

Contribute to knowledge about the sustainability of bioenergy and bio-based raw materials

In this call for proposals the Swedish Energy Agency is providing support for research projects that contribute to developing knowledge about the sustainability of bioenergy. The projects can study the effects of production, extraction and use of bio-based raw materials on different aspects of sustainability such as greenhouse gas balances, biodiversity and social values.

Innehåll

1	Focus of the call	3
2	Who can apply?	5
3	Assessment criteria	5
4	How to apply - start in good time	6
5	What should be included in the application?	6
6	How much funding can each project partner receive?	7
	Eligible costs	7
	Funding to actors performing non-economic activities.....	7
	Funding to companies	8
	Project activities are divided into research categories	8
	Amount of funding depends on the size of the company	9
	Supplement to funding intensities for companies	10
7	What happens after I submit our application?	12
8	If you are granted funding	13
9	The call is part of the Bio+ programme	13
10	If you have any questions	14

1 Focus of the call

In this call for proposals the Swedish Energy Agency is providing support for research projects that contribute to developing knowledge about the sustainability of bioenergy. The projects can study the effects of production, extraction and use of bio-based raw materials on different aspects of sustainability such as greenhouse gas balances, biodiversity and social values.

The call has a scope of approximately SEK 35 million. Please submit your application no later than 11 September 2023.

The use of biomass and bioenergy is one of the cornerstones in both the realisation of Sweden's energy and climate policy goals and in the transition of energy systems away from fossil fuel dependency. There is a growing use of biomass in bio-based materials, products and fuels. At the same time, we know that biomass and bioenergy are limited resources and that conflicting goals often arise between the production of biomass and other values. Therefore, there is a need for more knowledge and competence regarding how these conflicting goals can be managed and minimised.

The aim of the call

In response to the ongoing debate about sustainable land use practices, there is a development of new methods and techniques. To be able to understand the effects of both current and new land use practices and management systems, there is a need of more data and new or more refined models. Above all there is a need to examine the effects on greenhouse gas balances, biodiversity and social values.

In this call we welcome proposals for research projects that aim to lay a firmer foundation of knowledge regarding the environmental and climate benefits that can be achieved through bioenergy and bio-based value chains. This applies to the production of bio-based raw material, processing and use, as well as both system and resource issues. In this way, understanding of the environmental, social and economic effects of the production and use of biomass for bioenergy as an integrated part of resource-efficient bio-based value chains can be improved.

This call also welcomes proposals for research projects that aim to develop knowledge regarding existing and new management systems and their impact on different aspects of sustainability (biodiversity, carbon balances, social values etc.) as well as access to materials and bioenergy.

In this call we also welcome projects that examine different production and consideration measures within different regions and different management systems. Even projects that analyse and evaluate field studies that aim to understand the long-term effects of biofuel extraction can apply for funding in this call.

Doctoral and licentiate projects, projects that are part of a doctoral programme, post-doctoral researchers and junior researchers are particularly welcome in this call in order to strengthen academic competence in the field.

The project must have the potential to contribute to one or more of the following outcome targets:

Sustainable value chains

Sustainable value chains are available that encompass the supply of sustainable bio-based raw material and conversion to products and solutions that are in demand by the market. Value chains also include utilisation of side streams and residual streams, and in interaction with other industries and/or sectors.

High level of competence

Companies and organisations in Sweden can easily recruit the competence required by the entire bio field in order to accelerate the transition. National competence within the field is strong and adapted to meet society's needs.

Effective instruments and policies

Partners in the bio-sector must meet incentives that are in line with society's goals where the market mechanisms work well and interact with the energy system. Regulations have been designed based on current sustainability research, social studies, system and socio-economic analyses.

Important target groups for the results are government agencies, national and international decision makers, company sustainability representatives, certification organisations, social commentators and individual forest owners. The knowledge generated through this call will facilitate government agencies in the forming of well-founded national guidelines and policy instruments related to the sustainable access to bio-based raw material with an emphasis on bioenergy. The knowledge will also contribute to a scientific base for the implementation/revision of existing, and development of planned, international sustainability criteria and requirements for example within EU.

