



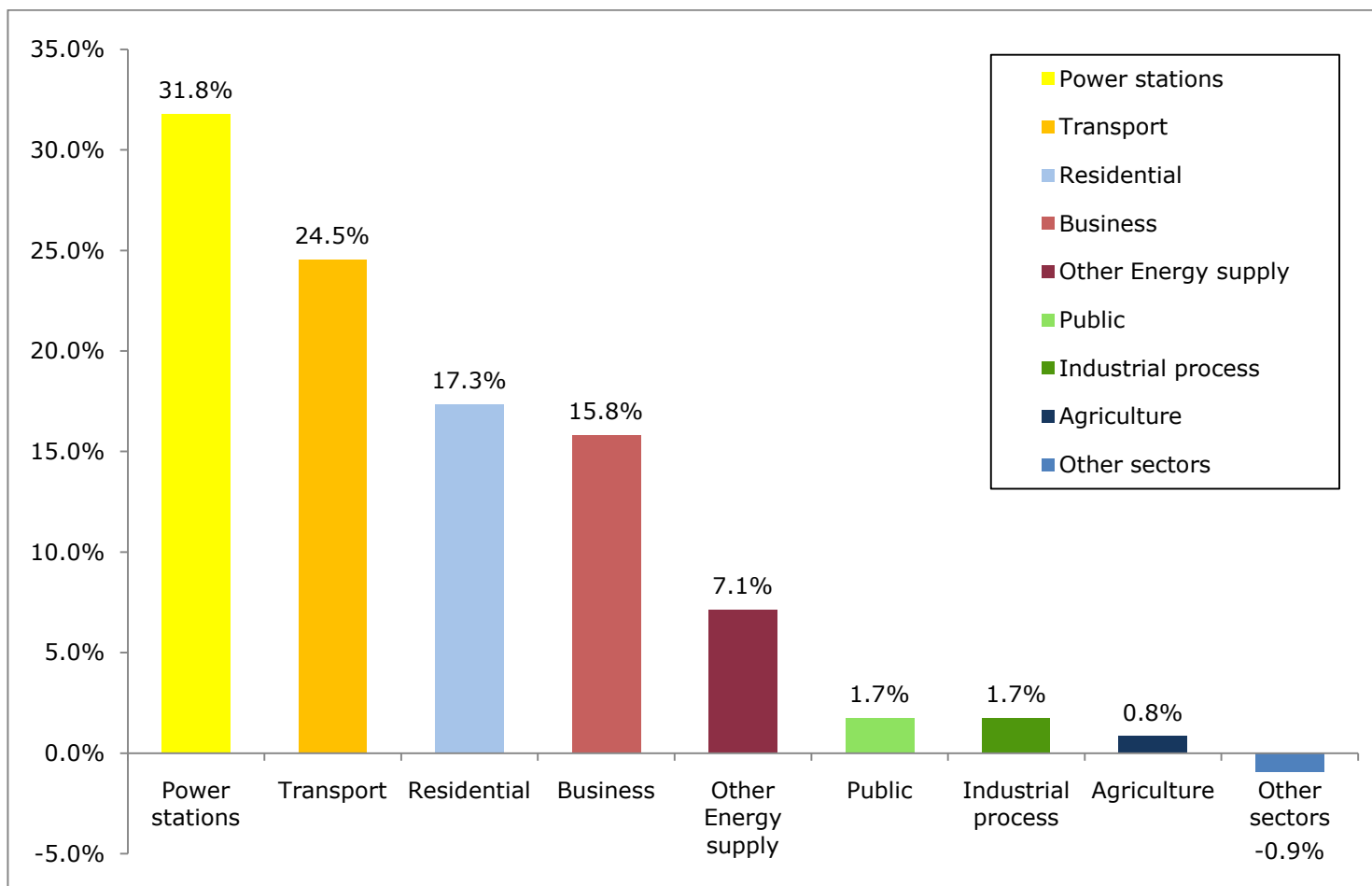
The UK Government and Devolved Administrations set out a strategy for sustainable development, *Securing The Future*, in 2005. Drawing on this framework and stakeholder feedback, we focus on the five themes which we think capture how the Gas and Electricity Markets Authority should contribute to the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

The first of the five themes is managing the transition to a low carbon economy. We are responsible for the framework for the efficient functioning of gas and electricity markets. Our decisions on the industry rules governing the wholesale and retail markets and the regulation of monopoly networks facilitate the development of lower carbon technologies. We are clear that any assessment of economic efficiency should incorporate the environmental costs associated with a proposal.

