EnergyREV

INDUSTRIAL STRATEGY

UK Research and Innovation

How interdisciplinary collaborative research can enable a better transition towards a Net Zero future

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Contents

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Foreword

The challenge of achieving net zero greenhouse gas emissions is profound and touches on all aspects of our lives. From the way we travel to the food we eat to how we work. Therefore, it is critical that we discover, develop and deploy solutions that are inclusive of all actors in society from the outset and we take a whole systems approach. To do this requires interdisciplinary collaboration but also broad and meaningful engagement with business, government and the public to ensure diverse viewpoints and perspectives help shape our research outcomes and solutions. It is hugely welcome to see this community-led report and understand the experiences from the research and innovation community that we have been funding for several decades to tackle these thorny issues. Through interdisciplinary research and innovation this community are responsible for some of the scientific breakthroughs and research findings that enabled the Net Zero 2050 target to be deemed viable by the Committee for Climate Change and become enshrined in law in 2019. Interdisciplinary research is central to EPSRC's Engineering Net Zero mission-inspired priority and the recommendations within this report offer the opportunity for us to work together to do this even better and to help us to now make net zero a reality.

Given the increasing importance of interdisciplinary research and innovation, the recommendations of this report also offer the opportunity for us to build on this learning to enhance interdisciplinarity more generally beyond the challenge of net zero. We hope that all stakeholders will reflect on these recommendations and take something useful from this document to further enhance their role and impact in the research and innovation sector.

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Introduction

The urgency associated with the need to reach Net Zero GHG cannot be underestimated. Interdisciplinary, collaborative research, often Mission Focussed, and supported by longer term evidence-based research, is needed to inform the Net Zero transition and drive innovation at the speed required to achieve essential targets. This research supports the following: stimulates technological advancement, drives forward societal change, involves multi-stakeholders and its impact is maximised through effective engagement and communication.

As the need for interdisciplinary, collaborative, and Mission Focussed work has increased, so too has the experience across the academic community. Many researchers and partners within UK Research and Innovation (UKRI) funded programmes, including EnergyREV, UKERC, and CREDS, have been building expertise and best practice in developing and delivering these types of research programmes. However, much of this knowledge is fragmented, and held by individual researchers and research groups.

To support greater knowledge sharing amongst the community of researchers and practitioners working across this space, a workshop was organised in Spring 2022 to distil experiences and best practice in developing and delivering interdisciplinary, collaborative Mission Focussed projects.

More than 70 representatives from across academia, business, government and UKRI were invited to this workshop, covering a range of administrative roles, career stages – early career to Vice Chancellors, BBSRC, EPSRC, ESRC, NERC and Innovate UK, as well as key investors in the energy research landscape.

The workshop was held to explore mechanisms to support collaboration between disciplines and across sectors that focus on real-world issues, or missions, that need to be addressed with urgency and require a network of partners to help provide relevant, timely solutions. The workshop did not focus on the way in which collaboration would occur, therefore, this report uses "interdisciplinary" as a catchall term to cover all forms of cross disciplinary collaboration.

The aim of the workshop was to improve understanding of how and why collaborative research is valued by different stakeholders, how strong partnerships can be cultivated across the lifetime of a project, to disseminate that learning to inform current and future programmes, ultimately supporting the ambition to deliver innovation at a pace required to meet Net Zero targets.

During the 3 hour online workshop, breakout sessions were structured to address the following questions:

1. Why is Mission Focussed research and collaboration so important to achieve Net Zero by 2050? How has this made a difference to your research?
2. How might we establish good working partnerships and collaborations to help deliver Mission Focussed research? What has worked well? What, practically, could we/should we be doing better or differently?
3. As a result of being here today, think about the actions we might take together to do collaborative research? Now… With a bit more time and money… Would love to do in the long term…

Insights from the workshop have led to the development of 39 recommendations relevant to the academic community, funders, government, and business, to support the delivery of interdisciplinary and collaborative research involving multiple stakeholders in this vital area. Although the primary focus for the workshop was addressing Net Zero, the insights emerging are broader and apply to Mission Focussed projects across a diverse range of subject areas where collaborative and interdisciplinary approaches are called for.

The recommendations cover six main challenges that it is perceived act as barriers to interdisciplinary and collaborative research, including:

- Funding;
- Diversity;
- Building relationships;
- Roles and responsibilities;
- Expectations, goals and timeframes;
- Impact.

