System Operability Framework (SOF)

Post consultation activities

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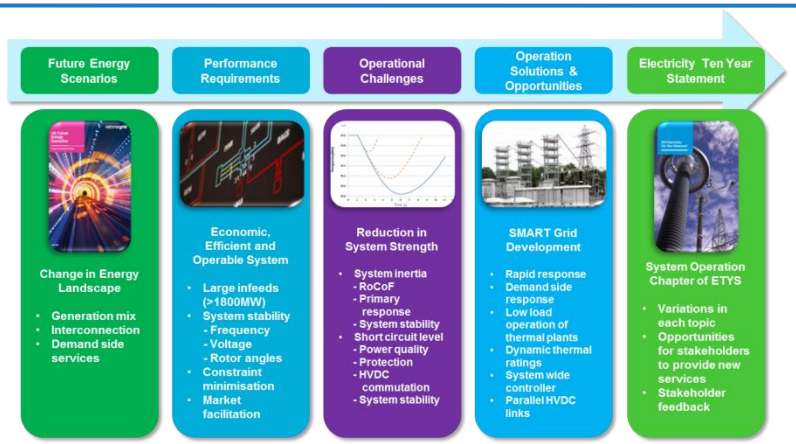
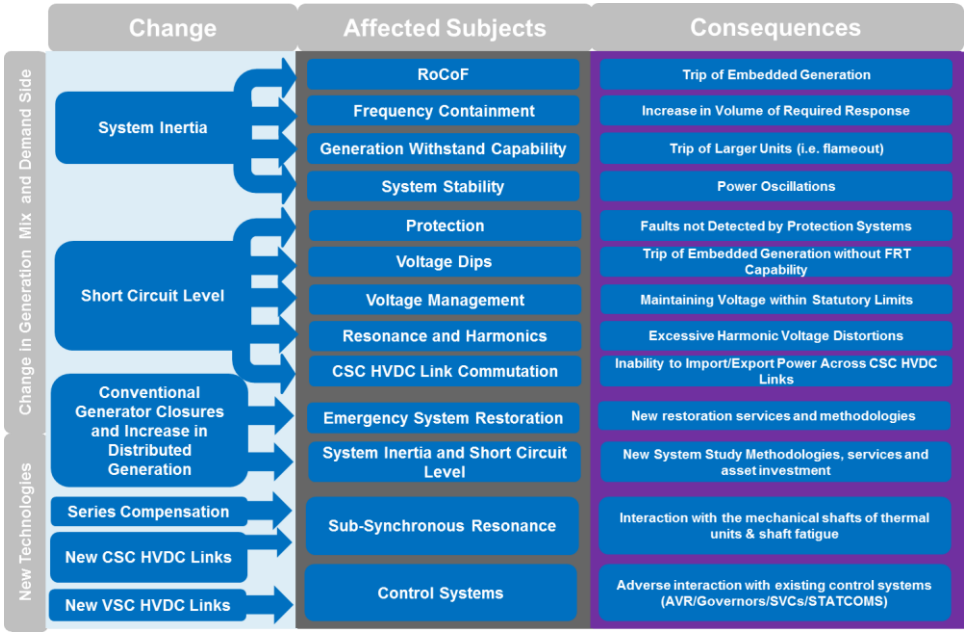
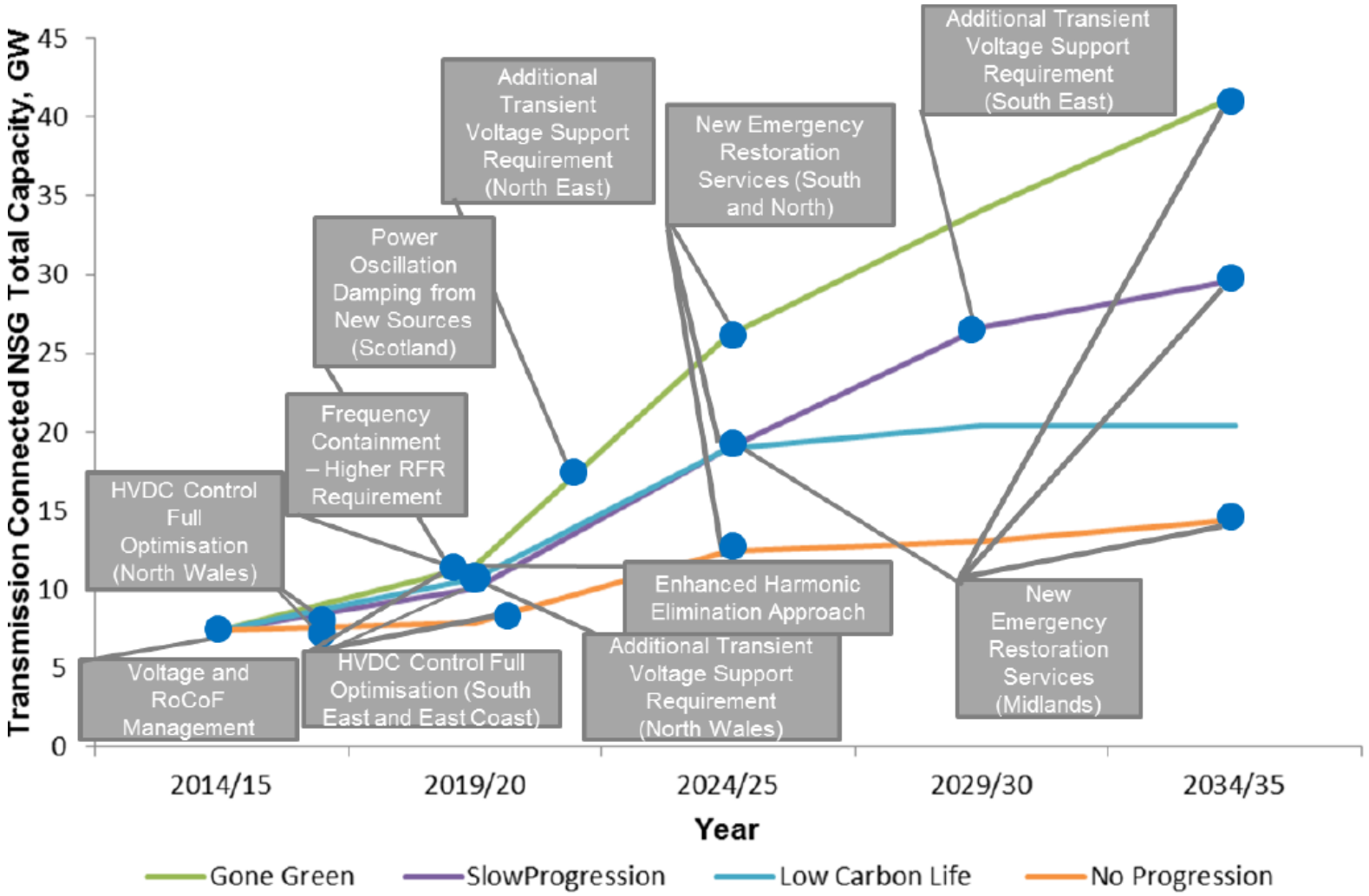
Transmission Network Services

