

Smart Energy Cyber Security

UK policy update

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Smart Energy Cyber Security

Department for Business, Energy & Industrial Strategy

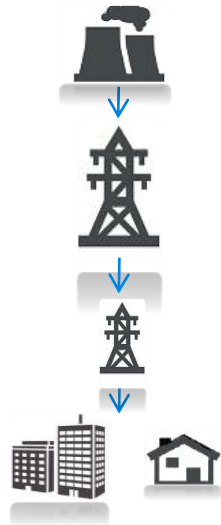
 HM Government



Smart Systems & Flexibility

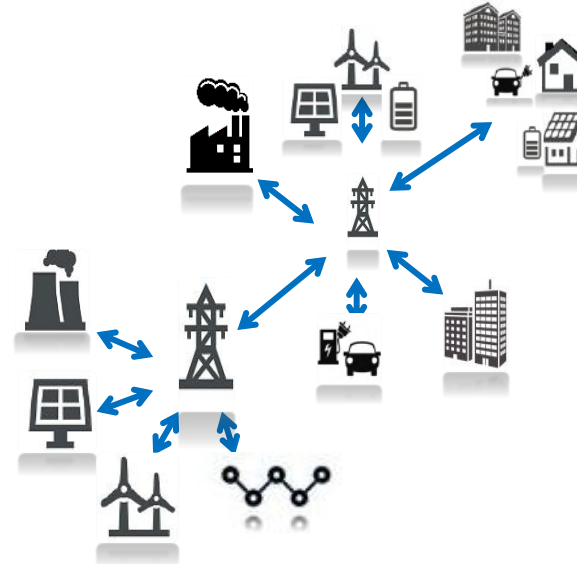
Why does it matter?

Yesterday



- Carbon intensive
- Large, centralised
- Predictable supplies
- Passive consumers

Emerging System



- Low carbon
- Smaller, decentralised
- Intermittent renewables
- Participating consumers
- Storage, DSR
- Smart grids / Interconnectors
- Electric vehicles / heat
- Big data / AI
- A smart system

Decarbonising transport – UK policy

The Road to Zero Strategy: “UK will end the sale of new conventional petrol and diesel cars and vans by 2040”

↑ BEV sales doubled in 2019 compared to 2018

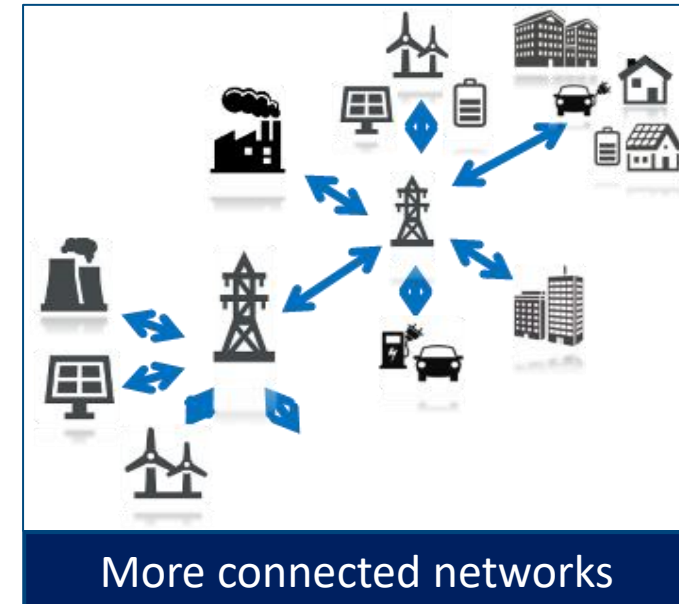
↑ BEV sales (1.6% of new car sales) were higher than PHEV sales (1.5% new car sales) in 2019

↑ “...battery electric and plug-in hybrid electric cars enjoying rising demand...their market share remains low at just 5.8%, with more than 65 already on sale and **34 still on their way this year...**” (6 March 2020 SMMT)

