

## **Q2 - Links with community in the technology area - 3 pages**

ESC and our AD candidate have extremely strong links with the smart grid community in the UK. This is evidenced by, amongst other things:

### **Energy Data Task Force, HM Government**

The Energy Data Taskforce (EDTF) was commissioned by the UK Government, Ofgem and Innovate UK to develop an integrated data and digital strategy that helps unlock the opportunities of a modern, decarbonised, and decentralised Energy System for the benefit of consumers.

Run by the ESC and chaired by our Board Director **REDACTED** the EDTF delivered a strategy for a Modern, Digitalised Energy System centred around two key principles:

- Filling in the data gaps through requiring new and better-quality data,
- Maximising its value by embedding the presumption that data is open.

The EDTF team at ESC engaged with over 300 individuals throughout the energy sector and beyond to understand existing challenges, develop hypotheses and test recommendations. EDTF identified that a staged approach needed to be taken to achieve a Modern, Digitalised Energy System in order to fill the data gaps and maximise data value. Energy Data Taskforce published a report entitled 'A Strategy for a Modern Digitalised Energy System' which presents five key recommendations that will modernise the UK energy system and drive it towards a Net Zero carbon future through an integrated data and digital strategy.

ESC is now working with Ofgem to translate the recommendations into regulation, with network companies to prepare their digital strategies in compliance with the new rules.

### **Future Power Systems Architecture**

ESC, in collaboration with the Institution of Engineering and Technology, delivered the £1.4m Future Power Systems Architecture (FPSA) programme to identify the new capabilities required by the electricity system in 2030. This ground-breaking programme was the first, globally, to use systems engineering techniques to articulate complex whole system issues in electricity.

The FPSA programme takes a Whole System approach – considering the traditional power system together with the installations, appliances and devices on the customers' side of the meter – and how it interacts with other energy vectors, such as transport and heat. A collaboration between ESC and The Institution of Engineering and Technology, FPSA was delivered by an independent expert body having extensive technical, commercial, regulatory, digital expertise and experience. It has a strong customer perspective.

This project involved engagement with 100s of smart grid stakeholders across industry and academia, which further developed and established the ESC's extensive network in this area.

### **Cold Start, UK Power Networks (UKPN)**

This project is a desktop study based on modelling and simulation looking into exploring the problem surrounding cold start/cold load pick-up. This desktop study will inform UKPN's policy around cold start operation and will unlock future studies on technological applications and/or commercial solutions for the management of this issue. The simulations will investigate the phenomenon and will help UKPN's strategy for a low carbon / electrified heat future.

A software tool will be used to aid the network simulation called EnergyPath® Operations, developed by ESC for conducting in-house operational-timescale simulations of energy systems.

Cold Start is expected to be Phase 1 of a larger project. It is the first step towards understanding the issues related to cold load pick up and their extent. The findings will inform a second phase that will focus on how UK Power Networks will address these issues and investigate a range of