

The Climate Connection Higher Education Roundtable

The importance of global expertise and
local action in the fight against Climate Change

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About the Climate Connection

The British Council's Climate Connection programme brings people around the world together to meet the challenges of climate change.

Drawing on our global network, the Climate Connection programme connects 200 million people from different countries, generations and backgrounds – young people and policy makers, artists and scientists, business and community leaders, and many others.

In particular, it focuses on the next generation of climate leaders and gives practical support to young people and communities most impacted by climate change, helping them share their perspectives globally and achieve real change.

About the author

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Nadia El-Awady is a freelance science writer and editor. She is the chief editor of Nature Middle East and a senior writer at Asia Research News. She also freelances for several Springer-Nature publications and clients. Nadia was a co-founder and the first president of the Arab Science Journalists Association, a president of the World Federation of Science Journalists, and a co-director of the 2011 World Conference of Science Journalists. She has taught university undergraduate-level online and science journalism, worked as a communications director of a large science institution in Egypt and managed journalism training programs. When she's not working, Nadia is out in the hills, on the mountains, diving in seas, or running, swimming and cycling.

Nadia has a MB BCh in medicine and surgery from Cairo University and a master's degree in journalism and mass communication from the American University in Cairo.

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Foreword

In October 2021, in the lead up to the COP26 climate summit and as part of The Climate Connection, the British Council hosted a series of online roundtables in Australia; Egypt; Japan; Indonesia, and South Africa.

The roundtables brought together stakeholders from higher education (HE); industry; governments and civil society to explore the role and purpose of the HE sector in responding to the climate crisis. The roundtable series explored a range of core issues including:

- **The role of universities in supporting governments to develop evidence-based climate policies.**
- **Whether the HE sector is equipping the next generation with the skills they need to live with the reality of climate change.**
- **How universities can be more adept at knowledge production and exchange and at working across traditional academic boundaries.**
- **Showcasing some of the latest collaborative climate research projects between the UK HE sector and counterparts around the world.**
- **The role universities play in the public discourse around climate change to help build wider trust in and understanding of the science.**
- **Exploring how Higher Education Institutions can reduce their own carbon footprint, whilst realising their internationalisation ambitions.**

The Roundtables, which were open to all, attracted audiences of students and Early Career researchers, academics, climate activists and policy makers. Importantly, attendees were given the opportunity to submit questions to the panel in advance of each roundtable. These helped inform and guide of the discussion and ensured that there was genuine and valuable interaction between panellists and the audiences.

Although each roundtable was hosted by a specific country, and the themes they addressed were relevant to that country and region, the issues addressed by the panels of experts and the resulting calls to action have significance for Higher Education sector leaders, researchers and policymakers globally. The roundtable series has already created new perspectives and have triggered conversations which we hope will result in new collaborations and ways of working.

Australia report

This roundtable explored **The importance of global expertise and local action in the fight against Climate Change**. Knowledge is the key to reducing the impact of and adapting to the consequences of climate change, and local action is crucial in addressing this global problem. The panellists reflected on the three collaborative partnerships between universities in official development assistance (ODA) countries, the UK and Australia, which applied local expertise to address the causes of global warming and to mitigate its effects.

Panellists discussed the need for researchers from the Global North and Global South to unite for change and to establish more effective connectivity between academia and industry. They also agreed transdisciplinary efforts are needed to connect people around the globe to tackle climate change locally, nationally and internationally.

List of panellists

Professor Steve Fletcher (Chair)
University of Portsmouth

Dr Vanessa Pirotta (Provocateur)
Macquarie University

Sally-Ann Williams
CEO of Cicada Innovations

Dr Alan Goddard
Aston University

Dr Liveness Jessica Banda
Lilongwe University of Agriculture
and Natural Resources (LUANAR)

Professor Bryan Boruff
The University of Western Australia

Global research goes local by engaging with humility

Communication and engagement are key for the local application of global research outputs.

Higher education institutions churn out lots of great ideas for dealing with the impacts of climate change. But what needs to be done to get one version or another of those ideas beyond the walls of academia and into the hands of local communities?

The British Council's Climate Connection initiative hosted a panel of experts in the lead-up to COP26, under the umbrella of the [UK/Australia Season 2021/22](#),ⁱ to explore how academics around the world can collaborate to combine global knowledge with local expertise towards addressing the complex challenges of climate change.



Learning from local wisdom

‘Great ideas can come from anywhere. They are not the exclusive domain of academics and researchers,’ says Sally-Ann Williams, the chief executive officer of Cicada Innovations, an Australian company that supports deep-tech innovators to commercialise their technologies globally. Still, Williams recognises that fundamental breakthroughs often originate within the laboratories of higher education institutions. The journey for the translation of those breakthroughs into commercial products is a long one and must involve exposing them to critique and opening up to the people who will ultimately make use of them.

‘The best people to solve a problem are those who feel the pain of it, that really live and breathe it and see it every day,’ she explains.