The project can start, at the earliest, on 1 January 2024 and run until 31 December 2027 at the latest.

Deadline for applications	Decisions planned in	Earliest project start	Project ends no later than
11 September 2023	December 2023 at the earliest	1 January 2024	31 December 2027

2 Who can apply?

All actors who can contribute to achieving the purpose of the call can apply.

Gender equality and diversity shall be taken into account in the composition of the project group, when selecting project managers and in the implementation of the project, in its content, objectives and effects.

Specifically for institutes of higher education: doctoral and licentiate projects, projects that are part of a doctoral programme, post-doctoral researchers and junior researchers¹ are particularly welcome in this call in order to strengthen academic competence in the field.

3 Assessment criteria

The projects described in the applications will be assessed on the basis of the following criteria:

Potential to contribute to the aim of the call

- To what extent does the project contribute to the targeted outcomes of the call?

Feasibility

- Does the project have a relevant constellation of actors with the right skills and the right resources?
- Does the project have goals that are measurable, specific, well-defined and reasonably ambitious?
- Is the proposed timetable specific and realistic?
- Is the budget reasonable in relation to the intended initiatives and goals?
- Is there an awareness of gender equality in the composition, division of work and working conditions of the project group?
- Is the gender perspective relevant to the project, and if so, how well is this incorporated into project implementation?
- Does the project have inter-sectorial collaboration?

News value

- How well is the current state of knowledge described?
- To what extent is the project innovative and/or to what degree does the project contain a new solution and/or how well does the project contribute to pushing forward the frontiers of current knowledge?

Is there a need identified for the project's results, for example, a distinct knowledge gap?

- Is the project considered to be of significantly high scientific quality?

Benefits

- Are there clear target groups and/or end users for the project results, and are their needs being taken into account?
- To what extent can the project be useful, for example through the dissemination of results, competence building or publications?
- To what degree can the project contribute to dialogue between research groups within

¹ A junior researcher is defined as a PhD graduate who does not yet have a stable position on the academic career path and can, for example, be employed as a postdoctor, postgraduate lecturer, researcher, associate lecturer, or other position with duties primarily related to research.

academia and/or between industry and academia as well as between researchers that are active within different fields?

In order to achieve the programme's goals, the Swedish Energy Agency may take into account the composition of the project portfolio.

4 How to apply - start in good time

Follow these steps and the processing of your application will be faster:

- Use the e-service “Funding for research and innovation” on Mina sidor to write your application (<https://minasidor.energimyndigheten.se>)
- The call is entitled **Bioplus 2023 Hållbarhet**.
- Start by applying for authorisation to represent the coordinator, i.e. the organisation that will be coordinating the project, that will receive the funding from the Swedish Energy Agency and that will forward the funding to potential other beneficiaries participating in the project. Apply for authorisation in good time, as it may take a few days to obtain it. You will receive an email when your application for authorisation has been approved.
- Once you have been granted access to the e-service, you will have access to the form “Ansökan om finansiering av forskning och innovation” [Application for research and innovation funding], which you must complete and submit.

Submit the application by **11 September 2023 at 23:59**. Support will be available until 16:00 on that date.

5 What should be included in the application?

Enter your application text in the application form on Mina sidor. Read more about what to include in the application in the Application instructions.

<http://www.energimyndigheten.se/forskning-och-innovation/sok-stod-och-rapportera/anvisningar-for-ansokan-via-mina-sidor/>.

Attach the CVs for the project manager and other key individuals, with each CV a maximum of one A4 page in size.

Any figures and images referenced in the text can be attached. Note that the project description must be included in the application form and must not be attached as an appendix. The appendices must clearly supplement the application form and not contain the same information as in the application form.

[Here](#) you can read more about how the Swedish Energy Agency handles personal information.

6 How much funding can each project partner receive?

In this call for proposals, a total of approximately SEK 35 million is available for the selected project partners.

