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Evaluation Strategy

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Strategic Planning

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EVALUATION STRATEGY

1.	BACKGROUND	
1.1	The Research Council's evaluation responsibilities	1
1.2	Delimitation and definition - R&D evaluations	1
1.3	International development trends	2
1.4	Evaluation practices in Norway	3
2.	THE GOAL IS TO HELP ACHIEVE FAR-SIGHTED, RESPONSIBLE USE OF PUBLIC SECTOR RESEARCH ALLOCATIONS	
2.1	Target groups	3
2.2	The Research Council's long-term goals for uniform evaluation activities are:	4
2.3	Our goals over the next three years are:	4
3.	MEANS	
3.1	Direction	5
3.2	Measures	5
3.3	The organisation of evaluation activities Within the Research Council	6
3.4	National co-operation	6
3.5.	International co-operation	6
4.	IMPLEMENTATION AND RESOURCE INVESTMENT	7

EVALUATION STRATEGY

1. BACKGROUND

1.1 The Research Council's evaluation responsibilities

According to the statutes of the Research Council of Norway, evaluation activities are one of the organization's 10 main areas of responsibility. The Research Council is required to "implement and follow up the evaluation of research and research institutions". Moreover, evaluation activities are fundamental to the organization's responsibility to "strive to promote quality, efficiency and relevance within the research system".

The Research Council's governing bodies are dependent on having appropriate tools to ensure they get enough reliable information to take sound decisions when providing expert advice or making research allocations. The Research Council must be able to document that it is working systematically towards the overriding goals for Norwegian research that are attached to research allocations made by the Government and the ministries. In addition, it must keep its own objectives in mind. In essence, this means the Research Council must keep abreast of current research, not least by monitoring Norwegian R&D activities to ensure that they maintain high international quality standards, that they are sufficiently efficient and that they generate the results and effects expected of them. In particular, evaluations must be used to determine how the Research Council's efforts and allocations contribute to goal achievement. Along with a good general system of research documentation, evaluations are the most important systematic source of information used for decision-making purposes.

Evaluations are expensive, so it is important to make the information disclosed or generated during an R&D evaluation accessible, and to ensure that it can be incorporated into a continuous learning process to benefit the entire research community. Within the organization, the information "chain" runs from the officer in charge of a project to the Research Boards to the Executive Board level. Externally, the chain runs from the level of the researcher, corporation or institute, through the programme management level if applicable, then to the university administration or ministerial level. In other words, evaluations are designed to shed light on the problems inherent in research policy, research strategy and research implementation, all at the same time. Consequently, the Research Council needs to develop uniform national R&D evaluation procedures that can be consistently linked to all other documentation and quality assurance activities.

1.2 Delimitation and definition - R&D evaluations

Evaluations have evolved into an essential part of R&D administration for two reasons: First, because *the evaluation of* research projects calls for the highest form of professional expertise. Second, because many of the *effects/ramifications of R&D efforts* are complex, indirect and long term. Accordingly, evaluations call for special expertise based on scientific methods, expert knowledge of measurement and assessment, and the ability to make authoritative appraisals. It is necessary to define and delimit exactly what the Research Council of Norway means by the term "evaluation", not least in comparison with the various practices pursued by the former research councils. In close approximation of the OECD definition, the following general formulation has been proposed:

An R&D evaluation is an assessment, as systematic and objective as possible, of a planned, current or completed research activity (project, programme or policy) or of institutes or subject areas, which includes an assessment of design, methodology, implementation and results. The goal is to specify the activity's quality and relevance, including its degree of goal achievement, effectiveness, sustainability, efficiency or effect. An evaluation is intended to provide information that is both credible and applicable. It shall be performed in such a way as to satisfy the need for adequate information for decision-making purposes at both the operative and strategic levels for those who perform research as well as for the parties who finance research activities.

The more precise use of the term "evaluation" within the Research Council calls for delimitation, particularly in respect of *quality assurance* in processing applications, and for ongoing *result follow up activities* and reporting (monitoring). This delimitation should initially be based on the *principle of independence and distance*, i.e. the term "evaluation" should be reserved for assessments undertaken by a unit (person or agency) separate from the one taking decisions, providing financing or implementing the measures under evaluation. It is proposed that the term "self-evaluation", which is sometimes used when an agency evaluates its own measures, be replaced by "*self-assessment*" or "*self-report*".

