Building a Green Future: Transforming Land Use for Net Zero, Nature and People (LUNZ)

Research Projects Community Workshop Report

Hybrid – Manchester in-person and online, June 12th, 2023

Agenda

Time	Activity	Lead / Presenter
10:30 – 11:00	Registration, Tea/Coffee	
11:00 – 11:05	Welcome and Introductions	Jef Grainger (UKRI-BBSRC)
11:05 – 11:10	How we are going to work together today	The Collective (Workshop Facilitators)
11:10 – 11:20	Participant Introductions and Networking	The Collective (Workshop Facilitators)
11:20 – 11:30	Overview of Transforming Land use for Net Zero, Nature and People	Andrew Enow (UKRI-BBSRC)
11:30 – 12:05	Plausible Pathways to Net Zero – Perspectives from Government Departments and Devolved Administrations	Alistair Carson (DAERA), Dan McGonigle (Defra), James Davey (DESNZ), Ann Humble (Welsh Government), Sallie Bailey (Scottish Government)
12:05 – 12:30	Breakout discussion one. Land Use and Net Zero: Research Challenges	The Collective (Workshop Facilitators)
12:30 – 12:45	Feedback from Breakout Groups	The Collective (Workshop Facilitators)
12:45 – 13:00	Open Floor - For Sale and Wanted	The Collective (Workshop Facilitators)
13:00 – 13:45	LUNCH	
13:45 – 14:55	Welcome Back - Open Floor	The Collective (Workshop Facilitators)
13:55 – 14:05	Breakout Discussion Two: Primer	Dan McGonigle (Defra)
14:05 – 14:30	Breakout discussion two - Working with Stakeholders to Deliver Impact	The Collective (Workshop Facilitators)
14:30 – 14:45	Feedback from Breakout Groups	The Collective (Workshop Facilitators)

14:45 – 15:00	Open Floor - For Sale and Wanted	The Collective (Workshop Facilitators)
15:00 – 15:10	Next Steps and Close	Jef Grainger (UKRI-BBSRC)

1. **Welcome and Introductions**

Jef Grainger (UKRI- BBSRC) welcomed participants to the workshop setting out the purpose of the event which were as follows:

- to provide prospective applicants with a chance to meet the funders,
- to enable potential applicants to learn more about how the envisaged research projects will work with policy makers and other key stakeholders,
- To lay the ground for networking among potential applicants and the formation of application consortia.

The Collective team (facilitators for the workshop) then explained how participants were going to work together for the day and lead a session enabling introductions and networking between participants. To enable this, participants were asked to complete a Miro Board profile describing:

- Name - who am I - short intro
- What do I bring - research networks connections
- What would I like to see the research programme achieve?
- The biggest challenge for land use and net zero is

The purpose of this exercise was for participants to understand who was in the room and identify people they may want to engage within possible application consortia. See attendance list in Annex 1.

2. **Overview of Transforming Land use for Net Zero, Nature and People (LUNZ)**

Andrew Enow (UKRI BBSRC) gave a brief overview of the LUNZ programme, highlighting the programme drivers, scope and vision alongside how the research grants are expected to work with the LUNZ coordination and translation hub. The slides from this presentation are available on the funding finder here.

3. **Plausible pathways to net zero – Perspectives from Government Departments and Devolved Administrations**

Presentations were given from Government Departments and Devolved Administration, as an opportunity for participants to understand their drivers and challenges. Below is a summary of their presentations and slides are available here.

3.1 Department for Environment Food and Rural Affairs (Defra):

- David Smedley introduced Defra priorities for land use and net zero which were relevant to soil, highlighting the import role of soil in reaching net zero as well as for biodiversity

and ecosystem services. David also noted challenges posed by soil degradation in the UK and the policy goal of having 60% of soils sustainably manged by 2030 as set out in the Government 25 Year Environment Plan.

- Luke Spadavecchia highlighted the importance of equitable, resilient and sustainable food security. The need to avoid offshoring of carbon emissions was also raised and with-it possible trade-offs in terms of commodities available and socio economic impacts that may result. Another aspect considered was scenario mapping of situations where either regenerative agricultural processes and/or intensive approaches were employed and what the ramifications might be.

3.2 Department for Energy Security and Net Zero (DESNZ)

James Davey outlined what Government funders hoped to see as outcomes from the research projects and highlighted the importance of a strong Project Portfolio Management (PPM) plan and of building on existing investments. A key message was the importance of making progress to deliver outputs that are good enough, rather than striving for perfection. From a DESNZ perspective, successful research grants will help Government in reducing risk for meeting net zero targets, in reducing cost of delivery and in reducing negative impacts on other areas such as biodiversity. PPMs should set out how they will achieve one or more of these benefits, including When? and How Much? They should also include contingency plans for recruitment delays and a clear plan for engaging and co-creation with HMG policy and analysis throughout.

