

Our goal is for everyone who has an interest in the UK's energy future to engage with us so that we can develop the most rich, robust and plausible range of scenarios possible.

This year our stakeholders told us that our new scenarios should reflect the energy 'trilemma' of sustainability, affordability and security of supply, as well as having a rich and engaging story detailing the future of energy. Our stakeholders also told us to increase the number of scenarios to account for a broader range of uncertainty, so we have broadened the range from two to four:



 4.3 continued
Power Supply

4.3.5
Distributed Generation

Our distributed generation scenarios consider the potential for development of generation plant connected to or making use of the distribution network which are 1MW and above, up to large scale generation as defined by the transmission areas within GB⁴². This, along with micro-generation, is viewed as an area of potential

significant increase, encouraged by government incentives for low carbon technologies. Our distributed generation scenarios consider a wider variety of technologies, which may be categorised into two groups: fossil and renewable as shown in Table 13.

Table 13
Distributed generation technologies

Fossil	Renewable		
CHP	Waste	Anaerobic Digestion	Landfill Gas
Coal	Sewage	Advanced Conversion Technologies	Tidal
Diesel	Wave	Solar PV	Wind Onshore
Gas	Wind Offshore	Biomass – Co Firing	Biomass Dedicated
Oil	CHP		

We have developed three data sets which have different deployment rates for the technologies

considered and have been applied to our scenarios as shown in Table 14.

Table 14
Distributed generation scenarios

Low Case	No Progression Scenario
Medium Case	Slow Progression and Gone Green Scenarios
High Case	Low Carbon Life Scenario

⁴² This is a change to the 2013 Future Energy Scenario where distributed generation covered installations of 5MW and above.



The deployment rates for distributed generation have been developed from a variety of different information sources, from Government data to information provided from trade associations and electricity distribution networks. Given the limited visibility of future distributed generation deployment at an individual plant level, the scenarios have focused on the potential take-up of particular technologies.

All of our scenarios consider a potential growth in distributed generation, starting from 9.8GW

in 2013/14 increasing to 17.6GW in our **No Progression** scenario, to 21.8GW in **Gone Green** and **Slow Progression**, to 26.3GW (nearly 1/5 of all installed generation capacity) in **Low Carbon Life** by 2035/36 with particular emphasis on renewable generation: solar and wind.

The levels of installed capacity and associated output for distributed generation for our **No Progression** and **Low Carbon Life** scenarios are shown in Figures 94 to 97.

