



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 21st 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

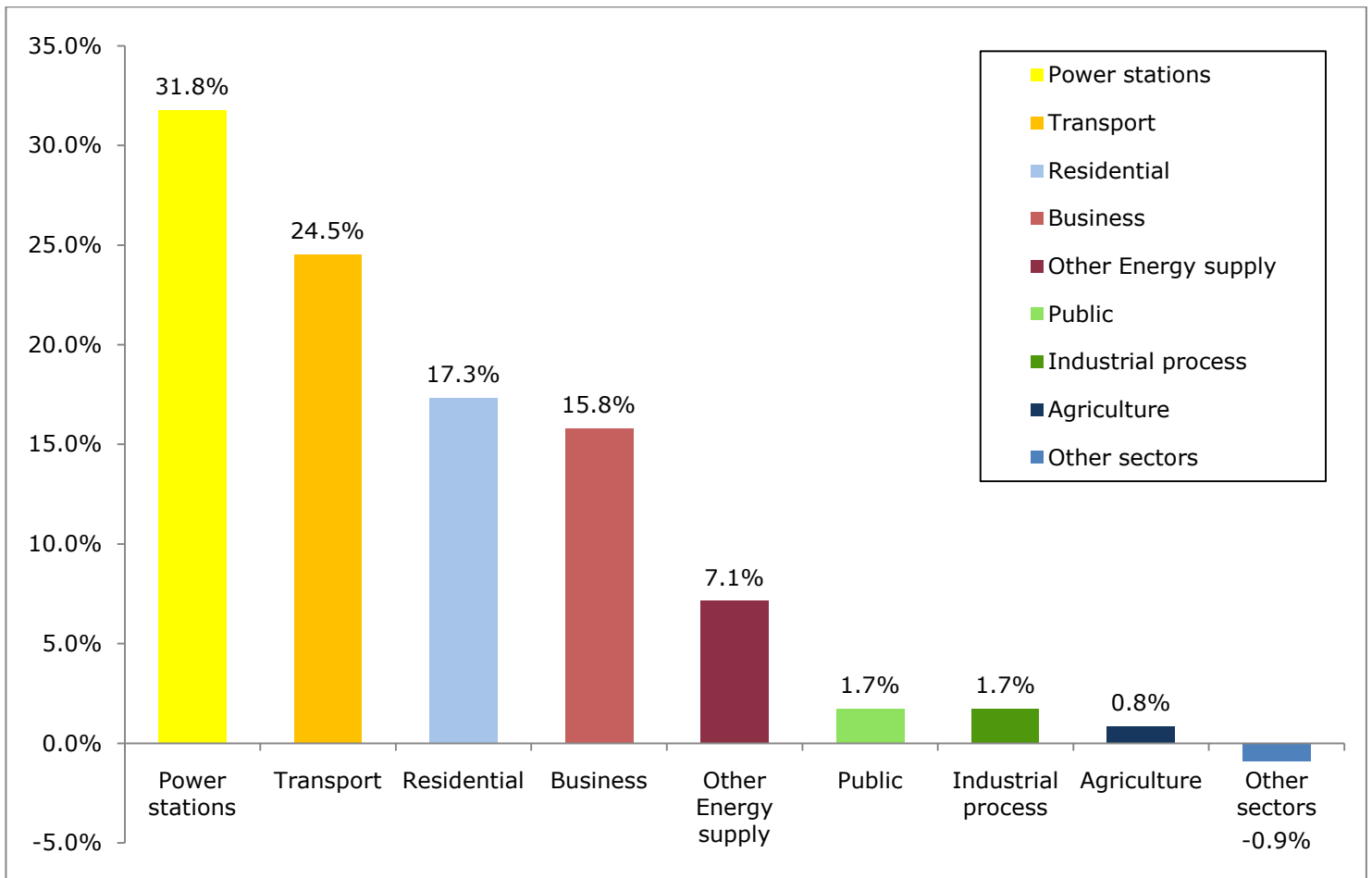


Figure 1 – CO2 emissions by end user (updated July 2011)

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.

