

Atoms for Peace and Development

الوكالة الدولية للطاقة الذرية 国际原子能机构 International Atomic Energy Agency Agence internationale de l'énergie atomique Международное агентство по атомной энергии Organismo Internacional de Energía Atómica

Vienna International Centre, PO Box 100, 1400 Vienna, Austria Phone: (+43 1) 2600 ◆ Fax: (+43 1) 26007 Email: Official.Mail@iaea.org ◆ Internet: https://www.iaea.org

In reply please refer to: EVT1904108
Dial directly to extension: (+43 1) 2600-22780; 25153

The Secretariat of the International Atomic Energy Agency (IAEA) presents its compliments to the IAEA's Member States and has the honour to draw their attention to the **Technical Meeting to Review and Finalize the IAEA Publication on Financing Nuclear Power Plants in Evolving Markets** (hereinafter referred to as "event") to be held virtually via Cisco WebEx from 27 to 30 June 2022.

The purpose of the event is to present to the participants the final draft of an IAEA publication provisionally entitled *Financing Approaches for Nuclear Power Plants (NPPs) in Evolving Markets*— A Reference Book, and to seek advice and approval from Member States for its final publication.

The attached Information Sheet provides further details of the event.

The event will be held in English.

Member States are invited to designate one or more participants to represent the Government at this event. Member States are strongly encouraged to identify suitable women participants.

Designations should be submitted to the IAEA through the competent national authority (Ministry of Foreign Affairs, Permanent Mission to the IAEA or National Atomic Energy Authority) not later than 30 April 2022 using the attached Participation Form (Form A). Completed and authorized Participation Forms should be sent either by email to: Official.Mail@iaea.org or by fax to: +43 1 26007 (no hard copies needed). Copies should be sent by email to the Scientific Secretaries of the event, Mr Marco Cometto and Mr Denis Subbotnitskiy, Division of Planning, Information and Knowledge Management, Department of Nuclear Energy (Emails: M.Cometto@iaea.orgmailto:; D.Subbotnitskiy@iaea.org). The Scientific Secretaries of the event will liaise with the participants directly concerning further arrangements, as appropriate, once the official designations have been received.

Should Governments wish, in addition, to appoint one or more observers to assist and advise the designated participants, they are kindly requested to inform the IAEA of the names and contact details of any such observers by the above date.

The IAEA takes no responsibility for, and the provider of the virtual meeting services has represented and warranted that the Services shall not contain, and that no end user shall receive from the software used to hold the virtual meeting, any virus, worm, trap door, back door, timer, clock, counter or other limiting routine, instruction or design, or other malicious, illicit or similar unrequested code, including surveillance software or routines which may, or is designed to, permit access by any person, or on its own, to erase, or otherwise harm or modify any data or any system, server, facility or other infrastructure of any end user (collectively, a "Disabling Code").

The Secretariat of the International Atomic Energy Agency avails itself of this opportunity to renew to the IAEA's Member States the assurances of its highest consideration.



2022-03-01

Enclosures: Information Sheet

Participation Form (Form A)



Technical Meeting to Review and Finalize the IAEA Publication on Financing Nuclear Power Plants in Evolving Markets

Virtual Event

27-30 June 2022

Ref. No.: EVT1904108

Information Sheet

Introduction

Under the Paris Agreement framework many IAEA Member States have committed to significant reductions of greenhouse gas (GHG) emissions over the next decades. Several nations have already announced plans to achieve carbon neutrality by the middle of the century, and more than 120 countries have expressed their intentions to develop national long-term climate goals to limit global warming. Achieving such ambitious commitments will require a rapid and radical transformation of the energy sector with unprecedent deployment of low-carbon energy sources accompanied by phase-out of fossil fuels.

This general trend provides nuclear power - as a low-carbon energy source capable of reducing carbon footprints of national economies - with new opportunities. The 'high' projection made by the IAEA in its 2021 outlook expects doubling of global nuclear capacity by 2050, up to 792 GW. This means a major build-up for nuclear industry over the next decades with new projects to be initiated both in established nuclear countries and in nuclear newcomers. Even the low-case IAEA scenario, where nuclear capacity would remain at the same level as today, would require very significant construction efforts to replace reactors constructed during the first phase of nuclear expansion in 1970-80s.

