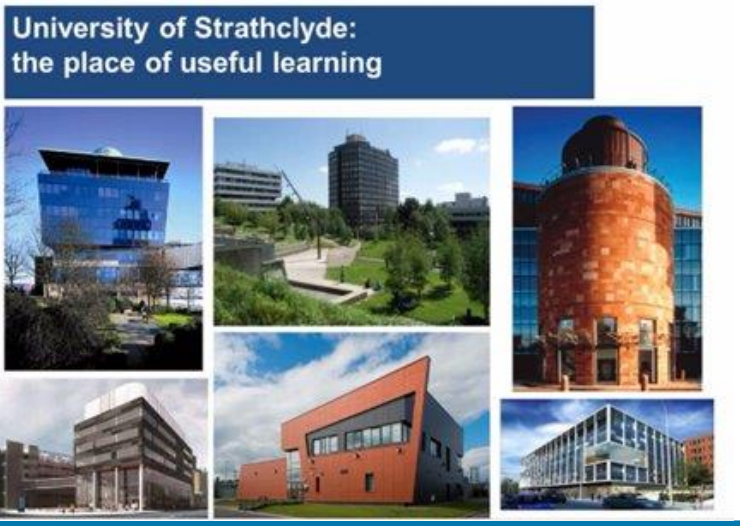
Open Challenges for Research Infrastructures to Support Grid Transition at Pace

Mazher Syed
Dynamic Power Systems Laboratory
Institute for Energy and Environment



THE AWARDS 2019 | WINNER UK UNIVERSITY OF THE YEAR FOR A SECOND TIME

Times Higher Education University of the Year 2012 & 2019
Times Higher Education Widening Participation Initiative of the Year 2019
The University of Strathclyde is rated a QS 5-star institution

GOOD UNIVERSITY GUIDE 2020 SCOTTISH UNIVERSITY OF THE YEAR

The Queen's Anniversary Prizes 2019

University of Strathclyde Glasgow

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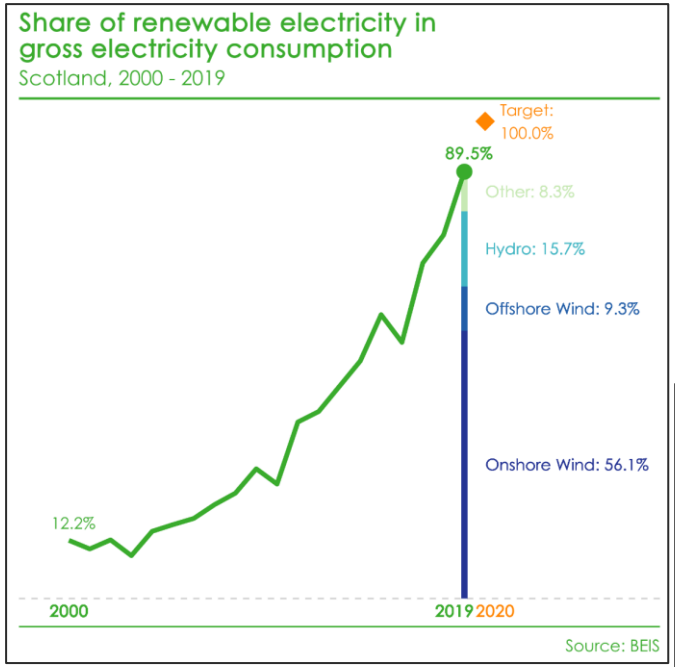
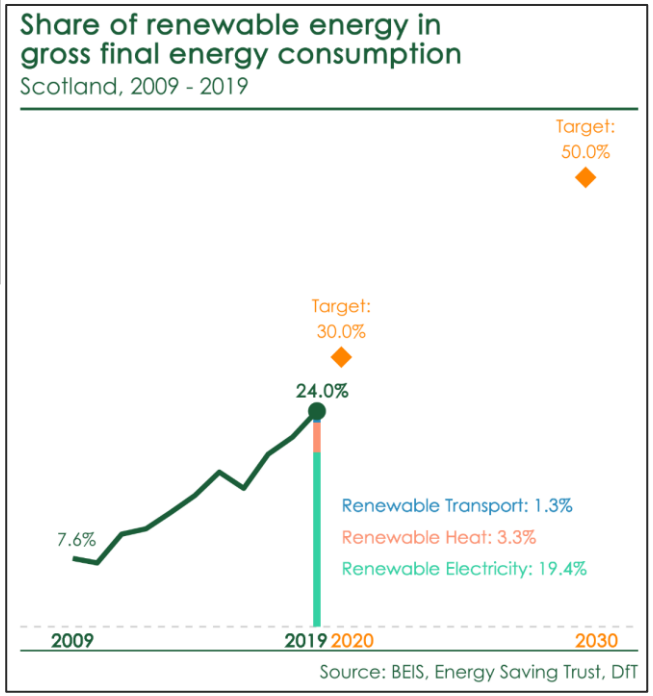
Transformation of our Grid

