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*Communiqué – Statement – January 6, 2022*

**Former heads of US, German, and French nuclear regulation and secretary to UK government's radiation protection committee:**

**"Nuclear is not a practicable means to combat climate change."**

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**Dr. Gregory Jaczko,**

former Chairman of the  
U.S. Nuclear Regulatory Commission.

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**Prof. Wolfgang Renneberg,**

former Head of  
Reactor Safety, Radiation Protection and Nuclear Waste,  
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**Dr. Bernard Laponche,**

former Director General,  
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**Dr. Paul Dorfman,**

former Secretary of the UK Government  
Committee Examining Radiation Risk from Internal Emitters.(CERRIE)  
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The climate is running hot. Evolving knowledge of climate sensitivity and polar ice melt-rate makes clear that sea-level rise is ramping, along with destructive storm, 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 the threat of global

## *Nuclear is not a Practicable Means to Combat Climate Change.*

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heating. But at the heart of this are questions about whether nuclear could help with the climate crisis, whether nuclear is economically viable, what are the consequences of nuclear accidents, what to do with the 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 involved at the highest governmental nuclear regulatory and radiation protection levels in the US, Germany, France and UK. 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 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 or 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.

In short, nuclear as 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 CO<sub>2</sub> mitigation, even taking into account costs of grid management tools like energy storage associated with renewables roll-out.
- 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.

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- 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 since newly promoted reactor designs increase the 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, storm, storm surge, inundation and flooding hazard, 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 (SMRs).
- 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 time-lines, and the overwhelming construction costs of the very great volume of reactors that would be needed to make a difference.

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