ACADEMY OF FINLAND

FINNISH RESEARCH PROGRAMME ON CLIMATE CHANGE (FICCA 2011–2014)

Research Programme Memorandum

CONTENTS

FOREWORD

In the autumn of 2008, all the Research Councils of the Academy of Finland submitted a proposal to the Academy Board for the preparation of a research programme on climate change. The theme had been discussed within the Academy earlier and several programme initiatives had been received on the subject from outside the Academy in 2007 and 2008. At its meeting on 30 September 2008 reviewing the 2010–2310 action plan and budget, the Board of the Academy decided to grant authorisation to enter into negotiations in preparation of a research programme on the theme of Climate Change: Governance, Mitigation and Adaptation.

A preparatory working group for the programme consisting of members of the Academy's Research Councils was appointed in March 2009. The preparation group is chaired by Professor Jyrki Luukkanen (Research Council for Biosciences and Environment), and the Vice Chair is Professor Tuija Pulkkinen (Research Council for Natural Sciences and Engineering) with Professor Jaana Bamford (Research Council for Biosciences and Environment), Professor Pauli Niemelä (Research Council for Culture and Society), and Professor Marja-Liisa Hänninen (Research Council for Health) serving as members. In the course of the preparations, the preparatory working group heard outside experts both directly at its meetings and by inviting comments on the programme text. The experts consulted included Professor Timothy Carter (Finnish Environment Institute); Project Manager Pirkko Heikinheimo (Prime Minister's Office); Environmental Counsellor Antero Honkasalo (Advisory Board for Sectoral Research, Sustainable Development, Ministry of the Environment); Research Director Mikko Peltonen (Advisory Board for Sectoral Research, Sustainable Development, Ministry of Agriculture and Forestry); Senior Technology Adviser Raija Pikku-Pyhältö (Finnish Funding Agency for Technology and Innovation Tekes); Coordinator Reija Ruuhela (Climate Change Adaptation Research Programme ISTO, Finnish Meteorological Institute); Technology Adviser Tuomo Suortti (Finnish Funding Agency for Technology and Innovation Tekes); Director General Petteri Taalas (Finnish Meteorological Institute); and Coordinator Tiia Yrjölä (Climate Change Adaptation Research Programme ISTO, Ministry of Agriculture and Forestry).

The preparation group convened seven times and took part, *in corpore*, in an exploratory workshop held in June 2009 for the preparation of the programme. A total of 130 members of the scientific community participated in the workshop to comment on the preparations and develop the themes. After the workshop, they had the opportunity to submit additional comments via the Academy website.

At its meeting held on 3 November 2009, the Board of the Academy of Finland decided to launch the Finnish Research Programme on Climate Change (FICCA) and to allocate EUR 12 million for this purpose out of its budget authority for 2010. The duration of research programme is four years.

Tekes is in the process of preparing its own programme on the subject of the impacts of climate change. Plans are in place to implement the programmes foreseen by the Academy of Finland and Tekes as a joint national climate change programme.

1. INTRODUCTION TO THE RESEARCH PROGRAMME

For the purposes of this presentation, climate change means changes to the existing climate, particularly global warming. However, climate change may also mean other regional or global changes related to the climate over various timeframes from tens to millions of years. Global warming is clearly taking place – observations show that the earth's average temperature has risen, the oceans have grown warmer, etc. Most likely, the rise in temperature is due to the increased concentrations of greenhouse gases generated by the emissions produced by man.[1] Climate change is also known to cause a range of direct and indirect environmental changes and social developments that may, in turn, be reflected back on climate change.[2]

Intensive research is being carried out on a global scale to study climate change and its effects. For example, research into climate change is extensive and internationally highly networked in the field of natural sciences.[3] It creates a basis for observing the change and analysing the numerous environmental effects associated with it. At the same time, research has branched out into other fields of science, [4] with a special emphasis on ways of managing climate change through adaptation and mitigation. Adaptation to the effects of climate change is a technological, economic, cultural and infrastructure-related issue. Mitigation of climate change is based on efforts to slow down global warming through the reduction of man-made emissions. Multidisciplinary and interdisciplinary research based on a range of scientific traditions is needed in order to combine research in individual disciplines and promote a systemic understanding of climate change. Additionally, research data is required for sustaining public debate and supporting national and international decision-making.

