Call: Graduate School in Energy Systems

The Swedish Energy Agency is allocating SEK 50 million in the Graduate School in Energy Systems. In this call we welcome interdisciplinary project proposals that adress challenges within the energy systems. Each project shall include two to three PhD subprojects from social sciences/humanities and technical/natural sciences respectively. Researchers and PhD students with an interdisciplinary background could also take part in the programme by collaborating with project members from a complementing perspective.

In order to make the transition to sustainable energy systems with reduced climate emissions, we need knowledge and expertise that can contribute to a better understanding of complex societal issues such as interactions and disagreements between humans, technology and institutions (societal and political organisations, values, legislation and policy etc.). These parts can counteract each other, but they need to interact in order to achieve national and international climate targets and energy policy objectives.

The purpose of the call is to create new knowledge as well as individuals who are able to take on different perspectives on the energy system and the interactions between those perspectives. Interdisciplinary collaboration between doctoral students is expected to bring about meetings and new kinds of research questions that are problem-oriented and challenge-driven. Such questions can broaden the scope of knowledge and generate new perspectives on the world's energy- and societal challenges and how they can be managed to make the transition to sustainable energy systems.

The call is aimed at senior researchers who are interested in supervising PhD students while participating in interdisciplinary research projects. The projects are expected to consist of PhD students and scientific perspectives, research questions and methods from both humanities and social sciences, as well as from technological and natural sciences. Researchers and PhD students with an interdisciplinary background could also take part in the programme by collaborating with project members from a complementing perspective. Research institutes are also able to apply, but must partner with an actor that has degree-awarding powers.

Project design and content

Projects applying for funding in this call must encompass two to three PhD subprojects that can contribute to achieving Sweden’s national climate- and energy targets:

- By 2045, Sweden is to have no net emissions of greenhouse gases into the atmosphere and should thereafter achieve negative emissions.
- By 2040, Sweden is to have 100% renewable electricity production

- Sweden is to have 50% more efficient energy use by 2030 compared to 2005 (in terms of decreased energy intensity)
- Emissions from domestic transport (excluding domestic aviation) are to be reduced by at least 70 % by 2030 compared with 2010

The projects' relevance for the Paris agreement goals and the United Nation's Sustainable Development Goals (especially goal nr 5, 7, 8, 11, 12 and 13) may also be considered in the application.

The project application must clearly describe how and in what way the project will contribute to solving the challenges within the energy systems and from which academic perspective the challenges are to be studied. Projects can concern all forms of traditional but also new and innovative energy areas and issues.

The application should include the financing of two to three graduate students for four years of study. Together, supervisors and prospective graduate students within the project are required to have their origin in both social sciences/humanities and scientific/technological research. This means that at least one supervisor with associated doctoral student must be resident in social science/humanities/interdisciplinary research. In addition, supervisors and PhD students within the project must be situated in different universities.

It is mandatory for the doctoral students funded by the program to participate in all the program activities. This include regular meetings and seminars as well as a joint course package consisting of courses of at least 30 credits in total. The courses are developed in dialogue between supervisors and the graduate school's collaborative forum, and will, for example, cover different perspectives on energy systems, scientific theory and methodology. The course package will also include practical exercises and minor multidisciplinary projects. The activities organized by the collaborative forum will run continuously throughout the project period.

It is mandatory for project managers and supervisors of the PhD students to participate in the formulation of joint activities of the graduate school, including planning and implementation of the PhD education plan. This means active participation in scientific management teams, in the drafting and implementation of the postgraduate courses. The drafting of joint activities is coordinated by the collaborative forum.

The earliest start date for successful projects is June 2020 and they may run until 31 December 2024 at the latest.

The application may be written in Swedish or English. The text must explain the project in language that can be understood by people who are not experts in the field. Text in English must be accompanied by a Swedish summary.

Conditions for approved projects

The Swedish Energy Agency works to promote diversity and equality, and applicants are therefore asked to consider these issues in the composition of the project group, the choice of project leader, and in the management, content, objectives and impacts of the project.

The Swedish Energy Agency sets the following requirements for projects that may be granted in this call:

- Project proposals should contain two to three PhD subprojects that are parts of a joint interdisciplinary research challenge. In this call, it means that the projects are expected to consist of PhD students and scientific perspectives, research questions and methods from both the social sciences and humanities research disciplines, as well as from technological and natural sciences. Researchers and PhD students with an interdisciplinary background could also take part in the programme by collaborating with project members from a complementing perspective.

- The supervisors and PhD students within the project must be situated in different universities.

- The PhD students should have a reasonable work load to enable students to participate in the joint activities of the graduate school.

