

Article IV: The NPT's Fault line

Nearly everyone at this conference supports the objectives of nuclear non-proliferation and disarmament. In this we represent the will of the vast majority of the world's population.

Progress on the NPT objectives of non-proliferation and disarmament has been painfully slow, intractable at times, but at least everyone here agrees that the objectives are worth pursuing.

The NPT's most grievous fault line is the so-called third pillar, the article which posed the development, research, production and use of nuclear energy as an inalienable right. Not cheap energy, or renewable energy, but nuclear energy.

This passage about “rights” was written before Three Mile Island, long before Chernobyl

and more than two decades *after* the United Nation’s Universal Declaration of Human Rights which affirms that all people have the right to life and security of person, health and well being, which the risks and hazard of nuclear generated electric power does not support.

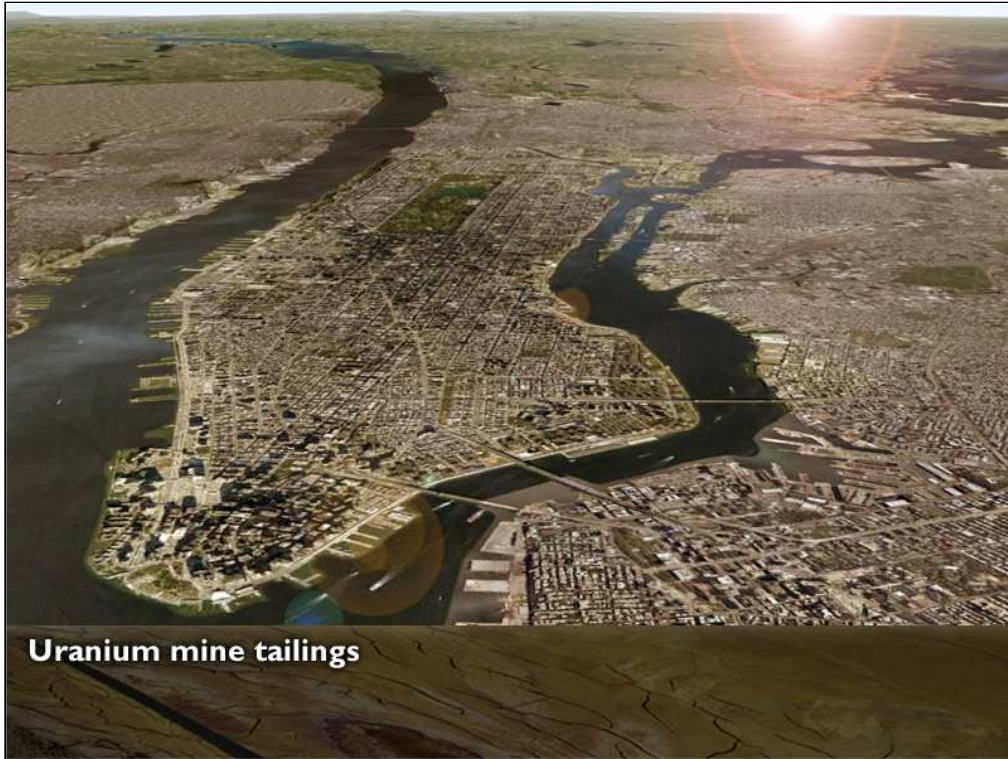


Not our land – uranium mining continues to have its heaviest impacts on the traditional lands of native peoples, whether in North America, Australia, Africa or elsewhere.

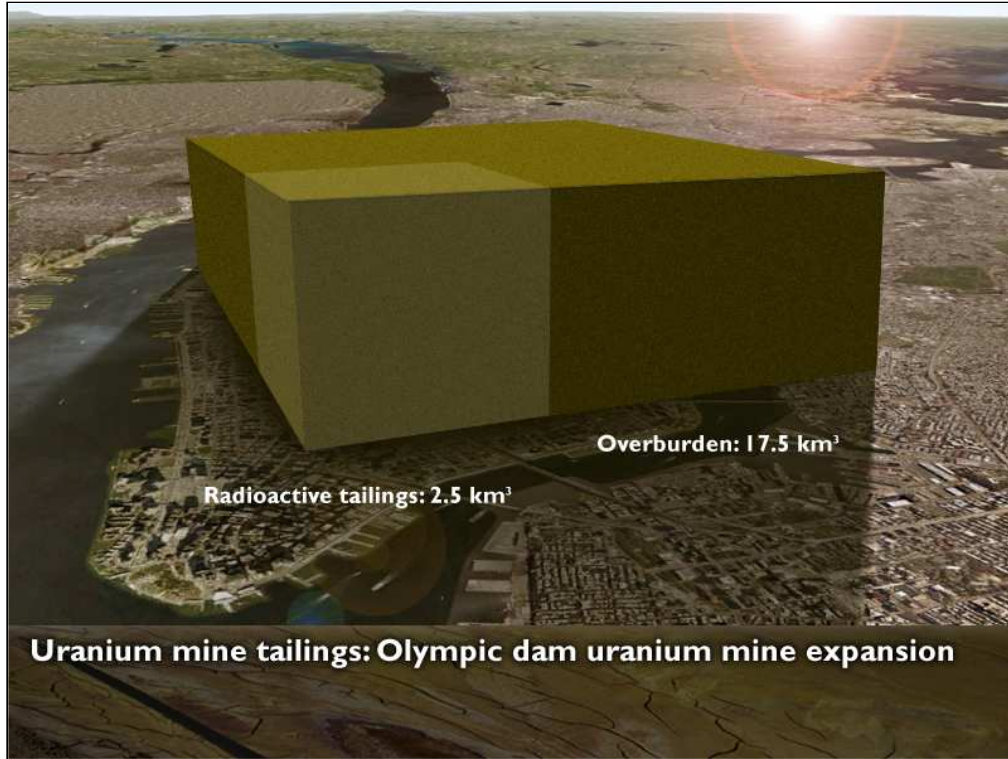


Tailings waste – uranium mines leave behind a unique legacy of millions of tonnes of finely powdered radioactive waste rock, known as tailings.

As ore grades fall and mines get larger, these tailings structures are growing in volume and as they grow, so too do the hazards.



To give an idea of scale, the proposed open cut at the Olympic Dam copper / uranium mine in South Australia will generate 2.5 cubic kilometres of finely powdered radioactive tailings, and around 17.5 cubic kilometres of waste rock