Climate policy is about making decisions on how to manage and control climate change. Such decisions may, for example, concern the choice of measures, technologies and tools for mitigating and adapting to climate change and the level at which the decisions are made (locally, nationally, globally). Climate policy may also be taken to mean a certain set of actions or a pre-defined political process. Finland is committed to a range of measures – often related to specific individual sectors – in response to climate change.[5] International climate policies are pursued within the EU and more extensively in the context of the United Nations' Framework Convention on Climate Change. Of special interest in this respect at present is the Copenhagen process. A large part of the research findings are used for climate policy purposes either directly or indirectly.

So far, the Academy of Finland has had two programmes for basic research related to the subject: The Finnish Research Programme on Climate Change SILMU (1990–1995) and the Global Change Research Programme FIGARE (1999–2002). Since the days of these programmes, efforts to contain and adapt to climate change have evolved into powerful forces in society both in Finland and the rest of the world. At the same time, multi- and interdisciplinary basic research is gaining in importance. Currently, climate change can be seen in research in all main disciplines (natural science, engineering and technology, medical and health sciences, agriculture and forestry, social sciences, and the humanities). New knowledge and data are required to promote public debate; support national and international decision-making on mitigation and adaptation measures; improve the capabilities for curbing the growing energy consumption by households and transport; identify applications for new technologies; and to enhance the capabilities for adapting to any extremes of climate change. Finland enjoys a solid scientific basis and possesses sound potential for conducting ground-breaking multidisciplinary basic research.

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[1] Intergovernmental Panel on Climate Change (IPCC), Fourth Evaluation Report, 2007.

[2] Adaptation to climate change: Towards a European framework for action. KOM(2009) 147.

[3] For example, the IGBP (*The International Geosphere-Biosphere Programme*) launched in 1987 studies the phenomenon of global change. (www.igbp.net)

[4] For example, IHDP (*The International Human Dimensions Programme on Global Environmental Change*), a multidisciplinary programme launched in 1996. (www.ihdp.org)

[5] The National Climate Strategy, Government Report to Parliament, 27 March 2001; Finland's National Strategy for Adaptation to Climate Change, Publications of the Ministry of Agriculture and Forestry 1/2005; Finland's Long-term Climate and Energy Strategy, Government Report to Parliament, 6 November 2008.

Climate change is regarded as the key environmental problem affecting the earth, nature and man, while at the same time being related to a number of other environmental concerns. However, climate change is still fraught with uncertainties because of the complex causal relations and feedback mechanisms. With the increased rate of climate change, its direct and indirect impacts are expected to materialise during the next few years and decades. In developing countries, for example, climate change threatens to increase and aggravate poverty and complicate the attainment of development targets. While the emissions of the world's poorest countries still remain very low, these nations are highly exposed to the effects of climate change. As a northern country, Finland is located in a region where global warming is expected to proceed at double the average rate compared with the rest of the world. At the same time, the impacts of climate change will become apparent earlier and be more intense in this country than at the more southern latitudes.

As climate policy gains greater prominence, more needs to be known about the ways of managing climate change and their national and international effects. For example, very little data is currently available on the true potential and ecological and social implications of the Clean Development Mechanism (CDM) and carbon trading. The objective for most of the CDM projects related to renewable energy and energy efficiency is not only to promote development in third world countries but also to offer industrialised nations cost-efficient ways of cutting down on carbon dioxide emissions. It is foreseen that both threats as well as a few potential benefits may be offered by climate change in Finland. Research and adaptation are called for in respect of both scenarios.