⚡ 4.3 continued Power Supply

Figure 94
Low Carbon Life distributed generation installed capacity

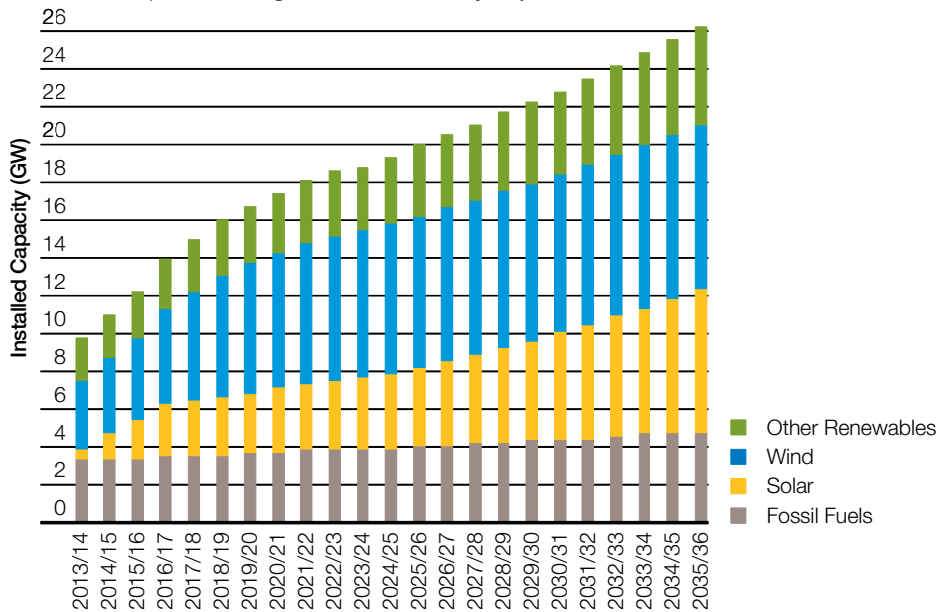


Figure 95
Low Carbon Life distributed generation output

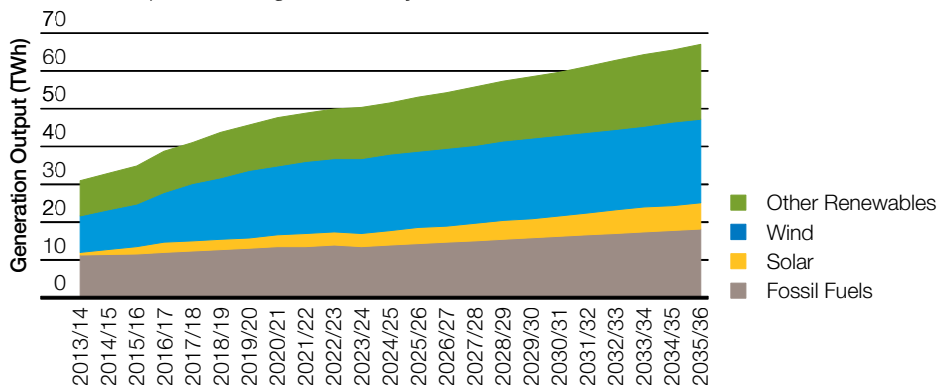




Figure 96
No Progression distributed generation installed capacity

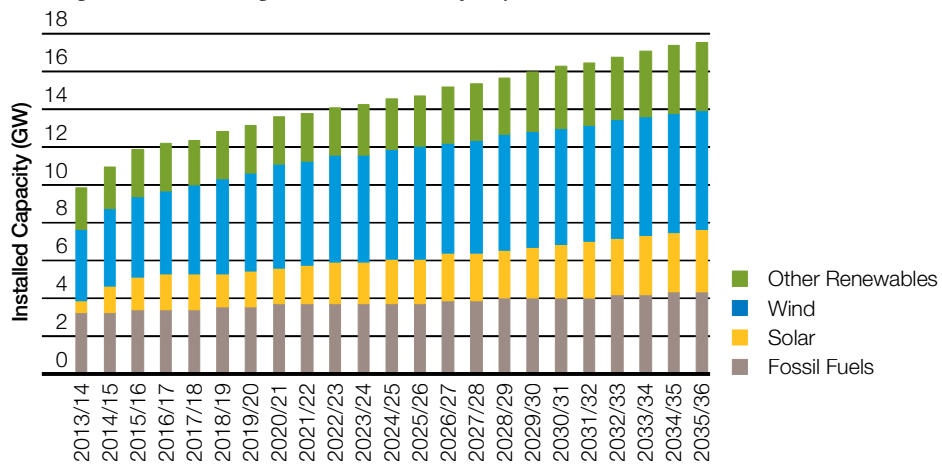
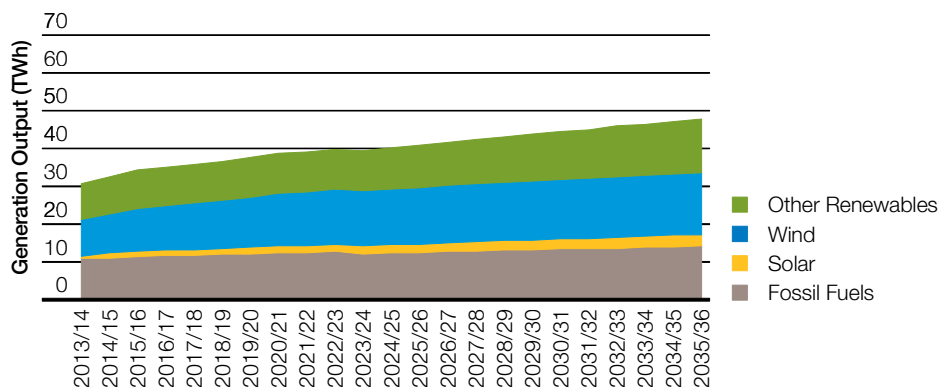


Figure 97
No Progression distributed generation output





4.3 continued Power Supply

4.3.6 Micro-generation

Our micro-generation scenarios consider the potential for development of sub-1MW wind, solar PV and hydro installations⁴³. For solar PV, falling installation and unit costs have led to falls in subsidies, however growth has continued with market indicators suggesting that this trend will remain into the future. While similar effects have been experienced in the wind and hydro industries, they have not been as dramatic and as such slower growth is expected. Development of micro-generation is an important consideration

for our future energy scenarios, as it reduces the transmission demand and can have localised impact on the wider electricity network. Recent evidence has also shown that homes with solar panels are changing their consumption behaviour, which may have further impacts in the future.

