Schweizerische Eidgenossenschaft
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Swiss Confederation

Federal Department of the Environment,
Transport, Energy and Communications DETEC

Swiss Federal Office of Energy SFOE

ERA-Net Smart Energy Systems (SES) Joint Call 2020 on Digital Transformation for Green Energy Transition (MICall20)

The ERA-Net Smart Energy Systems (SES) is a network of owners and managers of national and regional public funding programs in the field of research, technical development and demonstration. It provides a sustainable and service-oriented joint programming platform to finance transnational RDD projects, developing technologies and solutions in thematic areas like smart power grids, regional and local energy systems, heating and cooling networks, digital energy and smart services, etc.

Together with its associated partners it provides an innovation eco-system, building bridges in the whole innovation chain. Co-creating with partners that help to understand the needs of customers, communities and regions, it teams up with intermediaries that support building consortia for research, innovation, technical development, piloting and demonstration actions, while at the same time establishing co-operations that can pave the way towards implementation in real-life environments and market introduction.

The ERA-Net SES provides a substantial contribution to turn the implementation plan of the European Strategic Energy Technology Plan (SET-Plan) Action 4 “Increase the resilience and security of the energy system” into action.

The ERA-Net SES in collaboration with the global Mission Innovation Initiative is pleased to announce the Joint Call 2020 on **digital transformation for green energy transition** (MICall20). The aim is to support **transnational research and innovation activities** unleashing the potential of digital transformation for a sustainable energy society. The total available budget exceeds € 27 Mio (including funding from the European Commission); the total maximum SFOE call contribution is € 2.5 Mio.

Scope

Transforming the global landscape of energy supply and solutions towards a decarbonised, secure and resilient energy system will need holistic system solutions incorporating technologies that can be replicated and scaled. The goals of the Paris Agreement may still be achievable but will require more ambitious and faster emission reductions on a global scale.

Digital technologies, as deployed in a broad range of business and media applications on a global basis, are tools that may enable energy systems around the world to be more connected, intelligent, efficient and reliable, and by including renewable energy sources, also to be more sustainable. The digital transformation is therefore expected to have wide effects on the future design of energy systems. At the same time, as a lot of the required ICT-technology for this transformation has already been developed and come far in transforming other sectors of society, it´s important that the development in the energy sector efficiently harness the existing knowledge and technologies while developing the new solutions for the energy system. Finally, while digitalisation can bring many positive effects, it can also make energy systems more vulnerable. It remains to be discovered how this evolution will affect the energy transition and how we can ensure that the effects contribute to increased sustainability.

By accelerating the implementation, adaption and knowledge creation of digital solutions also in energy systems and networks, this call supports the following objectives:

– Advance the green energy transition in all sectors of the energy system while ensuring security of supply;
– Shaping new transnational business and investment opportunities by sector coupling and development of new value chains in innovative and cost-effective energy solutions, thereby creating new employment opportunities and contributing to the development of an environmentally sustainable financial growth;
– Ensuring social sustainability and coherence with digitalisation in other sectors in the progression of the green energy transition.

Projects answering to this call are expected to address key challenges and opportunities relating to one or more of the abovementioned objectives. From a Swiss perspective, this may include aspects related to (however not limited to):

Energy and ICT infrastructure

– Data platforms/APIs, interoperability, and standardisation;
– Resilience, cyber security (vulnerabilities, failures, risks) and data security;
– Internet of things (IoT), 5G, smart buildings, smart metering, sensors and automation, including adaptation of consumer behaviour and automated consumption planning;
– Inclusion of energy system relevant sectors such as transport and mobility or farming;
– Resource efficiency (including energy), also of ICT itself (e.g. consumption of data centres);
– Artificial intelligence/machine learning applied to planning/operational tasks in the energy sector.

Energy marketplaces, business models and communication

– Sector coupling of traditional energy actors to stakeholders and partners in other domains such as agriculture, mobility or production enterprises;
– Energy management and services;
– Big data and management of big data from different sources (planning tools, management tools, market platforms, smart meters, social media, etc.).
– Realizing digital self-determination of consumers in a data driven energy economy.

Social sustainability

– Solutions to overcome energy poverty and foster inclusion of all societal groups into the energy transition;
– Privacy, ownership, and integrity;
– Ethical aspects of AI/ML employment, such as potential discrimination through gender/ethnic biases.

