

**House Bill 2155 - House Committee on Climate, Energy and Environment  
Mark Robinowitz - [PeakChoice.org](http://PeakChoice.org) - February 13, 2023**

We are no closer to “solving” nuclear waste crises than we were in 1980 when the citizens of Oregon banned new nuclear reactor construction.

This is due to physics, not politics. Radioactive waste cannot be detoxified except through time, lots of it. Some isotopes are only dangerous for years, decades or centuries. A few are shorter term problems. But others, most notably plutonium 239, will be dangerous for life for longer than civilization has existed.

Lakeview, Oregon is one of the least populated places in our state, perhaps the reason why most citizens are unaware of the radioactive legacy left behind from uranium mining and milling. There is a closed uranium facility northwest of that town that is a slow motion toxic waste spill, impossible to detoxify, and has been threatened by nearby wildfires.

Some radioactive materials become stable when they decay, but uranium has numerous decay products before it eventually becomes non-radioactive lead. (The lead in a car battery was once uranium, long before humans, or the automobile industry.). One of the intermediate decay products is radon gas, which travels through the air before becoming radium, a solid that is very radioactive. This is a reason why uranium waste causes lung cancer and other health problems. It is also chemically toxic.

Uranium mining peaked in the USA in 1980, partly due to pollution concerns but also the fact that the best ores had been mined for the boom of nuclear power and nuclear weapons. There are literally hundreds of waste sites, mostly around the west, that are permanent sacrifice zones for the uranium mining industry - most notoriously the Rio Puerco in New Mexico, where a tailings pond dam failed in 1979, contaminating that river forever. Mine company officials posted signs downstream but the farmers' sheep were unable to read the signs and drank contaminated water.

NuScale promises cheap electricity free of fossil fuel inputs. The truths are:

- reactors emit huge amounts of heat (in case one is concerned about global warming)
- reactors require huge fossil fuel inputs
- reactors create hundreds of radioactive isotopes never seen on Earth before the nuclear age
- reactors risk catastrophic accidents that could, in the words of the 1975 Rasmussen report from the Nuclear Regulatory Commission, make an area the size of Pennsylvania uninhabitable. Four years later, the partial meltdown at Three Mile Island came close to proving this concern. If the hydrogen bubble created in the reactor had detonated, there would likely not be any nuclear power in America today.
- reactors get brittle due to irradiation as they age
- reactors are expensive, usually over budget and behind schedule

- reactors were invented in 1942 to make plutonium for nuclear weapons. All reactors make plutonium, regardless of design or marketing. Some are more optimized for this production than others.

The Hanford complex in Washington is the most polluted place on this side of the planet. The only place more toxic is the equivalent in central Russia. In 1957, that location had an accident that erased about 30 villages from the map, an accident covered up not only in the Soviet Union but also in America - the CIA heard about the disaster and chose not to make it public. In 1976, Soviet exile Zhores Medvedev wrote "Nuclear Disaster in the Urals" which was the first account in the English language. This is the type of Russian roulette we are all playing with nuclear technology.

Instead of planning for more and more energy overconsumption, we could consider learning to live well with less. Energy efficiency and reduction of demand are still vitally important. Why do we allow new homes to install black roofs in hot locations (white roofs can cut cooling requirements in summer). Why do we light up billboards at night? Building codes could require passive solar design for new construction to reduce energy requirements.

We're spending our grandchildren's inheritance. We all know this but it's impolite to mention.

**Admiral Hyman Rickover, the pioneer of the nuclear powered submarine program (which served as a prototype of nuclear power reactors), eventually had second thoughts. He told the Congress in 1982 that**

**"I think from a long-range standpoint--I'm talking about humanity--the most important thing we could do is start by having an international meeting where we first outlaw nuclear weapons and then we outlaw nuclear reactors, too.**