It is important to expand national research in this field – a point raised in many recent evaluations and recommendations. For example, the recommendations issued in the evaluation reports on energy research[6] and water research[7] briefly discuss the research development needs, while a recent statement by the Finnish Council for Natural Resources[8] calls for more research into energy and climate change. The positions outlined in the statements issued by the Department for Development Policy of the Ministry for Foreign Affairs also highlight the need for further research in development issues. The research agendas of the Advisory Board for Sectoral Research make reference to the evaluation and comparison of the measures to mitigate and adapt to climate change. This calls for solid basic research data. Among others, the White Book on Adaptation states the need for a better understanding of the probable effects of climate change, related socio-economic considerations and the costs and benefits of various administrative actions.[9] Research into climate change is taken into account in Finnish innovation activities in various ways such as is being done by the Strategic Centre for Energy and the Environment CLEEN.

The FInnish Research Programme on Climate ChAnge (FICCA) is launched to respond to the scientific challenges posed by climate change on a broad front. One of the principles underlying the FICCA programme is to support the type of multidisciplinary research that addresses the social and environmental spheres side by side – the objective being a systemic approach to research problems.

[6] Academy of Finland publications 14/2006.

[7] Academy of Finland publications 1/2008.

[8] Statement by the Finnish Council for Natural Resources on research into energy and energy policy, 27 May 2009.

[9] Adaptation to climate change: Towards a European framework for action. KOM(2009) 147.

2. OBJECTIVES OF THE RESEARCH PROGRAMME

The framework and thematic areas of the research programme have been selected with a view of covering a wide range of interactive processes between the environment and society in the context of climate change. Because of the extensive scope of the theme, all projects to be funded under the programme are required to adopt a multidisciplinary approach and produce results with wide applicability. A description of the individual themes is provided in Section 3.

As well as achieving a high level of scientific performance, the programme is expected to intensify the dialogue between scientific and social research and, in particular, promote the use of natural sciences as part of social research. Another objective is to increase interaction between researchers and those making use of their findings, and to publicise the results achieved in basic research early on. The goal is to make use of new knowledge as quickly as possible. Additionally, the programme will support PhD training in the field and subsequent career development as well as promote international networking between researchers and multidisciplinary cooperation in Finland.

The primary objectives of the research programme are to:

- generate knowledge of climate change – its effects and management
- promote multidisciplinary expertise and research environments in order to intensify research into climate change and achieve synergy benefits
- serve Finnish society by combining the global and local perspectives

Other objectives are to:

- create new Finnish and international collaborative research networks
- increase the mobility of PhD students and researchers
- enhance coordination and cooperation with other Finnish (e.g. sectoral research) and international actors (e.g. IPCC)
- generate knowledge in support of innovation
- increase knowledge and awareness of climate change in society

3. FRAMEWORK AND THEMES OF THE RESEARCH PROGRAMME

A key principle underlying the entire research programme is to approach the research into climate change from a holistic point of view where the process of climate change is perceived as a whole – the current state of the environment and society is understood to be a product of diverse and complex interactive processes working in different directions. In this framework, the environment is recognized as an integrated mechanism consisting of the climate and eco-system (Figure 1). As far society is concerned, the main courses of action to manage climate change are adaptation and mitigation. From a research point of view, these aspects may be approached individually; indeed, this is done when the impact of warming on the environment is monitored or the cost of adaptation and mitigation is evaluated with regard to the parties involved (in highly narrow terms). Instead of narrowly defined research themes, FICCA focuses on interaction between the environment and society.

