

Information for applicants in connection with the call for proposals for Centres for Environment-friendly Energy Research (FME)

Together with the document '*Centres for Environment-friendly Energy Research (FME) – Requirements and guidelines*' (August 2020), this document aims to provide applicants with necessary information about the FME instrument, including the requirements applicants must meet.

It is important that all applicants carefully read the call for proposals and all pertaining documents and familiarise themselves with the requirements that apply.

1 Introduction

The Centres for Environment-friendly Energy Research (FME) scheme is an important and large-scale initiative in the field of energy research. The scheme was established by the Research Council in 2008 on the basis of the first Climate Agreement reached by the Norwegian parliament (the Storting), recommendations in Energi21's initial strategy and good experience from similar schemes in Norway and abroad. The following FME calls have been announced:

- 2008: Establishment of eight FMEs
- 2010: Establishment of three FMEs in the social sciences
- 2015: Establishment of eight FMEs
- 2018: Establishment of two FMEs in the social sciences

Based on the recommendation of the Storting (Recommendation 360 S (2019-2020)), the Research Council has decided to announce a new call for one FME in the field of wind power with a view to establishing the new centre in 2021.

2 Objectives and main characteristics of the FME scheme

Objectives and overarching criteria

The FME scheme is a concentrated, long-term initiative aimed at addressing climate and energy challenges and contributing to business development. The centres conduct research in close, long-term collaboration between research environments, business and industry, and administrative bodies. The research conducted by the centres must be of a high academic standard and must strengthen business and industry's innovation capability. The FME scheme ensures predictability and continuity for user partners investing in the research, as well as reducing risk.

Energy and climate policy objectives will play a decisive role in how the centres are organised and the expected long-term effect of the scheme. The impact goals can be expressed in the following four points:

- **Reduction of greenhouse gas emissions** at the national and international level, for example through energy transitions and more effective energy consumption.
- **Energy security**, which entails ensuring good national security of supply, including in the form of flexible and efficient power and energy consumption.

- **Resource utilisation**, which entails business development and value creation through efficient and sustainable consumption of profitable renewable resources.
- **Innovation**, which entails strengthening innovation in business, industry and the public sector, thereby contributing to developing internationally competitive businesses in the field of energy and climate technology.

The FME scheme aims to

- Boost innovation and value creation both for companies and public institutions participating in the centres's activities and for Norwegian society at large;
- Help to reduce national and international greenhouse gas emissions, promote more efficient use of energy and increase production of renewable energy;
- Cultivate research groups that are in the forefront of the international research community and that are an integral part of dynamic national and international networks;
- Increase the visibility of research results and promote a knowledge-based debate on environment-friendly energy.

Relationship to the Research Council's other instruments

The FME scheme is part of the Research Council's energy, transport and low emissions portfolio. The scheme must be seen in conjunction with the Research Council's thematic programmes relating to energy and CO₂ capture and storage (ENERGIX and CLIMIT), with a view to ensuring that the funding instruments have the best possible overall impact in the field of energy. The FME scheme's long-term and large-scale projects will complement and strengthen the initiatives organised under the thematic programmes. The scheme aims to encourage active involvement by the business sector by providing long-term and predictable funding, requiring a majority of user partners on the boards of centres and requiring contributions from businesses and other user partners in the form of funding and own research efforts.

The programmes make it possible to build additional research activity around the centres where this is important. Innovation projects funded by the thematic programmes are intended to enable user partners or other actors to take innovations and ideas further to the market.

Overarching requirements of FMEs

The responsible applicant for and host institution of a Centre for Environment-friendly Energy Research (FME) must be a research organisation approved by the Research Council of Norway; see forskingsradet.no. Private enterprises and, if relevant, public sector actors participate as user partners. Other research organisations may participate as research partners, in which case they must also have been approved by the Research Council.

An FME is not a separate legal entity. An FME is a research centre established for a time-limited period. The centres are established for a period of up to eight years (5+ 3). The decision on continuation for the last three years will be taken after the mid-term evaluation approximately 3.5 years after the start-up of each centres. In addition to the mid-way evaluation, the centres conduct a self-evaluation after about two years of operation.

