

Smart Systems & Flexibility

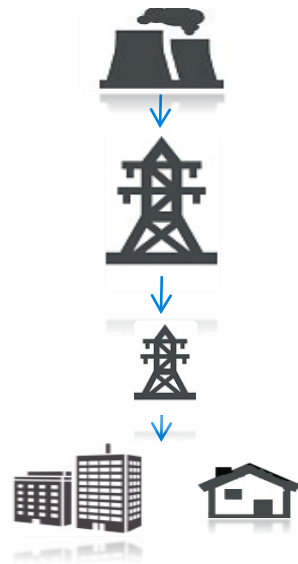
Electricity Storage Policy Approach

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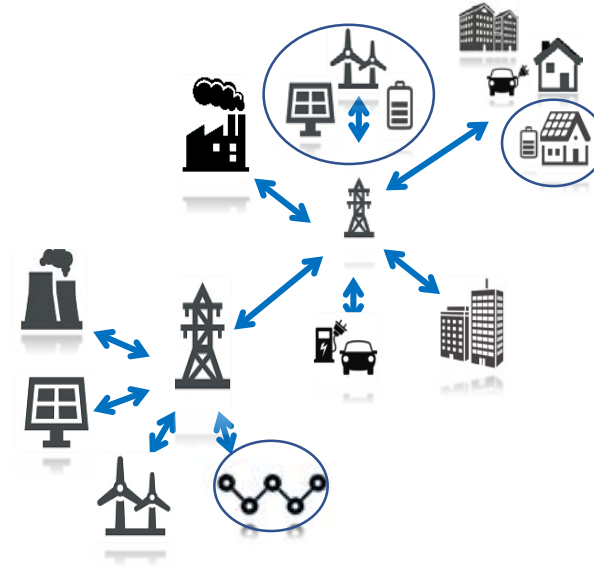
Our energy system is undergoing fundamental change (DDD's)

Yesterday



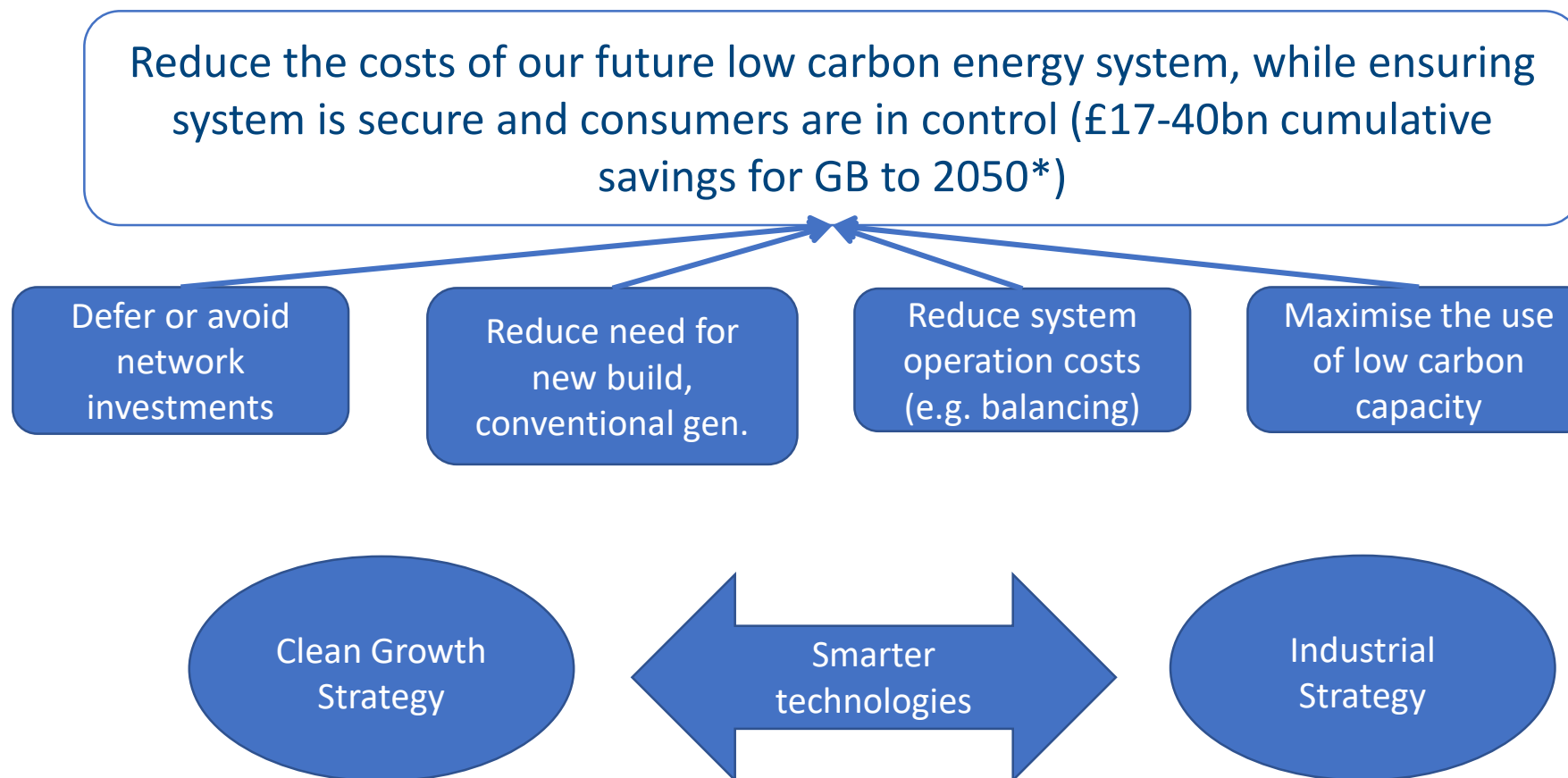
- Carbon intensive
- Centralised generation
- Predictable supplies