Fully on board with this concept, scientists in Ghana and the Netherlands honed in on the experiences of local fishermen, seamen and traders to co-develop a more environmentally friendly Port of Tema on the Ghanaian coast.

Port development is conventionally thought of in economic and engineering terms, explains Kwasi Appeaning Addo, director of the Institute for Environment and Sanitation Studies at the University of Ghana. Addo and his team wanted to bring ecology into the equation to make the activities, operations and management at the Port of Tema more sustainable. To do this, they placed the local community front and centre of their [project](#).ⁱⁱ ‘We asked people: “What do you perceive to be a sustainable and integrated port?”’ The team incorporated the knowledge they gained from local communities into the port development plan so that when the time came to implement it, they were excited and felt ownership towards it. **‘Bringing professionals and non-professionals on board is the way to go,’** says Addo. **‘It has been working beautifully and has developed an actionable point from the research that can be implemented at the local level.’**

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Addo's experience has taught him that communication is key to the successful transfer of innovation to local implementation. **'How do I communicate the issues in a language that the local person can understand, take part in and derive a positive benefit from?'** says Addo. This requires patience on the part of the researchers, but also an open mind. Researchers must be willing to listen to and learn from other people's perspectives.

They also need to be able to explain the why of their research, adds Williams. 'This is how we get people to buy in,' she says. **Understanding why a research project is important makes people want to engage and learn more.**



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Sally-Ann Williams, Cicada Innovations

Local buy-in of global solutions

Local buy-in is crucial for the success of a [project](#)ⁱⁱⁱ now running in Malawi that aims to reduce greenhouse gas emissions from smallholder dairy farms, while at the same time increasing profitability.

‘Cattle contribute quite a large proportion of greenhouse gases,’ says animal physiologist Liveness Banda of Lilongwe University of Agriculture and Natural Resources. In fact, [cattle are responsible](#) for producing 65 per cent of the livestock sector’s 7.1 gigatonnes of carbon dioxide equivalent every year.^{iv}

But dairy production by smallholder farmers is important for supporting livelihoods in sub-Saharan Africa. Researchers in Malawi are collaborating with colleagues in the UK, Australia, Kenya and Ghana to improve local cattle feeds in a way that reduces emissions from the sector, while at the same time improving cattle nutrition and thus sector profitability. This involves mapping seasonal feed availability at specific dairy farms, adjusting feed content and then measuring gas emissions from the cattle using a laser methane detector. The project combines local and global expertise to address climate change challenges, while also enabling knowledge exchange and networking, says Banda. **‘Our local expertise is gaining from global expertise and adapting solutions to our local situation ... so we’re not starting from scratch.’**



Professor Liveness Banda

Every coin has two sides

But the project has faced some significant challenges due to the Covid-19 travel restrictions. Not only have researchers been unable to travel in order to enhance collaboration on the project, they have also been unable to access the laser methane detector they intended to borrow.

But with these challenges came opportunities. The team has had to think out of the box and come up with innovative solutions. They now meet and interact more frequently than they might have, through regular video calls and various social media apps. The ease of online connectivity has also allowed them to bring more colleagues on board, which is helping them look for alternative ways to measure methane gas emissions from cattle.

Pandemic travel restrictions have affected research projects the world over. Bioscientist Alan Goddard at Aston University, UK, wanted to find a way to facilitate that all-important knowledge exchange during a global pandemic. To do this, he and colleagues in the UK, Australia and Vietnam launched BioKnot,^v a project that aims to develop a suite of science communication resources that can be shared across the scientific community and with local stakeholders.

More specifically, the project examines how expertise in the three countries can be used to convert waste from rice harvesting into high-value industrial chemicals that can be used in flavourings, plastics, agrochemicals, paints and cements. The project will use online tools to communicate existing knowledge on the challenges and available solutions.

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Asia produces 90 per cent of the world's rice, which yields more than 250 million tonnes of waste rice residues that are typically disposed of by burning. Industries are already established to convert agricultural waste into biofuel, but this process is very expensive. One way to make the process more cost-effective could be for companies to buy waste from farmers, giving them extra income, and then turn that waste into environmentally friendly chemicals.

'We combine the expertise of what we do at Aston University and in Australia to turn waste into high-value products with an authentic challenge in Vietnam to produce products that are actually useful to them,' says Goddard.

Online connectivity during the pandemic has led to innovative approaches to science communication and has improved researchers' ability to maintain already-existing relationships and to reach out to colleagues that might not have originally been on their radar. But despite the negative environmental impact of air travel, that face-to-face connection still has its merits. 'I'm sure you all go to endless online meetings where, at the end, you press the big red leave button,' says Goddard. But what people actually do when an offline conference or meeting ends is they speak in the corridors or go out to dinner where they get to know each other and form stronger personal relationships. 'That's the hidden value that we don't get in this online environment,' says Goddard.

