



Waste to Renewable Aviation Fuel Technology Licensed by

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By [BEN MESSENGER](#)

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BP explained that along with JM its developed a simple-to-operate and cost-advantaged FT technology that can operate both at large and small scale to economically convert synthesis gas, generated from sources such as municipal solid waste and other renewable biomass, into long-chain hydrocarbons suitable for the production of diesel and jet fuels. Fulcrum will use the BP and JM technology in their new Sierra BioFuels Plant located in Storey County, Nevada, approximately 20 miles east of Reno.

The Sierra plant will be the first commercial-scale plant in the US to convert municipal solid waste feedstock, or household garbage that would otherwise be landfilled, into a low-carbon, renewable transportation fuel. When the plant begins commercial operation, planned for the first quarter of 2020, Sierra is expected to convert approximately 175,000 tonnes of household garbage into approximately 11 million gallons of fuel each year: equivalent to the fuel needed for more than 180 return flights between London and New York.

"Through our partnership with Johnson Matthey, we have developed a robust high-quality technology built on great science and great engineering. Our technology can help deliver innovative low carbon fuels that can play an important role in the energy transition," said Angelo Amorelli, BP's technology vice-president of group research. "We see this first licence as a stepping stone to other similar opportunities."

Eugene McKenna, Business Development and Innovation Director at JM added: "JM is a leader in science that makes the world cleaner and healthier and in bringing this latest technology to market, we continue to apply our expertise to tackle some of the world's biggest challenges.

"We are delighted that Fulcrum has selected this technology to support their ambitions in supplying renewable fuels at significant scale. This is an important step in decarbonising transportation fuels and we will continue to use our science and engineering skills to facilitate wider adoption of this technology."

Both BP and JM have been developing FT technology for over 30 years and in 1996 joined forces to incubate and further develop the technology.

Together the companies claim to have developed a system that delivers three times the productivity of a conventional multi-tubular fixed bed reactor and halves the capital expenditure when compared to traditional FT reactors. The technology is also said to deliver significant environmental and operational benefits.

Working together, BP and JM won both the Research Project Award and the Oil and Gas Award at the prestigious IChemE Awards in November 2017 for their work on FT technology.

"We have been following BP and Johnson Matthey's progress for several years, including the demonstrated performance and reliability of their innovative design. We are pleased to partner with them and license this improved FT technology for our Sierra BioFuels Plant," said Jim Macias, Fulcrum BioEnergy President and Chief Executive Officer. "The BP/JM technology enhances the value of Fulcrum's process for converting waste to low-carbon, drop-in fuels. We look forward to working with BP and JM as we build out our large development program."