

Bridging the climate gap

CIRCLE-2

Coordinating climate change impact and adaptation research across Europe is a major undertaking. A year on from our last interview, CIRCLE-2's coordinator **Tiago Capela Lourenço** discusses the project's progress and his vision for a pan-European network sharing research and knowledge on climate adaptation



Could you tell us how the project's aims and objectives have progressed or evolved since its inception in 2010?

Progressing the project on from CIRCLE, which ran from 2005 until 2009, represented both the opportunity to evolve from previous experiences and the challenge of having to come up with something new impacting on the European Research Area (ERA). CIRCLE-2 started officially in May 2010 and over the past year the project has come a long way in regard to its short-term objectives. I believe that what has caught everybody's attention to CIRCLE-2 is the recognition of the project's potential to be the European network on climate adaptation

for many years to come. Our objective is to become a European transnational programme that is able to fund and share research and knowledge on climate adaptation. We have until 2014 to realise this objective and are definitely off to a good start, but the truth is that the impact of CIRCLE-2's efforts will probably outlast that date and contribute greatly to the future of climate change research in Europe.

Has the project's consortium expanded and adapted to include other institutions and organisations?

CIRCLE-2 is primarily a science-policy interfacing network. We are dealing with a research-driven network but one that has come to embrace the enormous complexity of the field, including evolution in the research into climate change impacts, vulnerability and adaptation. This means that if the research we support is not policy-responsive at different scales, eg. local, national and European, then it will most likely lose its potential to develop into a strong scientific and policy network. Climate change is a huge challenge for decision making at all these scales and the development of integrated strategies is needed, not only on the policy, but also on the research side. The CIRCLE-2 consortium (20 partners and 14 contributing partners, ranging from research and environmental ministries to research councils and managers) is probably developing the most interesting melting pot or 'bazaar', as some have called it, of knowledge in this area. The original consortium has not expanded yet, for the simple reason that despite the interest of many institutions, we have first to stabilise our structures before we can enlarge again. We are open to collaborations obviously and we will now re-open the possibility to become a contributing partner.

What progress has been made in encouraging international collaboration in adaptation strategies through this project?

I would like to highlight an interesting workshop held this year, which was co-sponsored by CIRCLE-2, under the topic 'Bridging Climate Research Data and the Needs of the Impact Community'. There is an urgent need to structure the research community dealing with climate change impacts and adaptation so it offers a counterpart to the already relatively well structured community of scientists working on climate models. This is a very interesting area of international collaboration and CIRCLE-2 is analysing how to support it in the near future. I would like to note that the outcomes of these initiatives and events are readily available on our website, which is intended to provide an entry point to all of our results.

How are you engaging stakeholders in the project work?

In addition to the project website, there are other means being used, namely a newsletter and the classical institutional flyers and posters. But because spreading our work is very important to our vision and the objective of developing a long-lasting network, we have also been working on other activities. One of much importance is the CIRCLE-2 Climate Adaptation InfoBase. The first prototype is currently under review and it should be available by mid-2011. In this InfoBase researchers as well as decision makers and funding agencies will have access to an extensive collection of projects on adaptation that have been carried out at national or local level across Europe. In addition, the CIRCLE-2 InfoBase is being developed in close connection to the development of the 'EU Clearinghouse on Climate Adaptation' (part of the EU White Paper on adaptation process) which will lead to a broader audience, in line with the importance we give to providing stakeholder information.

Closing the loop

International Innovation talks exclusively with key stakeholders involved with **CIRCLE-2** about how the project can meet the need to improve coordination of Europe's climate change adaptation research



Roger Street and **Chris West (RS & CW)**, UK Climate Impacts Programme • **Kirsten Hollaender (KH)**, German Aerospace Center
Yeshayahu Bar-Or (YB-O), Ministry of Environmental Protection, Israel • **Roland Hohmann (RH)**, FOEN, Switzerland, CIRCLE2 Contributing Partner
Stine Madland Kasaa (SMK), Department for Climate and Polar Research, The Research Council of Norway

What do you consider to be the most pressing climate policy and research needs?

RS & CW: In terms of climate generally; decarbonisation and resilience of energy supply. Regarding adaptation to climate risks; obligatory climate risk management assurance and research around sharing, transferring and discounting risks and the interdependence of essential societal services.

KH: We need to gear more attention towards climate adaptation as a process operating at all levels and building on continued interaction with stakeholders. Authorities on the European, national, regional and local level need to cooperate and identify joint needs and available options.

What are the main drivers and research activities in this field?

YB-O: It depends on geography. Drought is a major issue in the Mediterranean basin. Therefore, research into more efficient water systems is required. This means improving irrigation techniques and water distribution networks. Further to this, prevention of forest fires is a major challenge, as well as managing the large scale changes required in agricultural practices.

