

Call: Energy efficient vehicles

The Swedish Energy Agency is announcing approximately SEK 30 million in the Energy Efficient Vehicles programme. The programme is directed towards energy efficient, fossil-free vehicles and work machines with low impact on the environment and health. In this call we welcome project proposals in all the programme's research areas.

Application deadline: 19/09/2016 at 2 p.m.

The Energy Efficient Vehicle programme is intended to coordinate the Swedish Energy Agency's academic research projects primarily in the area of road vehicles, but work machines may also be included. The programme's 20-year vision is to produce radically more energy-efficient, fossil-free vehicles and work machines, brought about through investing in this area together with other national and international actors.

The overall objective of the programme is to:

- Accumulate knowledge in strategic areas in the vehicle and work machine sectors by supporting targeted research at Swedish universities.

Specific objectives of the programme:

- All the projects within the programme must publish at least one scientific article in peer-reviewed journals within the subject area
- All projects within the programme must have at least one doctoral student or post-doctoral researcher.

Projects are welcomed within whole area of the programme

The call is open for applications in the whole area of the programme, as described below. The following subjects and issues are examples of urgent research areas for this call, without any rank order:

- Electric, electric hybrid, plug-in hybrid and other hybrid vehicles and work machines including those with fuel cells
- Aerodynamics, application of materials that are lightweight, renewable and recyclable, and other techniques to minimise the vehicles' and work machines' use of energy.
- Life Cycle Analysis (LCA) and sustainable resource usage
- Social and commercial driving forces for the development and implementation of new vehicle technologies

Each project may at most apply for SEK 9 million in support.

Funded projects can start at the earliest 15/11/2016 and at most may continue to 31/12/2019.

Areas of research, development and technology

The Energy efficient vehicle programme should initiate and support interdisciplinary Swedish research into visionary vehicle technologies based on today's technologies or new concepts. This also applies to humanities and social science projects which generate knowledge that can lead to more energy efficient vehicles.

The selection of research, development and technology areas that the programme supports is based on the Swedish Energy Agency's strategy for the area and includes the following:

- Electric, electric hybrid, plug-in hybrid and other hybrid vehicles and work vehicles
 - The area relates to research in terms of energy storage, fuel cells, electric drive systems, transmission and system studies. Projects should be well harmonised with activities at the Swedish Electric & Hybrid Vehicle Centre (SHC).
- Energy efficient auxiliary systems (climate control, steering servo, etc.)
- Vehicle related materials technologies
 - This refers to applied technical research to produce lightweight vehicles through the use of new materials, but also, for example, material research for renewable and recycled materials, and to effect reduced friction.
- Vehicle related aerodynamics
- System issues relating to the aforementioned areas
 - One example of a prioritised system issue is energy levels and losses for different vehicle types divided into sub-systems.
- Social and commercial driving forces for the development and implementation of new vehicle technologies.
 - For example, this may concern business models, mobility as a service, evaluation of technical innovation systems (TIS) or other interdisciplinary approaches.
- Life Cycle Analysis (LCA) and sustainable resource usage
 - This concerns, for example, production's CO₂ emissions, material availability, sustainability perspectives, choice of powertrain as well as transport fuel and materials in electronics, batteries and electric motors.
- Electric power transmission
 - Vehicle related technologies for inductive and conductive transmission of energy to the vehicle and charging of vehicles (however, not electrified roads).
- Internal combustion engines
 - Prioritised area is research concerning energy efficient internal combustion engines for renewable fuels, for example, hybrid powertrains. Projects should be well harmonised with activities at the centre of excellence for internal combustion engines.

The research should be visionary, but at the same time so needs related that the industry can see the advantages of participating in projects from an early stage. Generally, research should address fundamental issues.