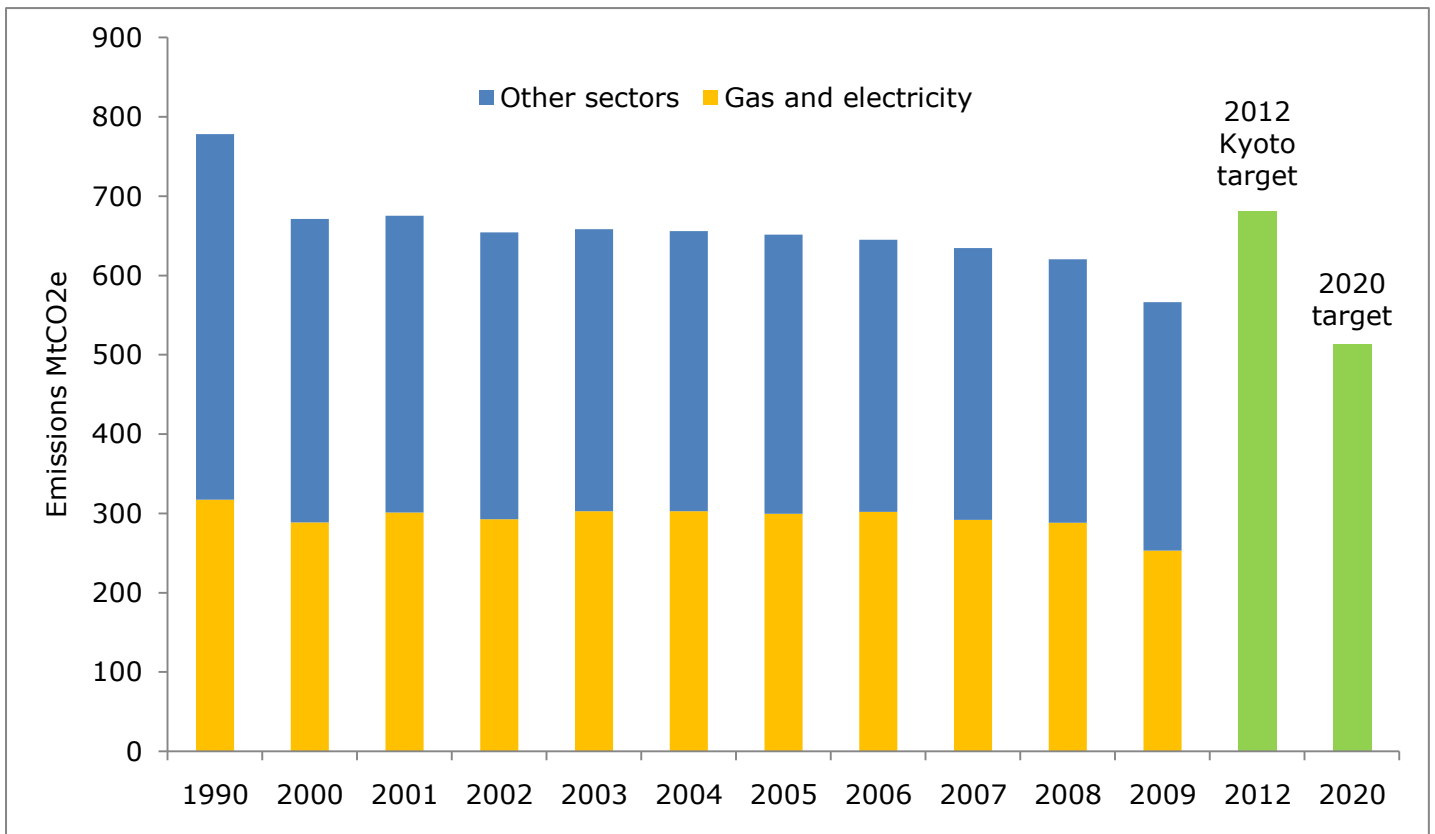


Figure 2 - Gas and electricity sector contributions to UK emissions (updated October 2011)

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

Emission fell sharply in 2009, which is largely as a result of a significant reduction in demand due to recession affecting most sectors. The UK is within its 5-year carbon budget under the Kyoto Protocol and making progress towards the 2020 EU goal.