The Research Council, the host institution and the partners share responsibility for the funding of each centre. At least 50 per cent of the centre's annual budget must be covered by an FME consortium. The user partners' contribution must amount to at least 50 per cent of the Research Council's funding.

The Research Council cannot grant state aid through the FME scheme. The centre's projects must be carried out as an actual collaboration between the partners. The businesses must cover their own costs and cannot receive indirect state aid.

Research conducted at the centre, including research funded by the user partners, must be long-term research that is expected to contribute to increasing innovation capability and form the basis for greater value creation.

The research results from the centre must be open. It shall nonetheless be possible to protect results that can be commercially exploited, for example through patenting prior to publication.

Applications that do not meet the overarching requirements and expectations will be rejected.

Detailed information

The document 'Centres for Environment-friendly Energy Research (FME) – Requirements and guidelines' (August 2020) sets out more detailed information about the FME scheme and what is required of applicants.

3 Specific information about this call

Estimate of available funding

This call for proposals has a total maximum budget of NOK 15 million per year for 8 (5+3) years. The aim is to establish one centre.

Thematic priorities

Proposition No 127 S (2019 – 2020) to the Storting (in Norwegian only) proposes establishing an FME in the field of wind energy. The text of the proposition states the following:

There are significant R&D needs and issues that must be resolved in order to develop a wind power market in Norway. Some of these R&D needs concern both land-based and offshore wind power, while some apply specifically to offshore wind power. A broad and structured approach is proposed across research environments in industry and academia through the establishment of a dedicated centre for environment-friendly energy (FME) in the field of wind power. An FME will encompass both offshore and onshore wind power, but the main emphasis of the research activity will be related to challenges for offshore wind power. The centre will emphasise research in both the natural and social sciences.

The call for an FME in wind power is based on the text in Proposition No 127 S (2019-2020), but it contains some elaborations, delimitations and more detailed specifications. Energi21 is the main strategic body for energy research. Energi21's priorities provide important directions for the Research Council's efforts in energy research. The most recent Energi21 strategy, www.energi21.no/Strategien/, discusses both offshore and onshore wind power. Offshore wind power for an international market is one of six strategic priority areas in the strategy.

The centre's activities in offshore wind power must target export-oriented businesses and the supply industry, with an emphasis on reducing costs. The centre's business partners should be enterprises that aim to supply a global market. The following topics will be important to offshore wind power (ref. Energi21's strategy): turbine foundation solutions (both fixed and floating), installation, operation and maintenance including improving energy output, marine logistics (heavy maintenance) and robust access solutions. The centre should also use modelling to support these topics. Energi21

also highlights the need for knowledge on the social and environmental impact of offshore wind farms.

Norway has seen an increase in the development of land-based wind power in recent years. This has led to increasing conflicts of interest between development, local communities and environmental considerations. Social acceptance and environmental impact are particularly relevant research topics in connection with land-based wind power. Other important research challenges with respect to onshore wind power include identifying solutions that contribute to increasing efficiency and reducing construction costs.

The Research Council emphasises the importance of using research funding efficiently, and it is therefore important that a new wind power FME coordinates its activities with other relevant FMEs and Centres for Research-based Innovation (SFIs) in order to avoid overlapping and ensure synergies. In this context, this applies to the following areas in particular:

- The energy market, business models and social acceptance – apply to FME NTRANS in particular.
- The energy system (integration and grid challenges) – applies particularly to FME CINELDI.
- Mooring systems etc. for floating structures – applies to SFI floating structures for the next generation of ocean industries (under development).

Collaboration is expected between the leading Norwegian environments in this field.

General information

This call only applies to research in the field of wind power; see above for a more detailed description.

The call is available in both Norwegian and English. It is the text in the Norwegian call that is legally binding.

Any potential applicant that meets the overarching criteria may apply. However, all applicants must describe how the centre will build on or complement other established centres or other major initiatives.