What proportion of costs each project partner can receive funding for depends on factors such as:

- The amount of eligible costs incurred by the project partner.
- Whether the project partner is a company or is engaged in non-economic activity.
- The category of research that the activities in the project are considered to correspond to.

6.1 Funding for research and development projects

Eligible costs

The following are deemed eligible costs if the project activities for which you are seeking funding constitute research or development as defined in Article 25 of Commission Regulation (EU) No. 651/2014²:

- a) Personnel costs: researchers, technicians and other supporting staff to the extent employed in the relevant project.
- b) Costs of instruments and equipment to the extent and for the period used for the project. Where such instruments and equipment are not used for their full life for the project, only the depreciation costs corresponding to the life of the project, as calculated on the basis of generally accepted accounting principles, are considered as eligible.
- c) Costs of buildings and land to the extent and for the period used for the project. With regard to buildings, only the depreciation costs corresponding to the life of the project, as calculated on the basis of generally accepted accounting principles, are considered as eligible. For land, costs of commercial transfer or actually incurred capital costs are eligible.
- d) Costs for contract research, knowledge and patents that are purchased or leased from external sources on market terms, as well as costs for consulting services and corresponding services used exclusively for the research activities.
- e) Additional overheads and other operating expenses, including costs of materials, supplies and similar products, incurred directly as a result of the project.

Funding to actors performing non-economic activities

Project partners who do not engage in economic activities (such as universities, colleges, municipalities and research institutes, to the extent that the work is performed within the non-economic activities) can receive funding of up to 100 per cent of the project partner's eligible costs in the project. Funding to actors engaged in non-economic activities is granted in accordance with the Swedish Energy Agency's current appropriation directions.

² Commission Regulation (EU) No. 651/2014 of 17 June 2014 declaring certain categories of funding compatible with the internal market in application of Articles 107 and 108 of the Treaty (EUT L 187 26.6.2014, p. 1).

The following rules apply to indirect costs when the beneficiary performs noneconomic activities:

- 1 Universities and colleges may add indirect costs according to the full cost principle they apply.
- 2 Other beneficiaries not engaged in economic activities can receive funding for indirect costs up to a maximum of 30 per cent of their eligible direct personnel costs (wage and non-wage labour costs). This also applies if a beneficiary is engaged in both economic and non-economic activities, provided that the project is carried out in the non-economic activity.

Funding to companies

Funding for research and development projects is granted to companies in accordance with Section 12 of the Ordinance (2008:761) on state funding for research, development and innovation in the energy sector. To be eligible for funding, companies must satisfy the conditions set out in Article 25 of Commission Regulation (EU) No. 651/2014. A company is any entity, regardless of its legal form, engaged in economic activity. Economic activity means the provision of goods or services on a market. This includes, in particular, self-employed persons and family businesses engaged in craft or other activities, and partnerships or associations regularly engaged in an economic activity.

The percentage of the company's eligible costs (referred to as the funding intensity) that the funding from the Swedish Energy Agency may cover is determined by Article 25 of Commission Regulation (EU) No. 651/2014. The funding intensity is determined based on, inter alia, the research category that the various research and development activities fall under and the size of the company receiving the funding. Company size is determined in accordance with the rules set out in Annex I to Commission Regulation (EU) No. 651/2014. The rules are also described in the Commission publication User guide to the SME Definition.³

Beneficiaries that are companies (beneficiaries engaged in economic activity) may not receive funding for indirect costs. This also applies if a beneficiary is engaged in both economic and non-economic activities, assuming that the project is carried out in the economic activity.

Project activities are divided into research categories

The maximum funding intensity a company can receive depends on which research category the activities of the project are deemed to fall under. The activities of the project may also be considered to fall under several different research categories. The maximum permissible funding intensities that a company can receive for research and development projects are set out in Article 25 of Commission Regulation (EU) No. 651/2014. Table 1 below describes the different research categories. Table 3 shows the maximum funding intensities.