📄 **Government is seeking views on bringing forward the end to the sale of new petrol, diesel and hybrid cars and vans from 2040 to 2035, or earlier if a faster transition appears feasible.**

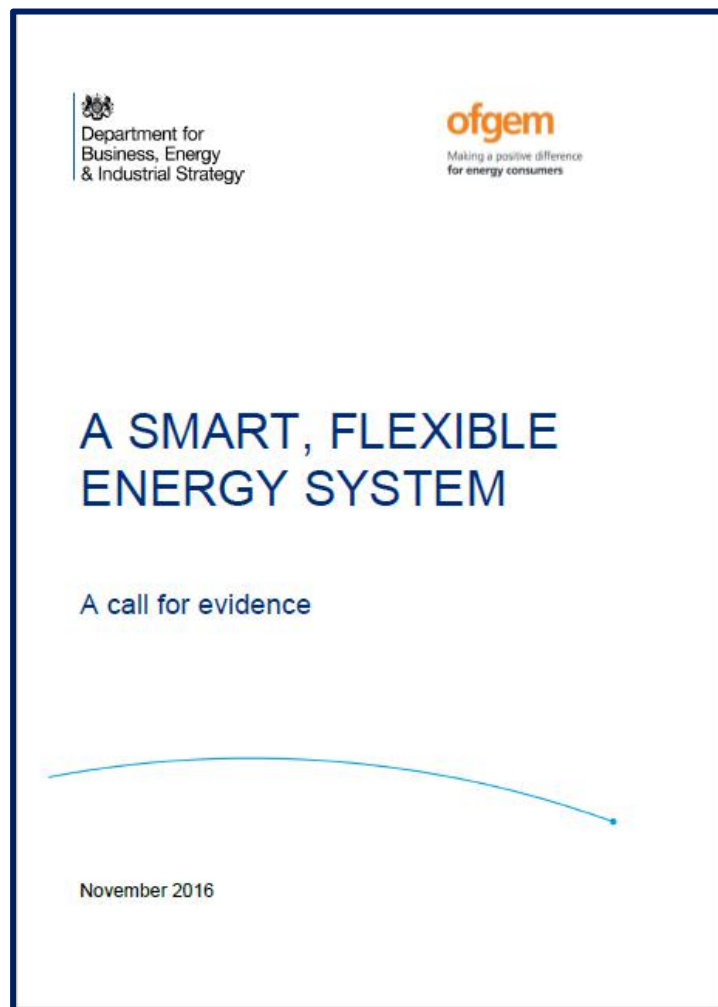


A smart system brings:



Smart systems and flexibility plan - “A smart system will need to mitigate new risks, such as cyber risks, because it will be more complex and more driven by data and communication technologies.”