In the selection process, emphasis will be placed on the application's relevance to the thematic guidelines set out in the call. The potential for innovation and sustainable business development are key considerations and the scientific quality of the research must be at a high international level. Please also refer to the assessment criteria.

Other requirements and expectations in this call

Collaboration on energy research

When selecting a centre, emphasis will be placed on the potential for strengthening research groups that are at the international forefront of their field, while also contributing to structuring research in Norway through closer cooperation between industry, the public administration and research environments.

Innovation and collaboration between the partners

The application must show how the centre will combine the long-term research with a focus on application of the results in practice. It must be described how the centre will ensure closer cooperation between the research partners and user partners. It must be clearly stated what contributions – over and above financial contributions – are expected from the users. It is important

that business and industry and other user partners are involved at an early stage of the work on the application, so that they are in a position to help shape the centre from the outset.

International cooperation

International research collaboration is important in the energy and climate field. Offshore wind power represents a growing international market and it is important to cooperate with international research groups with expertise in this field.

The EU Framework Programme for Research and Innovation is the biggest single arena for collaboration. Bilateral collaboration is also important, and the Research Council emphasises cooperation with eight prioritised countries. The Research Council has recently presented an [action plan](#) for international collaboration. Sufficient funds must be earmarked for facilitating international collaboration, including by means of project collaboration and researcher exchanges. The centre may also be asked to represent Norway and the Research Council of Norway in arenas for international cooperation.

The centre's goals and overarching strategies/plans for international collaboration must be described in the application. Applicants must also describe how international partners' participation will contribute to strengthening the centre's research.

Researcher training – including foreign exchanges and collaboration with the business sector

Strengthening recruitment to research, business and industry and administrative bodies working in the field of environment-friendly energy is an important task for the FMEs. This includes PhD, post-doctoral and master's degree levels. The application must show how the centre will address this aspect. Researcher training can be organised and fully or partly financed within the centre or through other forms of cooperation with a university or university college. Foreign exchanges are an important part of researcher training and all research fellows who work at an FME should gain experience from abroad. Applicants must describe how they will address this aspect.

Communication, administration and joint activities

Research activities are at the core of the FMEs. However, it is also important that sufficient resources are allocated to administration and joint activities. This is necessary to ensure that organising the research in a centre creates added value, i.e. steps must be taken to ensure good interaction between the different parts of the centre, activities that help to develop the centre as a unit, and activities that ensure good involvement by the user partners.

The FMEs have an important role to play in disseminating knowledge to academic environments and the general public. Plans for dissemination work must be presented and resources must be earmarked for this purpose.

Equality

Equality must be a consideration in the work on planning and developing new applications, and it must also be integrated in the centre's recruitment plans. All applicants are encouraged to be on the lookout for women who are qualified for the roles of centre director, work package managers and leading researchers. Where applicants are otherwise equally qualified, the Research Council will prioritise applications with female centre directors and centres with good female representation in leading positions.

Storage of research data

The host institution, in collaboration with the partners, decides which storage solutions will be used for storing the research data produced at the centre, and a data processing plan must be prepared in connection with revision of the application.

4 About the application

The deadline for applications is **13.00** on **11 November 2020**.

Applications that clearly do not meet the requirements and guidelines for the FME scheme will be rejected. The same applies to applications that do not meet the application requirements set out below.

Please note that this call for proposals does **not** include mandatory submission of a project outline.

Application requirements

Applications must be written as electronic applications (eSøknad) in accordance with the specifications for this kind of application in the call. Information about how to complete the application form and the application requirements are provided in the help texts in the electronic application form.

The document '*Centres for Environment-friendly Energy Research (FME) – Requirements and guidelines*' (August 2020) contains information about what costs can be covered in an FME. A detailed budget must be specified in the application form. The application form sets technical limits on the number of years that can be included. For this reason, please set out a detailed annual budget for (at least) the first five years and one overall budget for the last years. It is important that the centre has some flexibility in its budget so that funding can be re-allocated when necessary and to have some funds available when needed. Up to 10 per cent of the Research Council's allocation should therefore be unappropriated from the fourth year onwards.