The project application must entail the following parts:

- The application shall describe the project's energy relevance and contain clear interim and final objectives. Objectives must be measurable and formulated so they can be achieved during the lifetime of the project.

- A description of how the different academic perspectives within the project will generate interdisciplinary knowledge.

- A description of the PhD subprojects and the potential of these projects to generate knowledge and expertise with a holistic view of energy issues and energy systems.

- A description of how the work load of the PhD students is to be balanced to enable their participation in the joint course package of the graduate school

- Project descriptions must also contain:

    - Background and analysis of prior knowledge (including relevant references).

    - Method and theory descriptions and a description of how the project will be conducted. Also include a short description of

relevant cooperations with other national or international researchers and societal actors as well as the project's integration of diversity and gender equality issues.

- Costings and a summary budget including expenses for travels, wage costs for supervisors and assistant supervisors as well as expected expenses for students' and supervisors' participation in graduate school joint activities. The Swedish Energy Agency encourages climate friendly travelling.

- A relevant plan for dissemination of research results, including dialogue with national or international stakeholders.

The Swedish Energy Agency's decision regarding funding is based on an agreed project plan and cost plan. Before funding can be released to approved projects, recipients must confirm that they have read the Swedish Energy Agency's decision and that they accept the conditions for the funding. A more detailed description of the conditions can be found in the appendix below.

What percentage of the project's costs can the funding cover?

Projects applying for funding in this call are expected to cover SEK 9-14 million depending on the amount of doctoral students within the project. This call is expected to funding approximately 10 PhD students. For projects run by universities and colleges or by research institutes or other organisations engaged in non-economic activities, the Swedish Energy Agency may grant state funding covering up to 100 % of the project's costs. Research institutes and public organisations may apply for overhead costs of up to 30 % on their eligible staff costs.

How to apply

The application must be completed as described in the notice to applicants and submitted via the Swedish Energy Agency's electronic application tool E-kanalen. Remember to obtain user access to E-kanalen well in advance, as this may take a few days.

The application must be submitted by 4 February 2020 at the latest. Phone support is available until 16.00.

Assessment criteria

The applications are evaluated in accordance with the instructions and stipulations stated in the call announcement text. The evaluation criteria are:

Scientific and interdisciplinary quality
- The project's level of interdisciplinarity, its interdisciplinary approach and scientific theoretical awareness as well as the representation of various universities.

- The project's selected research challenges and targets as well as the project's choice of scientific method/methods and its suitability to respond to selected research questions.
- The project's expected contribution to knowledge and expertise in the chosen field of research

Relevance for energy and societal transition
- The project's degree of innovation in its content and direction in relation to their field of research.
- The project's expected contribution to the achievement of Sweden's national climate- and energy targets.
- The project's relevance for the social actors who has been identified as target groups for the project.

Expertise for project implementation
- Project team's composition and its compatibility with the application requirements for interdisciplinary collaboration as well as cooperation between at least two separate universities.

- The project group's scientific and occupational skills in relation to the project plan.

- The collaboration with for the project, relevant networks of national and international researchers and research networks.

- The project's plan for implementation of the selected method/selected methods as well as reasonableness of project scope and time schedule in relation to the plan of implementation and the proposed budget.

Create dialogue, and disseminate knowledge and expertise
- The project plan for the dissemination of knowledge and expertise to relevant societal actors

- The project plan for the implementation of cooperation and collaboration with relevant social actors.

In the assessment, the following will also be considered:

- The project's integration of diversity and gender equality issues.
- A balance of topics and methods in the large portfolio including stage 1, where the new projects will complement the portfolio.

Decision on funding

The Swedish Energy agency may ask you to provide additional information if we think there is a reason to do so. For example, we may ask you to provide changes to the project plan or a more detailed description of the project concept. Your application will be evaluated by the programme committee. The programme committee will make a recommendation to the Swedish Energy Agency about which projects should be supported. The final decision will be taken by the

Swedish Energy Agency, by June 2020. Shortly thereafter, you will be informed of the decision taken and the reason for the decision.

Background to the programme

The Graduate School in Energy Systems is an interdisciplinary graduate school in energy system studies. The main purpose of the graduate school is to create interdisciplinary expertise and knowledge with a holistic view of energy issues and energy systems. Interdisciplinary trained researchers have relevant and sought-after skills that are attractive for the corporate sector, the public sector and academia. The joint course package and activities are coordinated by the graduate school's collaborative forum.

This program stage covers the period 2017-11-17 - 2024-12-31 with a total budget of 108 million, financing about 20 PhD students.

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Appendix

Conditions for approved projects, please see the full call text in Swedish.