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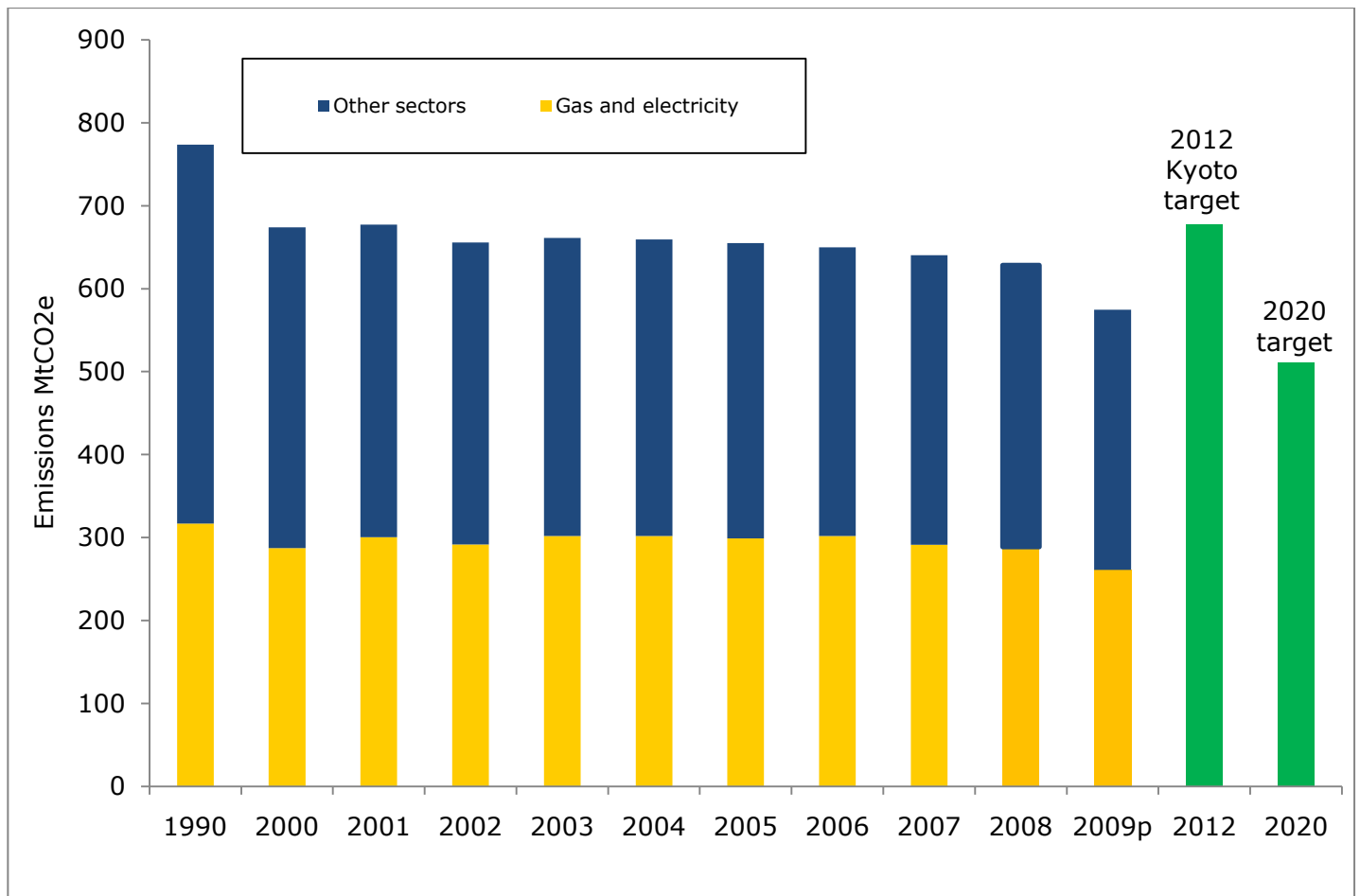
## Indicator 1: Electricity and gas sector greenhouse gas emissions



**Figure 1 – CO2 emissions by end user (updated July 2011)**

Source: DECC Energy Trends, 2010 predicted.

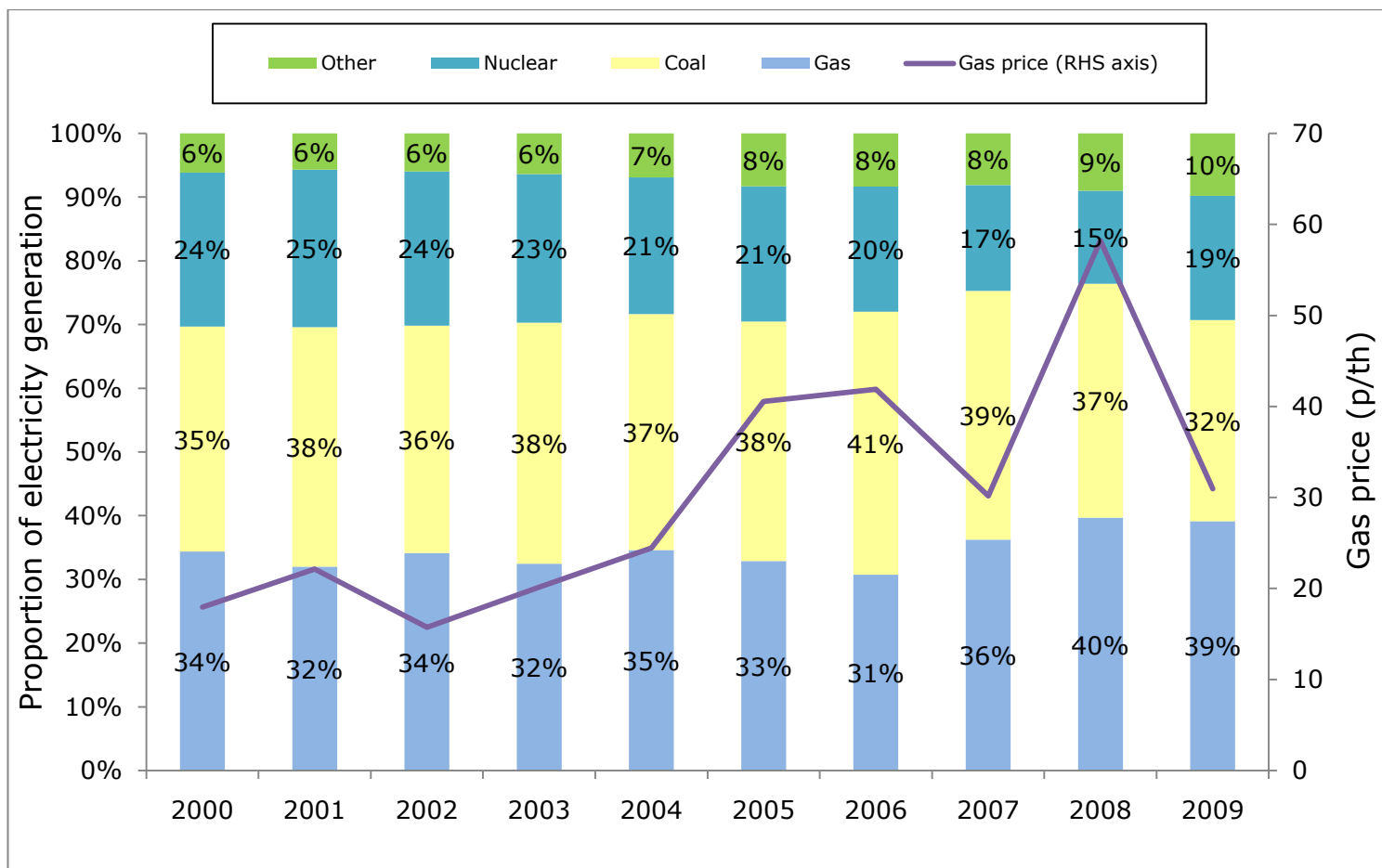
Power generation, transport, residential and business sectors are the main contributors to greenhouse gas emissions according to predicted trends for 2010.



