

The CRC and the water industry
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Water companies in the UK are likely to perform well in the first years of the Carbon Reduction Commitment Energy Efficiency Scheme (CRC), but will subsequently struggle to compete with other organisations, leading to adverse impacts on companies and additional costs for water customers.

Compared to many of the 5,000 or so organisations covered by the scheme, the water industry understands and is well prepared for the CRC. Accreditation under the Carbon Trust Standard and extensive automated meter reading (AMR) programmes mean that the sector is well placed to take advantage of the scheme's early action metrics.

With early action having such a major influence on initial performance within the CRC, this activity is likely to see water companies towards the top of the league table for 2010 and 2011.

Beyond this, water companies will find it difficult to achieve absolute reductions in energy use – the central focus of the scheme – in the face of statutory requirements and continuing growth. Companies may then find themselves quickly sliding down the performance tables and losing out financially through reduced recycling payments.

As the cap tightens and carbon prices rise, the CRC could soon be costing the industry millions and regulators will have to sit up and take notice. Otherwise, customers will ultimately bear the increased costs and industry investment will be hit.

To understand the water industry's unique position and predicament with respect to the CRC, consider some of the background to the scheme and to energy use in the industry.

Mixing energy and water

The CRC was specifically designed for non-energy intensive organisations. Typically, organisations in the scheme spend around 3% of operating costs on energy. Most water companies spend closer to 10%, and the industry consumes over 8,500 GWh of energy each year, around 3% of UK total energy demand. Most is for pumping a heavy product – a family of four uses about one tonne of water each week, which has to be abstracted, treated, supplied, then taken away and treated again. The water industry represents less than 0.5% of the organisations included in the CRC, but nearly 10% of the total emissions covered, a disproportionate amount for a sector that is energy intensive by any definition.

Combined with a unique regulatory regime, this energy intensity makes the water industry different from other sectors covered by the CRC. Water companies have already invested heavily in energy efficiency. Supplying a megalitre of water or treating a megalitre of wastewater uses around 10% less energy today than it did just five years ago.

But this has been more than offset by ever increasing drinking water and environmental water and wastewater quality standards, with a continued emphasis on water industry investment to meet European standards. This is the main reason that total industry energy use has continued to rise, approximately doubling since 1990. In effect, the water industry has not just been running to stand still, but sprinting and still going backwards.

In addition, and almost unique to CRC organisations, the water industry has a statutory duty to grow – to meet new and increased demand. Yet the price control mechanism means that turnover remains all but static. As the CRC growth metric (allowing increasing energy use to be accommodated) relates to turnover, water companies with growing energy use will be at a distinct and cumulative disadvantage compared to others.

Well prepared

At the moment, the water industry does not operate under the same competitive pressures as other sectors and companies have been able to debate the prospect and implications of the CRC openly, supporting and informing each other. The government has welcomed the industry's common voice on all climate change issues, and been willing to discuss and improve the scheme through open dialogue with a coherent and unified sector.

Being well informed has enabled companies to make preparations and the CRC has definitely brought energy efficiency to the attention of water company boards. Many companies have either obtained or expect to obtain the Carbon Trust Standard and automatic meters are currently being installed at thousands of small and medium sites.

There are both reputational and financial incentives for water companies to perform well. Used to comparative efficiency, companies will not want to be 'marked down' and will be particularly concerned about their performance relative to other water companies. At the initial price of £12 per tonne of carbon, the CRC will cost a large water company several million pounds per year in allowances. With recycling payments and potential penalties to also consider, there is a real financial motivation to performing well.

There are certainly further opportunities to improve energy efficiency, and the CRC could make a host of currently marginal schemes financially viable. The largest pumps are already regularly maintained and replaced, but the incentive to pay closer attention to thousands of smaller pumps owned and run by companies will increase. An ongoing project with the Carbon Trust will help identify optimal replacement and refurbishment strategies. Other schemes to come through will include renewable energy, network optimisation, smart metering, low energy/carbon water and wastewater treatment, and an enhanced focus on water efficiency.

Planning ahead

Whilst no-one can predict with any certainty how any individual organisation or sector will perform in the CRC over time, there are some clear issues related to the scheme that the wider water sector will almost certainly need to address.

First, water companies will not be able to consistently perform well in the CRC without regulatory involvement and support. The regulatory framework within which water companies operate is already under strain and in need of review, but the CRC makes the case for wholesale change more compelling.

On the economic side, energy efficiency schemes will continue to struggle in investment prioritisation planning so long as short (within five year) payback periods continue to be favoured and whilst there is an incentive to grow asset value. Real incentives for operational expenditure schemes, taking into account broader societal benefits such as carbon reduction, are needed.

On the environmental side, we need regulators willing to embrace lower energy and carbon treatment solutions. As well as more innovative solutions at water industry works, this brings in sustainable drainage, catchment management and source pollution controls. These will help deliver good environmental outcomes in a more flexible way. In essence, a risk-based rather than risk-averse approach to abstraction, water quality and consenting.

Second, the CRC is currently a very narrow scheme. In fact, it is something of a misnomer, a fact recognised by the Department of Energy and Climate Change (DECC) with the addition of 'Energy Efficiency Scheme' to the acronym last year. The link to carbon is tenuous.

It excludes some significant areas of carbon emissions, such as transport and heat. It also takes no account of and gives no reward for renewable energy generation or purchase. This is a pity, since the UK water industry generates nearly 750 GWh of renewable energy each year, enough to meet around 9% of its energy needs. Given the right incentives, there is scope for more.

To date, economic incentives such as Renewable Obligation Certificates (ROCs) have helped make renewable energy schemes cost-effective. The CRC, combined with changes to the banding of ROCs and a less than favourable regulatory regime, will make energy efficiency relatively more attractive and additional significant investment in renewables will be harder to justify.

The government could readily adapt the CRC to allow offsetting or trading. With some imagination, this could encompass not just renewable energy, but also water efficiency (to incentivise reductions in the 35 million tonnes of CO₂ emitted through domestic water heating) and carbon sequestration (for example locking in carbon through peat management). The water industry will need to marshal itself and have an effective and clear voice if it is to advocate and justify such positive changes to the scheme.

There are other lessons for government. Businesses find it easier to plan when there is certainty over future drivers, but this has been sadly lacking from the CRC to date. Rules and boundaries have shifted and final guidance with important details on how it will run and be managed is still not available, even as the scheme starts. What all organisations in the CRC want is clarity on how the scheme will be run over the next decade or more,

with an early indication of the number of allowances available. The CRC should be clearly linked to the EU ETS and other trading schemes, and backed by a global agreement on emissions reductions (the lack of a deal at Copenhagen led to an immediate and significant fall in the price of carbon). In short, the government must explain the role that the CRC will have in the nation's wider carbon strategy.

Of course, a change of government could add to the uncertainty. Whilst both main opposition parties seem to be in favour of the CRC, a new government of any colour could be tempted to put the policy on hold until the economic situation improves, a move which business might generally support but which water companies and others, having planned and budgeted for the scheme and its implications, may not welcome.

The CRC should also align with national greenhouse gas reporting guidelines. Assuming these guidelines quickly become mandatory, it is unreasonable for the government to ask organisations to report the same emissions in two different and separate ways. Key areas where the two are currently misaligned are non-CO₂ emissions and renewable energy.

In the longer term, the Government should consider if the CRC is the right scheme for the water industry, or whether, with high energy intensity, statutory drivers and a peculiar regulatory regime, a 'tailor made option' would be more suitable.

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