

## **Report of the Executive Board for 2001**

*2001 was an eventful year for Norwegian research and the Research Council of Norway. Among the year's highlights were the evaluation of the Research Council, the efforts to devise a new strategy, the establishment of the Centres of Excellence (CoE) scheme and the Research Council's participation in Functional Genomics (FUGE).*

### **Centres of Excellence (CoE)**

In 2001, the vast potential inherent in Norwegian research was thoroughly documented in connection with the establishment of Norway's Centres of Excellence (CoE) scheme. The CoE preparations confirmed that Norway has research groups of the highest international calibre.

The scheme is intended to enhance the quality of basic, long-term Norwegian research, and 131 research groups took part in the first round of applications. An international evaluation committee rated no fewer than 40 applications as "very good" to "exceptional", thus qualifying them to take part in the final round. The CoE scheme has already yielded benefits, as several research groups have established new co-operation constellations that can enhance their positions. The scheme was also well received by many research communities that did not pre-qualify, but which nonetheless received good evaluations.

### **Raising Norwegian research spending to the OECD average**

Over the past year, the Storting (Norwegian parliament) and government both acknowledged and intensified the plans to bring Norway's research spending up to the OECD average as a percentage of GDP. Overall, the government budget for 2002 was favourable for Norwegian research, increasing funding by a nominal rate of roughly 10 per cent, to NOK 11.8 billion. Notwithstanding, Norway is no closer to its goal of reaching the OECD average, primarily due to a shortfall in spending on research and development (R&D) on the part of business and industry. The Research Council's total budgetary parameters were increased by 5.9 per cent to MNOK 3 595.

### **The evaluation of the Research Council**

The international evaluation of the Research Council was submitted to the Minister of Education and Research before Christmas. The evaluation addresses the Research Council as an organisation and its activities with respect to the paramount research policy, the ministries' involvement and Norway's research system. According to the evaluation, the Research Council still has room for improvement when it comes to promoting interaction between basic, long-term research and applied research, and in terms of devising an overall research policy. The evaluation stresses that insufficient budgets have made it difficult for the Research Council to do its job. Moreover, it was pointed out that the ministries have failed to take a sufficiently long-term, co-ordinated approach to research issues, and that allocations are often earmarked in a manner that places constraints on the Research Council's freedom of action.

## **Tax incentives and FUNN**

The FUNN scheme is short for Research and Development in a Creative Trade and Industry. Its fate can illustrate the evaluation's reference to the lack of a long-term perspective. FUNN was officially started on 1 July in collaboration with the Norwegian Regional and Industrial Development Fund (SND), based on the political green light given in May. The scheme was well received by industry, and several enterprises established long-term projects in the belief that this would be a permanent scheme. However, in the proposed government budget for 2001, RDTCI was surprisingly dropped and replaced by a tax incentive scheme, at the same time as MNOK 140 was cut from the allocations for user-driven research.

The Research Council has consistently supported a tax incentive scheme, but was not pleased that enterprises with more than 100 employees are not covered by the current scheme. Furthermore, the Research Council lost the opportunity to initiate new projects based on allocations from the Ministry of Trade and Industry, and the ongoing programmes had to be reduced by about nine per cent. Accordingly, it is difficult to see that the intention of supporting industrial R&D has been fortified. The Research Council still supports the Hervik Committee's proposal to introduce a tax incentive scheme and increase funding for certain types of user-driven research.

## **The Research Fund**

In 1999, the Government proposed that NOK 3 billion from Norway's Oil Fund be set aside for a national research and innovation fund. The Research Fund was subsequently increased to NOK 13 billion. The Fund is expected to have an estimated yield of MNOK 525.5 in 2002.

In 2001, the Executive Board drew up criteria for the long-term use of the yield on the Research Fund, supporting, *inter alia*, the original proposal that the Research Council manage the entire amount. In the government budget for 2002, one-third of the amount was channelled directly to the universities. It is not clear whether this distribution will be applied in the years ahead. This lack of clarity makes it difficult to engage in long-term, strategic planning.

The Research Fund is one of several constructive measures that have helped provide new impetus for research groups. The fund represents an increase in non-earmarked research allocations, so it is natural and desirable to discuss its administration.

