

Former Nuclear Officials: New Reactors Not the Answer

The former heads of nuclear power regulation in the U.S., Germany, France, and the U.K. issued a joint statement outlining why nuclear power is not the answer to climate chaos and is not a viable nor sustainable source of energy for the health of people or planet. After years of work inside the industry, they should know. The four leaders issuing the joint statement are: Dr. Greg Jaczko, former Chairman of the U.S. Nuclear Regulatory Commission, and founder of Moxe, an energy company; Prof. Wolfgang Renneberg, a university professor and former Head of Reactor Safety, Radiation Protection, and Nuclear Waste for Germany's Federal Environment Ministry; Dr. Bernard Laponche, a French engineer and author, former Director General for the French Agency for Energy Management, and former Advisor to French Minister of Environment, Energy, and Nuclear Safety; Dr. Paul Dorfman, an associate fellow and researcher at the University of Sussex and former secretary to the U.K. Government. Committee Examining Radiation Risk from Internal Emitters.

“The climate is running hot. Evolving knowledge of climate sensitivity and polar ice melt-rate makes clear that sea-level rise is ramping up, along with destructive storms, storm surge, severe precipitation and flooding, not forgetting wildfire. With mounting concern and recognition over the speed and pace of the low carbon energy transition that's needed, nuclear has been reframed as a partial response to global heating. ... At the heart of this are questions about whether nuclear could help with the climate crisis, whether [it] is economically viable, the consequences of nuclear accidents, what to do with [radioactive] waste, and whether there's a place for nuclear within the swiftly expanding renewable energy evolution.

“As key experts who have worked on the front-line of the nuclear issue, we've all been involved at the highest governmental nuclear regulatory and radiation protection levels in the U.S., Germany, France, and the U.K. In this context, we consider it our collective responsibility to comment on the main issue: Whether nuclear could play a significant role as a strategy



Photo taken by Dr. Errol Keir

against climate change. The central message, repeated again and again, that a new generation of nuclear will be clean, safe, smart and cheap, is fiction. The reality is nuclear is neither clean, safe nor smart; but a very complex technology with the potential to cause significant harm. Nuclear isn't cheap, but extremely costly. Perhaps most importantly nuclear is just not part of any feasible strategy that could counter climate change. To make a relevant contribution to global power generation, up to more than ten thousand new reactors would be required, depending on reactor design. Nuclear as a strategy against climate change is:

- Too costly in absolute terms to make a relevant contribution to global power production.

- More expensive than renewable energy in terms of energy production and CO2 mitigation, even taking into account costs of grid management tools like energy storage associated with renewables rollout.

- Too costly and risky for financial market investment, and therefore dependent on very large public subsidies and loan guarantees.

- Unsustainable due to the unresolved problem of very long-lived radioactive waste.

- Financially unsustainable as no economic institution is prepared to insure against the full potential

cost, environmental, and human impacts of accidental radiation release – with the majority of those very significant costs being borne by the public.

- Militarily hazardous – newly promoted reactor designs increase risk of nuclear weapons proliferation.

- Inherently risky due to unavoidable cascading accidents from human error, internal faults, and external impacts; vulnerability to climate-driven sea-level rise, storms, storm surge, inundation, and flooding hazards, resulting in international economic impacts.

- Subject to too many unresolved technical and safety problems associated with newer unproven concepts, including 'Advanced' and Small Modular Reactors.

- Too unwieldy and complex to create an efficient industrial regime for reactor construction and operation processes within the intended build-time and scope needed for climate change mitigation.

- Unlikely to make a relevant contribution to necessary climate change mitigation needed by the 2030's due to nuclear's impracticably lengthy development and construction timelines, and the overwhelming construction costs of the very great volume of reactors that would be needed to make a difference.”

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New START

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with no new negotiations underway, both the U.S. and Russia argue the other is not in compliance. The Kremlin points to U.S. provocation as cause for its decision to withdraw from the Treaty – accusing the U.S. of perpetrating a war against Russia by escalating the conflict in Ukraine in order to weaken Russia in a strategic defeat. In the eyes of Moscow, this changes the posture of the two nations and is tantamount to a U.S. treaty violation, as it attempts to undermine Russian national security. Furthermore, Putin accused the West of efforts to attack Russian strategic air bases and asserted the U.S. is skirting limitations on the number of deployed nuclear warheads capped by the Treaty. Russia refused an attempt to restart inspections in November and has since been out of compliance.