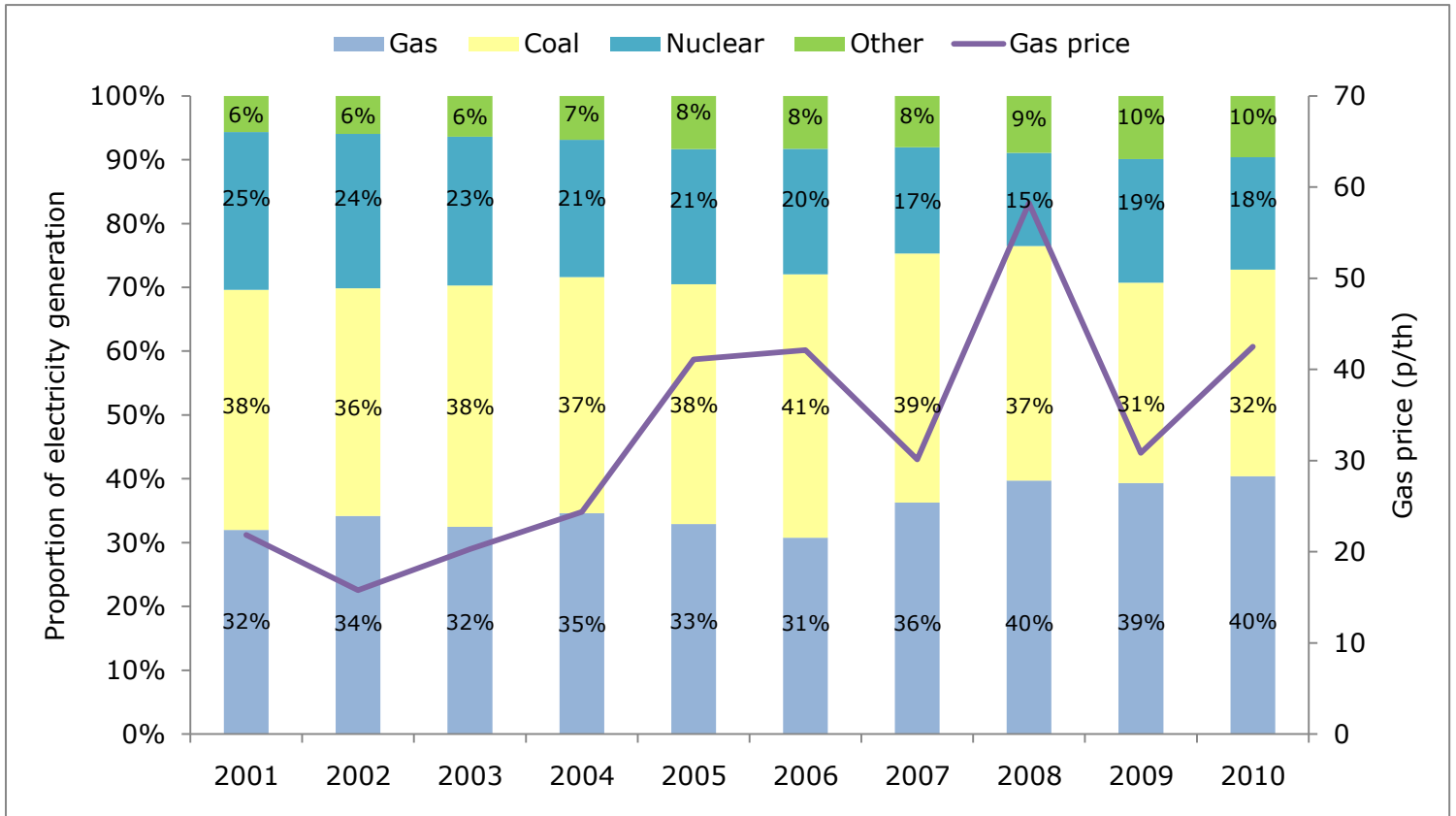


Figure 3 - Fuel used in electricity generation (updated October 2011)

Source: DECC Energy Trends table 5.1 and Bloomberg gas prices.

The generation mix has remained largely stable from 2009. Gas remains the largest source despite the price of gas increasing to 2006 levels.

Indicator 2: Impact of carbon price on costs of generation

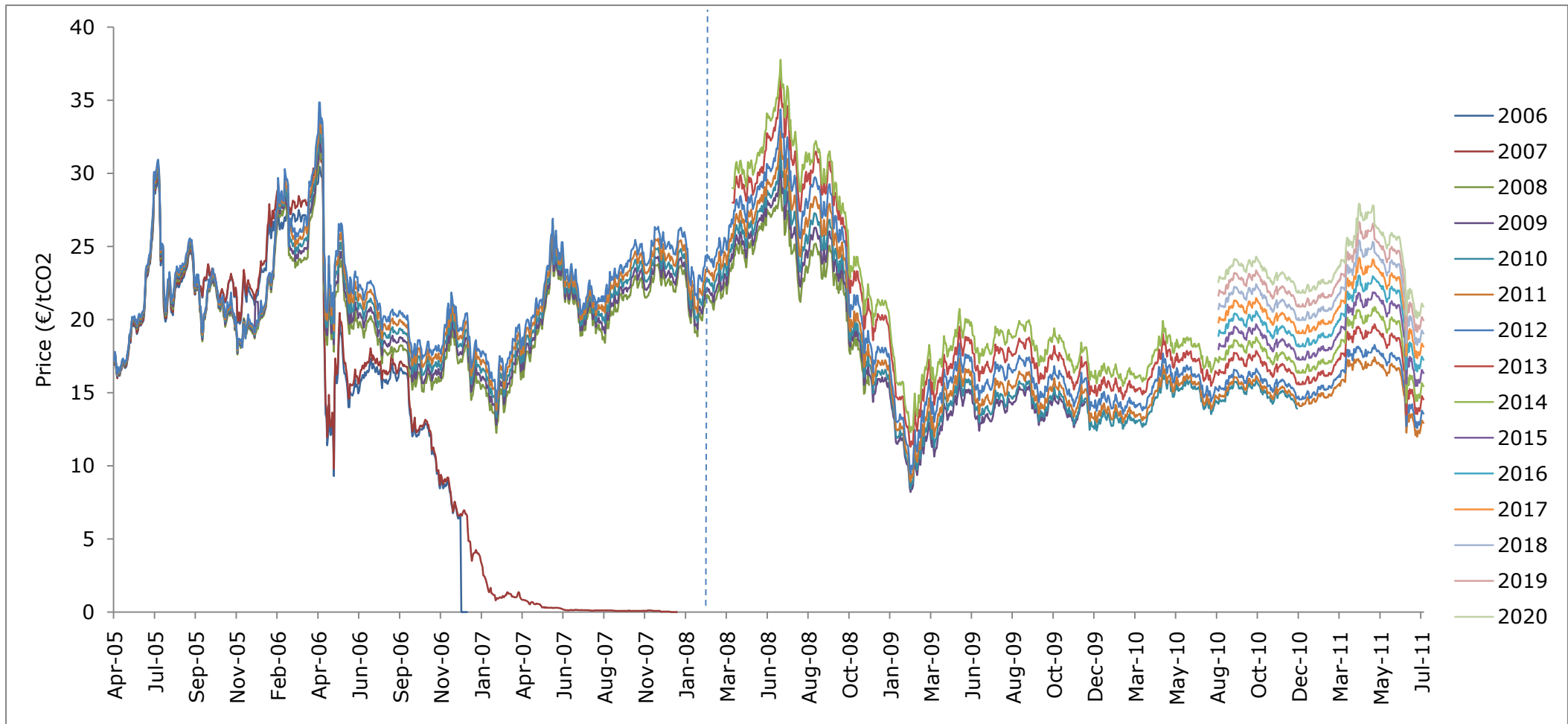


Figure 4 - EU ETS carbon price (updated October 2011)

Source: IntercontinentalExchange

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. Prices for 2015-2020 were introduced in August 2010. The sharp price decrease in June 2011 was due in part to discussions regarding new energy efficiency legislation in the EU which would increase the supply of (and therefore reduce demand for) carbon credits. In March 2011 the coalition government committed to introducing a carbon floor price from April 2013.

