

Launching of the European Climate Research Alliance

Introduction by Karin Lochte

“The European Climate Research Alliance – combining European capacities”

Brussels, 4. October 2011

Dear Ladies and Gentlemen,

dear Colleagues,

I am happy to welcome you to the launching of the European Climate Research Alliance, which represents a major step towards a new era of collaborative climate research in Europe. This step has been initiated by a number of leading European climate research institutions and it is necessary. I want to convince you that we have a huge scientific challenge ahead of us, but that we also have an enormous potential in Europe to tackle the questions and the problems of climate change.

The well being and future of our societies all over the world depend on a benevolent and reliable climate. It determines the production of food, the conditions for a healthy life, development of the economy and, last but not least, it will also influence whether we will have a peaceful or a troubled coexistence of peoples.

It is not an idle phrase when we call Climate Change a Grand Challenge for our society. Climate change in relation with energy security has been considered by G8 as the most important issue to be tackled in order to ensure global sustainability. The role of research within the context of international policies and actions to combat climate change is pivotal.

Should we now concentrate all our research efforts to reduce carbon dioxide emissions and develop technologies for decarbonized energy sources in order to limit climate change? This is certainly necessary, but it cannot remain the only attempt to tackle climate change. Despite large efforts to reduce carbon dioxide emissions we see already changes in parts of the climate system that give rise to concern. We are certain that changes in the climate system will continue, but the magnitude is still open for debate.

Carbon dioxide in the atmosphere is but one trigger for climate change. We know that also other factors that influence climate change and feedback mechanisms within the Earth system can have a massive influence on the climate system. Therefore, we need to consider and observe: aerosols that cool the earth, changes in evaporation and precipitation triggered by a warmer Earth surface, shifts in monsoon patterns and in the El Nino frequencies, changes in albedo due to alteration in land surface vegetation cover or loss of sea ice at the poles.... To mention but a few.

In other words the planet Earth has a complicated metabolism that needs to be understood and observed. One of the foremost objectives for climate research is now to improve the predictability of regional climate changes. Only when we know how the regional climate will develop will society be able to prepare for such changes and adapt its economy and life style.

Climate change does not only give rise to concern, it has also triggered considerations for new economic fields. I just want to mention the observed changes in the Arctic and the development plans for the High North in Norway, Russia and Canada. However, even if there are some potentially positive developments, on the whole the changes bear more problems than promises.

Tasks of Climate Change Research:

The tasks climate research has to accomplish can be put very simply: assess future climate change as accurately as possible for different regions of the world (but a certain error margin will always remain and has to be accepted) and develop jointly with socio-economic sciences and political and legal stake holders avenues for adaptation in order to avoid dangerous developments.

The EU White Paper "Adapting to Climate Change: towards a European Framework of Action" initiated a line of EU action in order to "building a solid knowledge base of the impact and consequences of climate change for the EU." This line will be followed by the Joint Programming Initiative "Climate Knowledge for Europe" and by the "Climate KIC" (Knowledge and Information Community) of the European Institute of Innovation and Technology.

Why do we create ECRA:

When we first started our discussions about the formation of ECRA it was clear from the beginning that the participating research organizations were highly interested to form this Alliance (even without any funding from the European Commission). There was immediate interest to combine expertise, to facilitate joint use of infrastructures, to improve exchange of scientists and ideas as well as education, and to transmit our knowledge faster to stakeholders. The reason for this interest is clear: Climate change research relies on a number of long-term and expensive foundations. Only in international collaboration can these tasks be done in a reliable way with high quality. The institutions carry a heavy burden. The data they provide are widely used for modeling and assessments. But all assessments can only be as good as the quality of the data. And I do not deny that all organizations are struggling to fulfill and maintain these tasks that are so basic, but at the same time so necessary and extremely expensive in terms of man power and infrastructure.

Some of these basic research activities are not very exciting or sexy, but they are indispensable, such as long-term observations, data inter-comparison and storage, methodological development, management and support of large infrastructures, and a sustainable educational basis. We are talking about massive investments and running costs for research vessels, airplanes, terrestrial observation stations in various parts of the world including Antarctica, flux towers, complex analytical tools, large computing systems, and long-term data information systems. These activities rely on stable institutional support. We therefore think that the earlier mentioned EU actions for Climate Change Research (JPI, KIC) need to be underpinned by a stable and durable institutional support that is able to secure such a long-term basis beyond the duration of projects and programmes.

What are the aims of ECRA:

A representative group of leading European Climate Research Institutions decided to establish the Alliance to strengthen, expand and optimize EU climate research capabilities. ECRA is modeled in its organization along the lines of the already well established European Energy Research Alliance (EERA). Both Alliances will work closely together as climate research and energy research are intimately linked.

