

# MYTHS OF THE NUCLEAR INDUSTRY

In an effort to revive nuclear power, which has been in decline in recent years, the nuclear industry has developed the strategy of claiming that nuclear energy is clean **green** energy that is the solution to global warming. **This claim rests on a set of myths.**

## MYTH # 1 NUCLEAR POWER IS CARBON FREE.

**The truth:** While operating, nuclear reactors produce low levels of greenhouse gases, **but** mining, processing, transporting the nuclear fuel, and building and decommissioning the plants require carbon energy that produces greenhouse gases.

"Nuclear fuel preparation begins with the mining of uranium containing ores, followed by the crushing of the ore then extraction of the uranium from the powdered ore chemically. All three stages take a lot of energy, most of which comes from fossil fuels. The inescapable fact is that the lower the concentration of uranium in the ore, the higher the fossil fuel energy required to extract uranium."

[http://www.theecologist.org/News/news\\_analysis/2736691/false\\_solution\\_nuclear\\_power\\_is\\_not\\_low\\_carbon.html](http://www.theecologist.org/News/news_analysis/2736691/false_solution_nuclear_power_is_not_low_carbon.html)

"Saying nuclear is carbon-free is not true," says Uwe Fritsche, a researcher at the Öko Institute in Darmstadt, Germany, who has conducted a life-cycle analysis of the plants. "Nuclear power has more than just a little greenhouse gas attached to it, when mining uranium ore, refining and enriching fuel, building the plant, and operating it are included. A big 1,250 megawatt plant produces the equivalent of 250,000 tons of carbon dioxide a year during its life. . ." [www.csmonitor.com/2007/0307/p01s04-sten.htm](http://www.csmonitor.com/2007/0307/p01s04-sten.htm)

## MYTH #2 FUKUSHIMA WAS NOT A MAJOR EVENT.

**The truth:** The current Japanese Prime Minister, Abe, has downplayed the consequences of the Fukushima disaster out of concern for damage to tourism and trade. The accident, in fact, continues to be an environmental catastrophe.

<http://www.japantimes.co.jp/news/2015/06/25/business/shareholders-pressure-utilities-ditch-nuclear-power/#.VZm68ZRCr0I.twitter>

According to Aljazeera, America: "Four years after the quake and tsunami, half of the tens of thousands still displaced are displaced because of radioactive contamination. Miles of northern Japanese countryside are piled with giant plastic bags of irradiated material, with plans for even a temporary repository still only in the negotiation phase. And on the site of the crippled nuclear facility, water still needs to be circulated over the melted cores and fuel storage tanks in the damaged reactors. Hundreds of tons of that water, which contains a laundry list of toxic isotopes like cesium 134, cesium 137, strontium 90, plutonium 239, iodine 131 and tritium, leaks every day into the nearby sea, while hundreds of tons more is pumped into hastily constructed 1,000-ton storage tanks, which now stretch for miles in several directions away from the plant. There is now roughly half a million metric tons of radioactive water stored in tanks around Fukushima. The decommissioning and cleanup of the reactors themselves will take a generation. Parts of northwestern Japan will likely be dangerous for human habitation past the lifespan of any of the tsunami's survivors."

<http://america.aljazeera.com/topics/topic/issue/fukushima.html>

[Fukushima at 4: New choices mired in old priorities](#)

Another excellent reference: Lochbaum, David, Lyman, Edwin, Stranahan, Susan Q., and the Union of Concerned Scientists. *Fukushima: The Story of a Nuclear Disaster*. New York: The New Press, 2014.

## **MYTH #3 RADIATION RELEASED BY NUCLEAR PLANTS IS NOT DANGEROUS.**

**The truth:** There is no safe level of radiation exposure.

“Even the very lowest levels of radiation are harmful to life, scientists have concluded, reporting the results of a wide-ranging analysis of 46 peer-reviewed studies published over the past 40 years.”

University of South Carolina <http://www.sciencedaily.com/releases/2012/11/121113134224.htm>

“The core issue is that, world-wide, over 60 epidemiological studies have examined cancer incidences in children near nuclear power plants (NPPs): most (>70%) indicate leukemia increases. I can think of no other area of toxicology (eg asbestos, lead, smoking) with so many studies, and with such clear associations as those between NPPs and child leukemias. Yet many nuclear Governments and the nuclear industry refute these findings and continue to resist their implications. It’s similar to the situations with cigarette smoking in the 1960s and with man-made global warming nowadays.”

