

A nighttime cityscape with a prominent skyscraper glowing in a vibrant blue color. The city lights are reflected in a body of water in the foreground. The overall scene is dark, with the blue glow providing a focal point.

The Future Power System: Roadmap to Transformation

Peter Capener

Executive Director, Bath & West Community Energy

Member of FPSA project delivery board

Regen Smart Energy Marketplace

March 2017

Future Power Systems Architecture

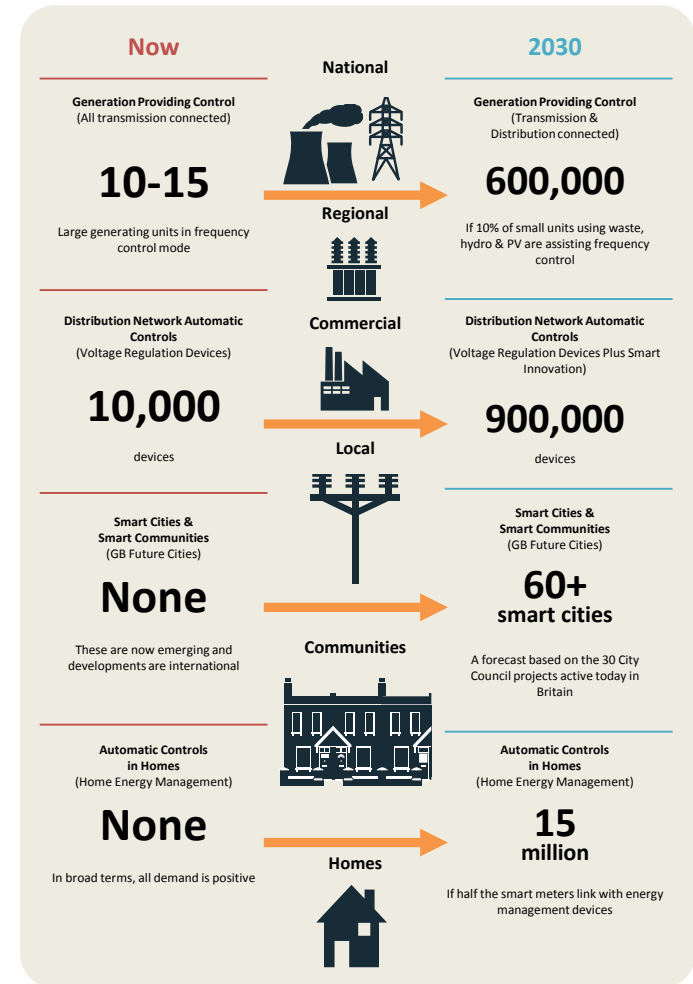


FPSA is an important initiative led by the Energy Systems Catapult and the IET.

It provides significant added value because:

- It seeks to provide for the first time a road map for transforming the UK electricity system to meet the demands of decarbonisation, security and system efficiency
- It is a multi sector partnership supported by government and the regulators with the experience and expertise necessary for the task
- It is laying a foundation for practical, holistic change within a framework of learning and iteration

First phase of FPSA scoped what the electricity system in 2030 would require.



Three Examples of New or Extended Functions

1.

Enabling the cost-effective connection and integration of new generation and demand (such as EV charging), generation (such as solar PV arrays) and energy storage devices (such as batteries)

Enabling techniques include smart active management and communications systems which can relieve capacity constraints on electricity networks and maintain the security and stability of the wider power system.

2.

Enabling secure and open data exchange for all sector parties – including traditional parties (such as Suppliers, DNOs and the GBSO) and new parties (such as aggregators and providers of intelligent home devices)

These parties have systems and services that require the secure sharing of information and a common requirement for access to open data protocols and coordinated data management structures.

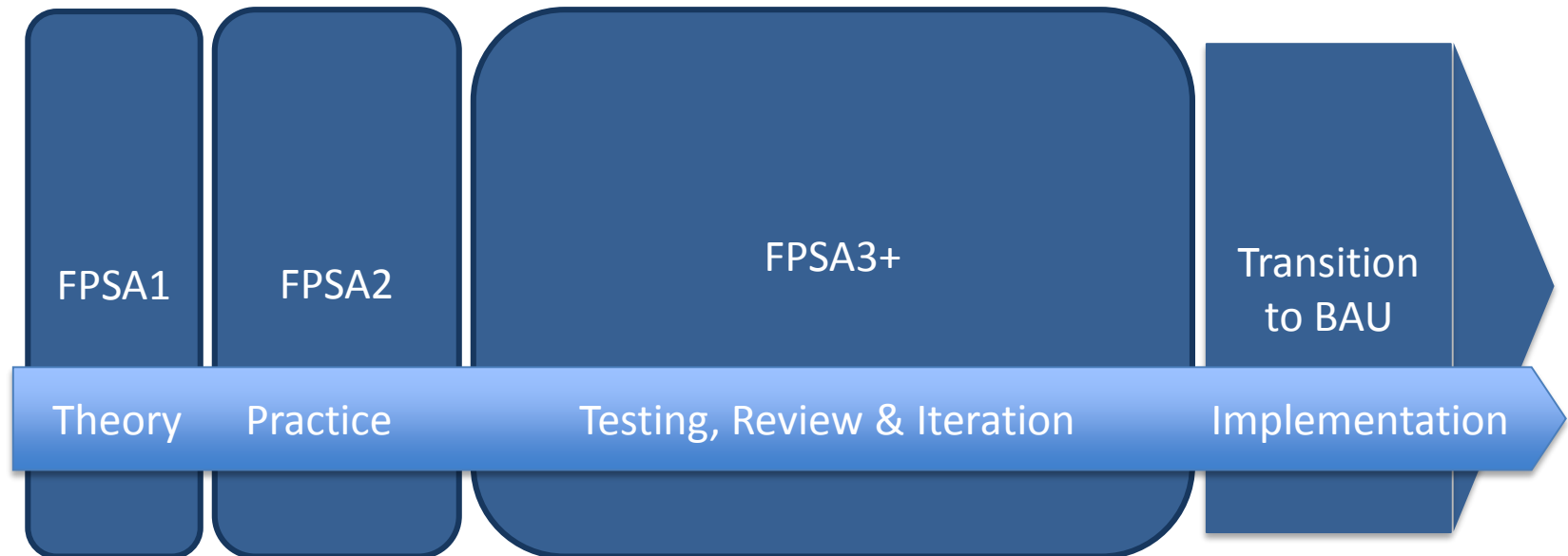
3.

Identifying and designing-out emerging new threats to the power system arising from the expansion of highly distributed communications, control and data management systems

These new threats give rise to increased opportunities for unauthorised access to data, cyber attacks, and potential shocks to the system from uncoordinated control actions leading to demand step-changes.

Application of iterative learning principles and approach

Convening industry debate – Building political support.



Get Involved.....

AllEnergy May 10th/11th

FPSA 2 Report Launch and 1st Workshop June 23rd London



For information & registering interest - fpsa@es.catapult.org.uk