Indicator 3: Renewable electricity generation

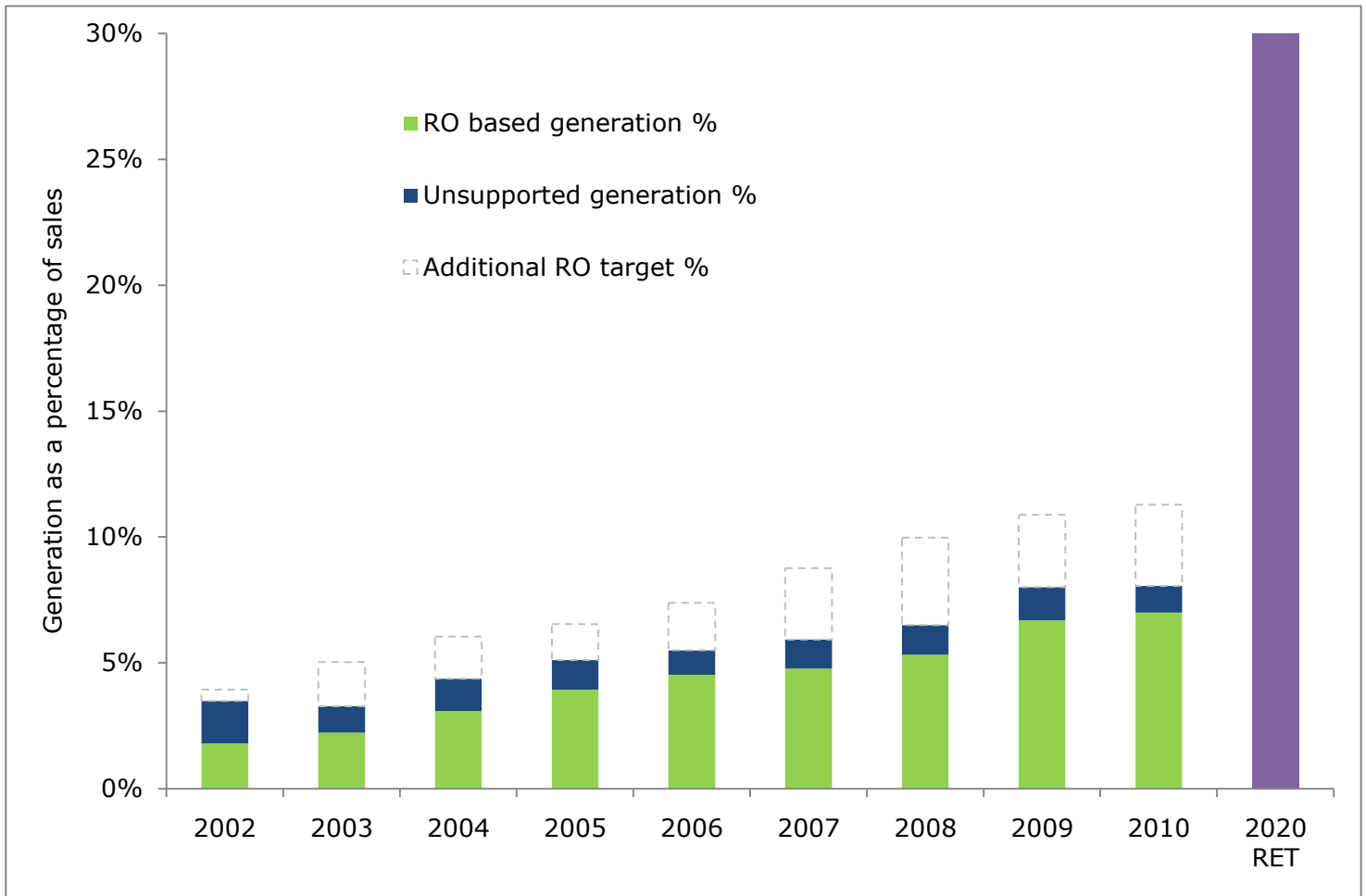


Figure 5 - Renewable electricity generation (updated October 2011)

Source: DECC DUKES

Renewable electricity generation supported by the Renewables Obligation is increasing year-on-year. Eight percent of UK electricity now comes from renewables. In 2010, a higher proportion of the obligation was met through payments into the buy-out fund.

