



**IAEA**

International Atomic Energy Agency

*Atoms for Peace*

# **Technical Meeting on Recent Developments in Cogeneration Processes in Member States**

**IAEA Headquarters, Vienna, Austria  
and virtual participation via Cisco Webex**

**12-14 November 2024**

**Ref. No.: EVT2303967**

## **Information Sheet**

### **Introduction**

The interest in nuclear cogeneration, i.e., using nuclear power plants not only for electricity generation but to simultaneously provide electricity and process heat for other industrial applications such as district heating, hydrogen production, seawater desalination or other industrial processes, is growing rapidly in Member States worldwide. This is driven primarily by the urgent need to find effective solutions for reducing carbon emissions, and by energy security concerns.

Nuclear energy is one of the primary tools available on a global scale to achieve net zero emissions of greenhouse gases, primarily through an increase in electrification of various sectors of the economy combined with the decarbonization of the electricity sector. However, this alone is not sufficient to achieve a substantial reduction in greenhouse gas emissions, as electricity is directly responsible for only about 40% of total carbon dioxide emissions.

Nuclear energy, however, is also well suited to contribute to the decarbonization of the remaining 60% of emissions, particularly through heat, a unique feature of nuclear plants among the available low-carbon technologies.

Despite currently being a limited practice, nuclear cogeneration has been successfully implemented in several Member States worldwide, and there are now several projects in the planning/implementation phase. In addition, many more countries, as well as industrial sectors that have not included nuclear energy before in their energy source planning, are starting to consider the benefits of this technology, and several R&D efforts are ongoing worldwide. This notably includes, for example, the oil/gas sector, the steel sector, the chemical industry sector, etc.

These collective efforts and experiences are a resource for Member States considering the planning and implementation of new nuclear cogeneration projects. In line with its mandate to facilitate the implementation of nuclear energy for sustainable development, the IAEA is organizing this Technical Meeting in order to provide a forum of exchange for interested Member Countries to share their experience and expertise in this field for their reciprocal benefit. In addition, the meeting will collect up-to-date information on the existing cogeneration projects worldwide, and also on the projects in the planned and R&D phases, in order to update the relevant IAEA publications on this topic.

## **Objectives**

The purpose of the event is to discuss the most recent developments in and the status of cogeneration processes in Member States, including the plans for and actual implementations of using nuclear heat directly in industry.

The objectives of the meeting are the following:

- Provide a forum for sharing information and knowledge on the existing and planned nuclear cogeneration projects worldwide, as well as on the R&D that is currently ongoing related to nuclear cogeneration implementation, with a particular emphasize on nuclear heat for industrial processes;
- Discuss the most recent developments and the status of cogeneration processes in Member States, including the plans for and actual implementations of using nuclear heat directly in various industrial sectors;
- Provide advice and guidance on future IAEA activities to further improve the support provided to Member States in this area;
- Review the IAEA Nuclear Energy Series: No. NP-T-4.1 “Opportunities for Cogeneration with Nuclear Energy”, No. NP-T-4.3 “Industrial Applications of Nuclear Energy”, No. NP-T-1.17 “Guidance on Nuclear Energy Cogeneration” and recommend aspects to consider for their revision.

## **Target Audience**

The event is intended for project managers, decision makers, engineers and other stakeholders with relevant experience in nuclear cogeneration projects and R&D related to cogeneration, in Member States with existing, planned and considered cogeneration facilities, including district heating, desalination, hydrogen production and direct use of nuclear heat for industrial applications.

## Working Language(s)

English.

## Expected Outputs

The main expected outputs of this meeting are: collecting up-to-date information on ongoing cogeneration projects and programmes on nuclear process heat for industrial processes; review the IAEA Nuclear Energy Series No. No. NP-T-4.1 “Opportunities for Cogeneration with Nuclear Energy”, NP-T-4.3 “Industrial Applications of Nuclear Energy”, No. NP-T-1.17 “Guidance on Nuclear Energy Cogeneration” and recommend aspects to consider for its revision; a technical report summarizing the discussions held.

## Topics

Participants are expected to provide presentations on one or more of the topics identified below:

### **Topic #1: Current status of cogeneration technology development including:**

- Overview of the current national programmes on cogeneration
- Overview of ongoing research and development projects related to nuclear cogeneration
- Lessons learned from existing projects and development by technology developers and utilities

### **Topic #2: End-user requirements for cogeneration technology development:**

- Requirements from utilities and other end-users (e.g., refineries, fertilizers, chemical, steel, heat industries) and potential impact on implementation

### **Topic#3 Design licensing frameworks and collaborations to support cogeneration deployment:**

- IAEA activities and feedback from MS on IAEA initiatives
- MS practices on regulatory frameworks and collaborations
- Public engagement

### **Topic #4 Special topics of cogeneration development:**

- General consideration of the supply chain
- Challenges of implementation

## 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 **31 August 2024**, 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](mailto:InTouchPlus.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 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 **31 August 2024**.

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](mailto: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.

## **Presentations**

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

Participants who wish to give presentations are requested to submit an abstract of their work. The abstract will be reviewed as part of the selection process for presentations. The abstract should be in A4 page format, should extend to no more than 2 pages (including figures and tables). It should be sent electronically to Mr Francesco Ganda and Ms Molly-Kate Gavello, the Scientific Secretaries of the event (see contact details below), not later than **31 August 2024**. Authors will be notified of the acceptance of their proposed presentations by **14 September 2024**.