**Figure 2 - Gas and electricity sector contributions to UK emissions.**

Source: DECC DUKES, NAEI emissions data and Government emissions target commitments.

Emissions have been falling faster since 2007; this could be due to the recession affecting most sectors, as demand has fallen. This has put the UK in a good position for this 5-year carbon budget and a stronger position for EU carbon reduction goals. We are easily meeting our 2012 target and well on the way for meeting the 2020 target.

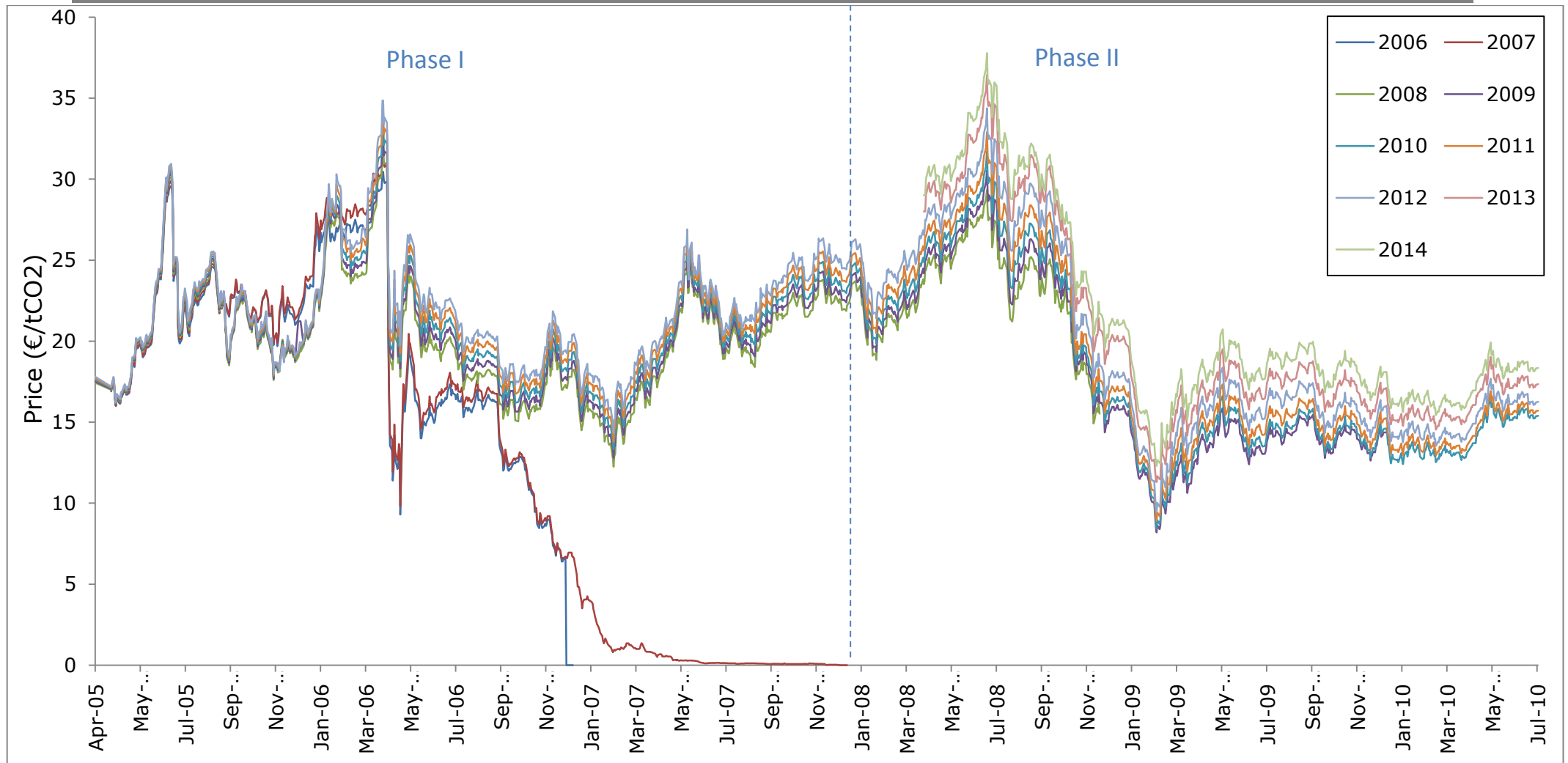


**Figure 3 - Fuel used in electricity generation**

Source: Energy Trends table 5.1 and Bloomberg gas prices.