## **FUGE**

The Norwegian government earmarked MNOK 100 of the yield on the Research Fund in 2002 to Functional Genomics (FUGE). Gratifying progress has been made in strengthening Norway's capabilities in a discipline that will be absolutely essential for basic, long-term research and important industries in the years ahead. FUGE was set up following a meeting between representatives of key research communities and the Research Council. In record time, the players agreed on a national plan for the subject area.

In the months ahead, the Executive Board will strive to ensure the initiative will be escalated in accordance with the original proposal of MNOK 300 per year, stressing the need for FUGE to be funded through a separate allocation.

## Strategic efforts

In 2001, considerable efforts were invested in devising a new, general strategy for the Research Council to supersede the current Research for the Future (FFF). The new strategy has the working title *Research for the Future 2002–2006*. The strategic choices have been discussed *inter alia* at two major seminars in which the Executive Board and chairs of the Research Boards participated. FFF is change-orientated, outlining a framework for a general Norwegian research and innovation policy and making it possible to bring to fruition the Norwegian government's escalation plan for research allocations. The Executive Board notes that strategic planning efforts are a step ahead of the evaluation of the Research Council in many fields, as they respond to some of the challenges pointed out in the evaluation.

At the same time as the Research Council's paramount strategy is being drawn up, the divisions are revising their strategies to comply with FFF. This work will be completed in 2002.

The Industry and Energy Division (IE) implemented a major revision of its programme structure, reducing the number of programmes by half. The 10 remaining programmes are cluster-based and will help facilitate new synergies between enterprises and research institutions.

The Culture and Society Division (KS) implemented a comprehensive reorganisation of working methods with a view to non-earmarked project funding, and to pave the way for more generous project allocations and more interdisciplinary projects. The division has initiated a new research programme associated with petroleum policy and a Saami research programme. Further, efforts have been made to set up a programme for language technology research in collaboration with IE and NT, as well as the programme "Ethics, society and biotechnology" in collaboration with all the other divisions. A program for research on working life has been initiated in close contact with MH and IE, as has a new programme in the field of gender research. Closing conferences were organised for a number of research programmes that were concluded in 2001.

The Science and Technology Division (NT) drew up a plan, based on an evaluation performed by an international committee, about how the Research Council of Norway and Norwegian universities and colleges can contribute to developing and strengthening the research in physics. NT is also in the process of drawing up a similar plan for biology, and has initiated an evaluation of university programmes in Mathematics and Information and Communications Technology (ICT).

The Medicine and Health Division (MH) focused on quality-promoting measures in 2002, *inter alia* by setting up research groups that have offered better terms and conditions to several of the country's best researchers and research groups in the field. The groups are intended to be precursors of the Centres of Excellence (CoE), and are funded by the Research Fund. In addition, MH has recruited five more researchers to the Advanced Research Programme, which now includes eight researchers.

In 2001, the Environment and Development Division (MU) worked on the document "The Environmental State of the Nation in 2030 – a scenario of the future (released in April 2002). External resource people were involved in the work.

The Bioproduction and Processing Division's (BF) interdisciplinary efforts in marine research and biotechnology have involved surveying the salmon genome, among other things: Efforts are being made, for example, to establish a "library" of salmon genes. "Safe food" has been identified as a key field of research, in compliance with the action plan "Priorities in food and agricultural research". In 2001, a study performed by BF indicated that the lack of marine fodder for fish-farming is the greatest challenge facing Norway's aquaculture industry.

The Executive Board recommended that the Ministry of Education and Research introduce a new national committee for dealing with problems related to honesty and dishonesty in scientific research. The new committee will deal with complaints that cannot be resolved locally. Its main responsibility will be to prevent scientific dishonesty. The committee will cover all disciplines, and replace the National Committee for the Evaluation of Dishonesty in Health Research. The Research Council's proposal was drafted in the light of comments from a broad public hearing.

### **Evaluations**

Evaluating research groups and institutes is a crucial tool for strategic planning, long-term planning and any re-ranking of priorities. The Executive Board attaches great importance to ensuring that evaluations – even good evaluations – are followed up, and will invest more effort in this in future.

Norway's 14 technical-industrial institutes were evaluated over a six-year period. The feedback indicates that most of them benefited from the evaluations and the collateral user surveys.

2001 marked the completion of a comprehensive evaluation of Norway's research in the bio-disciplines. It showed that, on average, Norwegian biology research fell short of international standards, partly because of a low level of funding, but also due to a lack of researcher mobility and insufficient resources for researcher-initiated projects. However, the evaluation also showed that Norway has many internationally acknowledged researchers in this field and, accordingly, that strengthening this research through FUGE and other initiatives entails a huge potential.

