

# ACE EDUCATIONAL FOUNDATION, INC

PROVIDING COAL A VIABLE PATHWAY INTO THE CLEAN ENERGY ECONOMY.



## ACE IS INNOVATIVE

ACE will convert coal into ultra-clean energy products, including waxes, solvents, fuels and power. ACE will be a positive cash flow, commercial facility that will also serve as an educational resource for energy management and business students attending at Ohio Valley University.

## BENEFITS

### A PROVEN SUCCESS

ACE will use well patented gasification and Fischer-Tropsch synthesis to convert coal into synthesis gas (mainly hydrogen and carbon monoxide) and then to pure hydrocarbons that are cleaner replacements for petroleum derived products. TCC Global will provide the gasification technology, which has been selected by multiple grant funded projects, a biomass to fuels project in Oregon, and vetted by independent engineers.

### HIGH DEMAND/HIGH MARGIN PRODUCTS

Starting with coal, ACE will produce ultra-clean waxes, solvents and fuel blend stocks, as well as export power. The enhanced properties of Fischer-Tropsch derived products and their use in specialty markets, such as synthetic lubricants (Mobil 1), food grade waxes, cosmetics and pharmaceuticals, will result in higher prices than simply producing a commodity such as diesel fuel.

### ENVIRONMENTALLY SENSITIVE PROCESS

Unlike conventional combustion, gasification produces an elevated pressure stream of gas, which enables cost effective capture of carbon dioxide (CO<sub>2</sub>). ACE will include CO<sub>2</sub> removal and look to utilize this for enhanced oil recovery (EOR) or in other value-added applications. Other environmental benefits stem from the use of ultra-clean synthetic fuels, which generate fewer tailpipe emissions than their petroleum derived counterparts.

## THE CASE FOR ACE

### COAL IS A VITAL ENERGY RESOURCE

New and innovative ways must be explored to use coal in an environmentally sensitive manner in order to capitalize on this natural resource while minimizing environmental impacts. Solving this challenge is especially important to West Virginia where coal is a vital part of the state's economy. The Alternative Clean Energy (ACE) development is an economically and environmentally viable solution.



### INVESTMENT IN HIGHER EDUCATION

Supporting ACE will assist higher education and West Virginia. Revenue from product sales will generate ample cash flow to cover feedstock, operating cost and debt service and investment returns, as well as support higher education's general and scholarship funds.

### MAKING ACE A REALITY

ACE Educational Foundation purchased a 60-acre site with river, railway, and State road access inside the floodwall near Parkersburg/Vienna, West Virginia. Total project funding for construction and start-up of the facility is estimated at \$275 million.

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Alternative Clean Energy™