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The "All of the Above" energy scheme pollutes the environment, worsens global warming, and wastes taxpayer money. America needs clean energy relief now.

The "All of the Above" Energy Plan Means More Global Warming and No Relief for Consumers

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Proponents of the "All of the Above" energy plan are touting an energy policy that includes drilling in protected places and development of oil shale, liquid coal, and nuclear power. But this menu of dirty fuels would extend our reliance on fossil fuels that cause global warming, destroy valuable environmental resources on land and in our oceans, and put our health and national security at risk. Instead, America should adopt a clean energy plan that is based on energy efficiency, clean fuels, and transportation choices—not drilling.

The impact of the "All of the Above" policies on pollution and global warming would be immense. Oil pumping in currently protected areas, oil shale development, and liquid coal production would produce a combined 1,660 million metric tonnes of global warming pollution per year. That's more than the 1,200 million tonnes of global warming pollution currently produced each year by gasoline use in the United States.



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Global warming pollution from drilling in protected places: 190 million tonnes per year

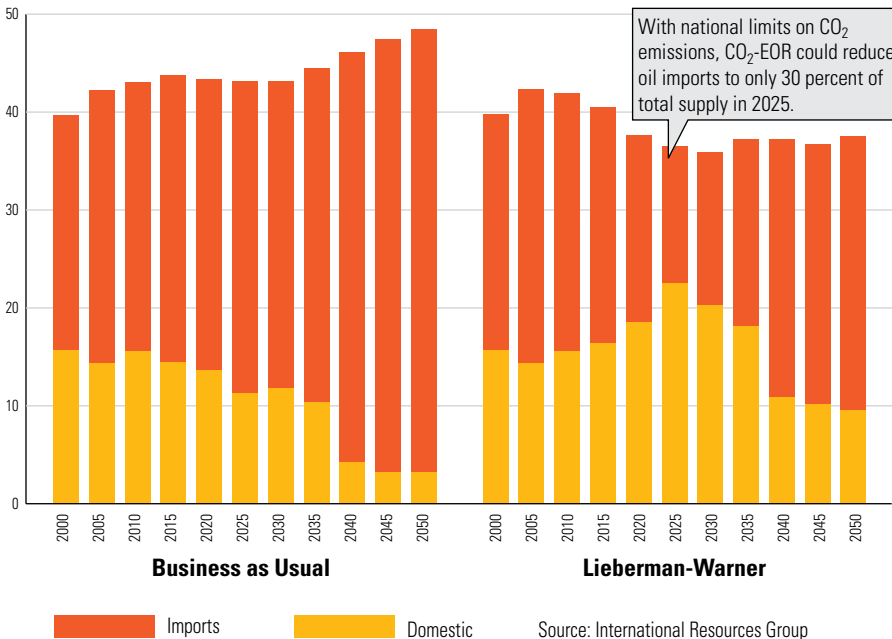
Extracting oil from our wildlife refuges and protected coastlines to burn in conventional cars and trucks would release billions of tons of carbon into our atmosphere, where it will trap heat for generations and exacerbate global warming. Supporters of the “All of the Above” plan make wildly inflated claims about how much oil could be produced by opening these areas to exploitation by the oil industry, but analysis by the Energy Information Administration (EIA) shows that production would be merely a drop in the bucket and that the impact on near- and long-term gasoline prices would be “insignificant.”¹ EIA’s analysis projects that the oil production from opening both protected offshore areas and the Arctic National Wildlife Refuge to drilling would reach a maximum of 1 million barrels per day in 2025. This would do nothing to help consumers at the pump, but burning this much oil would emit 190 million metric tonnes of CO₂ per year.

The amount of oil we could produce using less environmentally damaging approaches, such as enhanced oil recovery (EOR), far outpaces any oil we could recover from our protected areas. EOR is a technique that injects carbon dioxide into mature oil fields that have already been drilled to mobilize the oil that is “stranded” in these fields after conventional production is complete. Not only could EOR produce far more oil from existing fields than drilling in protected places, but it can also help mitigate global warming by sequestering heat-trapping carbon dioxide underground. According to research by the International Resources Group, CO₂-EOR could produce more than 5 million barrels of oil per day by 2025 while sequestering 260 million metric tonnes of CO₂ per year underground, where it cannot harm our atmosphere.²

Congress should be looking to tap the potential for domestic oil at existing fields before opening protected and sensitive areas to drilling.

Global warming pollution from oil shale: 770 million tonnes per year

Impact of CO₂-EOR on Domestic vs. Imported Oil Consumption



One element of the “All of the Above” plan calls for producing 2.5 million barrels of oil per day from oil shale. Extracting oil from shale involves heating the rock to high temperatures and turning it to liquid—in essence, speeding up what takes nature millions of years to accomplish. While not proven to be a good source of gasoline without considerable additional processing, oil from shale can be used for diesel, kerosene, and jet fuel. The oil industry has been chasing after profitable ways to heat oil shale while it is still underground, so that it can be drilled like other oil. But this complex process is fraught with unknowns, including some serious potential impacts on health, wildlife, the land, and the climate. Because the technologies for oil shale are wholly unproven, the 110th Congress in 2007 passed a temporary prohibition preventing the promulgation of final rules for the commercial leasing of oil shale on federal lands.



The “All of the Above” plan calls for lifting the prohibition on commercial leasing for oil shale despite the fact that there has been little progress under the research and development program designed to address the unanswered questions about oil shale development. The plan would also repeal a “do no harm” provision from the 2007 Energy Act that ensures the government does not purchase fuel that produces more global warming emissions than conventional gasoline. Repealing this provision would open the door to government procurement of fuel from oil shale, tar sands, or coal-to-liquids plants that could more than double the carbon dioxide emissions of conventional petroleum. Such plants could also be subsidized by the plan’s “alternative” energy trust fund.