3.3 Department of Agriculture, Environment and Rural Affairs (DAERA)

Alistair Carson commented on Northern Ireland's commitments to meeting ambitious net zero targets as outlined by the Climate Change Act 2022, noting the important role of livestock in Northern Ireland, and more broadly the fact that it produces food for 10 million people. Soil health was flagged as key, with DAERA currently in the process of sampling soil in every field in Northern Ireland. Given the need for large scale transformation in the way land is used and managed in order to achieve the net zero targets, Alistair stressed the importance of a joined-up approach in order to maximise impacts.

3.4 Scottish Government

Sallie Bailey highlighted that being food secure does not necessarily mean being food self-sufficient and that there is a need to carefully consider off-shore impacts of attempts to enhance food security in the UK. Sallie noted existing research by Scottish Environment, Food and Agriculture Research Institutions (SEFARI) in this area and encouraged applicants to build on this existing research.

3.5 Welsh Government

Ann Humble noted that for Wales, a top priority was sustainable management of natural resources, including regenerative farming, as outlined in the SoNaRR report. As with other Government funders a key recommendation was for applicants to build on existing research noting that for Wales, priority areas were:

- Decarbonising agriculture
- Livestock
- Adapting farms to climate change-what do business models look like?
- Health and nutrition crisis
- What should we offshore?

4. Breakout Sessions

For this session, the workshop facilitators organised attendees into a number of breakout groups to discuss two themes; 1. The research challenges associated with land use change and net zero and 2. Rapid pathways to net zero.

4.1 Breakout Session One: Land use and Net Zero: Research Challenges

Participants were asked in their breakout groups to consider the research challenges, gaps and opportunities with regards to land use and net zero whilst delivering co-benefits for the environment and society. Some of the research challenges suggested include:

- Bringing in perspectives from land users. Coordinating enough land sparing nationwide to make impact
- Vertical farming/food waste- new systems
- How to measure the carbon performance of farms - There are different metrics for agriculture and farming. How do we harmonise them to improve measurement and tracking across scales? How do we access metrics across social, environmental, economic, and other perspectives?
- How can farmers demonstrate their contribution to the solutions? – how can the contributions be quantified at individual farm scale?
- Trade-offs, leakage effects and unintended consequences – what are the interactions among drivers and how are they integrated? What policy levers are there to facilitate the interactions?
- How can we influence shifts in consumption patterns? What would be the social and economic impacts of the shifts? How relevant are policy and practice solutions in different regions?
- How do we get the science evidence out into the community and give it the traction and visibility it deserves? Is there a role here for agricultural extension services? Noting that farmers can often be sceptical of new knowledge and practices so uptake may not be immediate.
- How can farmers embed sustainability in their business models? Noting that Policy needs must be balanced against the immediate farmer needs to make ends meet and ensure business viability- efficiency is key.
- What are the existing tools that new research can build on? – we need to consolidate what we already have in order to deliver solutions in the short-term.
- Reducing emissions from ruminants – the focus should be on technologies to reduce ruminant emissions rather than cutting down on their production
- What are the best techniques for reducing emissions from different land use types? - what works best where? How sustainable and how usable are the outputs? – availability of markets
- Who benefits from the solutions and interventions and who pays for the long-term impacts? Is it the landowner or the tenant? How can this be balanced?
- To what extent is indigenous (local) knowledge and history of the land integrated in developing new tools and solutions? What are the trade-offs on food security and other environmental benefits?

- How do policy and business needs play out against each other and how do these align with farm-level requirements to make the farm business profitable?
- How do we balance between achieving both food security and net zero? – what are the easy methods for farmers to adopt new research and policies?
- The discussion around red meat and emissions has become very emotive and there is a need to cut through this and focus on the data and how it can help farmers to take the right actions.
- How to do large-scale land use change? - for example, connecting land sparing at a large enough scale to have impact.
- Accessibility of data on land ownership
- Understanding the barriers to change (role of social science)
- How land use change affects the soil biota and soil ecology
- Use of plasma to reduce greenhouse gas emissions through improving the efficiency of inputs and reducing their need
- Understanding and managing soil carbon and nitrogen fluxes – building on the Rothamsted Long-Term Experiments
- Recycling carbon and nutrients from food waste and agricultural residues.

5. Breakout Session Two: Working with Stakeholders to Deliver Impact

This session began with a presentation from Dan McGonigle from Defra focussing on approaches to ensuring that research projects are best able to adapt to changing policy and supply evidence in the right form or/right time to influence policy outcomes and deliver impact.

