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Implemented by:



Waste management – Turkey

A modern landfill site on the Black Sea

A landfill site in the Turkish city of Samsun on the Black Sea was polluting the environment and putting residents' health at risk. A site that meets EU standards was set up with the support of KfW Development Bank. The waste is even used as a raw material.

Background

The improper disposal of waste accounts for between 3 % and 5 % of the world's direct greenhouse gas emissions. Illegal landfill sites also contaminate ground water, streams and rivers. The methane gas they emit and poisonous chemical substances they produce are harmful to human health. That is why waste management plays an important role in protecting the environment.

Waste disposal in Turkey falls significantly short of EU standards. Investment is required throughout the country. Municipal waste management systems are being established and modernised with the support of national, bilateral and international development banks and financial institutions. The first results have become apparent: In the city of Samsun on the Black Sea, a model landfill site is in operation that was promoted by KfW.

Before the new site was built, the waste generated by the city of Samsun and surrounding municipalities was transported by a steep road to a landfill site five kilometres away. The location was far from ideal, with waste thrown into a deep ravine that a mountain stream runs through. An enclosed concrete canal was built in the early 1980s to channel the stream past the site. But part of the canal collapsed after 20 years in use. The

water flowed directly out of the pile of waste, and waste was washed towards the Black Sea. Periods of strong rainfall also brought additional waste into the ravine. The continued use of this landfill site became unviable due to the significant impact on the environment, the risk to health and the acute safety risk.

Project approach

The “Waste management in Samsun” project consisted of two measures. Firstly, the old landfill site was secured and a tunnel was built to redirect the river than ran beneath it.

The second step involved building and equipping a modern landfill site based on EU standards. A sterilisation facility was also built for the treatment of

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Commissioned by	German Federal Ministry for Economic Cooperation and Development (BMZ)
Country/region	The Republic of Turkey
Lead executing agency	The waste management department of Samsun city council





Sustainable waste management plays an important role in protecting the environment. Source: KfW photo archive/photothek.net

infectious and other hazardous hospital waste. The end result is a structured, environmentally friendly waste disposal system.

Leachate at the new facility is treated using a reverse osmosis system. Gas emissions are collected and used to generate electricity, while gas that cannot be put to good use is burned using a low emission, high temperature flare. The hospital waste treatment facility in Samsun is used as a regional disposal solution for hospital waste. As a result, it serves as a model beyond the actual project region.

Employees of the city council, the hospitals and the waste disposal company were also given training on how to use the new technology on KfW's initiative.

Impact

Domestic waste produced in the Samsun area, including small-scale industrial and hospital waste, can now be disposed of in an environmentally friendly and sanitary manner. There is no longer any risk to the health of people living near the old landfill site.

The city council is increasingly viewing its waste as a resource. A private recycling company that extracts raw materials from the city's waste has now set up at the landfill site. Organic waste is also to be separated out in the future in order to generate biogas.

Establishing a sustainable waste management system is an important step towards achieving a "Green Economy". Using waste as a raw material reduces the consumption of resources and protects the

environment. This is because every tonne of waste contains materials that can be recycled, including paper, cardboard, metals, glass, plastics and other valuable substances. These are particularly interesting for developing and emerging countries where resources are scarce.

The more raw materials a country sources from its waste, the better it is able to shield itself from rising commodity prices. This also creates a new branch of industry. As the example of Samsun shows, this is made possible by using modern technology and sharing expertise.



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