- Significant progress in decarbonising electricity grid
- Transport and heat account for 50% of energy demand
- An increased focus on whole energy systems driving change



Extract from the Scottish Energy Strategy, December 2017



Tackling the Transformation

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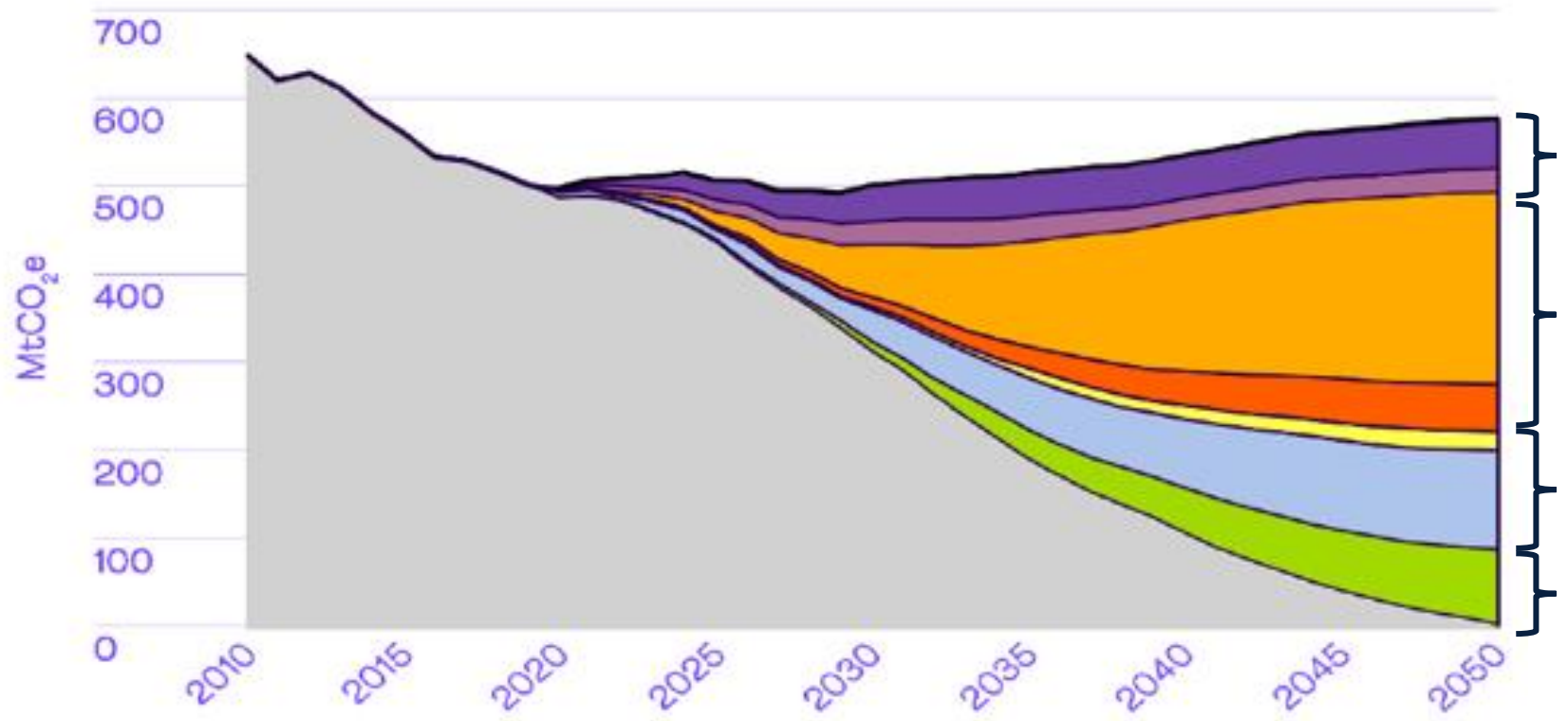
Meeting sixth carbon budget requires action across four key areas