Research and higher education in the agricultural sector were evaluated in 2001. Evaluations were also conducted on the fisheries research groups, the research foundation SINTEF Unimed and the four large social science research institutes in the Oslo area, as well as on the research policy institutes, the STEP Group and the Norwegian Institute for Studies in Research and Higher Education (NIFU). The evaluations laid a solid foundation for further follow-up.

The Executive Board made a statement in 2001 in connection with the international evaluation of the activities of the Institute for Energy Technology (IFE) at Halden. The evaluation demonstrated that IFE's activities are well run and maintain a high professional standard. The Executive Board therefore concluded that a purely professional evaluation indicates that the activities ought to be continued, provided proper safety precautions are taken. The final decision is up to the Minister of the Environment.

### **Advisory services, dialogue and interaction**

The Research Council influences research policy largely through dialogue with the ministries of Education and Research and Trade and Industry, although interaction with other ministries

and bodies is also of great importance. The Research Council's administration and divisions work continuously to forge stronger bonds to the authorities and research communities.

The Executive Board sees one of its main responsibilities as being to help ensure that the ministries, politicians and society at large are, at any given time, aware of the tremendous impact research has on society. It is especially important that industrial research and academia work hand in hand, and that research communities take advantage of the opportunities inherent in collaboration.

In connection with the autumn's election and change of government, the Research Council's administration has taken various types of initiatives to give new representatives the opportunity to get acquainted with the Research Council. For example, several meetings have been arranged with individual cabinet ministers and parliamentary committees.

As from 1 July 2001, the value-added tax (VAT) system was extended, a situation that has had a variety of consequences for research institutions. Among other things, it had an impact on the research parks' purchase of external consultancy services. The VAT scheme was expanded before guidelines were drawn up to clearly identify which of the research parks' activities would be subject to the VAT. The Ministry of Finance left it to the individual county tax office to draw up the boundaries. The Research Council's administration has asked the Ministry for clarification regarding how the new provisions should be practised, but many points remained unclear at the end of the year.

The Research Council has defined nine technologies to enable economic development. Together, they should comprise a research structure for industrial wealth creation. The goal is to use the Research Council's policy instruments to help build up the technological capabilities industry will need in future. The CoE scheme may be an important element in this structure.

ICT is one of the enabling technologies. During the year, the Research Council helped establish a micro-technology laboratory in co-operation with the University of Oslo (UiO), the electronics community in Horten, the research foundation Sintef and the Norwegian University of Science and Technology (NTNU) in Trondheim. Occupying a key position in a high-tech cluster of enterprises and research institutions in the area between the University of Oslo and the National Hospital, the laboratory will help strengthen Norway's micro-technology community.

Efforts have also been made to draw up a national strategy for ICT research. Final drafting will take place in 2002. Otherwise, the Research Council contributed to establishing the Simula Research Laboratory, an ICT centre that was established in August and opened its doors at Fornebu in December.

2001 marked the advent of two new tax schemes for R&D funding. BF was appointed observer on the Executive Boards of both the Research Fund for Fisheries and Aquaculture and the Fund for Research Tax on Certain Agricultural Products. BF was also represented on the Government Committee for Aquaculture, established to co-ordinate the authorities' efforts in the aquaculture industry.

### **International activities**

The Research Council strives to encourage co-operation and exchanges between Norwegian and foreign research communities. In 2001, active efforts were made to elicit Norwegian opinions and expressions of interest in connection with the planning of Norway's input to the EU's 6<sup>th</sup> framework programme for research and technological progress (FP6). Among other things, the Research Council submitted a recommendation to the Ministry of Trade and Industry. Norway's views received considerable attention in the EU system, and changes have been made to incorporate Norway's perspective on the marine sector and energy issues. Insofar as FP5 is concerned, it is already clear that Norway has done better than in FP4, and that the proportion of industrial participation has increased. See [EU Research Information](#).

In 2001, the UN's Development Programme (UNDP) submitted a report indicating that Norway lags far behind countries like Sweden and Finland when it comes to technological development and education in technical subjects. Bilateral co-operation projects can help even out these differences. The evaluation of the Research Council corroborated this, pointing out that bilateral co-operation is necessary to benefit from the vast technological knowledge found outside the country's borders.

