

**EVALUATION
STANDARDS IN
RESEARCH AND
TECHNOLOGY POLICY**

BUNDESMINISTERIUM FÜR BILDUNG, WISSENSCHAFT UND KULTUR,
Minoritenplatz 5, A-1014 Wien
Mag. Markus Pasterk
Adir.Reg.R. Ursula Suda
markus.pasterk@bmbwk.gv.at
ursula.suda@bmbwk.gv.at

bm:bwk

BUNDESMINISTERIUM FÜR VERKEHR, INNOVATION UND TECHNOLOGIE,
Renngasse 5, A-1010 Wien
Dr. Rupert Pichler
rupert.pichler@bmvit.gv.at

bm 

BUNDESMINISTERIUM FÜR WIRTSCHAFT UND ARBEIT,
Stubenring 1, A-1010 Wien
Mag. Sabine Pohoryles-Drexel
Sabine.Pohoryles-Drexel@bmwa.gv.at


BUNDESMINISTERIUM FÜR
WIRTSCHAFT UND ARBEIT

ARC Systems Research,
2444 Seibersdorf
Mag. Petra Wagner
petra.wagner@arcs.ac.at


seibersdorf research
Einrichtungen des Global Research Centers

FWF-Fonds zur Förderung der wissenschaftlichen Forschung,
Weyringergasse 35, A-1040 Wien
Dr. Rudolf Nowak
novak@wfv.ac.at


Der Wissenschaftsfonds.

KMU Forschung Austria,
Gusshausstrasse 8, A-1040 Wien
Dr. Sonja Sheikh
s.sheikh@kmuforschung.ac.at

KMU FORSCHUNG AUSTRIA
Austrian Institute for SME Research 

WIFO – ÖSTERREICHISCHES INSTITUT FÜR WIRTSCHAFTSFORSCHUNG,
PF 91, A-1103 Wien
Mag. Hannes Leo
hannes.leo@wifo.ac.at

 WIFO
AUSTRIAN INSTITUTE OF
ECONOMIC RESEARCH

TECHNOPOLIS,
Prinz Eugen Straße 80/12, A-1040 Wien
Mag. Leonhard Jörg
leonhard.joerg@technopolis-group.com



JOANNEUM RESEARCH, Institut für Technologie- und Regionalpolitik,
Wiedner Hauptstraße 76, A-1040 Wien
Mag. Wolfgang Polt
Mag. Michael Dinges
wolfgang.polt@joanneum.at
michael.dinges@joanneum.at



WWTF – Wiener Wissenschafts-, Forschungs- und Technologiefonds,
Währinger Straße 3 / 15a, A-1090 Wien
Dr. Michael Stampfer
Mag. Klaus Zinöcker
michael.stampfer@wwtf.at
klaus.zinoecker@wwtf.at


Wiener Wissenschafts-, Forschungs- und Technologiefonds

CHRISTIAN DOPPLER FORSCHUNGSGESELLSCHAFT (CDG),
Weyringergasse 33/3, 1040 Wien
Mag. Johannes Dobinger
dobinger@cdg.ac.at



ZIT – Zentrum für Innovation und Technologie GmbH,
Ebendorferstrasse 4/DG, A-1010 Wien
Robert Mayer-Unterholzner
robert.mayer@zit.co.at


zentrum für innovation und technologie gmbh

AUSTRIA WIRTSCHAFTSSERVICE GESELLSCHAFT MBH,
Ungargasse 37, 1030 Wien
Dr. Sonja Hammerschmid
s.hammerschmid@awsg.at


awsg

FFG-ÖSTERREICHISCHE FORSCHUNGSFÖRDERUNGSGESELLSCHAFT
Canovagasse 7, A-1010 Wien
Dr. Dorothea Sturn
Mag. Klaus Schnitzer
dorothea.sturn@ffg.at
klaus.schnitzer@ffg.at


FFG

Rat für Forschung und Technologieentwicklung
Donau-City-Straße 1, 1220 Wien
Mag. Wolfgang Neurath
w.neurath@rat-fte.at


RAT FÜR
FORSCHUNG UND
TECHNOLOGIEENTWICKLUNG

The Platform Research and Technology Policy Evaluation is a network of institutions dealing with research and technology policy in the fields of policy development, the funding of research, the funding of technology and innovation projects, and RTD evaluation.

