



norden

Top-level Research Initiative

Sustainable Bio-fuels

Nordic Energy Research, Stensberggata 25, 0170 Oslo, Norway
Oslo, October, 15, 2009

Call for proposals in the sub-programme "Sustainable Bio-fuels 2010–2014"

Introduction

The Top-level Research Initiative is a Nordic initiative that will contribute to solving the global energy and climate crisis and strengthen research and innovation in the Nordic region.

The initiative has a budget of approximately NOK 450 million over five years. It is by far the largest research and innovation venture in the field of energy, climate and environment under the auspices of the Nordic countries.

The initiative was conceived at the Nordic Prime Ministers' summit in June 2007.

The research and innovation activities in the Top-level Research Initiative are organised through six different sub-programmes:

1. Effect studies and adaption to climate change
2. Interaction between climate change and the cryosphere
3. Energy efficiency with nanotechnology
4. Integration of large scale wind power
5. Sustainable bio-fuels
6. CO₂ – capture and storage

Sustainable Bio-fuels

Background

Stated EU objectives and targets in the field of renewable energy and bio-energy include:

- 20 % renewable energy in the year 2020
- 10 % bio-fuels in the transport sector in the year 2020
- sustainable production and use of renewable energy and bio-energy

The development of new concepts, technologies, solutions and products is recognised as crucial for ensuring the attainment of these objectives and targets.

The Nordic countries have considerable resources and growing ambitions in bio-energy and a large number of different activities (research, development, promotion etc.) are going on at local, regional and international level.

Bio-energy can contribute to decreased reliance on fossil fuels, improved energy security and decreased CO₂ emissions and simultaneously provide new business and employment opportunities and be a driver in rural and regional development.

There are, however, some concerns about the sustainability of the current bio-energy policy and practice. This necessitates a general development regarding raw materials and production and use of traditional bio-energy but also concerted efforts in the development of new approaches, concepts and technologies regarding future bio-energy solutions.

Call for proposals in the sub-programme "Sustainable Bio-fuels 2010–2014"

The Nordic countries have clear strongholds in the area of bio-energy and have strong research environments in related and complementary disciplines. There are also several Nordic suppliers of bio-energy solutions and products.

A common Nordic programme in the field of bio-energy research, innovation and development will strengthen the Nordic competitiveness in this area both in the research communities and in the industry.

Objective

The objective of the programme is to promote the development of new, innovative and sustainable forms of bio-energy as well as to enhance the development of Nordic R&D institutions and business within the bio-energy field.

A joint effort in top-level research is motivated by the need to:

- meet targets to increase the share of renewable energy and ensure sustainability and sufficient resources for future bio-energy production
- ensure sufficient critical mass and momentum for the Nordic countries to take a leading position in the development of future bio-energy solutions

Furthermore, there is a need for close cross-sector cooperation, multidisciplinary research and development of new innovative forms of cooperation.

Thematic focus of the call

The Nordic countries have been developing high-tech solutions for production of heat and power based on biomass during many decades.

Lately, the focus of technological development has partly been shifting towards gasification as well as to the production of liquid bio-fuels for the transport sector.

Increased emphasis will in the near future, as partly already today, be put on rational and sustainable utilisation of bio-energy resources.

There will be a big need for increased efficiency and optimised utilisation of biomass in general as well as for new innovative break-through technologies.

This applies within more traditional areas with relatively mature solutions, as for example heat and power production, but especially within newer areas with more novel technology, as for example the production of bio-based fuels, "bio-fuels", for the transport sector.

In order to ensure clear relevance to the Nordic countries and the targeted actors the programme will exclusively focus and limit the priority activities as follows:

- feed-stocks: ligno-cellulose based raw material, such as biomass from forests and agriculture including by-products and residues
- end-products: liquid and/or gaseous bio-fuels for the transport sector

The projects in the programme, covering the entire technology chain from feed-stocks to end-products, should address all or specific selected parts of the following:

- biochemical conversion technologies
- thermochemical conversion technologies
- new combination technologies of the areas above

Support scheme

A combination of both basic and applied research and innovation related projects can be valuable. More basic research is needed to reach further breakthroughs. In order to increase the deployment of new forms of bio-energy, collaboration with industry is important and applied research with user involvement and different types of innovation projects can ensure such cooperation. The research projects funded under this scheme should therefore be user driven as much as possible.

Nordic user driven research projects are projects with strong user involvement in the knowledge creation and diffusion throughout the project cycle. The rationale is that effective and efficient knowledge creation, adaptation and diffusion takes place as an integrated interaction and collaboration between producers and users of new technologies and systems.

Nordic user-driven research projects shall promote closer cooperation, coordination and interaction along the knowledge and innovation chain. They shall contribute to establishing platforms for creating new knowledge from strategic research and pre-competitive activities and thereby contribute to

Call for proposals in the sub-programme "Sustainable Bio-fuels 2010–2014"

transform scientific and societal knowledge into increased Nordic competitiveness. Nordic user-driven research projects can also be linked to other national, Nordic and international activities.