Assessment criteria

The most important criterion when assessing applications is their correspondence with the programme's vision and overall objectives, in conjunction with:

- the project's relevance for the transition to sustainable and fossil-free vehicles
- the project's industrial prerequisites
- The project's scientific quality (background to the study, problem analysis, selected methodology)
- the project manager's qualifications, and those of other personnel
- cooperation between research groups, including international groups
- the project manager's ability to achieve the objectives set out in previous applications
- the feasibility of the budget in relation to the intended efforts and objectives
- the likelihood of the results being useful for undergraduate and postgraduate courses

The Swedish Energy Agency wishes to promote diversity and equality and we therefore would like to see these issues considered during the formation of the project group and with the selection of the project manager and for the project's implementation, content and in its intended effects.

International cooperation is encouraged.

What percentage of the project's costs can I receive support for?

State aid may be granted to companies with different levels of support depending on the direction of the project. For projects that embrace experimental development, state aid given may at most be 25 %, for applied research a maximum of 50 % and for fundamental research 100 %. This is governed by the EU regulation (<http://eur-lex.europa.eu/legal-content/SV/TXT/PDF/?uri=CELEX:32014R0651&from=EN> section 4 item 25).

In some cases, the Swedish Energy Agency may grant a higher percentage of state aid such as for small (+ 20 percentage points) and medium size (+ 10 percentage points) companies (item 6 according to the link above). This means, for example, that a project conducted by a small company and which embraces experimental development can at most receive 45 % in state aid (25+20). For projects conducted by universities and colleges, the Swedish Energy Agency may grant state aid by up to 100 % of the project's costs according to the applicable spending authorisation

(<http://www.esv.se/statsliggaren/regleringsbrev/?RBID=16999>). The Swedish Energy Agency may set higher demands on co-financing than what the regulation demands if it is deemed necessary in order for the project to be given support.

Co-financing can, for example, consist of working hours, cash and experiment costs. If the co-financing includes Government money, this should not be included in the co-financing. For example, if an institute receives 25 % of its basic funds in the form of Government money, only 75 % of its project costs can be included as co-financing.

Conditions for granted projects

The Swedish Energy Agency's decision regarding aid is based on an agreed project and cost plan. In order for aid to be paid to approved projects, the beneficiary must confirm that he/she has studied the Swedish Energy Agency's decision and that he/she accepts the conditions for the support. A more detailed description of the conditions can be found in the appendix below.

How to apply

The application must be written in accordance with the Notice to Applicants and be submitted via the Swedish Energy Agency's electronic application tool [E-channel](#). Remember to obtain user access in E-channel in good time, since it may take a few days.

The application must be written so that those not fully conversant with the subject have the possibility to understand what the project concerns. The application must describe the project's energy relevance and contain clear interim and final goals. Goals must be measurable and formulated in such a way that they can be met during the time the project is in progress. Project descriptions must also contain background and analysis of known knowledge, method descriptions, costings, summary budget and plans for result dissemination.

The complete application must be submitted at the latest on 19/09/2016 at 2 p.m.

Decision on financial support

The Swedish Energy agency may request you to supplement the application if we find reason to do so. The request may concern, for example, increased demands on co-financing, changes to the project plan or a detailed description of the project concept. Your application will be assessed by the Programme Council. The Programme Council will make a recommendation to the Swedish Energy Agency for projects to be supported. The final decision will be made by the Swedish Energy Agency by November 2016 at the earliest. Shortly thereafter, you will be informed of the decision taken and the reason for the decision.

Programme time schedule

The programme is expected to run from 01/07/2015 to 31/12/2019.

The intention is that the programme, after reconciliation every two years, shall be extended by two years as long as it is deemed motivated. Continuous extension of the programme means that four or three year projects can be started every year.

Budget and cost plan

The programme is financed in its entirety by the Swedish Energy Agency. Co-financing may come into question in the projects involved.

The budget framework for the programme amounts to SEK 88 million, distributed per year as set out below:

2016	2017	2018	2019
SEK 22 million	SEK 22 million	SEK 22 million	SEK 22 million

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Appendix

Conditions for granted projects

The conditions that apply to approved projects will be evident from the Swedish Energy Agency's decision concerning the granted aid. A description of the conditions follows below.

