



Research Program Grids Call 2020 for Research Proposals

In the electricity sector, research on production, conversion, storage, and end-use technologies is covered by various specific [Energy Research Programs](#) of the Swiss Federal Office of Energy (SFOE). The challenge in the grids sector consists of integrating the various individual components to form an efficient overall system being interoperable, safe and reliable.

The overarching aim of the [Research Program Grids](#) is to support projects addressing novel concepts and technologies for planning, operating and maintaining electrical grids and systems. Interfaces to other energy carriers may also be considered. The Research Program Grids elaborates calls to fund innovative technical research projects. In line with the [Federal Energy Research Masterplan](#) for the period from 2017 to 2020 and with the [Energy research concept of the Swiss Federal Office of Energy](#), the Research Program Grids defines research priorities through its calls.

For this call, the [Directive on the submission and evaluation of applications for financial support of energy research, pilot and demonstration projects](#) applies.

Scope

In 2020, the Research Program Grids is looking for about 6 to 8 transformative application oriented research projects ([TRL 2–5](#)). They should explore industrially relevant ideas with a high potential for significant scientific and technical impacts in the medium and long term. A significant step beyond the state-of-the-art is a pre-requisite.

The projects should address at least one of the following topics:

Flexibility

1. Concepts to integrate flexibility into grid planning and operation;
2. Utilisation of industrial flexibility.

Planning, operation, and maintenance

3. Schemes to optimize coordination between system operators (DSO-DSO, TSO-DSO) with respect to grid planning and operation;
4. Resilient protection schemes and fault-location systems considering large shares of decentralised renewable energy sources and flexibility use;
5. Application of machine learning and artificial intelligence to optimal planning, control, and maintenance of assets.

Grid components

6. Comparative performance assessment of advanced power electronic technologies and architectures.

Research related to specific electricity production, conversion, storage and end-use technologies, or focussing on socioeconomic or regulatory aspects is out of scope of the Research Program Grids and in particular this call.

Timeline

February 7th 2020, 12:00 CET	Deadline for questions regarding the call
February 24th 2020, 12:00 CET	Deadline for submission of pre-proposals
April 2020	Notification of accepted pre-proposals
May 2020	Deadline for full proposal submission
July 2020	Notification of accepted projects
August–October 2020	Launch of accepted projects

Contact Information

If you have any question regarding the call, please do not hesitate to contact:

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The deadline for questions is February 7th 2020, 12:00 CET. Answers to questions of general interest and relevance will be published on the Research Program Grids' [website](#) on January 20th 2020 and February 10th 2020.

After February 7th 2020, only administrative questions will be answered.

No extension of the deadline will be granted.

Eligibility

The call is addressed to universities (including ETH-domain), universities of applied science, further research organizations and the private sector in Switzerland. The participation of young scientists in the research teams is encouraged. Researchers in the public and private sector can apply for remuneration of the personnel costs according to the maximum rates provided in the Appendix. The Research Programme Grids does not pay any contribution to overhead cost.

Wherever possible and reasonable, the participation of commercial and industrial partners – especially utilities (DSO, TSO, ESP) and small and medium-sized enterprises (SME) – is strongly recommended to ensure the relevance of the research to technological development and to the needs of society.

An adequate share of own and third-party contributions (in-kind and/or cash) is expected and has to be indicated at the pre-proposal submission and formally confirmed at the full proposal submission.

Universities, universities of applied sciences, further research organisations and the private sector based outside Switzerland are welcome to apply. They however have to do so in a consortium with at least one Swiss partner and work on research questions relevant for Switzerland. The Swiss partner has to provide a substantial contribution to the research work performed in the project and be listed as the main partner in the application.

Supported projects typically receive public funding in the order of 100–300 kCHF and have a duration between 24 and 36 months.

Applicants must comply with the conditions set out in the [Directive on the submission and evaluation of applications for financial support of energy research, pilot and demonstration projects](#).

Application Procedure

The call follows a two-stage submission and evaluation procedure. First, a pre-proposal (max.6 pages, see pre-proposal template) is submitted. If the pre-proposal is selected after evaluation, the applicant is invited to submit a full proposal (approximately 10 pages). Invitation to submit a full proposal does not guarantee funding.

The projects presented in the pre-proposal and in the full proposal must be consistent. Any change to the plans described in the pre-proposal should be explained and justified.

At both stages of the application, the main project partner prepares a proposal (pre-proposal or full proposal) using the template available on the Research Program Grids' [website](#) in any national language or in English.

The pre-proposals have to be submitted as one single PDF file by e-mail to energieforschung@bfe.admin.ch by February 24th 2020, 12:00 CET.

The receipt of the pre-proposal will be confirmed in due time.

Evaluation of Proposals

The project proposals will be evaluated along the criteria listed in Appendix 2 both at the pre-proposal and the full proposal stage.

Appendix 1

Maximum remuneration for activities carried out within the framework of SFOE energy research

(Valid as of 1 January 2018)

Hourly rates for research projects

Category	Universities and Universities of applied sciences	CHF/h	Private organisations	CHF/h
A	Project managers Deputies	115 95	Subject matter experts in management positions	160
B	Experienced scientists with at least 5 years' experience after gaining a degree	80	Subject matter experts with at least 5 years' experience	120
C	Scientific assistants	65	Subject matter experts	100
D	Technical staff, programmers	60	Technical staff, programmers	90
E	Secretarial services	50	Secretarial services	75

A maximum of 20 % of the project time can be used for **project management** (category A). A maximum of 1,400 hours per person per year may be used for **scientific assistants** (category C). The maximum that may be paid for **doctoral students at universities** is the effective cost of the salary (gross salary plus the employer's share of social costs). If no proof of such payments is provided, rates for doctoral students will be paid in accordance with the guidelines of the Swiss National Science Foundation (SNSF)¹.