Reducing demand, improving efficiency

Take up of low carbon solutions

Expansion of low-carbon energy

Offsetting emissions

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Research Infrastructures Accelerating Technology Adoption

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- Academically established technologies

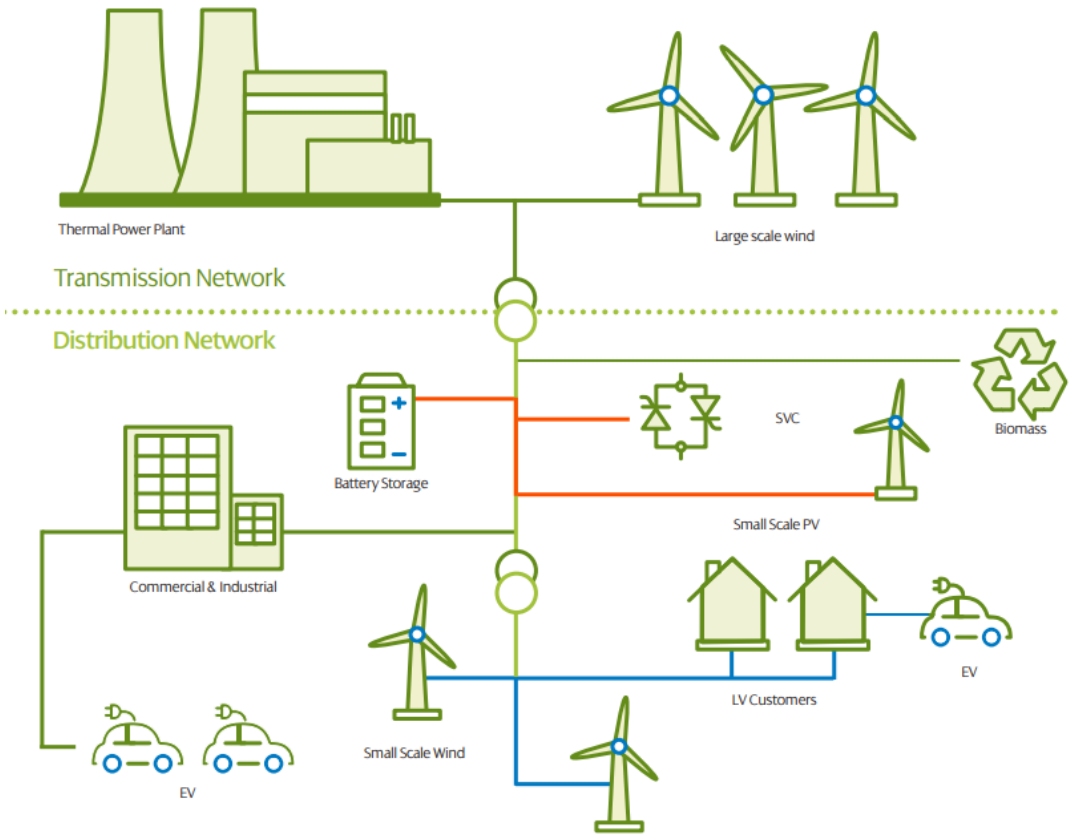
  FUN-LV - 30 soft open points deployed in London Network after testing at PNDC

- Novel Technologies

  LV-ENGINE - World's first solid state transformer installation within distribution network in Scotland

- Witness Testing

  Wind Farm controller witness testing for Vestas



Active distribution network with bidirectional flow

Source: LV Engine A Smarter Electricity Network

Challenges for Research Infrastructures

- Scalability and Interoperability: Tackling the progressive integration and uptake of technology
- Increasing complexity: Trusted validation that justifies investments with confidence
- Business models validation: Future uncertain markets

Collaborative Effort

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H2020 Project ERIGrid 2.0

- ❑ 20 Partners
- ❑ 13 Countries
- ❑ 21 Smart Grid Laboratories

Developing novel test methods, tools and services to support the validation of smart integrated energy system.

ERIGrid 2.0
Connecting European Smart Grid Infrastructures

THE PLACE OF USEFUL LEARNING

University of Strathclyde
Engineering

Mazher Syed
Lecturer, Institute for Energy and Environment
mazheruddin.syed@strath.ac.uk