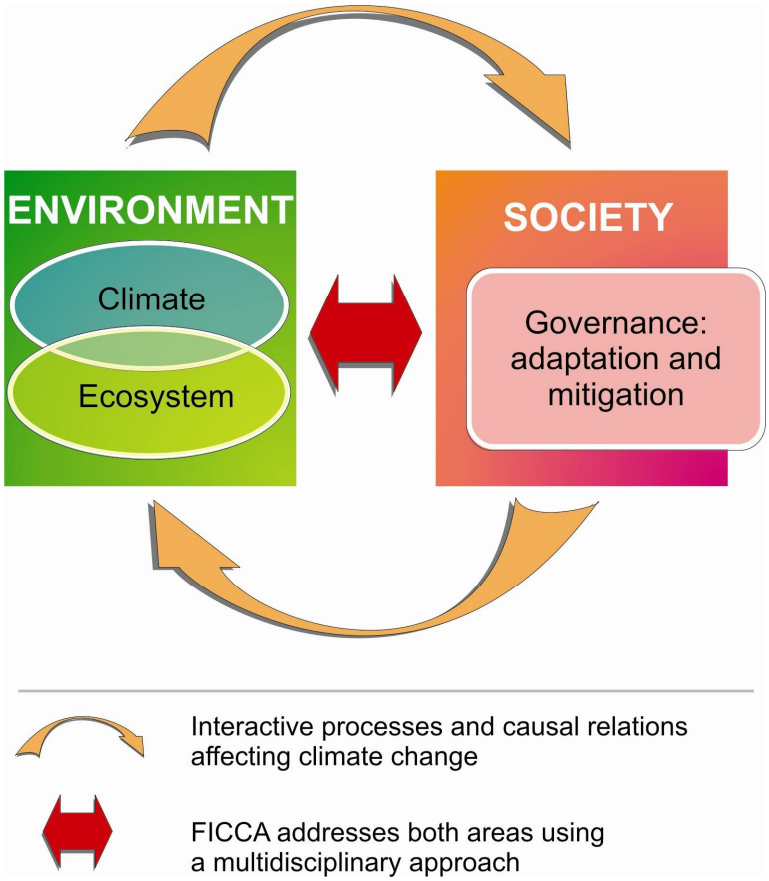

Figure 1. Framework for FICCA. The programme focuses on research that creates new knowledge concerning the interactive processes between the environment and society related to climate change. The multidisciplinary research projects address both society and the environment.

The research programme covers a wide range of individual fields of science and research in relation to climate change. Even so, the research to be funded under the programme will, to a great extent, be determined by the requirement for a genuine multi- or interdisciplinary approach when the afore-mentioned effects are processed.

The research programme foresees four research themes that – instead of being separate streams of research – are overlapping and mutually supportive. All research plans are expected to adopt the approach required by the programme framework as illustrated in Figure 1. The research themes are:

1. Environmental changes due to climate change
2. Social implications and consequences of climate change
3. Adaptation by society and the environment to climate change and its effects
4. Social and technological concepts for mitigating climate change

3.1 Environmental changes due to climate change

The point of departure for the programme is research into climate change. All research plans are required to address climate-induced causal processes affecting or relating to the environment by employing a multidisciplinary approach so as to ensure that a genuine linkage between society and the environment is established.

Examples of targets of research:

- Observations of and models for the climate and environment including the effects of regional changes
- Effects of climate change and its management on ecosystems
- Climate-induced ecological changes and the effects on disease carriers and pathogens
- Extreme weather conditions and related impacts

3.2 Social implications and consequences of climate change

Globally, climate change will have social implications usually stemming from the combined effect of several interactive processes. One example of a genuine multidisciplinary approach to research is to combine climate scenarios and other environmental data with social research.

Examples of targets of research:

- Climate-induced changes related to the economy, the labour market, states and politics, culture, education and communities including changes to infrastructure due to climate or weather conditions
- Effects on health and morbidity
- Communications, its effectiveness and social dialogue
- Effects on refugee rates, global economic structures and financing mechanisms

3.3 Adaptation by society and the environment to climate change and its effects

The process of adapting to climate change is a major issue comprising both adaptation to change and the measures to manage it. Here, management means actions taken to mitigate climate change and to adapt to it. Research plans are required to display the multidisciplinary approach and analysis of interactive processes called for in the research framework.

Examples of targets of research:

- Adaptation by business and industry, communities and demographic groups
- Effectiveness and cost-efficiency of adaptive measures including related feedback mechanisms

- Exposure of the environment and society to intensifying climate changes and extreme weather conditions and the ability to cope with the same
- Synergies and conflicts associated with mitigation and adaptation measures

3.4 Social and technological concepts for mitigating climate change

Measures taken to mitigate climate change and reduce greenhouse gas emissions respond to the challenge of alleviating the impact of climate change on society. A better understanding of the mitigation measures with regard to both social policy and technological solutions create a sound basis for the attainment of the objectives established for climate policies. All research plans are required to propose scientific investigations supporting either technological or socially relevant structural and functional solutions duly linked to environmental change or climate scenarios.

