

THE WAR ON PHYSICS AND OTHER GOOD THINGS

of cancer or other diseases for neighborhood residents since then. Three Mile Island's long-term impact on America's economic, geopolitical, and environmental health, however, was radioactive in the extreme.

The coincidence of the movie *The China Syndrome* and the real-life Three Mile Island-and, most important, the steadily soaring costs and legal liabilities of building nuclear power plants that hit in the 1980s-gradually combined to bring a halt to the construction of any new commercial nuclear facilities in America. Unlike solar or wind power or batteries, which get cheaper with each new generation of technology, nuclear power plants have gotten more and more expensive to build. A one-gigawatt nuclear power plant today costs roughly \$10 billion to construct and could take six to eight years from start to finish. So what began with fears of runaway reactors and morphed into fears of runaway construction budgets has resulted in this stark fact: It has been more than thirty years since the Nuclear Regulatory Commission has approved construction of a new commercial nuclear power plant in America. The last new nuclear power plant to be completed in America was in 1996-the Watts Bar Nuclear Plant in Tennessee. That plant was approved in 1977.

At the time America abandoned nuclear energy, though, we actually led the world in generating electricity from carbon-free power. Our existing nuclear fleet of 104 reactors now has an average age of thirty years. Just to maintain the current contribution that nuclear power makes to America's total output of electricity-about 20 percent of national usage-we will need to rebuild or modernize virtually our entire fleet over the next decade,. The earthquake and tsunami-triggered Japanese nuclear disaster at the Fukushima Daiichi Nuclear Power Plant in March 2011-which led to a release of radiation in both the air and water-makes a renewed emphasis on nuclear power in America politically difficult at best and impossible at worst, Because we have not increased the nuclear component of our energy mix for more than thirty years, as our total energy demand grew we came to rely all the more heavily on fossil fuels-coal, crude oil, and natural gas.

The year 1979 proved crucial for energy and the environment for

other reasons as well. The cost of oil skyrocketed that year as did oil's toxic geopolitical consequences. The sequence of events began in January 1979, with the overthrow of the shah of Iran and the subsequent

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