LIWATEC - Demonstration of a laundry innovative waste water recycling technology
LIFE00 ENV/D/000343

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Project description:

Background

Until now, laundries have mostly made use of end-of-pipe processes for wastewater treatment. In an environment of mounting costs and tighter emission regulations of water, this LIFE project will demonstrate that the wastewater of laundries can be treated and reused at a rate of 90%. The new and innovative recycling system has already been tested on a small technical scale and combines biological treatment and membrane processes.

Objectives

The project planned to test the new and innovative wastewater recycling system 'LIWATEC' on a large scale in a commercial laundry. It aimed to achieve the following: • a modular and robust wastewater recycling system, which can be adapted easily to different types of laundries; • a recycling/reuse rate of more than 90% of the wastewater (reuse in the laundry itself for washing and rinsing); • a 10% reduction of washing agents through the use of an optimised component system; • a reduction of wastewater emissions (especially phosphates) by replacing them with biodegradable substances in the washing powder; and • a reduction of overall costs for water in the laundry.

Results

The main objective to construct a wastewater treatment plant has been achieved, but with long delays. Some of the demonstration and evaluation stages were not completed at the end of the project’s timeline. Difficulties were the result of
unforeseen problems in the project implementation period, including: • The high difficulty in obtaining necessary construction and operation permits from the local authorities (mainly city of Darmstadt) • The high change of personnel during the lifetime of the project Despite these problems, the project achieved its aim of recycling wastewater. At the facilities in Darmstadt, 90 % of the wastewater can be reused again thanks to the innovative LIWATEC plant. This plant treats wastewater through a combination of innovative modules and bacteriological treatment Monitoring is necessary to establish the long-term impact of the project and whether other companies and laundries implement this kind of technology. Also, the success and running parameters of this plant, installed at the premises of the beneficiary, will have to be evaluated and monitored. To date, however, few dissemination activities have taken place, and the project could become an isolated case in this sector.

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Environmental issues addressed:

Themes

Water - Waste water treatment
Industry-Production - Textiles - Clothing

Keywords

laundering, waste water reduction

Target EU Legislation

- Water

Natura 2000 sites

Not applicable

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Beneficiaries:

Coordinator

Textil-Service Klingelmeyer GmbH & Co. KG
<table>
<thead>
<tr>
<th><strong>Type of organisation</strong></th>
<th>SME Small and medium sized enterprise</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Description</strong></td>
<td>The beneficiary is a medium-size laundry facility in Darmstadt, near Frankfurt. The company is family owned and employs about 50 people. It has an average annual turnover of between 5-6 million euro.</td>
</tr>
</tbody>
</table>

### Administrative data:

<table>
<thead>
<tr>
<th><strong>Project reference</strong></th>
<th>LIFE00 ENV/D/000343</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Duration</strong></td>
<td>01-OCT-2001 to 30-SEP -2005</td>
</tr>
<tr>
<td><strong>Total budget</strong></td>
<td>2,218,917.90 €</td>
</tr>
<tr>
<td><strong>EU contribution</strong></td>
<td>502,304.00 €</td>
</tr>
<tr>
<td><strong>Project location</strong></td>
<td>Hessen(Deutschland)</td>
</tr>
</tbody>
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### Read more:

- **Project web site**: [Website of the project (DE/EN)](#)
- **Publication: Layman report**
  - Title: Layman report (EN) Year: 2005 No of pages: 12