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# Emerging Technologies Competition: SweetGen

## Emerging Technologies Competition

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## What the team say

**"We learned a lot from speaking to the industry partners and following their feedback we simplified our technology."**

Dr Javier Rubio-Garcia, co-founder,  
SweetGen

## SweetGen

### Route to market

firstly focus on penetrating the  
waste water treatment industry

### To the future

testing all the universal  
applications of its technology, that  
could bring benefits to a number  
of different sectors including the  
likes of the brewing, chemical and  
food & agriculture industries.

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## SweetGen: abiotic wastewater fuel cell

Winner of the Emerging Technologies Competition 2016

Case study: June 2019

SweetGen Ltd has created the first abiotic fuel cell capable of breaking down organic molecules when presented with complex mixtures such as waste water and has developed a new family of catalysts that enable faster, lower-cost and less energy-intensive water treatment procedures. As well as this, these materials can cope better with the presence of substances that can disrupt the process and are designed to be integrated into current industrial work streams.

SweetGen Ltd were awarded first place in the food & water category of the Royal Society of Chemistry's Emerging Technologies Competition in 2016 after first hearing about the contest while researching at the Department of Chemistry at Imperial College London.



SweetGen team Picture: © Royal Society of  
Chemistry

## Since winning the competition

The treatment of waste water accounts for 1 - 3% of the world's electricity usage and costs the industry around \$90 billion per year.

SweetGen Ltd's abiotic fuel cell-like system produces electricity from low quality fuels dissolved in wastewater streams from different industries with the additional benefit of cleaning the water. This new method means a chemical oxidation which, unlike existing biological solutions, do not require long incubation periods and a fine control of temperature and pH, both of which are energy intensive.

The team received a cash prize of £20,000 and tailored business support from one of the Royal Society's multinational partner companies and training at the Cambridge Business School.

Commenting on the impact this had on helping to develop SweetGen's technology, Dr Javier Rubio-Garcia from the team said, *"We learned a lot from interviewing people in the industry and following their feedback we simplified our technology to focus only on water cleaning rather than the additional benefit of creating energy. The training at the Cambridge Business School provided us with the opportunity to connect with other companies and the funding has helped us through the demonstration period."*

## What are they up to now?

By the end of 2019, SweetGen Ltd will have completed its trials and demonstration period meaning it will soon be ready to bring the product to market.

It will firstly focus on penetrating the waste water treatment industry before testing all the universal applications of its technology as it has identified that it could bring benefits to a number of different sectors including the likes of the brewing, chemical and food & agriculture industries.

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