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Dowling Review Call for Evidence: response from the Adaptation and Resilience in the Context of Change network

ABOUT US

The Adaptation and Resilience in the Context of Change network (ARCC network) is funded by the Engineering and Physical Sciences Research Council (EPSRC). ARCC network brings together researchers and stakeholders involved in adaptation to technological, social and environmental change in the built environment and infrastructure sectors, so that research evidence might better inform policy and practice.

ARCC network is hosted at the UK Climate Impacts Programme (UKCIP) which is part of the Environmental Change Institute within the School of Geography and the Environment at the University of Oxford. UKCIP also has a strong reputation for its work with policy and practice stakeholders to developing effective adaptation responses to the impacts of climate change.

www.arcc-network.org.uk

www.ukcip.org.uk

We have responded only to questions 1, 2, 4, 5, 6 and 8.

Question 1. What experience do you have of establishing, participating in or supporting long-term research collaborations between business and academia?

Since 2009, the ARCC network has been nurturing and promoting knowledge exchange in research, including between researchers and a wide group of stakeholders. In this context, 'stakeholders' refer principally to professionals working in businesses, industry and local and national governments although it may also extend to individuals, for example as tenants, passengers or patients.

The recommendations and observations presented here are based on the ARCC network's experience of supporting research collaborations and knowledge exchange, rather than as a participant in those collaborations.

1

The ARCC network is currently working with the Infrastructure Operators' Adaptation Forum, focussing on enhancing knowledge exchange between relevant research and the practitioner and policy communities that comprise the forum. Particular areas of interest include infrastructure resilience and interdependencies.

www.arcc-network.org.uk/future-infrastructure/

The ARCC network continues to foster and support trans-disciplinary research practices that involve co-design, co-development, co-delivery and co-evaluation of research and research results. At our Assembly and other events we bring together researchers and stakeholders to share their experience and evidence.

www.arcc-network.org.uk/blog/ (several 2014 contributions)

www.arcc-network.org.uk/arcc-assembly/commentary/

www.arcc-network.org.uk/network-in-action/

To explore this area further, six stakeholders provided their reflections on the value of working with researchers and the ARCC network, demonstrating the benefits and challenges of this approach.

www.arcc-network.org.uk/network-in-action/stakeholder-views/

UKCIP – the host organisation for ARCC network – has a track record of expertise in knowledge exchange. UKCIP has a long-established international reputation on stakeholder engagement and knowledge exchange in adaptation to climate change, and our work falls into three main categories: decision-making for adaptation, exchanging knowledge and ideas; and creative adaptation.

Question 2. What are the key success factors for building productive, long-term research partnerships between business and academia and how do these vary across sectors and disciplines?

The ARCC network recommends that mapping stakeholders and beneficiaries of the research and understanding the nature and scope of their engagement as critical factors to defining and realising the potential impacts. This is necessary because stakeholders and beneficiaries have different capacities and expectations in relation to the research process and research outputs. Engagement and dissemination processes must be flexible to respond to these different needs, and will vary over time and to reflect the stage of research

Delivering on this mapping should involve researchers and stakeholders in the co-definition and co-development of the engagement process and of the pathways to impacts – requiring early engagement and more than just seeking letters of support – as well as co-evaluation the research and dissemination processes.

In 2012, the ARCC network commissioned a study of the experience of researchers and stakeholders who had collaborated in six research projects. These projects, all around 3 years' duration, were funded by EPSRC under its umbrella ARCC programme, and all focused on adaptation to climate change in the built environment and infrastructure sectors. While many of the stakeholders represent public sector organisations, we believe that the findings and recommendations nonetheless offer useful lessons for developing successful business-academic engagement in other disciplines.

2

The ARCC collaborative review identified some key findings for developing effective stakeholder engagement within research projects. These are written for a broadly academic audience, but still have value from a business stakeholder perspective. The main findings are listed here, and further detail is explored in the full report.

www.arcc-network.org.uk/wordpress/wp-content/pdfs/ACN-collaborative-research.pdf

www.arcc-network.org.uk/wordpress/wp-content/pdfs/ACN-collaborative-research-summary.pdf

- Attend to both the tasks of the project and the team undertaking the work.
- Make sure collaboration happens, by investing project time and resources in planning for, engaging in and reflecting on the processes of collaboration.
- Go beyond traditional stakeholder engagement and make best use of expertise in the team, including that of stakeholders.
- Discuss project goals and expectations throughout the research to ensure coherence of the final output.
- Allow room for movement in the project plan in recognition that circumstances and context will change during the project lifetime.
- Go beyond simple knowledge exchange to embrace broader practices of knowledge creation, discovery, mobilisation and brokerage.
- Nurture goodwill, including valuing and acknowledging contributions from the team.

Question 4. What barriers do academics and universities face in developing long-term research collaborations with businesses and how can these be overcome?

The ARCC network collaboration report identified the following recommendations for the research community.

