by invisible contamination,” the sense that the reality of radiation effects. At issue is what can ing the climate-energy nexus.

The Energy Agency have concluded that although times could be brought down. But we have had high costs and long construction fmal cost of conventional generation”—that is, solar and $30 to $40 per megawatt-hour for onshore.

In theory these high costs and long construction times could be brought down. But we have had more than a half-century to test that theory and it appears that we have been solidly refuted. Unlike nearly all other technologies, the cost of nuclear power has risen over time. Even its supporters recognize that it has never been cost-competitive in a free-market en-

vironment by phasing out point out that the nuclear industry has followed a “negative learning curve.” Both the Nuclear Energy Agency and International Energy Agency have concluded that although nuclear power is a “proven low-carbon source of base-load electricity,” the industry will have to ad-

dress serious concerns about cost, safety, and waste disposal if it is to play a significant role in address-

ing the climate-energy nexus.

But there are deeper problems that should not be brushed aside. They have to do with the fear and the reality of radiation effects. At issue is what can be called “invisible contamination,” the sense that some kind of poison has lodged in one’s body that may strike one down at any time—even in those who did not suffer in the nuclear disaster itself. Nor is this fear irrational, since delayed radiation effects can do just that. Moreover, catastrophic nuclear accidents, however infrequent, can bring about these physical and psychological conse-

quences on a vast scale. No technological system is ever perfect, but the vulnerability of nuclear power is particularly great. Improvements in design cannot eliminate the possibility of lethal meltdowns. These reactors operate, the fissioning of their fuel produces plutonium, which is a highly toxic radioactive waste. Wherever extensive nuclear power is put into use there is the possibility of its becoming weap-

onized. Of course, this potential weaponization makes nuclear reactors a temptation for terrorists as well.

There are now more than 450 nuclear reactors throughout the world. If nuclear power is embraced as a rescue technology, there would be many times that number, creating a worldwide chain of nuclear danger zones—a planetary system of potential self-

annihilation. To be fearful of such a development is rational. What is irrational is to dismiss this concern, and to insist, after the experience of more than a half-century, that “fourth generation” of nuclear power will change everything.

Advocates of nuclear power frequently compare it to carbon-loaded coal. But coal is not the issue; it is already making its way off the world stage. The ap-

propriate comparison is between nuclear and renew-

able energies. Renewables are part of an economic and energy revolution: They have become available far more quickly, extensively, and cheaply than most experts predicted, and public acceptance is high. To use renewables on the necessary scale, we will need improvements in energy storage, grid integra-

tion, smart appliances, and electric vehicle charging infrastructure. We will have had many decades of national effort—reminiscent of World War II, as well, the making of the atomic bomb—that includes all of the technological means to reawaken the American way of life. Gas and nuclear will play a transitional role, but it is not pragmatic to bet the planet on a technology that has consistently under-

performed and poses profound threats to our bodies and our minds.

Above all, we need to free ourselves of the “nuclear mystique”: the magic aura that radiation has had since the days of Marie Curie. We must question the misleading vision of “Atoms for Peace,” a vision that has always accompanied the development of nuclear weapons. We must free ourselves from the false hope that a technology designed for ultimate destruction could be transmogrified into ultimate life-enhancement.

—Lifton is a Distinguished Professor Emeritus at City University of New York and among his many books is co-author of Hiroshima in America (Harper Perennial, 1996), and Indefensible Weap-

ons (Basic Books, 1983).

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Fort Calhoun reactor in Nebraska was surrounded by Missouri River floodwaters in June 2011. Photo by Nati Harnik/AP

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