What was SOF? Recap

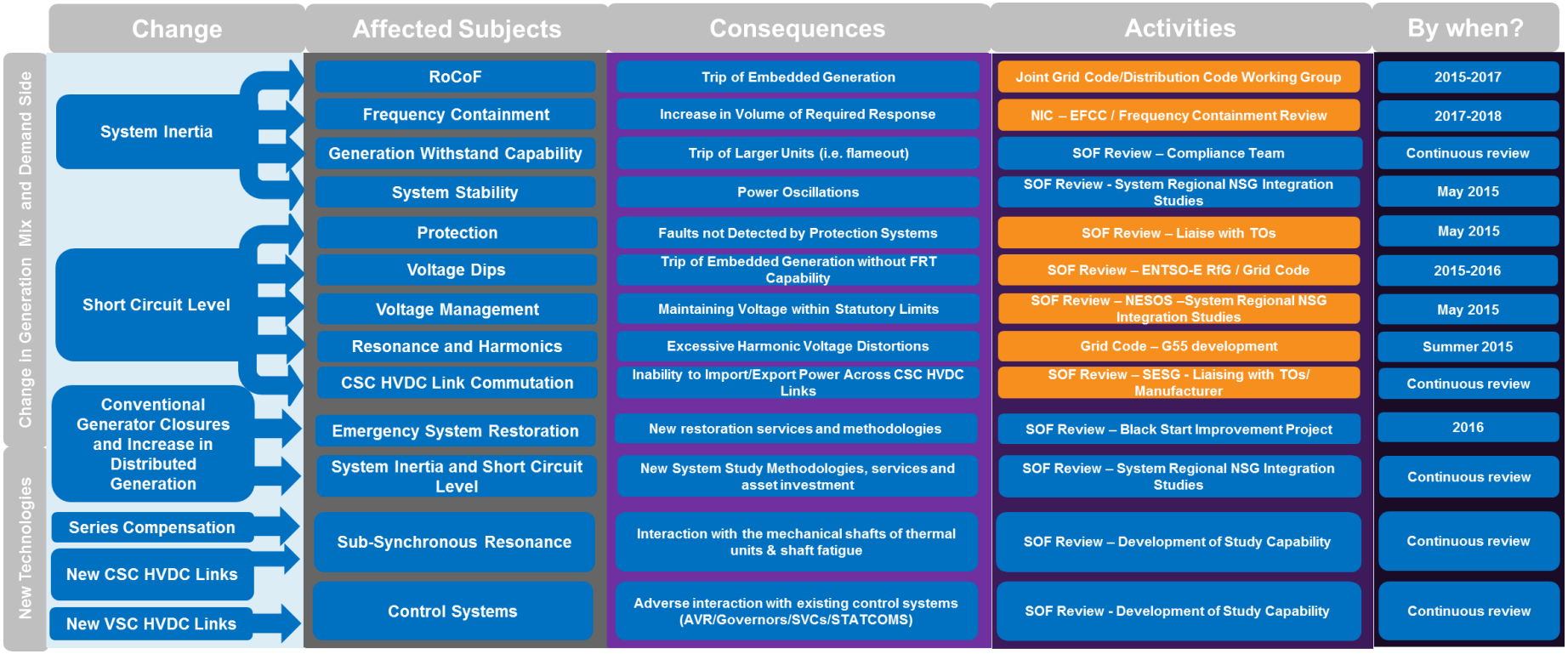




Challenges and Opportunities



Key areas



Internal Activities

Joint activities / working groups

Engagement Forums

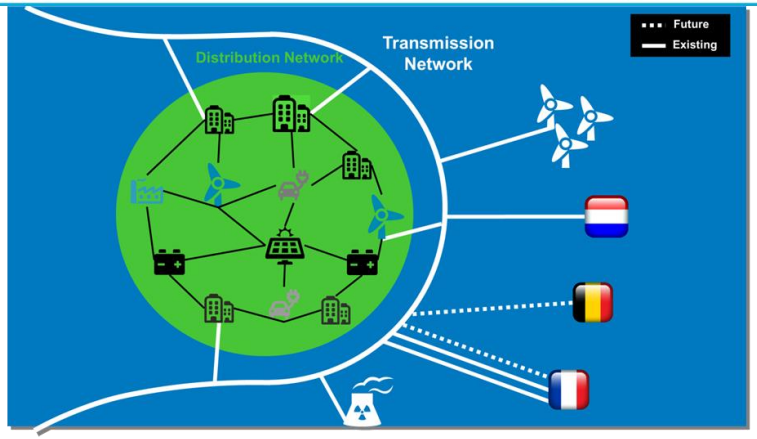
SOF Engagement

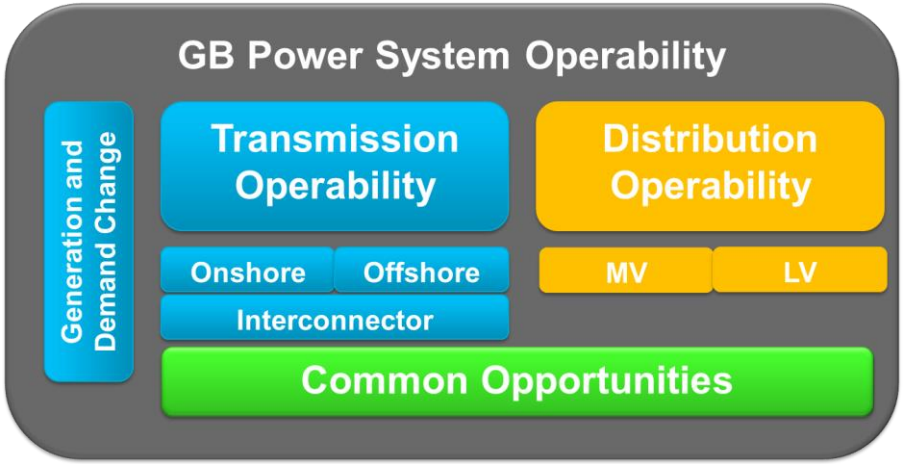
Generation	Transmission	Distribution	Supply Side
Operational Forum - Grid Code Review Panel - Compliance Meetings	SQSS - STC – JPC- Grid Code Review Panel - Liaison Meetings	ENA Grid Code & Distribution Code Review Panel – T&D Liaison	Operational Forum - Liaison Meetings
• New services • New generation technologies Generation withstand capability • Modelling issues • Installations worldwide • Compliance issues • Grid services to the generators • Joint innovation projects	• Investment optimisation for design and operation • New transmission technologies • Operability and regional strategies • SQSS and Code development • Modelling issues and data exchange • Joint innovation projects	• Investment optimisation for design and operation • New demand side technologies (i.e. heat