



**General Commissariat for Sustainable Development
Research and Innovation Department
Research Service**

“Management and Impacts of Climate Change” Programme GICC

CALL FOR RESEARCH PROPOSALS 2010

Call Opening date : January 20, 2010

Call Closing date : March 21, 2010

CRP publication link : <http://www.gip-ecofor.org/> et <http://www.developpement-durable.gouv.fr/>

Summary

- I. INTRODUCTION 2**
- II. CONTEXT..... 2**
- III. CRP PURPOSES 3**
 - 1. *The impacts remain at the heart of GICC program 3*
 - 2. *Climate change and identification of its effects 3*
 - 3. *The issue of extremes: risks and vulnerability 3*
 - 4. *Adaptation and the necessary down-scaling 4*
 - 5. *Economic evaluation 4*
 - 7. *International negotiations 4*
 - 8. *Mitigation and adaptation climate policies..... 5*
 - 9. *Scenarios and uncertainties 5*
 - 10. *Researches in partnership 5*

I. INTRODUCTION

The Research Service of the General Commissariat for Sustainable Development of the Ministry in charge of Sustainable Development launches the ninth call for research proposals of the “Management and Impacts of Climate Change” (GICC) program.

This program especially aims to developing **useful knowledge in order to support the decision concerning the reduction of impacts and adaptation to climate change.**

It extends the 2008 Call for research proposals which was in particular emphasizing on “the coupling identification between phenomena connected to current climate change on any scaling whose consequences can modify either environment or society”.

Any projects in the frame of the 2008 CPR are eligible.

Eventually, please note that the selection of projects made by the Scientific Board will not privilege any field and will only be based on scientific excellence of the projects.

II. CONTEXT

The GICC program tries to give scientifically based answers to questions raised by international, European and national politic bodies. It contributes to develop the knowledge necessary to the public debate and completes, when needed, results and/or studies outcoming from the great research programs (ANR-French National Research Agency). This need of knowledge has recently been identified during the 3rd World Conference on Climate organized by the World Meteorological Organization on September 2009.

The GICC program therefore aims to develop the knowledge in order to support the decision concerning both the identification and the measure of climate change impacts. It also allows helping in formulating adaptation to climate change and mitigation of greenhouse gases policies. It integrates policies and action and mobilizes skills of multiple disciplines.

In this way, the GICC program actively helps to improve the consideration of climate change within the different international, European and national bodies (IPCC – International Panel on Climate Change; Conference of the Parties COP15; World Climate Conference 3 – WCC3; Adaptation National Strategy and Adaptation National Plan forecasted for 2011; “Grenelle de l’environnement” - France’s Environment Round Table-; “Grenelle de la mer” – France’s Seas and Coastline Environment Round Table).

The GICC program allows bringing concrete answers to the expertise needs of MEEDDM Head Offices which all have integrated the climate change issue in the elaboration of their policies.

Of course, GICC program is complementary to European research plannings (the Seventh Framework Program (FP7); CIRCLE-2 ERA-Net; The Regional and National research programs network on Integrated Water Resource Management - IWRM...) as well as national ones (French National Research Agency/Global Environmental Changes – ANR/CEP; the Prospective and Research Workshop “Climate change adaptation of Agriculture and anthropic ecosystems” – ADAGE; Sustainable Cities...). It therefore has a specific place in the system of French planning on climate change issues because of its support to the French public policies.

Moreover, the program works in parallel to other MEEDDM research programs not specifically concerned by the climate change issue but by specific domains (such as coastline for LITEAU, soil management for GESSOL, water resources for IWRM, biodiversity for BIODIVERSA, ...), the assignment of a research project to one of the above programmes depending on the importance taken by climate change issue.

III. CRP PURPOSES

As the programme's name indicates, the Call for Research Proposals concerns the climate change impacts, the resulting damages or advantages, the mitigation and adaptation actions and policies responding to this change.

Therefore, the climate change component must be at the heart of the project.

Here below we underline the issues on which we expect innovative proposals.

1. The impacts remain at the heart of GICC program

Adaptation actions to face climate change impacts need to be implemented now, in spite of a lack of scientific knowledge. In the long-term, it is therefore necessary to maintain the efforts of research on the impacts in order to progressively help the public decision. The impact on the ecosystem services¹ domain, whose definition is relatively recent, needs to be thoroughly investigated.

Both the participation to the launch of impacts observation new networks and the build-up of relevant indicators to follow-up the evolution of these impacts are expected.

2. Climate change and identification of its effects

The issue of the **attribution** of an impact's variable change to the climate change is a key element to assign the appropriate effects to the climate change and to dissociate them from other global change components.

In order to answer the above questions concerning the **detection-attribution of climate change impacts**, methodological developments are necessary and encouraged. They can be associated to case studies.

