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With energy and nuclear power becoming such an important discussion in the prairie region, the Prairie Policy Centre is introducing a new feature we call Energy Watch. It will bring you news and information that you are unlikely to find in the mainstream media.

The first is the following newspaper article from the Augusta Chronicle in Augusta, Georgia.

Nuclear power vs. clean coal's dirty mess: A tale of two power plants

Augusta Chronicle
By Robert Duncan
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On Dec. 22, a deluge of coal-ash slurry broke through a retaining wall near the Kingston Fossil Plant, a power plant in eastern Tennessee.

Black sludge inundated a valley and destroyed houses as it surged down to the Emory River, where hundreds of fish soon lay dead on fouled banks.

Helicopter video footage showed a landscape resembling the moon's surface, with more than a billion gallons of sludge covering 300 acres.

The disaster also temporarily halted an incoming train loaded with coal.

This presumably came from other industrially ravaged landscapes to the east, where Appalachian mountaintops are routinely bulldozed into valleys to access seams of Paleozoic carbon. Tests of river water near the spill found high levels of arsenic, lead, cadmium, thallium and other toxic heavy metals. One sample tested by the Environmental Protection Agency on Dec. 23 had an arsenic concentration 149 times the federal safety standard.

Local folk were caught off-guard.

"The disaster carries a hint of irony for longtime residents," reported the Los Angeles Times. "If there was a concern about ecological threats, it came from a few miles south, where TVA (Tennessee Valley Authority) operates a nuclear plant." Indeed, the Watts Bar Nuclear Generating Station, about 20 miles downstream from the Kingston plant, has been a focus of intense protest and litigation by environmental groups ever since it was licensed for construction in 1973. Yet it is the Kingston plant, never really on green radar, that is suddenly in the news. These sister TVA plants produce almost the same amount of electricity, but their waste streams are very different. About 96 percent (by weight) of the Kingston plant's waste can't be seen from any helicopter, since it has vanished into the air through tall, twin 334-yard-tall smokestacks.

In 2007, Kingston emitted 11 million tons of carbon dioxide (the principal "greenhouse gas" driving climate change), 51,000 tons of sulfur dioxide (which causes acid rain), 12,500 tons of nitrogen oxides (300 times more potent than carbon dioxide for global warming, and a source of acid rain plus low-lying ozone), 1,700 tons of hydrochloric acid aerosol, 330 tons of sulfuric acid aerosol, 230 tons of hydrogen fluoride, 11 tons of ammonia and 30 tons of toxic heavy metals - arsenic, barium, mercury, selenium, etc. - in airborne particulates (smoke).

Except for the carbon dioxide, all these substances harm the respiratory systems of people and animals.

However, the power plant's emissions could have been worse. Because Kingston uses "clean coal" technology (in one of its dirtiest incarnations), most of the particulate emissions that darken raw coal smoke never go up the smokestacks. Particles of smoke and ash, mostly in the 10- micron range, are captured and hauled off to storage. In 2007, Kingston impounded about 400,000 tons (dry) of this "fly ash," with a total volume of about half a million cubic yards, which contained 1,100 tons of toxic heavy metal compounds, including 24 tons of arsenic, 720 tons of barium, 25 tons of lead, 90 tons of vanadium, and roughly 10 tons of radioactive thorium and uranium. Unfortunately, water seeping through fly ash dissolves heavy metals and washes them into rivers, groundwater and drinking supplies.

It was this poison-leaching, cancer-causing fly ash slurry that recently surprised the Kingston plant's neighbors. Just a half- day's float down the once-pristine river is Watts Bar. This, not Kingston, is the TVA power plant that environmentalists have been denouncing for decades as a public menace because of its unmanageable wastes. In 2007, the Watts Bar nuclear reactor produced 26 tons of waste, with a total volume of 3.5 cubic yards.

Kingston produces 400,000 times more waste, with vast toxic, radioactive and climate-destroying components, all released into the environment. Watts Bar's waste stream is fully contained, and so minuscule in volume that its management poses no substantial economic or logistical burdens. It has never hurt anyone, and there's no good reason to think that it ever will. Nuclear energy provides about 20 percent of our nation's electricity, but not a single person has ever been killed in a U.S. commercial nuclear power plant accident, not in the industry's whole 51-year history.

(The 1979 Three Mile Island incident harmed equipment, but not people. Some radioactive steam was vented up a stack, but so little that there's only a small chance that it caused a single case of cancer.) Many Americans still learn to fear nuclear power from groups such as Greenpeace, or from The Simpsons on television. This would be funny if the environmental devastation of fossil-fuel burning was not so tragic and unnecessary.

(The writer is a research scientist at the University of Texas in Austin.)