The aim of this network is to enhance evaluation culture and practice in Austria. This constitutes a particular challenge against the background of the emerging European Research Area; the Platform's "Standards of Evaluation in Research and Technology Policy" are a central element in this context.

These **Standards** have been drawn up in an interactive process involving all Platform members. Exchanging and discussing experience of suitable methods, procedures, professional approaches and conditions is a central task of the Platform and has been a key factor in developing the Standards in their present form.

The **Standards** of Evaluation in Research and Technology Policy specifically aim to provide evaluators and institutions commissioning evaluations, as well as those to be evaluated, with a framework and guidelines in the evaluation process. The **Standards** thus support

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| policy makers and strategy planners | <ul style="list-style-type: none">• in designing programmes• in formulating Terms of Reference (TORs)• in selecting evaluators• in implementing evaluation results• in public relations work |
| management | <ul style="list-style-type: none">• in setting up monitoring systems• in assessing individual projects |
| those to be evaluated | <ul style="list-style-type: none">• in formulating project proposals• in planning their projects in terms of content and timing |
| evaluators | <ul style="list-style-type: none">• in designing evaluation projects• in positioning themselves vis-à-vis commissioning institutions• in positioning themselves vis-à-vis those to be evaluated• in establishing the information sources for evaluations |

The members of the Platform Research and Technology Policy Evaluation have voluntarily adopted the Standards as guidelines for their own work. Over and above this, the Platform wishes to ensure that the Standards are disseminated and applied by others, too. In addition to this paper, a more comprehensive commended version is available from the Platform Secretariat and at www.fteval.at.

EVALUATION IN THE POLICY CYCLE

Evaluation and Research & Technology Policy

Research and technology policy should be in a position to show that investments in this field are worthwhile.

Particularly in the European context, Austrian decision-makers in research and technology policy require instruments and tools which are appropriate to the growing need for policy intelligence, e.g. on the functioning of Austria's research and innovation system, the quality of Austrian research and technology in comparison to international standards, and the cost effectiveness of research and technology funding.

"Evaluation", an umbrella term covering a range of different techniques, methods and measures, has become internationally established as a tool for the assessment in the process of research and technology policy processes; evaluation informs politicians, policy makers, programme managers and the interested general public on the effectiveness of initiatives with regard to achieving policy objectives in the public interest and for counteract market and system failure.

What are the functions of evaluation? Different types of evaluation have different specific functions and outcomes. What they all have in common, however, is that they help assess the different stages within the policy cycle. Evaluations justify and legitimise, they provide information and document evidence and lessons learnt, and they can play a role in steering and controlling policy processes. These are functions of all evaluations activities, conducted at any level and at any time, albeit in different ways and with different outcomes. What differs from evaluation to evaluation is the relative emphasis put on each of these functions. The expectations of the commissioning body should be clarified at the beginning and should be laid down unambiguously and transparently in Terms of Reference.

▶ Take evaluation into account right from the beginning

In order to fulfil these functions, evaluation need to be taken into account and integrated throughout the entire policy cycle, starting with formulation of objectives of research and technology policy to design, implementation, and policy assessment). In other words, evaluation should be an integral part of strategic planning and developing research and technology policy.

► Formulate clear objectives

Clearly formulated objectives are a prerequisite for the evaluation of any kind of policies, be it a RTD programme, an institution or a project activity. Carefully formulated objectives include both strategic and operationalised ones or, if possible, even quantified aims, with the relation among the different objectives clearly defined so that they form a transparent system of objectives. On the other hand, there is also a close link between these aims and the evaluation criteria to be applied. This interdependence is relevant to the evaluation of institutions, too. Thus any institution should lay down in its charter or similar document a clear statement of its mission and of its key objectives.

► Utilise and implement evaluation results

Evaluations are not carried out for their own sake; rather, they provide knowledge which should lead to concrete action. Evaluation results should, directly or indirectly, support decision-making processes in research and technology policy. This, in turn, requires that evaluation results be presented in a timely and effective manner and that sufficient scope be given to communicating them. The credibility and effectiveness of evaluations will, generally speaking, be enhanced by disseminating them widely and ensuring a suitable level of publicity.