Table 1. Classification of research activities in research and development projects⁴

Feasibility study	the evaluation and analysis of the potential of a project, which aims at supporting the process of decision-making by objectively and rationally uncovering its strengths and weaknesses, opportunities and threats, as well as identifying the resources required to carry it through and ultimately its prospects for success.
Fundamental research	experimental or theoretical work undertaken primarily to acquire new knowledge of the underlying foundations of phenomena and observable

³ The user guide is available on the website of the Publications Office of the EU: <https://op.europa.eu/sv/publication-detail/-/publication/756d9260-ec54-11ea-991b-01aa75ed71a1>

⁴ The definitions are set out in Article 2 (84–87) of Commission Regulation (EU) No. 651/2014. The link is available on the call's website.

facts, without any direct commercial application or use in view.

Industrial research

the planned research or critical investigation aimed at the acquisition of new knowledge and skills for developing new products, processes or services or for bringing about a significant improvement in existing products, processes or services. It comprises the creation of components parts of complex systems and may include the construction of prototypes in a laboratory environment or in an environment with simulated interfaces to existing systems as well as of pilot lines, when necessary for the industrial research and notably for generic technology validation.

Experimental development

acquiring, combining, shaping and using existing scientific, technological, business and other relevant knowledge and skills with the aim of developing new or improved products, processes or services. This may also include, for example, activities aiming at the conceptual definition, planning and documentation of new products, processes or services.

Experimental development may comprise prototyping, demonstrating, piloting, testing and validation of new or improved products, processes or services in environments representative of real-life operating conditions where the primary objective is to make further technical improvements on products, processes or services that are not substantially set. This may include the development of a commercially usable prototype or pilot which is by necessity the final commercial product, and which is too expensive to produce for it to be used only for demonstration and validation purposes.

Experimental development does not include routine or periodic changes made to existing products, production lines, manufacturing processes, services and other operations in progress, even if those changes may represent improvements.

Please note that if the company to which the Swedish Energy Agency grants funding has received or is receiving funding for the project in the form of other public funding (such as other state, regional or municipal funding), this funding must be taken into account when calculating the amount of funding the company can receive from the Swedish Energy Agency. According to the EU's State funding regulations, the *total* public funding granted to the company for the same eligible costs may not exceed the maximum funding intensities set out in Commission Regulation (EU) No. 651/2014.⁵

Amount of funding depends on the size of the company

The maximum funding intensity that a company can receive for research and development projects also depends on the size of the company. If the applicant is a small or medium-sized enterprise, the funding intensity may be increased by 20 or 10 percentage points respectively, as set out in Article 25 of Commission Regulation (EU) No. 651/2014.

Company size is determined in accordance with the rules set out in Annex I to Commission Regulation (EU) No. 651/2014. The rules are also described in the Commission publication User guide to the SME Definition.⁶

When assessing company size, the number of employees, annual turnover and balance sheet total must be taken into account, as well as any links the company may have to other companies. To qualify as a small enterprise, a company must have fewer than 50 employees and *either* an annual turnover *or* a balance sheet total that does not exceed EUR 10 million per year. To qualify as a medium-sized enterprise, a company must have fewer than 250 employees and an annual turnover that does not exceed EUR 50 million *or* a balance sheet total that does not exceed EUR 43 million (see below). This is set out in Article 2 of Annex I to Commission Regulation (EU) No. 651/2014.

Table 2. Definition of company size⁷

⁵ See Article 8 of Commission Regulation (EU) No. 651/2014.

⁶ The user guide is available on the website of the Publications Office of the EU: <https://op.europa.eu/sv/publication-detail/-/publication/756d9260-ec54-11ea-991b-01aa75ed71a1>

⁷ Commission Regulation (EU) No. 651/2014, Annex 1, Article 2. The link to the Regulation is available on the call's website.

Size	Number of employees*	Annual turnover or balance sheet total**
Small enterprise	< 50	≤ €10M
Medium-sized enterprise	< 250	≤ €50M resp. ≤ €43M
Large enterprise	≥ 250	> €50M resp. > €43M

*) The term employees includes not only wage-earning workers, but also owners who work in the company without being employed and consultants who are dependent on the company.

3 **) Data from last approved financial year are taken into account. For a threshold to be considered passed, the company must have had higher or lower values for two consecutive years.