Dan noted that the following considerations may help when building applications:

- Putting research into context and including interdisciplinary perspectives, trade-offs, economic considerations
- Including quantitative and qualitative approaches to systems work
- Relevance of government – where can government intervene and what are the levers? What might these look like beyond farm payments?
- Communicate with Government at multiple timescales from days to weeks, months and years

Participants were asked in their breakout groups to consider how research consortia could work with government and other stakeholders to develop plausible and innovative pathways to net zero in a way that is beneficial to the environment and society and which builds upon previous research and innovation investments.

From discussions several key areas where raised; maximising impact from research projects, communication, and the relationship between the coordination and translation hub and research projects which are summarised here.

5.1 Maximising Impact from research projects

One of the key objectives for the research projects is that they will perform cutting edge research and work with the coordination and translation hub to fast-track the uptake of research outputs into decision-making by land users and policy makers and so aid the UKs transition to net zero. As such, pathways to proactively seek impact from project findings and work closely with key stakeholders including land users and policy makers should be built into the project work plan and justification of resources from the beginning.

The breakout groups discussed how research project applications might build in strategies/ activities to best allow projects to take advantage of emerging opportunities for impact and some of the suggestions captured are as follows:

- Dual-level research questions:
    - At the primary level, there should be a central research theme/question that should remain focused on addressing the core research grant aim and objectives. It was noted that commitments such as staff contracts, facilities commitments etc make changes at this level almost impossible once a project has begun.
    - At the secondary level, one approach could be to have pathways to impact for each research question which are designed to be somewhat opportunistic and malleable in response to emerging opportunities to engage with stakeholders who may be able to apply research outputs. This might include responding to requests for evidence or advice from policy makers via the coordination and translation hub (more on this below) or it might be new opportunities to engage with other land users. In line with this, staff time for generating impact from outputs should be costed into project proposals and strategies to generate impact should be clearly stated at the full application stage. Funders will ensure that guidance is provided to reviewers and Panel members to anticipate proactive strategies to maximise research project impact.
- All government funders present expressed an interest in working with potential applicants as proposals are developed. They would be happy to advise on how projects can plan for policy engagement across the life of the proposal as well as alignment with their respective Net Zero priorities. A list of all government attendees can be found in Annex 1. **However, government funders should not be included as project partners and letters of support will not be provided**. Whilst government funders should not be listed as project partners, it is anticipated that they will assign project officers to successful research projects to facilitate close coordination through the life of the project. Applicants are advised to describe in their full application how they plan to generate impact from their research outputs, including influencing policy makers and other land users.
- Applicants are advised that existing UKRI initiatives in the Net Zero theme also offer a potential route to key stakeholders and impact. Examples include but not limited to:
    - Farming Innovations programme
    - GHG Removal Demonstrators programme

- Transforming UK Food Systems Strategic Priorities Fund
- Agri-food net zero Network+ (Agrifood4Netzero)
- UK Treescapes Programme

Communication

Closely associated with strategies to maximise impact from research projects is the need for a clear communication plan. The following observations and suggestions emerged from the breakout group discussions:

- Research project consortia need to engender trust and develop a framework for safe communication. Participants raised that trust between land users, academia and policy makers will need to be built, especially as land users may initially be sceptical of adopting new research findings.
- Grant holders will need to consider the different timescales in which they will engage with key stakeholders, from days to weeks, month and years, noting how aspects such as annual policy cycles and growing cycles for example, may affect opportunities to direct impact. Plans for engagement with land users and policy makers should also consider long-term commitment and engagement after funding finishes.
- It is anticipated that project officers from government funders will support research projects once they begin. Project officers will be able to offer advice on opportunities to feedback research outputs into policy making and by mutual agreement may request advice within the remit of the project core aims and objectives from time to time.

Relationship between coordination and translation hub and research projects

Participants discussed the relationship between the coordination and translation hub and the research projects focussing on their respective roles and the mutual decision-making process. The key observations form the breakout discussions are as follows:

- It was noted that the research projects should be transdisciplinary, high-impact and innovative, providing cutting edge research to find solutions and provide evidence to inform policy options for driving the desired systems transformation.
- The role of the hub is to work with the research projects to identify routes to impact, convene key stakeholders, fast track evidence into policy and maximise policy impact. The hub will convene a transdisciplinary, cross-sectoral community to support the UK in achieving net zero, while meeting other environmental and societal goals. It will advance research, integrate knowledge, identify routes to impact and fast track evidence into policy.
- Participants recognised that there will be a close partnership/ working relationship between the hub and research projects, therefore through the hub key stakeholders such as government may approach research project holders to ask for advice/ relevant evidence. Any such requests will be carefully allocated with the intention of amplifying existing intended outputs and will not seek to modify core research aim and objectives

of research projects and will need to be agreed by mutual consent. The hub will not request significant changes to core research project aims and objectives once they are underway.

