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California ploughs $1m into poo power

Research aims to turn human waste into usable energy

By Danny Bradbury

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The California Energy Commission has given $1m in funds for research to convert solid human waste to energy.

The Commission's Public Interest Energy Research programme gave the money to the Delta Diablo Sanitation District to help fund a system that will cost $4.7m in total.

The rest of the money will come from the Intellergy Corporation, which already sells equipment that uses high pressure steam to break down organic feedstock into gases and other products.

This technique has yet to be applied to bio solids, and the project is expected to use the Intellergy steam reforming process to vaporise waste liquids. Bio solids will then be turned to gas and added to a mixture of steam and carbon dioxide to produce syngas.

Syngas, which is a common product of waste-to-energy gasification systems, can also be used for the production of synthetic petroleum. In this case, however, it will be used to run fuel cells for electricity generation.

It is hoped that the project will help to alleviate some of California's waste disposal problems. The bio solids produced when organic matter is removed from wastewater are difficult to dispose of. Generally, they are dropped into landfill sites and have to be transported there, which creates a transportation burden.

According to a paper published by the Energy Commission in 2009, there are 268 waste water treatment plants in California with a discharge capacity of one million gallons per day or more.

The EPA estimates that sewage contains 10 times the energy needed to treat it and can therefore provide a rich source of renewable energy.

There is also a strong financial argument for investing in waste-to-energy technology at waste water plants as solids handling accounts for almost a third of a waste water treatment facility's costs.

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