IAEA
International Atomic Energy Agency
Atoms for Peace and Development

Technical Meeting on Powering and Cooling Data Centres using Small Modular Reactors

IAEA Headquarters, Vienna, Austria
and virtual participation via Microsoft Teams

28-30 September 2026

Ref. No.: EVT2503589

Information Sheet

Introduction

The availability of energy on the hundreds of MW or even GW scale is urgently becoming one of the limiting factors for the development of new data centres in countries that are spearheading the deployment of large-scale computational capacity, especially for the rapidly growing artificial intelligence (AI) applications.

In several jurisdictions, grid connections can take several years, substantially longer than the target timeline for advanced data centres development. Similarly, order backlogs for large gas turbines is now stretching several years. This leaves very limited options for powering the desired rapid buildout of very large AI-dedicated datacentres, pushing developers to increasingly rely on a large number of smaller and inefficient fossil-based power sources. This in turn is starting to foster opposition to new datacentres development by local communities, worried about the air pollution associated with power generation.

Nuclear energy is well positioned to provide the energy needed for the large-scale deployment of datacentres, due to virtually unlimited scalability, high power density, proven reliability, dependability, long-term stability of energy cost, deployability, and no air pollution. In fact, there has been a substantial increase in efforts towards the use of nuclear power for datacentres applications, from restarting nuclear plants that were previously decommissioned, to procuring specifically nuclear electricity via dedicated contractual arrangements, to supporting the development of new power reactors for the precise purpose of powering datacentres.

Within nuclear energy portfolio, several Member States expect Small Modular Reactors (SMRs) to powering data centres and their cooling with a reliable, low-carbon, high-density power source independent of grid constraints. The scalable output, enhanced safety features, and small footprint of SMRs have made this emerging technology attractive for meeting rising AI and cloud energy demands.

Modern hyperscale and dense data centres require large amounts of active cooling, of the order of hundreds of MW or even GW thermal: data centres with advanced cooling will have a competitive advantage, allowing higher workloads. Nuclear power technology including SMRs can also facilitate data centres cooling by (1) allowing access to shared cooling infrastructure, including cooling towers and water usage rights needed by both the nuclear power plant and data centres; (2) providing low-grade heat that can drive adsorption/absorption chillers for the data centres cooling, possibly increasing the overall efficiency of the combined systems and increasing sustainability.

This Technical Meeting aims to bringing together all relevant stakeholders fostering discussions and the exchange of information and experience to facilitate the use of nuclear energy particularly using SMRs for powering and cooling data centres.

Objectives

The objectives of the event are the following:

- Conduct exchange of information and assessments of the latest development in Member States on the prospect of powering data centres with nuclear energy, and SMRs in particular;
- Assess the latest developments in Member States on using nuclear heat for centralized cooling, in particular in relation to data centres cooling needs.

Target Audience

The event is intended for managers, decision makers, engineers and other stakeholders engaged in R&D related to powering data centres with nuclear energy and nuclear heat for centralized cooling, from Member States with existing, planned and considered data centres which could use nuclear energy for powering or cooling.

Working Language(s)

English.

Expected Outputs

The main expected output of this meeting is to assess the latest development in Member States regarding the use of nuclear energy and SMRs in particular for powering and cooling data centres, identify the gaps in relevant guidance related to the topic, provide a forum for exchange of information, and identify potential future activities of the IAEA that could support Member State efforts in this area.

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 or invited organization, participants are requested to submit their application via the InTouch+ platform (https://intouchplus.iaea.org) to the competent national authority (Ministry of Foreign Affairs, Permanent Mission to the IAEA or National Atomic Energy Authority) or organization for onward transmission to the IAEA by **28 July 2026,** following the registration procedure in InTouch+:

1. Access the InTouch+ platform (https://intouchplus.iaea.org):
   - Persons with an existing NUCLEUS account can sign in to the platform 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 'Complete Profile' and upload the relevant supporting documents;
   - Search for the relevant event 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 InTouchPlus.Contact-Point@iaea.org);
   - 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 the Participation Form (Form A) and/or the 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 applicable form(s), will automatically be sent to the IAEA through the online platform.

NOTE: The application for financial support should be made, together with the submission of the application, by **28 July 2026.**

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.

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

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. The IAEA may also use the contact details of Applicants to inform them of the IAEA's scientific and technical publications, or the latest employment opportunities and current open vacancies at the IAEA. These secondary purposes are consistent with the IAEA's mandate. Further information can be found in the Data Processing Notice concerning IAEA InTouch+ platform.

Papers and Presentations

The IAEA encourages participants to give presentations on the work of their respective institutions that falls under the topics listed above.

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 event. The IAEA has, however, limited funds at its disposal to help meet 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 event.

The application for financial support should be made, together with the submission of the application, by **28 July 2026**.

Venue

The event will be held at the Vienna International Centre (VIC), where the IAEA's Headquarters are located. Participants must make their own travel and accommodation arrangements.

General information on the VIC and other practical details, such as a list of hotels offering a reduced rate for IAEA participants, are listed on the following IAEA web page:

www.iaea.org/events.

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.

Visas

Participants who require a visa to enter Austria should submit the necessary application to the nearest diplomatic or consular representative of Austria at least 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.

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

Event Web Page

Please visit the following IAEA web page regularly for new information regarding this event:

www.iaea.org/events/EVT2503589