

What's wrong with nuclear power?

The 1939 New York World's Fair was a built on an ash heap. Attended by more than 40 million people, it meant to lift a nation from the sooty depths of the Depression. It's brochure read, "Here are the . . . ideas . . . (and) . . . the tools . . . (for) . . . the World of Tomorrow." A 5,000-year time capsule enshrined a kewpie doll, writings of Einstein and a dollar in change.

The world was on the precipice of a war that would emblazon the awesome power of broken uranium atoms into our consciousness. Winning the atomic kewpie doll assured change back on energy dollars.

In March 1979, the apocryphal nuclear accident film, "The China Syndrome," radiated ominous warnings of sinister governmental conspiracies. Decades later, this nation that changed the world forever by unchaining atomic bonds, remains awash in radioactive mythology more harmful than the puff vented March, 1979 at the Three Mile Island nuclear plant.

Personnel error, design deficiencies and component failures led to less radioactivity than a chest X-ray being intentionally released. Those two events, coupled with a 1977 presidential decision and the predictable 1986 Chernobyl disaster due to unforgivably shoddy construction, enchained American atoms again.

Nuclear power means controlled nuclear reactions exploiting the massive heat released when breaking atomic bonds. Twenty percent of U.S. electricity



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is provided by nuclear plants. Nuclear power is a cost-effective, long-lasting and safe form of almost renewable energy. All 103 U.S. reactors are up and running 90 percent of the time and make money. Since Hiroshima, more than 200 nuclear power plants traveled to more than 50 countries, 150 ports and 130 million miles without incident while keeping us all safe. Thanks, U.S. Navy.

Remember $E=MC^2$ in high school? Energy and matter are different forms of the same thing. Bits of matter, like abundant uranium and thorium, contain enormous amounts of energy. An average 1,000 megawatt coal plant burns 20 tons of coal for 20 minutes of electricity, belching 60 tons of CO₂. Fuel for a 1,000-megawatt nuclear reactor is reloaded safely by gloved hands off a flatbed trucks every six years feeding a plant that occupies only one-third an acre.

More than 4,000 intermittently working wind turbines occupying more than 200 square miles produce equivalent energy. Nuclear power; no exhaust, no sasquatch-sized carbon footprint, no acid rain or billions in dollars from diseases and pollution.

The 1977 decision to force nuclear waste storage rather than recycle fuel was born of fear regarding evil use of stolen plutonium generated by reactors. Wrong move. Diplomacy and force can prevent countries or terrorists from using nuclear materials for

destructive ends. Furthermore, new technologies make stolen fuel useless.

Nations will build what they cannot buy. Crucially, modern nuclear breeder reactor systems recycle. They produce almost no nuclear waste and if converted to use abundant thorium, the radioactive half-life of minimal waste is 30 to 40 years. Modern nuclear reactors cannot explode and meltdowns are not possible.

Nuclear power is cost stable. Fuel is largely recyclable, abundant and bought years in advance. It costs less than 2 cents per kilowatt-hour (a quarter of gas-fired plants).

An informed fear of oppression from tyrannical regimes exploiting a crucible of energy led Dr. Leo Szilard to entreat friend and fellow genius, Einstein, to approach President Roosevelt in 1939. Our nation has seduced itself into near fiefdom to land barons parsing out the earth's black blood -- petroleum. Our ignorance and irrational fear of nuclear energy compounds our servitude.

Leaders must throw fears on the ash heap and tactically employ hard won kewpie dolls of atomic power in a multipronged assault on energy dependence. Do so now and we will not need to wait five thousand years to get change back from our energy dollar.

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