► Feed back evaluation results and make them binding

The successful implementation of evaluation results imposes demands both on the evaluators and on those commissioning the evaluation.

Evaluators must ensure that the results of their work are presented in a form which will allow the addressees to use them; in other words, the message their reports convey must be tailored to the respective addressees. The commissioning institution, on the other hand, must ensure that evaluation results are taken seriously. The extent to which evaluation results are binding should depend on the context: the more definite the findings, the more binding the consequences can be.

► Institutionalise evaluation

The Platform wants to see a discussion process initiated on institutionalising the instrument of evaluation in Austrian research and technology policy; such a discussion process should focus, in particular, on the types of measures for which evaluation is to be required by law or other rules and regulations, and on the level at which this should be managed. In the Platform's opinion, the discussion should start from the assumption that a general evaluation requirement should be laid down in the various legal acts regulating the organisation and funding of research in the broadest sense. Another aspect concerns the question

to what extent special evaluation institutions, in whatever form, could contribute to increasing the use of evaluation and enhancing its quality.

▶ Provide for regular evaluations

The Platform advocates neither a rigid, pre-defined evaluation machinery nor mere one-off evaluations for specific purposes. International experience has shown that a middle course should be steered here, providing for regular evaluation – applying specific quality standards – of programmes, institutions and projects without, however, imposing any kind of streamlined procedures which are to be applied in exactly the same way every time.

▶ Provide sufficient funding for evaluation

Thorough, high-quality evaluation processes require sufficient funding. The necessary means should be set aside before the launch of a programme; international guidelines on this are available.

LEVELS AND TIMES OF EVALUATION

▶ Extend the scope of evaluation

Evaluation is a comprehensive concept. In practice, however, and particularly with regard to public-sector measures, its application turns out to be limited to one or several – but usually not all – of the following levels: policy areas, institutions, programmes and projects. In order to establish evaluation as standard practice in Austria, the possible levels of evaluation should be extended to include institutions and, subsequently, policy areas in every case, taking into account justified differences between the different levels, but also between basic and applied research.

▶ Combine evaluation with other elements of strategic planning

In order to enable optimal use of evaluation for policy development and strategic planning, interdisciplinary aspects of evaluation, as well as links to other analytical techniques (such as foresight or impact assessment), should be taken into account.

▶ Ensure effective planning of evaluations

The following should be taken into account in planning the sequence of individual evaluation steps:

- 1) The results of project evaluation can be used as input for programme evaluation.
- 2) In large projects for which an interim evaluation is required, this interim evaluation should, at the same time, serve for the ex-ante evaluation of the next phase of the project.
- 3) In any case, policy measures should be planned so that the results of individual evaluation steps can be appropriately integrated into the planning process.
- 4) If the focus is on the analysis of effects, it is a good idea to evaluate a programme at various times after its completion as certain types of effects are observed with substantial delay.

▶ Carry out evaluations at different points in time

All programmes with the duration of over 5 years (or with a volume of at least € 1,000,000 a year) should be subject to ex-ante, interim and ex-post evaluation by external reviewers. For smaller projects and projects with a shorter duration, an ex-post evaluation and a brief ex-ante assessment by an external expert should be required.

In addition, depending on the volume, structure and duration of the programme in question, effective structures for continuous learning should be set up. These could take the form of workshops or discussion platforms with project leaders, monitoring by expert groups, international informational exchange, or various forms of accompanying research.

Institutions should develop binding structures of self-evaluation which are to be examined by external experts. In addition, an evaluation by external, at least in part international, experts is to be carried out at regular intervals (every 4 or 6 years). The institution to be reviewed may formulate an opinion on the evaluation criteria (TORs) to be applied.

Projects should be evaluated ex ante by the competent funding agency (possibly with the help of external experts or specialist reviewers, depending on the subject); larger projects should also be subject to interim and ex-post evaluation. The evaluation criteria to be applied here should be closely linked to the objectives of the respective programme, as well as being defined in advance and publicly accessible. The timing of evaluation should be set so that the results can be effectively utilised by both the project team (i.e. those to be evaluated) and the programme management.