The U.S. has its own deep history of abandoning arms agreements, because it finds the other party to be offensive to national security interests. After the U.S. armed Ukraine with billions of dollars in ammunition, rockets, tanks, and now possibly fighter jets, and as evidence mounts proving the U.S. orchestrated terrorist attack on the Nordstream pipeline, it would be reasonable for the Kremlin to consider the U.S. antagonistic. Putin said his decision was based partly on indication the U.S. may begin testing nuclear weapons once more, which violates New START, and Putin clearly asserted Russia would do the same *only* if the U.S. does so first.

Though the move is escalatory, Russian officials hedged the decision, reminding pundits that Putin merely suspended the treaty rather than withdrawing altogether. Russia says it will observe limitations on nuclear warheads and nuclear missile carriers as well as continuing to notify the U.S. of nuclear deployments to “prevent false alarms,” and maintain “strategic stability,” according to remarks by defense ministry official Major-General Yevgeny Ilyin. Risks to global security include the likelihood of less transparency on arsenals on both sides. However, Russian leaders and Biden asserted the decision does not signal an increased risk of a nuclear war.

Russia clearly outlined olive branches the U.S. could extend to bring Russia back to New START – such as earnest efforts at de-escalation in Ukraine and inclusion of British and French nuclear weapons in the Treaty. Kremlin spokesman Dmitry Peskov said: “Everything will depend on the position of the West. ... When there's a willingness to take into account our concerns, then the situation will change.” The U.S. must show restraint in no longer being held accountable by the Treaty and remember that, in 2021, Biden, Putin, and other leaders of nuclear-armed nations signed onto a reiteration of Gorbachev and Reagan's 1985 observation that “a nuclear war cannot be won and must never be fought.”

Headlines of nuclear threat flow constantly from U.S. media coupled with no demand the U.S. and NATO ratchet down their nuclear posture, alone in maintaining a first-use policy. As the faint peeping of reluctance to continue funding and arming Ukraine has pierced the media wall lately, this New START development may be used to rally the war cry and whip up renewed public enthusiasm, to foreshadow deepening U.S. and NATO involvement in Ukraine, perhaps beyond the veil of proxy.

— *The Guardian* and *The Independent*, Feb. 22, 2023; *The Hill*, July 8, 2021

its nuclear taboo, and the U.S. continues to antagonize China and intervene on the Korean Peninsula. Japan has now approved draft legislation to allow limitless longevity for reactors, prolonging operation of some to 60 years. As part of their return to nuclear, Japan pledged to build 20 “next-generation” reactors to replace those scheduled for decommissioning. North Korea has increased plutonium processing. South Korea will add more nuclear reactors in lieu of promises to add new renewable energy infrastructure. South Korea and Japan sit under the U.S. nuclear umbrella, but analysts are clamoring at the possibility the two nations could develop their own nuclear arsenals.

From construction of new reactors, to growth in the market for U.S. natural gas, to unfathomable profits for weapons manufacturers whose contracts are inextricably linked with the nuclear power industry, the energy crises caused by the Ukraine war serve U.S. interests – albeit not the interests of the hungry, poor, sick, or unhoused. It is important to note, in the same year, renewables produced more energy than ever before and the affordability and accessibility of renewable technology grew. Though we are still on a cusp of transition, projections continue to confirm renewables can provide faster, cleaner energy than nuclear. Essential energy decisions cast the specter of two very different paths: a future that builds human and environmental well-being or a future of unabated avarice. — **By Lindsay Potter**

— un.org, Feb. 13, 2023; Reuters, Jan. 11, 2023; BBC, Oct. 18, 2022

Energy Market Interests

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current reactors due to missile attacks. Ukraine's reactors in the war zone present an unprecedented threat of global catastrophe, reiterated by the UN and IAEA. The world holds its breath in hopes each bout of shelling fails to spill Zaporizhzhia's more than 2,000 tons of highly radioactive spent fuel, a prospect made only riskier by reports Ukraine is stashing Western-supplied arms at nuclear reactor sites.

Rather than defending democracy or sovereignty, the U.S. and NATO and their nuclear-backed tyranny pursue, via proxy war, economic and technological dominance. Biden's sanctions and attack on the Nordstream pipeline resulted in Europe buying more expensive U.S. fracked gas. Still, Russia found outlets for its oil and gas. Exxonmobil took home a record-breaking \$56 billion in profits for 2022. Yet Europe needed \$640 billion in energy subsidies through the winter to stabilize the disrupted market. African countries were largely unable to cushion the shocking thirty-year-high energy cost spike, another example of African citizens suffering under the political machinations of wealthier nations.

After one year of war in Ukraine, the ripples across the global economic landscape – from cold homes in Europe to famine in the horn of Africa – prove this war is about energy. It should be no surprise, as U.S. arsenals shift from Europe to the Pacific, one harbinger of war in Asia is new nuclear energy policy. After years of increased military presence, arms sales, drills, and missile testing, Japan moves further from