RH: I consider the uncertainties linked to climate change and climate change impact scenarios are the most important drivers. The reduction of uncertainties will allow the development of custom-made solutions for adaptation in the various sectors.

How can we make sure that adaptation initiatives are economically efficient?

RS & CW: We need to acknowledge that

adaptation plans need to be robust, but also flexible as more information and experience becomes available, developing the concepts such as adaptation pathways.

SMK: The work of developing adaptation initiatives and strategies must start as early as possible. The Stern report clearly showed the need for early action in order to reduce costs. It will also be economically efficient to develop targeted strategies that have been based on identified challenges among stakeholders; basically the problems must be identified before the solutions are developed.

What is your view of how international links can be built and sustained?

RS & CW: Adaptation seems to be very context-specific, but collaboration in both practice and research can identify more possibilities for action. The fast evolving nature of adaptation necessitates opportunities to share and learn. International collaboration in the context of adaptation strategies is particularly important where there are shared interests.

SMK: International collaboration on adaptation is difficult, mainly because adaptation challenges are often identified locally and many of the adaptation measures and strategies must also be developed and implemented locally. The example of CIRCLE might be one solution as the network is organised into different geographical groups that share many common challenges.

How have you been ensuring that the most pertinent issues are supported?

YB-O: We have created the Israeli Centre for Climate Change, with two major tasks. Firstly,

to gather and analyse all relevant existing information and translate it into operational recommendations that can be adapted by government decisions. Secondly, to make sure Israel's experience with water use, forestation, combating desertification, etc. is available to clients elsewhere.

KH: Considerable research efforts and monitoring has taken place in order to identify the most pressing issues around adaptation policy and research in Germany. This has been actively supported by a broad range of studies, measures and institutions. Germany is currently implementing the DAS (German Adaptation Strategy) as part of joint European efforts. The newly established Climate Service Centre shows a strong international orientation.

What methods and tools can be most effective towards achieving knowledge transfer?

RS & CW: This is an area of immediate concern to society and much of the knowledge required is actually held by non-research bodies. Knowledge transfer cannot be simply a one-way sharing of results that has been traditionally upheld as knowledge transfer within the scientific community, but must also include the co-production of knowledge and dissemination by practitioners and researchers working together.

RH: Knowledge transfer between the stakeholders implementing adaptation and the scientific community plays a key role in focusing research activities to the stakeholders needs. Besides supporting the dialogue between the scientific community and by organising an annual scientific symposium, we are involved in building an information platform on adaptation.

Building linkages

Climate change adaptation is a complex issue, but a network of research organisations known as **CIRCLE-2** is tackling the challenge head on and collaborating to improve Europe's response to global warming

THE FACT THAT the world's climate is changing seems to be one thing most people agree on at the moment. But just how we respond to this, and how we adapt to its impacts is another matter altogether. The complex nature of the Earth's climate system, the extensive nature of its feedbacks and the far reaching potential of climate change impacts means that regions and countries can no longer work in isolation. When it comes to climate change policy and building a decision-making framework for appropriate responses to the world's changing climate, the path chosen affects us all.

There is a plethora of climate change research work taking place around the world which is looking at potential adaptation strategies and measures. However, in reality it is difficult to gain access to the best examples of practical adaptation measures that have been implemented following the adoption of any adaptation policy. Climate change is a constantly evolving science and because of this it is vital that scientists and policy makers have access to the most up-to-date information on climate change impacts as well as climate change vulnerability. It is also essential that decisions made on adaptation policies are based on current best practices. One of the biggest hurdles for climate change adaptation scientists and managers is being able to access the latest research and knowledge.

A project known as Climate Impact Research and Response Coordination for a Larger Europe (CIRCLE-2) is attempting to bridge the knowledge gap between European research institutes to help improve responses to climate change. It is essentially a European network of 34 institutions spread over 23 countries that are all committed to fund research and share information on climate adaptation as well as promoting long-term cooperation between national and regional climate change programmes.

SHARING KNOWLEDGE

The vision of CIRCLE-2 is to provide a backbone of research for European policy makers who are attempting to grapple with designing effective and economically-viable adaptation strategies and initiatives. The intention is to coordinate European transnational research funding and the facilitation of the transfer of research outcomes.

The level of cooperation across the researchers involved is nothing short of amazing

The specific objectives of CIRCLE-2 are far reaching and encompass a range of initiatives focused on optimising national and European investments in climate change research by supporting cooperation, establishing a research funding network and promoting a common strategic agenda.