▶ Make indicators and criteria transparent from the start

Indicators do not have any meaning without their context. Every indicator is based on assumptions about reality and a concept of operationalisation. Indicators are supposed to represent, in a few figures, complex realities which cannot be directly measured.

Key indicators are to be defined at the beginning of a programme and determined during the monitoring process.

▶ Develop evaluation systems

Evaluation systems provide a sensible sequence for the different phases of the policy cycle, as well as laying down the times for these phases and providing answers to the questions of "Who evaluates when?", "How?", and "What are the objectives and consequences?" The minimum components of an evaluation system (timing and objectives of the different evaluation steps at the project and programme levels, stop-or-go decisions) are to be fixed in the programme rules or similarly binding documents.

METHODS AND TOOLS FOR EVALUATION

▶ Promote a mix of methods, try out new methods

The method mix to be applied in any given evaluation is to be derived from the content of the respective programme (or institution, or policy area) and to be laid down along general lines in the TORs. TORs provide a good context for critically examining methodological issues; this is important as evaluators are often under considerable pressure to come up with quantifiable results which lend themselves to concise presentation. However, it is important to note here that quantitative information alone usually cannot provide an adequate basis for strategic policy decisions. Concisely summarised findings must be complemented by more extensive, descriptive information if justice is to be done to the complexity of policy making. Evaluators should be encouraged, also when TORs are formulated, to try out new methodological approaches.

▶ Collect relevant data

Good monitoring systems are supposed to collect all relevant data – and only that – and to document it, as far as possible, in a straightforward, systematic and gender-sensitive manner. For one thing, this set of data serves the purpose of project controlling in scientific and administrative terms; for another, it should also give evaluators appropriate insight into the respective project. This can considerably enhance the quality of the data base of an evaluation while avoiding the same set of data being collected twice. It will be up to funding agencies to determine to what extent appropriate programme management information systems can be employed.

► Clarify issues of data collection and transfer at the design stage

The quality of any evaluation depends to a high degree on the quality of the data supplied to the evaluation team. In addition to project-based data, the results of general RTD and innovation surveys (e.g. Community Innovation Survey, R&D surveys) should also be utilised for evaluation purposes.

Furthermore, the issue of passing on data to evaluators should already be raised at the design stage of the respective programme and possibly be regulated in any funding agreements concluded with third parties.

THE ETHICS OF EVALUATION

► Stick to the rules

In planning and carrying out evaluations, evaluators and those commissioning evaluations must comply with certain rules in order to ensure that the evaluation process can and will lead to a transparent and fair assessment of the research and technology policy measure in question. These rules, which can collectively be seen as a kind of code of conduct, primarily refer to the competence of the evaluators, the systematic planning and implementation of evaluations, the correctness and credibility of evaluators, to respect the legitimate rights and interests of third parties, as well as responsibility vis-à-vis society at large.

- The institution commissioning an evaluation should, in its invitation to tender, require proof of the evaluation team's qualification for this task and examine the offers received with respect to this.
- The evaluation team's impartiality and independence is essential. Specifically, every effort must be made to ensure that none of the evaluators were involved in either designing or implementing the programme in question. Finally, it should be ensured that the evaluators have no personal or institutional interest in certain outcomes of the evaluation.
- Evaluations should examine and portray the strengths and weaknesses of their subject as comprehensively and as fairly as possible.
- The impartial position of the evaluator must be maintained throughout the evaluation process, as well as in the evaluation report.
- The points of view and assumptions of involved and affected stakeholders which form the basis of the evaluation and the interpretation of its results should be described in the course of the evaluation in such a way as to clearly show the basis of assessment.

- Evaluations should be planned and carried out in such a way as to ensure the protection of the integrity, dignity and rights of those involved in them.

▶ Promote evaluation competence

It is important that all those involved in evaluation processes should have a minimum level of knowledge which enables them to communicate with each other about the application, interpretation and use of evaluation results in general. More training opportunities should be provided than has been the case so far in order to promote and support this process. Efforts to develop evaluation competence should be addressed to different target groups: programme managers, decision-makers in the field of research and technology policy, evaluators, representatives of institutions, etc.

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