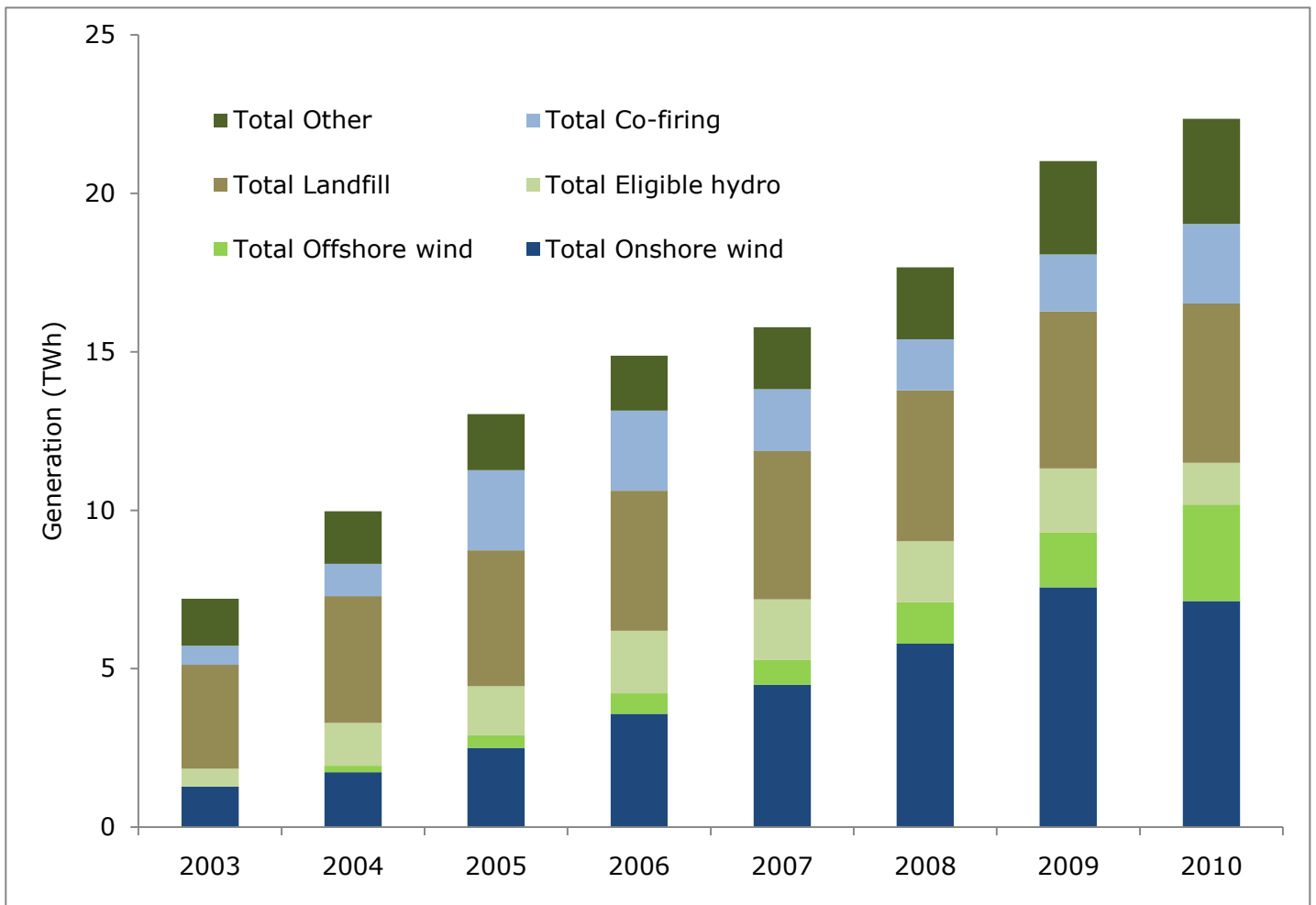


Figure 6 - Supported generation technologies (updated October 2011)

Source: DECC DUKES

Wind is the fastest growing of the supported generation technologies; it has grown by 792% since 2003 and accounted for 45 percent of renewable generation in 2010.

