



# Intergovernmental Panel on Climate Change report finds limiting global warming will not be possible without strong and deliberate action

***A new report by the Intergovernmental Panel on Climate Change says urgent action is required to attain the sustained reduction in CO<sub>2</sub> and other greenhouse gas emissions needed to limit climate change. A 2020 IAEA report says nuclear can be an important contributor to the fight against climate change.***

**AUG. 10, 2021** — The Intergovernmental Panel on Climate Change (IPCC) reports that immediate and strong reductions in greenhouse gasses (GHG) will limit climate change but urgent action is required or the most dire consequences will not be stopped.

The IPCC's new report, *Climate Change 2021, The Physical Science Basis*, released Aug. 9, is the concluding results of the Working Group 1 contribution to the IPCC's Sixth Assessment. It finds that limiting global warming will not be possible without rapid and large-scale reductions in CO<sub>2</sub> and other GHGs, leading to global environmental changes. The report projects there will be longer warm seasons, shorter cold seasons, an increase in heatwaves and flooding, and rising sea levels if there are insufficient emission reductions.

Scientists are observing changes in the Earth's climate in every region and across the whole climate system, according to the report.

"Many of the changes observed in the climate are unprecedented in thousands, if not hundreds of thousands of years, and some of the changes already set in motion—such as continued sea level rise—are irreversible over hundreds to thousands of years," it says.

While benefits for air quality would come quickly with strong and sustained reductions in CO<sub>2</sub> and other GHGs, it could take 20-30 years to see global temperatures stabilize, according to the report.

The IPCC is the UN body assessing climate change-related science. The IPCC provides scientific information to world governments for use to develop climate change policies. Established in 1988, the IPCC has 195 members, including Canada. Scientists volunteer their time to assess the thousands of scientific papers published each year, creating reports that identify key findings and different areas that require further research.

The Working Group I report is the first instalment of the IPCC's Sixth Assessment Report (AR6), which will be completed in 2022.

## **Nuclear's role in mitigating climate change**

Another report, *Climate Change and Nuclear Power*, released in 2020 by the International Atomic Energy Agency, highlights the role nuclear energy can play in reducing GHG emissions.

Nuclear power is a large-scale, concentrated energy source that provides electricity and has potential to address other energy needs, as well. Many nuclear plants are designed to optimally provide 24-7 electricity generation. And, increasingly, nuclear is flexible enough to contribute effectively to energy systems with large shares of variable renewable sources like wind and solar. Some purpose-built reactors are being developed to provide remote community district heating, water desalination, power for remote industrial and resource extraction activities, as well as hydrogen production.

According to the IAEA report, nuclear's GHG emissions per kilowatt-hour are 40 times less than those of an efficient gas-fired power plant.

To put this in perspective, without nuclear in the mix, annual CO<sub>2</sub> emissions of the global electricity sector would have been around 2 gigatonnes higher over the past decade, if the electricity had instead been supplied using the average global fossil fuel generation mix, according to the IAEA.

Another key finding of the report is that despite the frequency of extreme weather events in some regions, these events have resulted in limited nuclear plant forced outages or production loss, demonstrating the climate resilience of nuclear power plants.

In a world where extreme weather is becoming increasingly the norm, the resilience of nuclear power plants could become an important advantage to countries looking to ensure reliability while addressing the underlying contributors to climate change.

[Click here](#) to read the IPCC summary and the full report.

[Click here](#) to read the IAEA 2020 report.