



Interview Mark Hillsdon Photograph Jim Varney/VisualMedia

## Air and water

Chris Matthews,  
carbon manager, United Utilities

The country's first dedicated carbon manager at a major utility company explains his job and how the sector needs to change.

**United Utilities uses a lot of energy.** To be precise, last year it used one-third of one per cent of all the electricity generated in the UK. All that energy goes to power its water and wastewater treatment operations, which in turn leads to the equivalent of 488,000 tonnes of CO<sub>2</sub> floating up into the atmosphere.

It's a carbon footprint the utility company intends to cut with a £37 million action plan – developed after six months intensive work with the Carbon Trust – that by 2012 will reduce emissions by eight per cent on 2005-06 figures.

And overseeing the delivery of this strategy is Chris Matthews, the industry's first dedicated carbon manager.

"When the opportunity came up to apply for the role there was no hesitation," says Matthews, who's been at the company since graduating in 1994.

He's passionate about his job and talks of the importance of integrating carbon reduction into business plans and decision making processes, as well as involving employees and seeing carbon as a tradable commodity.

Other key elements of the strategy involve United Utilities (UU) buying a fifth of its energy from renewable sources over the next three years and further developing the use of combined heat and power systems at its sewage treatment plants, exploiting the potential of the methane gas that's a by-product of the treatment process.

Matthews has also been working closely with the Low Carbon Culture Company, an off-shoot of the Carbon Trust, which puts employees at the centre of the drive to reduce emissions, while the company has earmarked £1 million to help low carbon ideas get off the ground within the group.

But there's also something of a paradox at the heart of UU's carbon question. The company estimates that simply keeping pace with European legislation governing water and sewage treatment has seen its demand for electricity nearly double since privatisation. So while these targets for water improvements are being met, airborne carbon pollution has grown.

"The Victorians were quite elegant with their solutions," explains Matthews. "They built a reservoir

up in the Lake District and the water gravitated all the way into Manchester for treatment and there's drinking water for you. With the need to improve the quality of drinking water we're now having to stop that gravity flow, pump that water to a treatment source, and then let it continue on its way.

"But by putting this inter-stage treatment process in... we're consuming carbon.

So what's happened perversely over the last 15 years is that the drivers to improve drinking water quality and discharge to the environment have been met, but at a cost.

"We've got to ask ourselves the question – is it right that we continue on the same scale of aquatic improvements, regardless of the extra emissions it is causing?"

Perhaps, suggests Matthews, instead of reacting to problems such as the levels of phosphate and nitrates in our water, isn't it time we looked at the root of the problem and made changes there, which in this case means pushing detergent manufacturers to cut the levels of these chemicals in their products?

Consumer demand can be a powerful tool and Matthews believes UU's own customers have a role to play in the company's carbon management, too.

"It's not just about using less water but understanding why doing this has climate change implications," he says. Less use, he reasons, puts less strain on resources such as reservoirs, which themselves are under pressures from changing rainfall patterns.

"The other element is from a mitigation perspective... if customers use less water we have to use less energy to treat it, while around fifty per cent of household water use involves energy too, from boiling kettles to taking a bath, so ultimately it will mean smaller utility bills too."

Matthews also feels that the way in which the industry is currently regulated needs to

change in order to take into account the effects of climate change.

"There are constraints in the ways in which we spend our money," he explains, as new activities have to pay for themselves and both customers and shareholders need to benefit from what the company does.

"The way forward is to possibly change the five-year cycle of reviews [by the industry regulator Ofwat] and allow utility companies to make more considered long-term investments.

"Working with Ofwat and the Environment Agency, we need to find the right way forward which is affordable ... but which also delivers environmental improvement.

"The model for the industry will change and I don't think in 50 years time the water industry will look like it does today. But we need to start thinking about that vision now."

### TURNING POINTS

**1994** Graduates in History and Politics from the University of Warwick and joins a graduate training programme at United Utilities

**1998-2001** Runs the water distribution network in east Cheshire

**2006** United Utilities' Carbon Forum, made up of senior managers, is formed and work begins with the Carbon Trust

**2007** Co-authors the company's carbon strategy and is appointed carbon manager