



IAEA

International Atomic Energy Agency

Atoms for Peace and Development

**Second International Conference on Climate
Change and the role of Nuclear Power:
Atoms4NetZero**

IAEA Headquarters

Vienna, Austria

9–13 October 2023

**Organized by the
International Atomic Energy Agency (IAEA)**

Announcement and Call for Papers

A. Background

Climate change is one of the most important issues the world is facing today. The 2022 IPCC's Sixth Assessment Reports (AR6) highlight that while steps have been taken, the world must mobilize faster and at greater scale than it has done so far to mitigate the catastrophic consequences of climate change. The IPCC Working Group III Co-Chair, Professor Jim Skea, says that "It's now or never, if we want to limit global warming to 1.5°C". The International Energy Agency (IEA) 2021 Flagship report, "Net Zero by 2050: A Roadmap for the Global Energy Sector", corroborated that viewpoint when it stated that the "gap between rhetoric and action needs to close if we are to have a fighting chance of reaching net zero by 2050 and limiting the rise in global temperatures to 1.5 °C."

To reach climate change goals, including those established in the Paris Agreement, a significantly greater deployment of low carbon energy technologies is needed. Historically, nuclear power has avoided around 70 Gt CO₂ in the last five decades, avoids more than 1 Gt CO₂ every year in the current decade and is still globally the second source of low carbon power behind hydropower. Nuclear power has the potential to continue playing a significant role in achieving the Paris Agreement mitigation goals and contributing to the transition towards net zero energy systems. As a large scale, reliable, dispatchable, and concentrated source of energy, it can also help address the on-going disruptions in global energy supply, the subsequent energy crisis and support global sustainable development.

The combination of the need for reducing emissions from the energy sector to net zero in the next few decades, significant gas price increases and security of supply concerns that are likely to remain in the near future, have led to growing support for nuclear to have a larger role in the global energy mix. At the same time, climate change is believed to be responsible for unprecedented extreme weather events, from heat waves to intense winter storms, that are affecting energy systems: building resilience in the energy systems is becoming a priority for policymakers. Nuclear power generation, like all other technologies, can be impacted by climate change to some degree, but can also contribute to the resilience and security of energy systems, in particular those characterized by large shares of weather-dependent variable renewables.

The International Atomic Energy Agency (IAEA) has an important role in improving the understanding of the potential contribution of nuclear power to sustainable development and the decarbonization of energy systems by providing interested Member States with guidance and assistance for deploying safe, secure and safeguarded nuclear technology and in formulating national energy strategies and policies.

To this end, the IAEA organized the First International Conference on Climate Change and the Role of Nuclear Power in Vienna from 7 to 11 October 2019, with over 500 participants from 79 Member States and 17 organizations. The role of nuclear energy in addressing climate change and achieving the objectives of the UN Sustainable Development Goals (SDGs), as well as relevant opportunities and challenges have been discussed in a comprehensive, objective and scientific manner. The outcome of this first of a kind Conference was well noted by the IAEA General Conference.

Since then, many efforts to highlight the nexus between nuclear power and climate change have been made not only within the nuclear community but in the broad international arena as well, including in the UNFCCC COP, UN High Level Dialogue on Energy (HLDE), Clean Energy Ministerial (CEM), Davos Economic Forum (DEF), etc. The world has witnessed an increasing recognition of the role of nuclear energy amid growing concerns over climate change and energy security in the past years. This clear trend in the global debate over energy and the environment has been captured and reflected in IAEA annual projections of the potential growth of nuclear power up to 2050 which have increased by 10% on a year-to-year basis in the last two consecutive years. Recently, at COP27 held in Sharm El Sheikh, Egypt, the IAEA Director General announced the launch of a new initiative, entitled

Atoms4NetZero, aimed at supporting Member States' efforts to decarbonize their energy systems using nuclear power, and explore nuclear's potential contribution towards net zero targets.