CIRCLE-2 Project Coordinator, Tiago Capela Lourenço, is excited about how the consortium's work is playing a crucial role in assisting national and European policy makers deal with climate change adaptation. They are currently developing a Climate Adaptation Research Agenda that will depict what are, in the team's opinion, the most important topics and sectors to be addressed by Europe until 2020. The CIRCLE-2 project team have also been busy providing support for a number of research projects on climate change impacts and adaptation around Europe, including eight in the Mediterranean region, three in the Nordic region and another four that have just started in the mountain areas.

KNOWLEDGE POOL

The national and regional members of CIRCLE-2 need to be able to make strategic decisions on their climate change adaptation programmes based on the sharing of knowledge that is available on national and international research. The CIRCLE-2 project will assist in improving the common knowledge base available to researchers and policy makers alike, which is vital if there is to be a coherent design of European climate adaptation strategies developed.

Adaptation to climate change is a long and continuous process which operates at all levels and across a wide range of stakeholders and interested parties. There is no point having individual regions operating in a knowledge vacuum and implementing adaptation programmes that end up having little effect because of the type of programmes their neighbour is putting into action. Cooperation of European, national, regional and local authorities is critical to both identify available options and implement coordinated responses. CIRCLE-2 develops open, long-lasting and sustainable collaboration between these groups to help reinforce cooperation and exchange of knowledge between climate change impacts, vulnerability and adaptation programmes to the ultimate benefit of everyone.

During the earlier phase of CIRCLE, the first European Workshop on Adaptation Strategies was organised by the project team which delivered the first opportunity for many European countries to exchange knowledge on how they were developing national response strategies.

More recently there have been a significant number of interesting CIRCLE-2 events and activities focused on building the network and supporting the sharing of knowledge between research institutions.

CONNECTING PEOPLE

Ensuring that the most important issues around climate change adaptation research are appropriately and actively supported is not an easy task. Aside from a significant amount of hard work, Lourenço believes that CIRCLE-2's success has to bring people together: "Connecting key people and institutions, at all scales, who are dealing with this issue across Europe by identifying current needs and by funding research that addresses those knowledge needs".

The CIRCLE-2 sub-networks, including CIRCLE-2 MEDiterranean, CIRCLE-2 NORdic and CIRCLE-2 MOUNTain, are crucial for developing long-lasting regional and sectoral initiatives and collaboration. CIRCLE-2 MED held a conference recently in France which sent a very clear signal as to the real value of these networks. In Lourenço's opinion it is possible to fund good climate change research through smaller, focused initiatives on clearly identified transnational needs which can easily complement the significant amount of funding that goes into large European projects: "The level of cooperation across the researchers involved is nothing short of amazing and is delivering excellent and interesting research results".

A CHALLENGING FUTURE

One of the ways in which the CIRCLE-2 consortium is leading to more efficient and effective research is through a joint calling for research projects. Through CIRCLE-2 giving its support to these projects, everyone involved hopes that the knowledge produced by the research will lead to better, more informed decisions on climate adaptation. Lourenço is very supportive of the need for stronger research networks and communities: "Making this sort of research usable for decision making is definitely improving its efficiency". In addition to these projects, CIRCLE-2 is sharing its knowledge on key areas and issues that need to be debated across Europe and so, hopefully, contributing to improved research outcomes.

One of the important project deliverables is the development of a CIRCLE-2 InfoBase on Climate Adaptation Research, which is intended to be available by mid-2011. Lourenço is thrilled to see this and other project deliverables which are nearing completion or have already been completed: "The project was designed to support the development of a robust network over four years so it's definitely exciting to see the results of our work". The CIRCLE-2 team is now focused on developing a research-driven, policy-responsive, transnational programme in Europe by 2014 and Lourenço is under no illusion as to the enormity of the task facing them: "But even if we fail at this, I'm quite confident that the legacy left behind by the project will have a discernable impact in European climate change research for many years to come".



INTELLIGENCE

CIRCLE-2

CLIMATE IMPACT RESEARCH AND RESPONSE COORDINATION FOR A LARGER EUROPE

OBJECTIVES

CIRCLE2 aims to: coordinate and consolidate European transnational funding on Climate Change Impact, Adaptation and Vulnerability (CCIVA) research; facilitate the research outcomes that European and national decision makers need to design effective yet economically efficient adaptation initiatives and strategies; and foster collaboration, and to share good practices on CCIVA research and research management.

PARTNERS

FFCUL (coordinator), Portugal • EAA, Austria • FCT, Portugal • CMCC, Italy • MEDDTL MEDDTL, France • MICINN, Spain • SMHI, Sweden • KvK, The Netherlands • AKA, Finland • SEPA, Sweden • EPA-I, Ireland • PT-DLR, Germany • MKF, Greece • FORMAS, Sweden • MRD, Hungary • TÜBITAK, Turkey • ETF, Estonia • IME, Israel • EVFH, Belgium • DEFRA, UK

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