This prospective expansion would happen, however, under very different conditions in comparison to 1970-1980s. Nuclear power projects were implemented predominantly in regulated markets with a high level of government involvement and limited competition for the access to financial resources.

New nuclear projects would occur in evolving, often deregulated, markets and would face strong competition from the other low-carbon energy sources. In this context, attracting and securing financing is one of the most relevant challenges for a new nuclear project and often the main obstacle for the final investment decision.

There have been multiple requests from the Member States, especially 'nuclear newcomer countries', for the IAEA assistance on sharing best practices and providing guidance on the financial models used in nuclear industry globally including the overview of recent and ongoing projects' financing. To address Member States' needs, the IAEA has initiated the work on a new publication on financing nuclear power projects: 'Financing Nuclear Power Plants Construction: Mechanisms and Practical Case Studies' (IAEA Nuclear Energy Series). This publication aims to (i) provide information on the recent cases of NPP construction financing, including the data on the market reforms in the countries that have constructed, are in the process of construction, or plan to construct the NPP, and the impact of market reforms on the chosen financial model; (ii) provide information on government incentives and supports to enable nuclear projects in current markets.

The publication will cover the following topics:

- An evolving financial landscape for investments in the energy sector
 - o Investments trends in the power sector recent trends and drivers
 - o Implications of a transition to low-carbon economy
 - Electricity market reforms
 - Green (low-carbon) finance, taxonomies and ESG instruments: an enabler for the energy transition
 - An evolving landscape for nuclear investments
- Key economics features and risks of nuclear power
 - o Economic characteristics of nuclear power
 - o Intangible benefits of nuclear power (and the shortcomings of financial modelling)
 - o Risks of nuclear new build
 - o Risks in liberalized vs regulated electricity markets
- Financing nuclear investments
 - Financial structures
 - o Financing issues and challenges
 - o Financing nuclear projects in liberalised markets
- Contractual and Ownership Arrangements
- Specific aspects of financing SMRs
 - Economics and specific risks of SMRs
 - o Financing the FOAK SMR
 - Large scale SMRs deployment: what is different in financing compared to large reactors
- Country case studies

The preliminary draft of the publication will be shared with the participants, who will have an opportunity to provide feedback and to suggest improvements. Country case studies will be developed by the meeting participants, presented during the Technical Meeting, and integrated in the final draft of the document by the Scientific Secretaries.

Objectives

The main objectives of this Technical Meeting are to:

- Present the draft of the IAEA Nuclear Energy Series publication 'Financing Nuclear Power Plants Construction: Mechanisms and Practical Case Studies' and collect feedback and suggestions from the Member States.
- Collect recent case studies on financing of nuclear power projects in the Member States.
- Facilitate the exchange of information on the topic of financing nuclear power plants.

The country case studies are a critical and potentially most innovative part of the publication providing up-to-date information on financing models used or considered for the nuclear power projects globally. The case studies to be included in this document will be the inputs from the IAEA Member States covering financial aspects of planned or recently initiated nuclear power projects. The effort will be made to provide broad coverage of new projects by (i) overall financing model used, (ii) geographic distribution, (iii) status of nuclear power programme (nuclear newcomers, expanding programmes, vendor countries), and (iv) the electricity market type (deregulated and regulated).

Expected Outputs

The output of the event will be an updated version of the draft of the IAEA Nuclear Energy Series publication 'Financing Nuclear Power Plants Construction: Mechanisms and Practical Case Studies' including case studies on financing models used for the recent nuclear power projects in the IAEA Member States.

Target Audience

This event is open to the IAEA Member States implementing or actively considering the establishment or expansion of national nuclear power programmes. The nuclear power projects relevant for this event (and for the corresponding NE-Series publication) are the recent ones, i.e. those initiated or planned over the last decade.

The event is aimed at representatives of nuclear power organizations, and economic and financial institutions from the Member States implementing, developing, or considering new nuclear power projects with the primary focus on conventional LWRs of Generation III/III+. Participants should have extensive knowledge on financial aspects of nuclear power projects in their countries and will present the corresponding case studies following the general outline that will be shared by the Scientific Secretaries after acceptance of the nominations. The case studies will need to be submitted to the Scientific Secretaries in advance of the event for review and commenting and will be included in the 'Financing Nuclear Power Plants Construction: Mechanisms and Practical Case Studies' document.