The goal of an R&D evaluation will usually be two-fold. First, it will involve making, a retrospective review for validation and control, i.e. getting an independent verification of quality, goal achievement and the value of the activity performed. Second, it will involve a more future-oriented review aimed at learning and administration, i.e. facilitating better decisions and developing better tools to work with current or new activities.

The value of the evaluations depends on the follow up, that is, on how the information produced affects future decisions. Expenses must be viewed within this framework. Evaluations should be robust and cost-efficient, meaning that the more narrowly defined goals of the evaluation must be clarified as part of the evaluation design. The end users of the results should be clearly identified right from the start, as should the decisions the evaluation results could potentially be used to support, and thus the consequences various evaluation scenarios might entail. Any more comprehensive descriptions and analyses of R&D activities would have the nature of ordinary research activities, so they should be kept separate from evaluation activities.

1.3 International development trends

Evaluation practices and international cooperation on evaluation methods have developed at a tremendous pace in several European countries in recent years. One of the main observations in the EU Commission's report entitled "Evaluation of Research and Development: Current Practice and Guidelines" (1991), is that it is necessary to supplement peer reviews with more strategic evaluation schemes. Even though procedures and methods have been improved significantly over the past 10 years, most countries still have a long way to go before they achieve a well-balanced system of R&D evaluation. There is a gradual tendency towards *using evaluations to steer research* in several countries. Efforts are being made to develop a uniform framework for evaluation by considering the overall plan, i.e. the programme design and the evaluation design, to be a single unit. That would make evaluation an integral part of planning. The goal is full clarification of the evaluation design prior to the initiation of the R&D activity in question.

1.4 Evaluation practices in Norway

The Research Council initiates most R&D evaluation activities in Norway. Responsibility for *professional evaluation* is assigned to the Research Boards pursuant to the Executive Board's resolution on issue no. 87/93. This resolution is based on the specific expertise possessed by the various Research Boards in their relevant fields, either directly or through subordinate agencies. Several Research Boards have adopted their own strategies for evaluating the level and development of various fields, and for initiating specially organized, goal-oriented efforts (programmes). Please note that the evaluation of research in various fields must be based on a *distribution of responsibility* between the Research Council and the higher education sector, which bears primary professional and administrative responsibility for the terms and conditions under which such research is conducted. Different evaluation criteria have been drawn up for the programmes, including a criterion stating the minimum programme evaluation frequency. The Research Boards strive continuously to translate the Council's overriding strategy into practice by developing evaluation models, criteria and procedures in their special fields.

In 1993/94 the Research Council's evaluation activities cost a total of roughly NOK 10 million (not including the costs of research), distributed over two years and about 40 different evaluations (See Annex 1.). Most of those evaluations must be described as *individual evaluations* funded decentrally over current R&D budgets, and often financed jointly with relevant ministries. They focused on the operative level (institutes and programmes) and on assuring professional quality and efficiency more than on any systematic investigation of the cost-benefit ratio. Special efforts have been made to arrive at evaluation criteria for the support allocated to the institute sector. As regards basic research, international evaluations have been performed on broad fields of research.

The most *strategic* evaluations conducted recently are those in what used to be main target areas. A summary of the knowledge gained from these evaluations recommended that high priority be assigned to developing a more uniform, integrated system for status reports, documentation and evaluation.

An analysis of *goal achievement* was recently initiated at a higher portfolio level under the auspices of the Goal & Result Management Cooperation Programme with the Ministry of Industry and Energy, cf. Result Analysis 1993 (HS/case 57/94), but an evaluation function has yet to be developed at this level.

2. THE GOAL IS TO HELP ACHIEVE FAR-SIGHTED, RESPONSIBLE USE OF PUBLIC SECTOR RESEARCH ALLOCATIONS

2.1 Target groups

The Research Council's activities may be divided into three levels which the evaluation activities are intended to support:

Research policy, where evaluation activities, statistics and other documentation are used as background information to advise the *Government and the ministries* on issues related to national and international research policies. It must be determined whether the Research Council should give advice on important issues and whether that advice is adequately corroborated.

Research strategy, where evaluation activities are intended to validate research and improve the quality of strategic decisions taken by *the Executive Board, the Research Boards and their subordinate agencies, as well as by other decisionmakers in the R&D*

sector. It must be determined whether the Research Council's various courses of action are clear enough, whether it is giving priority to the right strategic alternatives and whether it is implementing the right combination of measures.

