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# Nuclear Power for All



The January-February issue of *Foreign Affairs* contains a revolutionary paper entitled "The Need for Nuclear Power" written by Richard Rhodes and Denis Beller. While this paper is reviewed below, we encourage you to read the full text.

The Rhodes/Beller paper is unique in several key respects. First is its pedigree. Not only was it published by what is perhaps the most influential policy journal in the world, but one of its co-authors, Rhodes, is a Pulitzer award winning historian who wrote *The Making of the Atomic Bomb*.

Second, the paper takes the environmental high ground. Unlike many pieces that defend nuclear power, Rhodes and Beller go on the offensive, pointing out the environmental deficiencies in other energy sources, while extolling nuclear power in comparison, and do so in a convincing way.

Some key points made in the paper deal with the radiation/proliferation threats posed by fossil plants:

- A 1,000 MWe coal plant releases 100 times as much radioactivity into the atmosphere as a nuclear power plant of the same size.
- The same coal plant annually releases 74 pounds of uranium, enough to make two atomic bombs.
- If fossil-fuel plants were held to the same radiation-emitting standards as nuclear power plants, their costs would increase dramatically, further pushing the cost advantage to nuclear.

Rhodes and Beller also note the much greater volume of waste created by fossil-fueled plants. Of course, much of the fossil waste ends up in the atmosphere, with attendant effects on

fires, and pipeline explosions. With respect to hydro power, they call attention to recent dam overflows in Italy and India that have killed thousands of people. The authors also attack wind power and oil in the same breath, noting that wind turbines kill more eagles than the Exxon Valdez oil spill.

The third, and perhaps the most intriguing, way that the paper is different is that it takes the moral high ground. Rhodes and Beller note that one-third of the world's population lacks access to electricity, a key factor supporting future development. Without such access, such development is throttled, and these countries are left to misery and despair. The implication is that denying these countries access to an environmentally sound energy source such as nuclear power just because of ideological prejudices held by nuclear's opponents is wrong. As a solution for the third-world problems, Rhodes and Beller call for new generation of smaller, modular reactors that are cost competitive, safe, and proliferation resistant. One reactor that potentially fits this need is the modular gas-cooled pebble-bed reactor being marketed by Eskom.

The paper was so compelling that it was referenced by Charles Krauthammer of *The Washington Post* in a recent piece entitled "A Nation of Oil Addicts." What is so noteworthy about the Rhodes/Beller paper is that it was written before the dramatic jump in oil prices that has caused so much attention recently. It was the oil price run-up in the 1970s that spurred the first great rush into nuclear power, as industrialized nations embraced the atom as a way of escaping dependence on oil. Since then, there has been growing concern about global warming and other atmospheric pollution, a movement on which nuclear power seems positioned to

health. Here, the authors cite statistics concerning the affects of this pollution.

The World Health organization attributes three million deaths to indoor and outdoor air pollution, while a study done by the Harvard School of Public Health found that coal-burning pollutants cause 15,000 premature deaths in the United States.

As to lives lost, no energy source escapes Rhodes' and Beller's critique. They point out the oft-cited coal mine accidents, oil and gas plant

capitalize. As we enter the twenty-first century, certain things seem obvious. One is that the world is poised for unparalleled growth, as economies become more and more productive. Another is that the world is particularly vulnerable to further environmental damage. In this respect, it is difficult to imagine that this growth can take place without a strong reliance on nuclear power. It would further seem unfair to deny this growth to developing countries just because an environmentally sound energy source such as nuclear power was lacking. The Rhodes/Beller paper helps bring this picture into a much-needed perspective.

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