

Research and Development in Environmental Protection

The National Office for Research and Technology (NKTH) supports several R&D projects with environmental aspects. 20-30% of funding granted under the calls published by the Office (Ányos Jedlik Programme, Ede Teller Programme, Oszkár Asbóth Programme and Péter Pázmány Programme) were provided to environmental projects.

30% of funding granted under Ányos Jedlik Programme in 2005 and 2006, Ede Teller Programme in 2006, and Oszkár Asbóth Programme in 2005 and 2006 were provided to proposals linked to environmental protection. Out of all successful proposals in 2004, 2005 and 2006 under Péter Pázmány Programme (Regional Knowledge Centre), 20% of funding was granted to Knowledge Centres which conduct research linked to environmental protection.

The analysis of successful regional proposals from the point of energy, soil-, air-, water- and environmental protection, shows the following. The biggest portion of funding was provided to proposals linked to renewable energy and energy efficiency under Innocsekk Programme in 2005 and 2006. Water quality protection and water management, soil protection and waste management topics follow on the list of most successful proposals.

Chart 1: Thematic proportions of environmental proposals under Innocsekk (%)

1. Renewable energy
2. Energy efficiency
3. Air quality protection
4. Water quality protection and water management
5. Soil protection, waste management
6. Environmental protection, flora and fauna protection

By examining successful proposals of Gábor Baross Programme in 2005 and 2006, it is revealed that - similarly to Innocsekk - the number of proposals under the thematic priorities of renewable energy and energy efficiency is the highest. The second highest number of successful proposals falls under soil protection and waste management. Several projects do not focus on one particular topic, but rather on environmental protection in general.

Chart 2: Thematic proportions of environmental proposals under Gábor Baross Programme (%)

1. Renewable energy
2. Energy efficiency
3. Water quality protection and water management
4. Soil protection, waste management
5. Environmental protection, flora and fauna protection
6. General environmental protection

Co-operation Agreement in Environmental Protection

To enhance the efficiency of the promotion of R&D in the field of environmental protection, the National Office for Research and Technology co-operates with the Ministry of Environment. For the coordinated development of the international networking of the Hungarian environmental industry, a **Co-operation Agreement** has been concluded. The Co-operation Agreement was signed by the Ministry of Environment and Water (KvVM), the Association of Environmental Enterprises (KSZGYSZ), the Hungarian Investment and Trade Development Agency (ITDH), and the National Office for Research and Technology (NKTH) on 26th January 2007. The coordinator of the Co-operation is the Ministry. In the framework of the Co-operation, NKTH - through its calls - has undertaken to promote the R&D activity of environmental enterprises and to help the research and scientific cooperation of Hungarian and foreign research institutes and enterprises dealing with environmental technology development.

The joint objective of the parties to the Agreement is to create a foreign market information system which provides online assistance to Hungarian environmental enterprises in reaching their market. Managed by KSZGYSZ, the joint website (www.kexport.hu) includes all information which promotes the environmental export of Hungarian enterprises, providing information about calls, exhibitions and business days.

Environmental topics under FP6 and FP7

R&D cooperation at Community level is realized by the framework programmes for research, technological development and demonstration implemented by member states. The European Union provided funding for energy, environmental protection and transport related research and development under the thematic priority of "Sustainable development, global change and ecosystems" under the **6th Framework Programme** between 2002 and 2006. Hungarian applicants also participated in environmental R&D projects under FP6. Altogether EUR 1592 million worth of funding was provided through different calls, out of which EUR 1454 million was granted to EU member states, while the remaining funding was received by associated and third countries. Hungary received EUR 8.5 million under "Sustainable development, global change and ecosystems" thematic priority. 89 Hungarian research teams participated in projects under the abovementioned thematic priority.

As opposed to FP6, besides Energy and Transport, **Environment** has become an independent topic in the **7th Framework Programme**, and includes the following:

- Climate change, pollution and risks;
- Sustainable management of resources;

- Environmental technologies;
- Earth observation and assessment tools.

The total funding to be provided under the Environment theme of FP7 is EUR 1890 million.

Environmental aspects under the specific programmes of FP7

Almost all themes of the specific programme on '**Cooperation**' covers the topic of environmental protection, thus underlining its importance in the given research areas. While sustainable energy resources play an important role in the theme on **Energy**, air pollution, noise and vibration reduction are at the forefront under Transport, and environmental biotechnology receives attention under the biotechnology topic of the theme on Food, Agriculture and Biotechnology. The following objectives are included under the **Socio-economic Sciences and the Humanities** theme: efficient and environment friendly vehicles, safe and energy saving industrial processes and infrastructures, quicker reaction to environmental hazards by shared databases and data management. As the results of research activities under the **Nanosciences, nanotechnologies, materials & new production technologies** theme is unforeseeable, it is of utmost importance to analyse and forecast the expected environmental, health and social impacts with a view to ethical aspects. Similarly to the above, environmental impact assessments play an important role in healthcare, too (e.g. the impact of environmental conditions contributing to the development of cancer). Under the **Security** theme, the priority objective is to enhance the security of citizens. Nevertheless, there are numerous calls under the programme which support project proposals with research results indirectly serving environmental purposes (e.g. water supply security). Global monitoring for environment and security can be found under the **Space** theme.

Focusing on the mobility of researchers, the **People** specific programme covers almost all scientific areas, thus PhD students and experienced researchers in the field of environment may also submit proposals.

Similarly to People programme, environmental research projects may also be carried out under the **Ideas** specific programme, which is also characterized by a bottom-up approach.

Under **Capacities** specific programme, sustainable agriculture (biomass and biofuel) is present in the **Regions of knowledge, Research potential and research policy linked** initiatives. **Research for the benefit of SME's, International cooperation** activities and **Science in society** are horizontal programmes, thus environmental projects may also be proposed under them. Environmental protection received a significant role under FP7. Besides environmental aspect being present in almost all fields of FP7, this significance is underlined by the fact that a fourth working group on Environment was added to the existing three of ESFRI under Research infrastructures. There are several ongoing environmental projects under the **Research infrastructures** theme.

In the field of Fusion under EURATOM, there are programmes for examining the environmental impact of (would-be) fusion energy production. The Joint Research Centre (JRC) is a research institute network operated by the EU, which has its own work programme and includes environmental research projects, too.

Technology Platforms

The aim of technology platforms is to elaborate and implement the vision and research, development and innovation strategy of the given field, in order to enhance the competitiveness of enterprises. Technology platforms are created by institutes and organizations which are mutually interested in the professional and business development of a given field.

Among the existing European Technology Platforms, several platforms are operating in the field of environment. There are platforms operating in the following fields: exploitation of forests as raw material with a view to natural values, water base protection, solar energy exploitation, Zero Emission Fossil Fuel Power Plants, Hydrogen and Fuel Cell Platform. For more on technology platforms see the separate chapter on the website of the EU. Most platforms have their own websites, which are available at: http://cordis.europa.eu/technology-platforms/individual_en.html. National Technology Platforms may become important factors in enhancing national competitiveness. At the national level they may become partners to the public sector which grants the funding available for economic development, and by strong national representation they may become advocacy channels at the EU level. The aim of NKTH is to promote and support the creation and strengthening of National Technology Platforms in technology areas which play a decisive or perspective role in Hungary's economy and in its development.