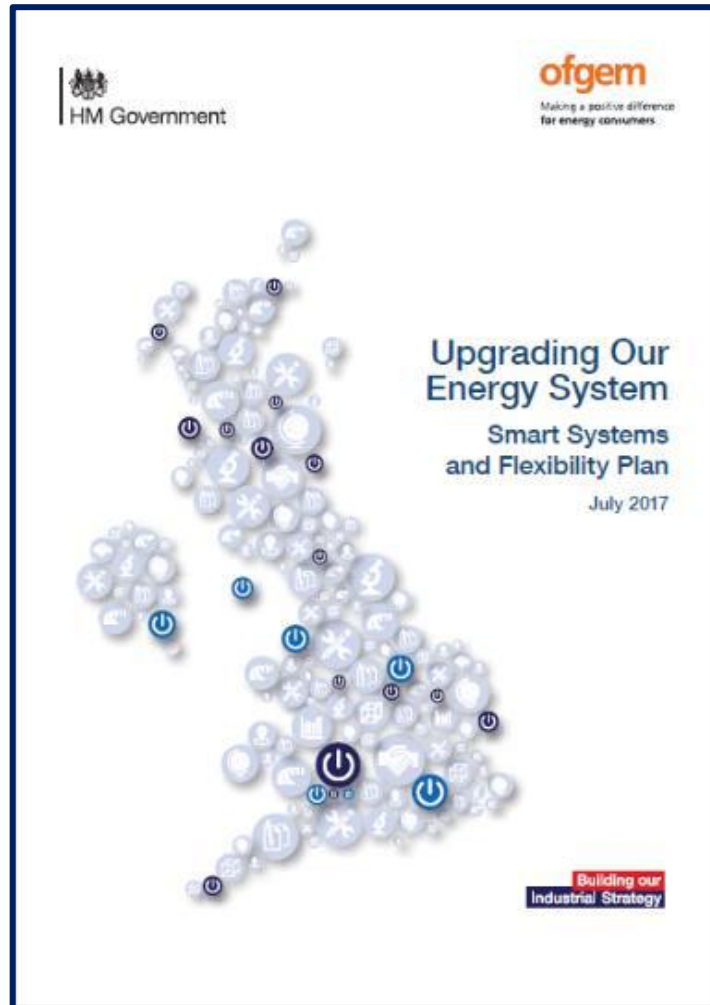
BEIS/Ofgem Smart Energy Call for Evidence, 2016



Industry responded, and on **system stability** issues:

- The majority agreed with the view that there could be potential **cyber security risks** to system stability.
- Respondents stressed that any regulatory response should be **proportionate to the risks identified**.
- Many suggested that there should be more work to **assess the scale of the risk** for the grid.

BEIS/Ofgem Smart Systems and Flexibility Plan, 2017 (updated in 2018)



What was our response?

- **Action 2.6:** Government committed to consult on taking powers to set regulatory requirements for **smart appliances**.
- **Action 2.7:** Government announced plans to take powers in the Automated and Electric Vehicle Bill for regulation of infrastructure to support **smart charging**.
- **Action 2.10:** The Government commissioned work to assess the magnitude of the smart energy **cyber security** risk up to 2030.

What progress has been made?

- The Government consulted in 2018, and has **committed to take powers** to set regulatory requirements for smart appliances when Parliamentary time allows.
- BEIS commissioned BSI to develop a set of **technical standards** for energy smart appliances
- The Automated and Electric Vehicle Bill became an Act, and OLEV **consulted on proposals for regulations** mandating that all private electric vehicle chargepoints sold or installed in the UK are smart (inc. **CfE**)
- BEIS **commissioned a study** on identifying and mitigating cyber security risks in a smart energy system, and further work is ongoing