Our scenarios consider different deployment rates for the key technologies of wind, hydro and solar PV technologies, as shown in Table 15.

Table 15
Micro-generation scenarios

Gone Green	High wind, high solar, high hydro
Slow Progression	High wind, low solar, low hydro
No Progression	Low wind, low solar, low hydro
Low Carbon Life	Low wind, high solar, high hydro

The levels of installed capacity and associated output for micro-generation for our **Gone Green**

and **No Progression** scenarios are shown in Figures 98 to 101.

⁴³ This is a change to the 2013 Future Energy Scenarios where micro-generation covered installations of less than 5MW.



Figure 98
Gone Green micro-generation installed capacity

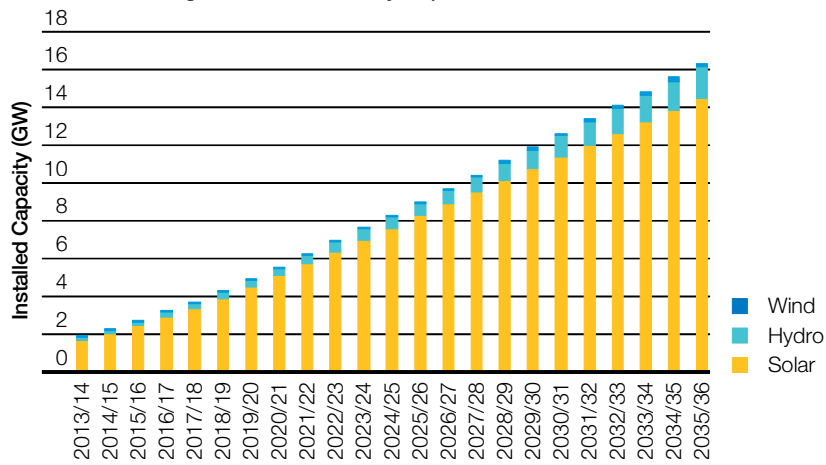
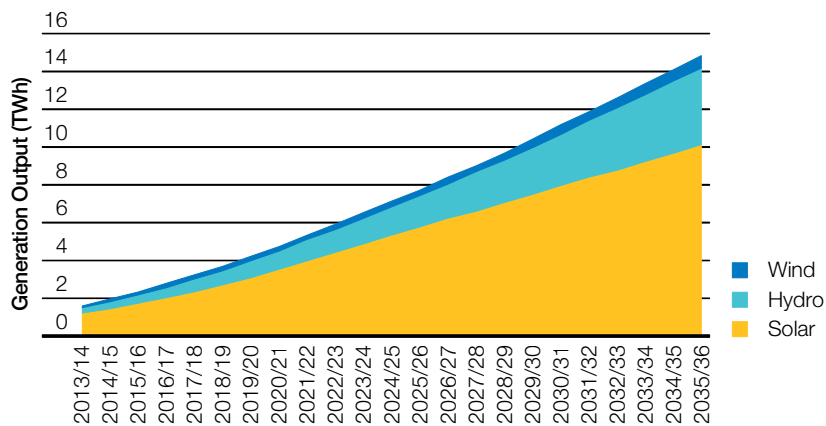


Figure 99
Gone Green micro-generation output



⚡ 4.3 continued Power Supply

Figure 100
No Progression micro-generation installed capacity

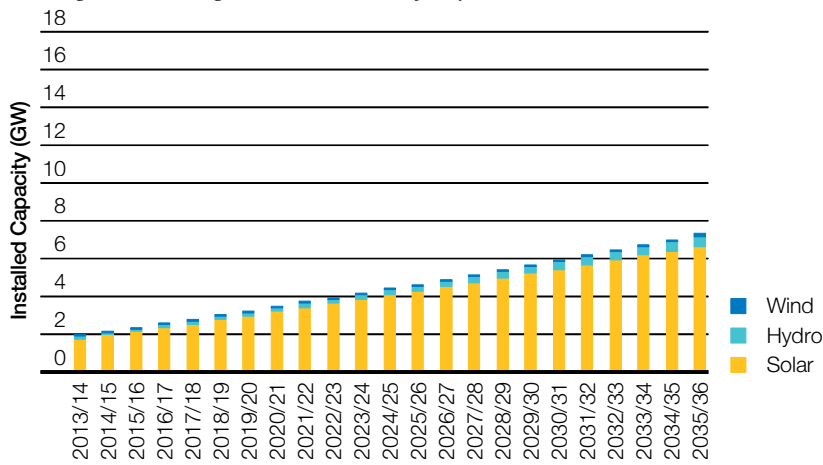


Figure 101
No Progression output

