



IAEA Technical Cooperation for the Safe Application of Nuclear Technology in UAE

Since 1976, the UAE benefits from the IAEA's Technical Cooperation Programme to develop and advance the country's capacity in the peaceful application of nuclear science and technology. Through national, regional and interregional projects in a range of fields, the programme supplies the UAE with training and education, fellowships, scientific visits, expert advice and equipment, and contributes to the achievement of national development priorities.

“Activities implemented under the UAE Integrated Work Plan had tripled in 2014 in comparison to the previous year and more than 70% of these activities were supported through IAEA Technical Cooperation projects. The UAE national TC Programme is one of the successful technical cooperation collaborations in the region.”

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IAEA Technical Cooperation Programme with the UAE

For more than three decades, the UAE continues successful collaboration with the Technical Cooperation (TC) Department of the International Atomic Energy Agency (IAEA). Since then, the UAE has been involved in more than 150 technical cooperation projects, of which 29 are national projects designed to address its national needs in health care, water management, environmental protection, industrial applications, radiation technology, and nuclear power, in addition to crosscutting areas of nuclear safety and security. The UAE receives IAEA technical cooperation support on three levels:

- Through its *national TC programme*, which constitutes of several national projects;
- Through *regional TC programmes* within the Asia and the Pacific, ARASIA and the GCC regional cooperative agreements.
- Through *Interregional TC projects* involving many countries from all over the world.

In 2010, the Permanent Mission of the United Arab Emirates was designated as a National Liaison Office (NLO), with a view to advancing national development goals. This NLO plays a leading role in formulating, coordinating and facilitating the implementation - with IAEA assistance - of the UAE's national technical cooperation programme.

National TC Programme

Through the IAEA's technical cooperation projects, the UAE brings in nuclear technology capacity and adopts nuclear techniques to meet its national needs in developing various sectors. The UAE currently has 7 ongoing national TC projects with the IAEA. Through the implementation of these national projects, stakeholders of the UAE's nuclear power programme cooperate closely and engage extensively in various technical cooperation activities, aimed not only at acquiring but also sharing nuclear knowledge and experience.

Since the UAE Permanent Mission to the IAEA became a National Liaison Office (NLO) for technical cooperation in 2010, the UAE has benefitted from **17** national and **68** regional & interregional TC projects to support the safe, secure and peaceful application of nuclear technologies in the UAE.



Thematic areas in focus

The NLO ensures that national stakeholders benefit from IAEA support in all areas of nuclear power and non-power nuclear applications. Through technical cooperation projects, a large number of UAE institutions are engaged in all nuclear thematic areas, which answer their national needs and provide tools to acquire a wide range of nuclear knowledge.

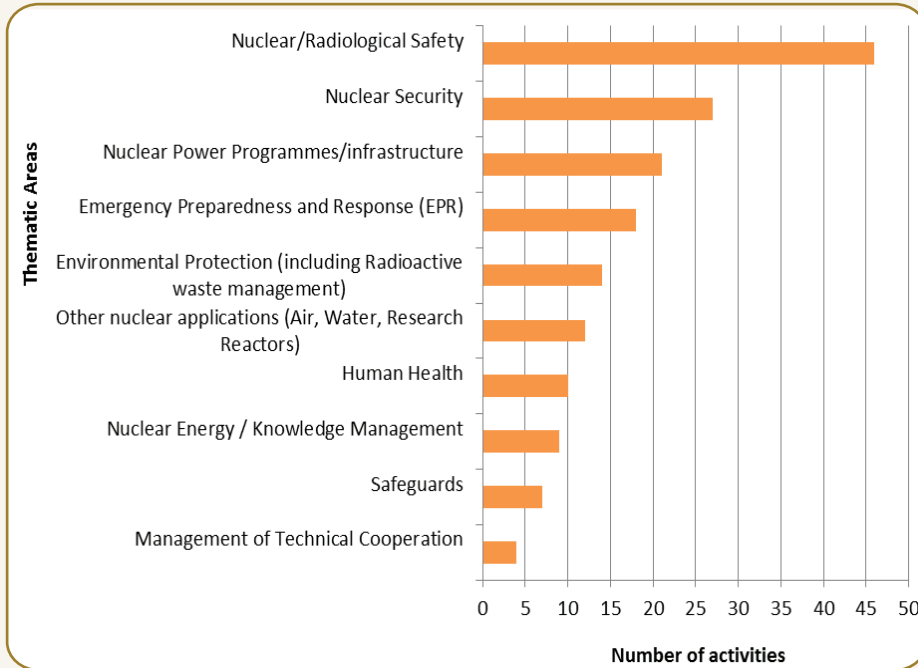


Figure 1. UAE stakeholder participation in TC activities by thematic areas in 2014

