



Network for Sustainable Digital Research Infrastructure - Vision and Expertise

Overview

9th October, 2024, Edinburgh

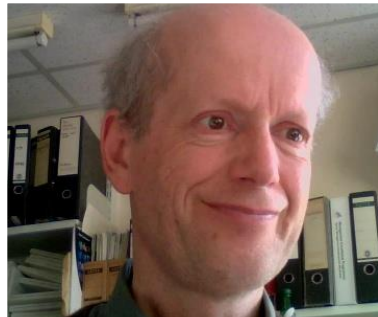
Martin Jukes and Sarah Sparrow

Team and Overview

- Workshop Agenda
- Stage 1 : designing Stage 2
- Ambition
- Project plan
- Champions



Coordinators



Martin Juckes



Sarah Sparrow

Support – hosting meetings



Jess Farmer



Adrian Jackson

Agenda: Edinburgh

Day 1 October 9th 13:00-17:00	
13:00	Lunch and arrival
13:30	Welcome and overview – Martin and Sarah
14:00	Keynote 1: Lorna Smith, Machine Rooms and Hardware
14:30	Machine Rooms and Hardware Discussion
15:00	Break out groups session 1: Q1 & Q2
15:25	Break out summary
15:30	Coffee Break
15:45	Gordon Shaw Blair: Systematic Change
16:15	Systematic Change Discussion
16:40	Break out groups session 2: Q3 & Q4
16:55	Break out summary
17:00	Finish

Day 2 October 10th 09:00-13:00	
09:00	Coffee and arrival
09:30	Day 2 welcome and reflection on day 1 – Martin and Sarah
09:45	Keynote 2: Michele Weiland: Green Software Engineering
10:15	Green Software Engineering Discussion
10:30	Break out groups session 3: Revisit all questions
10:45	Coffee break
11:00	Break out summary
11:05	Panel on Galvanising Individual Action
11:30	Discussion on missing items
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Stage 1

- Wednesday 9th - Thursday 10th October 2024, [University of Edinburgh](#)
- Monday 21st - Tuesday 22nd October 2024, Daresbury Laboratory
- Thursday 14th November: final review, Oxford
- Thursday 21st November: submission of stage 2 proposal

Stage 2

- Start January 2025
- 39 months
- £3.168M at 80% FEC



[St. Leonard's Hall](#)



NetDRIVE Ambition

1

Provide timely and actionable advice **to inform** UKRI Digital Research Infrastructure (DRI) Investment decisions

