

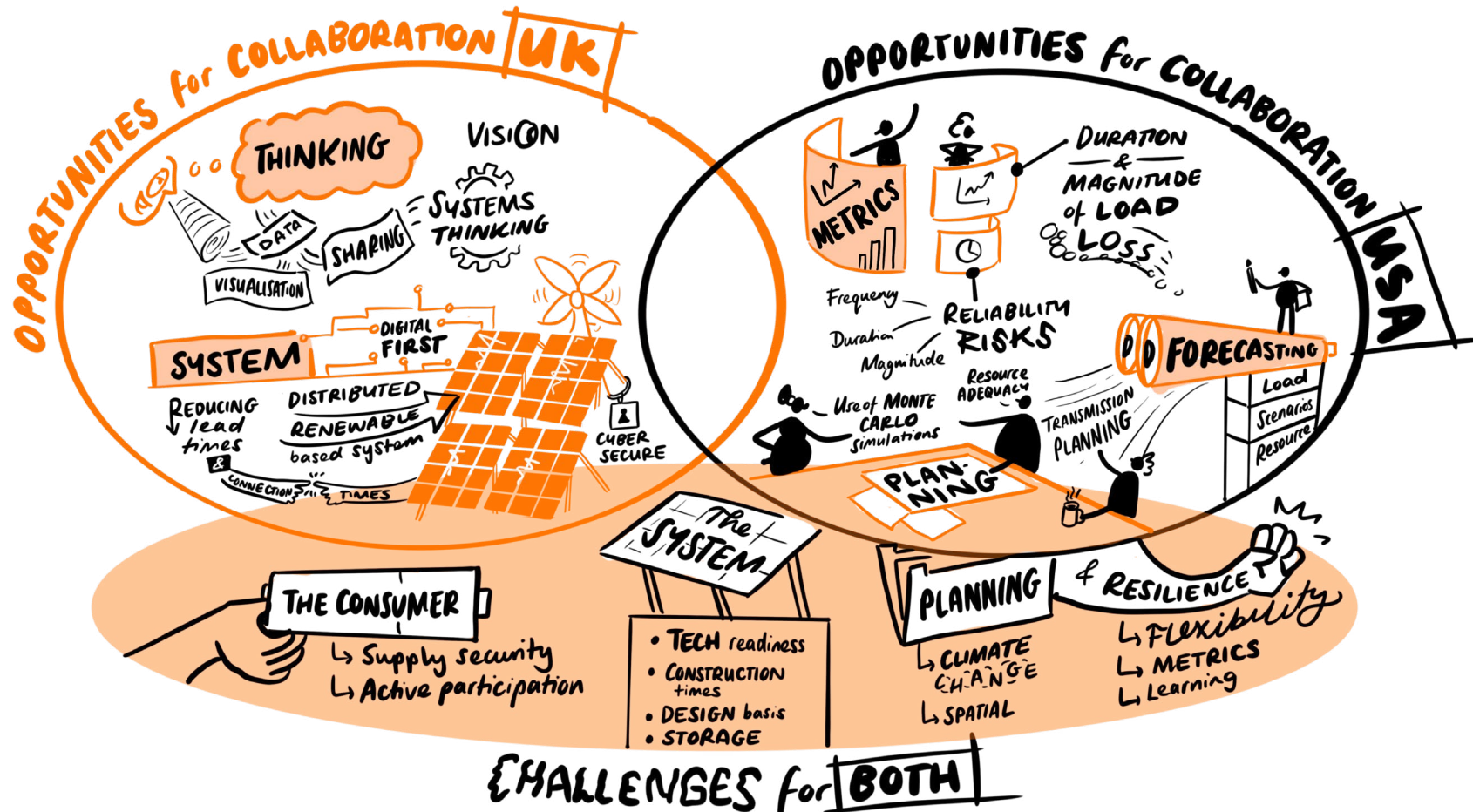


= U.K & USA =
SUSTAINABILITY OF THE
ELECTRICITY GRID
- WORKSHOP

Event Report | 21.11.24

Introduction

The sustainability of the electricity grid workshop was co-hosted by the Royal Academy of Engineering and the National Academy of Engineering (US). The conversation was based on two reports from the institutes which both focused on challenges surrounding decarbonisation of the electricity grid. It was a highly participative discussion, exploring synergies and shared challenges that will need to be addressed as both countries move towards the management of more diversified electricity systems. With technical leadership from Dr David Wright FREng and Mr Mark Lauby, a total of 22 experts from the US and UK attended the session, including policy staff from both academies. The workshop was professionally facilitated by Centre for Facilitation with graphical recording by Nifty Fox.



