

# Battelle Scientists Converting Coal to Jet Fuel

COLUMBUS, OH--(Marketwired - April 20, 2016) - Battelle scientists and engineers have demonstrated a process that turns coal into jet fuel. The next step is to commercialize the process.

In a cost-shared program supported by the U.S. Department of Energy, National Energy Technology Laboratory (NETL) and the Ohio Coal Development Office (OCDO) of the Ohio Development Services Agency (ODSA), Battelle is demonstrating a new, hybrid, direct coal-to-liquids process for producing jet fuel using biomass-derived coal solvents. The conversion of coal to syncrude is carried out at a relatively low pressure without requiring gaseous hydrogen or a catalyst. The syncrude can be upgraded to jet fuel and other distillates employing conventional petroleum upgrading technology.

"The Battelle process offers a significant reduction in capital and operating costs and a substantial reduction in greenhouse gas (GHG) emissions," said Satya Chauhan, the leader of Battelle's process-development team that also includes other Battelle supporting organizations. "Our objectives are to demonstrate a straightforward path to near-term commercial production of jet fuel from coal using biomass-derived coal solvents."

Chauhan has recently presented findings on the potentially breakthrough technology and has filed several patent applications. He will present more findings in August at the 2016 International Pittsburgh Coal Conference, to be held in Cape Town, South Africa.

The results of the two-phase project, which is nearing completion, will be the advancement of three steps of the hybrid coal/biomass-to-jet fuel process to the technology readiness level of 5 (TRL 5). The bio-solvent production and coal liquefaction have been scaled-up successfully to one ton per day. Chauhan's team has successfully tested numerous, novel bio-solvents with bituminous coal from West Virginia and Ohio, as well as a sub-bituminous coal. Additionally, several catalysts have been evaluated for upgrading the syncrude to jet fuel and diesel. The detailed results on cost savings and GHG emissions reduction will be available towards the end of 2016. All key subsystems of the new process employ commercially-available equipment as well as raw materials available around the world. Battelle is seeking technology licensees for worldwide applications and use.

## About Battelle

Every day, the people of Battelle apply science and technology to solving what matters most. At major technology centers and national laboratories around the world, Battelle conducts research and development, designs and manufactures products, and delivers critical services for government and commercial customers. Headquartered in Columbus, Ohio since its founding in 1929, Battelle serves the national security, health and life sciences, and energy and environmental industries. For more information, visit [www.battelle.org](http://www.battelle.org).

Image

Available:[http://www.marketwire.com/library/MwGo/2016/4/20/11G094257/Images/Coal\\_to\\_jet\\_fu\\_el-15757761a5259962ae4a70c9b08ed3e3.jpg](http://www.marketwire.com/library/MwGo/2016/4/20/11G094257/Images/Coal_to_jet_fu_el-15757761a5259962ae4a70c9b08ed3e3.jpg)

## CONTACT INFORMATION

- **Media Contacts**

For more information contact

Katy Delaney  
(614) 424-7208  
[delaneyk@battelle.org](mailto:delaneyk@battelle.org)

or

T.R. Massey  
(614) 424-5544  
[masseytr@battelle.org](mailto:masseytr@battelle.org)