Timeline

14 December 2020	**Call opens**
17 February 2021, 14:00 CET	**Compulsory registration of interest deadline**
12 March 2021	Application portal opening for full proposal submissions
6 May 2021, 14:00 CEST	**Deadline for transnational full proposal submission**
10 May 2021, 12:00 CEST	**Deadline for national full proposal submission**
November 2021	Notification of accepted projects
December 2021 – June 2022	Launch of accepted projects

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. SFOE 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 formally confirmed at the national full proposal submission.

Consortia must include at least two independent legal entities applying for funding from two different countries of the funding agencies participating in the Joint Call 2020. The Swiss partner has to provide a substantial contribution to the work performed in the project. SFOE funding is limited to the Swiss partner of consortia.

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 procedure consists of three steps:

– proposal phase;
– eligibility check and evaluation phase;
– selection phase.

During the proposal phase, there will be a compulsory advisory period and registration of interest for all potential project applicants. During the advisory period, the project applicants are obliged to seek support and guidance from their respective agencies (contact information see above). This is to increase the suitability of the projects with respect to national/regional requirements. The applicants are also obliged to **submit a registration of interest** by **17 February 2021** in the online Electronic Submission System. The registration of interests includes provisional information about project name, short description of topic, approximate amount of funding applied for and potential partners.

The deadline for submission of the **transnational full project proposals** via the Electronic Submission System is **6 May 2021, 14:00 CEST**.

IMPORTANT!

Swiss partners **must submit** one common **national full proposal** per project to SFOE. The content of the application form (only in English) should be based on and consistent with the transnational full proposal with a special focus on the activities of the Swiss project partners. Furthermore, detailed information about costs and finances of the Swiss partners have to be provided.

The national full proposals (application + finance sheet) have to be submitted by e-mail to energieforschung@bfe.admin.ch by 10 May 2021, 12:00 CEST.

The receipt of the national full proposal will be confirmed in due time.

Swiss partners not having submitted a national full proposal in time will not be eligible for funding!

Evaluation of Proposals

During the eligibility check and evaluation phase, the project proposals will be subjected to an eligibility check of formal requirements, national eligibility check, and a transnational independent expert evaluation. The project proposals must include all necessary information and documentation, as well as any information needed to fulfil national requirements. If these formal requirements are not met, the project proposal will not pass the evaluation phase.

The national eligibility check in Switzerland will be based on the national full proposals. They 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. Research proposals will be checked along the criteria listed below in Appendix 2. A **minimum score** of **18 points** is required to pass the national eligibility check and, thus, to be handed over to the transnational independent expert evaluation. Pilot and demonstration proposals are being evaluated according to the Directive, Appendix IV.

Contact Information

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

Dr Michael Moser
Delegate to the ERA-Net management board
michael.moser@bfe.admin.ch
Phone +41 58 465 36 23

Dr Matthias Galus
Head of Digital Innovation Office
matthias.galus@bfe.admin.ch
Phone +41 58 465 32 42

Applicants are strongly recommended to contact the SFOE well in advance of the intended submission of a full proposal.

No extensions of the deadline will be granted!

Webinars

Find the latest update on events and webinars on the ERA-Net SES website.

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 Re-search 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)?	☐ yes ☐ no
F2	Are the objectives of the research project clear and is the research proposal well structured?	☐ yes ☐ no
F3	Was the application submitted in time?	☐ yes ☐ 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?	☐ yes ☐ 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**
	Preliminary work, suitability, expertise Can the project team build on previous work? Does the project team have the expertise required (suitability)?	
	Academic record, recognition Does the project team have broad experience (academic record) or are they recognised specialists in their field?	
	Teams' potential for success Is clear potential for success discernible in this project team?	
Q3	**Content of project (weight: 2.0)**	**ø 3**
	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)?	At least 3
	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?	
	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?	At least 3
Q4	**Opportunities, risks (weight: 1.0)**	**ø 3**
	Energy potential Does the project contribute to a safe, sustainable and economical energy provision or to a lower and rational energy consumption?	
	Sustainability Will the findings contribute to sustainable development in all three dimensions (ecological, economic and social) at national or global level?	
Q5	**Diffusion (weight: 1.0)**	**None**
	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?	
	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?	
	Knowledge transfer Are knowledge transfer and publications planned?	