Across these areas, effective communication was identified as a critical enabler, particularly appreciating the perspectives of others in a more systematic, embedded and natural way and facilitating the best methods of communication as projects progress.

The following sections outline the benefits of collaboration, the challenges associated with delivering interdisciplinary, collaborative and Mission Focussed research, and the recommendations for enhancing best practice moving forward.

The benefits of collaboration

Discussions of the benefits of collaboration focused around four main areas, outlined below.

1. Shared vision

Collaboration helps to develop a shared vision of what a Net Zero future might look like. This helps collaborators focus on a common goal of how to achieve that vision. Working towards this common goal stimulates collective action and can increase the scope of research to fulfil a broader range of requirements, providing added value.

2. Inclusivity

The inclusion of multiple viewpoints from a broad range of stakeholders reduces 'silo' mentality. This provides a platform for diverse opinions, which in turn leads to additional learning for all collaborators. Engaging with different types of stakeholders can remove assumptions and stop research becoming an echo chamber.

3. Pace

Collaboration can accelerate the journey to Net Zero by delivering solutions to achieve specific outcomes. Collaboration enables existing knowledge to be shared, and wider challenges to be understood. This in turn prevents time being wasted, when work that may have already been undertaken by others is replicated.

4. Impact

Collaboration increases the opportunity for wider impact and reliability of research outcomes if it is embedded from the outset. Engaging early with stakeholders develops trust throughout the whole programme and enables buy-in.

Wider stakeholder involvement can ensure research outcomes, actions and recommendations are more generally appropriate and can help with long-term understanding and use of accessible language. This ensures research is resilient to the changing political landscape. It can help inform future research needs and improve networking.

Challenges around, and recommendations for, better collaboration

Six main challenges were identified that can act as barriers to the collaborative research that is needed to enable Mission Focussed research. Recommendations to meet these challenges were discussed across three different time scales – What can we do now? With a bit more time and money? Would love to do in the long term? Setting these timescales forced attendees to think about the urgency of the problem and focus attention on who could be involved in overcoming them.

Recommendations have been allocated to stakeholder groups to help clarify who is best placed to address them. It is recognised that many of the recommendations need to be acted on by two or sometimes more stakeholder groups working together. The six main challenges, the associated recommendations and the stakeholders, who we believe could act on the recommendation, are listed below.

1. Funding

The UKRI needs to build in a deeper level of stakeholder involvement, when appropriate, throughout funding call processes. For larger calls, longer lead-in times would allow consortia to develop more appropriately and effectively whilst increasing diversity. With little time to develop proposals, people look to who they already know. With longer lead times the opportunity to identify the most appropriate collaborators exists. Short turn-around times can result in proposals not being fully prepared and programme leads not having enough time to connect and communicate with relevant stakeholders. This should be supported by a structure that minimises risk of failure, such as a multi-stage review process that identifies and helps to develop proposals/collaborators that align with a common outcome.

Support from UKRI is needed to allow programme flexibility and encourage responsiveness by allowing for a reframing of, not just research, but also stakeholder relationships throughout project delivery, if needed. In particular, the review process should recognise that some elements of a research programme, even at later stages, might still need to be flexible to accommodate necessary changes to enable relevant progress. As an example, this kind of flexibility has proved extremely valuable to the IDLES (Integrated Development of Low-Carbon Energy Systems) programme.

PFER and EnergyREV have demonstrated the strengths of collaborative research. However, research and innovation should be embedded across the board, so that all research projects have a process in place to enable innovation to move to commercialisation where appropriate. The UK has a world-class research base, but successful collaborations, despite the involvement of Innovate UK and Catapults, work can still lack the sustained support and long-term vision to deliver through to commercialisation.

Funding approaches used within the Horizon Europe programme were recommended as good models for collaboration that funders could learn from, particularly EU Missions (EU, 2022) that link activities across different disciplines and different types of research and innovation. Research entities that enable the delivery of impact over the longer term such as France's Centre National De La Recherche Scientifique and Germany's Fraunhofer Society are common in other countries.