Research implementation, where evaluations should be used to verify the results of R&D activities and to provide insight that will improve operations *at all levels*. In this connection, it is essential to determine whether the framework conditions for the research activity were acceptable/in order.

2.2 The Research Council's long-term goals for uniform evaluation activities are:

- *To help provide thorough insight into the current status of and trends in Norwegian research* in order to protect the quality, relevance and efficiency of R&D activities

To improve the quality of decisions in respect of research policy, strategy and operations by documenting how society at large uses, is affected by and benefits from R&D activities

To ensure that all levels of the research system, including the Research Council's own governing bodies and administration, consider the results of the evaluations to be an integral part of the decision-making process. The Research Council must ensure that recommendations are followed up and that experience is exchanged and fosters an ongoing mutual learning process. Evaluation data must be preserved as part of the documentation system.

To see to it that the Research Council takes part in international cooperation on R&D evaluation. This will ensure international grounds for comparison, strengthen Norwegian evaluation expertise through participation in demanding international evaluations, and increasingly involve foreign resource people in Norwegian evaluations

To safeguard the total confidence placed in the Research Council's objectivity and independence in respect of evaluation activities by clearly separating such activities from the responsibility for taking decisions relating to and implementing the activities being validated.

2.3 Our goals over the next three years are:

- *To introduce independent evaluation strategies and practices that ensure coordination and comparability in all the Research Council's areas of research.* Wherever possible, evaluation activities should be linked to systems for goal & result management, the ongoing reporting of results, R&D documentation and quality assurance.

To ensure more active, systematic use of professional and operative evaluations and the further development of higher forms of evaluation. Such *strategic evaluations* are aimed at better clarifying how society at large uses, is affected by and benefits from R&D activities, as well as towards improving the quality of the portfolio structure.

To cooperate with the research system and other links in the research chain (The Norwegian Industrial and Regional Development Fund, etc.) to ensure high quality evaluations

To ensure that the Research Council expands its cooperation with sister organizations abroad on evaluation-related questions and on the implementation of evaluations, thus placing Norwegian R&D activities in an international context.

3. MEANS

3.1 Direction

In order to achieve its long and short-term goals, over the next three years the Research Council must *maintain* a high level of activity related to professional evaluations at the executive level, where the focus is on research results. Moreover, it is important to *strengthen* evaluations at the strategic level, paying special attention to analyses of larger areas of Norwegian research as a whole, as well as to the quality of the Research Council's portfolio of projects and measures. To test strategic choices, evaluations must be *planned* earlier in the R&D life cycle. Ultimately, to test its goals, the Research Council will have to *focus more attention* on evaluating the use and traceability of and benefits from R&D efforts, including economic and socio-economic evaluations to clarify long-term cost-benefit ratios. By nature, R&D activities are long-term investments featuring a significant element of uncertainty. This means that decision-makers need all the information and facts they can possibly get before deciding which projects to support. In addition to measuring actual effects after the fact (ex post), evaluations must focus on the quality of the decisions pending (ex ante). As evaluations are a comprehensive, costly way to collect information, insofar as possible, it would definitely be an advantage if the information needed for specific evaluation projects were given in a way that *satisfied all three of these levels at once*.

The Research Council's evaluation activities should encompass all R&D projects/programmes funded by the public purse. They should be performed with the Research Council's goal structure in mind, and be consistent with the guidelines laid down for external sources of funding. In certain specific cases, the Research Council would consider participating in the evaluation of privately funded research as it might be of interest to certain subject areas and valuable as grounds for comparison with what is being done in the public sector.

3.2 Measures

To continue to evaluate professional quality and research performance in respect of programmes, subject areas (fields) and institutions.

To develop strategic evaluations aimed at viewing larger segments of Norwegian research as a whole, including the Research Council's own portfolio.

To develop and implement more regular evaluation procedures so that individual evaluations are easier to compare. Also, to increase the use of evaluations before (ex ante, *decision evaluation*), during (*ongoing evaluation*) and after (ex post, *effect evaluation*) a project or programme. This would allow the volume of routine evaluations performed upon programme completion to be reduced.

To introduce regular procedures for evaluation follow up so that it is possible to determine the extent to which the recommendations included in evaluations have been implemented.