2

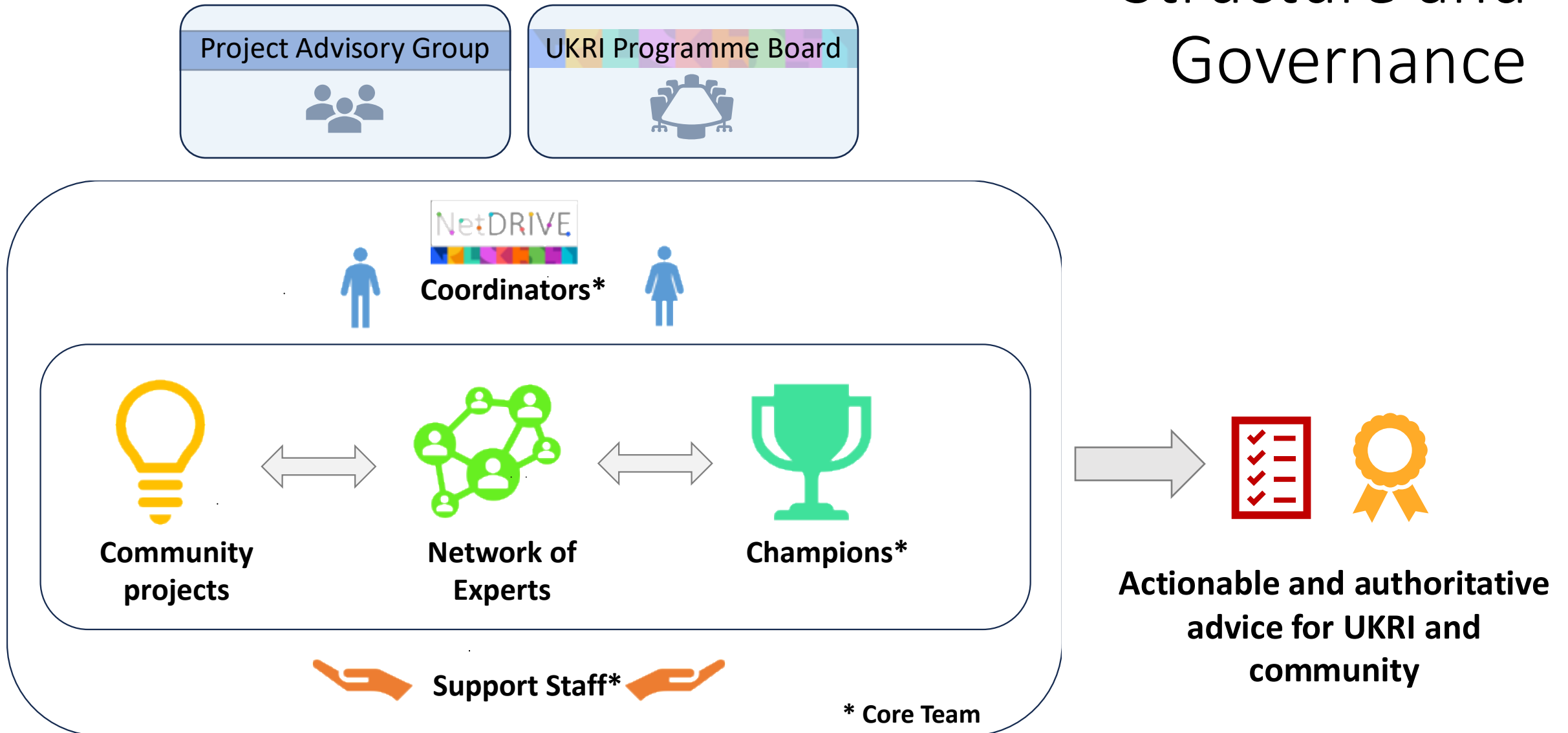
Provide UKRI and their community with confidence for delivery of the **roadmap for achieving carbon neutrality** in their DRI by 2040 or sooner

3

Enable UKRI to play a **positive and leading role** in the national and global transition to a sustainable economy



Structure and Governance



Champions for transformational change

Domain experts
Current and future leaders
Work with community projects
Collaboratively share issues and solutions



Machine room
and hardware

- Procurement
- Lifecycle Analysis
- Sustainable Capacity
- Cloud



Green software
engineering

- Skills and Career Pathways
- Data workflows
- Exploiting Artificial Intelligence



Galvanising
individual
action

- Culture shift
- Listen and Empower
- Inclusivity
- Open science and data



Systemic
change

- System level view
- Delivering value
- Block Rebound

Champions for transformational change



- Procurement
- Lifecycle Analysis
- Sustainable Capacity
- Cloud

Target audience

- infrastructure funders
- machine room operators
- infrastructure policy

Topics

- procurement
- lifecycle analysis
- sustainable capacity
- HPC
- cloud

Objective

- deliver platforms for sustainable research computing

Champions for transformational change



- Skills and Career Pathways
- Data workflows
- Exploiting Artificial Intelligence

Target audience
<ul style="list-style-type: none">• research software engineers• computational scientists

Topics
<ul style="list-style-type: none">• Skills and career pathways• data workflows• exploiting/taming artificial intelligence• exploiting novel architectures

Objective
<ul style="list-style-type: none">• Develop and embed the paradigm of green software engineering in the UKRI research culture

Champions for transformational change



- Culture shift
- Listen and Empower
- Inclusivity
- Open science and data

Target audience
<ul style="list-style-type: none">• UKRI staff using or managing the DRI.