pumps, DSR, storage) • Operability and regional strategies • SQSS, Grid Code and Distribution Code development • Modelling issues and data exchange • Joint innovation projects	• Demand Side Services • Code development • Operability of new technologies • Modelling techniques (i.e. modelling DSR effects) • Joint innovation projects

Example – South East Smart Grid

Investigating a joint T&D approach in coordinating the resources across the networks to benefit the consumer; whilst making sure the effects on both networks are well understood.

Transmission and Distribution working together



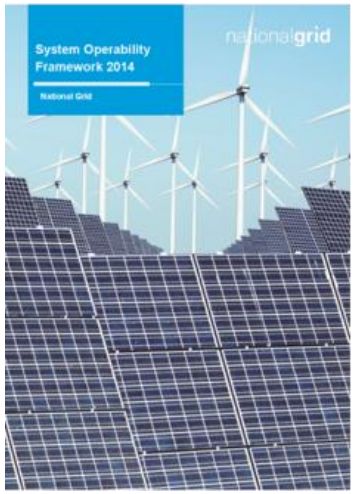


a theme for future SOF?

System Operability Framework Consultation Responses

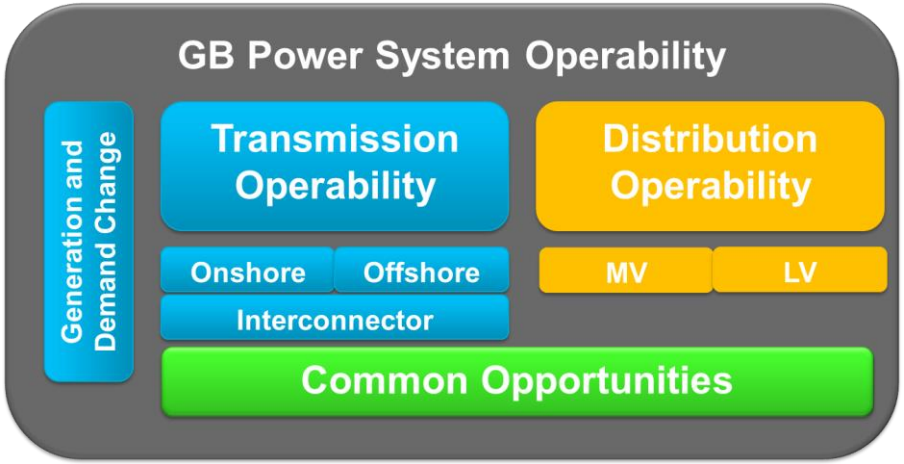
nationalgrid

Top 4 Topics



More focus on the Demand Side

- SOF does take into account the impact of change in demand side on the transmission networks.
  - Way forward:
  - In the next version, with more collaboration with the DNOs, and review of the existing works (i.e. WS7) this will be better addressed.