To respond to the increasing interest in nuclear power's contribution to the fight against climate change, and further elaborate on the role of nuclear power in net zero transitions, the IAEA is organizing the second International Conference from 9 to 13 October 2023, in Vienna. The conference will provide another opportunity for the nuclear community to elaborate the attributes of nuclear power in the context of climate change and net zero transitions, discuss the main challenges facing the nuclear sector and explore solutions for tapping the full potential of nuclear power, through incentivizing innovation, establishing an enabling environment, improving economics, and addressing stakeholder engagement etc. It will also serve as an important platform for the nuclear community to establish a dialogue with the non-nuclear community at policy and technical levels.

B. Purpose and Objectives

The purpose of the event is to provide a forum for Member States, representatives of relevant low carbon energy sectors, international organizations, and other stakeholders to exchange information on the role of nuclear power in the energy transitions towards net zero emissions, consistent with the objectives of limiting global warming to 1.5 degrees Celsius by the end of the century.

The conference themes include the mitigation challenge and implications for the energy sector; the climate-resilience of energy systems; the roles of existing, evolutionary, and innovative nuclear power systems as well as the integration of nuclear-renewable energy systems; enabling environments for realizing the full potential of nuclear power; and international cooperation and stakeholder engagement.

C. Themes and Topics

The IAEA welcomes high-quality contributions that fall under the umbrella of the four topics listed below:

1. Positioning nuclear power in the global clean energy transitions:
 - How nuclear can contribute to addressing both climate and energy crises in the context of Paris Agreement and SDGs, including through Nationally Determined Contributions (NDCs), Long Term Strategy plans (LTS) and Energy Compacts
 - What are the favourable attributes of nuclear power in economic, environmental and social dimensions (de-risking and lowering the overall costs of energy transitions, supporting economic development, high energy intensity, low carbon GHG emission, lower land footprint, lower critical mineral consumption, etc.)
 - Assess the contribution of nuclear power to the overall climate-resilient energy systems taking into account the observed and anticipated impact of changing climate and extreme weather events
 - Inform policymakers of the potential of nuclear power integrated in low-carbon energy systems with large shares of renewables, through modelling decarbonization (including net zero) scenario studies

2. Establishing an enabling environment for nuclear power:
 - What are the social and economic benefits associated with nuclear investments
 - How to establish a level playing field at national and international levels that recognizes the low carbon and sustainability attributes of nuclear power
 - How to improve nuclear' s competitiveness through enhanced standardization of designs and supply chain, cost reduction, increased harmonization of regulatory approaches and access to green finance frameworks
 - How policymakers can enable attractive investment opportunities for nuclear newbuild projects

3. Releasing the full potential of nuclear energy:
 - What are the latest innovation breakthroughs and advancements in nuclear energy
 - What are the keys to fast development of advanced reactors including SMRs
 - How to enable safe and economical Long-Term Operation of Nuclear Power Plants
 - How to accelerate the demonstration and commercialization of non-electric applications of nuclear energy (heating, hydrogen, desalination.) including design to market requirements and scale of deployment

4. Mainstreaming nuclear power as a sustainable, low-carbon energy source:
 - How international cooperation and partnership can help to mainstream nuclear energy in the global debate on climate change and SDGs
 - How to implement an effective and efficient stakeholder engagement strategy
 - How to mobilize multi-stakeholders, including women and young generation groups, to facilitate the global dialogue

D. Structure

The conference programme will consist of plenary/topical sessions with high-level keynote speakers, panel discussions, networking sessions, side events, e-poster/e-space, interactive sessions, technical visits, polls, debates, roundtable discussions and exhibitions. Parallel sessions will feature presentations selected from submitted contributed papers. The Conference President's summary will be presented during the closing plenary.

Exhibitions and various side events will be held in parallel to the conference, presenting global trends and innovative nuclear technologies to help meet the climate mitigation goals.

E. Expected Outcomes

The conference is expected to benefit various stakeholders in the IAEA Member States (e.g., governmental organizations, utilities and other industries, research organizations, academia, and the civil society) and the international community (e.g., international organizations and non-governmental organizations), considering that the discussion and information exchange will help to:

- Understand the urgency to address global climate crisis and energy crisis with all available low carbon energy sources including nuclear power.
- Gather the latest experience and feedback of Member States which are using nuclear power alongside renewable and other low carbon sources to decarbonize energy and other sectors.
- Strengthen international cooperation in establishing enabling environment, facilitating nuclear technology innovation, improving nuclear economic competitiveness and strengthening nuclear power resilience to the impact of climate change so that the potential of nuclear power can be fully released.
- Increase global awareness of important role of nuclear power in addressing climate change and facilitate positioning nuclear power well in the national, regional and international net zero pathways.

