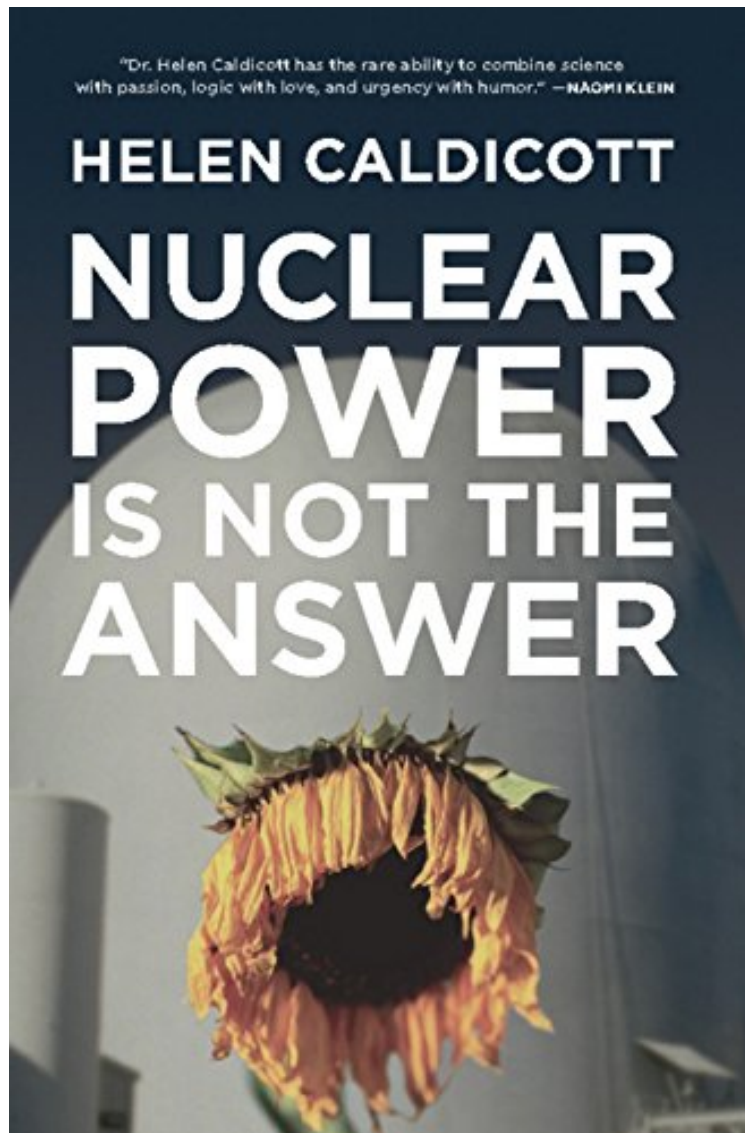


(Library ebook) Nuclear Power Is Not the Answer

Nuclear Power Is Not the Answer

Helen Caldicott

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Helen Caldicott : Nuclear Power Is Not the Answer before purchasing it in order to gauge whether or not it would be worth my time, and all praised Nuclear Power Is Not the Answer:

8 of 10 people found the following review helpful. Very anti nuclear book By Hill Country Bob Ms. Caldicott is very much opposed to nuclear power, and this book is about her objections to nuclear power. She is certainly entitled to her opinion and her opposition to nuclear power. However, as the late United States Senator and Ambassador Daniel Patrick Moynihan said: "Everyone is entitled to your own opinion. You are not entitled to your own facts." On the first page of the introduction is the statement: "As this book will show, no part of "efficiently, safely, and with no discharge of greenhouse gases or emissions" is true." The issues of

nuclear efficiency and safety are addressed below. Efficiency - Cost: Addressing the efficiency issue, I will assume that cost is related to efficiency. The US Energy Information Agency has provided cost estimates for the future, for plants entering service in 2018. The cost estimates include the cost to build the plant, and to operate the facility. The following data comes from that source. In this table, only the columns on type system, plant capacity and total system levelized cost are given. Omitted for simplicity are: Levelized capital cost, Fixed OM, Variable OM (including fuel), and Transmission investment.

Table 1. Estimated levelized cost of new generation resources, 2018 U.S. average levelized costs (2011 \$/megawatthour) for plants entering service in 2018