More visibility and better alignment between Research Councils regarding who is funding what areas of research would help prevent duplication of efforts and enable academics to work more effectively together. More funding should also be made available for the social science research associated with Net Zero as, according to Overland and Sovacool (2020), globally only 0.12% of all research funding is spent on the social science of climate mitigation.

"The solutions are to make more funding available for social science research on climate mitigation; improve global research funding co-ordination and transparency; prioritise and align key questions within the social sciences and increase the rigorousness of social science research. Framing climate change more as a global social challenge that cuts across disciplines will expand the scope of research, its ability to offer critical insights, and its social legitimacy among a broader base of stakeholders." (Overland and Sovacool, 2020)

Table 1: Recommendations for funding

	Recommendation	Timescale	Universities / Academics	Funders	Government	Business
A1	More clarity about the 'mission' at the call proposal stage will enable academics to be clearer about what they are bidding for. This will reduce time invested v rate of success. This could be achieved through multi-stage proposal development.	Now		●		
A2	Applicants should make better arguments for the business case of research in proposals – where is the added value?	Now	●			
A3	Timelines around grants need to be more realistic – funding calls, start dates, fixed-end dates.	With time & money		●	●	
A4	Have a flexible reporting process that is appropriate, enabling efficiency but allowing value to be maximised to ensure that outcomes are exchanged. There has to be accountability when and how public money is spent.	With time & money		●	●	
A5	Allow for flexibility throughout the development of a proposal to accommodate changes at the speed necessary to enable progress.	With time & money		●		
A6	Offer multi-fellow fellowships across organisations. Provide funding to span research and innovation.	Long term		●		
A7	Consider whether academics should be leading this type of initiative or whether business/consultancy should take the lead.	Long term	●	●		●

2. Embedding diversity

Funding is needed to embed a diverse range of stakeholders into research projects and programmes to enable collaboration and a clearer understanding of the practical needs of delivery by academics and the people with whom, and on whose behalf, they are conducting research. This will enable a higher level of relevance of the outcomes of research and result in greater impact. It can be achieved through a variety of means such as secondments or placements with government, industry, trade bodies and the third sector.

Supporting non-academic collaborators, particularly third sector organisations (who often have to cover 20% of costs) would ensure that these organisations could collaborate more often, and in turn, enable academics to benefit from their expertise.

Universities should be more agile in their approach to working with industry and intermediary organisations such as trade bodies and business advisors. Better ways of bringing enthusiastic parties together to develop these broader relationships are needed. The development of a pool of potential partners with a wider reach than existing collaborations that could be called upon when embarking on new programmes would assist a Mission Focussed approach.

High-level initiatives to bring stakeholders together should be organised (e.g. EPSRC, BEIS, IUK, Ofgem, DNOs, suppliers, investors). This could be a first step in overcoming silo mentality and achieving buy-in from stakeholders. It would allow connections to be made and collaborations to form while providing an opportunity for sharing of insights and crucially to solve problems.

Table 2: Recommendations for embedding diversity

	Recommendation	Timescale	Universities / Academics	Funders	Government	Business
B1	Enable flexible working/movement between organisations - university to university / university to industry / university to Government.	Now	●	●	●	●
B2	Treat private and public stakeholders differently, as they have different drivers and models of engagement.	Now	●	●		
B3	Provide funding to investigate ways to invite voices that are not normally heard to enable a diversity of perspectives and solutions. Enable more inclusivity from academia and wider stakeholders. This will enable stakeholders to be listened to instead of having assumptions made about them.	Now	●			
B4	Investigate further how Mission Focussed research works best.	Now	●	●		
B5	Support cross-centre engagement through research – set up formal groups going forward. These can be driven from top down or bottom up e.g. researcher to researcher, comms to comms, to encourage knowledge exchange.	Now		●		

	Recommendation	Timescale	Universities / Academics	Funders	Government	Business
B6	Enable more diverse partners to participate in research projects by providing financial support for time and resources needed for effective engagement from non-academic stakeholders.	With time & money		●		
B7	Provide funding (e.g. 1 day per week over a defined period) for academics to nurture relationships with stakeholders to develop collaborations and to deeper understand the value that can be obtained from collaborating, including academic and non-academic impact.	With time & money	●	●		
B8	Fund research on co-production and collaborative research to analyse and improve this type of science and innovation.	With time & money	●	●		
B9	Monitor and evaluate projects to learn what has and hasn't worked and share outcomes with others in a non-critical way.	Long Term	●	●		
B10	Support the formation of Research Centres for larger innovation goals to enable longevity and trust to develop.	Long Term		●	●	
B11	Encourage universities and academia to become more organisationally flexible to allow interdisciplinary research to thrive. Enable opportunities to share knowledge and 'learn from best practice' to provide more supportive environments.	Long Term	●	●		
B12	Set up a National Education programme on Net Zero similar to the approach for recycling and food waste.	Long Term		●		

