

Reduction of fossil energy use

Status	Start of operational phase: 2010
Location	Germany, North-Rhine Westfalia, Waste water treatment plant in the City of Bottrop
Measure type(s)	Increase energy efficiency
Contact	www.eglv.de



Description and Aim

The use of a residue of the scraping process, a unique proceeded fraction of the shredder light fraction for the conditioning process of sewage sludge instead of fossil coal. This fraction called shredder fibres are used in order to support the dewatering of the sludge and to set the caloric value for the incineration.

Reduction of fossil energies in the dewatering process of a waste water plant.

Adaptation to climate change

Problems addressed:

Other: Emission of greenhouse gas (GHG)

Receptor(s):

Infrastructure

Experiences

Functionality:

The emission of GHG is reduced significantly: it is envisaged to avoid 12,000 tons of fossil coal which sums up to an equivalent of 32,000 tons of CO₂ emissions per year at the WWTP in Bottrop

In general the replacement of fossil coal is possible. But the mixing in the incineration process was more difficult than thought, as the shredder fibres have different material characteristics. So the infrastructure at the WWTP had to be transformed. Once having done this, the process runs nicely.

Further synergies/benefits:

It is a mitigation measure, so reduction of CO₂ is main benefit.

Further benefit regarding sustainability:

Use a recycling material instead of fossil energy.

Further benefit regarding costs:

Shredder fibres are cheaper than coal.

Costs:

The test run was about 170.000 €, in total 410.000 € are budgeted.

Funding:

International, INTERREG IV B-programme

Stakeholder involvement:

Water board Emschergenossenschaft, public authorities, responsible for permits to run the process of sludge dewatering and incineration.

Acceptance:

From begin on it had to be proved that the costs for using the shredder fibres are the same or even less than using coal.

Also the technical feasibility had to be proved, as well as the guarantee that there are no negative effects on the environment while using the new material.

Obstacles/restrictions:

Need of enough shredder fibres at a short transport distance of the waste water treatment plant: The volume needed cannot be provided by the existing businesses – here new providers must be found at the market.