Gas has supplanted coal as the main source of electricity generation. In 2009 the gas price fell from its 2008 peak to a level similar to 2007. Some coal plants are also using co-firing of biomass as a way of reducing their use of coal. These two factors explain the reduction in the proportion of generation coming from coal.

## Indicator 2: Impact of carbon price on costs of generation

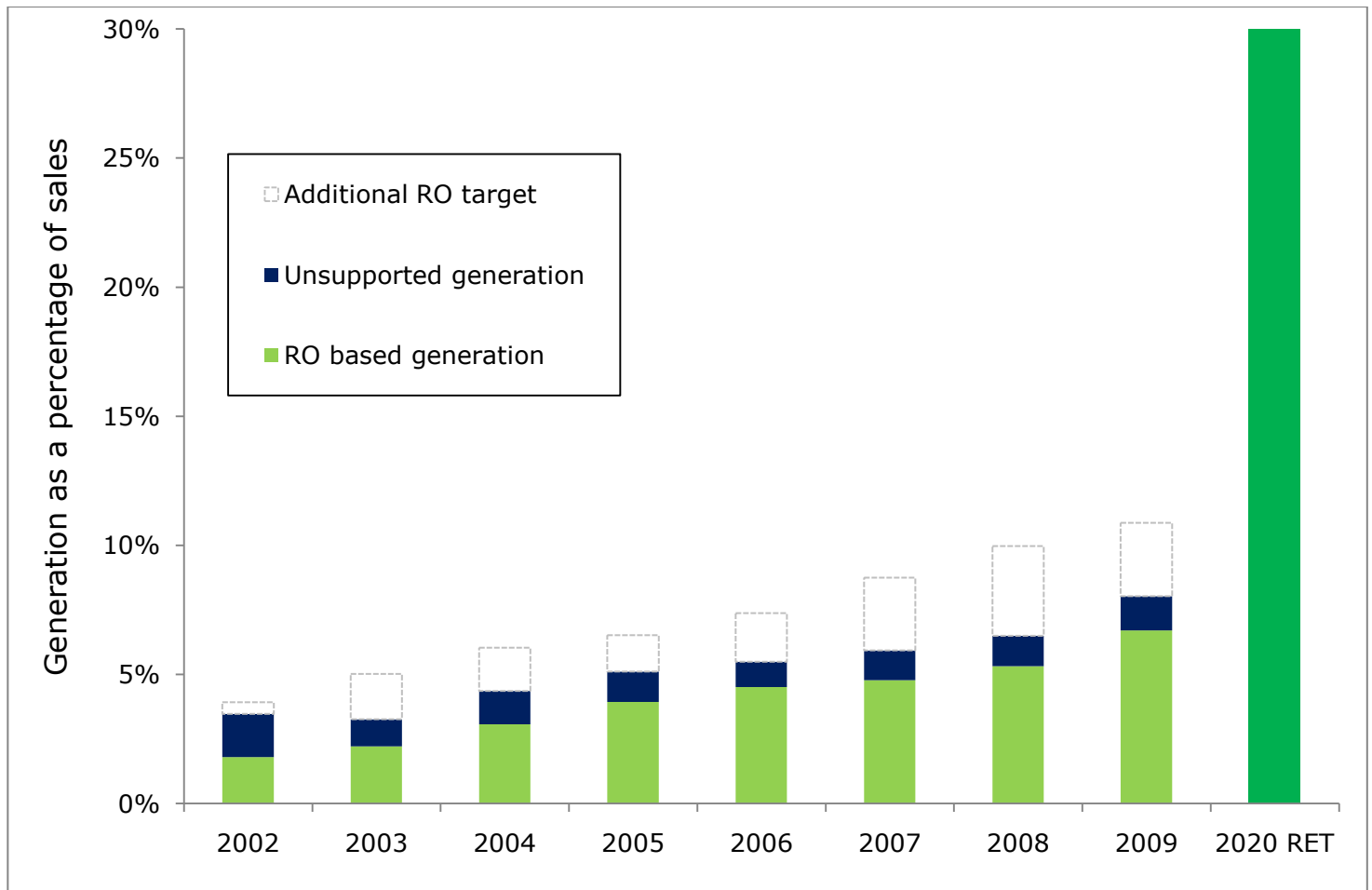


**Figure 4 - EU ETS carbon price**

Source: European Climate Exchange

The European Union Emissions Trading System (EU ETS) covers about half of the EU’s carbon dioxide emissions and includes the power sector as well as much of heavy industry. The carbon futures prices have remained relatively stable since 2009, but still very low; this suggests that there is a plentiful supply of allowances on the market. The coalition government has committed to deliver a price floor to keep the carbon price above a certain figure; this will help support new investment for low-carbon generation.

