Ghana

IAEA Member State since September 1960

Selected achievements

2016: Ghana establishes its Nuclear Regulatory Authority.

2016: The Ghana Atomic Energy Commission (GAEC) inaugurates the Pelletron accelerator.

2014: The Ghana Technology Transfer and Marketing Centre is established.

Minister Kwaku Afriyie and Hua Liu, IAEA Deputy Director General and Head of the Department of Technical Cooperation, sign Ghana's Country Programme Framework.
(Photo: O. Yusuf/IAEA)

National priorities

- Human health
- Nuclear science and technology
- Energy supply

Main areas of IAEA support

- Nuclear knowledge management
- Reference products for science and trade
- Energy planning
- Nuclear power reactors and nuclear fuel cycle
- Research reactors
- Governmental and regulatory infrastructure for radiation safety
- Radiation protection of workers and the public
- Water resources management
- Marine, terrestrial and coastal environments
- Radioisotopes and radiation technology for industrial, health care and environmental applications
- Radioactive waste management, decommissioning and remediation of contaminated sites
- Livestock production
- Insect pest control
- Food safety
- Human health and nutrition

Project successes

Human resources development

The IAEA helped the GAEC and the University of Ghana to establish the School of Nuclear and Allied Sciences. This institute provides postgraduate education to students from Ghana and other countries in sub-Saharan Africa.

Since 2009, Ghana has hosted 178 Fellows and 37 Scientific Visitors from African countries, making a substantial contribution to regional cooperation, and is currently hosting three Regional Designated Centres under the African Regional Co-operative Agreement for Research, Development and Training Related to Nuclear Science and Technology (AFRA).

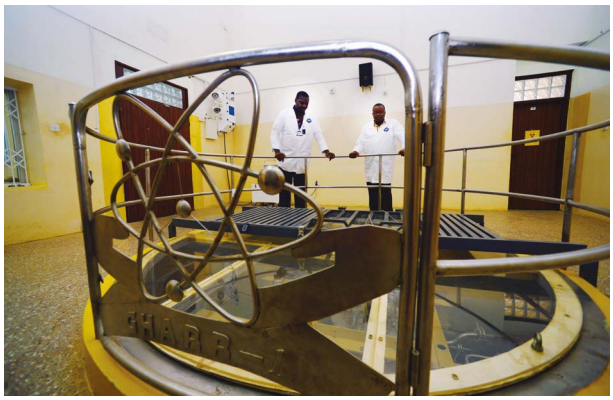
Ghana operates key nuclear facilities, including a research reactor, an accelerator and a gamma irradiation facility, which are used for education, training and research in a range of scientific fields.

Agriculture

The IAEA has helped Ghana to enhance its expertise in modern plant propagation methods, such as tissue culture and mutation breeding, through training, fellowships and scientific visits. In collaboration with the Ghana Flower Growers Association, the GAEC has trained flower growers in propagation techniques to enhance agricultural productivity. This strengthened agricultural capacity has the potential to generate sustainable employment prospects, particularly benefiting the nation's youth.

Research reactor

With support from the IAEA, Ghana successfully completed the conversion of its only research reactor from using highly enriched uranium (HEU) fuel to using low enriched uranium fuel in 2017 as part of an international project. This conversion reduced the enrichment level without affecting the reactor's research capabilities and decreased the proliferation risks associated with HEU fuel. Ghana was the first of five countries operating a Chinese supplied Miniature Neutron Source Reactor to successfully convert and repatriate its irradiated HEU core to China.



A research reactor at the National Nuclear Research Institute, Ghana Atomic Energy Commission. (Photo: D. Calma/IAEA)

Participation in the major initiatives

- NUTEC Plastics
- Rays of Hope
- ZODIAC

Date of imPACT Review(s)

2005

IAEA support received in the 21st century

50
national TC projects implemented

352 (60 women)
fellows and scientific visits

1135 (185 women)
training participants

1221 (123 women)
meeting participants

217 (34 women)
expert missions received

Contributions to South-South and triangular cooperation

448 (118 women)
fellows and scientific visits hosted

1165 (279 women)
meeting participants hosted

339 (11 women)
expert missions supported

AFRA