BioKnot will produce educational videos and resources to break down the research in a way that local communities can understand.
Credit: Bioknot



The innovative minds of the future

These relationships are crucial for the transdisciplinary and inter-sectoral work that must be done to address the complex challenges of climate change.

To get there, university students and early career researchers need to develop an innovative, crosssectoral mindset.

More than Maps^{vi} is another science communication project that aims to provide high-school and university students with a more realistic understanding of the impacts of climate change on the lived experiences of coastal communities. It does this by teaching them to combine mapping data from aeroplanes and satellites with data in the field, like building damage from cyclones, changes to mangroves following heat waves, and the socioeconomic impacts on people's livelihoods. The project also aims to build the skills of early career researchers to become better communicators and educators.

More than Maps is a collaboration between the UK, Australia, Ghana and Jamaica that is delivering workshops to students and early career researchers, using curricula that are made publicly available for others to adapt and use.

'One of the issues we face is that many of us [feel] quite removed from the impacts [of climate change], particularly those of us living in temperate zones and cities,' says geographer Bryan Boruff of the University of Western Australia. **'We're not on the ground on the Yukon River or living along the coast in the Caribbean or the South Pacific. It's about bringing those stories to people who aren't in direct contact with climate change issues and getting them to understand this is a big problem for the majority around the world.'**

University of Western Australia post-graduate student Daniel Dixon introduces remote sensing and new approaches that are More than Maps for identifying tree canopy flowering. Credit: Natasha Paula.



Breaking down historical boundaries

For students and early career researchers to gain a more innovative mindset, they also need to see examples of a seamless flow between academia and industry.

‘At the post-graduate level, your career options are not academia or industry; they are quite often at the interface between the two,’ says Goddard.

‘We have this binary conversation ... that you’re either a researcher or you go into industry,’ adds Williams. ‘Why not have both? I think that’s somewhere we need to move to. One is not better than the other. We need to make it a lot more frictionless between the two so we can go:

Here is the problem we’re trying to solve. Who are the best minds from industry, community and academia that we can gather around the table to solve it?’

Goddard says universities are becoming more aware of this importance, with grants becoming available that offer opportunities to move between academia and industry for a period of time.

He adds that there’s nothing more powerful than explaining research and the industrial collaborations it involves to students. ‘Hopefully that inspires two or three students out of 300 to think they want to work at the real interface,’ says Goddard.

‘The nature of what it is to be a researcher is changing as a result of working in larger teams with transdisciplinary approaches, where we are pulling people from many disciplines to solve applied problems that have policy or commercial relevance,’ adds Steve Fletcher, professor of ocean policy and economy at the University of Portsmouth, UK. **‘The skillsets that are needed to co-ordinate or conduct that sort of research are so different to the traditional lone researcher ploughing their own furrow of research. It’s quite a shift that we’re expecting.’**

“The nature of what it is to be a researcher is changing ...”

Steve Fletcher, University of Portsmouth

Actions and recommendations

To conclude, the roundtable panellists emphasised the importance of co-development: **‘Unless we identify the problem and work through developing the solution together, we may be spinning our wheels,’** says Boruff. This requires that researchers begin by choosing authentic problems to solve. **‘Pick something that matters in the real world and work in partnership with local people and industry,’** says Goddard. **For transdisciplinary and inter-sectoral partnerships to be successful, we need to understand that we each have a role and to appreciate the roles of others,** adds Banda. Importantly, local communities who are most vulnerable to the impacts of climate change must be engaged, says Addo. And for that to happen, communication is key, says Australian wildlife scientist and science communicator Vanessa Pirotta. **‘It is important to have good, clear, effective communication that engages a whole variety of stakeholders,’** she says.

Pirotta, who was the roundtable provocateur, says the discussion made a strong push towards the need to unite for change and to establish more effective connectivity between academia and industry. Finally, transdisciplinary efforts are needed to connect people around the globe to tackle climate change locally, nationally and internationally.

For full details and a video of the roundtable discussion, titled ‘Combining Global Expertise and Local Knowledge in the Fight Against Climate Change’, please visit: <https://ukaustriaseason.com/event/the-importance-of-global-expertise-and-local-action-in-the-fight-against-climate-change-a-higher-education-roundtable/>

ⁱ <https://ukaustriaseason.com/>

ⁱⁱ de Boer, W.P., Slinger, J.H., wa Kangeri, A.K., Vreugdenhil, H.S.I., Taneja, P., Addo, K.A., Vellinga, T. (2019) Identifying ecosystem-based alternatives for the design of a seaport’s marine infrastructure: The case of Tema Port expansion in Ghana. Sustainability 11(23), 6633.

ⁱⁱⁱ <https://ukaustriaseason.com/event/enhancing-smallholder-dairy-feeding-systems-to-improve-productivity-and-mitigate-climate-change-impacts-in-malawi/>

^{iv} <https://www.fao.org/news/story/en/item/197623/icode/>
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^v <https://www.bioknot.org.uk/about-bioknot/>

^{vi} <http://morethanmaps.earth/#>

