



Department for
Business, Energy
& Industrial Strategy

OFFICIAL

A GOVERNMENT VIEW ON SMART SYSTEMS & FLEXIBILITY

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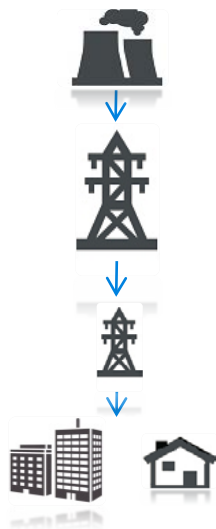
4 July 2017





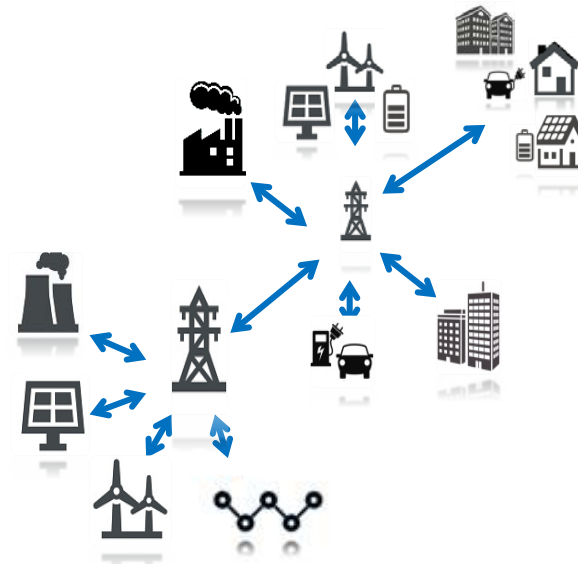
Our electricity system is undergoing fundamental change

Yesterday



- Carbon intensive
- Centralised generation
- Predictable supplies

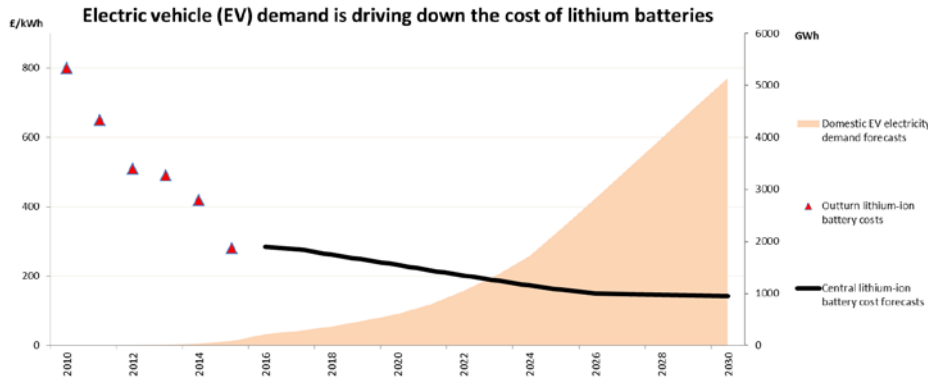
Emerging System – increased interactions



- Low carbon
- Interconnectors
- More distributed
- Storage
- Demand-side response
- Electric vehicles/heat
- Smart grids
- A smart system



New exciting business opportunities, underpinned by rapid technology change



Battery cost data sourced from Aurora (unpublished), includes observed outturn BNEF (unpublished) data
Domestic EV electricity demand based on 2016 EEP returns
It should be noted both battery cost and EV electricity demand forecasts are uncertain

Lithium-ion battery costs plummeting – costs have fallen by more than 50% since 2010. We’re driving further improvements with the £246m Faraday challenge



EVs have strong brand recognition; large-scale rollout & charging infrastructure are under development, and can help manage increased demands on the grid