To introduce the principle of disqualification so that the performance of evaluations adheres strictly to the principle of distance and independence. Evaluations should generally be performed by independent, external resource people.

To keep independent statistics on evaluation activities. Documentation and evaluation activities should be coordinated to report evaluation results to the project's own organization, the R&D system, the financing authorities and political fora.

To develop expertise within the Research Council as regards organizing and evaluating evaluation projects, not least in order to ensure professional cooperation with external evaluation specialists.

To develop national and international cooperation on R&D evaluations and evaluation methods to enhance Norway's expertise in this area.

3.3 The organisation of evaluation activities within the Research Council

The Executive Board shall lay down the principles needed to evaluate activities, so that R&D evaluations are initiated on the basis of *an overall plan* each year. The Research Boards are in charge of actually performing the evaluations in their relevant areas of expertise. Draft evaluation plans are prepared by the administration annually on the basis of plans put forward by the Research Boards. Priority will be given to the sectors with the most pressing need for strategic information.

Total evaluation costs should be rendered visible. The Research Boards budget their evaluation activities separately from their R&D budgets. In addition, *central R&D evaluation funds* are budgeted to cover strategic evaluations that reach across the boundaries of several fields of research.

Each year special reports on the Research Council's R&D activities are submitted to the Executive Board. The reports outline the evaluation activities of the past year and compare them with the evaluation strategy adopted.

3.4 National co-operation

The evaluations initiated by the Research Council call for good cooperation among the various R&D communities. *There is a need for more sophisticated, systematic cooperation with the University Council, the national faculty meetings and the institute sectors as regards the evaluation of disciplines and professional communities.* This work must be based on close contact with *national evaluation communities* (the Institute for Studies in Research and Higher Education, etc.). Further, it must be ensured that the efforts initiated to establish a system for *national R&D documentation* lead to a system that is directly applicable for evaluations and for higher level analyses of effects and R&D goal achievement.

As regards *business-oriented* activities, the Research Council's cooperation with the Norwegian Industrial and Regional Development Fund (SND) has been incorporated into the Statutes. The Research Council, SND, the Confederation of Norwegian Business and Industry (NHO) and the Export Council began cooperating on evaluations by setting up a "forum for the evaluation of strategies and tools for economic development". They have also invited the Norwegian Federation of Trade Unions (LO) to take part. This initiative must be further developed and the Regional Boards must play an active role.

3.5. International cooperation

R&D evaluations must be developed in several of the international networks in which the Research Council participates. One example is the already-completed evaluation of the EUREKA project. The Research Council must also follow along with the progress of groups on the Continent (the European Evaluation Society, etc.). The ESF is planning to step up its evaluation activities. Naturally, it is important to work together with the EU's evaluation body on specific solutions for individual programmes where the effects of Norwegian participation should often be seen as part of a larger picture. *It is essential that Norwegian resource people be put forward as candidates for international evaluation panels and that foreign participation be increased as regards the evaluation of Norwegian R&D activities.*

Cooperation within the Association of Technology Implementing Agencies in Europe (TAFTIE) will be continued by the Research Council under the auspices of IE. This cooperative venture focuses on innovation and on the SMB situation in particular. In this connection, a special working group has been set up to promote evaluation cooperation among member organizations. TAME is a possible platform for closer evaluation cooperation with the EU Commission. *The Research Council should be open to participation in similar cooperative evaluation projects in other areas as well.*

The Research Council also wishes to stay abreast of and establish closer ties with flourishing international activities in the field of technology evaluation.

4. IMPLEMENTATION AND RESOURCE INVESTMENT

The *time frame* for implementing the evaluation strategy should be six years. The first strategy should be reviewed by the Executive Board in three years and result in a report on the degree of goal achievement.

The Research Council *invested resources* amounting to about NOK 5 million/year in R&D evaluation activities in 1993-1994, which corresponds to 0.22 per cent of the Research Council's total budget for 1994 (cf. Annex 1). This investment level does not measure up to international standards, which recommend spending 1-2 per cent of research expenses on evaluation activities. The strengthening of Norway's R&D evaluations entailed by the implementation of the strategy will eventually bring Norway's evaluation expenses into line with those seen elsewhere. However, maintaining a higher level in the long term must be contingent on how the evaluations are used, i.e. the ends have to justify the means.