Topics
<ul style="list-style-type: none">• empowerment• motivation• creative thinking

Objective
<ul style="list-style-type: none">• Build a sense of individual and community engagement and ownership of the transformation

Champions for transformational change



- System level view
- Delivering value
- Block rebound
- Build trust

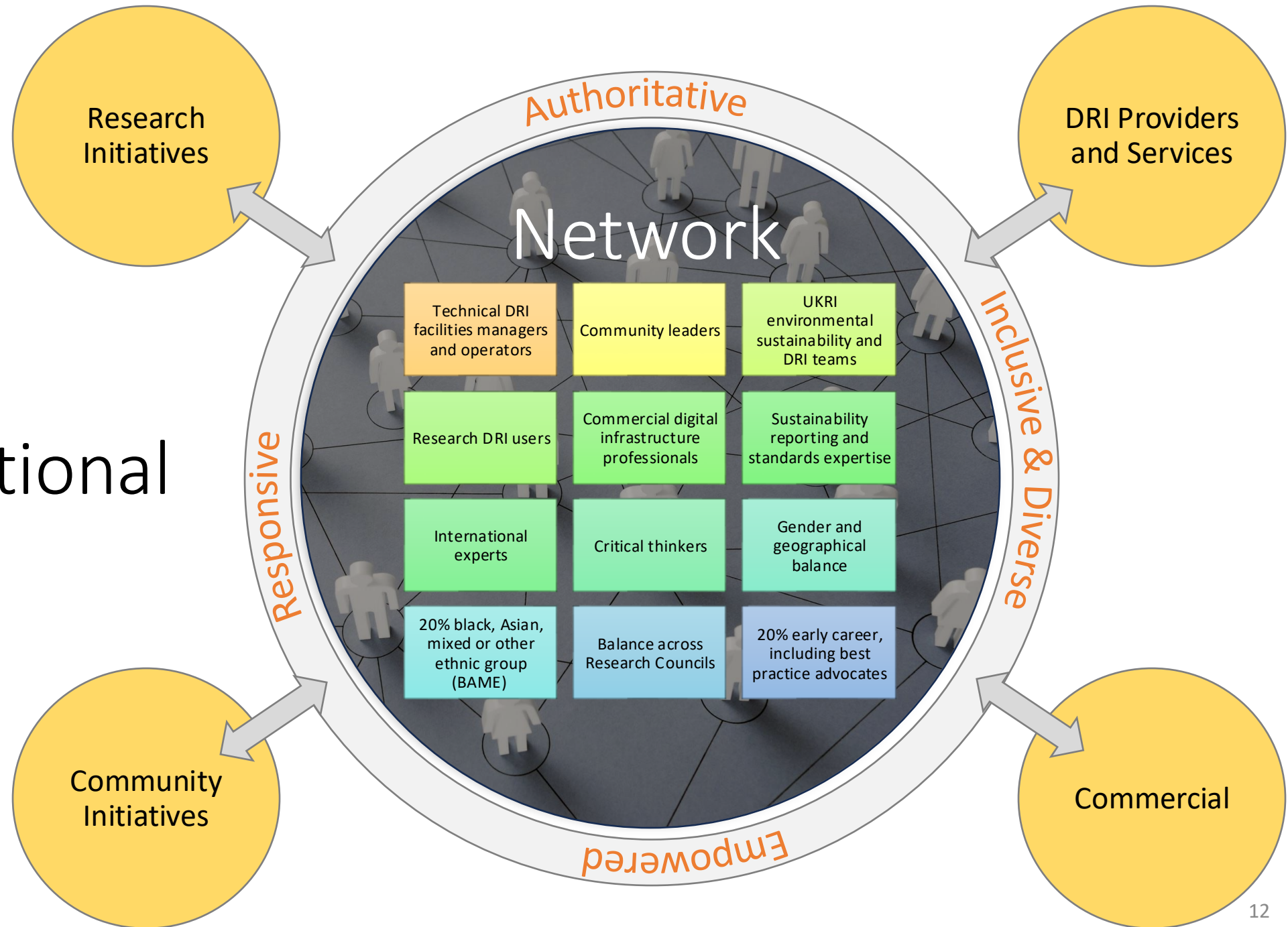
Target audience
<ul style="list-style-type: none">• team and institute leaders• strategic planners• policy makers

