

# Nuclear Energy Now: Why the Time Has Come for the World's Most Misunderstood Energy Resource

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Two vastly experienced energy experts come together in this publication to offer an understanding of the essential issues surrounding the nuclear power industry.

The book starts off with a brief overview of commercial nuclear development in the US since the Second World War and goes up to the most recent development including the Energy Policy Act of 2005.

Then main topics covered in the rest of the book are: Strategic steps the US has taken that might revive the nuclear power industry; the economic and environmental aspects of nuclear power; the safety record of the industry, warts and all; and the growth of the industry in Europe and the Far East.

A strong case is put forward why this industry cannot be ignored in the current debate about future energy needs and environmental challenges. The real value of the book to me lies in the way it demystifies the nuclear energy process, offers numerous tables, dates, background information, and discusses in a balanced way the risks and rewards involved in going the nuclear way. It is also refreshing to read a book that clearly wants to make its own points, yet doesn't avoid addressing the prevailing concerns and even offers lots of arguments on the risks involved.

This book is a provocative and interesting read, filled with information.

A few quotes and ideas from the book might help to give a taste of the content:

- “Only nuclear power can halt global warming” James Lovelock, a founder of Greenpeace (p12). Similar comments from co-founder Patrick Moore (p35).
- A 1000MWe nuclear plant creating electricity leaves us with 23 tons of waste per year. A similar amount of electricity from coal would yield 300 000 tons of ash (p33).
- The US currently has 103 operational nuclear reactors (p33).
- The graph on p51 showing the number of Million metric Tonnes of Carbon Dioxide Emissions from the electric power sector (comparing coal to gas and petroleum) is alarming.
- In 2004 fossil fuels still supplied 71% of energy need in the US compared to 20% from nuclear, 7% from Hydro, and only 2% from non-hydro renewables (p53).
- The 443 commercial nuclear generating units around the world produce about 16% of the world's energy output. This means they displace more than 2.5 billion metric tons of CO<sub>2</sub> per year to help minimise global greenhouse gas emission increases (p93-94). They need about 68000 tons of uranium per year to operate (p107).
- France has 59 nuclear reactors. It produces electricity more economically than other European countries and is also the world's biggest exporter of electricity (p95-96).
- “In the US, the cost of managing and disposing of waste from nuclear power plants represents about 5 percent of the total cost of electricity generated (p99).
- “Canada produces the largest share (28 percent) of mined uranium, followed by Australia (23 percent)” p108.
- “A 2005 EU poll on the subject reported that some 62 percent of respondents agreed that nuclear power was advantageous in terms of cutting greenhouse gases – up from 41 percent four years earlier. “How ironic that the green movement, once a staunch opponent

of nuclear power, might end up being one of its strongest advocates in Europe and around the world.” (p116).

- The Chinese plan to increase their nuclear generating capacity fivefold by 2020 from current levels. (p117).
- “A pound of enriched uranium, which is smaller than the size of a baseball, has the energy potential equivalent to approximately a million gallons of gasoline” (p129).

My main criticism of the book has to be the strong USA focus. Although understandable (and stated clearly in the introduction), it makes for frustrating reading from time to time, to the point of almost inviting the reader (from a non-US background) to skip some parts. On the other hand, all the detail provided does go a long way to address the many smoke and mirror arguments put up by so many conspiracy theorists and paranoid groups. Anyone who has concerns about the secrecy of this industry will be surprised at the amount of information offered. Just listing the figures and tables included in the book, takes up 5 pages in the index.

A final quote to make us think/smile/worry: “Part of the popularity of these large government projects (*nuclear power – my insert*) probably stems from the fact that in France, scientists and engineers tend to have a higher status than in the United States and that many high-ranking French civil servants and government officials are trained as scientists and engineers, rather than lawyers as in the United States” (p101).

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