



# Resource Management

## Changing Energy Demand in the UK



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### The Big Picture

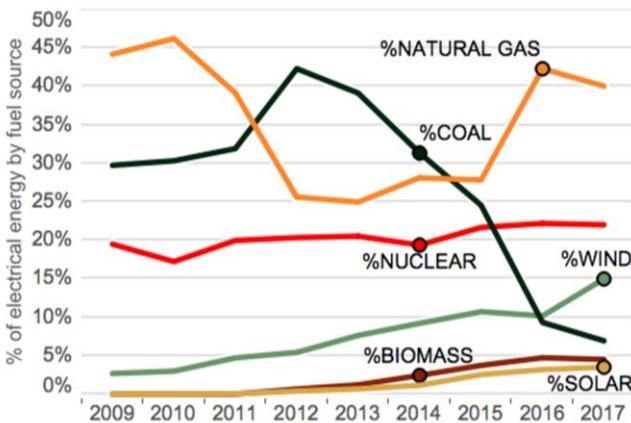


### Changing Energy Demand

The UK consumes less energy than it did in 1970, despite the population being 9.1 million higher. 12 per cent less energy is used by the average household. Heavy industry uses 60 per cent less energy due to its decline. Demand for energy by transport has increased.



### UK's Energy Mix



#### Key facts:

- 2015 – majority of UK's energy mix = fossil fuels
- Nuclear power provides just over one-fifth of the UK's energy mix
- Renewables provide just over 20% of the UK's energy mix
- In 2011 coal use increased as older power stations worked to capacity as they were soon to be closed due to EU regulations on emissions
- Oil and gas reserves have declined.
- Renewable energies such as wind are growing in significance, but are still only a small percentage of energy produced
- Renewables are encouraged to meet targets on reducing emissions



### Key Terms



**Biomass** – a source of fuel or energy using organic materials e.g. wood.



**Energy exploitation** – Developing and using energy to the greatest advantage.



**Fossil fuel** – A natural fuel formed in the geological past from living organisms.



**HEP** – Electricity generated by turbines that are driven by moving water.



**Renewable energy resource** – A resource which is not diminished when it is used.



### Energy Exploitation Issues

#### Fossil fuels



Unsustainable, they will eventually become too expensive or run out.



Costs increase to deal with the effects of climate change and adaptation to it.



CO<sub>2</sub> is released which contributes to acid rain and climate change.



Fracking for shale gas can cause earthquakes and groundwater pollution.

#### Nuclear



Nuclear plants are expensive to build and decommission.



Transporting and storing nuclear waste is expensive.



Waste is radioactive for 100 years+ and has to be stored safely to avoid contamination.



Nuclear accidents have long-term impacts on people and wildlife.

#### Renewable energy resources



High set-up costs. Costs increase in remote areas.



Biomass can reduce land available for food production increasing food prices.



Low profitability is a concern.



Biomass reduces biodiversity as only one crop is grown e.g. sugar cane.



HEP schemes flood land upstream, changing the landscape and wildlife.



Wind turbines can affect bird migration.