There are many reasons to doubt the feasibility of producing 2.5 million barrels per day from oil shale, but if it could be done an enormous complex of huge coal-fired power plants would be necessary to produce the energy required to extract oil shale. Producing 2.5 million barrels per day would require the energy equivalent of roughly 50 typical coal fire generation plants³ and would burn more than 150 million tonnes of coal on an annual basis.⁴ Power plants are the single largest industrial source of some of our nation’s worst air pollutants, including sulfur dioxide, nitrogen oxides, and mercury, as well as heat-trapping carbon dioxide. These pollutants increase asthma and emphysema, cause mercury poisoning, and can even lead to premature death. Oil shale production at this scale would not only devastate the heart of the Rocky Mountains, it would emit 770 million metric tonnes of CO₂ per year (400 million metric tonnes from burning the fuel and an additional 370 million metric tonnes from the energy required to extract oil from the rock).⁵

Global warming pollution from liquid coal: 700 million tonnes per year

Converting coal to liquid fuel is an expensive, inefficient process that releases large quantities of heat-trapping carbon dioxide into our air. Coal is the highest-carbon fossil fuel, so making fuel from coal guarantees additional emissions of the heat-trapping carbon dioxide (CO₂) that causes global warming compared with traditional petroleum refining. The “All of the Above” plans include provisions for transforming coal to liquids that would nearly double global warming pollution per gallon of transportation fuel, and would increase the devastating effects of coal mining felt by communities and ecosystems stretching from Appalachia to the Rocky Mountains.⁶

Although no liquid coal fuel is sold in the United States today, the Department of Defense (DOD) is actively developing liquid coal fuels for military use. The DOD has plans to use liquid coal to supply 70 percent of its aviation fuel by 2025. To do so, liquid coal proponents have teamed up with the DOD to lobby Congress to authorize 25-year long-term, fixed-price contracts that would guarantee a market for liquid coal fuels. The “All of the Above” plan would repeal a provision of the 2007 Energy Act to open the door for government procurement of fuels, such as liquid coal, which produce much more global warming pollution than conventional fuels. At the same time, a number of coal states, including Pennsylvania, Montana, and West Virginia, are surging forward with proposals to build new plants to supply liquid coal fuels for commercial use. To finance these costly plants, an industry coalition is pushing Congress to provide a suite of taxpayer subsidies, including price floors, tax credits, and research funds, to build some, if not all, of the nine liquid coal plants currently proposed in the United States. Building just a few publicly financed plants, however, would give way to a much larger liquid industry in the United States.

Oil pumping in currently protected areas, oil shale development, and liquid coal production would produce a combined 1,660 million tonnes of global warming pollution per year.



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Unlike making electricity with coal, liquid coal results in CO₂ emissions not only at the production stage, but also when used as fuel in cars. Liquid coal therefore results in a double-hit of carbon emissions, first from production and then from the tailpipe. 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 liquid coal plant is released into the atmosphere, based on available information about liquid coal 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 much.

Even if the CO₂ from liquid coal plants is captured instead of being released into the atmosphere, well-to-wheels CO₂ emissions would still be higher than emissions from today’s crude oil system. Even capturing 90 percent of the emissions from liquid coal 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 liquid coal plants now would leave investments stranded or impose unnecessarily high costs on the economy to abate CO₂ pollution.

While the “All of the Above” plan does not have a specific target for coal-to-liquids production, it does propose two major financing subsidies that could promote the development of roughly 20 new liquid coal plants. If we assume 20 new liquid coal plants (100,000 barrels per day each) could start producing based on the “All of the Above” plan, the annual global warming pollution would be 700 million metric tonnes of CO₂ equivalent.



The “All of the Above” Plan Is Not America’s Energy Answer

We can build a clean energy economy through renewable energy and energy efficiency. Key building blocks would include putting cleaner, more efficient cars on the road, and Congress providing automakers with incentives to create more efficient vehicles, and consumers with incentives to buy them. Congress should also extend tax incentives for efficiency, require electricity providers to provide at least 25 percent of energy from renewables by 2025, and prompt the increase of energy efficiency standards for homes and commercial buildings by 30 percent by 2010 and 50 percent by 2020.

Offshore drilling, oil shale, and liquid coal are not the answers America needs to solve our energy crisis. We need solutions that will lower prices immediately and in the future, without destroying our protected places. Renewable energy and energy efficiency are the solutions America is looking for to move into the clean energy economy.

¹ <http://www.eia.doe.gov/oiaf/aeo/otheranalysis/onr.html>

² For more information on enhanced oil recovery, see the July 2008 NRDC fact sheet “Tapping into Stranded Domestic Oil: Enhanced Oil Recovery with Carbon Dioxide is a Win-Win-Win,” available online at <http://www.nrdc.org/energy/eor.pdf>

³ Schuster, Erik. “Tracking New Coal-Fired Power Plants.” Department of Energy: National Energy Technology Laboratory. February 18, 2008. p. 14.

⁴ Bartis, James T., et al. “Oil Shale Development in the United States: Prospects and Policy Issues.” Rand Corporation. 2005. p. 23.

⁵ Oil shale emission factors were estimated using emission factors from Argonne National Laboratory’s GREET Model.

⁶ NRDC, “Why Liquid Coal Is Not a Viable Option to Move America Beyond Oil,” February 2007, available online at <http://www.nrdc.org/globalWarming/coal/liquids.pdf>.