3. Building relationships

Project leads and researchers need to build relationships and develop trust with potential partner organisations from the point of connection and continue as programmes are delivered. Regular meetings throughout a programme enable collaborators to understand how they can add value to research and achieve relevant impact together. Access to joint events, workshops and webinars can also increase inclusiveness and make collaborations richer.

The pandemic has significantly influenced networking in both positive and negative ways. The ability to work virtually has facilitated new collaborations, partnerships and engagement, particularly across wide geographical areas. However, it has dampened the informal conversations and face-to-face meetings essential to building relationships. Therefore, it is important for future projects to ensure that physical and virtual meeting spaces and conversational spaces are embedded in the delivery of projects and programmes.

Supporting continuity of successful relationships across different projects and programmes will help to realise impact because long-term strategic partnerships with shared common objectives will become more enriched.

Table 3: Recommendations for building relationships

	Recommendation	Timescale	Universities / Academics	Funders	Government	Business
C1	Third parties should be involved in advance of the proposal stage to define common goals and aid long-term impact – this goes beyond a letter of support. This will assist in the use of common language between stakeholders and foster better levels of communication throughout the delivery of the project.	Now	●		●	●
C2	Communication must take place between academics and stakeholders in order to build long-term relationships that enable successful delivery and impact. Otherwise progress will be in parallel rather than aligned. Appropriate regular meetings with stakeholders should be held from the start of investment and this should be part of the evaluation process.	Now	●		●	●

4. Roles and responsibilities

It should be easier for non-academics to act as co-investigators in programmes so that they can become more deeply involved in research and outcomes. This will also help research to be informed by need.

Not all academic research should reposition away from 'blue skies' to be impact-facing. However there is a need for more diverse career pathways and roles to be acknowledged within academia to support applied research. This includes more administrative / professional support to bridge gaps between academia, industry and government and empowering researchers to buy-in expertise for internal and external teams to allow development, such as legal and publishing support. This could include the recognition of non-academic career pathways and other hybrid roles e.g. part way between a Research Associate and Knowledge Exchange where appointments are not made solely on the basis of publication background. Short-term contracts which run project to project are at odds with retaining knowledgeable and experienced staff. We want to be attracting the best graduates to enrol in postgraduate studies and carry out research in Net Zero to develop long term, relevant skills that provide solutions for real world problems.

There needs to be more recognition of successful collaboration with non-academics in the academic environment and developing skills to support this need to be encouraged. Creating collaborative PhDs and enabling Early Career Researchers to conduct placements within partner organisations offers a productive way to initiate long-term relationships that lead to deeper understanding of the needs of both sides. These efforts can also foster high-level long-term institutional links between organisations.

Table 4: Recommendations for roles and responsibilities

	Recommendation	Timescale	Universities / Academics	Funders	Government	Business
D1	Support secondments as part of funding, and collaborative PhDs as a way to develop long-term relationships.	Now		●		
D2	Key staff who ensure projects are focused and can deliver outcomes, for example, having a Research Director and Knowledge Exchange and Dissemination manager for EnergyREV.	Now	●			
D3	Have written agreements between partners that set out long term plans.	Now	●			●
D4	Strike a balance between academic tasks and impact in the wider world for some areas of research.	With time & money	●			
D5	Set up enhanced/extended/ adapted EPSRC Prosperity Partnership-type schemes to co-create industry/stakeholder/ academic mission driven research.	With time & money	●	●		●
D6	Allow for the provision of more administrative support and have programme management at UKRI to support with items such as contractual queries, EDI etc. to enable delivery to be embedded from the outset.	With time & money	●	●		
D7	Provide career pathways for research practitioners rather than research managers, to reduce administrative burden.	Long Term	●			
D8	Adapt funding rules to allow non-academic organisations to be embedded in projects where required e.g review 20% subcontractor limit on a standard call limits collaboration.	Now		●		

5. Expectations, goals and timeframes

Stakeholders should be involved during the framing of research challenges and the alignment of shared goals and expectations of all parties. Issues can arise due to incorrect assumptions, misaligned expectations and difficulty in meeting non-academic partners' timescales. This does call into question the wider governance of funding and at what stage expectations are formed – if it is during the shaping of the funding proposal then flexibility is needed in how this is executed in practice, rather than having expectations 'baked in' from the start.

