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**To:** EnergyEvidence Infrastructure-Commission  
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**1. What changes may need to be made to the electricity market to ensure that supply and demand are balanced, whilst minimising cost to consumers, over the long-term?**

- To what extent can demand-side management measures and embedded generation be used to increase the flexibility of the electricity system?

The future will see battery driven electric cars, a huge potential to store electricity if managed smartly

Electricity prices should be available at spot prices to consumers using smart electricity meters and availability of the electricity price over the next hours or night. (eg based on wind/sun predictions etc.)

Smart systems could enable cars to recharge when electricity is cheap automatically, using the excess capacity based on normal driving

With such short term price information and availability of these prices to the public, people can decide when to do washing etc. or smart boilers can heat water at time of low electricity prices

This will allow balancing out wind power / solar power variability and allow people on small budgets to buy their energy cheaply serving consumers and producer issues improving the reliability of the electricity supply (shrewd consumers could slash their electricity spend by half in my view)

This could be a private company initiative if these smart meters are available. So effectively storage and demand management will be at the consumers

**2. What are the barriers to the deployment of energy storage capacity?**

- Are there specific market failures/barriers that prevent investment in energy storage that are not faced by other 'balancing' technologies? How might these be overcome?

Absence of spot pricing options for consumers to exploit (low electricity price for short term next hour or 8 hours)

- What is the most appropriate scale for future energy storage technologies in the UK? (i.e. transmission network scale, the distributed network or the domestic scale.)

Use Large water reservoirs for grid balancing (hydroelectric reservoirs in Scotland)

Combine wind turbines with water reservoir to pump up water when wind power isn't needed (old dutch plan called PLAN LIEVENSE)

Use consumer smart buying and consumer battery storage in future electric cars (Think Tesla car battery) to lower cost of electricity for the car owner and reduce variability in supply demand with renewables

**3. What level of electricity interconnection is likely to be in the best interests of consumers?**

- Is there a case for building interconnection out to a greater capacity or more rapidly than the current 'cap and floor' regime would allow beyond 2020? If so, why do you think the current arrangements are not sufficient to incentivise this investment?
- Are there specific market failures/barriers that prevent investment in electricity interconnection that are not faced by other 'balancing' technologies? How might these be overcome?

If we go for Shale Gas and Shale Oil and resulting low cost electricity, it is in our interest to have minimal interconnectors to enable a lower electricity price in the UK compared to our competitors. Otherwise with open market we are shackled to high EU electricity prices

**4. What can the UK learn from international best practice in terms of dealing with changes in energy technology when planning to balance supply and demand?**

There used to be a system in France where the electricity producers indicated the tariff with green yellow and red lights to indicate low medium and high tariff, where people postponed their washing etc. when tariff was red. A much more advanced option could be designed with smart phones etc.

