

Press Release No. 46/2010

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Efficient sewage technology reduces CO₂ emissions and saves energy

More funding for state-of-the-art engineering in waste water treatment

A study by the Federal Environment Agency (UBA) has shown that large volumes of carbon dioxide can be saved in the waste water treatment industry. Energy efficiency measures and improved self-generated power can reduce carbon dioxide emissions from sewage treatment in Germany by up to 40 percent. "Modern environmental technology can help waste water treatment plants do their bit to protect the climate. Greater energy efficiency and increased use of sewage gases are the key to climate-compatible waste water technology," explained UBA President Jochen Flasbarth.

Waste water treatment plants consume 20 percent of the energy in Germany's cities and municipalities, requiring nearly 4,400 gigawatt hours (GWh/a) of power per year and thus placing them ahead of schools, hospitals, and other municipal institutions as single energy consumers. In other words, the annual output of one modern coal power plant is needed just to operate waste water treatment systems. Some three million tonnes of the climate gas carbon dioxide are produced every year. However, this demand for energy can be reduced by over 20 percent, and the plants' self-generated power produced during operation can be increased two or even fourfold. As a result, about 900 GWh of power could be saved per year as well as roughly 600,000 tonnes of carbon dioxide emissions. These are the conclusions reached by the *Enhanced energy efficiency in waste water treatment plants* study done on behalf of UBA.

The study explores the reciprocations between optimised energy consumption in waste water treatment plants and operation practice and provides some starting points for enhancing energy efficiency. Established processes are compared to newer techniques as well as promising approaches to energy optimisation, especially in the areas of waste water aeration and treatment of sewage sludge. The study also points out the significance of energy production to efficient operation of waste water treatment plants. "If biogas can be better captured and used, power production at municipal waste water treatment plants could be virtually doubled. Some 600,000 tonnes of carbon dioxide could also be saved every year," added Jochen Flasbarth.

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The focus area of energy-efficient waste water treatment plants has been added to the Eco-Innovation Action Plan by the Federal Ministry for Environment. It funds innovative schemes to optimise energy and protect resources in the waste water treatment industry. The possibilities range from waste water transport in sewers and treatment through to its re-entry into the water system. Other factors include waste heat utilisation in the sewage network, electricity saving and energy production at treatment plants, enhancing energy efficiency, as well as the recovery of raw materials from sewage and sludge.

More information on the support programme is available at www.umweltinnovationen-in-abwasseranlagen.de.

The background paper is available for download online (in German) at:

<http://www.umweltdaten.de/publikationen/fpdf-l/3855.pdf>; the full report is here:

<http://www.umweltdaten.de/publikationen/fpdf-l/3347.pdf>

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