No further payments for overheads will be made in accordance with Art. 16, para. 6 RIPA.

Expenses

Travel: Half price in 1st class or a vehicle allowance of CHF 0.70/km from the place of work.
Accommodation: The actual cost incurred for overnight accommodation away from home in a mid-range hotel (reference price CHF 180).
based on middle-class accommodation (rate approx. CHF 180 per night).
Meals: Main meal CHF 27.50; breakfast CHF 14.

Fees for attending meetings (e.g. monitoring groups, hearings)

Meetings up to 5 hours: maximum CHF 800 plus travel expenses.
Meetings lasting more than 5 hours: maximum CHF 1,400 plus travel expenses.

These rates include expenses incurred for preparation and follow-up work in connection with meetings and for travel and meals.

No attendance fees will be paid to administrative staff from the State, municipalities and cantons (including professors) nor to representatives of associations and organisations.

Compensation for members of the Federal Energy Research Commission CORE is regulated by the Ordinance on the organisation of the government and the administration (RVOV).

¹ www.snf.ch → Funding → Documents & downloads → Regulations → Annex 12: Salary scales for doctoral students, salary ranges and guidelines for postdocs and other staff members, blanket amounts for social security contributions"

Appendix 2

Evaluation criteria

The project has to fulfill **all** eligibility criteria to be evaluated.

Eligibility criteria

Formal criteria:

Criteria		
F1	Is the application complete (does the proposal include all information requested in the call)?	<input type="checkbox"/> yes <input type="checkbox"/> no
F2	Are the objectives of the research project clear and is the research proposal well structured?	<input type="checkbox"/> yes <input type="checkbox"/> no
F3	Was the application submitted in time?	<input type="checkbox"/> yes <input type="checkbox"/> no

Content related criteria:

Criteria		
I1	Do the research questions to be addressed fit the call, and do they fall into the competence of the SFOE?	<input type="checkbox"/> yes <input type="checkbox"/> no

Qualitative Criteria

Each of the main criteria will be scored on a scale from 1 to 5 and are weighted as indicated below. The 1–5 scoring system for each criterion indicates the following assessment:

- 1 – Poor: The criterion is inadequately addressed or there are serious inherent weaknesses.
- 2 – Unsatisfactory: The criterion is broadly addressed but there are significant weaknesses.
- 3 – Satisfactory: The criterion is addressed but with a number of shortcomings.
- 4 – Good: The criterion is well addressed but with a number of shortcomings.
- 5 – Very Good: All relevant aspects of the criterion are addressed; any shortcomings are minor.

For a project to qualify for an invitation to submit a full proposal to the second round of the call, each qualitative criterion (Q1 to Q5) has to obtain a minimum score listed in the table.

Criterion	Minimum evaluation
Q1 Organisation (weight: 1.0)	ø 3
Competencies, organisation, responsibility ** Are all the competencies crucial to the project covered? Has a clear project organisation been established? Are the responsibilities laid down clearly?	At least 3
Schedule and milestones Is the proposed schedule realistic and efficiently drawn up? Have clearly measurable milestones been stipulated (stage-gate targets)?	
Cost-benefit ratio, subsidiarity Does a project hold out the prospect of significant benefits in relationship to the costs involved? Have sufficient in-kind contributions and third-party funds been promised?	

Criterion	Minimum evaluation
Q2 Excellence (weight: 1.0)	ø 3
<p>Preliminary work, suitability, expertise Can the project team build on previous work? Does the project team have the expertise required (suitability)?</p>	
<p>Academic record, recognition Does the project team have broad experience (academic record) or are they recognised specialists in their field?</p>	
<p>Teams' potential for success Is clear potential for success discernible in this project team?</p>	
Q3 Content of project (weight: 2.0)	ø 3
<p>Relevance, national and international cooperation ** Is the project scientifically, politically and strategically relevant and does the content contribute to a research priority set out in the call? Is it part of an international cooperation within the IEA or the EU research programme, or is it part of other national or international collaboration schemes (e.g., SCCER, DACH)?</p>	At least 3
<p>Value creation, innovative content Do the findings lead us to expect high value creation for Switzerland - in an economic or scientific respect? Does the project build up a large body of knowledge or know-how and/or does it pursue an innovative or novel approach?</p>	
<p>Approach, methodology and data Is the proposed approach suitable to deal with the issue? Is the methodology adequate to solve the issue? Is access to the data required guaranteed/has the strategy to compile data been clearly defined?</p>	At least 3
Q4 Opportunities, risks (weight: 1.0)	ø 3
<p>Energy potential Does the project contribute to a safe, sustainable and economical energy provision or to a lower and rational energy consumption?</p>	
<p>Sustainability Will the findings contribute to sustainable development in all three dimensions (ecological, economic and social) at national or global level?</p>	
Q5 Diffusion (weight: 1.0)	None
<p>Potential for implementation Is an implementation plan included in the project application? Is the project team competent enough in its own right to further develop the technology or does the team already have potential customers? Are the commercial and industrial partners required for implementation adequately integrated commensurate with the readiness of the technology?</p>	
<p>Potential as a multiplier When compared to the current state of technology, does the technology/procedure display technical or economic advantages leading to the conclusion that it has potential as a multiplier?</p>	
<p>Knowledge transfer Are knowledge transfer and publications planned?</p>	