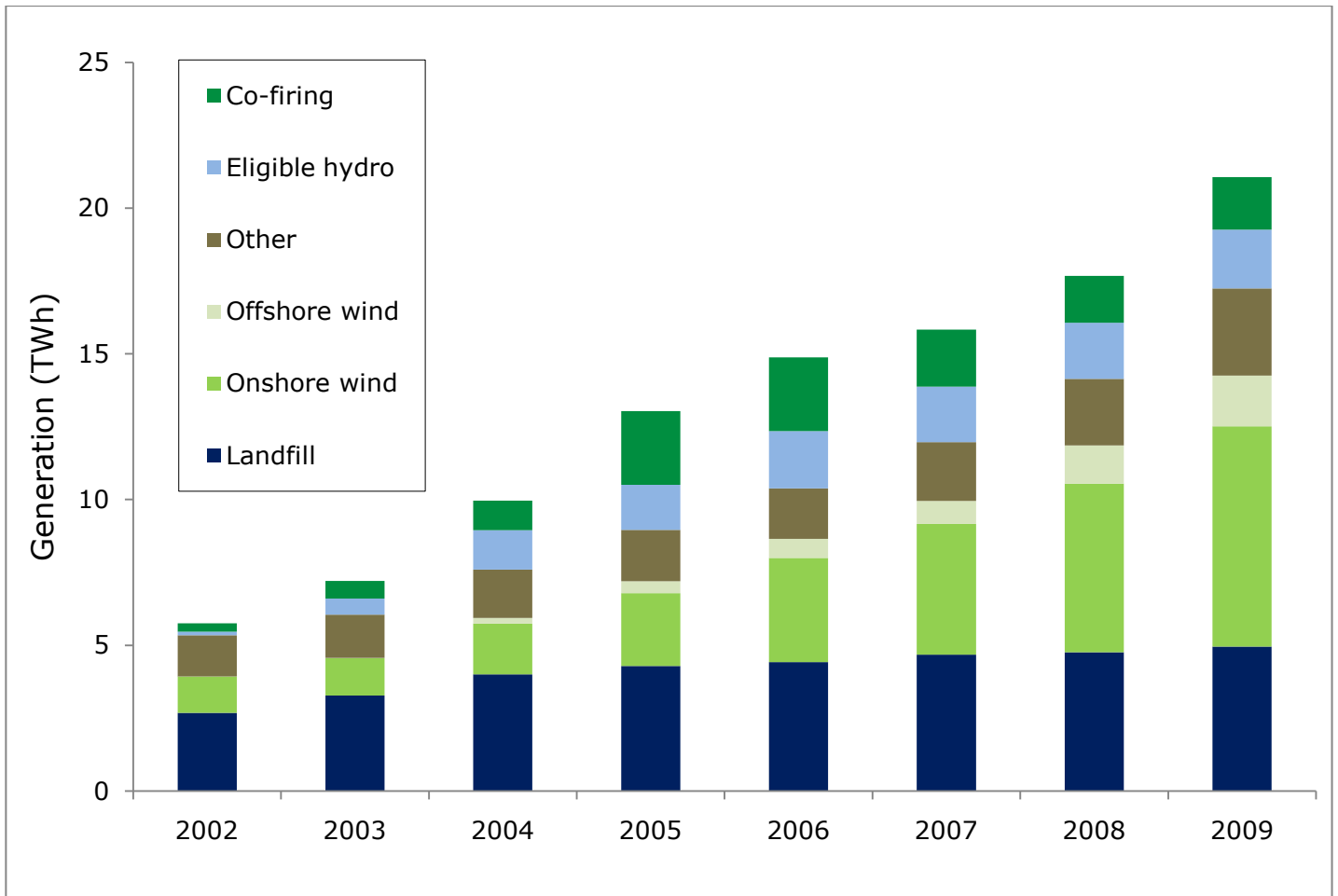
### Indicator 3: Renewable electricity generation



