

## THE CO-UTILIZATION OF COAL AND E-FUEL FROM ENERTECH'S SLURRYCARB™ PROCESS

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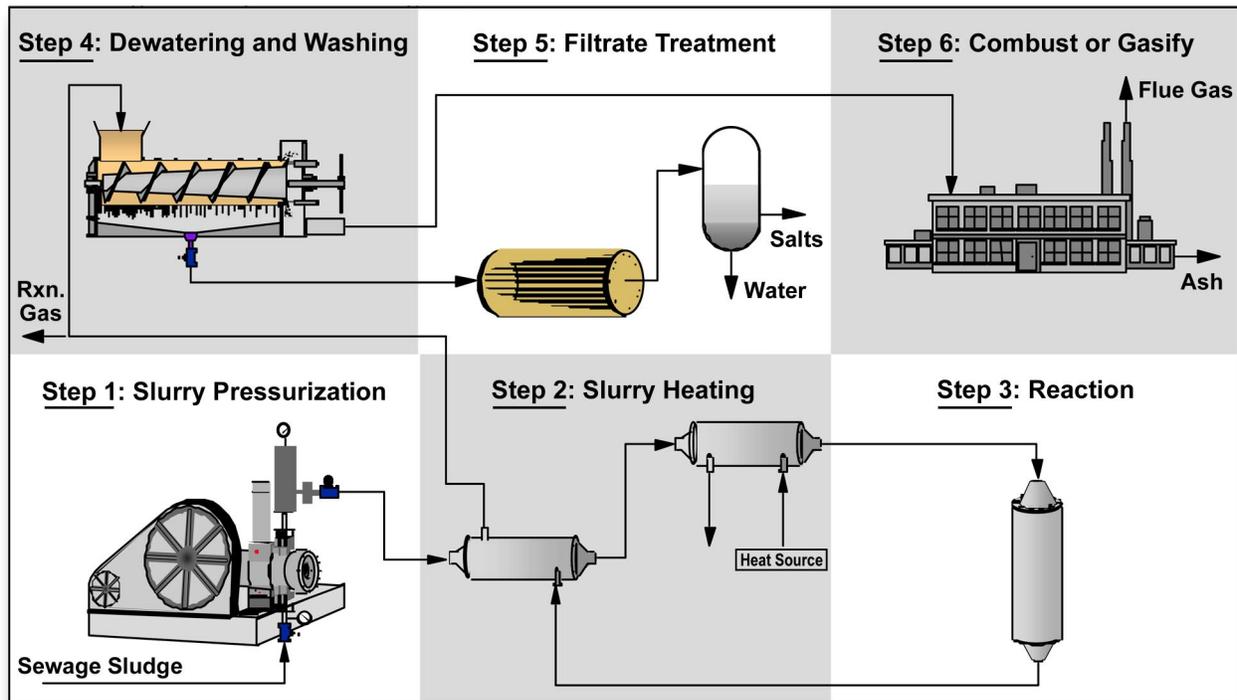
### Description

The SlurryCarb™ system converts heterogeneous waste solids and sludges into a homogeneous product using high temperature and pressure followed by a series of dewatering and off-gassing steps. The final product is a carbonized sludge or solid that is low in sulfur and has sufficient heating value to be used as a combustor fuel or a gasifier feed supplement. The product, depending upon the type of sludge processed and process conditions, can have moderate to high ash content and trace metals. EnerTech will use municipal sewage sludge as the primary feedstock for this initial commercial plant. However, municipal solids, food wastes, animal manure, refuse-derived fuels, agricultural residues, and many other solid and sludge biomass sources are all potential feedstock for the SlurryCarb™ process.

As part of the Grand Challenges Program in 1999, the Department of Energy's National Energy Technology Laboratory (NETL) awarded \$5 million to EnerTech Environmental, Inc., through a cooperative agreement, to design, construct, and operate their patented SlurryCarb™ system. The DOE cost-sharing represents about 20% of the total cost of the project; private capital will provide the remaining design and construction costs, while tipping fees will support the operation of plant. This is being done in a four-phase project in which the concept will be demonstrated initially on a small scale, followed by the construction and operation of a commercial process facility that will provide design, engineering, and operating data as well as products for commercial testing. This facility will convert 66 tons of municipal sludge to a pelletized fuel source. These pellets will initially be used as a fuel for cement production.



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*Simplified Flow Diagram*

## Goals

With solid waste management issues facing all parts of our society, EnerTech is attempting to convert such materials to biologically benign products (for example, E-Fuel) as substitutes for conventional fossil fuels and for encapsulation of their ash components in vitreous components (for example, glass or cement). The goal of this project is to advance the thermal conversion of such wastes to the point that they can be commercially and economically produced for the alternative fossil fuel market. Operation of a 66-ton/day demonstration plant is scheduled for September 2002.

## Benefits

The major benefits of this process are the production of a compatible fuel form from a renewable energy resource and a hazardous waste material. To the degree that this process can convert hazardous wastes into biologically benign fuels for existing industries, the demonstrated technology will avoid future landfill requirements and reduce CO<sub>2</sub> emissions from conventional fuels. It will also diminish demand, and extend existing reserves of, conventional fuels.