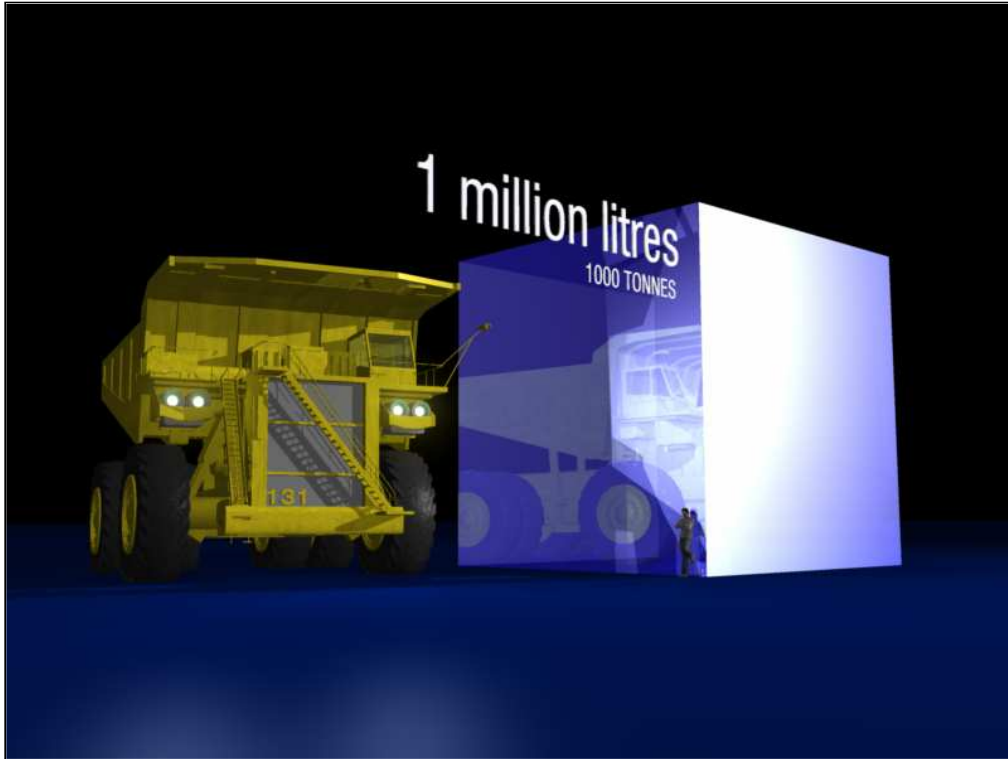


That's a massive volume of contaminated material sitting on the surface.

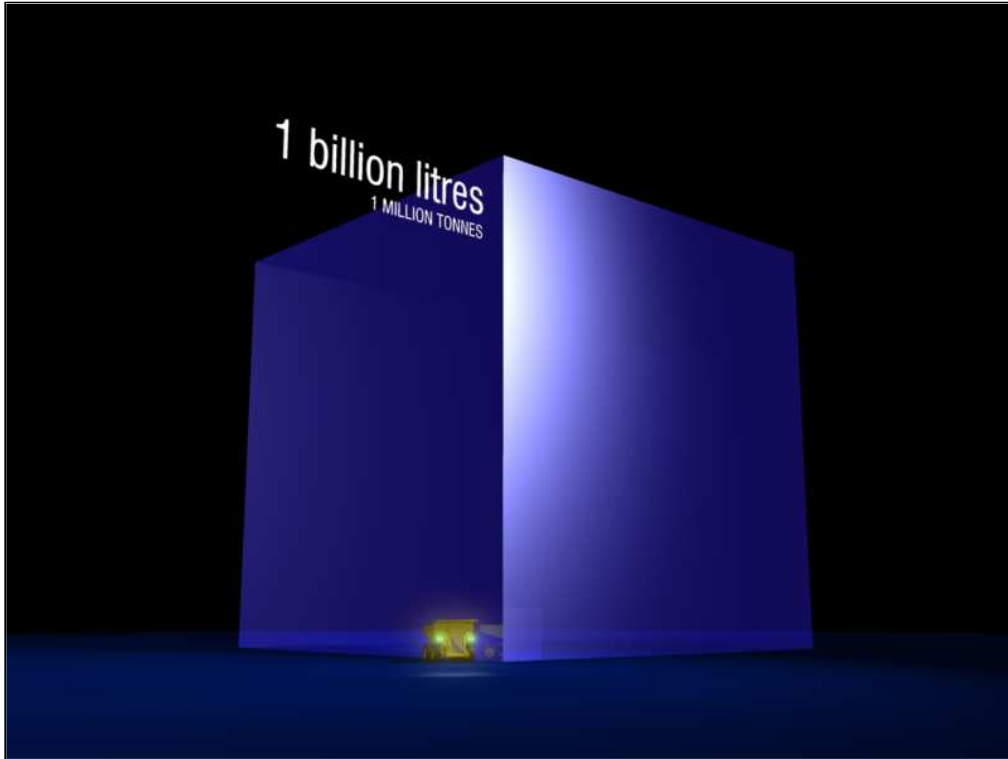
Nuclear Energy is Not Carbon-Free -- While nuclear cooling towers do not release much CO₂, the mining, milling, enrichment and transport of uranium to make fuel is completely dependent upon burning fossil fuels.



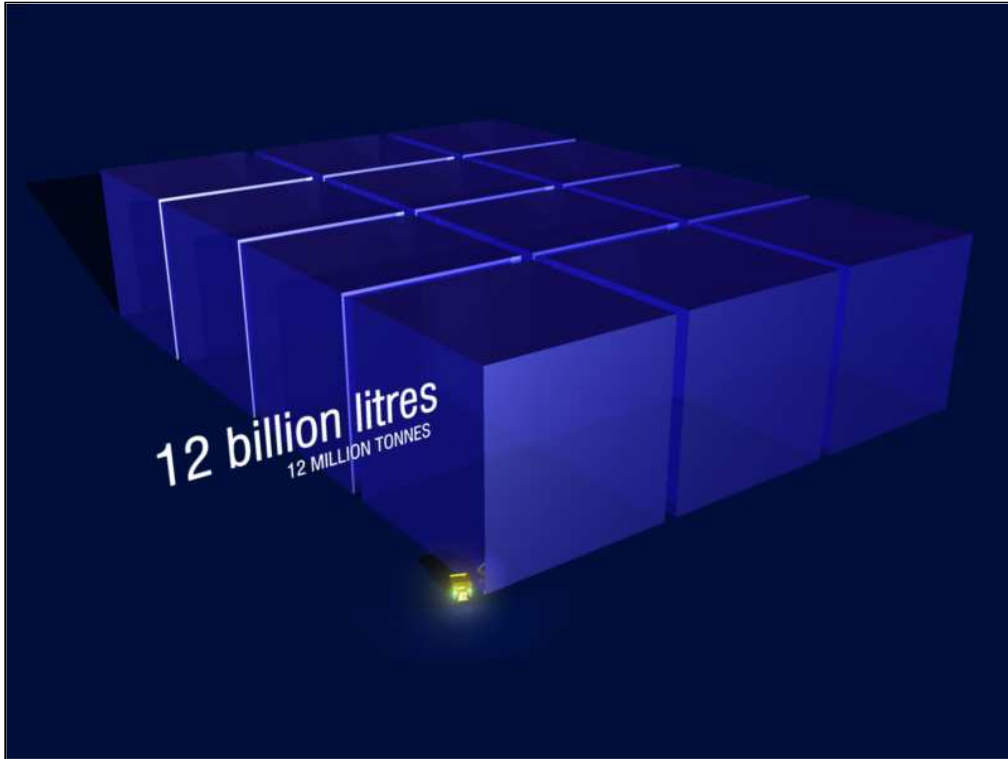
Poisoning the well – Uranium mines are a huge user and polluter of water. All mines are different, but massive water use is one thing they have in common. To give an idea of scale, a litre of water measures 10cm on a side