General

The Swedish Energy Agency's decision regarding aid is based on an agreed project and cost plan. The part of the costs not covered by the aid from the Swedish Energy Agency shall be borne with own resources or with funds provided by another financier. The beneficiary is responsible for financing cost increases that occur during the project period. The Swedish Energy Agency's decision regarding aid, which does not concern the current financial year's aid, only applies provided that the Swedish Energy Agency receives/has at its disposal requisite funds.

The shifting of costs between cost categories is accepted up to 10 per cent within each cost category, provided that the total framework does not change. Greater changes require approval from the Swedish Energy Agency.

§ 1 Payment of aid

Payment of aid is made, unless otherwise stated in the decision, in the middle of project period for each budget year without previous order. Aid only covers value added tax when this occurs as net cost at the Beneficiary (only applies to universities and colleges). Verifications for accounted expenditure items must, on request, be submitted to the Swedish Energy Agency. Funds that have not been used are to be repaid. Advances can be provided, at most 30 per cent of the total amount of aid (only applies to universities and colleges). 15 per cent, or another percentage set out in the decision, of the granted funds can be withheld until final reporting in accordance with § 4 has been submitted and approved by the Swedish Energy Agency.

§ 2 Employer relationship

The Swedish Energy Agency is not the employer or principal of the beneficiary or anyone else he/she engages for the project. Accordingly, the Swedish Energy Agency does not make deductions for taxes, social security contributions, etc.

§ 3 Notification obligation regarding financing

The beneficiary is obliged to immediately notify the Swedish Energy Agency in writing, if funds for the project in the decision have been sought or granted from anyone other than the Swedish Energy Agency.

§ 4 Duty to report

Reports and surveys as set out below shall be submitted in accordance with the Swedish Energy Agency's instructions. If, in addition to this, special reports are required this is stated in the decision.

Annual report

Universities and colleges are obliged, for each budget year, at the request of the Swedish Energy Agency, to submit annual reports, concerning the department's and/or research team's complete activities.

Progress report

The progress report concerning the project's activities shall be provided at the request of the Swedish Energy Agency. This should include a description of the project's existing activities and results as well as a financial presentation. In addition, the Swedish Energy Agency can request that the report shall include a technical status report. The progress report shall be submitted to the Swedish Energy Agency at the latest on the date stated in the decision.

Financial Accounting – only applies to companies

Financial accounts shall be submitted once or twice a year using the specific form provided by the Swedish Energy Agency or collected from the Agency's website (www.energimyndigheten.se). The account shall be submitted at the latest on the date stated in the decision.

Final report

The final report shall report the project result and contain a description of the project's implementation and the fulfilment of objectives. Furthermore, the report shall contain a summary of the project result in English of no more than 200 words. The report shall be submitted to the Swedish Energy Agency at the latest on the date stated in the decision.

A specific financial final account shall be submitted per entry at the latest on the date stated in the decision using a specific form provided by the Swedish Energy Agency or collected from the Agency's website (www.energimyndigheten.se).

Survey

As the beneficiary, you need to complete a survey at the end of each year and submit this to the Swedish Energy Agency. We collect, on behalf of the Government, details from all beneficiaries in order to present a number of results in indicator form in our annual financial statement.

§ 5 Changes

Significant changes within the Swedish Energy Agency approved project and cost plan must be reported in advance to the Swedish Energy Agency for analysis and approval. The beneficiary must immediately notify the Swedish Energy Agency if circumstances of significant importance occur that result in the cancellation or delay, etc. of the project. The beneficiary is obliged to immediately report any changes in name or address.

§ 6 Publication

The project result must be published. Publication shall take place in accordance with international best practice for the publication of research results.