It is ECRA's aim to reinforce the European Research Area in this field of science by a better coordination of human resources, modeling capacities, field activities and infrastructures. The alliance will provide a unified voice for climate research in Europe and aims to have a substantial influence on the development of climate research in Europe.

The Alliance will work towards a long-term, durable integration of excellent but dispersed research capacities across Europe, optimizing the use of resources, and developing a comprehensive range of pan-European research infrastructures.

We will share information and research plans to help to identify strengths, weaknesses, gaps and overlaps in the European institutional network.

ECRA identifies research areas of joint interest to be carried out as Collaborative Programmes (see below).

We strive to develop rules for shared use of infrastructures.

We will engage in international collaboration actions with leading research organizations in developed and emerging nations of strategic relevance since many observations have to involve these international partners and most problems will arise in developing countries.

The Alliance will enhance training and education as well as researcher mobility for young researchers and technical professionals in relevant climate research sectors.

Most of all we will endeavor to transmit our knowledge fast and as accurately as possible to those who have to take decisions.

How will ECRA work?

ECRA is founded by one organization from each participating nation. These are the Partners of ECRA. We realize that there are often a number of important climate research organizations in the different countries, but in order to remain slim and fast we decided (just as in the European Energy Research Alliance) to keep the number of core partners small. It is possible that the partners can change, if other

organizations are more actively engaged in ECRA. ECRA is not a closed shop. All interested research institutions can join the collaborative programmes of ECRA which are the central activities of the Alliance.

The Collaborative Programmes address research issues of common interest with the aim to accelerate knowledge production and maximize complementarities and synergies in these specific fields of research. All research institutions interested to participate in these Collaborative Programmes are invited to join as Participants. Each Participant has to contribute a defined minimum of research effort to ECRA activities. Research organizations from New Member Countries are particularly welcome. Smaller groups can also participate as Associates with a smaller research commitment.

At present the Collaborative Programmes are being discussed in small groups. There are several topics that were identified by the partners as being of interest. Now we have to discuss with the wider scientific community which topics are feasible and most needed. This will also include consideration of complementarity to the JPI and KIC actions supported by the European Commission. Each of these collaborative programme groups is responsible for the development of the topic and for the inclusion of the wider European (and external) science community. The interesting aspect of this concept is that the scientists are basically free to develop the ideas for research that they consider it necessary. There are no rules attached except for good science that requires collaboration and is highly relevant for climate research in Europe (and that is not covered adequately elsewhere). It will include of course a high degree of basic research because this is needed to accomplish the described tasks. The performance of the collaborative programmes will be monitored by the ECRA Executive committee and regularly evaluated.

Example for an emerging Collaborative Programme:

Arctic Climate stability and variability (preliminary name):

- Europe is highly dependent on climate processes in the Arctic (and the Antarctic),
- Europe has considerable expertise and infrastructure to observe, analyse and predict Arctic climate processes and future development,

-but there is no sufficient collaboration to bring together the diverse research activities,

-there is considerable interest to establish a collaborative programme in order to support the complex observation and analysis system for polar climate research.

-we work closely together with the European Polar Board and hope to be able to establish jointly with the EPB an efficient and durable network of institutions engaged in polar climate research that is able to underpin the European Arctic initiatives.

Three more topics have already been identified as potential Collaborative Programmes:

- 1. High impact weather events and climate change**
- 2. Sea Level and Climate Change**
- 3. Changes in the Hydrological Cycle**

ECRA is an initiative of the participating institutions; it is a bottom-up process driven by the interests of the organizations. In fact, the research division "Earth and Environment" of the Helmholtz Association comprising 7 large research centers with considerable infrastructure investments is backing this initiative: I am standing here as a representative of these 7 Helmholtz centers. We look forward to fruitful collaboration with the European partners. Only in a joint effort will we be able to address the grand challenge of climate change research in Europe.

We receive at present no financial support from the European Commission and rely on our own institutional funding. We gratefully acknowledge the support from the German Ministry of Education and Research and from the Helmholtz Association for a small secretariat here in Brussels. I will not conceal that we are of course trying to obtain funding to improve the networking activities and to support some of the research in the Collaborative Programmes. But that is normal!

We are just at the start of ECRA. There are a lot of things still to be cleared up and to be developed. But we are on a good way. So please be a bit patient and stay in contact.

If we do not enter new avenues and find new ways, nothing will change for the better.

Thank you very much for your interest and please remain interested in ECRA.