, nor have any extraordinary circumstances arisen that will affect the accounts after the end of the financial year. The Research Council is subject to minimal financial risk and is self-insured through the State.

Budget transfers

Each year the Research Council transfers part of the allocations to the following year. At the end of year 2006, these transfers displayed a major increase. The Executive Board views large transfers as a political problem, and has sought specifically to reduce such transfers as much as possible. Several measures have been implemented. At the same time, it is important to emphasise that these transfers are not primarily an indication of capacity problems or ineffective administrative procedures. A competitive allocation system will always be characterised by some degree of "overbooking", and thus a certain start-up time for those awarded funding. Moreover, the Research Council's allocations are clarified just before the budgetary year commences. The state allocation system must therefore be considered one of the primary reasons behind the high transfer level. The recent growth phase in the Norwegian research sector has served to amplify this.

The working environment – sickness absence

The Research Council maintains an ongoing focus on issues relating to the working environment, and employs preventative health measures that include a variety of exercise opportunities run by the administration and/or company sports association, as well as follow-up of individuals on sick leave.

In 2006, the total sickness absence in the administration was 3.7 per cent, which is low, although somewhat higher than 2005 (3.3 per cent). This includes absence both with and without a doctor's certificate. Absence due to sick children and leaves of absence are not included in this figure.

The Research Council became an Inclusive Workplace Enterprise after signing a cooperation agreement with the National Insurance Service that took effect on 1 January 2003. This entails among other things that employees on sick leave are followed up more closely than was previously the case. There are indications that the scheme indeed helps to reduce absenteeism.

There is a constructive atmosphere of cooperation between management and the employees' associations.

Environmental management perspectives are an integral part of the day-to-day activities. Measures in the areas of energy, transport, waste and procurement have been implemented. The activities of the Research Council do not affect the external environment, nor do they cause emissions that pollute the environment.

The employees and equal opportunity

As of 31 December 2006, the Research Council's administration consisted of 344.3 man-years/ 354 individuals.

Advisers (advisers and senior advisers) comprise the largest group of employees, accounting for a total of 158.8 man-years.

As of 31 December 2006, 36 employees (ten per cent) in the administration are working part-time, 29 of whom are women.

Of the Research Council's 344.3 man-years, 208.2 are filled by women and 136.1 by men, which means that women account for 60.5 per cent of the staff. This is distributed as follows: women comprise 90.9 per cent of the executive officer group, 57.7 per cent of the adviser group (advisers and senior advisers), 40.4 per cent of the special adviser group, 58.7 per cent of the department director group and 50 per cent of the division director group.

Women comprise at least 40 per cent of the membership of the Executive Board and the division research boards.

The Research Council's established employment procedures make it mandatory to pay due regard to equal opportunity considerations. Of 60 appointments in 2006, 53 per cent were women distributed across all job categories.

Salary

Salaries for Research Council employees are established on the basis of an assessment of job content, performance and market value, in accordance with guidelines set out in the agreement between the Research Council and employee organisations. This entails that salaries within each job category may vary. As of 31 December 2006, the average salary level is somewhat higher for men than for women in managerial positions and in the higher adviser range. The situation is reversed in the executive officer range. The Research Council reviews salary-related issues and assesses the need for special measures on an ongoing basis.

A thank-you to the staff

The Executive Board would like to thank the Research Council staff for its effective execution of tasks throughout the year.

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