Environment Agency project outline

Project name	Increasing energy efficiency and carbon reductions in the water and wastewater sectors.	**Start date**	April 2007
		End date	March 2009

Role	Name	Post Title
Project Sponsor	Clive Bates	Head of Environmental Policy, WM
Project Executive	Julie Foley	Head of Sustainable Development, Environmental Policy, WM
Project Manager	Kathryn Ross	Policy Development Advisor, Environmental Policy, WM

Background

The climate change and energy security agendas are growing in political status. (As evidenced by the Stern Report, the potential Climate Change Bill and the Government's (July) Energy Review Green Paper.) The Government programme for tackling these agendas will have implications for the Environment Agency's responsibilities as a regulator of the environment in England and Wales.

One area the Government, Industry and regulators have identified for further action is the significant potential to achieve cost-effective carbon reductions and promote energy efficiency within the water and wastewater sectors. This sector is a large consumer of energy. (Treatment and movement of drinking water and sewerage in 2004/5 used 8100 GWh of electricity and this produced over 4 million tonnes of greenhouse gas emissions.) There are a number of initiatives (both new and existing) that might deliver carbon reductions and energy efficiency, such as the proposed Energy Performance Commitment, sharing best practice, an increased use of renewable energy, and source control for pollutants (especially catchment sensitive farming). There are also a number of barriers (real and perceived) such as market misalignment and organisational structures.

There are potential interactions between the initiatives (e.g. EPC) and the barriers (e.g. our regulation) that pose opportunities and risks to the Environment Agency and achieving environmental goals. This project will: 1. provide a baseline for assessment of overall energy use and energy efficiency within the industry; identify the economic and regulatory barriers to improving use and efficiency; and 2. suggest ways to remove barriers, to ensure less/least energy intensive solutions to water supply and treatment are chosen while achieving legal requirements. It will specifically address the Environment Agency's own regulatory practices. This will then feed into shaping and delivering key internal and external plans and programmes such as the Water Sector Plan (optimising resource use), PR09 methodology, the EA's Water Resources Strategy as well as the Government's National Water Resources Strategy.

This work will build on previous research. For example it could fulfil elements of the recommendations from 'Water related infrastructure for sustainable communities, Technological Options and Scenarios for Infrastructure Systems', EA Science report: SC050025. (Namely "to examine issues regarding the whole life cycle of the distributed infrastructure" and "the performance and operation (including energy) of community level infrastructure".) It should draw on and link with Water Resources /Halcrow's work on the price of carbon; the LSE project on disincentives to demand management in the water sector; the ARUP feasibility study for a carbon neutral Thames Gateway (which we are funding); and the Water Neutral study (which we are project managing). It will be designed to fit with other projects by WaterUK and UKWIR on energy.

The project could include separate work packages e.g.

- The EPC and its implications for the water industry, and lessons from international and European regulation for carbon reduction/ energy efficiency.
- Regulatory barriers to carbon reductions in the water waste sector.

- Blue skies work on 'shadow pricing' – investment appraisals of different supply-demand water resource options that accounts for the external/social costs of carbon.

Links to corporate strategies/programmes:
Creating a Better Place – both climate change and wiser use of resources themes, the Draft Water Sector Plan, Modernising Regulation / Delivering for the Environment – a 21st Century Approach to Regulation, the Water Resources Strategy, programmes under the Water Framework Directive umbrella.

Links to external activities and key stakeholders:
Government: One Planet Living; Government commitment to reducing CO2 emissions by 60% (on 1990 levels) by 2050. Energy Review – commitment to consult on measures to cut carbon emissions from large commercial and public sector organisations by 1.2 million tonnes per year by 2020 and current EPC consultation and future implementation (April 2009). Defra interest in how the water and wastewater sectors could be more energy efficient and the new National Water Resources Strategy. Carbon Trust work e.g. The UK Climate Change Programme: Potential evolution for business and the public sector. Also links to Market Transformation Programme; Ofwat, PR09 methodology (work needs to be delivered by end of 07 for this) and delivery of 'A Sustainable water industry – To PR09 and beyond'; Water UK and Water companies.

Objectives

Overall Objective	Increased energy efficiency and carbon reductions in the water and wastewater sectors.
Objective 1	Identify opportunities for improving energy efficiency in the water and wastewater sectors through initiatives such as the EPC, sharing best practice, increased use of renewable energy and pollution control.
Objective 2	Identify barriers and potential solutions for improved energy efficiency in the sector, especially any created by regulation. Include best practice for energy in Environment Agency regulatory decision making.
Objective 3	Improve the Environment Agency's reputation with industry/ stakeholders by ensuring that the Agency's approach to sustainable water resource management and climate change objectives are aligned.
How will the project output be measured?	The quality of the project outputs will be peer reviewed by the steering group. The steering group will also involve Ofwat and selected water companies.

Deliverables

What will be the deliverables from this project?
Over the course of the two year project there may be several outputs (published/unpublished) timed to influence key policy processes such as PR09. There will be a final report and stakeholder workshop.
Target audiences?
Environment Agency staff, Ofwat, Water UK , (Water UK Energy Management Forum), Individual Water Companies, CCWater, WAG, Defra.