Synergies & Differences


PENETRATION of RENEWABLES CHALLENGE



SHARED COMMITMENT TO DECARBONISATION



AFFORDABLE
'TRI LEMMA'
SUSTAINABLE **SECURE + RELIABILITY**



NUCLEAR UNCERTAINTY



SUPPLY CHAIN ISSUES



DIFFICULTY of BUILDING INFRA STRUCTURE AND PUBLIC ACCEPTABILITY AND HARVESTING WIND



URGENCY needed for **CHANGE**



LARGE LOAD GROWTH HELP! **A.I.**



DIFFERENCES

- MONEY / FUNDING
- INFRASTRUCTURE
- (DE)CENTRALISED CONTROL
- MAINTENANCE
- POLITICAL WILL

ANSWERS to OUR QUESTIONS MAY LIE ON THE OTHER SIDE




NEED A BRIDGE FUEL WHILE WE WAIT FOR HYDROGEN



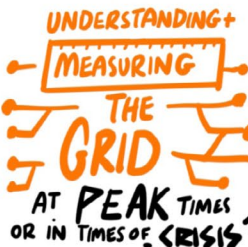
STORAGE IS VITAL



A HOLISTIC VIEW OF THE FULL SYSTEM eg. **What works** **DESIGN STANDARDS for TOMORROW'S SYSTEMS**

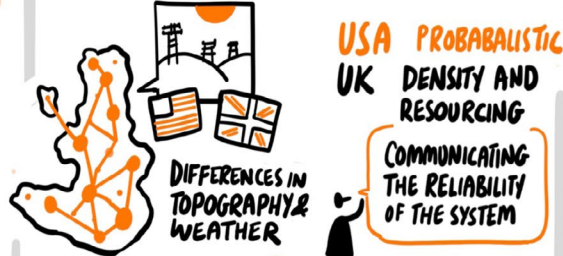


UNDERSTANDING + MEASURING THE GRID AT PEAK TIMES OR IN TIMES OF CRISIS



DIGITALISATION is a NEW, UNIQUE CHALLENGE
UNDERSTAND WHAT USERS NEED FIRST

USA PROBABILITY
UK DENSITY AND RESOURCING
DIFFERENCES IN TOPOGRAPHY & WEATHER
COMMUNICATING THE RELIABILITY OF THE SYSTEM



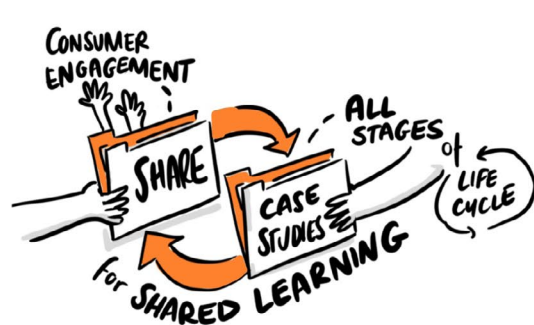
UK REPORTING TO A CENTRALISED AUTHORITY



AND COUNTRY SIZE!

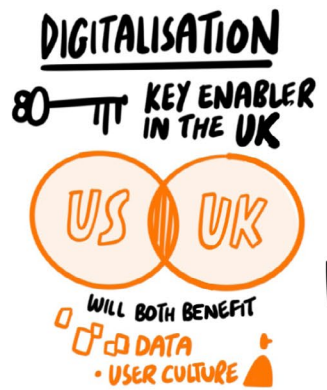
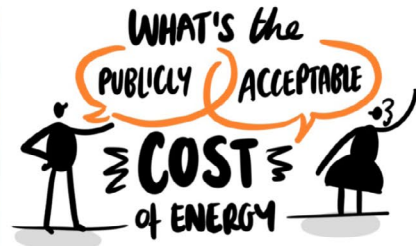
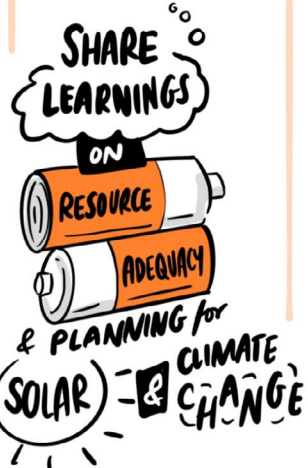