The company's relationship with other companies also influences the assessment of company size. The most important factors are ownership of the company and the degree of control that other companies exercise over the company. The impact that ownership and degree of control has on the assessment of company size is described in more detail in Article 3 of Annex I to Commission Regulation (EU) No. 651/2014 and in the Commission publication User guide to the SME Definition.

The table below shows the maximum funding intensity that can be granted to actors for research and development projects.

Table 3. Overview of maximum funding intensities

Type of research and development	Small enterprise	Medium-sized enterprise	Large enterprise	Non-economic activity*
Feasibility study	70 %	60 %	50 %	100 %
Fundamental research	100 %	100 %	100 %	100 %
Industrial research	70 %	60 %	50 %	100 %
Experimental development	45 %	35 %	25 %	100 %

*) For example universities and research institutes.

Supplement to funding intensities for companies

A supplement of up to 15 percentage points may be granted to companies under certain conditions when the project constitutes effective collaboration⁸ between companies or between companies and research and knowledge-dissemination organisations, if the project concerns industrial research or experimental development. For such a supplement to be granted, certain specific conditions must be met.

In the case of collaboration between companies, at least one of the companies must be an SME, unless the project is carried out in at least two EU Member States⁹. None of the companies may bear more than 70 per cent of the eligible costs.

In the case of collaboration between a company and one or more research and knowledge-dissemination organisations, the research organisation must have the right to publish its own research results. The research organisation must also bear at least 10 per cent of the eligible costs.

If the project does not constitute effective collaboration, a supplement of up to 15 percentage points may nevertheless be granted if the results of the research project, which relates to

⁸ Effective collaboration, as defined in Article 2 (90) of Commission Regulation (EU) No. 651/2014, is a collaboration between at least two independent parties to exchange knowledge or technology, or to achieve a common objective based on the division of labour where the parties jointly define the scope of the collaborative project, contribute to its implementation, and share its risks as well as its results. One or several parties may bear the full costs of the project and thus relieve the other parties of its financial risks. Contract research and provision of research services are not considered forms of collaboration.

⁹ Alternatively, in a Member State and a country that is a contracting party to the EEA agreement.

industrial research or experimental development, are *widely disseminated* through conferences, publication, open access repositories, or free or open-source software.

The supplement for SMEs can be combined with the supplement for effective collaboration or with the supplement for wide dissemination. However, the funding intensity may never exceed 80 per cent of the eligible costs.

6.2 Funding from organisations other than the Swedish Energy Agency

The Swedish Energy Agency's funding to companies often does not cover the full cost of the project activities for which the company is seeking funding. In such cases, the company must either cover the remaining cost itself, or find other private funding in the form of cash resources.

The part of your company's eligible costs not funded by the Swedish Energy Agency is called co-financing. Please note that no other actor than your company itself can co-finance your company's costs through so-called in-kind contributions. This is because the cost of an in-kind contribution carried out by another actor is not incurred by your company, but by the other actor. In other words, the cost of the other actor's in-kind contribution is not an eligible cost for your company.

Please also note that if an actor other than your company itself is to co-finance your company's costs, such co-financing may not be provided from public (state, regional or municipal) funds. This is because the total amount of public funding for the same eligible costs must not exceed the maximum funding intensities or amounts allowed under the applicable EU regulations.¹⁰ Therefore, if your company has applied for, received or plans to apply for funding from another public funding body for the same costs for which you are applying for funding from the Swedish Energy Agency, you must notify the Agency of this. This is important so as to avoid your company being obliged to repay the funding that was granted.

If your company has applied for, received or plans to apply for funding managed directly by EU institutions without the involvement of Swedish authorities (e.g. programmes such as Horizon 2020 or Cosme), you must also notify the Agency when you apply for funding from us. This is important so as to avoid a potential repayment obligation, as the total amount of funding from EU institutions and the Swedish Energy Agency for the same eligible costs must not exceed the maximum funding intensities or amounts allowed under the applicable EU regulations.¹¹

Please note that the Swedish Energy Agency may require higher levels of other funding for beneficiary companies' costs than those required by Commission Regulation (EU) No. 651/2014. The Agency may also require other funding from actors engaged in non-economic activities to which the Agency grants funding in accordance with the Swedish Energy Agency's appropriation directions (such as universities, colleges, municipalities and research institutes, to the extent that the work is performed within the non-economic activities).

