

SUPPLEMENTARY SUBMISSION FROM SCOTTISH WATER

Scottish Water is delivering customer service and efficiency that is comparable with the best in the water industry. In providing essential services to customers, Scottish Water is a large user of electricity, consuming around 440GWh per year. Through our four-pronged approach to energy management and development we expect to be facilitating more energy generation than we consume by 2018:

- Reducing consumption by improving capability of our assets and operations;
- Increasing self-generation where there is a good return for customers – deploying innovation and technologies that maximise value from our asset base;
- Hosting private renewables investment on our land where compatible with service and quality; and
- Optimising our energy purchasing strategy to maximise benefit for customers in terms of price risk mitigation against rising energy costs.

Scottish Water has been running an energy efficiency programme for many years. We have installed over 4000 smart meters to measure consumption and help target opportunities. We have made changes to operational practices and our asset base to reduce consumption or move demand to cheaper tariff periods. We are exploring and piloting other demand-side-response initiatives and long-term low energy treatment solutions. Over the last 5 years we have reduced base electricity consumption by over 5% and operational carbon emissions by 18% since 2006/07.

Since 2013 we have doubled our installed renewable capacity to over 50GWh and diversified our portfolio to include hydro, wind, photovoltaic and combined heat and power (CHP). We currently have 27 hydro turbines, 16 small scale wind turbines and 16 photovoltaic schemes, helping to offset the amount of electricity we need from the grid, with several treatment works now self-sufficient. Whatever the weather, SW is generating its own electricity, and saving customers over £6m pa.

As part of our innovation programme we installed the world's first trunk main Difgen hydro turbine to capture the energy removed via pressure management within the water network. Our food waste Anaerobic Digestion plant was the first large scale plant built in Scotland (6 GWh pa), helping to prevent the release of greenhouse gases from landfill. We also generate energy from sewage sludge, reducing transport of materials off-site & increasing environmental sustainability of our operations. This year we also aim to be the UK's first to transfer heat from sewage - benefiting a college campus close to our Wastewater treatment works.

Scottish Water already host 350GWh of third party wind turbines on our estate and we are working with developers to increase this to over 900GWh from schemes with planning consent. One further scheme is in planning while two others are in the early stages of development. Scottish Water and its customers benefit from either a landlord rental or discount power purchase agreement (PPA). A discounted PPA is indexed to CPI and therefore protects SW customers from volatile rising energy prices. We have extended this concept to connect private assets (e.g. local business or community funded renewables) directly to our treatment works or buy the power through our supply contract.

This strategy is aligned with the Government's ambitions for a low-carbon Hydro Nation, increasing service resilience and is an essential part of our desire to reduce the long-term costs of delivering water and waste water services.

Chris Toop
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Scottish Water