The research projects in this programme may have a duration of up to four (4) years.

The desired projects shall be collaborative – high risk & high return – integrated research projects focusing on technological bottlenecks and exploring new opportunities and they shall lead to innovative new break-through solutions.

Budget

The total budget for the support to the selected and approved projects in the sub-programme Sustainable bio-fuels is NOK 30 million.

The budget distribution between the different thematic focus areas is, although the ambition is to reach a relatively balanced and equal distribution, not firmly fixed but dependent on the quality of the applications.

All projects, with a maximum support from the programme of NOK 10 million per project, are requested to have a minimum of 25 % own and/or programme external funding.

Guidelines

Formal requirements

- the proposed project team must consist of a consortium with at least three different Nordic countries (Denmark, Finland, Iceland, Norway, Sweden) represented
- the formal applicant must represent a Nordic organisation (university/institution/company) with a responsible person mentioned by name
- the distribution of tasks/responsibility between the project partners must be appropriate and balanced
- senior researchers/personnel must have leading roles in the projects
- industry involvement, as active participant and/or in reference group, is encouraged

Eligible activities

Key activities shall contribute to consolidating and developing the Nordic knowledge base in bio-energy technologies.

Activities may comprise combinations of:

- excellent world-class research
- Ph.D. and Post-Doc grants
- mobility grants
- workshops and seminars
- specific Ph.D.-training, such as summer schools and educational courses
- international scientific conferences (participation and/or organisation)
- network building

For details about eligible costs, see Annex 1.

Application process and timeline

In this programme there is a two stage application process.

Different electronic forms for application phase I and II are to be used. The forms are available on <http://www.nordicenergy.net/tri-sb/>

First the applicants submit a pre-proposal.

When the pre-proposals have been evaluated by programme internal Nordic experts, the applicants will be notified whether their proposal is qualified for the second phase or not.

The second phase full proposals will be evaluated by programme external international experts.

Call for proposals in the sub-programme "Sustainable Bio-fuels 2010–2014"

The main timetable for the call procedure is shown in the table below:

Call opened – invitation for pre-proposals	15.10. 2009
Last date for submitting pre-proposals	15.12. 2009
Selection of pre-proposals to be invited to submit full proposals	15.02. 2010
Last date for submitting invited full proposals	15.03. 2010
Selection of full proposals to be invited to contract negotiations	30.04. 2010
Projects start	Summer 2010

The entire call, application and evaluation process is shown in Annex 2.

Evaluation criteria

The evaluation criteria for the pre-proposals and the full proposals are listed below:

For pre-proposals:

- applicability, economic and environmental potential
- feasibility of project plan
- Nordic added value/benefit
- anticipated Nordic and global impact
- innovativeness, novelty and break-through potential

For full proposals:

- all of the criteria for the pre-proposals and
- scientific quality of research plan
- quality of consortium and project management
- appropriateness of methodology
- international linkages to other relevant projects/activities/networks
- dissemination plan

Contacts

Nordic Energy Research, Stensberggata 25, NO-0170 Oslo, Norway

- Mikael Forss
Senior Advisor (mikael.forss@nordicenergy.net, + 358 400 498 497)
- Emma Petersson
Advisor (emma.petersson@nordicenergy.net, +47 9026 8446)

Read more about the programme at <http://www.norden.org/en/top-level-research-initiative>

Annex 1

Eligible costs:

Personnel costs

Personnel costs can, at a maximum, be included according to the following:

- "full cost" (i.e. gross salary + employer's salary side costs) + 20 %
- eligible gross salary is normal local salary level for the person involved in the project
- the responsibility for correct salary level is on the project leader and the leader of the participating organisation

Mobility costs

Grants to support project related mobility according to:

- NOK 10 000/month in the Nordic region
- the support is meant to cover extra living costs in an other country than the home country
- other mobility according to case-by-case appraisal

Travel expenses

Expenses for project related travelling may be included as follows:

- direct costs in line with governmental rules of the home country
- travels according to most inexpensive way
- travel expenses are eligible without any extra surplus or overhead

Meeting costs

Direct costs for activities of this type are eligible as follows:

- costs for meetings, seminars and workshops
- real net costs for conferences (i.e. reduced with possible conference fees)
- the costs shall be on a reasonable level and without any extra surplus or overhead

Costs for equipment

Normally "investment" type costs for equipment are not eligible:

- smaller equipment costs may though, by exception, be accepted if the project results are directly linked to them
- these equipment costs shall in that case be clearly specified in the project plan and included in the original project budget and the later following accounting
- possible costs for equipment are eligible without any extra surplus or overhead

Other costs

Costs in this category (for example costs for dissemination etc.) shall be clearly specified in the project plan, - budget and -accounting.

Calculation of value of own "in kind" funding

Personnel

The value of the "in kind" input of the project participants is determined according to the same principles as described in connection to the eligible costs.

Cash-input

Direct cash-input is noticed without any surplus.

Annex 2