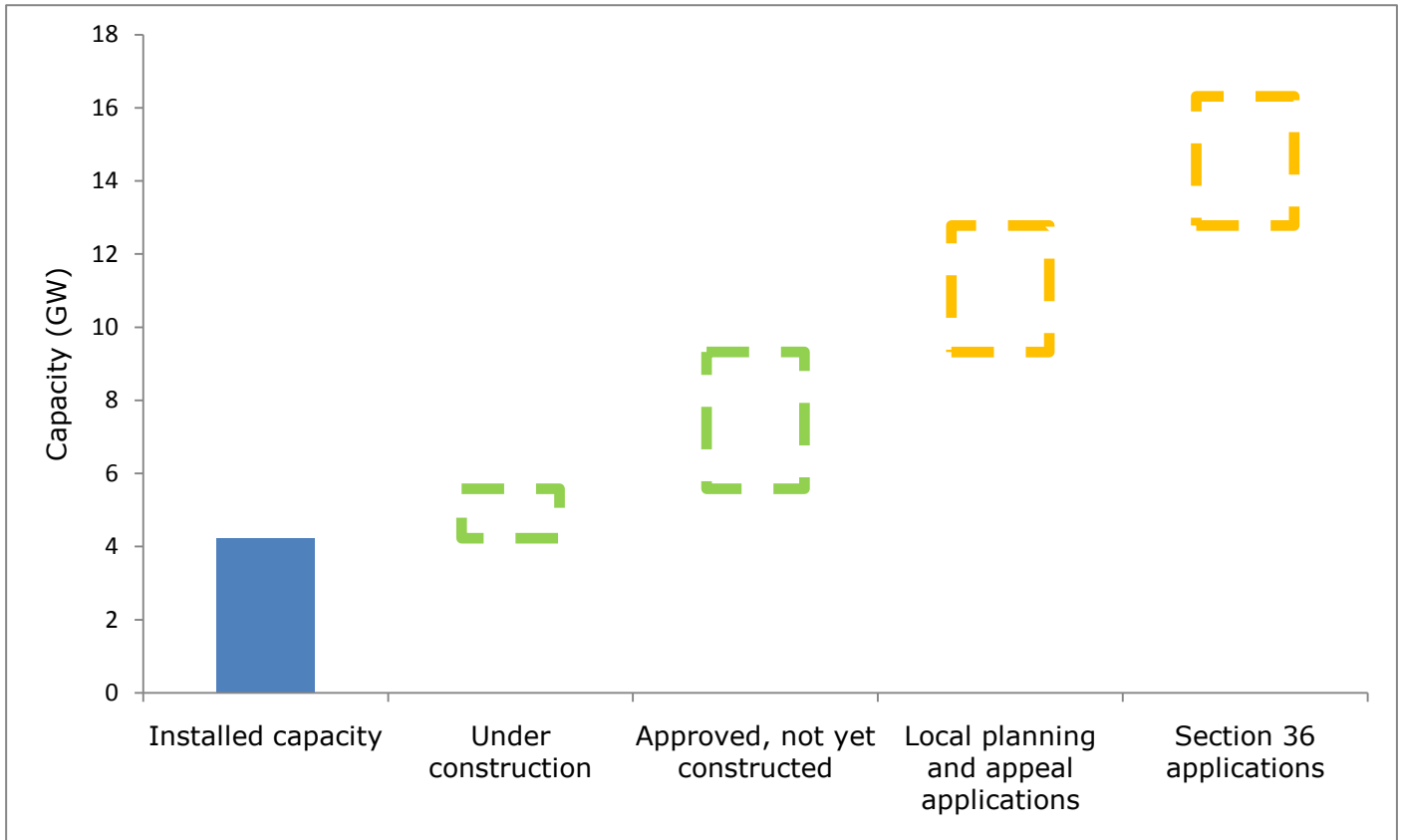


Figure 7 - Onshore wind developments at July 2011 (updated October 2011)

Source: Renewable UK

From 2009-2010 there was an increase in installed onshore wind capacity and capacity under construction, but a decrease in capacity at the planning and appeal stages. This could be due to many applications being accepted (capacity increased nearly 700MW from last year), or lack of available funding due to the recession affecting developers. However, 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.

