

## **Burning Tires for Power: Green Energy or Health Hazard?**

**By Kari Lydersen, AlterNet. Posted July 10, 2008.**

<http://www.alternet.org/environment/90943/>

The idea of burning waste tires for energy is catching on, and one city is hoping to build the biggest facility yet. But some residents are concerned. Green is not the color most people would associate with burning tires. But that's how developers of a proposed tire-fueled power plant in hardscrabble Erie, Pa., describe their project. They say the plant, which would turn 900 tons of tires each day into a 90-megawatt power supply, would be an ecologically beneficial investment since it would keep tires out of landfills or illegal dumps and generate electricity with one-tenth the emissions of traditional coal-fired power plants.

If it receives needed state approval, Erie Renewable Energy's project would be the largest power plant in the world burning "tire-derived fuel," or TDF. Such plants are relatively common in Asia, Europe and the United States, but they usually operate on a much smaller scale -- they are often built in a modified existing facility to fuel one local industry like a paper mill or cement kiln. The ERE plant, if it is built, would be the world's largest tire-burning power plant and one of relatively few constructed solely for that purpose. It would consume 72,000 tires a day and produce enough electricity for about 75,000 homes.

Opponents concerned about health and environmental effects say power generation is just a way to disguise what is really a giant tire incinerator. "I think there's some definite green-washing going on here," said Dr. Neil Carman, clean air program director for the Texas Sierra Club, who has testified against such plants.

ERE's Web site says the tires would be shredded into 2-inch pieces and burned suspended in sand in two boilers, in a completely closed environment, with top-notch emissions control and fire prevention technology. The company's Web site also says opponents like to "conjure an image of uncontrolled tire fires with clouds of black smoke billowing into the air. ... Nothing could be farther from the truth." The Web site promises local residents would not find their cars and homes coated in black soot or ash, as often happened when an International Paper mill operated on the same site.

But residents who have formed the group KEEP (Keep Erie's Environment Protected) aren't buying it. "They are calling this a completely green, renewable thing; well, burning tires isn't considered renewable by anybody," said KEEP member Dennis Stratton, an electrical engineer. "They talk about gasification and liquefaction. You're going to be throwing tire chunks into an oven at 1,600 degrees; I don't care what you call it, it's still going to be burning."

ERE notes that there are 275 million waste tires in the United States, according to the U.S. Environmental Protection Agency, with one generated per person per year. The Web site (ERE founder Greg Rubino declined to speak for this story) says that since scrap tires are breeding grounds for mosquitoes, they are a source of West Nile virus. The company presents the power plant as a direct solution to Pennsylvania's supposed scrap tire problem. Environmentalists point out there are other proven uses for old tires that don't involve burning, including recycling them into rubber mats or into material used to pave highways.

In 2005 strident local opposition torpedoed plans for a tire-burning power plant near the Twin Cities that would have generated 20 megawatts -- much less than the proposed Erie plant. For details, see: <http://www.semep.org/Accomplishments.htm>

ERE's Web site says its emissions would be well within all legal standards and up to 10 times lower than those of coal-burning plants. But environmentalists and some residents argue that federal clean air standards are too lenient and don't regulate many dangerous metals, organic compounds and tiny particles. When synthetic rubber tires are burned, the byproducts would include highly toxic beryllium, lead, cadmium, selenium, silver, manganese and chromium 6 (of Erin Brockovich fame), according to Carman. He said the waste gases of sulfur dioxide and other compounds in the emissions would also stick together in the air to form tiny toxic particles. Separately, unburned carbon would bond together to form highly carcinogenic benzene rings, or PAHs (polycyclic aromatic hydrocarbons), which form as gases cool, "like skydivers separating and then forming big rings and circles."

The public health threat posed by the tiny particles emitted during the tire-burning process is of extra concern. Particles less than 2.5 micrometers in size are thought to cause serious respiratory and other health problems since they linger in the air and are easily inhaled, like cigarette smoke, then lodge in the lungs for years. And children are much more severely impacted by these particles. "These particles are a concern for two reasons," Carman said. "They are very small -- they can be sucked into the lungs and right into the alveolar sacs, between lung tissue and blood. The second reason they are such a concern is toxicity: These little particles are sort of like toxic suitcases -- everything that has agglomerated together" from the emissions.