Examples of targets of research:

- *Modi operandi* and structures with a positive climate impact
- Carbon neutral and emission-reducing technologies
- International and national regulation of climate change mitigation and its implications for Finland, developing countries and emerging economies
- Changes in the values, attitudes and world views associated with climate change

3.5 Multidisciplinary approach

On the one hand, the research programme seeks to establish new connections between individual disciplines and between science, policy-making and innovations on the other.

All research plans are required to attempt to respond to the scientific and social challenges posed by climate change on a broad front. In terms of approach and methodology, research projects must be clearly multidisciplinary or interdisciplinary.

The projects foreseen in the programme will create new knowledge through fundamental research that can be used in support of policy-making or for promoting innovations on a broad front in the various sectors of society.

4. IMPLEMENTATION OF THE RESEARCH PROGRAMME

4.1 Programme funding

The Finnish Research Programme on Climate Change is a national programme funded by the Academy of Finland and coordinated at the Academy by a programme manager. The programme is planned to run for four years with funding to be provided during 2011–2014. The Board of the Academy of Finland has granted EUR 12 million for the implementation of the first call for applications in 2010 and is considering an additional EUR 4 million for a second call, primarily with a view to cooperation with foreign funding bodies.

The Academy funds multidisciplinary research carried out by research consortiums, in which each project involves more than one party and the work is typically carried out at different locations.

4.2 Implementation of the programme in collaboration with Tekes

Tekes – Finnish Funding Agency for Technology and Innovation is in the process of preparing its own programme on the subject of the impacts of climate change. Plans are in place to implement the programmes foreseen by the Academy and Tekes as a joint national climate change programme. The plans for cooperation will be defined in more detail during 2010. The objective of these efforts is to intensify cooperation to pool and coordinate national resources in order to be better placed to respond to the global challenges posed by climate change. Moreover, cooperation is needed to make full use of the research inputs to consolidate Finland's competitive position in international research and innovation.

If implemented, the joint programme involving both the Academy and Tekes would serve as an umbrella as shown in Figure 2. Responsibility for the overall coordination of activities and external communications will rest with a strategic management group. The model would allow other national organisations to join the project under the same coordinating strategic leadership.

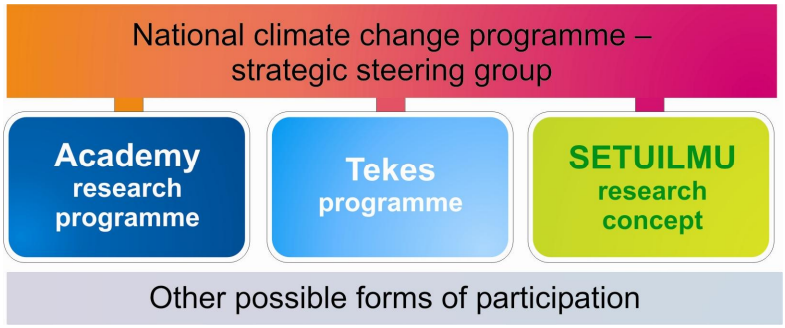

Figure 2. Proposal for an umbrella organisation of the national climate change programme.

4.3 Other cooperation on the national level

The Sustainable Development Section of the Advisory Board for Sectoral Research[10] will implement a research concept related to the mitigation of and adaptation to climate change called SETUILMU. In keeping with the basic principles of sectoral research, SETUILMU will provide funding for projects that

[10] http://www.minedu.fi/OPM/Tiede/setu

respond to the information needs of individual ministries and serve as a basis for decision-making. FICCA and SETUILMU are parallel coherent national programmes addressing the same theme. The foreseen cooperation will embrace at least planning, the exchange of information regarding funding decisions, communications as well as joint meetings and conferences. Additionally, the FICCA programme will monitor and, where possible, work with the Coordination Group for Adaptation to Climate Change of the Ministry of Agriculture and Forestry.