Review of existing unutilised capabilities within service providers

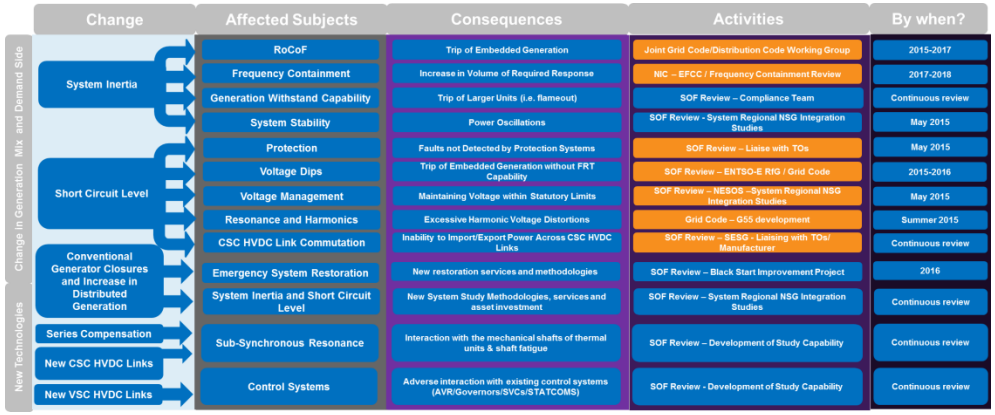
- Number of technologies already deployed on the system are capable of providing number of services required for operability
  - i.e. Storage, Windfarms, Interconnectors, DSR
- Valuation
  - Single service vs overall capability

Development of Long-term solutions require incentives

- Example – SOF makes reference to synchronous compensator – the next fleet of CCGTs can be designed in such a way to have the capability of operating at low load/no load to provide this capability.
  - Long term contract

Timeline to deliver solutions

- Clear roadmap showing the activities leading to create new opportunities and solutions for whole system operability
  - Innovation
  - Technology development
  - New services



System Operability Framework

Thank you for your attention

For more information please email:

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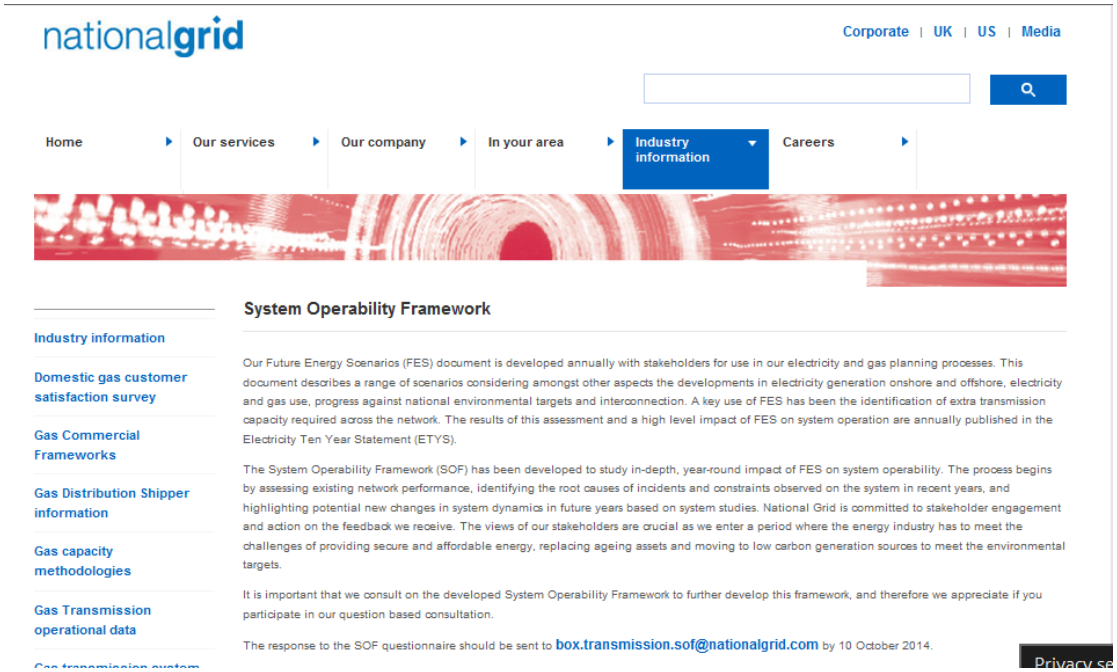

http://www2.nationalgrid.com/UK/Industry-information/Future-of-Energy/System-Operability-Framework/