Knowledge partnership is a clear trend at the international level, at the same time as global research co-operation is taking new shapes. Earlier, multinational corporations focused on the acquisition of promising small enterprises in their own core technology areas, but now several have opted to form partnerships instead. This opens new opportunities for small Norwegian knowledge-based enterprises, and may be an important contribution to raising the technology content in Norwegian exports.

Norwegian enterprises and institutes took part in 19 new [EUREKA](#) projects in 2001, eight of which are led by Norwegian enterprises. Norway's portfolio contains many exciting projects, particularly in the process industry, ICT, energy, the environment and medicine. For the first time, Norwegian enterprises and institutes are also participating in a food industry project. During the year, 26 enterprises received grants to establish international industrial R&D projects.

The Research Council sent several representatives to an official seminar in Japan on collaboration in biotechnology and marine research. Further, a number of key individuals from government and industry were invited on a study tour to visit biotechnology groups in San Francisco, California.

The Research Council and the Maritime Port Authority of Singapore are engaged in extensive R&D collaboration in the maritime sector. Singapore has the world's largest port, and Norway is one of the world's largest shipping nations. In 2001, an initiative was taken to compare the two states' maritime industrial clusters. The Norwegian School of Management BI will be a partner in the project.

During the year under review, Norway signed research agreements with Chile and South Africa. Chile and Norway have common interests in promoting the consumption of salmon and other farmed species on a world-wide basis, and the agreement covers collaboration in the aquaculture and fisheries sectors. The programme for research collaboration with South Africa is administrated by MU, and will pave the way for long-term, sustainable research collaboration once today's development co-operation is concluded.

## **Information, the media and public relations**

Communications activities and the dissemination of information about research to the general public are essential policy instruments for achieving the Research Council's goals. Considerable importance is attached to activities and events that can help publicise research policy goals and priorities, not least with a view to boosting research funding.

These activities are generally covered by the Research Council's own plans for the year. Moreover, the initiative "will be followed up through separate planning measures. In 2001, special emphasis was focused on the main thematic research initiatives and basic, long-term research, as well as on biotechnology, petroleum research and climate research.

In 2001, a pamphlet was made about a vision of the future entitled "The marine fairytale". The pamphlet was distributed to the Storting, the government and the ministries as well as to a number of other target groups in the public and private sectors. The Research Council also produced a special pamphlet containing 22 examples of the profound impact of basic, long-term scientific research on today's medical innovations. The Research Council's in-house newspaper Forskning published a special issue devoted to biotechnology, as well as an issue on petroleum research. Special offprints were made of the petroleum articles.

Several high-profile meetings were organised, not least in connection with the evaluations of the bio-disciplines and the presentation of the FUGE plans to the prime minister. Both the FUGE publicity and the conference "The biotech society – where do we go from here" have helped draw additional attention to the opportunities and problems related to biotechnology.

Norway's annual, nation-wide Research Week set a new record again in 2001, with 150 local organisers and about 850 events on the programme. The Research Week secretariat has worked in a determined manner to build networks with industry and forge contacts with schools. These efforts have led to a number of new and exciting types of events. Moreover, the events organised by research groups have become significantly more attractive for the general public.

The Research Council's prizes were awarded by Minister of Research Kristin Clemet at a ceremony held at Norske Teatret. The 2001 "Möbius" Prize for Outstanding Research went to Professor Svein Magnussen, Department of Psychology, University of Oslo. Magnussen received the prize for his basic research in cognitive psychology and neuro-psychology over the past two decades. The Prize for Outstanding Reporting on Research was awarded to Senior Lecturer Michael Baziljevich, University of Oslo, for his work with the Astro Festival and his long-term dedication to disseminating information about research and science.

The Curious George Club is still a huge success and has about 90 000 subscribers to the club magazine "Curious George". The target group has been narrowed to primary school pupils, i.e. the 6–13 demographic. The competition for "Curious George of the Year" set a new record, with more than 200 projects and 3000 children on the list of participants.

A media analysis conducted during the year indicated that the Research Council and Norwegian research are consistently presented in a favourable manner in the media. The Research Council's target areas are highly visible, and local and regional media show considerable interest in research material. Only four per cent of the clippings mentioned anything negative, and the Research Council has no particular enemies in the media. The analysis indicated that the Research Council was mentioned 2 500–3 000 times in the media

in the course of a year. In addition, about 3 000 individuals visit the Research Council's website at [www.forskningssradet.no](http://www.forskningssradet.no) every day. The Research Council presented a comprehensive Internet strategy in spring 2001. It forms the point of departure for establishing an Internet portal where research administration services and information are integrated.

