



IAEA

International Atomic Energy Agency
Atoms for Peace and Development

IAEA INPRO School
on
Methodology, Tools and Analysis for Enhanced
Nuclear Energy Sustainability

Hosted by the
Government of Thailand

through the
Thailand Institute of Nuclear Technology

Virtual Event

22–26 November 2021

Ref. No.: EVT1803626

Information Sheet

Introduction

The International Atomic Energy Agency (IAEA) assists Member States in capacity building related to long-range and strategic planning for nuclear energy programmes in view of the long-term commitment involved, with obligations that extend well beyond 100 years. The International Project on Innovative Nuclear Reactors and Fuel Cycles (INPRO) was established in 2000 with the goal of ensuring a sustainable nuclear energy supply to help meet 21st century global energy needs. INPRO's activities are centred on the key concepts of global nuclear energy sustainability and the development of long-range nuclear energy strategies, so that nuclear energy is and remains available to meet national energy needs.

INPRO is part of the integrated services provided by the IAEA to Member States considering initial development or expansion of their nuclear energy programmes. INPRO performs nuclear energy evolution scenario modelling and comparative evaluation of nuclear energy system (NES) options to understand key issues of transition to future NESs with enhanced sustainability.

The IAEA has developed, under the aegis of INPRO, a methodology for assessing NES sustainability. The INPRO methodology covers all areas relevant to NES sustainability, all reactor types and fuel cycle facilities, all facilities of an NES, and all phases of an NES from cradle to grave.

INPRO performs modelling and analysis of innovative and evolutionary nuclear energy scenarios, and comparative evaluation of NES and options/scenario as well as road mapping to understand key issues of transition to future NESs with enhanced sustainability. The scenario analysis and decision support frameworks together with the evaluation tools developed in INPRO have proven to be extremely useful for weighing the possible national choices for the scope and extent of national nuclear energy programmes and the needed collaboration with other countries to enhance the sustainability of NES.

Objectives

The INPRO School aims to support capacity building and national human resource development in the nuclear energy sector. In the course of the INPRO School, the IAEA and international experts will share their insights and experience to familiarize the participants with the INPRO concepts, methodology, tools and services that INPRO offers to the Member States.

The national experts can enhance their skills in data analysis, modelling of NESs, developing NES options/scenarios, analysis of results and multifaceted evaluation of alternatives. Equipped with analysis tools and competence in systematic analysis, the experts will be able to contribute more effectively to the national decisions on planning and development of nuclear energy in the country.

The specific objectives of the event are to:

- familiarize the participants with the INPRO concepts and methodology for nuclear energy system sustainability assessment in different areas, such as: economics, infrastructure, waste management, environment, proliferation resistance, reactors and fuel cycle safety; and
- provide an overview of the INPRO tools, including:
 - Nuclear Energy Systems Assessment Economics Support Tool (NEST) that allows preliminary assessment of specific economic parameters and financial figures of merit (e.g., levelized unit of electricity cost, internal rate of return, return of investment, net present value, total investment) for various reactor technologies at plant level;
 - MESSAGE-NES tool – to model and evaluate nuclear energy deployment scenarios with varying assumptions about the potential role of innovative technologies;
 - KIND Evaluation Tool for comparative evaluation and ranking of nuclear energy system/ scenario options; and
 - ROADMAPS Excel Tool for road mapping towards enhanced nuclear energy sustainability.

Target Audience

The event is open to participants from the Asian Member States that are either embarking on a new nuclear power programme or expanding an existing one, as well as for the INPRO Members from Asia.

The event is targeted at experts working in nuclear energy departments and at electric utilities, energy ministries and/or research and development institutions, including young lecturers and postgraduates from the technical universities. Designated participants are expected to have a sound knowledge and understanding of energy and nuclear power systems.

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 **1 November 2021**. 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.

IAEA Contacts

Scientific Secretary:

Mr Maxim Gladyshev

Division of Nuclear Power

Department of Nuclear Energy

International Atomic Energy Agency

Vienna International Centre

PO Box 100

1400 VIENNA

AUSTRIA

Tel.: +43 1 2600 22809

Fax: +43 1 26007

Email: M.Gladyshev@iaea.org

Administrative Secretary:

Ms Stefania Emmanouilidou

Division of Nuclear Power

Department of Nuclear Energy

International Atomic Energy Agency

Vienna International Centre

PO Box 100

1400 VIENNA

AUSTRIA

Tel.: +43 1 2600 22774

Fax: +43 1 26007

Email: S.Emmanouilidou@iaea.org

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

Thailand Institute of Nuclear Technology

Administration:

Ms. Natchaya Thipsorn

International Cooperation Section
Thailand Institute of Nuclear Technology
9/9 Moo 7 Tambol Saimoon, Ongkharak,
26120 NAKHORN NAYOK
THAILAND

Email: natchaya@tint.or.th

Mr. Wasin Vechgama

Nuclear Technology Research and Development Center
Thailand Institute of Nuclear Technology
9/9 Moo 7 Tambol Saimoon, Ongkharak,
26120 NAKHORN NAYOK
THAILAND

Email: wasin@tint.or.th

Event Web Page

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

<https://www.iaea.org/events/EVT1803626>