1 million litres of water is a cube 10 metres on a side

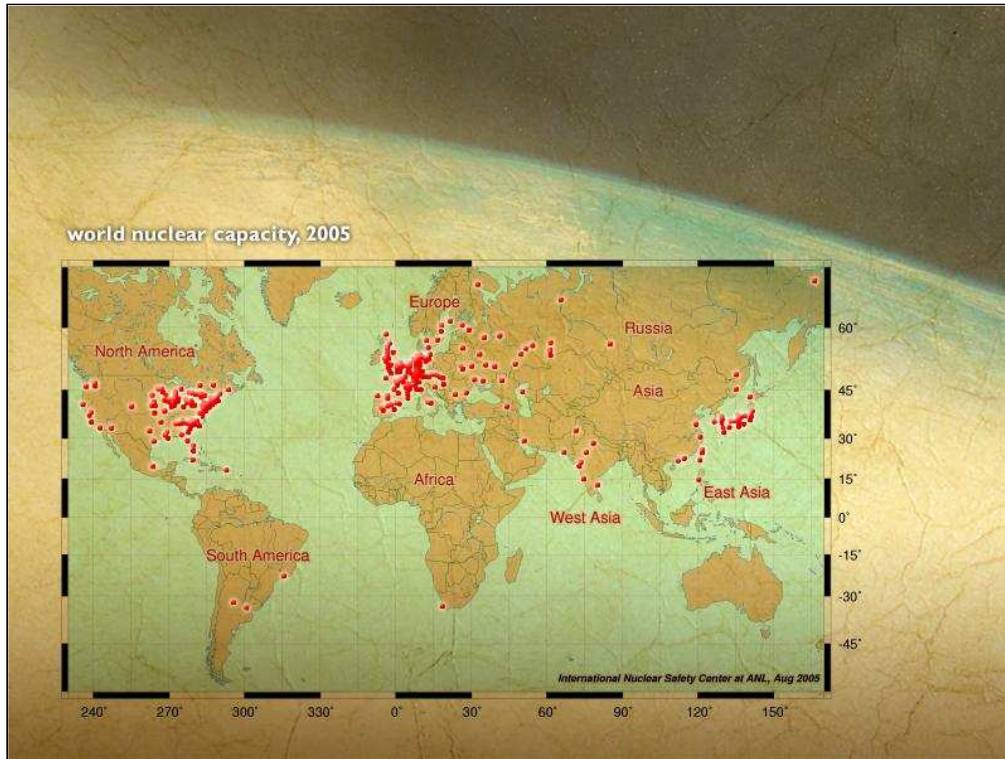


And a billion litres – a gigalitre – is a cube of water weighing a million tonnes and measuring 100 metres a side.

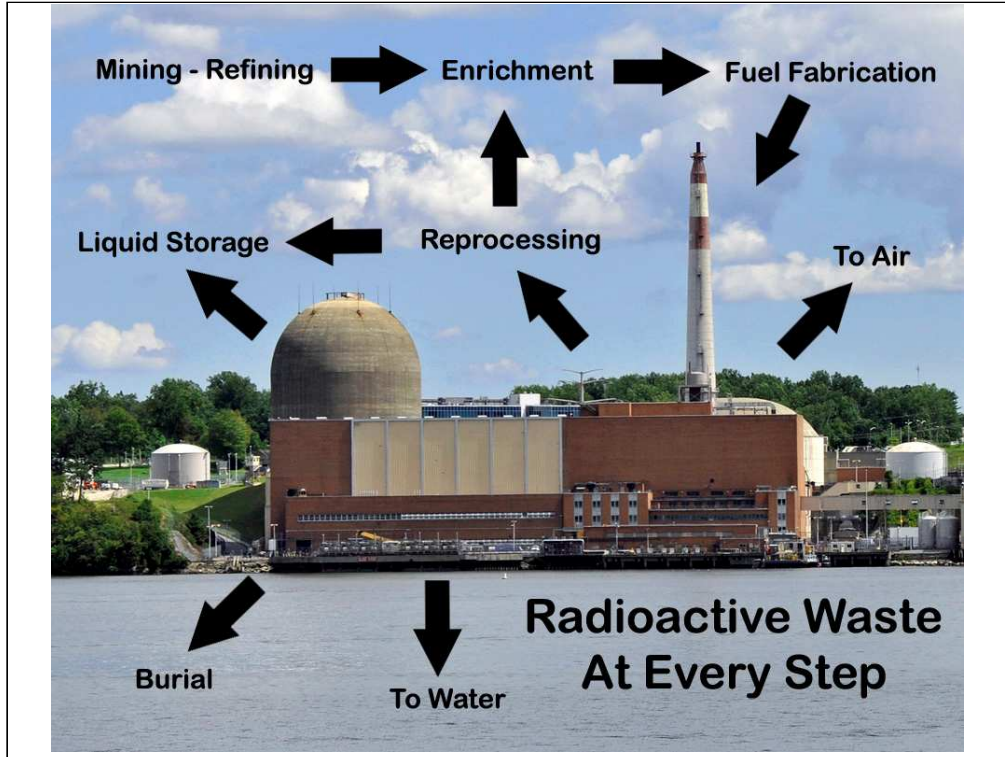


To use the olympic dam copper/uranium mine as an example again, this facility currently uses 12 billion litres a year, cost free, discarded and evaporated from leaking tailngs dams at the site.

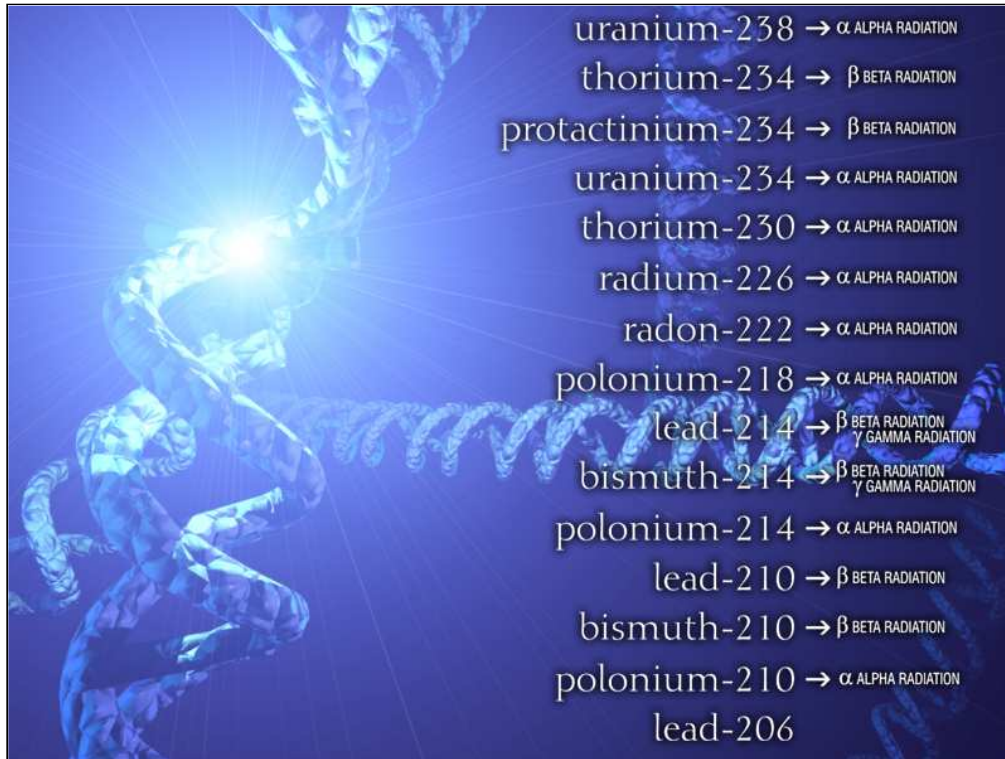
Cooling a nuclear power reactor requires even greater water withdrawals.