**Figure 5 - Renewable electricity generation**

Source: DECC, DUKES 2010

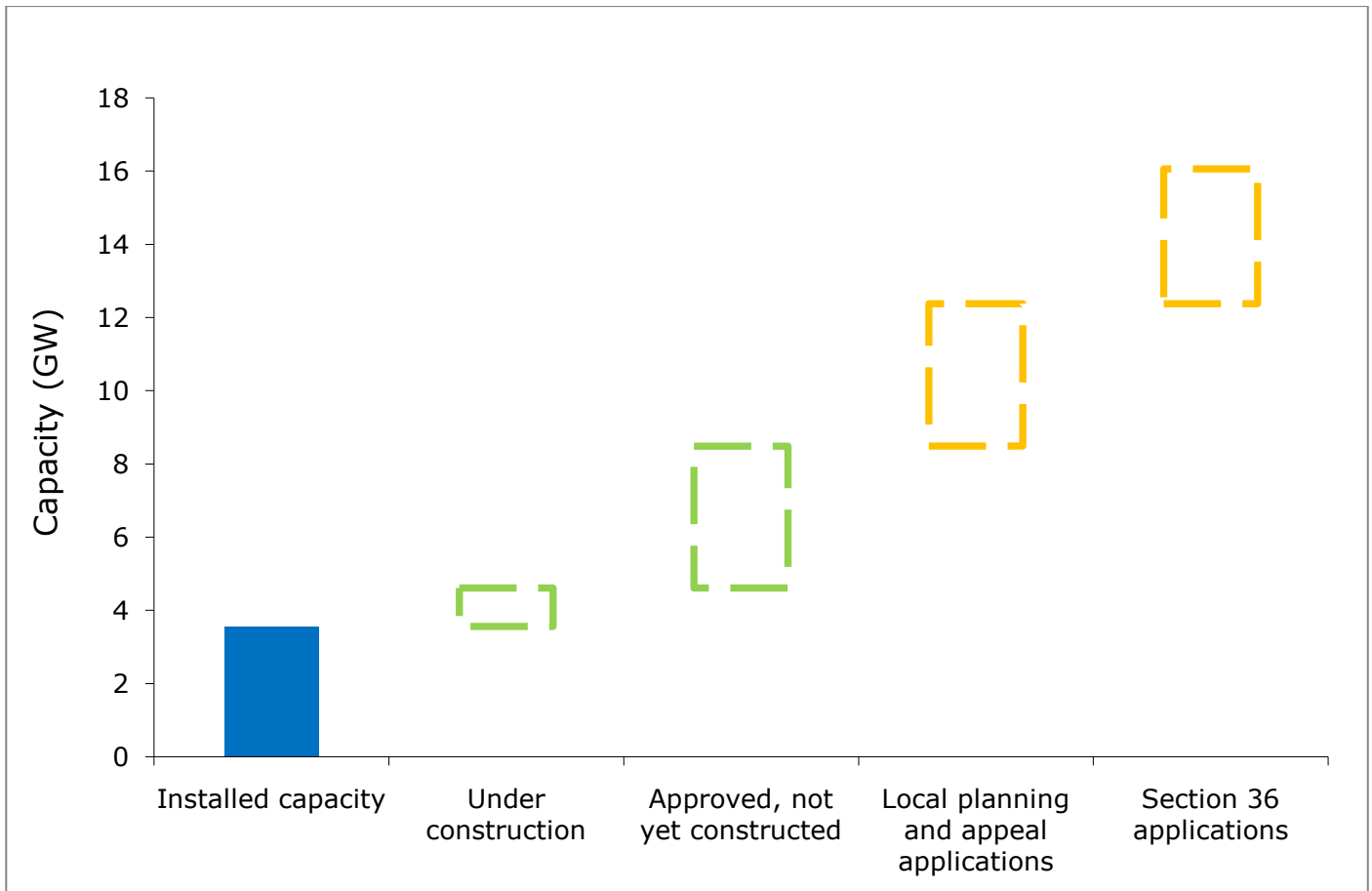
Renewable electricity generation supported by the Renewable Obligation is increasing year-on-year. Eight percent of UK electricity now comes from renewables. Suppliers are increasingly choosing to purchase renewable electricity rather than paying into the buyout fund.



**Figure 6 - Supported generation technologies**

Source: DECC, DUKES 2010

Wind is the fastest growing technology; from a low base it has grown by 640 percent since 2002 and accounted for over 40 percent of total renewable generation last year. The UK now has the largest offshore wind deployment in the world.

