Kuwait

IAEA Member State since December 1964

Selected achievements

2023: A Memorandum of Understanding is signed between the IAEA and the Kuwait Institute for Scientific Research (KISR) on the use of research vessel Al-Mostakshif for the advancement of ocean health research.

2021: The ARASIA Board of Representatives designates the Secondary Standards Dosimetry Laboratories (SSDLs) of Kuwait's Radiation Protection Department as a Regional Resource Centre.

2019: The Kuwait Institute for Scientific Research is designated as an IAEA Collaborating Centre for the use of nuclear and isotopic techniques to advance coastal and marine sciences.

National priorities

- Nuclear and radiation safety and security
- Groundwater management
- Human health
- Energy planning and development
- Application of radioisotopes
- Protecting marine ecosystems
- Food and agriculture

Main areas of IAEA support

- Crop production
- Investigation of groundwater resources
- Marine environment monitoring
- Applications of nuclear techniques in the oil industry
- National radiation safety infrastructure

Project successes

Groundwater management

With IAEA support, the Kuwait Institute for Scientific Research (KISR) conducted comprehensive studies employing isotopic techniques to map the isotopic characterization of groundwater across the country.

Kuwait uses isotope hydrology to track and conserve ground water. (Photo: D. Calma/IAEA)

These studies have enabled the identification of groundwater sources, the determination of ion sources, the establishment of Kuwait meteoric water lines and the assessment of groundwater recharge in various regions, including Abdally in North Kuwait, where paleoclimatic conditions were also analysed.

The isotopic data obtained from the studies helped to formulate national groundwater strategies and guide resource management.

IAEA support included capacity building and the procurement of sophisticated instruments, contributing to long term advancements in Kuwait's groundwater management.

Human health

The Kuwait Cancer Control Center (KCCC) collaborated with the IAEA to enhance the precision of radionuclide therapy dosimetry using Voxel dosimetry software.

This project not only ensured patient safety and personalized treatment plans, but also streamlined dosimetry procedures, saving valuable time and resources.

The accurate assessment of organ doses has significantly improved the management of treatment-related side effects, leading to increased success rates. Moreover, the collaboration opened avenues for innovative research opportunities, reinforcing KCCC's long term dedication to advancing radionuclide therapy.

Industrial applications

With IAEA support, the Petroleum Research Centre (PRC) at the Kuwait Institute for Scientific Research's (KISR) has improved its laboratory infrastructure and technical capabilities for nuclear technology applications.

The centre now provides essential services to the oil industry, including core analysis, reactor hydrodynamics research, distillation column malfunction investigation, and pipeline scaling analysis.

These enhancements have had a significant impact on the production, dependability, and safety of Kuwait's oil industry.

A senior research associate at the Kuwait Institute for Scientific Research checks the pH level in tanks used to study the marine environment at Salmiya Research Campus Laboratory with a system which was provided by the IAEA. (Photo: D. Calma)

Participation in the major initiatives

- NUTEC Plastics
- ZODIAC

IAEA support received in the 21st century

45
national TC projects implemented

152 (62 women)
fellows and scientific visits

202 (94 women)
training participants

377 (103 women)
meeting participants

112 (3 women)
expert missions received

Contributions to South-South and triangular cooperation

34 (10 women)
fellows and scientific visits hosted

267 (90 women)
meeting participants hosted

16 (6 women)
expert missions supported