



Why Coal Liquids Are Not a Viable Option to Move America Beyond Oil

The coal industry is touting a plan to transform millions of tons of coal into diesel and other liquid fuels—an expensive, inefficient process that releases large quantities of heat-trapping carbon dioxide into our air. Fortunately, better, cleaner options exist to reduce America's dependence on oil: *efficiency, smart growth and renewable fuels.*

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The High Costs of Coal Liquids

The considerable economic, social and environmental drawbacks of coal-derived liquid fuel preclude it from being a sound option to move America beyond oil. Relying on coal-derived liquid as an alternative fuel to oil could

- nearly double global warming pollution per gallon of transportation fuels, and
- increase the devastating effects of coal mining felt by communities and ecosystems stretching from Appalachia to the Rocky Mountains.

To move America beyond oil we should start with the measures that will produce the quickest, cleanest and least expensive reductions in oil use—measures that will also put us on track to achieve the reductions in global warming emissions we need to protect our climate.

Efficiency and Renewable Fuels—The Right Way to Move America Beyond Oil

America can have a robust, effective program to reduce oil dependence without coal-to-liquids technologies. By investing in a combination of efficiency, renewable fuels, and alternatives to driving such as public transportation, we can reduce our oil consumption more quickly, more cleanly, and in larger amounts than we could with coal-derived liquids. In fact, *Securing America*, a report published by the Institute for the Analysis of Global Security and NRDC, found that a combination of more efficient cars, trucks, and planes; biofuels; and smart growth transportation options can cut oil dependence by more than 3 million barrels a day in 10 years and achieve cuts of more than 11 million barrels a day by 2025. With thoughtful action, America can pursue an energy path that enhances our security, our economy, and our environment.

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Hazards of Coal Mining Would Increase with Coal Liquids

Large-scale deployment of coal-to-liquid plants would cause a significant increase in the amount of coal mining and its harmful effects. Coal mining creates hazardous and acidic waste, which can contaminate groundwater. Strip mining, a technique in which land and vegetation are stripped away by giant machines, not only damages surfaces and permanently reshapes landscapes, but it also can destroy habitats and affect water tables. The destructive practice of mountaintop removal to extract coal involves clearcutting native hardwood forests, using dynamite to blast away 800 to 1,000 feet of mountaintop, and then dumping the debris into nearby valleys. And post-mining reclamation is problematic at best. The increase in coal production anticipated for coal-to-liquids plants using today's practices would increase harm to the environment and adversely affect many of the people who live and work near coal mines.

Global Warming CO₂ Emissions Could Nearly Double with Coal Liquids

Experts say we need to cut global warming emissions by 60 to 80 percent by midcentury to minimize irreversible and harmful effects of global warming. The United States and other nations should use energy resources that produce less carbon dioxide pollution than that produced by oil, gas and coal. And the technologies we invest in now to meet our future energy needs must have the potential to perform at much reduced emission levels. So how do coal-to-liquids processes perform?

To assess the global warming implications of a large coal-to-liquids program, we need to examine the total life cycle, or 'well-to-wheel', emissions of these new fuels. Coal is a carbon-intensive fuel, containing almost double the amount of carbon per unit of energy compared to natural gas and about 20 percent more than petroleum.

Proponents of coal-derived liquids claim they are "clean" because the fuel is sulfur-free, but when coal is converted to liquid fuels, two streams of carbon dioxide (CO₂) are produced: one at

coal-to-liquids production plants and one from exhaust pipes of the vehicles that burn the fuel. Emissions from coal-to-liquids production plants are much higher than those from producing and refining crude oil to produce gasoline, diesel, and other transportation fuels; emissions from vehicles are about the same.

The total well-to-wheels emission rate for conventional petroleum-derived fuel is about 27 pounds of CO₂ per gallon of fuel. If the CO₂ from the coal-to-liquids plant is released into the atmosphere, based on available information about coal-to-liquids plants being proposed, the total well-to-wheels CO₂ emissions from coal-derived fuel would be about 50 pounds of CO₂ per gallon—nearly twice as high. Introducing a new fuel system that doubles the current CO₂ emissions of our crude oil system is clearly at odds with our need to reduce global warming emissions.

Even If the CO₂ Is Captured, Coal Liquids Still Pollute More Than Current System

If the CO₂ from coal-to-liquids plants is captured instead of being released into the atmosphere, then well-to-wheels CO₂ emissions would be reduced some but would still be higher than emissions from today's crude oil system. Even capturing 90 percent of the emissions from coal-to-liquid plants leaves emissions at levels somewhat higher than those from petroleum production and refining; emissions from the vehicle using the coal-derived liquid fuels are equivalent to those from a gasoline vehicle. As a result, with CO₂ capture well-to-wheels emissions from coal-derived liquids fuels would be 8 percent higher than for petroleum.

Since policies to cut CO₂ emissions are inevitable, proceeding with coal-to-liquids plants now would leave investments stranded or impose unnecessarily high abatement costs on the economy.

In summary, using coal to produce a significant amount of liquids for transportation fuel would harm communities and the environment in coal-producing regions and is incompatible with solving global warming.

