

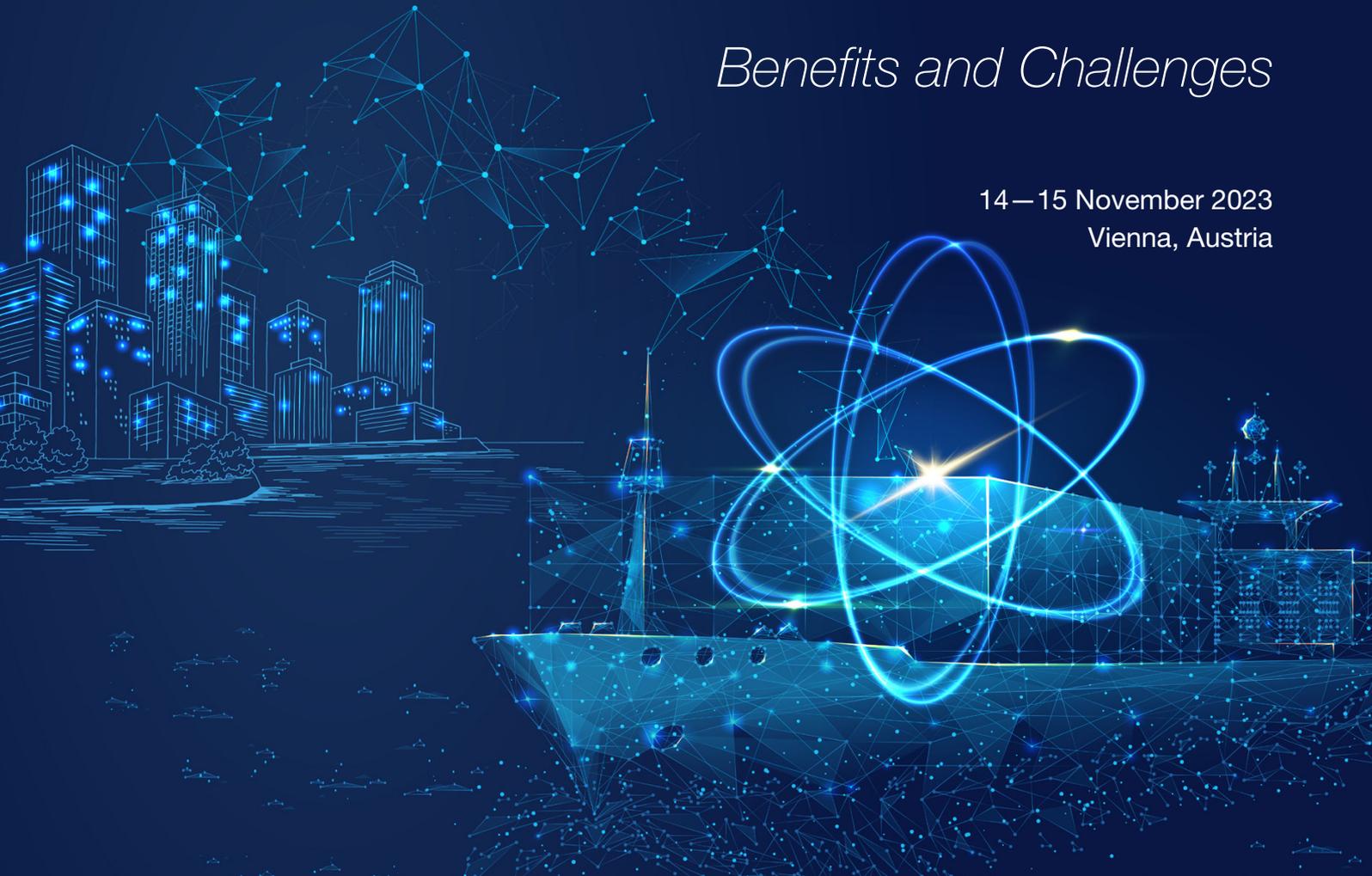
International Symposium on the

Deployment of Floating Nuclear Power Plants

Benefits and Challenges

14–15 November 2023

Vienna, Austria



Background

Achieving net zero carbon emissions by 2050 will require large scale deployment of all low carbon energy sources, including nuclear power. Various studies confirm that nuclear power has a significant role to play in combating climate change and meeting increasing energy demand worldwide, but this will require that nuclear power plants be deployed at a larger scale than is currently the case.