Opportunities for Collaboration



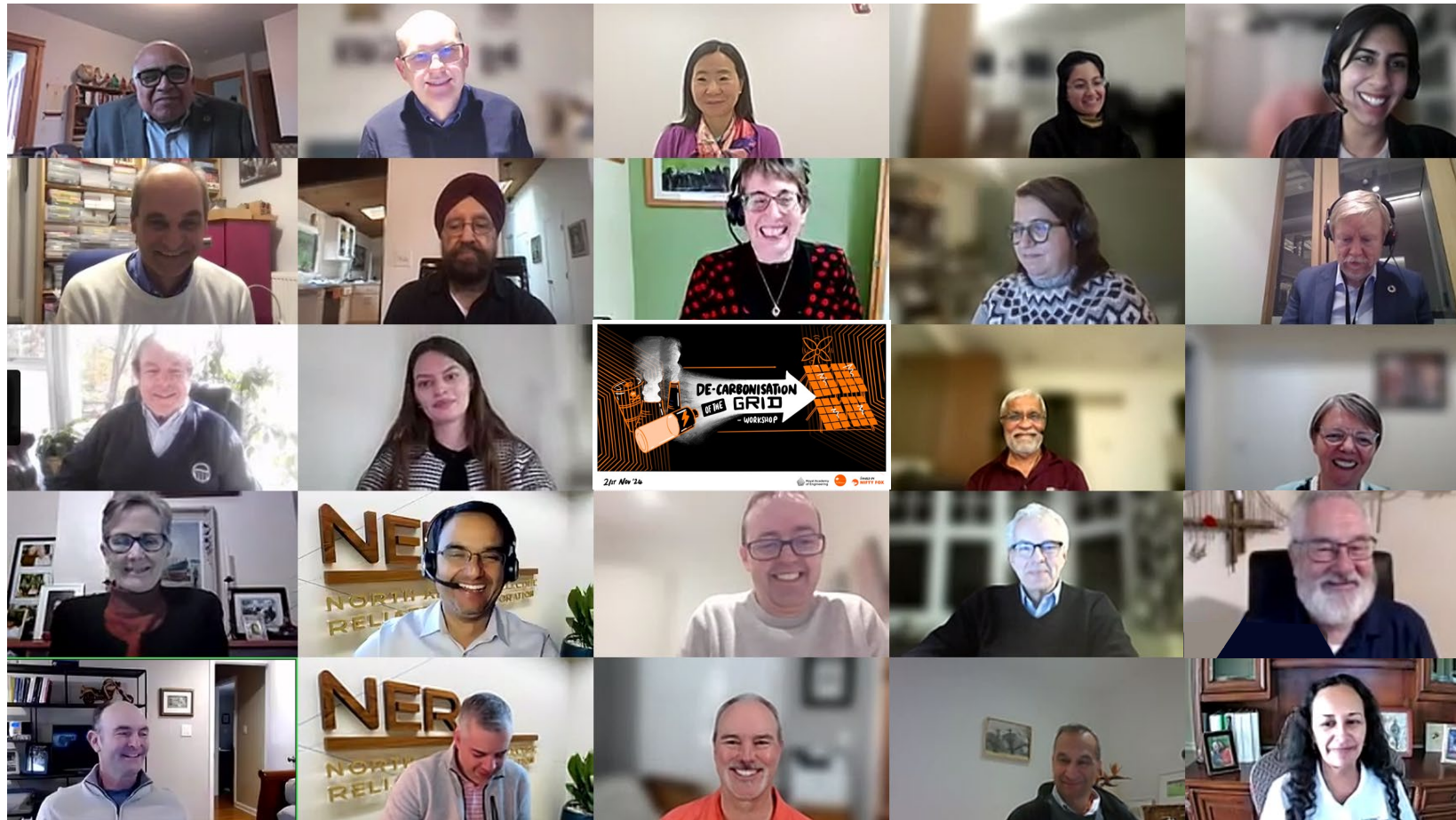
HOW ARE YOU COPING?