F. Target Audience

Participation in the Conference is solicited from decision makers, regulators, experts, scholars, public and other stakeholders from the Member States, international organizations, industry, academia, and non-governmental organizations involved in nuclear energy, climate change, environment, economic and social development portfolios. The Conference foresees the participation of the invited speakers to provide keynote presentations and/or take part in panel discussions.

G. Call for Papers

Contributions on the topics listed in Section C are welcome as oral or poster presentations. All submissions, apart from invited papers, must present original work, which has not been published elsewhere.

G.1. Submission of Synopses

Synopses (approximately 500 to 600 words on one or a maximum of two printed A4 pages, may contain any charts, graphs, figures and references) should give enough information on the content of the proposed paper to enable the Programme Committee to evaluate it. Anyone wishing to present at the conference must submit a synopsis in electronic format using the conference's file submission system ([IAEA-INDICO](#)), which is accessible from the conference web page (see Section Q). The synopsis can be submitted through this system from **9 February 2023** until **28 April 2023**. Specifications for the layout will be available on IAEA-INDICO. The system for electronic submission of synopsis, IAEA-

INDICO, is the sole mechanism for submission of contributed synopsis. Authors are encouraged to submit synopsis as early as possible. The IAEA will not accept submissions via email.

In addition, authors must register online using the InTouch+ platform (see Section H). The online registration together with the auto-generated Participation Form (Form A) and Form for Submission of a Paper (Form B) must reach the IAEA no later than **28 April 2023**.

IMPORTANT: The Programme Committee will consider uploaded synopses only if these two forms have been received by the IAEA through the established official channels (see Section H).

G.2. Acceptance of Synopses

The Secretariat reserves the right to exclude synopses that do not comply with its technical or scientific quality standards and that do not apply to one of the topics listed in Section C.

Authors will be informed by **26 June 2023** as to whether their submission has been accepted, either orally or as a poster, for presentation at the conference. Accepted synopses will also be reproduced in an unedited electronic compilation of Synopses which will be made available to all registered participants of the conference.

Authors will be asked to provide an extended synopsis (3 to 5 pages) by **31 July 2023**. Longer manuscripts will only be accepted at the discretion of the Secretariat and only in exceptional cases. Guidelines and a template for the preparation and submission of the extended synopsis will be available on IAEA-INDICO.

G.3 Proceedings

Following the conference, the IAEA will publish a summary report. The proceedings will be made available to read online.

H. Participation and Registration

All persons wishing to participate in the event must be designated by an IAEA Member State or should be a member of an organization that has been invited to attend.

Registration through the InTouch+ platform:

1. Access the InTouch+ platform (<https://intouchplus.iaea.org>):

- Persons with an existing NUCLEUS account can [sign in here](#) with their username and password;
- Persons without an existing NUCLEUS account can [register here](#).

2. Once signed in, prospective participants can use the InTouch+ platform to:

- Complete or update their personal details under ‘Basic Profile’ (if no financial support is requested) or under ‘Complete Profile’ (if financial support is requested) and upload the relevant supporting documents;
- Search for the relevant event (**EVT EVT2102339**) under the ‘My Eligible Events’ tab;

- Select the Member State or invited organization they want to represent from the drop-down menu entitled ‘Designating authority’ (if an invited organization is not listed, please contact Conference.Contact-Point@iaea.org);
- If applicable, indicate whether a paper is being submitted and complete the relevant information;
- If applicable, indicate whether financial support is requested and complete the relevant information (this is not applicable to participants from invited organizations);
- Based on the data input, the InTouch+ platform will automatically generate Participation Form (Form A), Form for Submission of a Paper (Form B) and/or Grant Application Form (Form C);
- Submit their application.