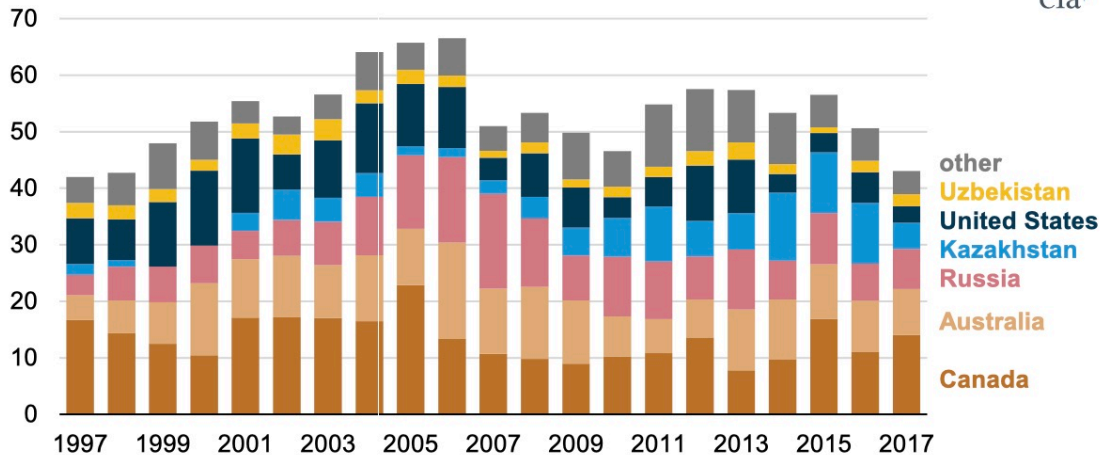
**"Until about two billion years ago it was impossible to have any life on Earth. That is, there was so much radiation on Earth you couldn't have any life ... Gradually, about two billion years ago, the amount of radiation on this planet and probably in the entire system became reduced. That made it possible for some form of life to begin and it started in the seas .... when we use nuclear weapons or nuclear power we are creating something which nature has been eliminating. Now that is the philosophical aspect, whether it's nuclear power or using radiation for medical purposes or whatever. Of course, some radiation is not bad because it doesn't last long or has little effect on the surroundings, but every time you produce radiation, you produce something that has a certain half-life, in some cases for billions of years. I think the human race is going to wreck itself, and it's important that we get control of this horrible force and try to eliminate it."**

**from a hearing held in the Joint Economic Committee, January 28, 1982**

JULY 22, 2019

## In 2018, foreign-sourced uranium accounted for 90% of U.S. nuclear operators' purchases

**Origin country of uranium purchased for U.S. commercial nuclear reactors**  
million pounds U3O8 equivalent



Source: U.S. Energy Information Administration, *Uranium Marketing Annual Report*

Most uranium purchased by U.S. civilian nuclear power reactor operators every year comes from foreign countries. In 2018, 90% of the 40 million pounds of uranium purchased was from foreign countries, led by Canada (24% of total), Kazakhstan (20%), Australia (18%), and Russia (13%). U.S.-origin uranium accounted for 10% of purchases, or 3.9 million pounds. Since 2010, between 83% and 94% of uranium purchases in any single year have come from foreign countries.

**“The most intolerable reactor of all may be one which comes successfully to the end of its planned life having produced mountains of radioactive waste for which there is no disposal safe from earthquake damage or sabotage.”**

**— A. Stanley Thompson (1914 - 2005) (scientist, citizen of Eugene for many years)**

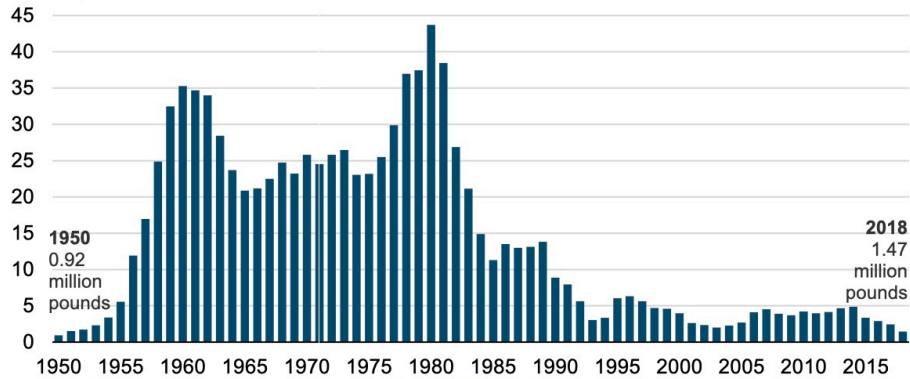
**“No degree of prosperity could justify the accumulation of large amounts of highly toxic substances which nobody knows how to make safe and which remain an incalculable danger to the whole of creation for historical or even geological ages. To do such a thing is a transgression against life itself, a transgression infinitely more serious than any crime perpetrated by man. The idea that a civilization could sustain itself on such a transgression is an ethical, spiritual, and metaphysical monstrosity. It means conducting the economical affairs of man as if people did not matter at all.”**