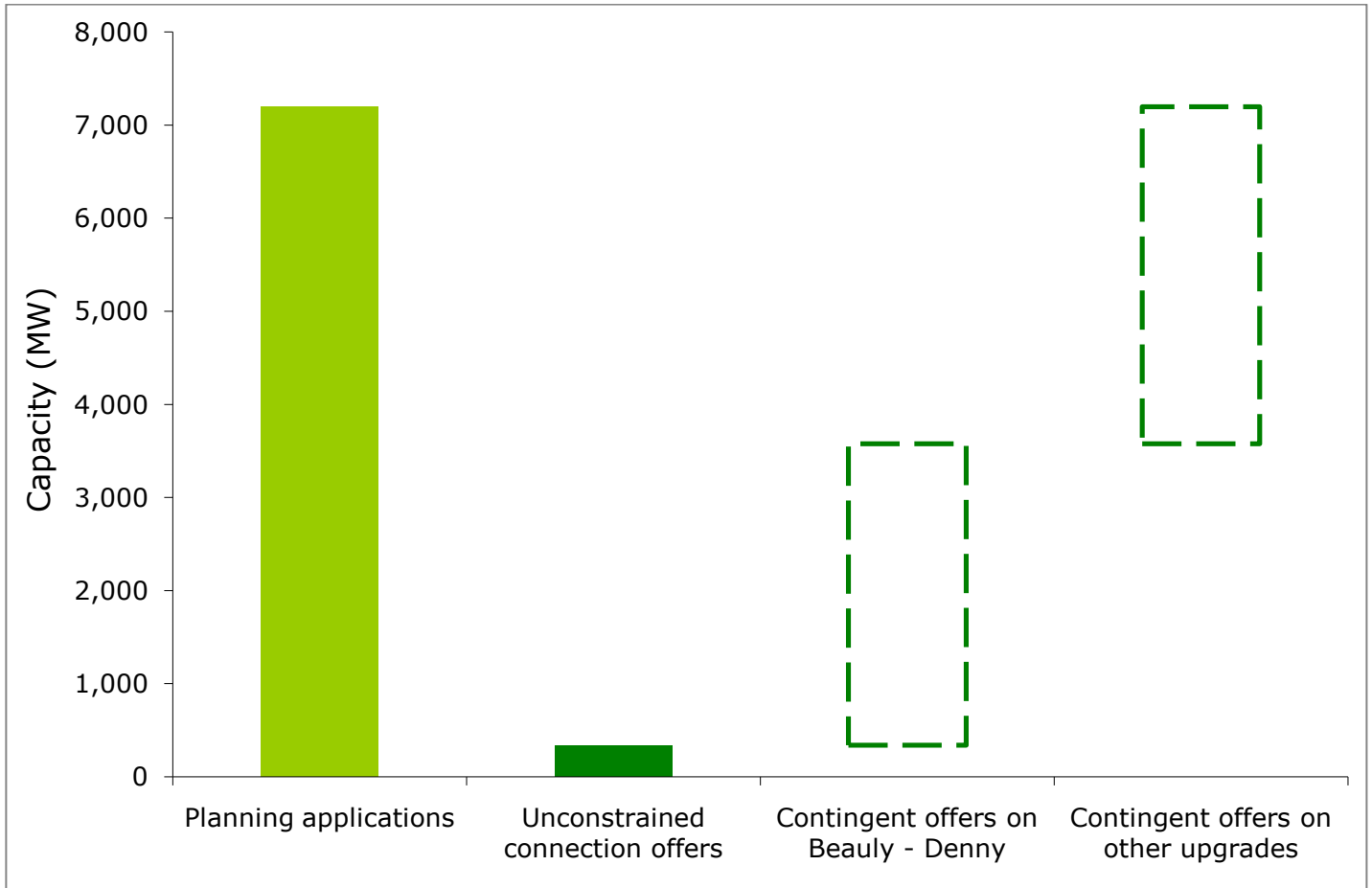


**Figure 7 - Onshore wind developments**

Source: Renewable UK

Planning applications for wind farms over 50MW have decreased 35 percent from last year. This could be due to many applications being accepted (600MW increased capacity on last year) or lack of available funding due to the recession affecting developers. If all the projects that are currently past the planning stage are completed, the UK can more than double its current capacity of onshore wind generation.



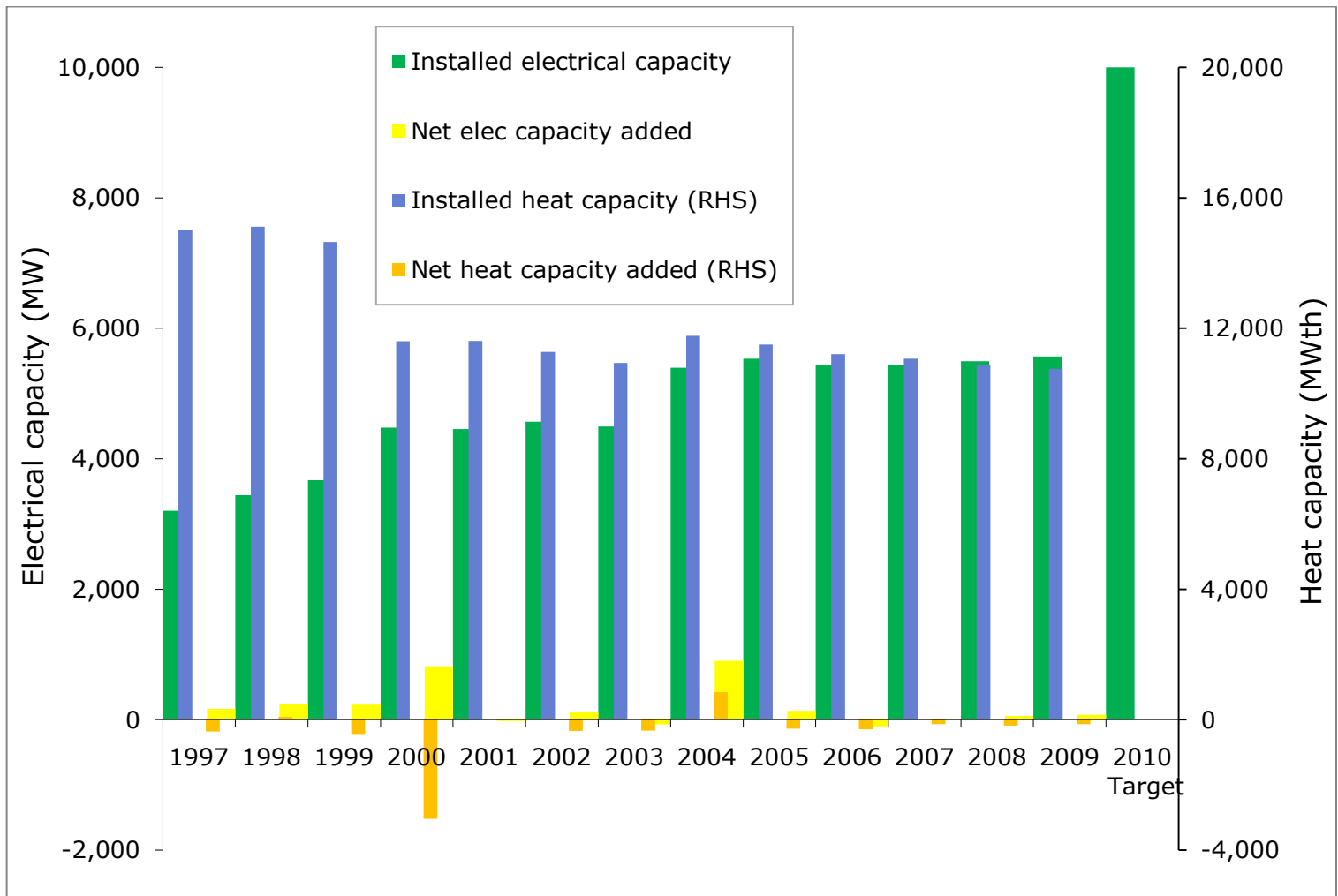


**Figure 8 - Required grid upgrades for onshore wind generation in Scotland**

Source: National Grid

This graph shows the majority of planned onshore wind projects are dependent on transmission network upgrades. Since we last reported on this, the capacity of connection offers not contingent on future work have more than doubled. Currently, there are 3.2GW of contingent offers on the 1GW Beaulay- Denny line.

