



Sustainable Hydrogen - Valorisation Grant

Call for proposals



Ministerie van Economische Zaken



Ministerie van Volkshuisvesting,
Ruimtelijke Ordening en
Milieubeheer

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1 Introduction

This Programme Outline & Call for proposals briefly describes the scope and intentions of the ACTS Research Programme Sustainable Hydrogen, and gives detailed information on the conditions for Valorisation Grant proposals within the framework of this Programme. Furthermore, a time schedule for the funding process is provided.

All necessary documents are also accessible via the Sustainable hydrogen website: www.nwo.nl/acts/h2.

1.1 ACTS

The Sustainable Hydrogen Programme is financed and its effective execution stimulated through ACTS (Advanced Chemical Technologies for Sustainability). ACTS is the Dutch platform for pre-competitive research in chemistry and chemical technology in which catalysis plays a pivotal role. In ACTS government, industry, university and knowledge institutes cooperate in public-private partnerships. It is the *mission* of ACTS to initiate and support the development of new technological concepts for the sustainable production of materials and energy carriers, essential for the supply of food, comfort, health, shelter and mobility to the inhabitants of tomorrow's world. Through its activities ACTS will contribute to the sustainable economic growth and to the knowledge infrastructure in the Netherlands, and attract young talent to a career in science and technology. ACTS embodies the aspiration of these partners to initiate and support the development of sustainable new technological concepts. ACTS is part of the Netherlands Organisation for Scientific Research (NWO). More information on ACTS can be found on www.nwo.nl/acts

1.2 Sustainable Hydrogen Programme

The ACTS Sustainable Hydrogen Programme is an M€ 18 Research Programme financially supported by a number of Dutch companies, active in the field (Biomass Technology Group (BTG), Energy research Centre of the Netherlands (ECN), GasUnie, NUON and Shell), by the Dutch Ministries of Economic Affairs (EZ) and of Housing, Spatial Planning and the Environment (VROM), and by NWO and some of its departments (CW, FOM and WOTRO). The industrial partners contribute 25% of the budget. The Programme is open to all tenure(d) (track) researchers of Dutch universities and other Dutch knowledge institutes (see paragraph 3.1 for more information).

The Sustainable Hydrogen Programme consists of two phases for a period of approximately nine years. The first phase 2003 - 2007 was used for fundamental and exploratory research on the seven themes:

- Hydrogen storage: the materials science of hydrogen
- Hydrogen storage and its implications for energy systems
- The integration of hydrogen into energy supply
- The social acceptance of hydrogen as a part of the energy infrastructure
- Hydrogen production
- Separation technologies for clean hydrogen
- Hydrogen activated energy saving devices and sensors

In the second phase, 2007 - 2012 the Programme focuses on the most promising topics. It promotes the selected fundamental and strategic science and technology up to a level where it can be picked up by industry for further R&D and eventual commercialisation. The topics of the second call were:

- Advanced materials for hydrogen storage
- Materials research for hydrogen safety
- Hydrogen production
- Economics of Hydrogen applications and infrastructures
- Climate effects of hydrogen

The Programme Committee would like to facilitate the commercialization of findings in Sustainable Hydrogen research. Commercialization of research conducted within scientific or R&D laboratories requires that the gap between the products of applied research performed within these laboratories and the more refined technology required by firms is crossed. The Valorisation Grant is aimed at helping the emerging technologies bridge this gap.

The current tender will be the only tender for Valorisation projects. The call has a budget of approximately 850,000 euros. Researchers can apply for a grant of up to 275,000 euros. The duration of the project may not exceed 2 years.

2 Aim

The Valorisation Grant is aimed at developing inventions created in fundamental research in the sustainable hydrogen research field into more refined technologies that are interesting for further commercial development by industry (a phase which will not be sponsored by the Sustainable Hydrogen Programme). The research supported by this grant should lead to a prototype, proof of concept or a new production process.

3 Guidelines for applicants

3.1 Who can apply

Any research group within a Dutch University or a research institute recognised by NWO or at a GTI (TNO, ECN, A&F) can apply for the project.

Participation of an industrial partner in the project is obligatory. A clear description of the involvement of the industrial partner in the proposed research should be included in the proposal. Industry/SME-s/spin-off companies that participate in the project act as industrial partners. They are formally not considered as an applicant¹ and cannot apply for funds from ACTS.

Requirements for the main applicant

Professors, associate professors and assistant professors as well as other researchers can apply if they:

- are employed at a Dutch University or a research institute recognised by NWO or at a GTI (TNO, ECN, A&F)², and
- have an employment contract for at least the award period of the grant.