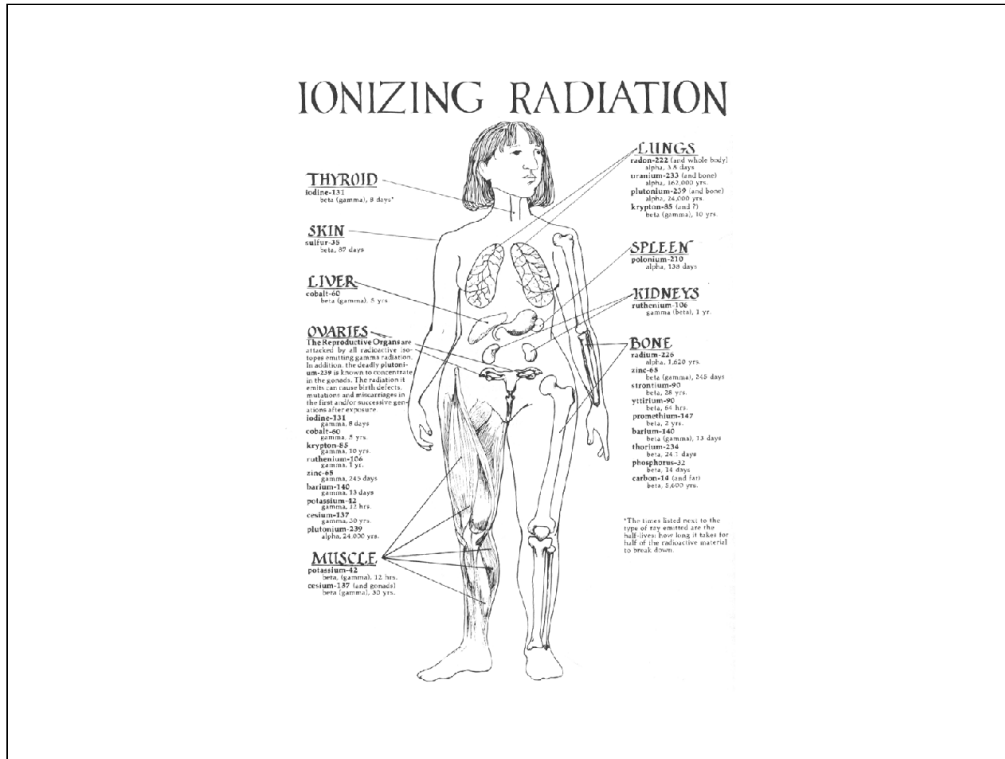
Not Our Bodies -- Ionizing radiation, by definition, does damage to living tissue. There are now 438 reactors with 55 more under constructions in 31 countries — all releasing radioactivity, making radioactive waste that includes deadly bomb materials.



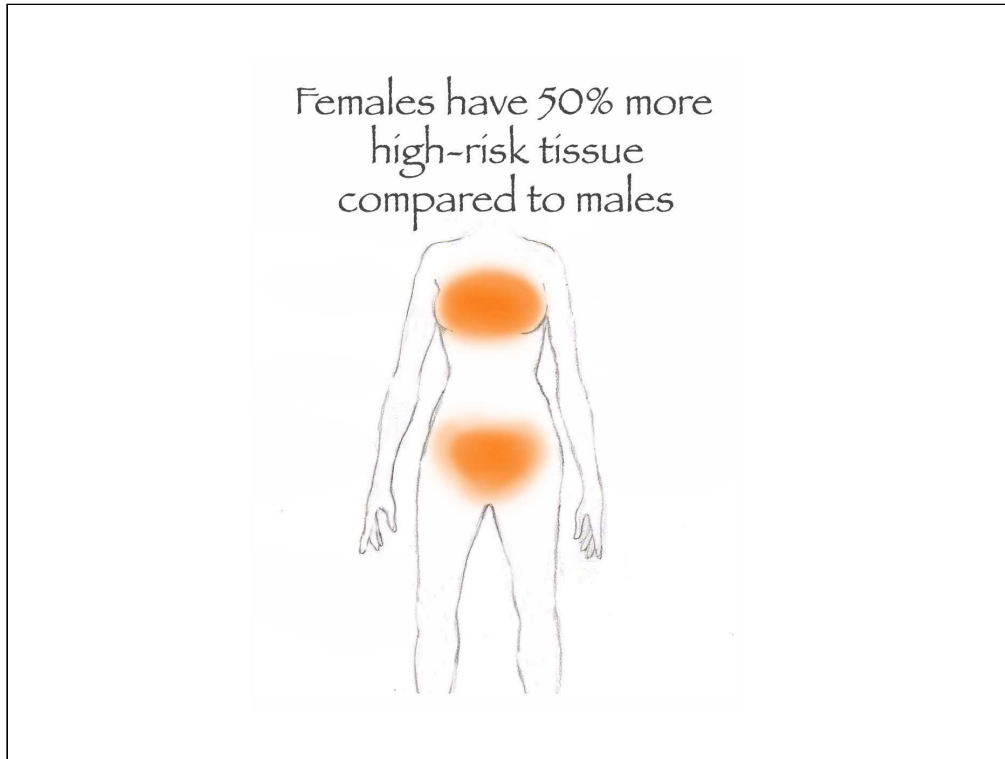
Many studies report higher incidences of cancer associated with a wide variety of nuclear facilities, ranging from uranium mines and mills to nuclear reactors and reprocessing plants.



Nuclear energy exposes people to Uranium and many other radionuclides, all with different properties and hazards.



A US National Research Council study in 2005 reported that exposure to X-rays and gamma rays, even at low-dose levels, can cause cancer. The committee defined "low-dose" as a range from near zero up to about... 10 times that from a CT scan. "There appears to be no threshold below which exposure can be viewed as harmless," said one NRC panelist.



Reactors release mutagenic doses of radioactive waste into our air, water and soil and contaminate our planet and its inhabitants for eons.

A Nuclear renaissance is not the answer

Many promoters of nuclear generated electricity suggest that a revival of this fading technology is needed because of the necessity of changing carbon energy policy and climate stabilization.



Nonetheless, the problem which underlies the destabilization of our global climate: unsustainable consumption in the global north will not be addressed by a nuclear revival; in fact, nuclear power will only reinforce that pattern of consumption.



Prohibitive capital commitment, overall cost, plus the long delay in carbon emission off-set due to the time required to pay the “carbon debt” of power plant construction and uranium fuel production will result in crowding out better climate solutions.

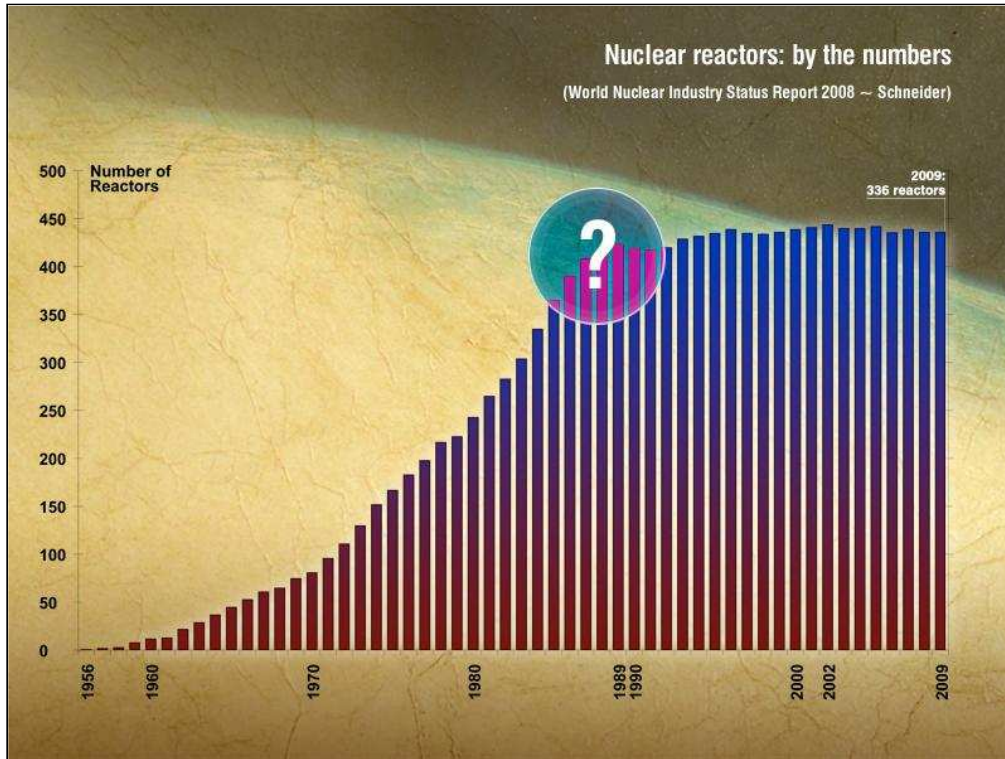
The need for climate stabilization reinforces the idea that nations that have not developed nuclear electricity generating capacity would do well to “leapfrog” over this troubling stage -- directly to energy efficiency and distributed generation of renewable sources of power such as solar, wind, appropriate hydro, geothermal, and other sustainable technologies.