## 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 **31 August 2024**.

## 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](http://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.

## **IAEA Contacts**

### **Scientific Secretaries:**

#### **Mr Francesco Ganda**

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### **Administrative Secretary:**

#### **Mr Luis Tercero Casado**

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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.

**PAPER TITLE IN TIMES NEW ROMAN 12 POINT  
BOLD CAPITALS, INDENTED BY 1 cm WITH NO  
MORE THAN 40 CHARACTERS PER LINE  
INCLUDING SPACES**

*Subtitle if needed in Times New Roman 12 point bold  
italic, sentence case*

A.N. AUTHOR  
Organization  
Town/City, Country  
Email: address@correspondingauthor.com

A.N. OTHER-AUTHOR  
Organization  
Town/City, Country

**Abstract**

This is an example of how to format an abstract. The title is Times New Roman 10 point bold, indented by 1 cm. The text is Times New Roman 9 point, with a first line indent of 1 cm. The abstract is a single paragraph which may be up to 300 words long. It should not contain information not included in the paper. The abstract may not contain references, equations or the word 'we'. Write 'the paper', not 'this paper'.

1. INTRODUCTION

This is an example of how a paper for the Proceedings Series should be formatted. The text above shows how the running head, title, subtitle (if applicable), author names and affiliations, and abstracts should be formatted. The heading immediately above this paragraph is a first level paper heading; it is Times New Roman 10 point regular capitals. The body text of the paper is Times New Roman 10 point regular, with a first line indent of 1 cm.

2. ORIGINALITY, COPYRIGHT AND PUBLICATION

The text of a paper submitted to this conference must be original and must not have been published elsewhere previously. All papers will be scanned to ensure originality; if they are found to contain non-original text, only their abstract will be included in the proceedings.

If text or images included in the paper have been published elsewhere, the paper must be accompanied by evidence such as licences that permission has been given for the reuse. If no such evidence is supplied, only the abstract will be included in the proceedings. In addition, text must be properly cited and images properly acknowledged.

3. TABLES

Tables must be numbered consecutively and include a table heading. There is no full stop at the end of the heading. IAEA style is to use table borders and lines sparingly. Tables must be mentioned (called out) in the text and should be inserted following the end of the paragraph in which they are mentioned, or on the next page if there is not enough space. Tables are formatted in Times New Roman 9 point regular. For an example, see Table 1.

TABLE 1. EXAMPLE TABLE

Column 1	Column 2	Column 3
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Align text left	Centre text	Centre text
Align text left	Centre text	Centre text

#### 4. FIGURES

The figures you use in your publication must be original. If they have been published elsewhere (even in other papers authored by you or one of your co-authors) they cannot be used unless a permission is obtained and sent with the paper.

#### 5. REFERENCES

In accordance with good academic practice, reference sources should be cited in the text to support the assertions it contains. IAEA style is to use numbered references in square brackets. There are different formats for sources such as books [1], internal reports [2], personal communication [3], unpublished data [4], single chapters from books [5], journal articles [6], websites and on-line databases [7], papers from a proceedings [8], presentations including slides and handouts [9], and INFCIRCs [10].

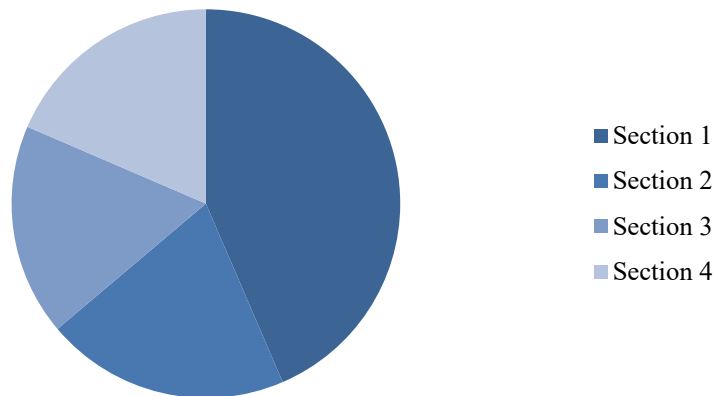


FIG. 1. Chart showing the number of words in each section of this example paper.

#### 6. BIBLIOGRAPHY

A bibliography is an optional section. If a source is not cited in the text but may nevertheless be of interest to the reader, it can be included in a bibliography, which follows the reference list. Sources that appear in the reference list should not be included in the bibliography. Please see the example bibliography at the end of this paper. The text in the bibliography is Times New Roman 9 point regular.

#### REFERENCES

- [1] AUTHOR, A., Book Title in Title Case, Series No. if applicable, Publisher, Place of Publication (Year).
- [2] AUTHOR, A., Internal Report Title in Title Case, internal report, Organization, Location, Year.
- [3] LETTER-WRITER, A., Organization, personal communication, Year.
- [4] RESEARCHER, A., Organization, unpublished data.
- [5] CHAPTER-AUTHOR, A., "Title of chapter in sentence case", Book Title in Title Case, Publisher, Place of Publication (Year).
- [6] AUTHOR, A., AUTHOR, B., AUTHOR, C., Journal article title in sentence case, Abb. J. Title 1 2 (Year) 120–123.