

Top climate change scientists' letter to policy influencers

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"... there is no credible path to climate stabilization that does not include a substantial role for nuclear power," the letter says.

To those influencing environmental policy but opposed to nuclear power:

As climate and energy scientists concerned with global climate change, we are writing to urge you to advocate the development and deployment of safer nuclear energy systems. We appreciate your organization's concern about global warming, and your advocacy of renewable energy. But continued opposition to nuclear power threatens humanity's ability to avoid dangerous climate change.

We call on your organization to support the development and deployment of safer nuclear power systems as a practical means of addressing the climate change problem. Global demand for energy is growing rapidly and must continue to grow to provide the needs of developing economies. At the same time, the need to sharply reduce greenhouse gas emissions is becoming ever clearer. We can only increase energy supply while simultaneously reducing greenhouse gas emissions if new power plants turn away from using the atmosphere as a waste dump.

Renewables like wind and solar and biomass will certainly play roles in a future energy economy, but those energy sources cannot scale up fast enough to deliver cheap and reliable power at the scale the global economy requires. While it may be theoretically possible to stabilize the climate without nuclear power, in the real world there is no credible path to climate stabilization that does not include a substantial role for nuclear power

We understand that today's nuclear plants are far from perfect. Fortunately, passive safety systems and other advances can make new plants much safer. And modern nuclear technology can reduce proliferation risks and solve the waste disposal problem by burning current waste and using fuel more efficiently. Innovation and economies of scale can make new power plants even cheaper than existing plants. Regardless of these advantages, nuclear needs to be encouraged based on its societal benefits.

Quantitative analyses show that the risks associated with the expanded use of nuclear energy are orders of magnitude smaller than the risks associated with fossil fuels. No energy system is without downsides. We ask only that energy system decisions be based on facts, and not on emotions and biases that do not apply to 21st century nuclear technology.

While there will be no single technological silver bullet, the time has come for those who take the threat of global warming seriously to embrace the development and deployment of safer nuclear power systems as one among several technologies that will be essential to any credible effort to develop an energy system that does not rely on using the atmosphere as a waste dump.

With the planet warming and carbon dioxide emissions rising faster than ever, we cannot afford to turn away from any technology that has the potential to displace a large fraction of

our carbon emissions. Much has changed since the 1970s. The time has come for a fresh approach to nuclear power in the 21st century.

We ask you and your organization to demonstrate its real concern about risks from climate damage by calling for the development and deployment of advanced nuclear energy.

Sincerely,

Dr. Ken Caldeira, Senior Scientist, Department of Global Ecology, Carnegie Institution

Dr. Kerry Emanuel, Atmospheric Scientist, Massachusetts Institute of Technology

Dr. James Hansen, Climate Scientist, Columbia University Earth Institute

Dr. Tom Wigley, Climate Scientist, University of Adelaide and the National Center for Atmospheric Research

Top US climate scientists support development of safe nuclear power

Open letter to environmentalists and world leaders says wind and solar power are not enough to diminish carbon emissions



Nuclear power is 'very divisive' among environmentalists but scientists argue it's necessary. Photograph: WoodyStock / Alamy/Alamy

Associated Press in Pittsburgh Sun 3 Nov 2013 11.03 EST

Some of the world's top climate scientists say wind and solar energy won't be enough to head off extreme global warming, and they're asking environmentalists to support the development of safer nuclear power as one way to cut fossil fuel pollution.

Four scientists who have played a key role in alerting the public to the dangers of climate change sent letters Sunday to leading environmental groups and politicians around the world. The letter, an advance copy of which was given to the Associated Press, urges a crucial discussion on the role of nuclear power in fighting climate change.

The letter signers are James Hansen, a former top NASA scientist; Ken Caldeira, of the Carnegie Institution; Kerry Emanuel, of the Massachusetts Institute of Technology; and Tom Wigley, of the University of Adelaide in Australia.

Environmentalists agree that global warming is a threat to ecosystems and humans, but many oppose nuclear power and believe that new forms of renewable energy will be able to power the world within the next few decades. That isn't realistic, the letter said.

"Those energy sources cannot scale up fast enough" to deliver the amount of cheap and reliable power the world needs, and "with the planet warming and carbon dioxide emissions rising faster than ever, we cannot afford to turn away from any technology" that has the potential to reduce greenhouse gases.

Hansen began publishing research on the threat of global warming more than 30 years ago, and his testimony before Congress in 1988 helped launch a mainstream discussion. Last February he was arrested in front of the White House at a climate protest that included the head of the Sierra Club and other activists.

Caldeira was a contributor to reports from the Intergovernmental Panel on Climate Change, Emanuel is known for his research on possible links between climate change and hurricanes, and Wigley has also been doing climate research for more than three decades.

Emanuel said the signers aren't opposed to renewable energy sources but want environmentalists to understand that "realistically, they cannot on their own solve the world's energy problems."

The vast majority of [climate scientists say they're now virtually certain that pollution from fossil fuels has increased global temperatures over the last 60 years](#). They say emissions need to be sharply reduced to prevent more extreme damage in the future.

In 2011 worldwide carbon dioxide emissions jumped 3%, because of a large increase by [China, the world's most carbon polluting country](#). The US is second in carbon emissions.

Hansen, who's now at Columbia University, said it's not enough for environmentalists to simply oppose fossil fuels and promote renewable energy.

"They're cheating themselves if they keep believing this fiction that all we need" is renewable energy such as wind and solar, Hansen told the AP.

The joint letter says, "the time has come for those who take the threat of global warming seriously to embrace the development and deployment of safer nuclear power systems" as part of efforts to build a new global energy supply.

Stephen Ansolabehere, a Harvard professor who studies energy issues, said nuclear power is "very divisive" within the environmental movement. But he added that the letter could help educate the public about the difficult choices that climate change presents.

One major environmental advocacy organization, the Natural Resources Defense Council, warned that "nuclear power is no panacea for our climate woes."

Risk of catastrophe is only one drawback of nuclear power, NRDC President Frances Beinecke said in a statement. Waste storage and security of nuclear material are also important issues, he said.

"The better path is to clean up our power plants and invest in efficiency and renewable energy."

The scientists acknowledge that there are risks to using nuclear power, but say those are far smaller than the risk posed by extreme climate change.

"We understand that today's nuclear plants are far from perfect."