Nuclear energy is an obstacle to solving the problem of global warming, not a solution.

See:

www.carbonfreenuclearfree.org

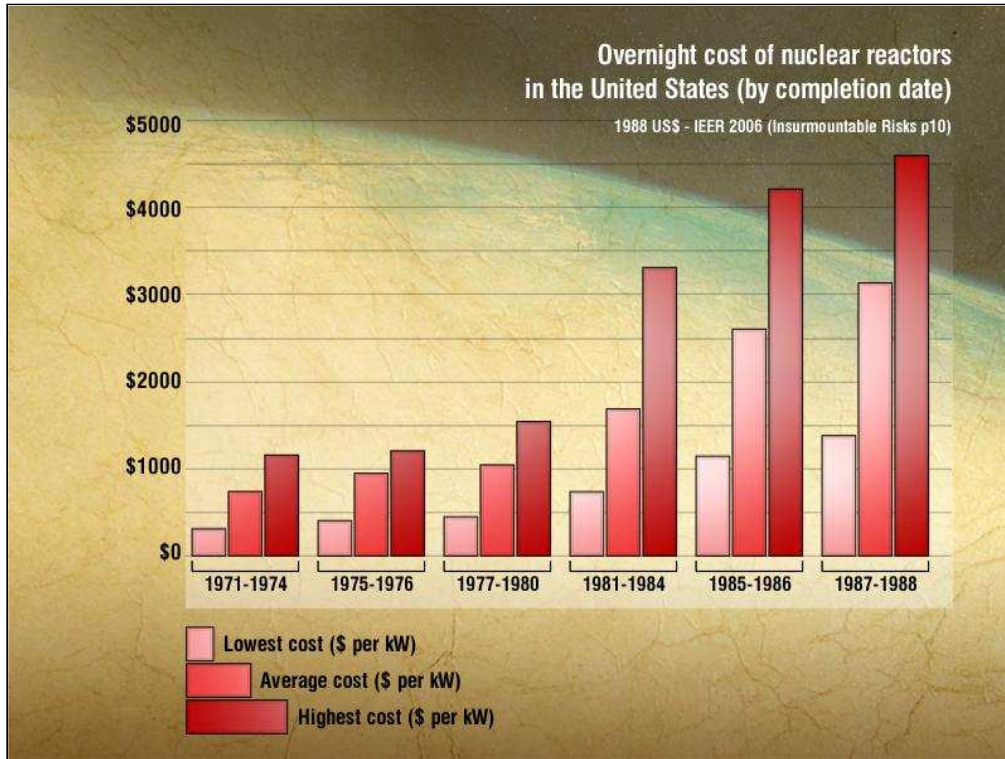
It is also clear that nations with nuclear generating infrastructure are not, on the whole, going to be addressing the climate crisis with new nuclear build and will fare better in meeting climate goals through energy efficiency, renewable energy and a phase-out of existing nuclear power plants.



The following pictures will show this story:

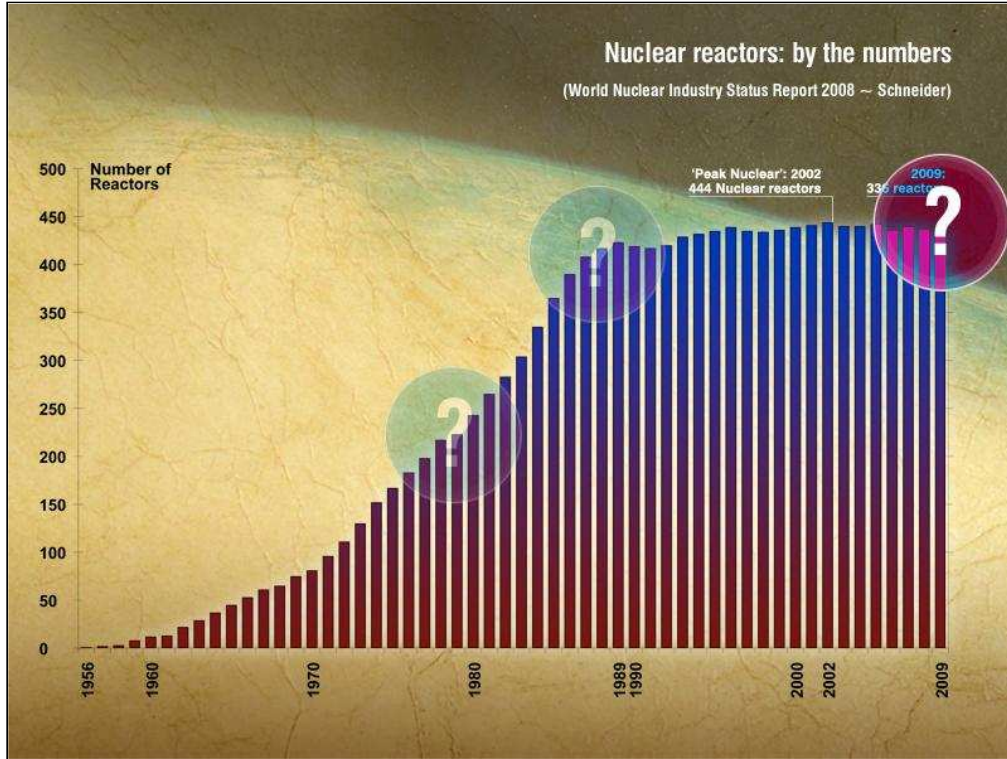
What happened at the end of the 1970s that killed growth in the civil nuclear power sector?

Why did the industry tail off well before TMI and Chernobyl?

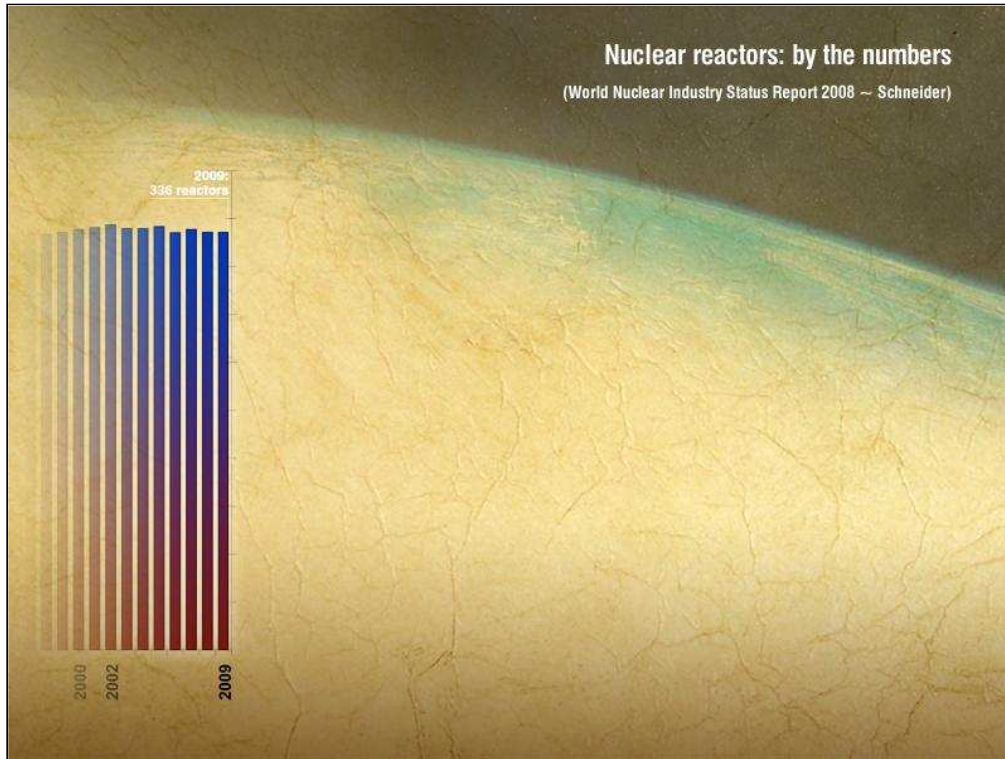


By 1980 The industry was drowning in red ink. Since then, things have got a lot worse.