The beneficiary is entitled to protect the results by patents or other intellectual property rights and in doing so postpone publication until any application for such property rights has been submitted to the relevant patent office. The Swedish Energy Agency must be notified if the beneficiary intends to protect the results. Applications to the patent office must be submitted without delay. The Swedish Energy Agency's written approval must be obtained in each individual case if the beneficiary wishes to delay publication for reasons other than those stated above or refrain from publishing certain results.

All presentations of the project must state that the work has been conducted with the support of the Swedish Energy Agency (the agency name should be reproduced in English, Swedish Energy Agency).

§ 7 Rights to results

The beneficiary or the result's rights holder holds the commercial right of use of the project results and is entitled to make available or transfer the rights to another.

If the rights to the project are transferred to a company that runs economic activities, compensation corresponding to the market price for the rights shall be paid (only applies to universities and colleges).

§ 8 Right to review

The Swedish Energy Agency or person/persons appointed by the Swedish Energy Agency (e.g. certified accountant) are entitled to follow-up the work and study documents that can provide information about the technical and economic development of the project. The Swedish Energy Agency is entitled to issue special instructions for reporting in order to enable the review.

In addition, the Swedish Energy Agency has the right to follow-up completed projects through requesting follow-up reports, which are to be structured and submitted in accordance with the Swedish Energy Agency's instructions. Such reports can be requested on three occasions within a ten-year period calculated from the day of the final report.

§ 9 Amendment to the decision

At the request of the beneficiary with motivation, the Swedish Energy Agency can grant well-motivated amendments to the project.

§ 10 Annulment of the decision

The Swedish Energy Agency can decide that unused aid shall be withheld alternatively that issued funds, which have not been worked up, shall be repaid if:

- a) the conditions for the project's financing have changed
- b) the project is not run according to the agreed project plan
- c) there is no prospect of achieving a satisfactory result within a reasonable time (for example, due to significantly changed conditions or conditions of competition) or if the project's planned continuation cannot be considered assured (for example, due to insolvency if the beneficiary is a company)
- d) the beneficiary fails to sign and resend a copy of the conditions appendix to the Swedish Energy Agency.

§ 11 Recovery of amounts paid

Amounts paid together with interest of 8 % (eight per cent) above the applicable reference interest can be reclaimed with immediate effect if:

- a) the beneficiary does not provide the prescribed reports according to § 4
- b) the beneficiary uses the aid for purposes other than what is stated in the agreed project plan
- c) the project is not run according to the agreed project plan
- d) the beneficiary does not otherwise satisfy the obligations according to the conditions appendix or the special conditions in the decision.

§ 12 Retention of aid

The Swedish Energy Agency is entitled to stop further payment of funds until a decision is made to refuse payment or to reclaim granted funds according to paragraphs 10 and 11. Such a stop to further payment of funds can include payments to other projects administered by the same department, company or corresponding administrative unit, if the Swedish Energy Agency so decides.

§ 13 EU's State aid rules

As a condition for aid, it applies that funding measures may be repealed or changed and the aid reclaimed if the European Commission through judgements which have entered into force or the Court of Justice of the European Union has found the aid to be unlawful pursuant to Article 107 of the Treaty on the Functioning of the European Union. The decision to repeal or change the funding measures is taken by the Government. In this context the conditions for repayment of aid are determined in each individual case.

Consent pursuant to the Swedish Personal Data Act and concession to making information available.

The Swedish Energy Agency makes information about projects financed by the Agency available on the Agency's website: www.energimyndigheten.se. Here the general public can search for information about on-going and completed research projects based on different keyword searches, such as research subject, research organisation, project title, project manager.

As the project manager and authorised signatory sign the conditions, the project manager agrees to personal data (name and organisation) and the authorised signatory to non-confidential information and reports found in the project being put into the public domain on the Agency's website. The beneficiary is responsible that the copyright holder has agreed to this availability and shall ensure that the copyright holder is entitled to offer agreement in each individual case.