As a rule, the Research Council's rules for the recognition of project costs, including guidelines for estimating personnel costs and indirect costs, must be used. In the higher education sector, cost estimates in the application are based on the TDI model. The institute sector uses the hourly rates as reported to the Research Council.

The following must be enclosed with the application:

- Project description
- Letter of intent from the host institution
- Letters of intent from the partners
- CV for key personnel

The following may be enclosed with the application:

- Proposed experts

The application and all attachments must be written in English.

The application will only be available to persons who have signed a declaration of confidentiality.

The earliest permitted start date for the project is 1 January 2021.

Project description (compulsory attachment)

The project description should be no more than 20 pages long, including the list of references. It is not technically possible to upload project descriptions of more than 20 pages. The page format should be A4 with 2 cm margins, single line spacing, and in Arial, Calibri, Times Roman or similar 11-point font. A 9-point font can be used for the list of references and any captions. Links to websites or documents in the project description will not be taken into consideration.

The template for the project description must be downloaded from the call. The project description must be in accordance with the template.

Letter of intent from the host institution (compulsory attachment)

A letter of intent from the host institution's senior management must be attached (1–2 pages in English), stating that it will accept the obligations that follow from a contract with the Research Council as a host institution for an FME. The letter must also describe what part the centre will play in the host institution's academic strategy.

Letter of intent from all partners (compulsory attachments)

A letter of intent (1–2 pages in English) from each of the partners must be attached. This applies to both user partners and research partners. The letters from each of the partners must include the following:

- The partners must confirm their intention to participate actively as partners in the centre and describe how this will be done.
- The partners must give reasons for their interest in participating in the centre. How will the centre's activities benefit the partner and create opportunities that would not otherwise arise without the centre?
- What potential for innovation and sustainable value creation does the partner envisage from the centre's expected results, and how can the research results be applied?
- The partner must summarise its contribution to the centre in the form of knowledge, expertise and, if relevant, funding, facilities and own efforts during the centre's lifetime.
- The partner must describe its own long-term R&D plans relating to the centre (strategic foundation).

CVs of the centre director and key personnel (compulsory attachments)

CVs (in English) of the centre director and other key personnel (work package managers) must be attached with the application. Up to eight CVs can be attached. **Additional CVs will not be taken into consideration.** Each CV may be maximum four pages in length. It is not technically possible to upload CVs of more than four pages. The page format should be A4 with 2 cm margins, single line spacing, and in Arial, Calibri, Times Roman or similar 11-point font.

The template for the CV must be downloaded from the call. Each of the up to eight CVs must comply with the two given templates.

Proposals for experts

In an attachment, applicants may propose up to five international experts to assess the application. The experts must be impartial in relation to the application¹. The expert's name, title, email and address must be stated. The Research Council is not obliged to use the experts proposed by the applicant.

Assessment criteria for applications

In the selection process, emphasis will be placed on the application's relevance to the thematic guidelines set out in the call. The potential for innovation and sustainable business development is a key consideration, and the scientific quality of the research must be at a high international level.

The Research Council uses three main criteria: *Excellence, Impact and Implementation*. The criteria are evaluated by international experts and by experts well acquainted with the field of wind power. The assessment of each main criterion will be in the form of a verbal evaluation and a grade (seven-point scale).

¹ Information about the rules concerning impartiality is available on [the Research Council's website](#).

A more detailed description of the three main criteria is provided in the call for proposals.

The Research Council will also assess the applications' relevance in relation to the requirements and guidelines set out in the call, including the centre's national contribution and profile, its place in the host institution's academic strategies and how the centre builds on or complements other established centres or other major initiatives.

Overall evaluation and selection

The basis for the overall assessment and final selection will be the assessment and grades awarded for the three main criteria and the application's relevance assessed in relation to the requirements and guidelines set out in the call.

The portfolio board for energy, transport and low emissions will make the final decision on allocation.