## ofgem Theme 4

# Ensuring a secure and reliable gas and electricity supply

Sustainable Development Indicators



The UK Government and Devolved Administrations set out a strategy for sustainable development, *Securing The Future*, in 2005. Drawing on this framework and stakeholder feedback, we focus on the five themes which we think capture how the Gas and Electricity Markets Authority should contribute to the sustainability challenges of the 21<sup>st</sup> century.

The fourth of the five themes is ensuring a secure and reliable gas and electricity supply. Our regulation of the electricity and gas networks, and our commitment to sustaining a regulatory environment that supports investment, underpin our goal to ensure that cost-effective, reliable and diverse energy supplies are always available to consumers.

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# Indicator 12: Reliability of supply – network performance

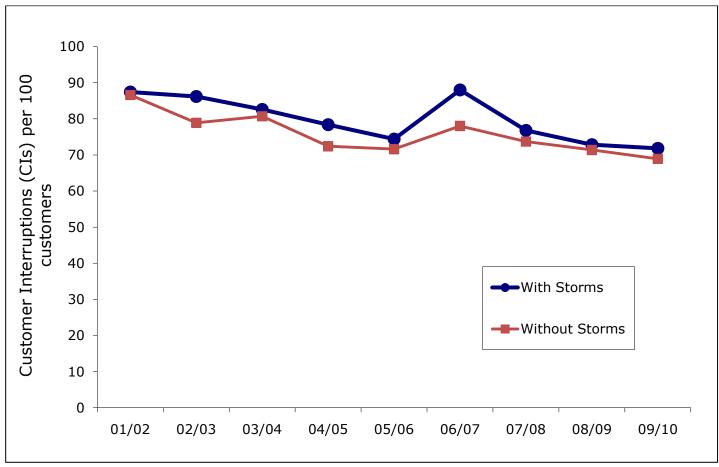


Figure 20 - Average electricity customer interruptions (CI) per 100 customers Source: Ofgem

The average number of electricity customer interruptions has fallen for the past 3 years. In the 2009/10 reporting year there were 17 fewer interruptions per 100 customers than in 2001/02 when quality of service incentives where introduced.

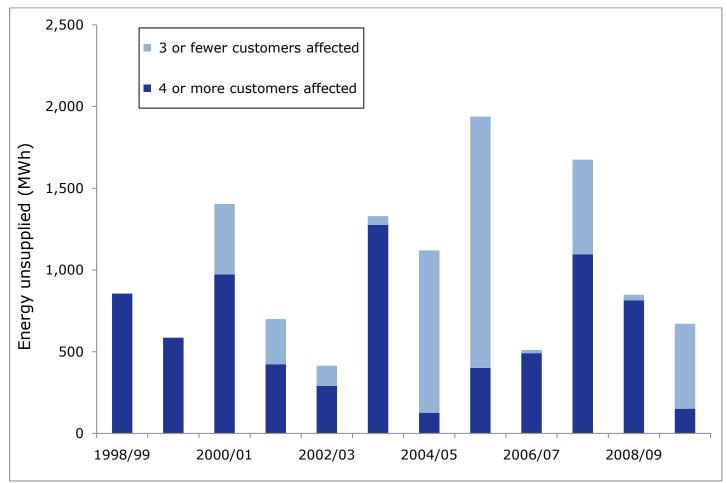


Figure 21 - Energy unsupplied due to transmission network faults Source: Ofgem

There has been a large reduction in energy unsupplied to 4 or more customers in the last year. The power cuts that occurred this year typically affected fewer customers. The reliability incentive under the Transmission Price Control was created to keep the amount of electricity unsupplied due to transmission network faults low. The electricity unsupplied represents a small percentage of total energy supplied, often less than 0.001 percent.