In 1997 the U.S. EPA instituted new regulations defining particles 2.5 micrometers to 10 micrometers in size (called PM2.5) as "fine" particles subject to specific regulations. Dust from industries like mining and agriculture is usually classified as PM10 (over 10 micrometers); the "fine" particles come almost exclusively from combustion. Since they frequently are emitted as gases and then form into particles, it is extremely hard to measure them at the stack or control them. The ERE facility's proposed 300-foot smokestack would lessen the emissions impact on the immediate area, but residents and officials of New York, just 13 miles to the east, and Canada have also expressed concern about the plant.

The Pennsylvania Department of Environmental Protection (PDEP) is currently considering whether to grant the air quality permit ERE needs to proceed. A public hearing in January drew hundreds of comments and lasted until after 11 p.m., and the department is still accepting public comments on an ongoing basis. "The city of Erie has formed an air quality committee to try to determine whether the city should establish its own air regulations to perhaps be more stringent than the EPA regulations," said PDEP spokesperson Freda Tarbell. The company also needs a solid waste permit and a construction permit. The company's Web site predicts it will be up and running by 2010.

ERE promises 250 temporary union construction jobs and 60 permanent jobs from the plant, plus a \$3 million annual infusion in the city's tax base. The developers promote the plant as a way to make up for the many industries that

have left Erie in recent decades. But Stratton and other locals say that rather than harkening back to its industrial past, Erie should be looking for an economic future in tourism and outdoor sports based around the lake -- enterprises that could be negatively impacted by the tire plant. Among other things, mercury emissions from the plant would likely exacerbate the contamination of fish in Lake Erie, tightening existing consumption limits. ERE's permit application lists a potential of 3 pounds of mercury emissions per year. "That means 1,360 grams of mercury," said Carman. "All it takes is a single gram of mercury to contaminate roughly a 20-acre lake."

The industry vs. outdoors tourism question in Erie mirrors a debate happening across the Great Lakes region, with de-industrialized cities and former mining towns in Michigan, Wisconsin, Illinois, Ohio, New York and Indiana considering whether to stake their future on resource extraction and manufacturing or fishing and waterskiing. Stratton, a recreational boater, points to Presque Isle State Park near the proposed tire plant site. "Nobody is talking about that. Five hundred million visitors a year who would be impacted," he said. "And Erie just built a new convention center. How many tourists are going to want to come to the city with the world's largest tire incinerator? It's like something out of 'The Simpsons.'"

**News Release -- Commonwealth of Pennsylvania, Dept. of  
Environmental Protection                      October 9, 2009  
DEP: Erie Coke Stack Testing Results Trigger New Air  
Quality Requirements**

*Emissions Exceed Permit Limit*                      Meadville – The Department of Environmental Protection has informed Erie Coke that stack testing conducted by the company earlier this year indicates that the coke-making operation in Erie has exceeded its permit limit for nitrogen oxide.

Erie Coke's permit limit for nitrogen oxide is 87.16 tons per year. The stack testing report shows that actual nitrogen oxide emissions are 91.1 tons per year.

DEP also informed Erie Coke that the stack test emission results put the company into the category of being a major emitter of volatile organic compounds, or VOCs, and hazardous air pollutants, or HAPs. The company previously had been categorized as a minor source for both based on standard calculations for coking operations.

Based on Erie Coke's emissions testing report, the coke ovens emit approximately 58.6 tons of VOCs per year. Erie Coke must submit a plan to DEP that demonstrates how the company plans to address the VOC emissions.

<http://www.goerie.com/apps/pbcs.dll/article?AID=/20091009/NEWS02/310099953>

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## **Collapsed land deal threatens Erie tires-to-energy plant Sale of property for tires-to-energy complex collapses**

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The land deal at the center of the proposed tires-to-energy plant has collapsed, jeopardizing the \$370 million project.

Erie Renewable Energy LLC, which wants to build the complex along East Lake Road, failed to meet a final deadline Monday to buy the 60 acres necessary for the plant, according to a lawsuit filed in Erie County Court on Thursday.

As a result, the owner of the property, the Greater Erie Industrial Development Corp., has terminated ERE's sales agreement to buy the land, on the site of the former International Paper Co. plant, for \$1.9 million.

ERE sued Thursday to try to get a judge to reinstate the sales agreement and let it buy the property from GEIDC at a later date. If that challenge fails, ERE and its president, local real-estate agent Gregory J. Rubino, will need to find another site to build the tires-to-energy plant.