To manage expectations, academics also need to be clear on what they can bring to the table and on the results they anticipate. This will help to avoid research developing in parallel. Setting clear expectations, goals and timeframes can bring legitimacy to a programme of work and create trust and transparency between collaborators. Collaborative partners need to understand each other's priorities because they may compete. Academic partners need to be aware of and address issues of confidentiality, legal protocols and other commercially sensitive motivations.

Table 5: Recommendations associated with expectations, goals and timeframes

	Recommendation	Timescale	Universities / Academics	Funders	Government	Business
E1	Get advance information and set clear goals to meet non-academic partner timescales, for example, across the whole PFER programme rather than just for EnergyREV.	Now		●	●	
E2	Work towards better alignment of shared goals between academia and partners from project start to understand each other's potentially competing priorities.	Now	●			●
E3	Monitor regular two-way conversations so that work doesn't diverge or require significant refinement to meet a change in priorities or focus. Have records of actions from meetings and review these frequently. Records should be overseen by all involved in meetings to support collaborative decision making.	Now	●			
E4	Set up a taskforce to understand good and best practice in this area to help move more quickly and deeply on a topic.	With time & money		●	●	

6. Delivering impact

Research can be viewed by the private sector as being financially expensive and unresponsive to commercial partners' timelines. It is important to rebrand the importance of research where possible and help stakeholders see the additional value it can bring. This could involve demonstrations of how academic research and two-way knowledge exchange has positively impacted industrial proficiency policy and third sector efficiency. Collaborative research partnerships should seek to support all participants to increase knowledge across the project.

Academic partners need to ensure that project-related traditional journal publications are translated into usable and accessible resources for wider use. These can take the form of briefing papers, podcasts, videos, blogs, press releases etc. where the language and terminology used is accessible to the intended audience. In turn, academia needs to value the legitimacy of non-academic outputs and reward accordingly, understanding that not all impact is 'REF-able' or that REF-rated impact takes time and can be iterative.

Table 6: Recommendations for delivering impact

	Recommendation	Timescale	Universities / Academics	Funders	Government	Business
F1	Encourage a more pragmatic approach on both sides of contract negotiations to remove risks of conflict that may arise over limiting factors such as IP.	Now	●			
F2	Annual UKRI event to stimulate collaboration and deliver outcomes (potentially held near Whitehall / House of Parliament) to encourage.	Now	●	●	●	●
F3	Ensure all academic publications, data and publicly funded models are Open Source.	With time & money	●	●		
F4	UKRI need to have consistent messages for all of their research projects. This should cover how they want stakeholder engagement, communication and programme management to be delivered. Projects should be resourced appropriately to enable language barriers to be overcome.	With time & money		●		
F5	Ensure that a communications strategy is embedded into all programme proposals from the outset. Academic outputs and insights need to be translated into accessible language and formats which requires specialist skills and therefore resources.	With time & money	●			
F6	Focus should be on impact as well as academic prowess.	Long Term	●			
F7	There should be a Net Zero funding strategy that spans across Gov / UKRI to enable consistent messages to go out.	Long Term				●

Conclusions and next steps

The developing and delivering Interdisciplinary Research workshop provided an opportunity for the UK energy community to have a voice in 'how' collaborative research can be successfully carried out to achieve the urgent challenges faced around a Net Zero future. Open and honest dialogue took place around interdisciplinary working, which needs to continue and strengthen if real progress is to be made in addressing the challenges described in this report.

It is evident that while collaborative, interdisciplinary and Mission Focussed work is desired and valued by a range of stakeholders across academia, policy, industry and the third sector a significant number of challenges to its successful delivery remain. Addressing these challenges cannot be the undertaking of one stakeholder group alone, but will require continued engagement and action across the different sectors outlined in this report to ensure progress.