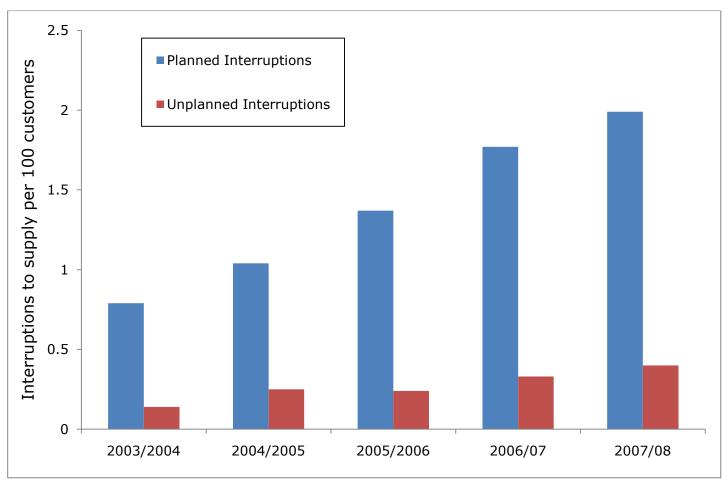


Figure 22 - Average gas customer interruptions per 100 customers

Source: Ofgem

This chart has not been updated since last year due to data availability. We hope to provide an update on this in the near future.

The trend of increasing planned interruptions to the gas supply is due to the ongoing replacement of old iron gas mains for new polyethylene pipes. This replacement programme is a major long-term project to improve the safety of the gas distribution network and reduce the incidences and amount of gas leakage.

Indicator 13: Security and diversity of supply – market response

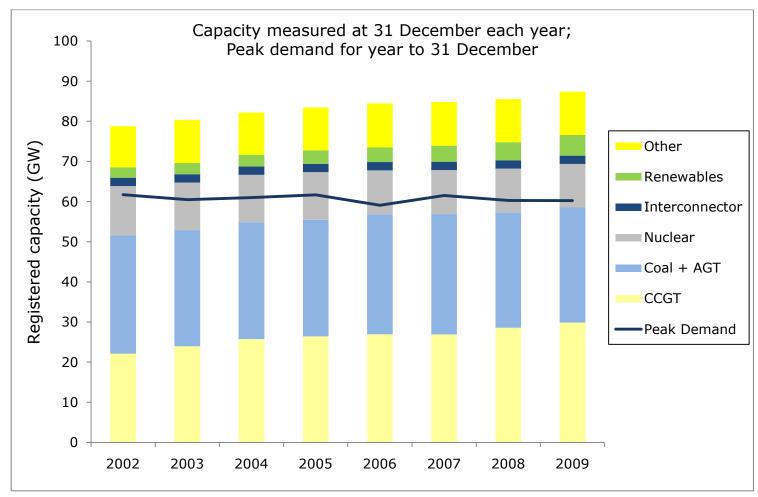


Figure 23 - The UK electricity generation mix

Source: DECC DUKES

There is now more gas fired (Combined Cycle Gas Turbine) generation capacity than coal fired and AGT (Advanced Gas Turbine) in the UK. Renewable generation capacity is also increasing as more projects come online. However, electricity production by technology differs from capacity shares as some sources, such as nuclear, generate almost continuously whereas others only generate when demand, and prices, are higher. Some renewable technologies, in particular wind, generate intermittently due to fluctuations in the natural resource.

The UK's maximum demand this year represented 77 percent of all registered generation capacity in 2009. While capacity margins are currently high by historical standards, this decade will see significant changes to the electricity market with the closure of a number of coal and oil fired plants that are considered too polluting by modern standards and nuclear plant that are coming towards the end of their working lives.