Once submitted through the InTouch+ platform, the application together with the auto-generated form(s) will be transmitted automatically to the required authority for approval. If approved, the application together with the form(s) will automatically be sent to the IAEA through the online platform.

NOTE: Should prospective participants wish to submit a paper or request financial support, the application needs to be submitted by the specified deadlines (see section O).

For additional information on how to apply for an event, please refer to the [InTouch+ Help](#) page. Any other issues or queries related to InTouch+ can be sent to InTouchPlus.Contact-Point@iaea.org.

If it is not possible to submit the application through the InTouch+ platform, prospective participants are requested to contact the IAEA’s Conference Services Section via email: Conference.Contact-Point@iaea.org.

Participants are hereby informed that the personal data they submit will be processed in line with the [Agency’s Personal Data and Privacy Policy](#) and is collected solely for the purpose(s) of reviewing and assessing the application and to complete logistical arrangements where required. Further information can be found in the [Data Processing Notice](#) concerning IAEA InTouch+ platform.

I. Expenditures and Grants

No registration fee is charged to participants.

The IAEA is generally not in a position to bear the travel and other costs of participants in the conference. The IAEA has, however, limited funds at its disposal to help cover the cost of attendance of certain participants. Upon specific request, such assistance may be offered to normally one participant per country, provided that, in the IAEA’s view, the participant will make an important contribution to the conference.

If participants wish to apply for a grant, they should submit applications to the IAEA using the InTouch+ platform through their competent national authority (see Section H). Participants should ensure that applications for grants are:

1. Submitted by **28 April 2022**;
2. Accompanied by Grant Application Form (Form C); and
3. Accompanied by Participation Form (Form A).

Applications that do not comply with the above conditions cannot be considered.

Approved grants will be issued in the form of a lump sum payment that usually covers **only part of the cost of attendance**.

J. Distribution of Documents

A preliminary and final programme will be made available on the conference web page (see Section Q) prior to the start of the conference. The electronic compilation of synopses will be accessible free of charge to participants registered for the conference.

K. Exhibitions

A limited amount of space will be available for commercial vendors' displays/exhibits during the conference. Interested parties should contact the Scientific Secretariat by email Atoms4Climate-2023@iaea.org by **31 May 2023**.

L. Working Language

The working language of the conference will be English. All communications must be sent to the IAEA in English.

M. Venue and Accommodation

The conference will be held at the Vienna International Centre (VIC), where the IAEA's Headquarters are located. Participants are advised to arrive at Checkpoint 1/Gate 1 of the VIC one hour before the start of the event on the first day in order to allow for timely registration. Participants will need to present an official photo identification document in order to be admitted to the VIC premises.

Participants must make their own travel and accommodation arrangements. Hotels offering a reduced rate for participants are listed on <https://www.iaea.org/events>. Please note that the IAEA is not in a position to assist participants with hotel bookings, nor can the IAEA assume responsibility for paying fees for cancellations, re-bookings and no-shows.

N. Visas

Participants who require a visa to enter Austria should submit the necessary application to the nearest diplomatic or consular representative of Austria as early as three months but not later than four weeks before they travel to Austria. Since Austria is a Schengen State, persons requiring a visa will have to apply for a Schengen visa. In States where Austria has no diplomatic mission, visas can be obtained from the consular authority of a Schengen Partner State representing Austria in the country in question.

For more information, please see the Austria Visa Information document available on <https://www.iaea.org/events>.

O. Key Deadlines and Dates

Submission of synopses through IAEA-INDICO	28 April 2023
Submission of Form B (together with Form A) through the InTouch+ platform	28 April 2023
Submission of Form C (together with Form A) through the InTouch+ platform	28 April 2023
Notification of acceptance of synopses for oral or poster presentation	26 June 2023
Electronic submission of extended synopses through IAEA-INDICO	31 July 2023
Submission of Form A only (no paper submission, no grant request) through the InTouch+ platform	No deadline

P. Conference Secretariat

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Subsequent correspondence on scientific matters should be sent to the Scientific Choose an item. and correspondence on administrative matters to the IAEA's Conference Services Section.

Q. Conference Web Page

Please visit the IAEA conference [web page](#) regularly for new information regarding this conference.