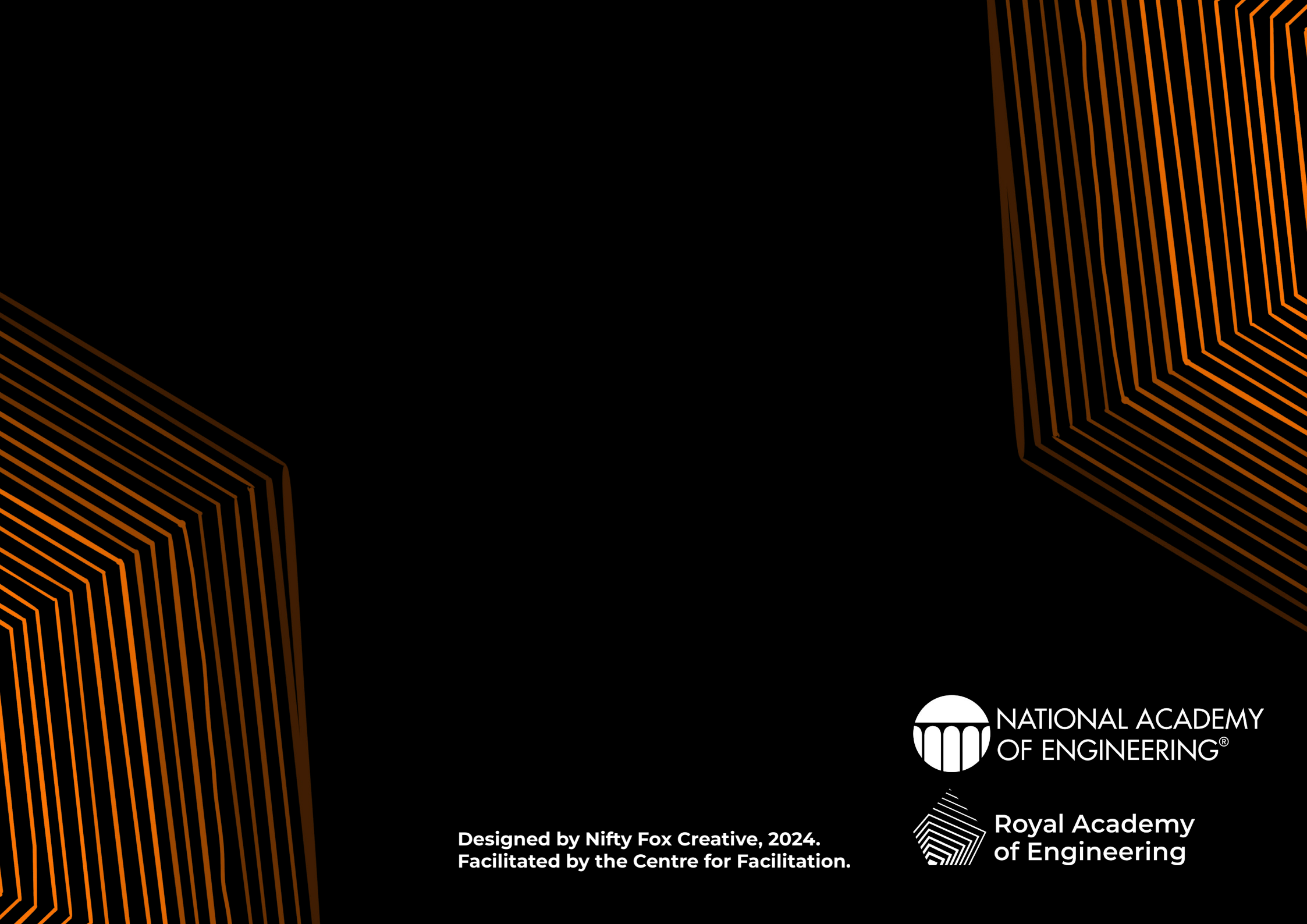
HERE'S WHAT WE'RE DOING



Conclusion

The workshop was welcomed, with both delegations concluding that the challenges and opportunities between both countries are sufficiently similar to warrant collaborative working. Additionally, the approaches taken are sufficiently different to allow for learning through cross-country work on decarbonisation. It was recognised by the participants that although the two reports had a slightly different focus and purpose, they both raised shared concerns between the two nations. The workshop chairs had already programmed in time to have a dialogue after the workshop and connections were made during the workshop that can be built on and developed to enhance the bilateral collaboration.





**Designed by Nifty Fox Creative, 2024.
Facilitated by the Centre for Facilitation.**



**NATIONAL ACADEMY
OF ENGINEERING®**



**Royal Academy
of Engineering**