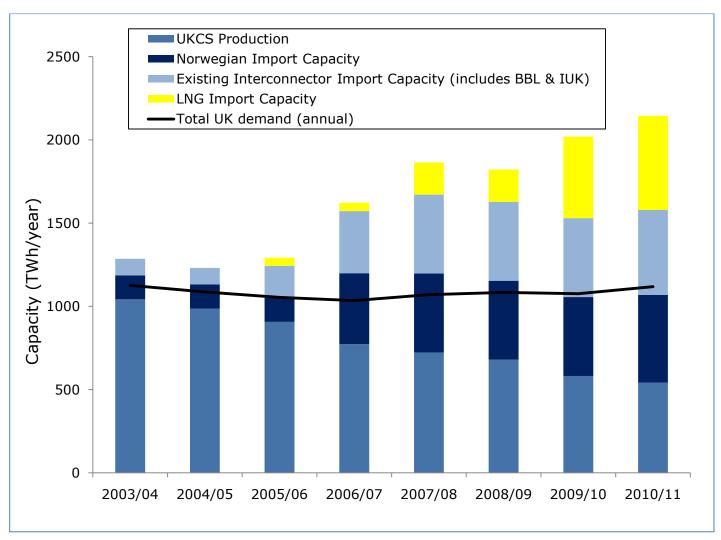


Figure 24 - Gas supply capacity in the UK (updated June 2011)

Source: National Grid

Liquefied Natural Gas (LNG) and interconnector import capacity have increased due to new projects coming online. Import capacity is becoming increasingly important for gas security of supply as UK continental shelf (UKCS) gas production peaked in 2000 and is now in decline. The UK has a fairly diverse supply as it comes from many different sources including imported LNG.

### Indicator 14: Future supply capacity mix

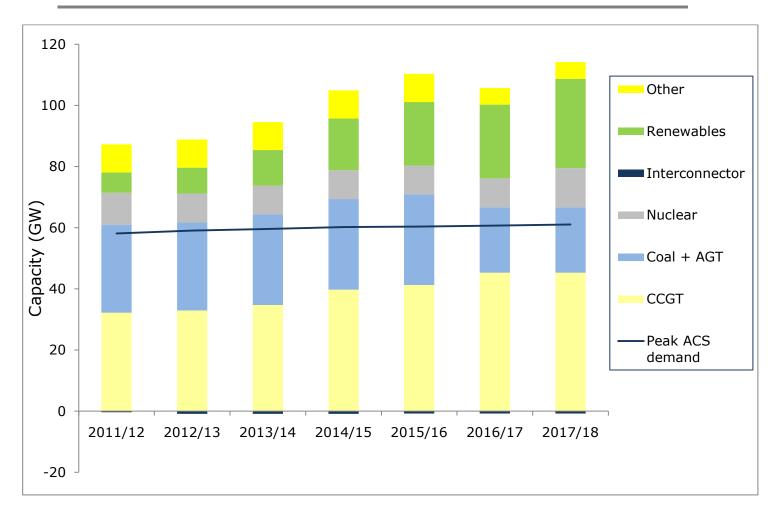


Figure 25 Projected UK electricity generation mix (updated June 2011)

Source: National Grid Seven Year Statement 2011

There will be significant changes in the electricity generation market this decade. As shown in the chart, gas and renewable energy generation are predicted to increase. According to the Seven Year Statement, renewables could reach almost 23 percent of installed capacity in 2017 while Combined Cycle Gas Turbines (CCGTs) could have a 40 percent share of capacity.

ACS stands for Average Cold Spell.

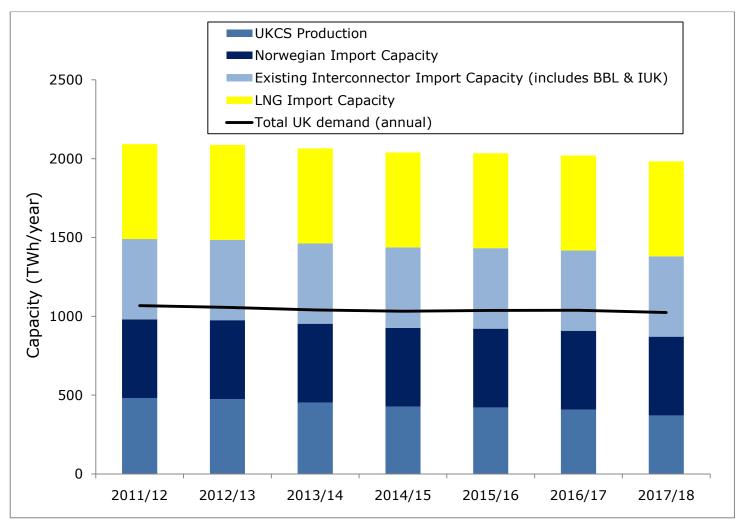


Figure 26 - Projected future gas supply capacity in the UK (updated June 2011)
Source: National Grid