<http://www.ianfairlie.org/news/childhood-leukemias-near-nuclear-power-stations-new-article/>

## **MYTH #4 RENEWABLE SOURCES LIKE SOLAR AND WIND ARE NOT COST COMPETITIVE AND THEY CAN NOT PRODUCE ENOUGH ENERGY IN THE FUTURE. ELIMINATING NUCLEAR POWER WILL LEAVE US DEPENDENT ON COAL, OIL, AND GAS.**

**The truth:** We don’t need nuclear energy!

Dr. Mark Cooper states, “Nuclear reactors old and new are far from a necessary part of a low-carbon solution. Nuclear power, with its war against the transformation of the electricity system, is part of the problem, not the solution.”

[http://www-assets.vermontlaw.edu/Assets/iee/Power Shift Mark Cooper June 2015.PDF](http://www-assets.vermontlaw.edu/Assets/iee/Power%20Shift%20Mark%20Cooper%20June%202015.PDF)

“A new study demonstrates that an energy system based completely on renewable forms of energy will be economically viable in the future. Within ten years, solar and wind power will be the cheapest forms of energy production for Asia's largest energy markets.”

<http://www.sciencedaily.com/releases/2015/02/150205083032.htm>

“So much power was produced by Denmark’s windfarms on Thursday that the country was able to meet its domestic electricity demand and export power to Norway, Germany and Sweden.”

<http://www.theguardian.com/environment/2015/jul/10/denmark-wind-windfarm-power-exceed-electricity-demand?>

"Solar, wind and other forms of renewable energy besides hydro-electric dams now supply more electricity than nuclear in Japan, China, India and five other major economies accounting for about half the world's population, an atomic industry report shows. While nuclear stations on average produce about twice as much electricity as renewables annually for every kilowatt installed, the high growth of solar, wind and other renewables means atomic power is fast being eclipsed as nations turn away from the energy source after the Fukushima disaster in Japan."

<http://uk.reuters.com/article/2015/07/15/us-nuclear-industry-decline-idUKKCNOPP0AX20150715>

# THERE ARE CERTAIN **TRUTHS** THAT ARE IGNORED BY THOSE WHO PROMOTE NUCLEAR ENERGY AS **GREEN** AND THE ANSWER TO GLOBAL WARMING.

## **Truth #1 NUCLEAR POWER IS DIRTY.**

**THE BY-PRODUCT OF NUCLEAR ENERGY PRODUCTION IS RADIOACTIVE MATERIALS WHICH REMAIN LETHAL FOR HUNDREDS OF THOUSANDS OF YEARS AND FOR WHICH WE HAVE NO LONG-TERM SAFE STORAGE SOLUTION. THIS FACT ALONE ELIMINATES NUCLEAR FROM BEING CONSIDERED A CLEAN **GREEN** ENERGY SOURCE.**

“The United States has generated over 75,000 metric tons of spent nuclear fuel and high-level nuclear waste--extremely hazardous substances--at 80 sites in 35 states and is expected to more than double that amount by 2055... Uncertainties exist about the direction of the nation's policy for nuclear waste disposal.” <http://gaonet.gov/products/GAO-11-731T>

“In addition to storing the waste, contaminated soil and groundwater must be treated and stabilized, nuclear reactors decommissioned, buildings demolished, some buried waste exhumed, sorted, and buried again because it wasn't buried right in the first place.”  
<http://science.nationalgeographic.com/science/earth/inside-the-earth/nuclear-waste/#page=2>

## **TRUTH #2 NUCLEAR POWER PLANTS REQUIRE A GREAT AMOUNT OF COOL WATER, AND THEY DISCHARGE WARM WATER INTO THE WATER SOURCE.**

**THIS IS AN ISSUE WITH THE AVAILABILITY OF WATER AS WELL AS THE IMPACT OF HEATED WATER ON FISH, PLANTS, AND OTHER WILDLIFE.**