During the year under review, the Research Council continued to develop its national website for the general public, [www.forskning.no](http://www.forskning.no), where all divisions are defined as owners, along with research institutions throughout the country. The website was launched in April 2002.

### **Prospects for the future**

In the opinion of the Executive Board, research in Norway improved in 2001, not least thanks to a growing awareness of the vital importance of research to society. The Research Council will continue to strive to bring Norway's overall research efforts up to at least the OECD average.

In the document Major initiatives 2003, the Research Council's first input into the ministries' work with the 2003 budget, the Norwegian government's escalation plan for research was followed up by a proposal for an increase over the ministries' budgets of MNOK 550. This increase is necessary to achieve the OECD goal, and will be important for bringing the Research Council's strategy to fruition.

Basic, long-term research and the thematic research initiatives (marine research, information and communications technology (ICT), medicine and health, and the interface between environmental and energy) constitute 90 per cent of the proposed growth, in compliance with the priorities set out in the White Paper on Research. Moreover, the Research Council accentuates the importance of improving the standard of research in materials technology, biotechnology and the petroleum sector, all of which are key areas of knowledge with a strong potential for future wealth creation. The Research Council also supports the idea of increasing the Research Fund to at least NOK 15 billion, in accordance with the original plans.

In its proposal for budgetary growth in 2003, the Research Council devoted particular attention to industrial research with emphasis on projects that are important, but risky. The Research Council underlines the importance of following up the Hervik Committee's proposal about tax deductions in combination with long-term user-driven research.

The evaluation made by Technopolis provides an invaluable, solid basis for the further development of the Research Council. The Norwegian government's decisions on the questions of principle raised by the evaluation will be normative for the Council's work in future. There is also plenty of room for improvements that can be implemented independently of the more comprehensive questions of principle. As regards changes in the prevailing general terms and conditions for research, the follow-up of the evaluation was initiated as soon as the report was submitted.

The Research Council's activities are based on a system with more than 1 000 elected officers who invest considerable time and energy in the research boards, programme committees and other bodies. During the year, Heidi Sørensen and Deputy Chair Øyvind Lund had to leave the Executive Board due to other commitments. They were replaced by Professor Jon Bing, Norwegian Research Centre for Computers and Law, University of Oslo, and CEO Ottar Henriksen of Raufoss ASA. The new research boards, which bear the main responsibility for



the Research Council's specialised assessments and priorities, took office on 1 March 2001 for a four-year term.

The Executive Board regrets that it was necessary to downsize the administrative staff in 2001. The staff adjustments were a consequence of allocations in the government budget. According to the evaluation of the Research Council, the administration is understaffed, given its responsibilities.

The Executive Board thanks the entire administration for their sterling efforts.

**The Research Council has three main areas of activity:**

- Advising the government and the Storting on research policy issues, based on thorough analyses of the current status and future needs of Norwegian research;
- Funding research through research programmes and various types of allocation schemes;
- And facilitating the development of strong long-term networks among the various agencies, enterprises and organisations in Norway's research system.

**The Research Council's administration**

The Research Council is headquartered in Oslo. The Research Council's activities do not pollute the environment. As of 31 December 2001, the administration accounted for 280.2 man-years of labour. The advisory group is the largest, totalling 112.7 man-years of labour. Executive officers and secretarial staff account for 70.5 man-years of labour, a reduction from 80.3 man-years on 31 December 2000. The specialised case officer group had an increase of 22 man-years of labour from 1 January 1998 to 31 December 2001. The administrative case officer group decreased correspondingly.

**Results of the year's activities**

Research Council revenues aggregated MNOK 3 393 in 2001. Of that amount, grants from the ministries totalled MNOK 3 318.

**The working environment**

Owing to the widening gap between income and expenditure, in 2001 the Research Council's administration was downsized through voluntary adjustment measures; early retirement, severance, etc. The process was conducted in close collaboration with the trade unions.

As a link in streamlining and simplifying work processes, throughout 2001, the Research Council worked hard to introduce Internet-based research administration (the IFA project). It will be co-ordinated with the Research Council's other websites.

The statistics for absence due to illness indicate a total level of 3.9 per cent in 2001, down slightly from 2000. No cases of work-related illnesses or on-the-job accidents were reported in 2001.