- Invest time and support in tasks and people that draw together disparate elements and bridge the disciplines and the academic-practitioner boundaries.
- Organising activities among researchers and with stakeholders is time consuming, so where possible arrange for this to be seen as a distinct role, for someone with the right skills.
- Accept that there will inevitably be changes during the research period. Ensure flexibility by building in strategies to minimise the disruption and identify and exploit the new opportunities.
- Be clear about the research boundaries or be open to them still being under discussion. Be prepared to restate these as needed to ensure everyone share realistic expectations.
- Begin open discussions with your stakeholders as early as possible, and continue to explore and monitor your own and their motivations, expectations and tensions.

- At project meetings, as well as discussing the specific tasks of the team, allow time to address issues around the operation of the team itself.

- As a project team with your key stakeholders, aim to look beyond knowledge exchange to knowledge discovery and broader aspects of generating knowledge together.

- Be prepared to spend time exploring the perspectives, assumptions and language within all parts of your team including your key stakeholders and make full use of the skills and qualities within your team.

Furthermore, more recent activity by ARCC network in the area of data management and data discovery has identified some data-specific issues.

Restrictions on publishing data are a significant area of difficulty. Researchers are increasingly required to make their data publicly available. This encourages thorough scrutiny, opens up opportunities for additional research and is regarded as good professional practice. However, collaborations with the private sector where data have been provided has created challenges, particularly where data is regarded as commercially confidential.

Additionally, there are missed opportunities when data from one discipline or application could provide useful input elsewhere, but there are limited or no opportunities for this information to be exchanged. ARCC network is aware of examples where 'serendipity' has produced positive results – such as when a request to put data collection equipment on local authority property resulted in the collection of more and better data that benefitted the local authority as well as the research project – but this is clearly an unreliable route. Innovate UK has brought together disciplines that would not normally readily exchange information and we understand that this has been productive.

ARCC network is hoping to develop better access to data through its OpenARCC work which is starting to identify ways to make data more easily and openly accessible.

https://openarcc.wordpress.com/

Question 5. How effective are current incentives, policies and funding streams for promoting this type of collaboration? How could these be improved in order to scale up the range and impact of collaborations being undertaken nationally?

The ARCC network welcomes the continued commitment of EPSRC to investing in work that will support the long-term development of more effective partnerships between academia and private sector stakeholders.

Training for researchers throughout their careers to enable them to develop effective working relationships with business and other stakeholders. This focus on the 'soft' skills such as engagement, networking, relationship building and management we believe to be essential to nurturing collaborative research teams that ultimately produce good quality outputs that have direct relevance to professionals.

UKCIP had a productive relationship with the Chartered Institution of Building Services Engineers (CIBSE) via a placement (2006-2009) through Innovate UK's Built Environment Knowledge Transfer Network (KTN). It produced high-quality work for CIBSE and enabled UKCIP to develop strong links with the sector. It created a strong working relationship that continues today, long after the KTN concluded. UKCIP and CIBSE subsequently collaborated on a second KTN.

While we have had a positive experience with the KTN, it does require support and commitment from all parties to ensure that this process is effective.

Question 6. How can progress under the Industrial Strategy be harnessed to stimulate collaboration between businesses and researchers in the UK?

ARCC network believes that it is encouraging to see academic representation at the sector councils (e.g. Construction Leadership Council). It is important to ensure that business stakeholders are involved at an early stage in research proposals and delivery, bringing their knowledge and insight to bear throughout the research process. Not all research will produce new marketable products, but may, for example, evolve new approaches or more effective applications of existing strategies. These would be complementary to the work of the Catapult centres which have a clear focus on bringing any newly-developed technologies to market.

ARCC network strongly supports the need for open access as lack of access to information, knowledge and data is a major barrier to realising our economic, social and environmental goals, especially in a rapidly changing world, as outlined in current EPSRC policy.

www.epsrc.ac.uk/about/standards/researchdata/

www.reading.ac.uk/web/FILES/reas/Open_Access_policy_-_letter_to_ VCs.pdf

Question 8. Which approaches/sectors/organisations – in the UK or internationally – would you identify as examples of good practice in business-university collaboration with the potential to be applied more widely?

We believe that networks such as the ARCC network, as well as others such as TEDDINET (Transforming Energy Demand through Digital Innovation) and FCERM_net (Flooding and Coastal Erosion Risk Management network), are demonstrating that their support is developing high-quality research outputs with practical application and impact. The work of RELU (Rural Economy and Land Use programme) has been pioneering in this regard. These are specifically academic networks, but the relatively modest investment involved adds significant value to individual research projects.

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We would suggest that this approach is one that is worth continuing to apply, and that provides useful learning outcomes to be shared and applied more widely.

There are other approaches and examples of research and knowledge exchange that the ARCC network also values. In the areas of the built environment and infrastructure sectors, this includes the Catapults (Future Cities and Transport). Furthermore, the approach taken with LWEC (Living With Environmental Change) has had a number of successes and is often noted internationally as an example of good practice.