Emerging System – increased interactions



- Low carbon
- Interconnectors
- More distributed
- Storage
- Demand side response
- Electric vehicles/heat
- Big data & AI
- Smart grids

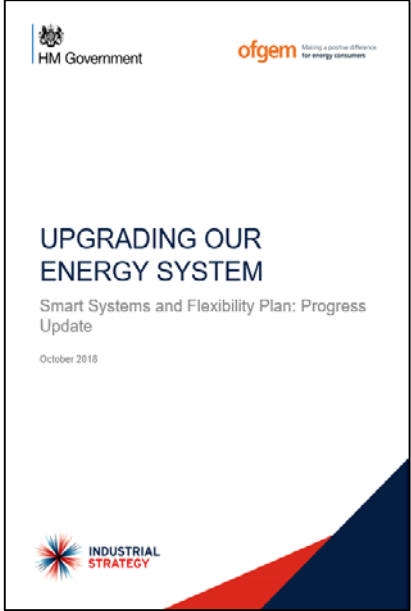
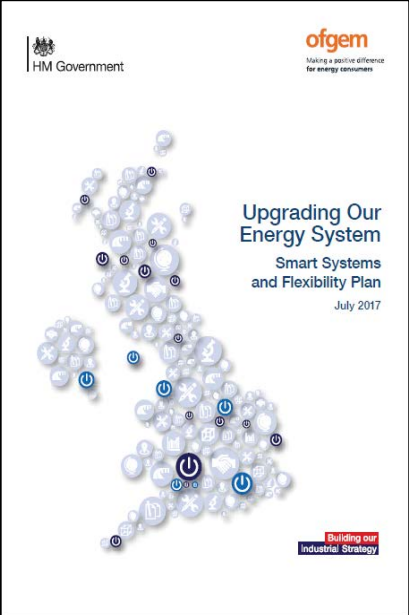
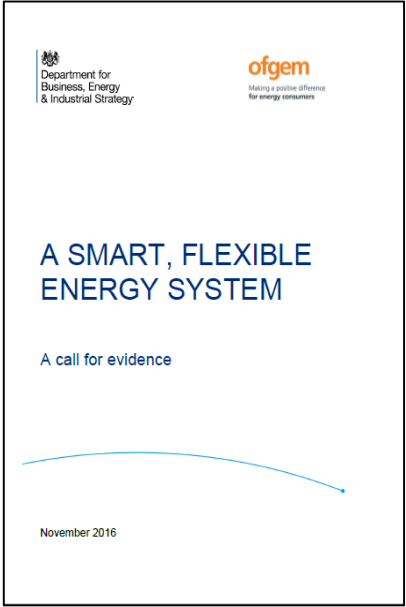
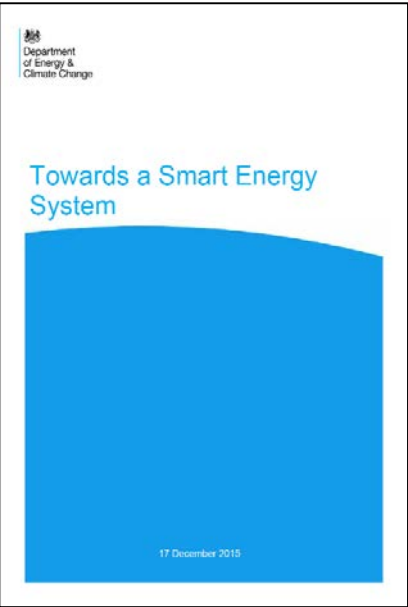
Smarter System Benefits



Source: DECC Least regret flexibility project (2016)