3. The issue of extremes: risks and vulnerability

The resiliency of social and natural systems and the sizing of great works and institutional plans (insurances) are strongly affected by intra and inter yearly patterns, especially **extreme events**. **Therefore, the study of these extreme events, of their impacts, of their evolution in incidence and magnitude**, remains an essential research field.

The analysis of the vulnerabilities associated to the risks related to climate change will have to help the priorities definition as regards public policies and systems management.

¹ Ecosystem services, defined as « the benefits that ecosystems provide to human beings » include “provisioning and supporting services, regulating services, self-maintaining services and cultural services”

The risk management, until now not much studied within the GICC program, takes into account the vulnerability of studied systems and needs researches in which the “chance-vulnerability-risk” relationship has to be controlled.

4. Adaptation and the necessary down-scaling

The currently available climatic projections, published in the last report of the International Panel on Climate Change (IPCC), are very long-term forecasts (centennial). They correspond to the time scaling necessary to appreciate the effects of mitigation measures. The issues of impacts and those of adaptation to climate change need data on a shorter time scaling (**such as 15 to 30 years**) and more localized. Specific simulations on this time scaling will be realized within IPCC next report. Researches are expected.

Moreover, the development of regional models is needed. The methods of down-scaling, even though they have moved on, remain a delicate matter because they condition a more realistic study of the impacts and adaptation’s actions.

These needs imply to appeal to researches with a strong methodological component on these two elements (space and time).

5. Economic evaluation

The economic evaluation of costs of both climate change impacts and adaptation are essential, especially as regards mitigation costs. It allows making proper costs/benefits analysis matching the impacts damages and the investment and operating costs of the adaptation policies.

6. Social-economic scenarios

The above question is at the center of IPCC works in progress and it is more topical than ever. A federative effort is expected to strengthen the national network of skills in this field. Social-economic scenarios at regional level could be a way to analyze the interaction between adaptation policies and other components of the social and/or economic development.

It is also essential to study in which way the adaptation strategies will be represented and taken into account in the integrated models.

7. International negotiations

The highlights of “post-Kyoto” international negotiations are **the sector-based mechanisms, the adaptation funding, the deforestation role, the technological transfers, the development of innovative mechanisms of infrastructures funding and policies, and measures** allowing reduction of greenhouse gases in developed, emerging and developing countries.

The thorough analysis of European and international GHG/carbon markets, outlining the experience as well as the faults and difficulties, will allow drawing the outlines of more effective future policies.

The legal aspect will then become even more important.

A special attention could be paid for example to the compliance problems between international agreement's regulations and national ones, taken or not by countries in order to ensure implementation; to **“punitive” vs. “incentive” approaches** and their possible legal forms; to the **notion of liability and its legal nature** on climate matters (civil and/or criminal, collective and/or individual); to the functioning of the Clean Development Mechanism (CDM and its governance, its control, its scope); to the WTO law (competition law and international trade law); to the implementation of a carbon tax at the boundaries...

8. Mitigation and adaptation climate policies

Proposals of “Grenelle de l’Environnement” (France’s Environment Round Table), plans established in the frame of the adaptation national strategy (and soon, the regional ones), and economic instruments (taxes, quotas, markets) are implemented. Research proposals are expected as regards the **evaluation of these public policies** and the development of suitable methods to measure the effects.

Being the interaction between adaptation and mitigation a special case, these mitigation and adaptation policies interact, both in their evaluation and conception, with other sectorial or territorial policies (such as international development; agricultural or coastline or urban policies). Starting from case studies, we will try to better understand interactions and to seriously keep going the conditions of win-win situations or, on the contrary, those of counterproductive contradictions.

The follow-up of these policies, certainly related to the evaluation, needs an adequate control according to the retained local level. Monitoring policies represent a separate field with the co-building of associated indicators and the optimization of observation devices.

The researches of **understanding of acceptability**, allowing the regulations to induce general interest “virtuous” behaviors, are explicitly looked at.

9. Scenarios and uncertainties

Two points need to be underlined and considered in the proposals:

- On September 2007, IPCC experts defined new models able to produce socio-economic scenarios pathways: the RCP (Representative Concentration Pathway). Results of these new simulations are in progress and should be available at the end of 2010 for the IPCC 5th report. The use of these new scenarios is encouraged.
- The uncertainties of economic and climatic models, as well as of costs evaluations, add up throughout the chain which goes from the expected effects of climate change to the adaptation and/or mitigation policies. **The management of uncertainties importance**, allowing by the way putting into perspective the average effects of climate change and policies, is essential in the projects dealing with this climate-adaptation chain.

10. Researches in partnership

Regarding adaptation studies, it is important that “anthroposystems” are approached starting from observations and modeling up to the decision-making and management support, possibly from a “research-action” approach. A strong involvement of “actors” (political decision-makers, companies, local authorities, Non-Governmental Organisations - NGO) in the

proposals on this subject is sometimes compulsory and very often crucial. This kind of proposals is therefore highly expected.