

## **A Few Simple Facts about the Proposed Coal Plant in Linden**

A small Massachusetts company, SCS Energy, has proposed a modern 400-megawatt coal gasification power plant in Linden, N.J. (Union County), called PurGen.

The coal plant will capture its own hazardous waste carbon dioxide gas (CO<sub>2</sub>), plus waste CO<sub>2</sub> piped to it from other emitters in the region, compress the CO<sub>2</sub> into a liquid, pipe it 140 miles to a spot 70 miles offshore from Atlantic City, and then pump it a mile and a half beneath the floor of the Atlantic Ocean, hoping it will stay there forever. CO<sub>2</sub> is the main global warming gas that is causing the climate crisis (larger storms, rising sea levels, and more severe droughts, floods, and wildfires). During the life of the coal plant, PurGen will bury a trillion pounds (500 million tons) of hazardous waste CO<sub>2</sub>. This is called "carbon capture and sequestration," or CCS for short. It is a huge experiment and the people of Linden (and all of north NJ, south Jersey, and Staten Island) are the guinea pigs – and so are the fish in the sea.

### **1. Why bury CO<sub>2</sub> beneath the ocean floor?**

The short answer is, because the coal industry needs to demonstrate "clean coal." Coal is the most polluting and most environmentally damaging energy source, bar none. It destroys the land, pollutes water, and creates massive amounts of dangerous by-products, including air pollution and toxic wastes (liquid and solid). Coal produces 12% of all U.S. energy (not just electricity) but emits 20% of all U.S. carbon dioxide – the main global warming gas.

Because of all this pollution, plans for at least 130 new coal power plants in the U.S. have been canceled or delayed in the last few years. The coal industry is getting desperate. Their response is a PR campaign for so-called "clean coal" – meaning their untested plan to capture and bury CO<sub>2</sub> below ground.

The purpose of CCS – the *only* purpose, really – is to bail out the coal industry by diverting investment away from clean, renewable sources of energy. We'll invest in coal with CCS or we'll

invest in renewable energy – but we won't invest in both. If the coal industry cannot get CCS going on a grand scale, their future looks grim. Likewise, the oil, automobile, electric power and railroad industries see CCS as a "get out of jail free card." With CCS, they could extract CO<sub>2</sub> from the atmosphere, pump it underground, and continue burning fossil fuels.

But what if we discover 50 years from now that buried CO<sub>2</sub> is leaking into the atmosphere uncontrollably, ruining the planet as a livable place for humans? Scientists working on behalf of the coal industry say it won't happen. But what if they're wrong? Are they infallible?

**2. The 140-mile-long pipeline snaking along the Jersey shore on the bottom of the ocean from Linden down to Atlantic City will cast a pall over the tourism and fishing industries that sustain South Jersey.** That is why the City Council of Atlantic City and the Atlantic County Freeholders have passed strong resolutions opposing the PurGen coal plant.  
<http://goo.gl/DRUiR>

**3. This coal plant will make bad air pollution worse.** Union, Hudson, Middlesex and Essex Counties already fail to meet minimum federal health standards for air pollution. The NJ Department of Environmental Protection (DEP) estimates that soot alone is causing 594 deaths (plus 16,590 cases of asthma) each year in these counties. Furthermore, in addition to soot, there are hundreds of other chemicals in the air that exceed levels that the DEP considers safe.

Based on the air permit application that PurGen has filed with NJ DEP, we know that PurGen will add 1.7 million pounds (853 tons) of air pollution to New Jersey each year, including 83 tons of volatile organic compounds (VOCs), 204 tons of nitrogen oxides, 89 tons of sulfur dioxide and 101 tons of soot (fine and ultrafine particles).

U.S. EPA [Environmental Protection Agency] says the cancer risk from 187 toxic air contaminants in Union county is already 41% above the national average. In Hudson, the risk is 86% above average; in Essex, it's 33% above and in Middlesex 17% above.

EPA has identified 2,312 major “environmental hazards” in N.J. Ranking counties by the number of these hazards per square mile, Hudson is #1, Union is #2, Essex is #3, and Middlesex is #4. Along with Staten Island, these are the counties that would be most directly impacted by a new coal plant in Linden. These counties already have far more than their fair share of pollution and the health problems that go with it. Enough is enough.

**4. The PurGen coal plant will create new environmental injustices.** In 2004, N.J. state government designated Linden an “environmental justice” community because Union County is 22.7 percent Black (56% higher than the statewide average) and 25.1% Hispanic (57% higher than the statewide average) and because children’s asthma rates are high. So the PurGen power plant will be adding serious contamination to an area where state government has acknowledged that Blacks, Hispanics, and people of below-average income are already unfairly burdened by pollution, an outrageous injustice.

**5. A sub-seabed CCS experiment in Norway is having problems.** At Sleipner in Norway, the StatoilHydro company has been pumping one million tons of CO2 per year (1/10th the size of the PurGen proposal), plus oily hazardous waste, into the Utsira formation, a geologic layer beneath the North Sea, since 1996. In 2007, a seismic study intended to locate the buried CO2 at Sleipner could only account for 19% of what's been buried. No one is sure where the other 81% of the CO2 is located. <http://goo.gl/Lewr>

**6. Concentrated CO2 is dangerous, and at least 1.8 million people live within 10 miles of the proposed coal plant.** Collecting and processing a trillion pounds of CO2 in such a densely-populated area could pose serious dangers. CO2 is odorless, colorless, tasteless, and heavier than air. If it escapes, CO2 can form an invisible puddle that excludes oxygen, asphyxiating everything in its path. In 1986, in Cameroon, CO2 escaped from a lake and smothered 1,746 people in their sleep. Can a trillion pounds of liquid CO2 be processed in Linden without any accidents or leaks?

**7. CCS will be exceedingly expensive and every dollar spent on CCS is a dollar that cannot be spent on renewable sources of clean energy** like efficiency, solar, wind and geothermal. To make a real dent in the global-warming problem by burying CO2 in the ground would require massive investment. To sequester half the CO2 currently being emitted, worldwide, we'd have to build a CO2 waste disposal industry 4 times the size of the global petroleum industry today. <http://goo.gl/Pv2nQ> And after we made that enormous investment, we would still eventually run out of affordable fossil fuels. Then we'd have to invest again – in efficiency, conservation, solar, wind and geothermal power.

**8. PurGen would produce 600,000 tons of nitrogen-rich fertilizer** (urea) each year – but nitrogen is already causing massive pollution damage to the world's oceans, so this not a benefit – it is another harm from PurGen. See <http://goo.gl/NGeN> and <http://goo.gl/8iwK>

**9. CCS can trigger earthquakes.** Professor Leonardo Seeber at Columbia University’s Lamont-Doherty Earth Observatory said recently that carbon sequestration “has huge implications for triggering earthquakes.” And we know that earthquakes already occur every year or two in both Northern and Southern New Jersey.

**10. PurGen is not needed.** In recent years, several credible studies have concluded that energy efficiency improvements, using off-the-shelf technologies, could affordably cut U.S. energy use by more than 50%, paying huge dividends that could then be invested to pay for deployment of renewable energy sources and a modern electric grid, creating tens of thousands of good jobs. <http://goo.gl/PJEFT> In sum, the PurGen coal plant proposed for Linden is too unjust, too risky, too expensive, and not needed.

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