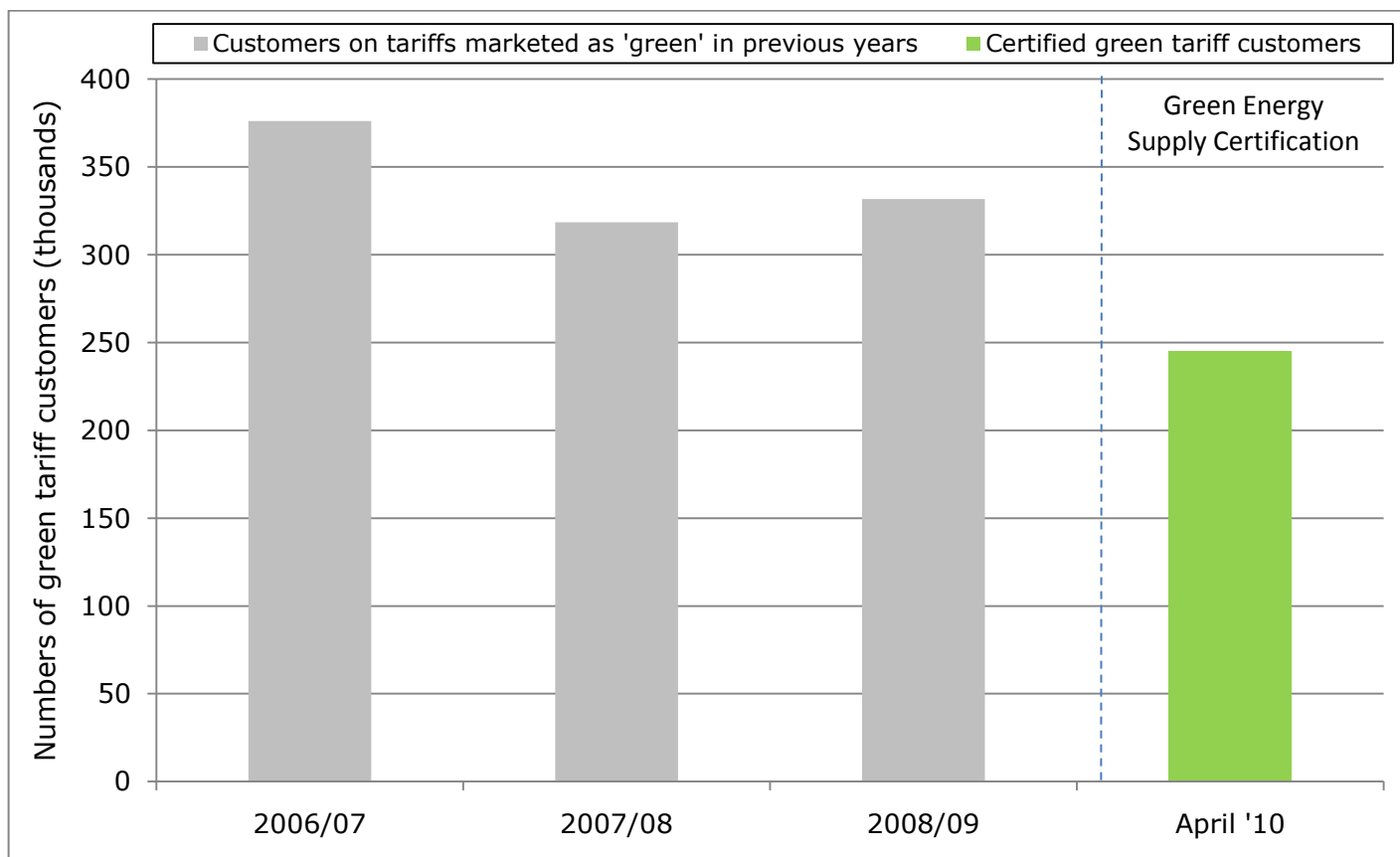
## Indicator 4: Capacity for combined heat and power



**Figure 9 - CHP capacity 1997 - 2009 including the 2010 target**  
 Source: DECC DUKES

Over the last 13 years Combined Heat and Power (CHP) output has become more electricity focused. There have been relatively few new CHP installations, with a net increase of around 150 over the period shown. Due to a lack of new capacity, the Government 2010 target will not be met.

## Indicator 5: Green tariffs



**Figure 10 - Number of customers signed up to tariffs marketed as having environmental attributes**

Source: energy suppliers

The graph shows the number of customers signed up to a tariff marketed as having an environmental attribute over the last four years. In February 2010, the Green Energy Supply Certification Scheme and associated 'Green Energy Certified' label was launched. This year we have therefore shown the number of customers signed up to certified tariffs, not including those suppliers that have not signed up to the scheme that are marketing tariffs as having environmental attributes. This explains the apparent drop in number of customers signed up to green tariffs.



The new scheme aims to provide clarity and assurance to customers that when they purchase a green tariff it represents a genuine environmental benefit. As at April 2010, almost 250,000 customers were on a certified green tariff.