For several years now, the Academy has engaged in funding cooperation with the Department for Development Policy of the Ministry for Foreign Affairs in development research. The total amount of funding available for development research is EUR 3 million annually. The FICCA programme also covers themes relevant to development policies. The Academy and the Department for Development Policy are looking into the possibility of preparing and organising a joint call for applications focusing on developing countries.

The Strategic Centres of Science, Technology and Innovation, specifically CLEEN Oy, are involved with themes related to the challenge of climate change. Where possible, the FICCA programme will cooperate with CLEEN Oy. [11]

4.4 International cooperation

FICCA's aim is to organise bilateral calls for research proposals with funding bodies from countries to be identified at a later date. Considering the themes selected for the research programme, potential countries singled out in the course of preparations are China, India and Russia. Other potential countries for implementing bilateral calls are Brazil, the United Kingdom, Germany and the USA. The Academy of Finland is preparing the implementation of joint calls with a view to organising the calls and allocating the funding out of the 2011 budget authority.

The Top-Level Research Initiative (TFI, *Toppforskningsinitiativet*) launched by the Nordic Council of Ministers[12] draws upon the best scientific talent and innovation capacity available in the Nordic countries. Of the six sub-programmes, two (Climate Change Research: Effects and Adaptation, and Interactions between Climate Change and the Cryosphere) are related to the issues addressed by the FICCA programme. The Academy of Finland is a co-funding body of the TFI initiative and is currently gathering Finnish researchers working in the Academy-funded Centres of Excellence and networks under FICCA's communications and operational umbrella. Conversely, TFI serves as the showcase for Nordic climate change research around the world, to which the Academy of Finland and FICCA lend added support.

The ERA-NET project included in CIRCLE-2 (*Climate Impact Research and Response Coordination for a Larger Europe*, 2010–2014) is a network consisting of European research funding bodies and research programmes.[13] Its primary goal is to promote cooperation and broad-based coordination between funding bodies and national and regional research programmes. The Academy of Finland is one of the 32 actual participants in CIRCLE-2, which serves as a platform for extensive European cooperation for FICCA with the international joint calls being valuable instruments available to FICCA for joint funding. For its own part, the Research Council for Biosciences and Environment has, in its operative planning, made provisions for funding a potential second call for CIRCLE-2 applications.

Joint Programming is a new approach designed to expand cooperation in research and funding in Europe in an attempt to strengthen the European Research Area. The point of departure for the

[11] http://www.tekes.fi; http://www.cleen.fi
[12] http://www.nordforsk.org
[13] http://www.circle-era.net

activities is to respond to 'major' European and global challenges through high-quality research. Joint Programming means broad-based preparation and the implementation of extensive coherent bodies of research. Cooperation will be realized through existing forms, such as nationally funded research programmes. One of the themes highlighted in this context is climate change. The Academy of Finland and the FICCA programme will monitor the development of Joint Programming and are prepared to serve as one of the national coordinators and funding bodies in the field of climate change.

4.5 Timetable

In the first call of the programme (January 2010), the Academy will provide funding for consortium projects during 2011–2014. The funding period for the projects will start on 1 January 2011 at the latest and end on 31 December 2014 at the latest. The second call planned within the programme (January 2011) is aimed at carrying out a separate international joint call (or calls) with international funding partners. The themes of the calls will be agreed upon separately. The research programme will be evaluated in 2015.

The programme's first call will be organised in two stages. Letters of intent to be submitted by consortia at the first stage are short plans. Letters of intent shall be submitted to the Academy's online services no later than 29 January 2010 at 16.15. The application deadline is non-negotiable. The programme group will make a proposal to the sub-committee on the projects that would best fit in with the programme's thematic areas and programme objectives on the basis of the letters of intent. Projects selected to proceed to the second stage will be announced by early March 2010. Applicants who are requested to submit full applications shall draft a complete research plan and submit it to the Academy's online services no later than 16 April 2010 at 16.15. The application deadline is non-negotiable. On the basis of the scientific review of the applications and considering the programme objectives, the programme group will prepare a proposal to the programme sub-committee on the projects to be funded. The programme sub-committee will make the funding decisions in autumn 2010.