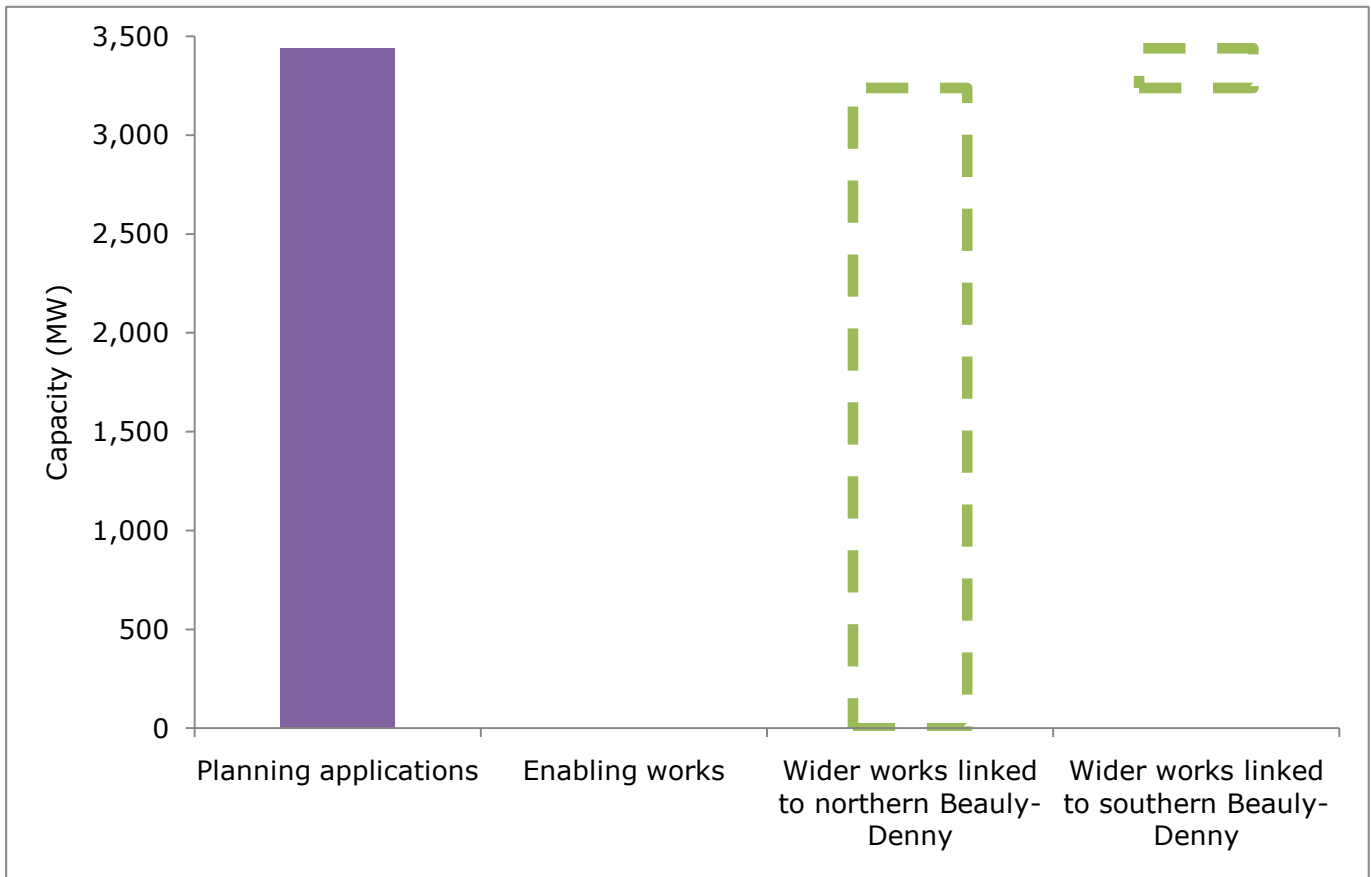


Figure 8 - Required grid upgrades for onshore wind generation in Scotland (updated October 2011)

Source: National Grid

This graph shows that 94% of planned grid upgrades are linked to the northern end of the Beauldy-Denny line. These works are classified as "wider", meaning that generators can connect ahead of the completion of the network reinforcements and the consequences will be managed by the system operator. Enabling works are those works which a generator must as a minimum wait for before they can connect to the network, and there are currently no enabling works planned for onshore wind in Scotland.

Indicator 4: Capacity for combined heat and power

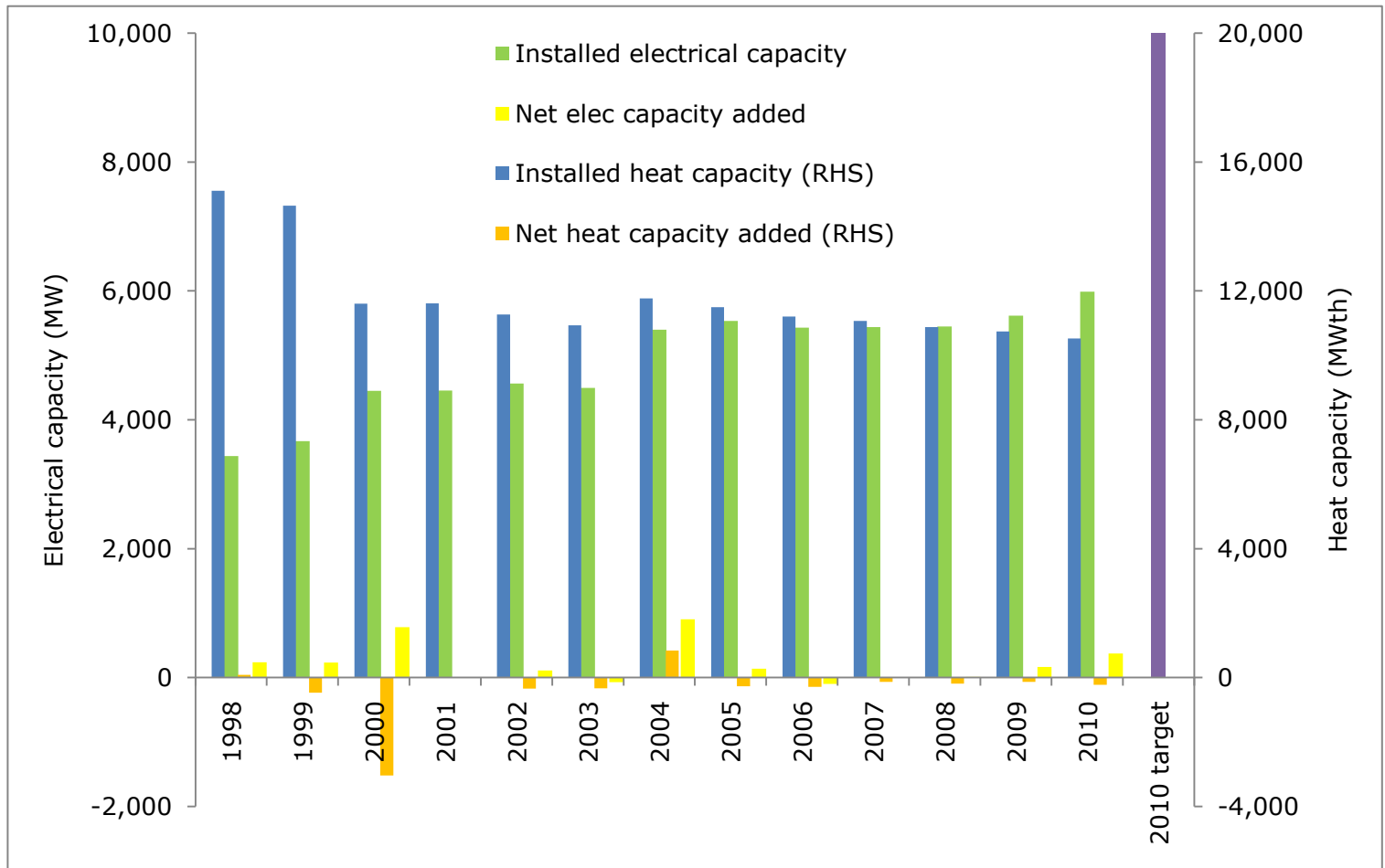


Figure 9 - CHP capacity 1998 - 2010 including the 2010 target (updated October 2011)

Source: DECC DUKES

Over the last 13 years, a higher proportion of Combined Heat and Power (CHP) output has been in the form of electricity rather than heat. Installed CHP capacity has decreased by 2,039MW over the period shown, and remains short of the 2010 target.