6. Next Steps and Close

Jef Grainger thanked participants for a such great engagement and interesting discussions. He then shared key steps in the opportunity process and timelines summarised below after which the meeting was closed.

Process:

- Apply through The Funding Service (UKRI's new system) not Je-S
- Expression of Interest open to all potential applicants
- Full proposals by invitation for eligible EoIs
- Assessment by a panel of experts, no pre-panel peer review

Call Announcement: https://www.ukri.org/opportunity/land-use-for-net-zero-research-lunz-research/

Timelines:

- Expression of Interest deadline: 11 July 2023
- Invitation for full proposals: Mid July 2023
- Deadline for submission of full proposals: 18 October 2023
- Assessment panel meeting: Jan 2024
- Expected project start date: 01 March 2024

For Questions or more information contact: tlunznp@bbsrc.ukri.org

Annex 1. Building a Green Future: Transforming Land Use for Net Zero, Nature and People (LUNZ). Research Projects Community Workshop List of Attendees

Name	Organisation
Elaine Jensen	Aberystwyth University
Taro Takahashi	Agri-Food and Biosciences Institute
Abdul Al-Jibouri	Agri-Food and Biosciences Institute
Dez Delahay	Animal & Plant Health Agency, UK
Dave Chadwick	Bangor University
Simon Holland	Barefoot Lightning
Jim Harris	Cranfield University
Alistair Carson	DAERA
Gerardine McEvoy	DAERA
Katie Manning	Defra
Harley Stoddart	Defra
Luke Spadavecchia	Defra
Dan McGonigle	Defra
Andrew Clark	Defra
David Smedley	Defra
Roisin ORiordan	Defra
Savio Moniz	DESNZ
James Davey	DESNZ
Rose Durcan	DESNZ
Rebecca Mason	Eunomia Research & Consulting Ltd
Ian Lin	Food and Environment Research Agency (FERA)
Barbara Agstner	Food and Environment Research Agency (FERA)
Lucy Dowdall	Food and Environment Research Agency (FERA)
Elena Stroda	Food and Environment Research Agency (FERA)
Russ Thomas	Hybu Cig Cymru / Meat Promotion Wales
Raphael Slade	Imperial College London
Huw Woodward	Imperial College London
Oliver Perkins	Kings College London / DEFRA
Stephanie Evers	Liverpool John Moores University
Qinggang Meng	Loughborough University
Baihua Li	Loughborough University
Liangxiu Han	Manchester Metropolitan University
Gari Harris	Net Zero Industry Innovation Centre - Teesside University
Luca Panzone	Newcastle University
Marion Pfeifer	Newcastle University
Hua Zhong	Nottingham Trent University
Ilias Kyriazakis	Queen's University
Ryan McGuire	Queen's University Belfast
Julian Drewe	Royal Veterinary College

Marcelo Galdos	Rothamsted Research
Sallie Bailey	Scottish Government
Hernan Degiovanni	Scotlands Rural College
Kevin Hicks	Stockholm Environment Institute (SEI),University of York
Diana Feliciano	Teesside University
Ann Humble	Welsh Government
James Skates	Welsh Government
Jamie Stone	UKRI -BBSRC
Andrew Enow	UKRI -BBSRC
Jef Grainger	UKRI -BBSRC
Susie Stevenson	UKRI ESRC
Weihao Zhong	UKRI NERC
Michelle Hamilton	UKRI STFC
Astley Hastings	University of Aberdeen
Jo House	University of Bristol
Lili Jia	University of Cambridge
Rachel Warren	University of East Anglia
Jack Clough	University of East London
Kirsteen Shields	University of Edinburgh
Julie Ingram	University of Gloucestershire
Huiyu Zhou	University of Leicester
Joerg Kaduk	University of Leicester
Martin Phillips	University of Leicester
Simon Pearson	University of Lincoln
Kirsty McKay	University of Liverpool
Andrew Welfle	University of Manchester
Richard Bardgett	University of Manchester
William Blake	University of Plymouth
Tristan Rees-White	University of Southampton
Megan Blomfield	University of Sheffield
Amy Pye	University of Surrey
Donya Hajializadeh	University of Surrey
Adrian Ely	University of Sussex
Gary Bending	University of Warwick
James Covington	University of Warwick
Susan Moore	University of York
Mark Hodson	University of York
Jenny Hodgson	University of Liverpool