



CIGRE UK Study Committee C1 Power System Development & Economics

Technical Liaison Meeting
Thursday 3rd April 2025 | IET Austin Court Birmingham





Bless Kuri



Welcome and Update from the UK C1 Regular Member

Dr Bless Kuri, BSc, MSc, PhD is the Chair and Regular Member of the CIGRE UK Study Committee C1. He is the Director of Strategic Energy Planning at SSEN Transmission, the Electricity Transmission Owner in the north of Scotland. Bless brings more than 20 years of experience in the electricity industry, specialising in power system planning and investment in transmission networks. He focuses in the development of a long-term strategic energy plans and network investments in the north of Scotland, underpinned by deep energy insights, to help in the GB transition towards net zero greenhouse gas emissions.

Meeting Agenda

09:30 – Arrival & Refreshments

10:00 – **Welcome and update from the UK C1 Regular Member** | Bless Kuri

10:20 – **Towards a global electricity grid** | Prof. Xiao-Ping Zhang

10:40 – **Offshore transmission planning** | Bless Kuri

11:00 – Break – Refreshments & Networking

11:20 – **Potential roles of energy storage in electric power systems** | Kelly Loukatou

11:40 – **Energy system coupling, electricity and hydrogen** | Raul Montano

12:00 – **Security of supply challenges for a weather dependent GB electricity system** | Callum MacIver

12:20 – Networking Lunch

13:20 – **NGN Showcase, Distribution network planning for net zero** | Mark Kent

13:40 – **Competition in transmission** | James Kennerley

14:00 – **Large infrastructure project delivery** | Marc Vincent

14:20 – Break – Refreshments & Networking

14:40 – **Strategic energy system planning – Presentation and Panel** | Cheng Chen & Panel

15:40 – **Summary & Outlook** | Bless Kuri

16:00 – Networking to 17:00

CIGRE UK Technical Committee

James Yu
TC Chair

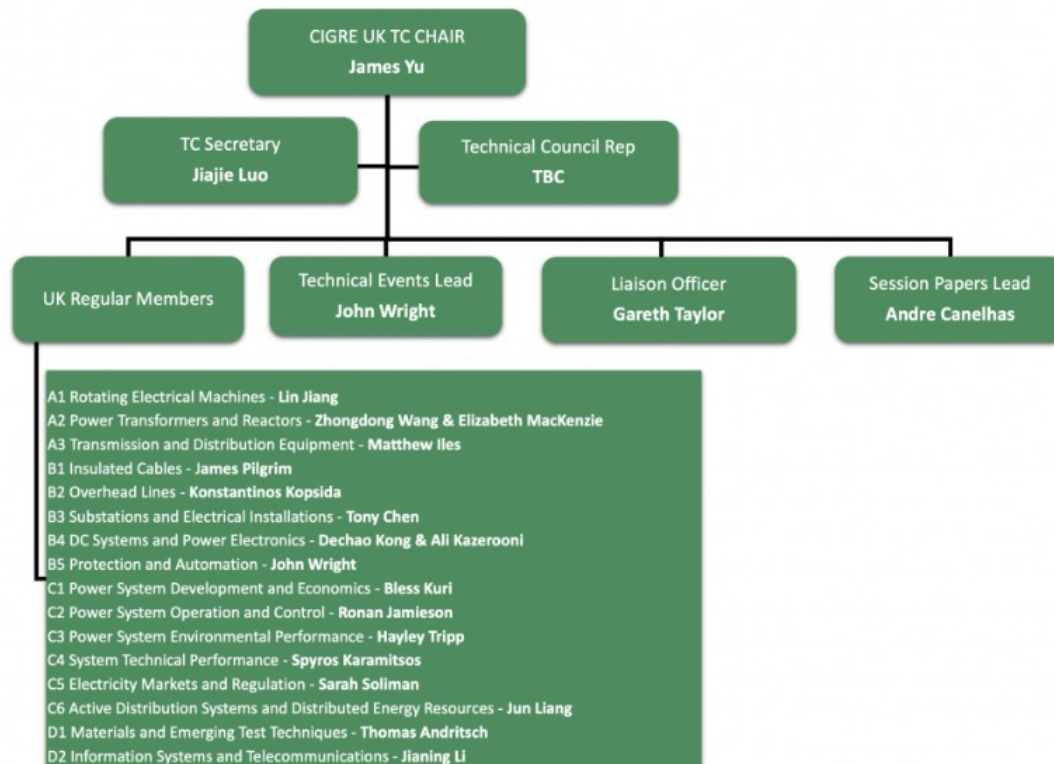


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Existing Structure



A: Equipment

- Rotating Machines
- Transformers
- T/D Equipment

B: Cable/OHL/Sub/ PE and HVDC

C: System

- Development&Economics
- Operation/Control
- Environment
- Technical Performance