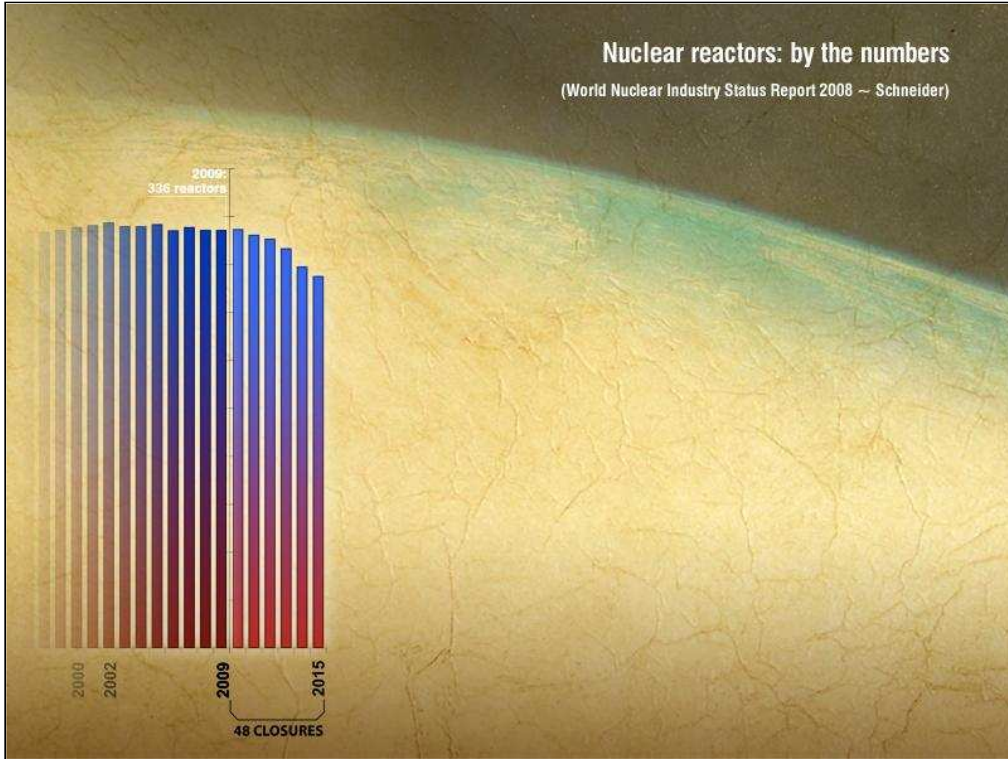
The balance sheet proves that nuclear reactors are an extremely expensive method of boiling water. Further, centralized power stations are less efficient than making electric power closer to the point of use.



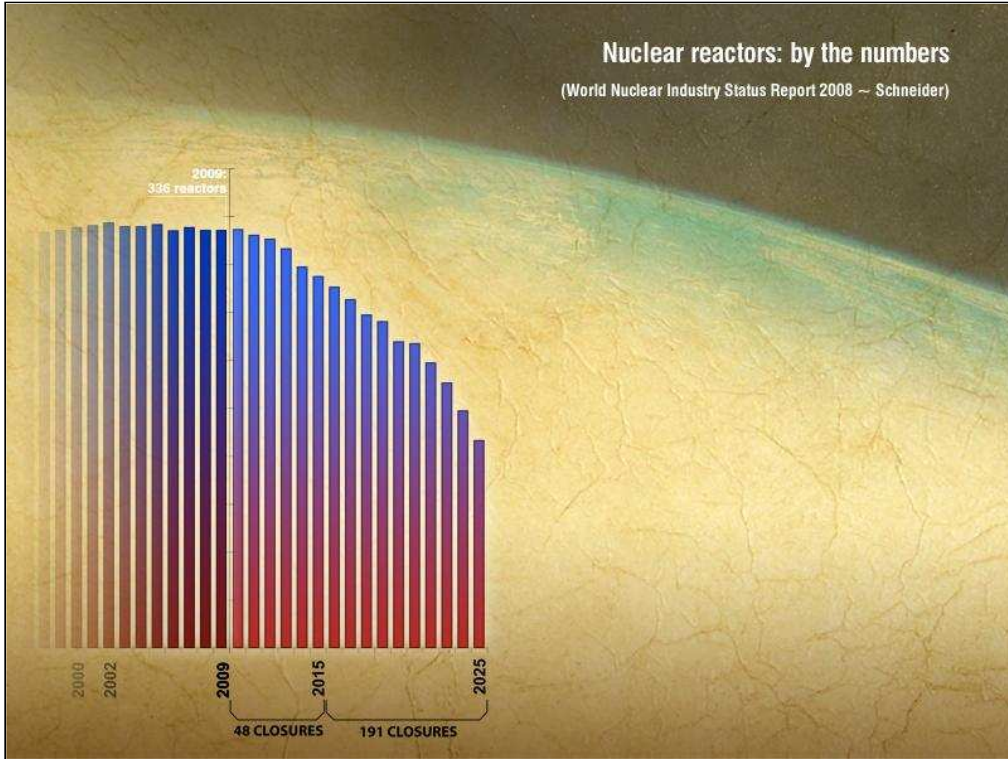
So what happens next?



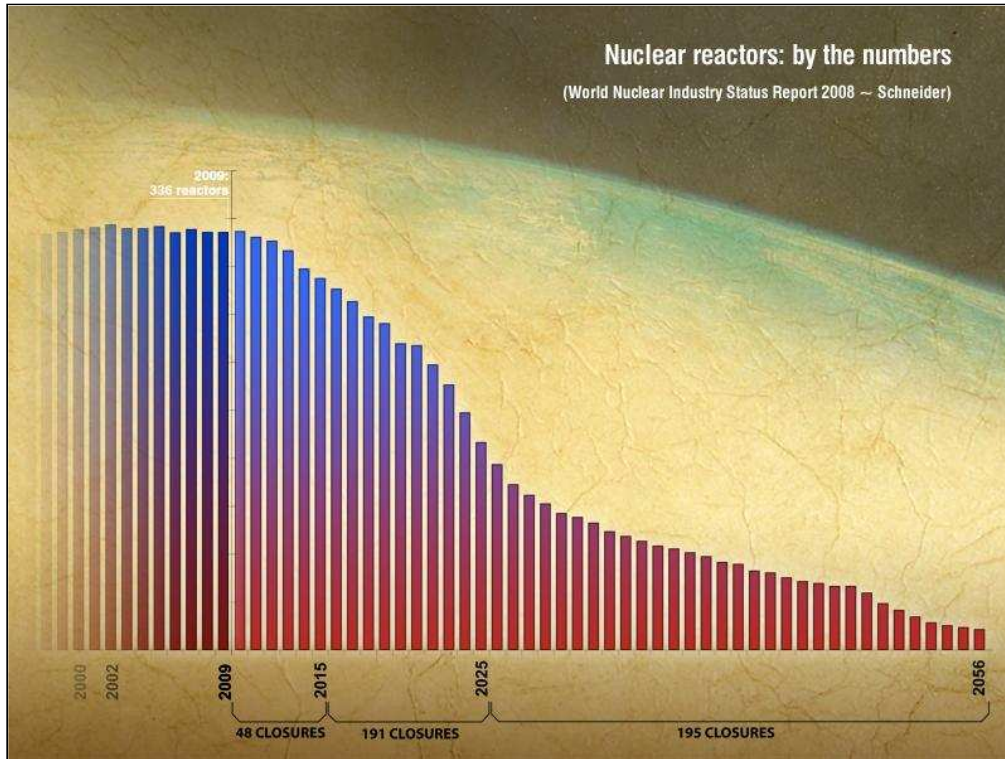
Current projections of new reactor build – even the most ambitious projections for build in China and India, still indicate that reactors will be decommissioned faster than they will be built.