The recommendations suggested vary in terms of their specificity and ease of implementation. Some address systemic issues, which are becoming increasingly important to resolve given the critical role of interdisciplinary collaborative research to deliver Net Zero. Unilaterally implementing recommendations can be difficult; there needs to be a will between stakeholders to collaborate to the level necessary, to ensure the challenges discussed can be overcome.

As a first step, responses to this document were invited from the workshop attendees who are listed in Appendix 2. Responses, where appropriate, have been used to enrich the report.

This report is now being distributed to the wider community to share the recommendations for better collaboration, the potential delivery timescales, and the stakeholder groups who have ability to address them.

The aspiration is that this report will provoke discussion and debate and that these recommendations will be addressed by stakeholders, where relevant, together. We believe responding to these recommendations has the potential to significantly increase the impact of interdisciplinary collaborative research in the Net Zero space and more widely.

References

EU, 2022. EU Missions in Horizon Europe. European Commission website.

Overland, I. and Sovacool, B.K., 2020. The misallocation of climate research funding. *Energy Research & Social Science*, **62**: 101349. doi: 10.1016/j.erss.2019.101349

Appendix 1: Links to useful documents

Carr-Whitworth, R., Wilson, O., Barrett, J., Betts-Davies, S., Colechin M., Cox E., Pidgeon, N. and Watson, A., 2021. Delivering net zero: key themes from the academic community. Analysis of Round 1 Workshop results. Delivering Net Zero.

CREDS, 2020. Event Report: How might our research have greater real-world impact?

Downing, C., Higginson, S., Wilkins, T., Kobusinge, R., Simon, H. and Jenkinson, K., 2021. The role of knowledge exchange in energy demand policy innovation. Conference paper 2-119-21 in Proceedings of ECEEE Summer Study 2021.

Energy Technologies Institute, 2018. The ETI Journey – Review of learnings. The Energy Technologies Institute LLP.

EU, 2022. EU Missions in Horizon Europe. European Commission website.

Initiative for Science in Europe Task Force on Horizon Europe, 2021. Position on Horizon Europe. Initiative for Science in Europe.

OECD, 2020. Addressing societal challenges using transdisciplinary research. OECD Science Technology and Industry Policy Papers No.88. OECD.

Oreszczyn, T., Huebner, G., Shipworth, D., 2020. How should energy researchers respond to the climate emergency?. Figshare. Preprint. doi: 10.6084/m9.figshare.12074226.v1

UKRI, National Research Foundation and Global Research Council, 2022. Global Research Council website.

Winskel, M., Ketsopoulou, I. and Churchouse ,T., 2015. UKERC Interdisciplinary Review: Research Report. UKERC.

Appendix 2: Workshop attendees

Workshop attendees included:

Name	Affiliation
Alexandra Hughes-Johnson	ESRC, UKRI
Alison Mohr	Independent Consultant
Amber Sawyer	University College London
Beth McAllister	LowCarbon Hub
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Clair Gough	The University of Manchester
Clare Downing	University of Oxford
David Shipworth	University College London
Edward O'Dwyer	Imperial College London
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Ian Mabbett	Swansea University
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Mike Fell	University College London
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Oliver Knevitt	NERC, UKRI
Oliver Sutton	BEIS
Paul Beasley	Siemens
Paul Dodds	University College London
Peter Taylor	University of Leeds
Phil Taylor	University of Bristol
Rachel Bray	University of Strathclyde
Rajat Gupta	Oxford Brookes University

Name	Affiliation
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Rhiannon Lamb	Newcastle University
Rick Short	Nuclear Decommissioning Authority
Rob Gross	University College London
Robert Rawlinson-Smith	Independent Consultant
Rod Westrop	BBSRC, UKRI
Sara Walker	Newcastle University
Sophie Kempthorne	IUK, UKRI
Tadj Oreszczyn	University College London
Tim Green	Imperial College London
Tina Fawcett	University of Oxford
Tony Roskilly	Durham University
Tracey Dale	ESRC, UKRI

About EnergyREV

EnergyREV was established in 2018 (December) under the UK's Industrial Strategy Challenge Fund Prospering from the Energy Revolution programme. It brings together a team of over 50 people across 22 UK universities to help drive forward research and innovation in Smart Local Energy Systems.

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