Department for Business, Energy & Industrial Strategy

SMART APPLIANCES

Government Response to Consultation on Proposals regarding Smart Appliances

HM Government

INDUSTRIAL STRATEGY

Electric Vehicle Smart Charging

bsi. Standards Services Sectors Topics About

October 2018

Smart appliances for flexible energy

Upgrading our Energy System, Smart Systems and Flexibility Plan

Smart appliances for flexible energy

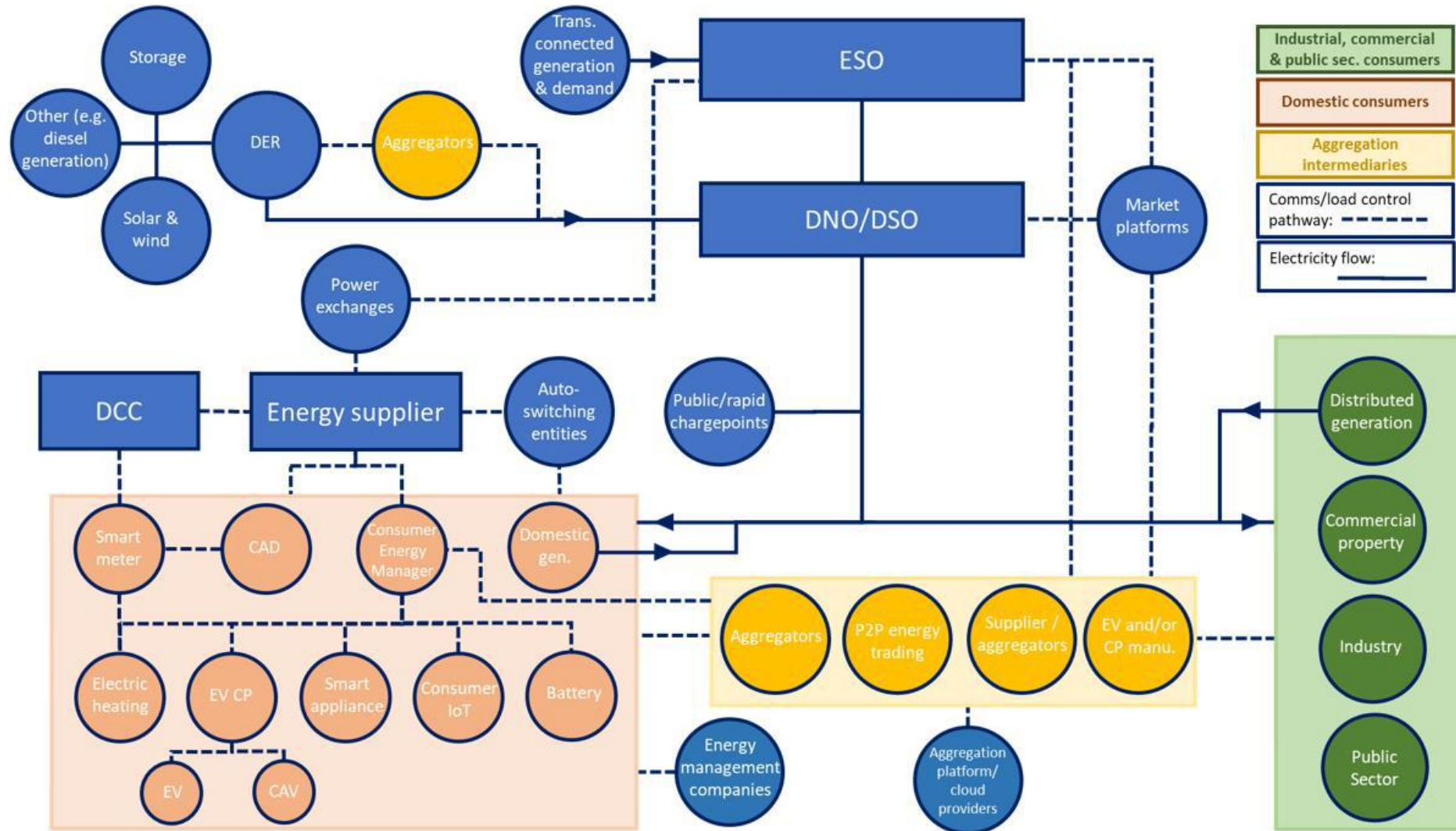
The publication of HMG/Ofgem's Upgrading our Energy System, Smart Systems and Flexibility Plan in July 2017 formalised the strategy for government and industry to make the transition to a smart, flexible energy system. The plan is an important part of the Government's wider Industrial and Clean Growth Strategy, and is a core component of Ofgem's future-facing work to enable the energy system transition.

A key objective of the plan is that consumers are more directly involved in managing demand in the electricity system through smart appliances that react to the availability of electricity on the grid in determining their operational cycle.

What else is happening?

- Working with BEIS colleagues to consider **industrial and commercial** protections
- DCMS work on strengthening **security of consumer IoT devices**
- Working closely with **NCSC**
- Further work on understanding **energy system cyber security risk**
- Smart Systems and Flexibility Plan – **what comes next?**
- **Aggregator workshop** – coming soon
- Many other things...

How do we bring it all together?



Thank you

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