If a beneficiary has received other state funding, such as other state, regional or municipal funding, this funding must be marked as public funding in the application form.

¹⁰ See Article 8.3 of Commission Regulation (EU) No. 651/2014.

6.3 International activities

The Swedish Energy Agency is restrictive in granting research funding to actors who do not have operations in Sweden. This can be done in exceptional cases if all of the following criteria are met:

- 1 It can be demonstrated that the actors with no operations in Sweden have a unique competence that is not available from actors in Sweden.
- 2 The project is essential to achieving the objectives of the programme.
- 3 A clear transfer of knowledge to actors in Sweden can take place.

The Swedish Energy Agency may deny funding to actors who have no operations in Sweden, even if all of the above criteria are considered to be met.

7 What happens after I submit our application?

Your application will be assessed by an evaluation panel of independent experts, acting in an advisory capacity to the Swedish Energy Agency. It is the version of the application that you submitted before the closing date for the call that is assessed. We will not accept any supplementations after the deadline, except those we explicitly request. The Agency may ask you to supplement the application if we deem this necessary.

The Agency may ask you to submit supplementary material related to your application if we deem this necessary.

The Swedish Energy Agency performs a credit check on applicant companies.

The Swedish Energy Agency will then decide whether to approve or reject your application, taking into account the assessments of the expert panel. The decision will be taken in December 2023 at the earliest. Shortly thereafter, we will notify you of the decision taken and the grounds for it.

You can follow the progress in your case on Mina sidor.

8 If you are granted funding

The funding is disbursed according to a disbursement plan that is included in the decision found on Mina sidor. For more information about disbursement, see the terms attachment accompanying the decision concerning your funding.

9 The call is part of the Bio+ programme

The Bio+ programme aims to develop bio-based solutions and value chains with relevance for the energy system, and to increase knowledge and competence about how these should interact with each other and with the rest of the energy system. The solutions and value chains developed must be competitive, if possible improve the ecological status of land and water, contribute to security and equality and make a joint contribution to flexibility and robustness in the energy system.

The dissemination of knowledge, the identification of needs and collaboration are key within the programme in order to create added value from the research, innovation and business development supported within the programme. The programme must also create the conditions to commercialise solutions for actors in the bio field.

By 2030-2045, the programme will have contributed to the following targeted outcomes:

Resource-efficient solutions

Resource-efficient and cost-efficient technologies, products (goods and services) and system solutions are available. The solutions facilitate an increased security of supply, are competitive and increase carbon exchange. The solutions are exported to an international market.

Sustainable value chains

Sustainable value chains are available that encompass the supply of sustainable bio-based raw material and conversion to products and solutions that are in demand by the market. Value chains also include utilisation of side streams and residual streams, and in interaction with other industries and/or sectors.

New actor constellations

New and/or expanded actor constellations have been formed in which collaboration and the continuous sharing of knowledge take place both nationally and internationally.

Resource-efficient bio-based system solutions are developed and built up within, or as a result of, the constellations.

High level of competence

Companies and organisations in Sweden can easily recruit the competence required by the entire bio field in order to accelerate the transition. National competence within the field is strong and adapted to meet society's needs.

Effective instruments and policies

Partners in the bio-sector must meet incentives that are in line with society's goals where the market mechanisms work well and interact with the energy system. Regulations have been designed based on current sustainability research, social studies, system and socio-economic analyses.

The programme will run between 2021 and 2027 and has a framework of SEK 511 million.

More information about the programme can be found at bioplusportalen.se and on the [Swedish Energy Agency's website](https://www.energimyndigheten.se).

10 If you have any questions

Send an email to bioplus@energimyndigheten.se and quote "Bioplus 2023 Hållbarhet" in the subject line.