In its action plan for 2011–2014, the Academy Board has decided to allocate funding for the programme's second call in 2011. The planned bilateral joint calls and implementation of other international joint funding will be prepared during 2010. Information on the timetable of the international joint calls will be given later.

Any other calls and joint calls will be carried out according to a timetable to be agreed upon separately with the funding partners.

4.6 Programme steering group

The programme steering group that leads the research programme comprises members of the Academy's Research Councils, representatives of other actors participating in the programme and expert members. Other experts may also be invited to contribute to the programme steering group's meetings.

The composition of the programme steering group:

Chair:

professor Paavo Pelkonen, Research Council for Biosciences and Environment, Academy of Finland

Vice chair:

professor Tuija Pulkkinen, Research Council for Natural Sciences and Engineering, Academy of Finland

Members:

professor Hannele Hakola, Research Council for Biosciences and Environment, Academy of Finland
professor Ilmo Keskimäki, Research Council for Health, Academy of Finland
professor Pauli Niemelä, Research Council for Culture and Society, Academy of Finland

Expert members:

project manager Pirkko Heikinheimo, Prime Minister's Office
environment counselor Antero Honkasalo, Ministry of the Environment
director Kimmo Kanto, Tekes – the Finnish Funding Agency for Technology and Innovation

The duties of the programme steering group are:

- to prepare the programme and submit a proposal to the programme sub-committee concerning the projects to be funded;
- to steer and monitor the programme;
- to plan and organise the final evaluation of the programme; and
- to steer and support programme coordination.

4.7 Programme coordination

The research programme strives to support and promote the development of the selected projects into a coherent and cohesive structure through active information exchange and cooperation. Programme coordination is responsible for ensuring this development, and works together with the projects to promote attainment of the objectives set for the programme. The aim is to ensure that projects reinforce each other and that programme can generate new multidisciplinary research knowledge. Consequently, the leaders of the projects selected to take part in the programme will be required to commit themselves to the programme objectives and to cooperate actively throughout the programme and during the programme evaluation.

The responsible leaders of the projects taking part in the programme shall:

- assume responsibility for and report on the scientific progress of the project and the use of funding according to the instructions of the programme manager and relevant funding bodies;
- ensure to that the whole research team attends all meetings, seminars and workshops organised by the programme coordinator and facilitate exchange of information and cooperation between the research teams in the programme;
- take part in producing reviews, syntheses and information material on the research programme; and
- actively disseminate information about the programme's progress and results on public and scientific forums.

During the course of the programme, the research projects will participate in events to be arranged with end-users of the research results and in any other activities designed to provide information to stakeholders.

The steering group and the programme manager appointed by the Academy of Finland are responsible for programme coordination. A project officer from the Academy will act as secretary to the steering group.

4.8 Final evaluation

The implementation and results of the research programme will be evaluated upon completion of the programme. The implementation of the evaluation will be planned in detail as the programme progresses, but the following aspects are likely to be considered in the evaluation:

- attainment of the programme's objectives;
- implementation of the research programme (coordination, role of the programme group, participation in the programme)
- scientific quality of the programme output;
- results and impact, integration of the results and synthesis on the programme level
- evidence of the scientific, social and economic impacts pursued by the programme;
- researcher training and the advancement of research careers;
- national and international cooperation, and
- communications.

The evaluation may be carried out as part of a more extensive evaluation of several of the Academy's research programmes together or of the Academy's and other actors' programmes together.

The research teams receiving funding are required to report on the progress of their projects on an annual basis in accordance with the decision of the programme steering group, and submit a final report to the Academy of Finland upon the completion of the projects. The reports shall include information on topics such as scientific publications produced and theses and doctoral dissertations completed within the programme.

5. APPLICATION PROCEDURE AND PROJECT EVALUATION CRITERIA

The research programme has a two-stage call. Letters of intent shall be submitted to the Academy's online services no later than 29 January 2010 at 16.15. The application deadline is non-negotiable.

