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IAEA International Ministerial Conference on Nuclear Power to Start in Washington

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(https://www.iaea.org/sites/default/files/styles/original_image_size/public/7.png?itok=FWhQHh0B)

The IAEA International Ministerial Conference on Nuclear Power in the 21st Century (/events/ministerial-nuclear-power-conference-2022) opens this week in Washington DC, providing a global forum for ministers, policy makers and experts to discuss the contribution of nuclear power to climate change mitigation, energy security and sustainable development.

IAEA Director General Rafael Mariano Grossi and US Secretary of Energy Jennifer Granholm will open the 26-28 October event along with William D. Magwood, IV, Director General of the Nuclear Energy Agency (NEA) of the Oganisation for Economic Co-operation and Development. Fatih Birol, Executive Director of the International Energy Agency (IEA), and investor and philanthropist Bill Gates (/newscenter/multimedia/videos/interview-with-bill-gates-on-nuclear-energy-and-reaching-net-zero) will address the conference via video.

“This conference comes at a time when many countries, faced with sharply rising energy costs and heightened security of supply concerns, are reconsidering nuclear power,” said Mr Grossi. “They are realizing more and more that nuclear power has a proven ability to reduce greenhouse gas emissions, avoid air pollution, improve energy security and access, mitigate fuel price volatility and power sustainable development.”

Nuclear power, the second largest low carbon source of electricity after hydro power, provides around 10 per cent of the world’s electricity. By producing a steady supply of low carbon electricity, as well as industrial heat and hydrogen, nuclear power can help

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> — IAEA Director General Rafael Mariano Grossi

decarbonize hard-to-abate sectors such as industry. Its use has avoided the release of about 70 gigatonnes (Gt) of carbon dioxide (CO_2) into the atmosphere over the past 50 years and continues to avoid more than 1Gt of CO_2 emissions every year.

In addition to dedicated sessions where government ministers and officials from around the world will deliver national statements about nuclear power, the conference will feature five panel sessions plus four In Focus events, including one in which Mr Grossi and Secretary Granholm will discuss the role of women in the nuclear field in a conversation moderated by J’Tia Hart (https://www.energy.gov/diversity/person/dr-jtia-hart) of Idaho National Laboratory.

In the first panel session, Mr Grossi will discuss how nuclear can help achieve net zero greenhouse gas emissions by 2050 together with Mr Magwood; Sama Bilbao y Leon (https://world-nuclear.org/our-association/who-we-are/director-general-sama-bilbao-y-leon.aspx), Director General of the World Nuclear Association; Mohammed Al Hammadi, President of the World Association of Nuclear Operators (WANO); and Keisuke Sadamori, Director for Energy Markets and Security at the IEA. The discussion, moderated by attorney Amy Roma (https://www.hoganlovells.com/en/amy-roma), will also focus on how international organizations can work together to facilitate an expanded role for nuclear power in the race to decarbonize the global economy.

According to the IEA, nuclear generating capacity will need to more than double (https://www.iea.org/news/nuclear-power-can-play-a-major-role-in-enabling-secure-transitions-to-low-emissions-energy-systems) by 2050 to achieve net zero. Other organizations suggest an even larger increase is needed. In a 2019 report (https://www.ipcc.ch/sr15/chapter/spm/) on limiting global warming to 1.5 degrees Celsius, the Intergovernmental Panel on Climate Change (IPCC) said nuclear generation capacity would need to increase up to 501 per cent by mid-century from current levels.

While electricity generation is responsible for close to 40 per cent of CO_2 emissions from the energy sector globally (https://www.world-nuclear.org/information-library/energy-and-the-environment/carbon-dioxide-emissions-from-electricity.aspx), the much larger share — 60 per cent or so — is emitted by fossils fuels used in industry, transportation and to heat buildings. Nuclear power has a proven ability to decarbonize low temperature heat production — several examples of district heating schemes have been in operation for decades — and innovative reactors under development will be able to provide the high temperatures needed for industrial processes such as steel and cement manufacturing, as well as hydrogen production (/newscenter/news/iaea-modelling-shows-high-natural-gas-prices-shift-optimal-hydrogen-production-to-nuclear-energy).

“To achieve net zero equity, and energy independence and security — essentially, we are going to need all the nuclear technologies we have today, that are proven and mature, and also the new ones that we are developing,” said Ms Bilbao y Leon.

However, in advanced economies that see a role for nuclear, governments need to enact policies to kick-start investment, while the industry has to overcome costs and construction times, Mr Birol (https://twitter.com/fbirol/status/1542372732301631490) said following the release of the IEA’s report on Nuclear Power and Secure Energy Transition (https://www.iea.org/reports/nuclear-power-and-secure-energy-transitions/executive-summary) in June 2022. The report found that building the sustainable and clean energy systems of the future will be harder, riskier and more expensive without the inclusion of nuclear power.

The other panels will focus on how to create the conditions for countries to establish new nuclear programmes, how to expand the contribution of existing nuclear power plants to net zero goals, how to accelerate the process for getting advance reactor designs into commercial use, and the future of nuclear energy regulations.

The role of youth and art in creating a new vision for nuclear power will also be showcased at the conference. An event on ‘Reimagining Nuclear: Inspiring Youth (/newscenter/news/nuclear-reimagined-artists-unveil-new-images-of-nuclear-power-ahead-of-iaea-ministerial-conference)’ will feature nuclear professionals, advocates and influencers as well as a finalist from *the Generation Atomic Nuclear Power Art Contest* (https://www.generationatomic.org/art-contest/) in a discussion about changing the image of nuclear power and inspiring others.

The IAEA International Ministerial Conference in the 21st Century is hosted by the United States of America through the Department of Energy and organized in partnership with the IEA and in cooperation with OECD/NEA. Previous editions were held in Abu Dhabi (2017), St. Petersburg (2013), Beijing (2009) and Paris (2005). More about the conference, including the programme can be found here (/events/events/ministerial-nuclear-power-conference-2022/programme).

Related resources

- International Ministerial Conference on Nuclear Power in the 21st Century, 26-28 October 2022 (https://www.iaea.org/events/ministerial-nuclear-power-conference-2022)
- Country Nuclear Power Profiles (https://www.iaea.org/publications/15285/country-nuclear-power-profiles)
- How Can We Get Carbon Emissions to Net Zero? (https://www.iaea.org/newscenter/multimedia/videos/how-can-we-get-carbon-emissions-to-net-zero)
- IAEA Projections for Nuclear Power Through 2050 (https://www.iaea.org/newscenter/multimedia/videos/iaea-projections-for-nuclear-power-through-2050)
- Fifty Years of the IAEA's Power Reactor Information System (https://www.iaea.org/newscenter/news/fifty-years-of-the-iaeas-power-reactor-information-system)

More

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