

South West Water rises to the challenge of climate change

The Challenge

The water industry is an energy-intensive sector in the UK and contributes to approximately 2% of the UK's national GHG emissions (Water UK). The industry is under pressure to reduce energy consumption and carbon inline with national carbon reduction targets as well as develop a strategy to deal with the challenges from Global Warming that face the water industry over the coming years. In order to prepare for and alleviate these impacts the water industry is currently working on a number of carbon mitigation activities; reducing energy use, improving water efficiency, undertaking research and development into low-carbon technologies, assessing investment plans which take in to consideration whole-life carbon impacts and costs, and engaging with the supply chain to encourage low-carbon behaviour.

South West Water (SWW) is one organisation leading the way in the water industry with a clear vision to deliver *pure water, pure service and a pure environment*. As a provider of reliable, efficient, high quality drinking water and waste water services throughout Cornwall and Devon and small areas of Dorset and Somerset, SWW serves some 1.6 million residents. SWW looks to lead on sustainability by addressing issues of climate change through investment in championing low energy, low carbon solutions, water conservation and developing innovative ways to respond to climate change.

Our Commitment

South West Water has set their reduction targets for the next five years through to 2015. SWW has committed to reducing their emissions by 18% by 2015 compared to the 2009/10 baseline.

South West Water has identified that over 80% of their carbon emissions are associated with the consumption of energy so this is a key area of focus for reduction activities. It is estimated that half of the 18% reduction will be achieved through operational energy efficiency improvements in pumping as well as in projects under our 'PowerDown' programme, a project to look at non-pumping energy efficiency such as lighting, heating and general process efficiencies.

Our Achievements



South West Water is one of the first organisations in the water industry to be awarded CEMARS certification. This award recognises SWW's measurement of carbon emissions across the organisation, credible reductions achieved over the last three years and recognition of reduction strategies going forward. The CEMARS standard is aligned with the international ISO standard for quantifying and reporting greenhouse gas emissions, ISO 14064-1, and the UKWIR (UK Water Industry Research) carbon workbook.

A number of initiatives and carbon reduction projects have been identified across SWW's business. Highlighting energy awareness across the business, employees worked towards the Megawatt Challenge – an initiative for staff to identify energy cost saving opportunities at work. Over one year staff suggested projects which once implemented saved over one Megawatt of electrical demand, the equivalent of £600,000 around two percent of energy use.

SWW's efforts to save energy have resulted in a reduction in carbon emissions over the past three years of around 4,500 tCO₂e, this is from a total gross emissions level of around 180,000 tCO₂e, representing a saving of approximately 2.5% of emissions. This saving is in spite of continued capital growth and the requirement to constantly invest in additional plant, equipment and processes to meet new legislative quality targets.

Inline with the measurement of SWW's operational carbon footprint each individual site is given a carbon performance rating. This rating helps to identify poor performance sites where targeted action plans need to be developed, as well as high performing sites where best practice can be identified and shared with other sites.

Another approach that SWW are taking to target carbon emissions is to work in partnership with suppliers to reduce emissions in the supply chain. It is estimated that between 40 to 60 percent of an organisation's carbon footprint lies in their supply chain (McKinsey). SWW are working in collaboration with seven other Utilities through the Achilles carbonReduction programme, a collaborative industry initiative. By adopting a common approach and standard to assessing supply chain emissions SWW, together with the other seven Utilities, have a group of over 80 suppliers working towards and certified to the CEMARS standard.

Implications of the CRC Energy Efficiency Scheme

South West Water is captured under the UK's mandatory climate change and energy saving legislation, the CRC Energy Efficiency Scheme. As an organisation captured by the CRC, SWW will have to submit various reports and evidence pack detailing their CRC footprint. Having achieved CEMARS certification, SWW has had independent verification providing assurance for the CRC element of their carbon footprint. SWW has also achieved one element of the Early Action Metric by gaining CEMARS certification and demonstrating emissions reductions.