There is increasing interest from Member States and industry to consider floating nuclear power plants (FNPPs) for a variety of needs that include providing electricity as well as non-electric applications such as desalination and the production of hydrogen for use in the fabrication of synthetic fuels for the transportation sector.

While the concept of FNPPs is not new, it has been gaining momentum in recent years. The Russian Federation started commercial operation of an FNPP in 2020 and several organizations in countries such as China, Denmark and Republic of Korea are developing FNPPs and some Members States are considering deploying them.

Past and current deployments took place nationally in countries with the necessary technical, industrial and institutional infrastructure to build, license and deploy FNPPs in their territorial waters. The international deployment of FNPPs offers new opportunities but also presents challenges, including the evaluation of international and national legal issues and institutional aspects.

In 2013¹, the IAEA completed a preliminary study on transportable nuclear power plants (TNPPs) that included consideration of FNPPs deployed in coastal areas. There is interest in other modes of deployment including further from the shoreline — but still in territorial waters — as well as in international waters. This Symposium will consider all potential deployments of FNPPs and the associated institutional and legal challenges.

¹ Legal and Institutional Issues of Transportable Nuclear Power Plants: A Preliminary Study | IAEA. A follow-up study on factory fuelled TNPPs is nearing completion.

Purpose

The purpose of the event is to explore and discuss the potential deployment of FNPPs to enhance the contribution of nuclear energy to achieving net zero carbon emissions. It will focus on different aspects of FNPPs, ranging from their national deployment in territorial waters to more challenging applications that require the transport of fuelled FNPPs to other countries or their deployment in international waters.

The Symposium's specific objectives are as follows:

- Review past and present experiences in deploying FNPPs, including overview of current development activities
- Discuss the life cycle of FNPPs with a focus on shipyard production and deployment scenarios
- Explore and discuss the feasibility of FNPP deployment: 1) in territorial waters – near and away from the shoreline – and 2) in international waters
- Examine legal aspects (safety, security, safeguards, liability) with a focus on legally binding instruments in place with consideration of, as appropriate, international standards (e.g., applicability of IAEA safety standards), guidance (e.g., applicability of IAEA security guidance documents), norms and best practices that facilitate compliance with such instruments
- Examine challenges related to licensing and regulation in scenarios where FNPPs are constructed and commissioned in one country and then exported/transported to another country
- Discuss and propose further actions by the international community to facilitate the expanded safe, secure and sustainable use of FNPPs for peaceful applications.

Main Topics

Past, current and potential future applications

- National deployment experiences
- Overview of national development activities
- Potential future FNPP deployment scenarios
- Production of FNPPs using existing shipyards

Legal aspects – Safety, Security, Safeguards and Liability

- Deployment in territorial waters (close to shore and further off shore)
- Deployment in international waters
- Licensing, regulation and transport of fuelled FNPPs
- Applicability of international standards and guidance (e.g., IAEA safety standards and security guidance documents)
- Application of safeguards

Further Actions

- Role of proponents and Member States
- Role of international organizations.

Outcomes:

Documentation of the main insights and conclusions as well as further actions to facilitate deployment of FNPPs.

Target Audience

Experts from research institutes and the private sectors, decision makers and leaders of national and international organizations with interest in the deployment of FNPPs.

Registration

No registration fee is charged.

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.

Language

The working language of the conference is English.

Key deadlines

8 September 2023 Submission of Form C (together with Form A) through the InTouch+ platform

10 November 2023 Submission of Form A only (no grant request) through the InTouch+ platform

Contacts

Scientific Secretaries of the Conference:

Mr Hussam Khartabil

Department of Nuclear Energy
Division of Nuclear Power
Tel.: +43 1 2600 26932
Email: FNPP-2023@iaea.org

Mr David de Caires Watson

Department of Nuclear Security
Division of Nuclear Installation Safety
Tel.: +43 1 2600 25151
Email: FNPP-2023@iaea.org

Administration and Organization:

Ms Nancy Herter

Conference Services Section
Division of Conference and Document Services
Department of Management
IAEA-CN-330
Tel.: +43 1 2600 21315
Email: Conference.Contact-Point@iaea.org

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

CN-330