Material & Information

CIGRE UK Study Committee C1

Power System Development and Economics

Welcome and Regular Member Update



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Next Generation
Network

Wellbeing Moment

- Some days we feel like professional jugglers, not with balls or batons, but with responsibilities – family, work, health and everything in between
- The trick is to know which balls are rubber and which are glass
- Rubber balls bounce back, an email that you didn't answer right away, It'll still be there, a project deadline that shifts. You'll adapt
- Glass balls! they shatter if you drop them, Your health, your relationships, your wellbeing, these need careful handling
- The truth is no one can keep all the balls in the air all the time
- The key is knowing when to let some rubber balls drop so the important ones don't break
- So, my fellow jugglers, what are your glass balls, and how do you protect them?

Study Committee C1

Power System Development and Economics

Mission

- To support energy system planners, asset managers and decision makers worldwide in anticipating and successfully **managing the system changes raised by Energy Transition**
- To address emerging needs, seize opportunities and tackle **growing uncertainties**, while respecting multiple constraints: **security of operations, adequacy, resilience, affordability and sustainability**.
- To facilitate and promote the progress of engineering and planning methods, to share state-of-the-art, best practices and recommendations.

Scope

- To elaborate scenarios and investment economics, identify mega trends and game changers, develop approaches for energy sectors integration and hydrogen economy deployment.
- To improve planning criteria and methodologies, in particular analysis of projects' costs, benefits & risks, to modernize asset management strategies.
- To introduce in system development processes all flexibility means, all forms of storage (short and long term) and the new active role of end users / demand management; to leverage on Digitalization, on results of innovation in technology and in processes, to strengthen stakeholders' involvement for the realisation of the planned infrastructures, to support evolution of environmental and regulatory frameworks.

Areas of attention include

System planning | Asset management | Business planning | Interconnectors

Working Groups



- Ongoing Working Groups
 - **WG C1.33** Interface & Allocation Issues in multi-party and or cross-jurisdiction . power infrastructures projects
 - **WG C1.42** Influence of Key Requirements to Optimise the Value of Hydro generators
 - **WG C1.45** Harmonised metrics and consistent methodology for benefits assessment in CBA of electric interconnection projects
 - **JWG C1/C4.46** Optimising power system resilience in future grid design
 - **WG C1.47** Energy Sectors Integration and impact on power grids
 - **JWG C1/B4.49** Offshore transmission planning
 - **WG C1.50** Global sustainable energy system coupling electricity and hydrogen
 - **WG C1.51** The potential roles of energy storage in electric power systems
 - **WG C1.52** Virtual Power Plants role and deployment in large power systems operation and planning
 - **JWG B2/C1.86** Approach for Asset Management of Overhead Transmission Lines
 - **JWG C1/C5.53** Forecasting of demand combined with DER penetration driven by consumer behaviour and regulatory schemes influenced by market signals
 - **WG C1.54** Assessment of system reserves and flexibility needs in the power systems of the future
- Forthcoming Working Groups
 - **WG C1.55** Benchmarking survey on the use of Asset Investment Planning practices/systems
 - **WG C1.56** Electro-Cyber Integration to meet Net Zero Goal: Enhancing Grid Management and Global Resource Optimization by support of Cloud Infrastructure
 - **WG C1.57** EV charging infrastructure impact on grids
 - **WG C1.58** VSC-HVDC transmission system planning
 - **WG C1.59** Power-Heat Sector Integration

Technical Brochures

- **C1.23** Transmission investment decision points and trees
- **C1.44** Global interconnected and sustainable electricity system - Effects of storage, demand response and trading rules
- **C1.48** Role of green hydrogen in energy transition - Opportunities and challenges from technical and economic perspectives
- **C1/C4.36** Large City & Metropolitan Area power system development trends
- **C1/C6.37/CIRED** Optimal transmission and distribution investment decision under increasing energy scenario uncertainty

CIGRE UK Study Committee C1 Technical Panel

- **Bless Kuri**, Director of Strategic Energy Planning, SSEN Transmission (Chair)
- **Mark Kent, Senior Engineer**, SP Energy Networks (Secretary)
- **Calum Mackenzie**, Network Planning Manager, Strategic Energy Planning, NESO
- **Prof Keith Bell**, University of Strathclyde
- **Sivapriya Mothilal Bhagavathy**, Lead R&D Engineer (Whole Energy Systems)
- **Kelly Loukatou**, Strategic Insight Lead, NESO
- **Sami Abdelrahman**, Power System Development Expert, NGET
- **Charlotte Higgins**, Associate Director - Electricity Networks, Arup
- **Raul Montano**, Global Solution Manager, Hitachi Energy