

# Nuclear - the Greatest Con of All

(or "The Geening of Nuclear Power")

As a group, we consider ourselves to be reasonably objective. Most of the information presented on these pages we think is generally objective, with perhaps a streak of optimism or altruism showing. We also try and do some research to support what we claim - and nobody is particularly fanatical about the environment.

Nuclear energy promises clean green and almost free power at first glance - and then that picture sort of dissolves into something that almost defies objective description. It is without doubt the most misrepresented, misunderstood and manipulated energy topic of them all. The "spin" and emotion around this industry is amazing with the anti nuclear movement making claims that are just as distorted as the nuclear industry itself makes.

The easiest way to present it is perhaps just to look at how "green" it is - how much it costs and how safe it is - and of course how renewable it is.

Let's start with how green it is.

From a page with the title "Environmentalists for Nuclear Energy", here's an opening statement which seems typical of the arguments in favour of nuclear.

*"If well managed, nuclear energy is a very clean energy, does not reject polluting gases in the atmosphere, uses very few construction materials (per kWh) compared to solar & wind energy, produces very little waste (almost totally confined), and does not contribute to the greenhouse effect (no carbon dioxide)."*

"No CO<sub>2</sub>" is easy to be objective about. Nuclear energy - like all the others - is a supply chain which, in this case, includes uranium mining, conversion, enrichment and fabrication of nuclear fuel - construction and deconstruction of the massive nuclear facility structures; and the disposition of high-level nuclear waste... Many of those steps will involve CO<sub>2</sub> emission.

According to calculations by the Öko-Institute, 34 grams of CO<sub>2</sub> are emitted per generated kWh in Germany. The results from other international research studies show much higher figures - up to 60 grams of CO<sub>2</sub> per kWh. A modern coal fired station emits about 750 grams and a gas fired station about 370 and a wind generator about 11 grams per kWh. CO<sub>2</sub> from construction materials is really quite irrelevant - it would be difficult to get that to more than 1 gram per kWh.

"Does not reject polluting gasses" is also not too difficult to deal with. It does use chlorofluorocarbons (CFCs) - these were banned many years ago to protect the ozone layer - except for use in nuclear fuel processing facilities where it is needed for the production of the uranium hexafluoride. The US nuclear fuel processing facilities release about 400 tonnes of the stuff every year - it has about 9,500 times the potency of CO<sub>2</sub> as a GHG so we could say it is an equivalent to less than 4 million tonnes of CO<sub>2</sub> - still a small part of the US total.

OK - if well managed - it is clearly green from the point of view of CO<sub>2</sub> emissions when compared to most others. From the point of view of toxic waste the picture is less clear. It does produce some pretty nasty waste - but that impacts more on the safety and cost issues than on climate change.

Let's look at how much it costs.

Let's look at how safe it is.