

# Is nuclear crucial to climate change targets?

September 15 2016, by Marlowe Hood

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Along with other think tanks and advocacy groups sounding the climate change alarm, the Union of Concerned Scientists (UCS) is not a champion of nuclear power

As Britain greenlights its first new nuclear power plant in more than 20 years, experts diverged Thursday on the role of nuclear energy in the quest to cap global warming at less than two degrees Celsius.

The broad challenge in meeting that goal—the cornerstone of the Paris Agreement inked in December by 195 nations—is decarbonising the

world economy as quickly as possible.

"We need a global transition to primarily zero carbon energy sources by mid-century," said Rachel Cleetus, lead economist and climate policy manager for the Washington-based Union of Concerned Scientists (UCS).

Along with other think tanks and advocacy groups sounding the [climate change](#) alarm, the UCS is not a champion of [nuclear power](#).

But with fossil fuels still accounting for 80 percent of total energy consumption, they say, the splitting or fusing of atoms—despite concerns about cost and safety—still has a role to play.

"The fewer options on the table, the greater the challenge," said Jim Williams, director of the US Deep Decarbonization Pathways Project (DDPP).

The consensus among experts trying to map that transition "is that it will be harder to meet climate goals without [nuclear energy](#) in the mix," he said by phone.

Today, 31 countries have [nuclear power plants](#) accounting for just under eleven percent of global electricity generation.

A dozen of them depend on nuclear for at least a third of their juice, including France (75 percent), along with Hungary, Slovakia and Ukraine (50 to 55 percent).



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In the US that figure stands at about 20 percent, as in Britain—not counting the newly approved Hinkley Point plant, set to come on line in 2025.

Solar and wind capacity have expanded rapidly worldwide, as costs have plummeted. And several new technologies for storing the energy they generate show huge promise for rapid deployment.

But renewables still only account for a thin slice of overall energy production.

"Nuclear power is needed in conjunction with renewables to meet our obligations to reduce greenhouse gas emissions," said Juan Mathews, a

visiting professor at the Dalton Nuclear Institute of the University of Manchester.

## **100 percent renewables**

At the same time, [global warming](#) is accelerating more quickly than predicted, and its consequences are being felt more sharply, added Cleetus.

"The scope and impacts of climate change—including rising seas, more damaging extreme weather events, and severe ecological disruption—demand that we consider all possible options for limiting heat trapping gas emissions," she told AFP.

Not all climate and energy experts, however, are convinced that nuclear is crucial for keeping a lid on global warming.

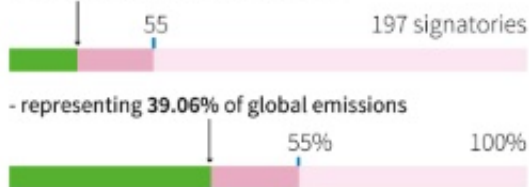
"In fact, it's a barrier," said Tom Burke, chairman of London-based E3G, a climate change think tank.

## Paris climate agreement

Takes effect once ratified by 55 states jointly responsible for at least 55% of global greenhouse gas emissions

As of Sept 5, 2016:

- Accord ratified by 26 signatories



Top 10 greenhouse gas emitters (=70% of all emissions)



© AFP Sources: UN, Climate Analytics

Paris Agreement Dec 12, 2015

- Designed to limit global warming to 2°C above pre-Industrial Revolution levels
- Signed by 180 nations



Countries that have ratified (26):

Norway	Palestinian Territories	China
Cameroon	Bahamas	North Korea
Somalia	Barbados	Fiji
USA	Grenada	Cook Islands
Belize	Marshall Islands	Maldives
Guyana	St Vincent & Grenadines	Mauritius
Peru	St Lucia	Nauru
	St Kitts & Nevis	Palau
		Samoa
		Seychelles
		Tuvalu

The 26 countries that have so far ratified the Paris climate agreement and the percentage of global greenhouse gases for which they are responsible

"It takes away capital from things that would deliver faster, cheaper and smarter low carbon electricity systems," he told AFP.

It also runs counter, he added, to a wider trend towards decentralised, flexible power generation.

For climate analyst Martin Kaiser of Greenpeace International, "the only feasible and secure way to keep global warming well below two degrees Celsius (3.6 degree Fahrenheit) is a massive swing towards renewables."

A "100 percent" renewable energies revolution is still possible, he

insisted.

For Williams, potential climate catastrophe trumps the risks associated with nuclear power—radioactive waste, accidents such as happened in Fukushima and Chernobyl—only with strict regulatory oversight in place.

He highlighted the contrast between gold-standard Switzerland and China, which has 30 nuclear plants built or under construction, and another 20 in the pipeline.

"China has relatively understaffed and undertrained regulatory authorities—that is worrisome," he said.

"Would I live next to a nuclear power plant if I thought that was really important to mitigate [climate](#) change?", he added.

"In the first case (Switzerland) I would, but in the second I wouldn't."

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