

Energy use and renewable generation

In 2008/09, we used 1,230GWh of electricity across all of our activities, of which 786GWh was used in our regulated water business. The majority of this is used to transport and treat clean water and wastewater. This is a slight reduction from the previous year, when we used 798GWh to power our regulated activities. This reduction is due to our ongoing drive for energy efficiencies supporting our carbon strategy, such as our ongoing pump efficiency programme. In addition, the wet summer of 2008 meant there was less need to pump water, saving energy.

This energy efficiency focus has been reinforced during the year with the creation of an internal energy working group, which has the aim of identifying opportunities for further efficiencies, both from our current operations and also through the introduction of new technologies. We draw members from all areas of the business to effectively coordinate activity, including supply chain, capital investment, asset management, research and development and regulated and non-regulated operations.

Energy efficiency will remain high on our agenda. In 2010 the governments' carbon reduction commitment will see us working to provide emissions forecasts. The continuous requirement for improved water and wastewater quality has the impact of increasing the amount of energy required to power new treatment processes and we endeavour to keep this as low as possible. We have taken account of the energy requirement of solutions in our proposed five year investment programme and identified possible ways to reduce the energy requirements, including development of promising new technologies such as Gravitox.

In our regulated business, we generated just over 100GWh of renewable electricity from our combined heat and power (CHP) plants, sludge incinerator and hydropower plants - an increase from 93GWh in 2007/08. The increase is due to the investment we made the previous year in increased CHP capacity. Of the energy generated, we used 96% per cent ourselves, making up 12% of our regulated business energy requirements, and exported the remainder to the national grid.

We have progressed the opportunities presented by alternative uses for the biogas we generate from digesting wastewater sludge. Conventionally we burn this gas to generate renewables. However, there may be greater environmental benefit from either running vehicles on the fuel or injecting it into the national grid. To test the credentials of trucks running on gas we have already converted one of our tankers to run on dual fuel – which means it runs on both diesel and natural gas.

Of the electricity we purchased in 2008/09, 83% was certified green energy, up from 27% the previous year. Although we are unable to count the carbon reduction benefit of this action, we wanted to take this step to support the renewable energy market, where commercially viable.