Working Language(s)

English

Participation and Registration

All persons wishing to participate in the event have to be designated by an IAEA Member State or should be members of organizations that have been invited to attend.

In order to be designated by an IAEA Member State, participants are requested to send the **Participation Form (Form A)** to their competent national authority (e.g. Ministry of Foreign Affairs, Permanent Mission to the IAEA or National Atomic Energy Authority) for onward transmission to the IAEA by **30 April 2022**. Participants who are members of an organization invited to attend are requested to send the **Participation Form (Form A)** through their organization to the IAEA by the above deadline.

Selected participants will be informed in due course on the procedures to be followed with regard to administrative and technical matters.

Participants are hereby informed that the personal data they submit will be processed in line with the <u>Agency's Personal Data and Privacy Policy</u> and is collected solely for the purpose(s) of reviewing and assessing the application and to complete logistical arrangements where required.

Additional Information

The event will be held in a virtual format (via WebEx or similar software) and will start on **Monday**, **27 June 2022.** Exact starting time and corresponding event links will be sent to participants in due time.

No registration fee is charged to participants. Attendance to this event does not require travel. Selected candidates will work from their offices or other appropriate space in their hometowns and countries. The IAEA is not in a position to bear any other costs of participants in the event (such as computer equipment, call/internet costs or any other costs that may arise out of the web-based training).

IAEA Contacts

Scientific Secretary:

Mr Marco Cometto

Division of Planning, Information and Knowledge Management Department of Nuclear Energy Vienna International Centre PO Box 100 1400 VIENNA AUSTRIA

Tel.: +43 1 2600 22780 Fax: +43 1 26007

Email: M.Cometto@iaea.org

Co-Scientific Secretary:

Mr Denis Subbotnitskiy

Division of Planning, Information and Knowledge Management Department of Nuclear Energy International Atomic Energy Agency Vienna International Centre PO Box 100 1400 VIENNA AUSTRIA

Tel.: +43 1 2600 25153 Fax: +43 1 26007

Email: D.Subbotnitskiy@iaea.org

Administrative Secretaries:

Ms Valerie Gartner

Division of Planning, Information and Knowledge Management Department of Nuclear Energy International Atomic Energy Agency Vienna International Centre PO Box 100 1400 VIENNA AUSTRIA

Tel.: +43 1 2600 22778 Fax: +43 1 26007

Email: V.Gartner@iaea.org

Ms Eugenie Hartzell

Division of Planning, Information and Knowledge Management Department of Nuclear Energy International Atomic Energy Agency Vienna International Centre PO Box 100 1400 VIENNA AUSTRIA

Tel.: +43 1 2600 22779 Fax: +43 1 26007

Email: E.T.B.Hartzell@iaea.org

Subsequent correspondence on scientific matters should be sent to the Scientific Secretaries and correspondence on other matters related to the event to the Administrative Secretaries.



Participation Form

Technical Meeting to Review and Finalize the IAEA Publication on Financing Nuclear Power Plants in Evolving Markets

Virtual Event

27-30 June 2022

To be completed by the participant and sent to the competent national authority (e.g. Ministry of Foreign Affairs, Permanent Mission to the IAEA, or National Atomic Energy Authority) of his/her country for subsequent transmission to the International Atomic Energy Agency (IAEA) either by email to: Official.Mail@iaea.org or by fax to: +43 1 26007 (no hard copies needed). Please also send a copy by email to the Scientific Secretaries M.Cometto@iaea.org and D.Subbotnitskiy@iaea.org and to the Administrative Secretaries V.Gartner@iaea.org and E.T.B.Hartzell@iaea.org.

Participants who are members of an invited organization can submit this form to their organization for subsequent transmission to the IAEA.

Deadline for receipt by IAEA through official channels: 30 April 2022

Family name(s): (same as in passport)		First name(s): (same	as in passport)	Mr/Ms
Institution:				
Full address:				
Tel. (Fax):				
Email:				
Nationality:	Representing following Member State/non-Member State/entity or invited organization:			
If/as applicable:				
Do you intend to submit a p	aper?	Yes	No 🗌	
Would you prefer to present your paper as a pos		ster? Yes	No 🗌	
Title:				

Participants are hereby informed that the personal data they submit will be processed in line with the <u>Agency's Personal Data and Privacy Policy</u> and is collected solely for the purpose(s) of reviewing and assessing the application and to complete logistical arrangements where required.