48 net closures to 2015

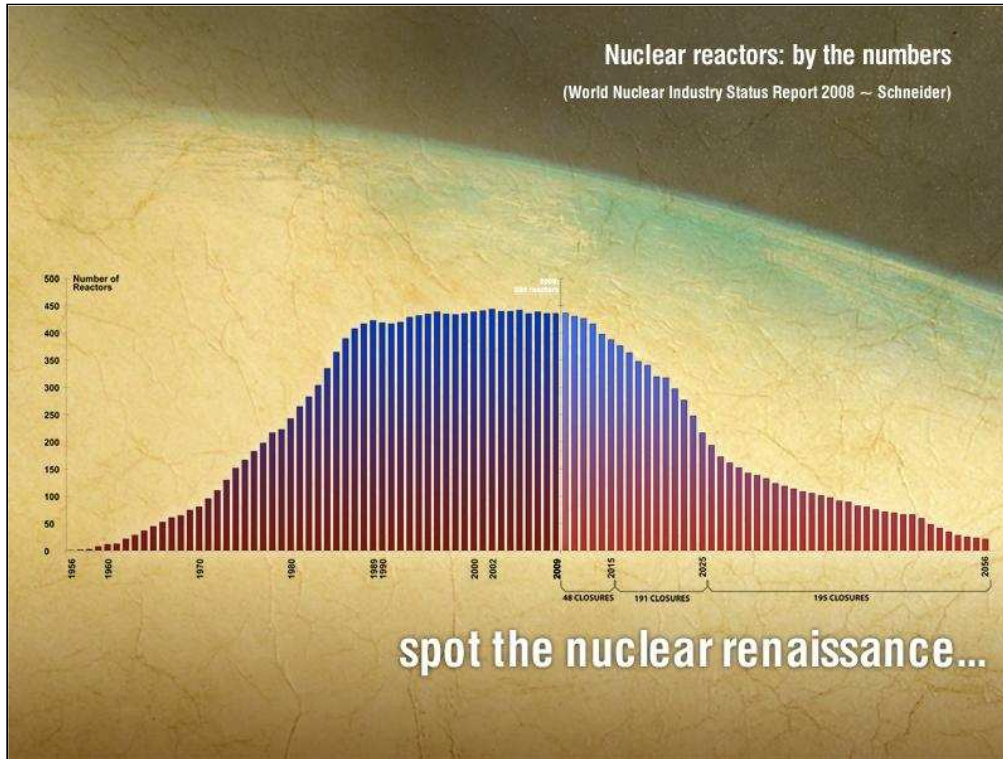


Then another 191 closures out to 2025



Then another 195 closures out to 2056
 keep in mind the following: these figures assume a flawless 40 years for the industry. No meltdowns, no dirty bombs, no screw-ups.

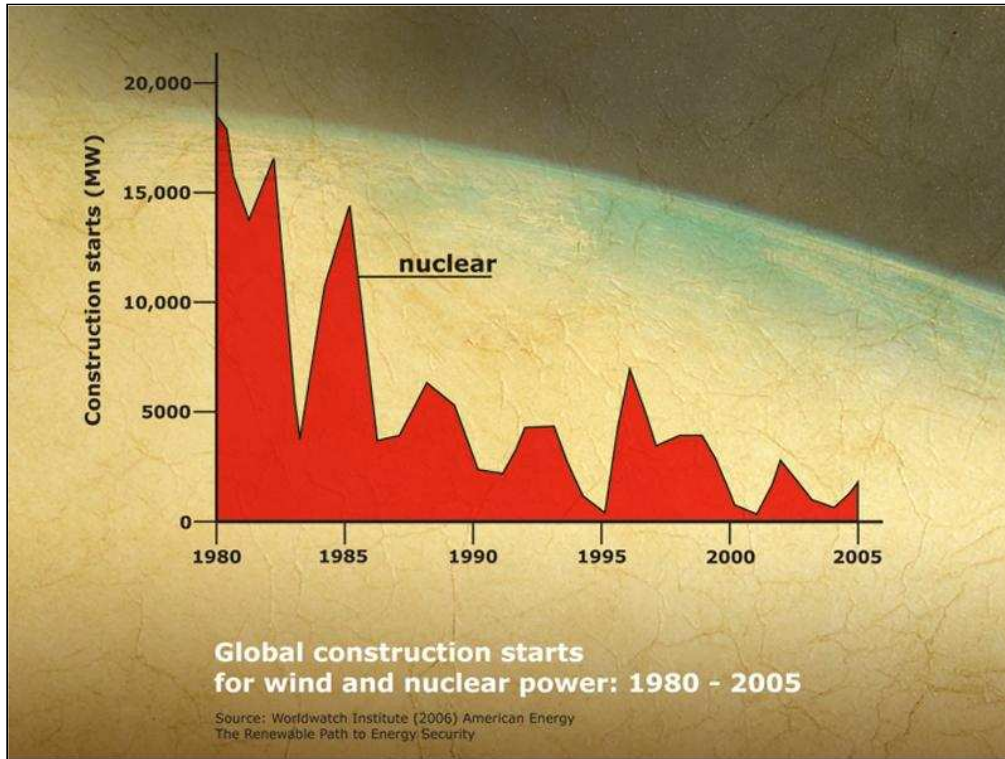
It is still too early to say what is going to happen, but whatever nuclear construction occurs will come with an enormous economic and environmental price tag.



In 2007 world nuclear electricity generation fell by 2% – more than in any other year since the first reactor was connected to the grid in 1954. (Schneider et al., 2009)