In the future, UKCS supplies are expected to continue to decline, although this may be slowed by the prospect of new gas supplies from the West of Shetland in the medium term. Gas import capacity is expected to be maintained well above the level required to enable sufficient gas to be imported to meet demand. These supplies are diversified as they include pipelines and LNG re-gasification capacity.

#### Indicator 15: Product Innovation

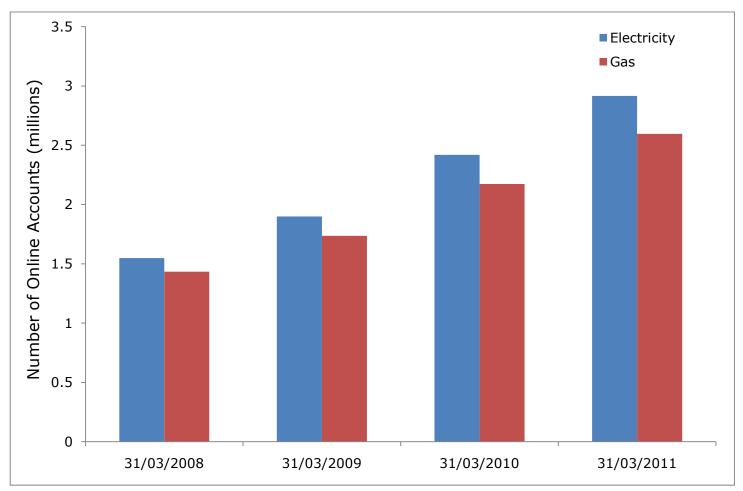


Figure 27a Number of accounts signed up to online tariffs (updated June 2011)
Source: Electricity and gas suppliers

The number of online accounts has been steadily increasing since 2008. This could be due to increased awareness of lower-cost online tariffs and greater promotion via online comparison websites.

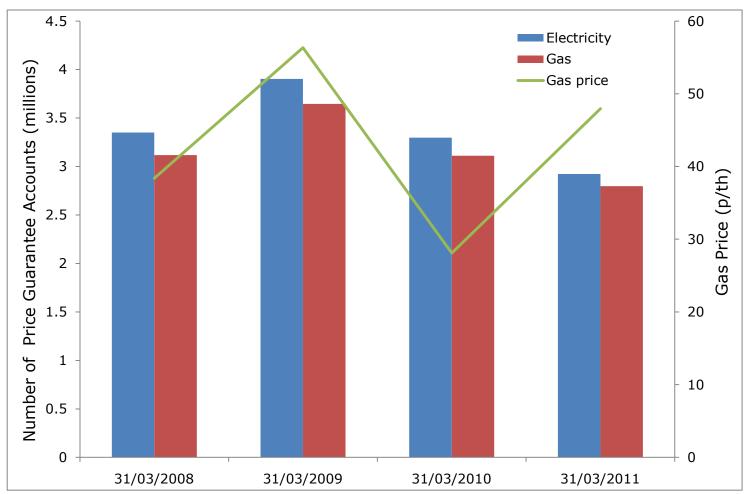


Figure 27b Number of accounts signed up to price guarantee tariffs (updated June 2011)

Source: Electricity and gas suppliers

Price guarantee account numbers appear to be correlated to the gas price, which reached a peak in 2009. There will be a lag in tariff numbers due to the fixed length of contract associated with this type of tariff. There has been a decline in the number of accounts with a price guarantee over the last three years.