

Impact Objectives

- Establish a research funding network for climate change impacts, vulnerability and adaptation
- Facilitate cooperation amongst research programmes, funders and managers
- Promote a common strategic agenda

A bright future for climate change adaptation practice

*The 2014 Adaptation Frontiers Conference in Lisbon marked the end of the CIRCLE-2 ERA-Net project. By sharing highlights from his opening speech, we offer CIRCLE-2 Coordinator **Tiago Capela Lourenço**'s thoughts on a decade of climate research and response cooperation in Europe and what the future looks like for this important research network*

Can you share a little about the evolution of climate adaptation research over the last decade?

The goal of CIRCLE-2 was to design a long-term collaborative programme able to fund and share science-driven transnational research on climate adaptation. CIRCLE-2 actually started as an FP6 programme and now we are into Horizon 2020. Back in 2004, for one year there was a specific support action, followed by a Coordination Action in 2006, also in FP6. This was coordinated by our colleagues at the Environmental Agency in Austria. Later on in 2010, already under FP7, they handed over the coordination to us and we have been dealing with this challenge since then. Since 2010 a lot has happened in terms of research, a lot of which has been funded through the Directorate-General for Research and Innovation. We have been connecting, cooperating and coordinating a lot of research activities with these projects. CIRCLE-2 has touched upon not only research policy but also the adaptation policy and the research itself.

What do you see as some of the highlights during this time?

More than 50 institutions over a decade of cooperation, including research funders,

practitioners and scientists, have worked directly on CIRCLE-2. We did a lot of work setting up the Climate Adaptation Research Agenda (CARA) to fill knowledge gaps. We undertook four joint calls for proposals where more than 5 million euros of national funds were made available, resulting in 17 funded projects. We completed joint initiatives and a number of partnerships with multiple international, EU and national initiatives. We develop together with our partners, which is quite interesting. More than 1400 nationally funded projects have been developed, not part of the Framework Programme, but our countries' projects. More than 30 thematic conference sessions and workshops were organised. There has been support to numerous processes, such as the EU Adapt Strategy, National Adapt Strategies, Joint Programming and Framework Programme Projects. In addition, multiple publications have been released, including policy briefs, books, reports, newsletters and articles. We certainly couldn't have achieved all this without our partners and the institutions that have supported CIRCLE-2.

In what ways do you think CIRCLE-2 will evolve under Horizon 2020?

CIRCLE-2 was not a research project; it was a coordination project that intended

to connect people, activities and projects. Under Horizon 2020 things will continue. CIRCLE-2 worked in a transnational environment, so we were not only aiming at European policy making or research people but also at our own Member States. The partnership of CIRCLE-2 has already evolved over time to include a much wider geographical coverage. Horizon 2020 climate services and the directions generated by knowledge gathered from the research community and the use of it means I think we will finally start to see science and knowledge used not only for adaptation in practice but also for adaptation research that allows us to grow.

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Success based on long-term cooperation and coordination

After a decade of focused effort the CIRCLE-2 team is excited to see the science and knowledge network applied in both adaptation research and practice, allowing Europe to grow as a research and practitioner community

In an effort to fund and share knowledge on climate adaptation research, the CIRCLE-2 programme was set up as a European network of 34 institutions from 23 countries with a clear vision. This vision involved coordinating European transnational climate adaptation research funding; facilitating the transfer of research outcomes in support of adaptation strategies and initiatives being implemented; sharing experiences and knowledge on research and adaptation practices; and encouraging international cooperation and involvement in this field.

CIRCLE-2 was essentially a network of research funders as well as research managers, meaning funding of research is undertaken through a policy-relevant adaptation research funding network as well as the sharing of knowledge and creation of agendas. One of the main objectives of the programme was to promote a common strategic research agenda across the EU which would then be integrated into frameworks and subsequent policy. This was not an easy task and required long-term cooperation and trust to be placed between partnering institutions. As the EU expands,

there are larger coordination efforts needed to ensure all stakeholders and partners are well bedded into the programme. Lourenço explains: ‘We have been identifying actions and initiatives that allow us to develop not only agendas, but also to fund research and later on to share the results of that research, as well as to interact and work together with policy makers and practitioners all over Europe, and even beyond, in order to share this science to support the adaptation field.’

During the first year of CIRCLE-2 (2010) the focus was on starting to connect people and institutions through a network, where links were made across Europe and beyond, as well as on developing specific tools, such as Adaptation InfoBase and a network website. A joint research agenda (CARA) was set up where joint activities and results could be shared. The CIRCLE-2 team benefited from being able to study past experiences and lessons learnt during the FP6 programmes and evolve from them. However, they found it challenging to ensure that all members were working towards the same goal, and external conditions, such as policy crisis and shifting member economies, made it

difficult. For Lourenço, one of the keys to success for the programme in the early days was staying grounded in reality and fostering the science-policy interface.

ACCESS TO KNOWLEDGE IS KEY

Lourenço revealed that a big challenge for CIRCLE-2 was linking adaptation funding, policy and practice. He considers that by encouraging connections between funders and research managers, funding of research and the creation of agendas is occurring more often. He feels the future for the programme lies in integrating adaptation practice in national, regional and local decision-making: ‘We hope later on that adaptation practice is fed by the adaptation funding and policy and CIRCLE-2 has always worked, since the beginning, on these interfaces. Hopefully other projects to come will continue to grow this network that we have achieved through a lot of the activities we have been involved in.’