Topics
<ul style="list-style-type: none">• system level view• delivering value• block rebound• culture shift• EDI and RRI• open science and data• building trust

Objective
<ul style="list-style-type: none">• Ensure that the UKRI DRI achieves a clear leadership role in the net zero transition

Delivering Transformational Change

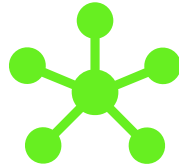
The go-to place for questions on Net Zero DRI priorities and opportunities



Informing transformational change through community projects



Open opportunities



Supported by Champions,
Network and Core Team



Responsive to emerging
needs



Working groups and local
workshops

Stage 2 Budget plans

Initial costing based on:

- Two champions at junior PDRA grades, full time.
- Two champions at junior lecturer grade, 50% full time (to allow role to be integrated with developing institutional role).
- One full time project management and comms support to anchor a responsive project office.
- Additional part time support from Oxford and NCAS as in Stage 1 to exploit existing institutional expertise.
- Two coordinators at 40% FTE each.
- Remaining funds for community projects and network events.
- Flexible funds (50% of budget) includes awards and in-kind support by champions and core team.

Summary



Community ownership through real participation in shaping the project



Flexibly taking on needs of UKRI and community in stage 1 to shape stage 2 workplan



Acknowledging and drawing strength from critics



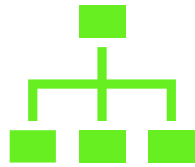
Deliver cultural transformation through openness, diversity and inclusivity

QUESTIONS

Topics to frame workshop feedback



Key priorities for
NetDRIVE



Thematic domains for
the champions (*)



Network of Experts' and
Champions' Terms of
Reference (*)



Easy wins and the
barriers

*documents circulated ahead of meeting.

What we want from the workshops [Q1]

What would you consider as the key priorities for NetDRIVE work from now to March 2028?

For example:

Building trust to enable open discussion about the huge challenges of Net Zero.

Identifying easy wins and major obstacles.

Publishing authoritative annual (or biennial) reports on the Net Zero DRI landscape.

Building extended community networks through facilitated open meetings on key topics.

Funding community led activities, e.g. through a sandpit event, in key areas to fill knowledge gaps.

Building international networks to gain from work in other countries.

Developing standards and common language to enable clearer understanding of targets, barriers, etc.

Promote peer learning to build skills.

What we want from the workshops [Q2]

How do we frame the roles of the champions to attract, motivate and empower the right people for this challenge?

For example:

Are there gaps?

target audiences

topics

objectives

Split of champion roles:

Full time early career

- Green software engineering
- Galvanising individual action

50% FTE mid-career

- Machine room and hardware
- Inclusive change

Actionable information provided to key stakeholders

based on input from the Network of Experts and community projects.

Reports on

- areas of unanimity,
- majority opinions
- areas of divergent opinions.

What we want from the workshops [Q3]

How do we make the Network of Experts accessible and authoritative?

For example:

Well-structured
and facilitated
meetings

Transparent
process around
recruitment

Community review
of key findings
where appropriate

Able to provide
confidential advice
where appropriate

Able to direct
spending of [a
portion of] the
flexible funds

Large enough to be
diverse and
inclusive, but still
able to be agile

What we want from the workshops [Q4]

Where are the easy wins and the barriers that we need to prioritise?

For example:

WINS:

- Sharing best practice
- Improve reporting and sharing of information on impacts and options
- Jargon busting (e.g. what lies behind the idea of a green datacentre and the different interpretations used by different people).

BARRIERS

- Lack of clarity about what constitutes "best" practice
- Lack of actionable information
- People feeling disempowered; lack of clarity about personal and institutional responsibility towards the overall changes needed
- The need to work within existing formal and informal frameworks

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