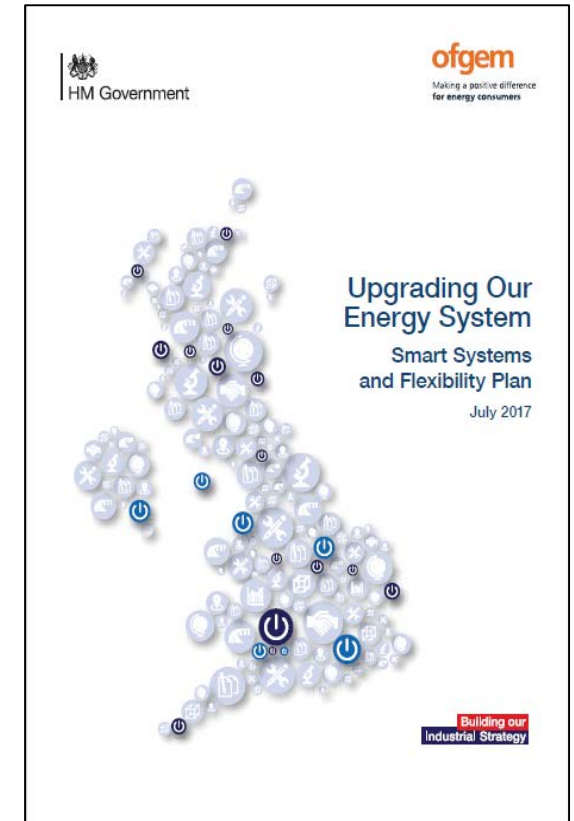
*Cost savings in DECC Least-regret flexibility project reflects the benefits of all flexibility options, i.e. not just storage and DSR but also interconnection and flexible CCGTs

Policy context



Smart Systems & Flexibility Plan: Key Facts

- Original plan published Jul 2017.
- Purpose was to enable the transition to a smarter/flexible system.
- 29 actions for Government, Ofgem and/or industry.
- Implemented over half of original actions now (16 completed!).
- Remaining actions to be implemented by 2022.
- Progress update published 16th October 2018, GGBW.
- Nine new actions for Government, Ofgem and industry.



Smart Systems and Flexibility Plan: Vision

Removing
barriers to
smart techs
– inc. storage



Create a best in class regulatory framework for smart technologies, such as storage, by removing regulatory barriers to a level playing field

Smart
homes and
businesses



Enable consumer participation in demand side response and incentivise and reward specific energy use. Comprised of four buildings blocks: smart meters, half-hourly settlement, smart appliances, smart tariffs.

Markets that
work for
flexibility

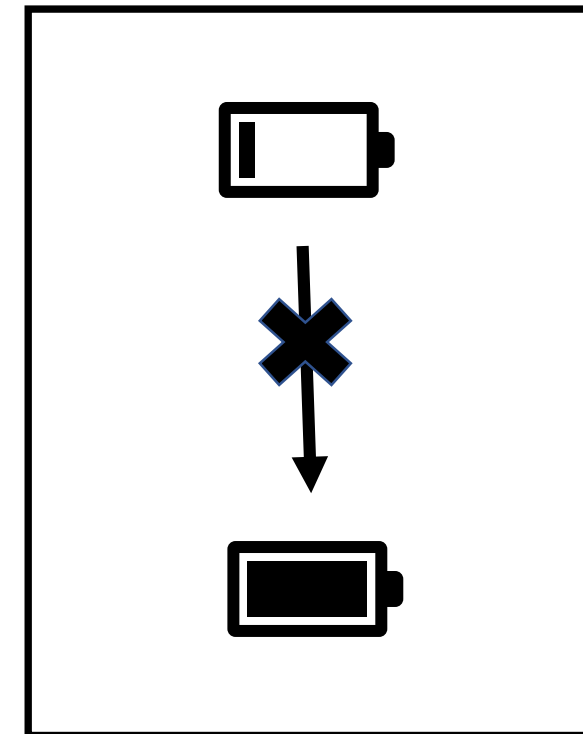


Ensure that flexibility from storage and demand side response are fairly rewarded for the value they provide to the energy system. Primarily by reforming markets and enable revenue stacking.

Smart Systems and Flexibility Plan: Storage Actions

The plan set out nine actions to remove policy and regulatory barriers to storage, such as:

- improving regulatory clarity by defining electricity storage in key regulations and reviewing its treatment in the planning system;
- addressing the overpayment of network charges and policy levies by storage operators;
- facilitating the co-location of storage with renewable generation; and
- working with industry to improve health & safety standards for storage.



Supporting innovation

Committed up to £70m funding to support smart energy innovation up to 2021.

We will deliver the **Smart Energy Innovation competitions** launched to date, and there have been SatS and FleX competitions launched recently.

£102.5m Prospering from the Energy Revolution programme

Launched to develop integrated local energy solutions across power/heat/ transport. Will launch 10-15 concept & design studies, large demonstrators and a competitions

£274m Faraday Battery Challenge to lead R&D and manufacture of EV batteries.

Looking at all aspects of the supply chain, battery research and support. This will have benefits for static storage too.

The UK's involvement in the **international Mission Innovation programme**

Joint innovation competitions with S. Korea and Canada, with a focus on smart energy systems and technologies.