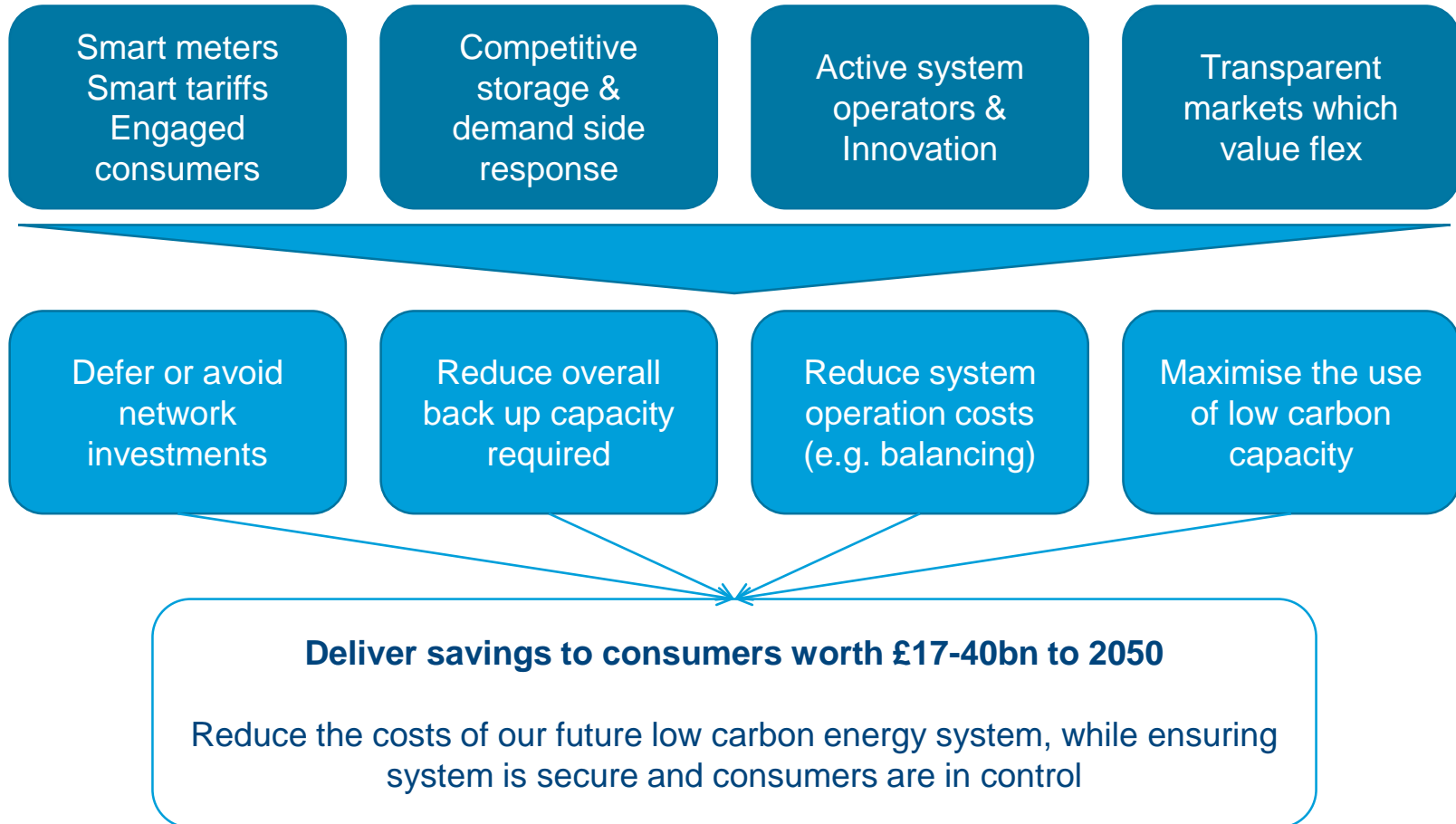


Smart meter roll out is underway – leading to more consumer choice and control about energy in the home



Aggregators are working with market leaders to deliver and monetise demand side response, helping businesses to reduce their energy bills

A smart energy system will deliver significant benefits for consumers



Smart Systems Call for Evidence

You said you want:

Removing barriers to smart technologies

Regulatory clarity and fair charges

- Define storage
- Deliver a storage licence
- Planning reform
- Recalibrate policy/network charges
- Enable co-location with renewables

Smart homes and businesses

Infrastructure and system enablers

- Deliver smart meters
- Enable time of use pricing
- Appliance standards to enable automation & ensure cyber security

Markets that work for flexibility

Access to markets and new markets

- Improve access to Capacity Market, Balancing Mechanism, Ancillary Services
- Enable value stacking
- Create new local markets for flexibility



Catalysing further innovation

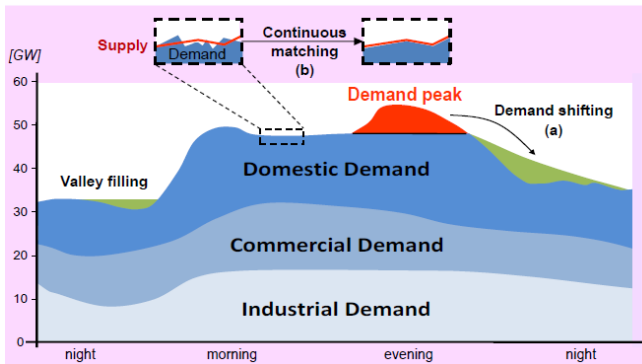
Vehicle to grid pilots

Storage costs

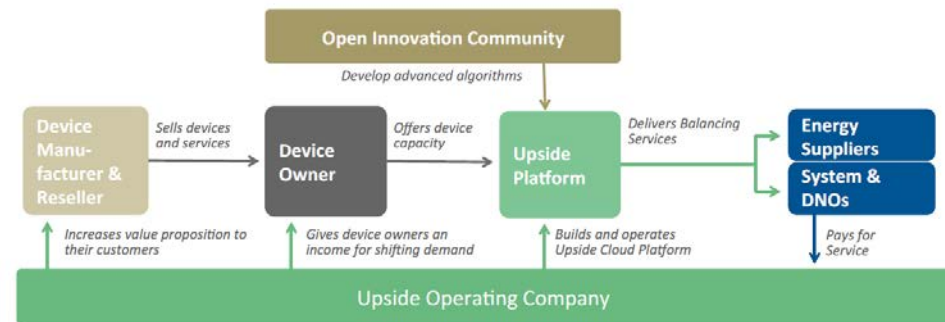


Innovation

Commercial and residential DSR trials



Flexibility platforms





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THANK YOU