Dispatchable Technologies	Conventional	Coal 85%	100.1	Advanced Coal 85%	123.0	Advanced Coal with CC 85%	135.5	Natural Gas: Conventional	Combined Cycle 87%	67.1	Advanced Combined Cycle 87%	56.6	Advanced CC with CCS 87%	93.4	Conventional	Combustion Turbine 30%	130.3	Advanced Combustion Turbine 30%	104.6	Advanced Nuclear 90%	108.4	Geothermal 92%	89.6	Biomass 83%	111.0	Non-Dispatchable Technologies:	Wind 34%	86.6	Wind - Offshore 37%	221.5	Solar PV 25%	144.3	Solar Thermal 20%	261.5	Hydro 52%	90.3
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There is another article on the web by the Breakthrough Institute titled: "Cost of German Solar four times Finnish Nuclear"; subtitled: "Olkiluoto Nuclear Plant, Plagued by Budget Overruns, Still Beats Germany's Energiewende"; Germany's solar program will generate electricity at quadruple the cost of one of the most expensive nuclear power plants in the world, according to a new Breakthrough Institute analysis, raising serious questions about a renewable energy strategy widely heralded as a global model. The findings challenge the idea that solar photovoltaic is a disruptive, scalable, shelf-ready technology with a cost advantage over nuclear. Energy analysts frequently point to Finland's advanced nuclear project at Olkiluoto, which is seven years behind schedule and billions of dollars over budget, and solar in Germany as indicative of future cost trends working against new nuclear technologies and in favor of solar. Proponents of Germany's Energiewende, which now involves jettisoning the country's nuclear fleet by 2023, argue that solar and wind can make up the difference in lost capacity. A straightforward cost comparison between the two programs over the same 20-year period, however, reveals the costs of this proposition. The Finnish European pressurized reactor (EPR), with an estimated total cost of \$15 billion, will generate over half as much energy as the entire existing German solar program, which will run to roughly \$130 billion. The total cost of electricity produced by German solar will be 32 cents per kilowatt-hour versus 7 cents per kilowatt-hour for the Areva-Siemens nuclear plant in Finland — a more than four-fold difference. Two such nuclear plants would generate slightly more than Germany's solar panels, at less than a fourth the total cost.

SAFETY: Addressing just the safety issue, one common way to address system safety is by looking at the number of deaths. I am assuming that we all wish to have electricity in our society, and thus looking at the death rates associated with the different methods of generation of electricity appears appropriate. There is an article by Willem Post on the web at a site called Next Big Future from March 13, 2011 Deaths per TWH (Terawatt Hour) by energy source: (--- nextbigfuture.com/2011/03/deaths-per-twh-by-energy-source...) It says: Comparing deaths/TWh for all energy sources I wrote this back in 2008 and with one new death that is somewhat nuclear energy related (a death at one of the Japanese nuclear plants following the 8.9 earthquake) the statistics are not changed. Japan should have had sealed backup diesel generators or updated some of their designs. However, nuclear still compares very, very well to the other energy sources. The air pollution data is mainly from the World Health Organization and the European study Externe. The World Health Organization compiled peer reviewed health studies on air pollution from many institutions. Occupational health and safety statistics track the deaths of workers in the different industries.

Correction on the coal deaths per TWH for China.

Energy Source	Death Rate (deaths per TWh)
Coal (elect, heat, cook — world avg)	100 (26% of world energy, 50% of electricity)
Coal (elect, heat, cook) — China	170
Coal (elect, heat, cook) — USA	15
Oil	36 (36% of world energy)
Natural Gas	4 (21% of world energy)
Biofuel/Biomass	12
Peat	12
Solar (rooftop)	0.44 (0.2% of world energy for all solar)
Wind	0.15 (1.6% of world energy)
Nuclear	0.04

An interesting and informative book is: "Before it's Too Late A Scientist's Case for Nuclear Energy" by Bernard L. Cohen written in 1983 which provides a good deal of still relevant information. Dr. Cohen was a professor of Physics at Univ of Pittsburgh. He was Chairman of the American Physical Society Division of Nuclear Physics and Chairman of the American Nuclear Society Division of Environmental Sciences. He wrote over 200 papers and articles for popular journals such as Science Digest, Consumer's Research, Scientific American etc. He wrote three books. He tried very hard to educate Americans about nuclear power and how it could be a great benefit, and why. He addressed all of the hazards. He worked to get the media to cover the topic and offered them all the assistance he and others in the community could provide. Unfortunately, the media was not really interested in educating the American people, but rather was interested in sensationalism. The anti nuclear community had all of the sensationalism, and did not really care if what they said was the truth, but only cared that it was widely publicized. Dr. Cohen's efforts to get out the rather boring facts were not of interest to the media, as the facts did not make for sensational headlines. Thus, he finally quit giving talks and wrote this very informative book. If you have an open mind and really want to understand the issues, "Before it's Too Late" will help you to understand.

0 of 1 people found the following review helpful. A Classic By Dave Carbon free and Nuclear free. Caldicott tells it like it is. A classic.

0 of 2 people found the following

review helpful. Just as describedBy HealerdudeI can't completely review this item, as it was purchased as a Christmas gift. My observations include that the book was in beautiful condition, binding tight, pages clean, not even showing any shelf wear. I'm anxious to give this book as a gift, and I know the recipient will be pleased as well. Thanks for the accurate description, the fast service, and speedy delivery. I'll definitely do business with you again.

In a world torn apart by wars over oil, politicians have increasingly begun to look for alternative energy sources—and their leading choice is nuclear energy. Among the myths that have been spread over the years about nuclear-powered electricity are that it does not cause global warming or pollution, that it is inexpensive, and that it is safe. Helen Caldicott's look at the actual costs and environmental consequences of nuclear energy belies the incessant barrage of nuclear industry propaganda. Caldicott "reveals truths," Martin Sheen has said, "that confirm we must take positive action now if we are to make a difference." In fact, nuclear power contributes to global warming; the true cost of nuclear power is prohibitive, with taxpayers picking up most of the tab; there's simply not enough uranium in the world to sustain nuclear power over the long term; and the potential for a catastrophic accident or a terrorist attack far outweighs any benefits. Concluding chapters detail alternative sustainable energy sources that are the key to a clean, green future.