Indicator 5: Green tariffs

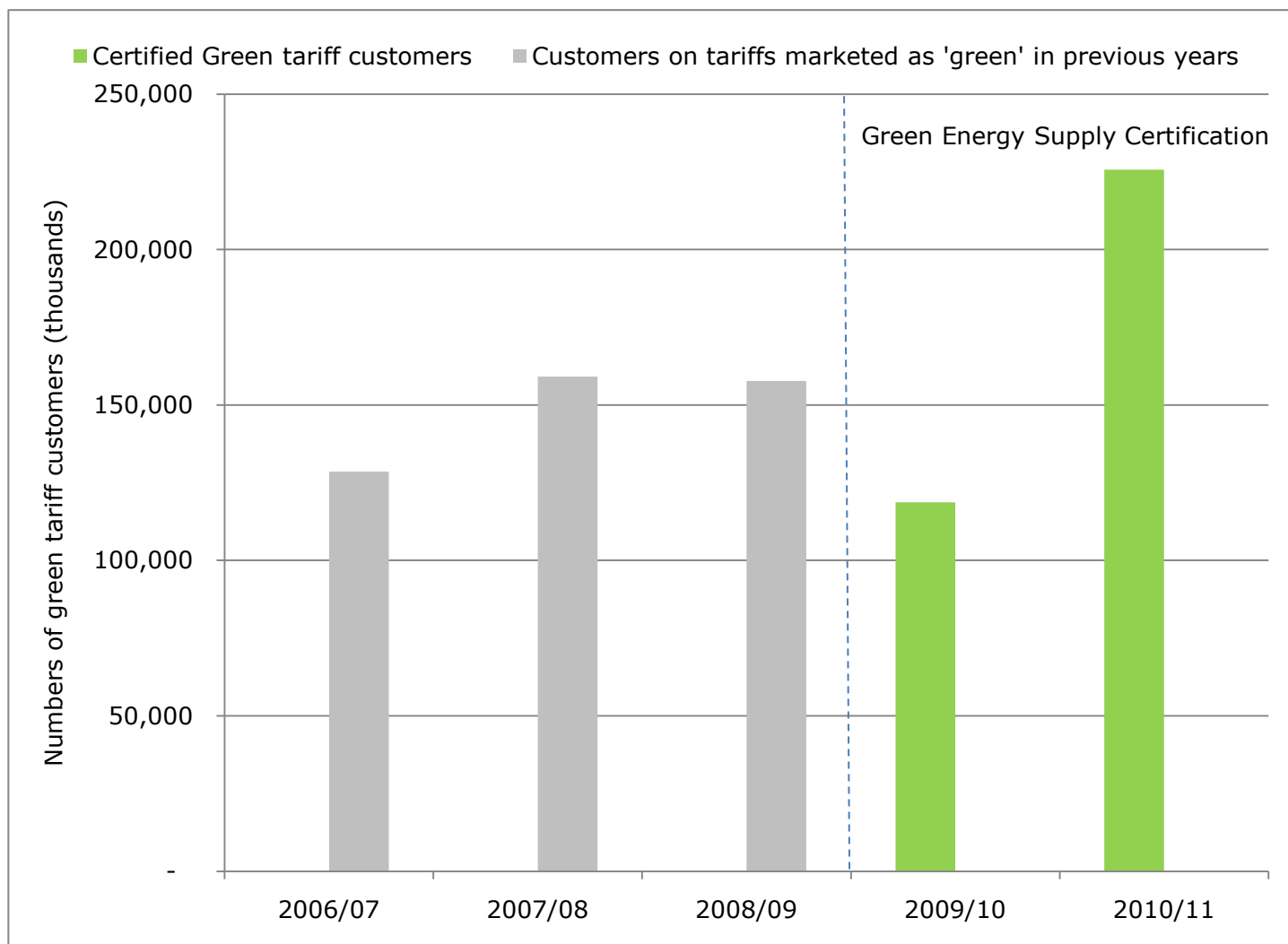


Figure 10 - Number of customers signed up to tariffs marketed as having environmental attributes (updated October 2011)

Source: energy suppliers

The graph shows the number of customers signed up to a tariff marketed as having an environmental attribute over the last five years. In February 2010 the Green Energy Supply Certification Scheme and associated 'Green Energy Certified' label was launched. Since that point we have shown the number of customers signed up to certified tariffs. The drop in customers between 2008/09 and 2009/10 is due to some suppliers not signing up to the scheme.



The number of customers on a certified Green Tariff has nearly doubled over the past year* due the accreditation of more tariffs. As at April 2011, over 225,000 customers were on a certified green tariff.

* Figures prior to 2010/11 have been revised due to receipt of more accurate information.