

Key achievements in Belarus

- 2018: Belarus employs new radiopharmaceuticals for medical diagnostic procedures.
- 2013: The Belarusian nuclear regulatory authority, Gosatomnadzor, issues a license to construct Unit 1 of the Ostrovets Nuclear Power Plant.
- 2012: The Government of Belarus and a consortium of Russian companies, led by Rosatom, agree to build two units of the Ostrovets Nuclear Power Plant.

Atoms for peace and development

Widely known as the world's 'Atoms for Peace and Development' organization within the United Nations family, the IAEA is the international centre for cooperation in the nuclear field. The Agency works with its Member States and multiple partners worldwide to promote the safe, secure and peaceful use of nuclear technologies.

The IAEA's technical cooperation (TC) programme helps countries to use nuclear science and technology to address key development priorities in areas including health, agriculture, water, the environment and industry. The programme also helps countries to identify and meet future energy needs. It supports greater radiation safety and nuclear security, and provides legislative assistance.



The National Centre of Positron Emission Tomography (PET Centre) at Alexandrov's National Cancer Centre for Oncology and Medical Radiology in Liasny was supported by the IAEA to strengthen the safe and sustainable production of radiopharmaceuticals and to promote their application in nuclear medicine. (Photo: NCCOMR).

Recent project successes

Energy planning and nuclear power

For more than 10 years, the IAEA has helped Belarus to build the specialist staff skills required for the safe and efficient operation of the country's first nuclear power plant (NPP) located in Ostrovets. Several IAEA review missions were organized, culminating in the final Integrated Nuclear Infrastructure Review (INIR) Phase 3 mission in early 2020.

Natural gas dominates the energy market in Belarus, contributing 95 per cent of the domestic electricity supply. The introduction of nuclear power will help diversify the country's energy mix, increase energy security and reduce the environmental footprint. With a potential to power almost two million homes a year (or 2000 megawatts), one NPP unit was connected to the grid and started operations in 2020, with the second unit planned to start operating in 2022.

Radiation protection and nuclear safety

In 2007, after Belarus embarked on its nuclear power programme, the Department for Nuclear and Radiation Safety – Gosatomnadzor – part of the Belarus Ministry for Emergency Situations, was appointed as the country's nuclear regulatory authority. Since the beginning, the IAEA has helped build the relevant capacities needed for the construction and operation of the new power plant. This included providing expert assistance to develop legislation, regulations and nuclear safety guidelines, organizing and conducting examinations, supporting the licencing process and carrying out inspections and enforcement.

In October 2013, Gosatomnadzor issued a construction licence for Unit 1 of the Ostrovets NPP and, in February 2014, granted another for Unit 2. In addition, the IAEA supported an Integrated Regulatory Review Service (IRRS) mission to Belarus in 2016.

Human health

In 2018, the IAEA provided support to Belarus to strengthen the safe and sustainable production of radiopharmaceuticals and promote their use in nuclear medicine. Radiopharmaceutical and medical personnel were trained at leading European clinical PET (positron emission tomography) centres. Further assistance included the procurement of

a heavy shielded hot cell (for the manipulation, fractioning and dispensing of radiopharmaceuticals), with a synthesis module to decrease radiation exposure for personnel at the Minsk PET-Centre.

New synthesis and quality control procedures for C-11 (methionine) and F-18 (fluoromethylcholine) labelled molecules were developed and validated. These new radiopharmaceuticals were applied to perform over 600 radionuclide medical diagnostic procedures, mainly for brain and prostate cancers. The project had a strong, positive social and economic impact on the healthcare system in Belarus, by further increasing the sensitivity and specificity of cancer diagnosis throughout the country.

Active national projects

- Improving Capacity of Operating Organization for Ensuring Safe and Reliable Nuclear Power Plant Operation (BYE2007)
- Enhancing the Operational Safety of the Nuclear Power Plant during Commissioning and Operation (BYE2008)
- Improving Quality Assurance of Positron Emission Tomography/Computed Tomography Diagnostic (BYE6012)
- Improving Advanced Radiation Therapy including Quality Assurance and Quality Control (BYE6013)
- Strengthening the Capacity of the National Service of Calibration for Radiation Measurements (BYE6014)
- Improving the Competence of the Regulatory Body and its Technical Support System at the Stage of Nuclear Power Plant Commissioning and Operation (BYE9023)
- Controlling the Impact of Fires on the Public and the Environment in the Belarusian Site of the Exclusion Zone of the Chernobyl Accident and Adjacent Territories (BYE9024)

Belarus also participates in 24 regional and 2 interregional projects, mostly in the areas of energy planning and nuclear power.

Previous IAEA support to Belarus

In previous years, IAEA support to Belarus focused on preparing both the regulatory authority and operator for the introduction of nuclear power, and on minimizing the effects of the Chernobyl accident and improving human health.

IAEA support to Belarus, 2009–2019



559 345 302

trained
(including 254 women)

international
experts
provided

attended specialist
meetings
(including 125 women)

Priority areas of support

- Supporting preparations for the introduction of nuclear power
- Improving human health
- Strengthening environmental protection and supporting the remediation of the Chernobyl-affected territories

Belarus' contribution to South-South and triangular cooperation, 2009–2019



expert and lecturer
assignments provided
by Belarus

7
training
courses
hosted

104
fellows or
scientific visitors
hosted

Based on data available as of April 2020

Cancer control impact Review conducted: April 2016

Strategic documents supported

- United Nations Development Assistance Framework 2016–2020
- National Programme 'Health of the People and Demographic Security of the Republic of Belarus' for 2016–2020 (Chapter 2 on measures for cancer control)

www.iaea.org/technicalcooperation

The IAEA collaborates with National Liaison Officers and Permanent Missions to deliver its TC programme.