Planning for climate change adaptation is all about developing political strategies

and deciding on the implementation of adaptation measures. For policy makers decisions about local resources need to be driven by knowledge and having easy access to this knowledge is essential. CIRCLE-2 was structured to ensure that the Lead Work Package, responsible for providing high quality management, coordination and effective communications, was tightly linked into the other three work packages. The Design Work Package oversaw the identification of synergies between research projects, coordinated agendas and explored lessons learnt in design cooperation. Strategic collaboration with funding agencies and development of joint initiatives and joint research funding were managed by the Fund Work Package. Directing the engagement with stakeholders and facilitating the sharing and transfer of knowledge was the task of the Share Work Package, which was also responsible for providing the linkages between science and policy. These three work packages fed directly into the stakeholders.

MOVING MOUNTAINS

Mountains, and their associated environmental challenges, were identified as a key early target for the CIRCLE-2 programme. This is because they cover 36 per cent of Europe and are home to 17 per cent of the population, with an even larger number of people being dependent on the resources that mountains provide. It was recognised that whilst decisions are being made today by planners, managers and landowners about how best to protect these resources against climate change, there was high variation in the ability to access all of the knowledge and data about factors such as vulnerabilities, impact assessments, projections and future scenarios. In response, the joint initiative CIRCLE-2 MOUNTain was set up to develop and deepen a sound knowledge base about the relationships between adaptation and mitigation in mountain areas.

A policy brief was prepared to identify various challenges in research on climate change impacts, vulnerability and adaptation (CCIVA) for mountain areas. Once the four projects selected for funding under CIRCLE-2 MOUNTain were evaluated it was concluded that the necessary funding and framework for research is in place, however more attention needs to be placed on awareness raising, mainstreaming, decision support, and communication to better understand changing climates in MOUNTain areas. One of the main recommendations of the policy brief was that researchers and funders need to

better involve stakeholders in planning and implementing research, as well as improve the transfer of knowledge and communication of results to stakeholders.

IMPLEMENTING ADAPTION STRATEGIES

A key area that was identified by the CIRCLE-2 team was the difficulties in implementing National Adaptation Strategies (NASs), including local and regional actions. For this reason CIRCLE-2-NAS was set up to study adaptation actions and to assess how successful these were. The work highlighted that adaptation is occurring but from a variety of approaches; this was identified as being a consequence of cultural differences, as well as differences in planning systems within individual countries. The CIRCLE-2-NAS team made a number of recommendations about how to convert NASs into on-the-ground actions. For example, it was observed that for adaptation to be successful, strategies must be implemented at a regional level as well as integrated into existing legal and economic instruments.

Some of the factors necessary to effectively link strategies with actions included coordination between the main stakeholders and having inventories of particularly vulnerable areas and communities. The costs of climate change was highlighted as a topic that needs further work, as the current focus tends to be on damage costs rather than a more sustainable approach incorporating direct costs, indirect costs and costs that are hard to measure (loss of life and ecosystem services). Essentially, the conclusions of the CIRCLE-2-NAS programme were that disaster risk reduction communities are key and that we must take the lessons learnt and integrate them into adaptation strategies and assessments.

The list of achievements resulting from CIRCLE-2 is broad and extensive, reflecting the complex and dynamic research area. Through the efforts and outputs of each of the work programmes, CIRCLE-2 has been able to successfully link research and funding and share this seamlessly across the network and beyond. Ultimately the programme has achieved its goal of equipping partners and stakeholders with access to climate change knowledge so that Europe is empowered to deliver well-considered and appropriate adaptation measures. It is time now to look forward to the next decade of adaptation research and the results this will deliver for the region.

Project Insights

FUNDING

European Union Seventh Framework Programme (FP7)

PARTNERS

Deutsches Zentrum fuer Luft - Und Raumfahrt Ev • The Secretary Of State For Environment, Food And Rural Affairs • Ministerio De Ciencia E Innovacion • Ministere De L'Ecologie, Du Developpement Durable Et De L'Energie • Sihtasutus Eesti Teadusagentuur • Stichting Kennis Voor Klimaat • Ministerio De Economia Y Competitividad • Videkfejlesztési Miniszterium • Suomen Akatemia • Mariolopoulos-Kanaginis Foundation For Environment Sciences • Eigen Vermogen Flanders Hydraulics • Umweltbundesamt Gmbh • Ministere De L'Ecologie, Du Developpement Durable Des Transports Et Du Logement • Türkiye Bilimsel Ve Teknolojik Arastirma Kurumu • Naturvardsverket • Ministry Of Environmental Protection • Centro Euro-Mediterraneo Sui Cambiamenti Climatici Scarl • Sveriges Meteorologiska Och Hydrologiska Institut • Environmental Protection Agency Of Ireland • Forskningsrådet För Miljö, Areella Näringar Och Samhällsbyggande • Fundacao Para A Ciencia E A Tecnologia

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Tiago Capela Lourenço, CIRCLE-2 Coordinator, is based at the University of Lisbon in Portugal. He is particularly interested in climate change adaptation, especially understanding adaptation, decision-making processes and uncertainty. He has played a key role in a number of national and European research projects investigating climate change impacts, vulnerability and adaptation.