Requirements for co-applicants

All researchers with a tenure(d) (track) position at a Dutch university or institute recognised by NWO or at a GTI (TNO, ECN, A&F)².

3.2 What can be applied for

1. Personnel costs are based on the VSNU tariffs. Budget for researchers employed at a Dutch University or a research institute recognised by NWO or at a GTI (TNO, ECN, A&F)² may be requested:

Postdoc / researcher (1 year):	~k€ 63.8 ³
Technician (1 year, MBO):	~k€ 47.5 ⁴
Technician (1 year, HBO):	~k€ 57.1 ⁴

Work plans for all researchers involved in the project must be provided.

2. Consumables. Expenses for consumables can be requested. The budget for consumables, needed for carrying out the proposed research, has no formal limit, but should be essential for the proposed research.

3. Investments in equipment. The budget for equipment, needed for carrying out the proposed research, has no formal limit. The requested equipment should be essential for and dedicated to the proposed research.

4. Project-specific travel expenses such as for extended company-visits of postdocs or technicians e.g. to perform a part of their research activities in an

¹ See the 'Regeling subsidieverlening door ACTS' (only available in Dutch), which can be downloaded from the ACTS website (www.nwo.nl/acts).

² Researchers working at the GTI 's (TNO, ECN, A&F) can apply according to the arrangement for GTI 's as approved by the Executive Board of ACTS.

³ Tariffs as of 1 July 2009. The VSNU tariff for a postdoc includes a personal fee for congress travel and fees (bench fee).

⁴ Tariffs as of 1 July 2009.

industrial lab. Please note that academic travel such as conference travel and fees is included in the personnel costs and can not be claimed separately. The requested travel should be essential for the success of the project. The evaluation of the proposal will also consist of a thorough evaluation of the need for travel in connection with the success of the project.

5. Other project expenses. Per researcher/technician a contribution to other project related costs of max. 9% of the personnel budget can be requested. These costs are critically evaluated. As in the standard NWO funding rules, costs of supervision, workplaces, depreciation of existing equipment, etc., are considered the financial contribution of the university or institute to the research project, these costs will not be remunerated.

3.3 When can applications be submitted

The deadline for submission of the proposals is **15 June 2010** (23.59 hrs). Proposals should be received no later than the deadline. Proposals can not be altered or supplemented after the deadline.

3.4 Drawing up an application

- The proposal must fit within the framework of the Sustainable Hydrogen Programme. The project does not have to follow from a finding from within a project from the Sustainable Hydrogen programme;
- Proposals must comply with the rules stated in this brochure and must be submitted in the prescribed format;
- The application form can be downloaded from the Sustainable Hydrogen website: www.nwo.nl/acts/h2.

3.5 Specific conditions

3.5.1 Project Duration

The maximum duration of a project is 2 years. Applicants should take into account that projects funded in the Sustainable Hydrogen Call for Valorisation projects must be finished by July 31st 2013 at the latest. Costs incurred after this date can not be remunerated. Funding decisions are expected in October 2010.

3.5.2 Audit and responsibility

Every applicant has financial responsibility for his/her own project(s). Concerning points 2 to 5 in section 3.2: only real expenses, made in direct connection to the ACTS Research Program, will be covered, and might be subject to full checking procedures, to be effected after the execution and conclusion of the audit procedure of the institute carrying out the project.

3.5.3 Intellectual Property Rights

The rules for Intellectual Property Rights are derived from the ACTS Covenant (2002) between the government, industry and academia, which says that:

All knowledge and know how resulting from an ACTS programme or project is the joint property of the organizations participating in that programme or project. When this knowledge or know how concerns a commercially exploitable invention, its first publication will be in the form of a patent application. The involved industrial partners have the right of first refusal. In the first instance the right to file a patent application is for one or more of the (industrial) partners in the project/programme against a market-conform reimbursement to ACTS, which includes in any case the project costs.

Background information/IP needed for the project should be available for use and commercialisation without restrictions.

An agreement between ACTS and the industrial partner must be made describing specific rules and conditions for obtaining IP or using know how before the application is granted. This agreement must comply with the rules stated in the ACTS Covenant and the Sustainable Hydrogen Consortium Agreement. The text of the ACTS Covenant and the Sustainable Hydrogen Consortium Agreement can be requested at the ACTS office (for contact information, see section 5). Check IPR-regulations with your industrial partner before submitting your proposal to ACTS.