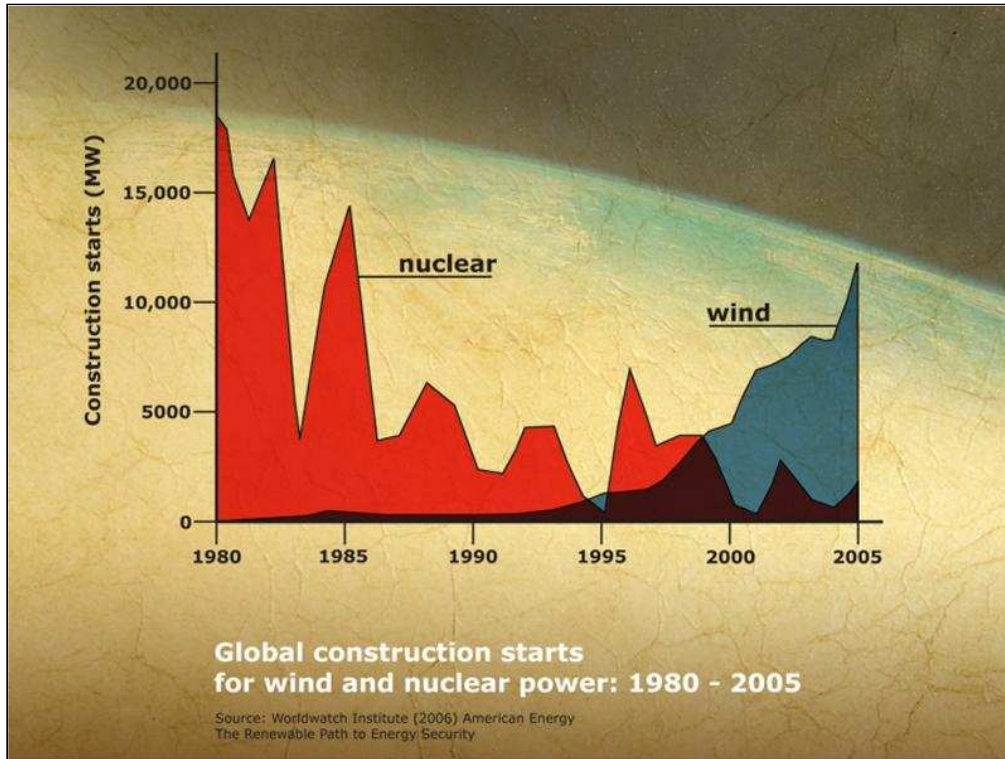
* In 2008 not a single new plant was connected to the grid – the first time that happened since 1955; and uprates were offset by plant closures resulting in a net world nuclear capacity decline of about 1.6 gigawatts. (Schneider et al., 2009; BP, 2009)

* In 2009 there were two reactor start-ups but four permanent shut-downs and net capacity fell by 0.86 gigawatts. (World Nuclear News, 2010)



It is a fact that renewable energy sources can be deployed more rapidly than nuclear power,

and credible clean energy scenarios have been developed which sharply reduce emissions from the electricity sector without recourse to nuclear power.

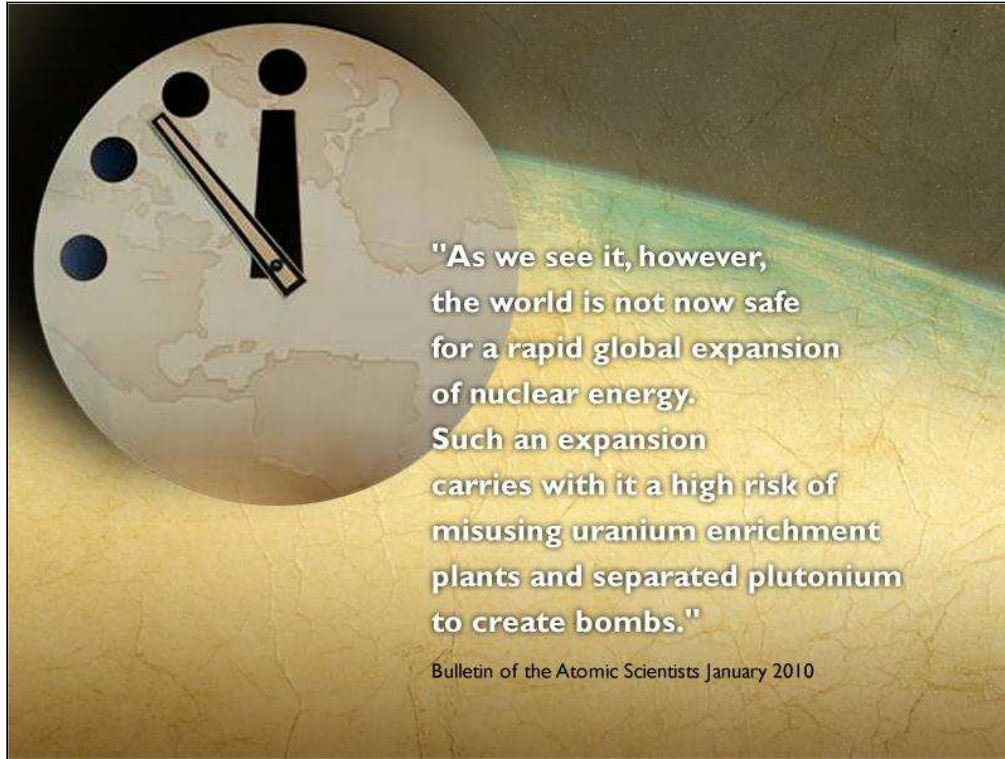


Renewable energy – mostly hydroelectricity – already generates more electricity worldwide than nuclear power.

Solar and wind energy have maintained growth rates between 20 and 30% for the last decade, and are now doubling in capacity roughly every three years.

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The lesson of the four decades since the NPT came into force is that multiple states have used the pretext of their 'inalienable right' under Article IV to advance nuclear weapons agendas.

The unbreakable link

All current civilian reactors either make weapons-usable plutonium from uranium fuel, or are powered directly by plutonium.

It is also possible for enrichment plants used to enrich uranium for fuel to be reconfigured for production of HEU for weapons use.

This is the reason that the CTBT insisted on the signatures and ratification of all nations having nuclear reactors. In other words, by having a nuclear reactor, a nation, does have the capacity to make nuclear weapons.



Separation of plutonium through reprocessing of spent nuclear fuel and the creation of a global plutonium economy exacerbates the proliferation problem.

It is fundamentally contrary and counterproductive to the NPT commitment to retire nuclear weapons, since it would put weapons-usable materials directly into global commerce.

Plutonium fuels are also contraindicated from a public health perspective since plutonium is harder to control in an energy reactor; if control is lost it could lead to a catastrophic accident, the result of which would be twice as deadly (in terms of latent cancer fatalities) compared to the same circumstance with uranium fuel. In addition the spent fuel is more radioactive.



Inalienable rights, by definition may only be invoked – not conferred.

In 2010, Article IV of the NPT affirms

the inalienable right of an expensive industry to massive subsidies,

the inalienable right to expose citizens to routine hazardous releases of radiation and

the inalienable right to produce contamination that science cannot yet contain arising from large quantities of radioactive waste.

Since the treaty enshrines the commitment for all nations to eventually “not have” nuclear weapons, it is a fundamental contradiction for the treaty to promote the production of fissile materials through non-military nuclear energy and remains a contradiction for the United Nations to have an agency devoted to this purpose.



It is time to bring the NPT into conformity with the Universal Declaration of Human Rights which affirms that everyone has a right to health and well being.

Just as the Comprehensive Test Ban Treaty cancelled the right to peaceful nuclear explosions in Article V of the NPT,

we urge you to adopt a protocol to the NPT mandating participation of Parties in the International Renewable Energy Agency (IRENA) which would revise the Article IV right to “peaceful” nuclear technology and guarantee assistance to Parties to attain a sustainable economy through development of sustainable energy.

There are now 143 nations participating in IRENA. www.irena.org

The right of all peoples to sources of energy is not being disputed here. If there needs to be a carrot in the NPT which would reward non-nuclear weapons states for not pursuing nuclear weapons with an energy technology, let that technology be renewable and clean.

Nuclear power is neither.

WE RECOMMEND:

- All nations join the recently launched Renewable Energy Agency (IRENA) which now has 143 members
- Instead of clinging to the outdated and legally unsound notion of an "inalienable right" to nuclear energy, countries should leapfrog directly to the future, based on energy efficiency, distributed energy and renewable energy sources.
- Reprocessing of spent nuclear fuel and the use of fuel cycles based on plutonium should be phased out.
- Nations should adopt consideration of all "external" costs and impacts of energy generation alternatives in selecting climate-stabilization strategies worthy of public funding and other public benefits.
- All nations currently using nuclear energy, adopt plans to phase it out.
- The United Nations should sunset the nuclear power promotion role of the IAEA.
- All nations phase-in abundant safe energy of the sun, wind, tides and heat of the earth.

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This paper is a collaborative
product. It can be found on-line at:
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