

# PROJECT facts

Transportation Fuels  
and Chemicals

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U.S. DEPARTMENT OF ENERGY  
OFFICE OF FOSSIL ENERGY  
NATIONAL ENERGY TECHNOLOGY LABORATORY



## EVALUATION OF NEW PROCESSES FOR THE PRODUCTION OF ULTRA CLEAN FUELS FROM NATURAL GAS

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### Description

Large reserves of natural gas on the Alaskan North Slope, as well as many proven reserves worldwide, are currently stranded because the cost of development, transportation or conversion to transportable liquid products is too high to be economic. ConocoPhillips, a global and integrated energy company, plans to unleash the potential of stranded gas with new innovations in natural gas-to-synthesis gas conversion (CoPox being developed in the ConocoPhillips R&D center). Thus, this huge natural gas resource base can then be converted into high quality, ultra-clean fuel that can be produced and transported to markets in the United States and around the world at a cost competitive with conventional fuels.

### CUSTOMER SERVICE

1-800-553-7681

### WEBSITE

[www.netl.doe.gov](http://www.netl.doe.gov)



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## LEAD INDUSTRY PARTNER

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## PARTICIPANTS

**Cummins Engine Company**  
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**Nexant**  
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San Francisco, CA 94105-2210

**Pennsylvania State University**  
University Park, PA 16802-2308

## COST SHARING

DOE \$13 million  
Non-DOE \$13 million

ConocoPhillips will perform comprehensive life-cycle systems analysis for the techno-economic comparison of the fuels and fuel additives considered within this program. A sensitivity analysis will also be run using coal and heavy oil as the feedstock. The life-cycle results from these new technologies will then be compared to conventional fuels such as gasoline and diesel as well as to emerging fuels, such as biodiesel, ethanol, compressed natural gas, liquefied natural gas, and electric vehicles to determine the advantages and disadvantages in costs, emissions, and performance of each option.

Specified fuel performance evaluation and emissions testing will be conducted to establish a common basis of comparison using actual full-scale hardware provided by two of the leading diesel engine manufacturers and the leading fuel cell system developer. Each fuel will be tested within the context of both existing and developmental transportation systems, and the fuels will be evaluated on how well they can enter the existing distribution infrastructure.



*Dodge truck with 24-valve, 5.9L "ISB" turbo diesel engine*