As part of their preparation for the CRC Energy Efficiency Scheme, SWW has also worked on the other elements of the Early Action Metric by installing AMRs (Automatic Meter Reading meters) across more than 700 of their 1,400 non-half hourly metered sites (covering 3% of energy volume), which is in addition to the already installed compulsory and voluntary half hourly meters that account for 93% of the company's electricity usage.

SWW are a member of the water industry's carbon network group which meets to discuss best practice in carbon reporting and accounting within the water industry. The group has committed to working with government and regulators to understand the impacts of the CRC in the water industry. By understanding the water industry's carbon footprint and associated energy consumption the group are looking to reduce the contribution of the water industry's activities to the UK's emissions. The industry is acutely aware that finding solutions involve collaborative action between the water industry, government, regulators, the supply chain and others.

Q & A with David Rose

Carbon Manager, South West Water

Why did you choose the CEMARS standard?

“We already have a good working relationship with Achilles through our procurement and supply chain work and we are keen to make use of the additional benefits of using CEMARS in managing our suppliers’ carbon emissions”



How is the standard helping with South West Water’s CRC compliance?

“The water industry already has a long established methodology for measuring and accounting for carbon emissions and so CEMARS isn’t going to teach us how to account for carbon. What it is useful for however is in providing a platform for the reporting that is likely to remain a requirement under the CRC and, because our reputation as good stewards of the environment is important to us, it will of course help to improve the company’s position in the published CRC league table”

Has the CRC Energy Efficiency Scheme increased focus on carbon reduction?

“Certainly within areas of our business I’ve seen increased levels of interest in carbon measurement and carbon reduction over the last two or three years, encouragingly this has been especially noticeable within our senior management and at board level”

What has been South West Water’s best achievement to date on the carbon agenda?

“If I were to pick one particular project to single out as a complete success I would probably chose our ‘Megawatt Challenge’. This project essentially hands the reigns over to our work force to come up with ideas for carbon savings. We find that staff who are the closest to day to day problems such as site operators, van drivers, call centre staff etc. can be very good at spotting inefficiencies within our operations and we’ve encouraged them to tell us where they think improvements can be made. Giving staff the opportunity to be innovative with their suggestions has helped the company save over 3,700 tCO₂e in the last couple of years and the project has also been invaluable in helping our staff engage with the company’s wider carbon agenda.”

What challenges does South West Water and the Water Industry face for long term carbon management and reduction?

“There are undoubtedly some difficult challenges that the water industry must be prepared to face in the future and we need to be planning at least 20 to 30 years ahead to see what’s coming. The impacts of climate change of drier summers and warmer wetter winters, as predicted by the UK Climate Projections, will not be easy on water companies and we are busy looking at how we can best adapt to these predicted changes. I think the water industry has started to react to the climate change problem and our regulators seem to understand what the big issues are for us, so I am convinced that the next few years will see both climate change mitigation and adaptation come into sharper focus as critical areas of water company strategy”.

What would your advice be for other organisations on a low carbon journey?

“It sounds obvious but you need to know where your biggest opportunities for making reductions are, to do this you need to have a robust system for measuring or estimating emissions from all your know emissions sources. Look at your energy use, there’s almost always something you can do to save energy. Use whole life costing in your economic appraisals and know what new technological options are available to you when replacing old and inefficeint equipment.”

CEMARS (Certified Emissions Measurement And Reduction Scheme) recognises organisations for credible carbon measurement, management and reduction. An organisation must measure their carbon emissions across Scope 1, 2 and 3 as well as develop a detailed reduction plan with targets and key initiatives outlined. An organisation has five years from the base year to demonstrate either an absolute or relative reduction in carbon emissions. Organisations affected by the CRC Energy Efficiency Scheme may also use CEMARS to demonstrate carbon reductions achieved over the last three years. CEMARS is the only standard in the UK accredited to ISO 14065, the recognised international standard for greenhouse gas validation and verification bodies.