Applications with appendices are drafted in English at www.aka.fi/eng > For researchers > Log in to online services. Select *New application* > FICCA research programme.

Projects to be invited to submit their full applications will be selected on the basis of the plans of intent by early March 2010. Applicants who are requested to submit full applications will be required to submit their applications to the Academy's online services no later than 16 April 2010 at 16.15. The application deadline is non-negotiable.

Applications for funding from the programme can be submitted by consortiums composed of two or more research teams. The application procedure takes place in two stages. Applications for Academy funding shall comply with the following guidelines:

1. The guidelines applicable to all calls announced in the Academy's January 2010 call for applications
2. Detailed guidelines for submitting applications: www.aka.fi/eng > For researchers > How to apply > Guidelines
3. Detailed guidelines on the structure and length of appendices: www.aka.fi/eng > For researchers > How to apply > Appendices
4. This programme memorandum.

5.1 Letters of intent

The Academy's online services opens on 11 January 2010 and letters of intent shall be submitted online no later than 29 January 2010 at 16.15. The application deadline is non-negotiable. Only the requested appendices are appended to the application and they shall be drafted in accordance with the Academy's guidelines.

The evaluation criteria for applications at the letter of intent stage are how well the project ties in with the topic of programme, how the programme objectives are to be realised as well as the project proposal's novelty and applicability. The Academy will make decisions by early March 2010 on projects that will be requested to submit full applications. The Academy will post information on the decisions on its website and notify the applicants of the decision in writing.

Only the consortium leader submits a letter of intent.

- Online application form

Appendices to the application:

- plan of intent of the consortium, no more than six pages
- curricula vitae for the consortium leader and the responsible leaders of the sub-projects, combined as one document, no more than four pages for each researcher
- lists of publications of the consortium leader and the responsible leaders of the sub-projects, combined as one document, in which the ten most important publications in terms of the proposed research plan for each sub-project leader must be clearly indicated.

5.2 Full applications

The online services will open on 20 March 2010 for projects invited to the second application stage and the application deadline is 16 April 2010 at 16.15. The application deadline is non-negotiable.

Only the requested appendices are appended to the application and they shall be drafted in accordance with the Academy's guidelines.

5.2.1. Full application of the consortium leader

- Online application form in which funding is applied for only for the consortium leader's own research team.

Appendices to the application:

- an abstract drafted in accordance with the consortium guidelines, no more than one page
- a research plan drafted in accordance with the consortium guidelines, no more than 15 pages
- curricula vitae for the consortium leader and the responsible leaders of each sub-project, combined as one document, no more than four pages for each researcher
- lists of publications of the consortium leader and the responsible leaders of each sub-project, combined as one document, in which the ten most important publications in terms of the proposed research plan for each sub-project leader must be clearly indicated
- statement by an ethics committee or the Committee on Animal Experimentation, if relevant. Ethical issues shall always be specified in the research plan.
- a progress report by the consortium leader and the responsible leaders of the sub-projects on their Academy-funded research projects for which no final reports have been submitted, combined as one document
- invitation from a foreign university or research institute, if the research will be conducted abroad.

5.2.2 Application of the responsible leader of a sub-project to the consortium

- Online application form in which funding is applied for only for the research team of the responsible leader of a sub-project
- No appendices are appended to the application of a sub-project. The consortium leader will collect all appendices of the consortium as part of his or her application.

5.3 Evaluation criteria

An international panel of experts will review the scientific level of the applications. The evaluation criteria include:

- project compatibility with the research programme;
- scientific quality and innovativeness of the research plan;
- feasibility of the research plan;
- national and international contact network of the applicant/research team/consortium;
- researcher training and advancement of the research environment;
- competence and expertise of the applicant/research team/consortium; and
- the added value generated by the consortium.

The detailed evaluation guidelines for experts reviewing applications are available on the Academy's website at www.aka.fi/eng > For researchers > Reviewing applications?.

6. MORE INFORMATION

This research programme memorandum is available on the Academy of Finland website at www.aka.fi/eng.

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