According to Safiyyah Abdul-Khabir, “Nuclear is known as the thirstiest power source... As freshwater resources become scarcer, the nexus between water and energy becomes magnified... The high water requirements mean that the operations of these power plants are susceptible to heat waves and droughts. If the temperature of a water body is already high, environmental regulations do not allow for further discharges of high temperature water above a certain threshold. Furthermore, if water levels in a body of water drop too low, the power plant may not be able to intake enough water... In the hot, dry summer of 2006, several nuclear plants across Europe stopped operations due to restricted water availability.”  
<http://large.stanford.edu/courses/2013/ph241/abdul-khabir2/>

## TRUTH #3 NUCLEAR POWER IS EXPENSIVE.

“Missing from the entire debate about nuclear is the most important fact of all: Nuclear is dying due to poor economics, and the debate is already over as far as the market is concerned... Even while the nuclear industry is able to externalize its costs for insurance (which are federally limited), loan guarantees (which are federally backstopped), decommissioning (which is pushed onto ratepayers) and waste handling (which is pushed onto taxpayers), it still lost. If it had to stand on its own and pay its full insurance costs like every other energy source, we could never build another nuclear plant in America, because no private investors would be willing to take that kind of risk.” <http://finance.yahoo.com/news/real-reason-fight-nuclear-power-120923780.html>

“The cost of nuclear energy in France is to increase sharply and continue to increase over the next few years, France’s official auditor says, predicting that investment to prolong the lives of ageing power stations will push up electricity bills.” <http://www.english.rfi.fr/france/20140531-france-s-nuclear-energy-costs-soar>

“The dismantling of Germany's nuclear power plants will be one of the greatest tasks of the century as the country moves to phase out atomic energy. It will take at least until 2080 to complete the job. But what happens if energy utility companies who own the facilities go bust before the work is done?” <http://www.spiegel.de/international/germany/germany-faces-tough-decisions-as-it-dismantles-nuclear-plants-a-899063.html>

## TRUTH #4 NUCLEAR FACILITIES ARE TERRORIST TARGETS.

“Drones can pose a number of problems for nuclear facilities. Flyovers could be used for reconnaissance by hostile actors, for example in the collection of photos and video footage of guard movements and the site layout. This could help to prepare for a ground-based attack. Drones could also provide air support in the event of an actual ground-based attack: They could drop explosives to damage power or communications networks, or could deliver weapons to insiders within the plant. Drones could also be used to bomb spent-fuel pools, which are less well protected than reactor cores.” [http://www.newsweek.com/drones-threat-nuclear-plants-294458?piano\\_t=1](http://www.newsweek.com/drones-threat-nuclear-plants-294458?piano_t=1)

August 15, 2013 – The Nuclear Proliferation Prevention Project (NPPP) at The University of Texas at Austin's LBJ School of Public Affairs has released a report titled Protecting U.S. Nuclear Facilities from Terrorist Attack: Re-assessing the Current ‘Design Basis Threat’ Approach. “Some key findings of the report include: Some U.S. nuclear power plants are vulnerable to terrorist attack from the sea, but they are not required to protect against such ship-borne attacks... More than 10 years have come and gone since the events of September 2001, and America’s civilian nuclear facilities remain unprotected against a terrorist attack of that scale. Instead, our civilian reactors prepare only against a much smaller-scale attack, known as the “design basis threat,” while the government fails to provide supplementary protection against a realistic 9/11-type attack. It would be a tragedy if the United States had to look back after such an attack on a nuclear reactor and say that we could have and should have done more to prevent the catastrophe.” <http://www.utexas.edu/lbj/news/2013/study-us-nuclear-reactors-vulnerable-terrorist-attack>

## Better Solutions Exist!

- <http://mothersforpeace.org/collections/sustainable-energy>
- [http://www.ucsusa.org/sites/default/files/legacy/assets/documents/global\\_warming/Climate-2030-Blueprint\\_executive-summary.pdf](http://www.ucsusa.org/sites/default/files/legacy/assets/documents/global_warming/Climate-2030-Blueprint_executive-summary.pdf)
- <http://slocleanenergy.org/sloce/>

**mothersforpeace.org**

PO Box 3608  
San Luis Obispo, CA 93403 (805) 773-3881

