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## Call Title: ENV 2011

- Call identifier: **FP7-ENV-2011**
- Date of publication: 20 July 2010
- **Deadline: 16 November 2010** at 17.00.00 (Brussels local time)
- Indicative budget: EUR 155 million (of which 18 MEUR for 6.1.2 Environment and health)

### SELECTED PRIORITY TOPICS:

#### Activity 6.1 Climate change, Pollution and Risks

##### **Sub-activity 6.1.2 Environment and health**

###### *Area 6.1.2.1 Health impacts of climate change*

#### **Topic ENV.2011.1.2.1-1 Environmental change and its effects on atopic diseases (allergies, asthma, eczema) in Europe**

The aim is to investigate how factors such as climate variability, the spread of plant invasive species and land use changes affect the spatial and temporal distribution of airborne allergens, in particular pollen, and what is the effect of these changes on the prevalence of atopic diseases in Europe, especially among vulnerable groups such as children under the age of 10, elderly people and people with chronic diseases. The research will cover exposures to airborne allergens outdoors as well as in indoor environments. Interactions between pollen and air pollutants and its effect on allergenicity will be investigated. The effect of climate change on pollen density and allergenicity will also be addressed. Studies should cover current situation as well as future projections. It is important that project results are disseminated widely to relevant end-users.

##### *Expected Impact*

Support to the implementation of the European Environment and Health Action. Better planning of responses of public health systems to future prevalence of atopic diseases.

*Funding scheme:* Collaborative Project (small or medium-scale focused research project).

#### Activity 6.1 Climate change, Pollution and Risks

##### **Sub-activity 6.1.2 Environment and health**

###### *Area 6.1.2.2 Health effects of environmental stressors other than climate change*

#### **Topic ENV.2011.1.2.2-1 Combined exposures to environmental agents: integrated approaches to evaluate environment-health relationships in children**

Recent studies have suggested that even very low doses of some biologically active contaminants including toxic chemicals in the environment can alter gene expression important to learning and developmental function. Exposures during early development can adversely affect learning and development of the individual and last a lifetime, with huge economic and social consequences. Humans are exposed to complex mixtures of environmental contaminants that can interact to enhance adverse effects. The aim of the project is to develop better and sophisticated tools, procedures and testing methods to screen compounds for neurotoxicity and to improve assessment of exposures and effects. Timing of exposure, the role of bioaccumulation and mixtures, mechanisms of disease development and the role of individual susceptibility should be examined using latest biotechnology tools available. The validity and usability of these integrated tools should be tested in a (prospective) epidemiological study, especially focusing on learning and developmental disorders in children. The study should include aspects of environmental justice and socioeconomics including economically disadvantaged children.

*Additional eligibility criterion:* The Collaborative projects under this topic will only be selected for funding on the condition that the estimated EU contribution going to SME(s) is 15% or more of the total estimated EU contribution for the project as a whole. This will be assessed at the end of the negotiation, before signature of the grant agreement. Proposals not fulfilling this criterion will not be funded.

##### *Expected Impact*

Support for the reduction of health inequalities, and for the goals of the EU Sustainable Development Strategy<sup>10</sup> with its environment and public health components. Support for the goals of the EU and

WHO environment and health process, EU chemicals legislation as well as the Council conclusions on combined effects of chemicals (2009). Reduction of uncertainty in risk assessments. The participation of SMEs in the project contributes to increased knowledge base and competitiveness of SMEs in the biotechnology sector.

*Funding scheme:* Collaborative Project (large scale integrating project).

## **Activity 6.1 Climate change, Pollution and Risks**

### **Sub-activity 6.1.2 Environment and health**

*Area 6.1.2.2 Health effects of environmental stressors other than climate change*

#### **Topic ENV.2011.1.2.2-2 Exposure to electromagnetic fields (EMF): investigations of mechanisms to support risk assessment and reduce uncertainty**

Extremely low frequency magnetic fields (ELF MF), associated with use and transmission of electric power, have been classified as possibly carcinogenic to humans, mainly based on epidemiological evidence for an association between residential exposure and childhood leukaemia. However, the underlying biological mechanisms are unclear. The aim will be to explore biophysical mechanisms that could explain the effects of weak environmental ELF fields in support of a possible causal relationship between cancer (especially childhood leukaemia) and ELF MF exposure. Improved *in vitro*, *ex vivo* and possibly *in vivo* methods and models to study exposures and effects should be developed. Improved understanding of exposures, especially in childhood, should also be aimed at.

*Additional eligibility criterion:* Collaborative Projects under this topic will only be selected for funding on the condition that the estimated EU contribution going to SME(s) is 15% or more of the total estimated EU contribution for the project as a whole. This will be assessed at the end of the negotiation, before signature of the grant agreement. Proposals not fulfilling this criterion will not be funded.

#### *Expected Impact*

Improvement of risk assessment and management of man-made environments in a domain with high scientific uncertainty, public concern, evolving regulatory needs and complex interplay of social and technological issues. Contribution to environmental sustainability and improved risk governance. The results will be of interest and potential benefit to participating SMEs.

*Funding scheme:* Collaborative Project (small or medium-scale focused research project).

## **Activity 6.1 Climate change, Pollution and Risks**

### **Sub-activity 6.1.2 Environment and health**

*Area 6.1.2.3 Methods and decision support tools for environmental health risk analysis and policy development*

#### **Topic ENV.2011.1.2.3-2 Positive effects of natural environment for human health and well-being**

Indications exist that close contact with nature brings benefits to human health and well-being. The aim will be to investigate the interconnections between exposure to natural outdoor environments, in both rural and urban settings, and better human health and well-being. The project will explore the underlying mechanisms at work and examine the effects for different population groups. Preventive as well as therapeutic effects of contact with the natural environment should be covered. Implications for land-use planning and green space management will be addressed.

*Funding scheme:* Collaborative Project (small or medium-scale focused research project).

#### *Expected Impact*

More robust evidence base on links between exposure to natural outdoor environment and human health and well-being. Better integration of human health needs into land use planning and green space management in rural as well as urban areas.