

# Balancing the UK energy supply

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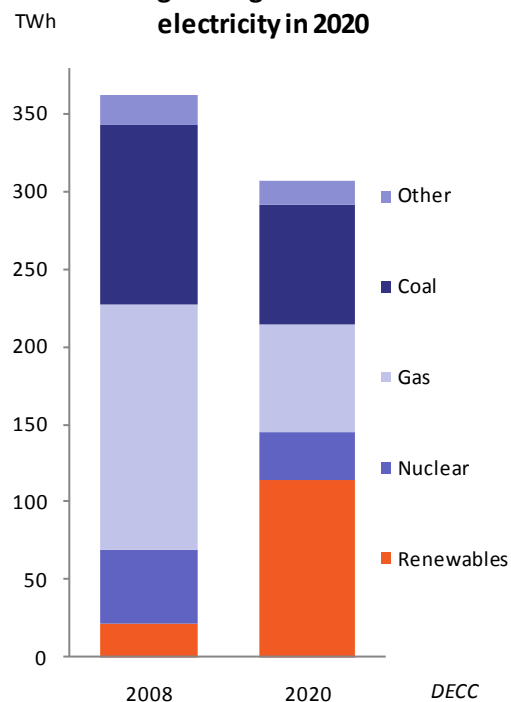
## The looming energy gap is on track to be filled but only if policy is implemented effectively and without delay

The UK has entered a period of declining output of North Sea oil and gas. The energy mix in 2020 is still likely to be dominated by these two sources. There will also be a substantial loss of generating capacity during the next decade as coal-fired capacity closes around 2015, following the emissions standards set by the Large Combustion Plant Directive, and most nuclear power stations reach the end of their productive lives. This is coupled with the move to a low-carbon economy, and access to energy supplies being used by some countries as a political tool.

To avoid future energy shortfalls the previous Government's policy aimed to develop supplies that are secure, diverse, affordable and low-carbon. These include:

- Renewable generation
- Nuclear power
- Coal-fired generation with carbon capture and storage
- Energy efficiency programmes
- Pipelines to import gas from Norway and continental Europe, terminals for imported liquid natural gas and further gas storage.
- Infrastructure improvements including major new electricity lines and a smart grid

**Renewables would need to be the largest single source of UK electricity in 2020**



## Where will funding for major new electricity generation be found?

The principal issue that needs to be addressed is securing major funding to enable the development of new generation. The current liberalised market is unlikely to deliver the new electricity generating capacity and infrastructure that the UK urgently requires by the middle of the decade. Private companies are reluctant to make major investments in generation and transmission without greater certainty about the payback. Uncertainty about the planning regime is also deterring companies because of the possibility of costly delays.

## ARE RENEWABLE TARGETS ACHIEVABLE?

Renewables in the UK are not yet a significant source of energy. As of 2008 renewables constituted 2.25% of energy sources. The UK has an EU target for renewable energy of 15% by 2020 to fit within the EU's overall target of 20%. The UK Renewable Strategy set out how this would be met: 30% of electricity; 12% of heat and 10% of transport demand will be renewable by 2020. The Strategy's analysis concluded that each sector will have to deliver close to its maximum potential to achieve this. The new Government has stated it will seek to increase the target for energy from renewable sources.

## NUCLEAR POWER – FILLING THE ENERGY GAP?

New nuclear build is viewed by some as the principal way of securing a substantial new base-load, low-carbon electricity supply for the UK. The alternative is gas-fired generation, although this does produce more carbon and there are possible concerns over energy insecurity as much of it would have to be imported.

Government policy in the early 2000s to replace decommissioned nuclear generation with renewable electricity proved not to be viable and the decision to facilitate new nuclear build by private companies was taken, but not until 2007. The Labour Government announced 10 sites which are potentially suitable for new nuclear stations up to 2022. Most are current sites. It also published a new nuclear: indicative timeline.

## RENEWABLE ENERGY INCENTIVES

- Renewable electricity supply is incentivised through the Renewables Obligation, which has been in place since 2002.
- Other countries such as Germany and Spain have been successful at encouraging renewable electricity through the use of feed-in tariffs. This approach has been adopted in the UK for generators under 5 Megawatts.
- A Renewable Heat Incentive is also proposed.
- Use of a percentage of biofuels in fossil fuels is required through the Renewable Transport Fuels Obligation.

Due to long lead-times, the first new nuclear station would not be expected to be operational until 2017, assuming no further delays. This is likely to be at Hinkley Point in Somerset.

Stakeholders claim that the current liberalised framework will not provide sufficient incentive to build new nuclear stations. It is not yet clear whether the new Government's position on nuclear power would affect this.

Many believe that new nuclear build should not proceed unless a disposal route and location for higher level radioactive waste is fully identified. The Labour Government invited communities to express an interest in hosting a deep underground repository. To date, only councils in Cumbria, home to Sellafield, have registered an interest.