3.5.4 Involvement of industrial partners in the projects

Before filing an application for a Valorisation Grant an industrial partner (large company, SME or spin-off company) must be found that is willing to participate in the project.

3.5.5 Program Monitoring

The project results obtained will be reviewed on a regular basis, for which the Programme Committee (PC) is responsible. The PC has set up the approach for proper monitoring of the project results in the framework of the full Sustainable Hydrogen program. This includes program meetings held approximately every year.

3.6 Submitting an application

- Completed application forms need to be converted into a PDF document for the purpose of the electronic submission.
- Applications for project should be submitted **15 June 2010** (23.59 hrs.) at the latest via the NWO Iris electronic system (www.iris.nwo.nl), to be reached via www.nwo.nl/acts/h2. The Sustainable Hydrogen Application Form Valorisation project must be used and can be downloaded via www.nwo.nl/acts/h2.
- For technical questions regarding the submission of your application in Iris please contact the Iris helpdesk (0900 - 696 4747).
- In accordance with the agreement between NWO and the Association of Dutch Universities (VSNU), applicants should inform their employing institute of the submission. You should send a copy of your application to the scientific director or dean of your institute of department. If you submit a proposal, ACTS will assume that you have informed your university or institute and that it accepts the granting conditions of this programme.

3.6.1 Guidelines for the proposal

Guidelines on writing the proposal can be downloaded via www.nwo.nl/acts/h2

Before filing an application for a Valorisation Grant an industrial partner (large company, SME or spin-off company) must be found that is willing to participate in the project. With the application a commitment statement of the industrial partner must be provided as an attachment to the proposal (in pdf). The original signed

agreements can be sent to dr I.H.L. Hamelers (see Section 5 of this brochure for contact details).

Before the application is granted, an agreement between ACTS and the industrial partner must be made describing specific rules and conditions for obtaining IP or using know how.

4 Assessment procedure

4.1 Procedure

4.1.1 Eligibility-check

ACTS checks the eligibility of the proposals. Proposals that do not meet all requirements in sections 3.1–3.6 will not be taken into consideration. The proposals are subsequently evaluated in the procedure described below.

4.1.2 Ranking of proposals

The proposals will be reviewed in competition by a committee of external experts, the Assessment Committee (AC). The AC consists of industrial members of the (Dutch) hydrogen industry, with extensive expertise in assessing potential application of the inventions. The AC will rank the proposals taking into account the criteria given below.

The Programme Committee will give a recommendation for funding to the Executive Board of ACTS.

4.1.3 Final decision

The Executive Board of ACTS will take the final decision about which proposals to grant, based upon the ranking by the Assessment Committee and funding recommendations from the Program Committee.

4.1.4 Time-Table (tentative)

15 June 2010	deadline submission proposals
June/July 2010	AC ranks the proposals
August/September 2010	PC advise to ACTS Executive Board
October 2010	funding decision by ACTS Executive Board
October 2010	applicants are notified about funding decisions

4.2 Criteria

The proposal must fit within the framework of the Sustainable Hydrogen Programme. The proposed research plans are evaluated on the following criteria:

Scientific and technological innovative aspects (weighing factor 2):

- Presence of technologically innovative elements;
- Scientific state of the art;
- Expertise of applicant(s) and support staff

Commercial potential (weighing factor 2):

- Possible applications and added value;
- Market and commercial prospects;
- Competition

Project approach (weighing factor 1):

- Phasing of activities;
- Budget;
- Technical and economic approach

- Financing plan

The team (weighing factor 1):

- Motivation and skills of applicant(s)
- Commitment of industry to the project

4.3 Programme Committee

The Sustainable Hydrogen Programme has its own Programme Committee, appointed by the Executive Board of ACTS and consisting of representatives from academia and industry. The present members of this committee are:

Prof. dr A.J.M. Schoot Uiterkamp (RUG, chairman)

Dr ir. B. van de Beld (BTG)

Prof. dr F.G.H. Berkhout (VUA)

Prof. dr F.A. de Bruijn (ECN)

Prof. dr B. Dam (TU Delft)

Dr K.J. Damen (Nuon)

Prof. dr J.J.C. Geerlings (TU Delft/Shell)

Dr P.E. de Jongh (UU)

Prof. dr G.J. Kramer (Shell/UL)

Dr I.H.L. Hamelers (ACTS, Programme Manager)

5 Other information

5.1 Contact

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or contact members of the programme committee (see paragraph 4.3; contact details available upon request).