**— E. F. Schumacher, “Small is Beautiful”**

MAY 6, 2019

## U.S. uranium production in 2018 was the lowest in nearly 70 years

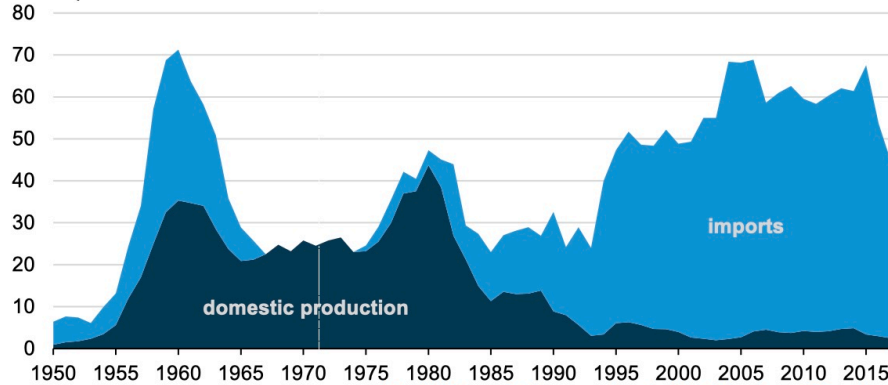
**U.S. uranium concentrate production (1950-2018)**  
million pounds U3O8



Source: U.S. Energy Information Administration, *Monthly Energy Review* and *Domestic Uranium Production Report*  
Note: Data for 2018 are preliminary.

The United States produced 1.47 million pounds of uranium concentrate in 2018, down for the fourth consecutive year and the lowest total since 1950, based on preliminary production data. Uranium production in the United States has declined since its peak of 43.7 million pounds in 1980 and has remained below 5 million pounds annually for more than 20 years.

**U.S. uranium supply to commercial nuclear reactors (1950-2017)**  
million pounds U3O8



Source: U.S. Energy Information Administration, *Monthly Energy Review* and *Uranium Marketing Annual Report*

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from a Manhattan Project veteran and founder of the biomedical division of Lawrence Livermore National Laboratory - kicked out a decade later when he cautioned that nuclear reactors would belch radioactive materials that would harm people downwind and downstream:

**John Gofman, M.D., Ph.D.**, professor emeritus of medical physics at the University of California Berkeley, co-discovered the fissionable isotope uranium-233. He worked on the team that chemically separated the first visible quantities of plutonium (in 1943). Journalist Howard Kohn wrote that the Manhattan Project, the World War II nuclear bomb program

"needed a quantity of plutonium at Los Alamos [the nuclear weapon design center]—not much, but enough to be seen and handled in the bomb labs. At that time plutonium's existence was known, but no one had seen it, except as an invisible glow of alpha particles. Gofman had figured out two ways to separate plutonium from uranium, and had patented both, but he had never put them to a real test. For country and flag, he was asked to try. Revving up a primitive cyclotron, and his nerve—this was in the realm of unknown danger—Dr. Gofman had sizzled a ton of uranium salt for three weeks and obtained for the War Department a spot of pure liquid plutonium, the size of a teardrop." -- Howard Kohn, *Who Killed Karen Silkwood*, p. 428

<http://nuclearfreeplanet.org/articles/nuclear-witnesses-insiders-speak-out-john-w-gofman-medical-physicist.html>

**"My particular combination of scientific credentials is very handy in the nuclear controversies, but advanced degrees confer no special expertise in either common sense or morality. That's why many laymen are better qualified to judge nuclear power than are the so-called experts."**

**"People like myself and a lot of the atomic energy scientists in the late fifties deserve Nuremberg trials. At Nuremberg we said those who participate in human experimentation are committing a crime. Scientists like myself who said in 1957, 'Maybe Linus Pauling is right about radiation causing cancer, but we don't really know, and therefore we shouldn't stop progress,' were saying in essence that it's all right to experiment. Since we don't know, let's go ahead. So we were experimenting on humans, weren't we? But once you know that your nuclear power plants are going to release radioactivity and kill a certain number of people, you are no longer committing the crime of experimentation--you are committing a higher crime. Scientists who support these nuclear plants--knowing the effects of radiation--don't deserve trials for experimentation; they deserve trials for murder. . . ."**

**"Licensing a nuclear power plant is in my view, licensing random premeditated murder. First of all, when you license a plant, you know what you're doing--so it's premeditated. You can't say, 'I didn't know.' Second, the evidence on radiation-producing cancer is beyond doubt. I've worked fifteen years on it [as of 1982], and so have many others. It is not a question any more: radiation produces cancer, and the evidence is good all the way down to the lowest doses."**