Increasing dynamic of UAE's participation in IAEA TC activities

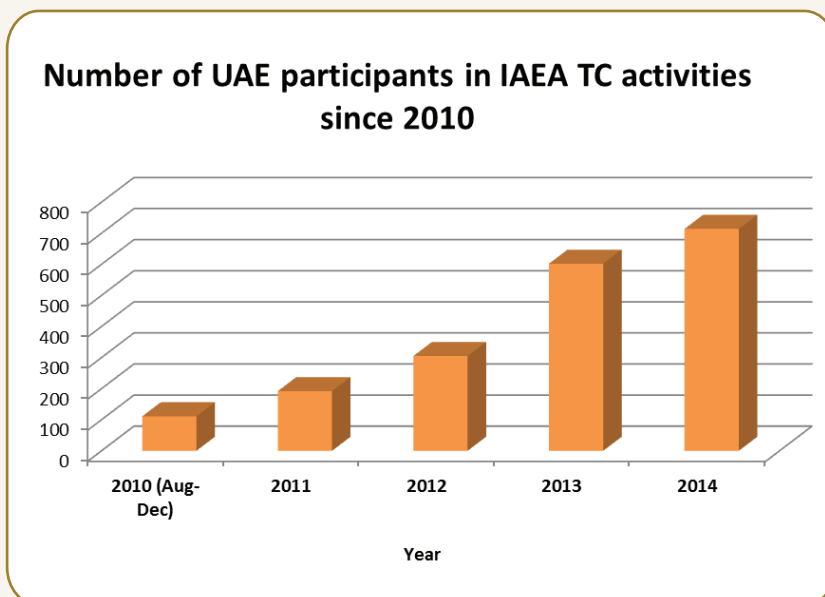


Figure 2. UAE participation TC events in 2010–2014 period

Ongoing National TC Projects for the 2014-2015 Cycle

- Enhancing Analytical Capabilities for Environmental and Archaeological Applications (UAE/1/001);
- Supporting the Development of National Nuclear Power Infrastructure for Electricity Generation - Phase II (UAE/2/003);
- Establishment of Secondary Standards Dosimetry Laboratory (SSDL) (UAE/6/005);
- Enhancing Environmental Monitoring Capabilities (UAE/7/004);
- Enhancing the Environmental Monitoring (UAE/7/003);
- Establishing the National Radioactive Waste Management Infrastructure (UAE/9/010);
- Strengthening the National Programme on Patient Radiation Safety and Dosimetry (UAE/9/011).

New National TC Projects for the 2016-2017 Cycle

Overseen by relevant national stakeholders and the IAEA TC Department, cooperation has expanded in new areas. Five new TC projects have been approved for the 2016-2017 cycle:

- Supporting the Development of National Nuclear Power Infrastructure for Electricity Generation - Phase III;
- Enhancing National Nuclear Emergency Preparedness and Response;
- Strengthening Infrastructure for Radiation, Transport and Waste Safety;
- Enhancing Quality Assurance for use of Radiation in Healthcare;
- Supporting a national Programme of Action for Cancer Treatment in the UAE.

The number of participants from the UAE in TC events in recent years increased from about 100 participants in 2010 to more than 700 in 2014. Through the IAEA's TC programme, the UAE receives support for building its human resource capacity. Human resource capacity building is supported through the provision of fellowships and scientific visits, by expert missions and meetings, via special workshops and training courses focusing on the safe, effective and peaceful applications of nuclear technology.

For the past five years, more than 20 national stakeholders are benefitting from the TC programme services to advance their nuclear technology capacities.



Scientific Visits and Fellowships

The UAE Permanent Mission, as a National Liaison Office, supports an increasing number of scientific visits and fellowships of Emiratis in international institutes, as well as an increasing number of trainings provided by UAE institutes to visitors from other Member States. Scientific visits between the national and international institutions, which are TC project counterparts, broaden scientific and managerial qualifications of UAE specialists. Such scientific visits may last up to two weeks.

Furthermore, IAEA training fellowships help to train local personnel to apply nuclear techniques in the national nuclear sector. Selected fellows are sent abroad for comprehensive training in a suitable institution for periods ranging from several months to a few years.

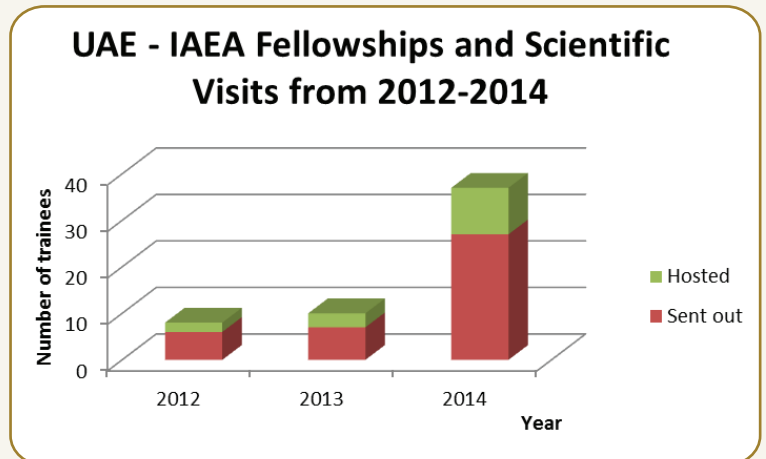


Figure 3. Number of scientific visits and fellowship trainings both hosted and sent out by the UAE in cooperation with regional and international counterparts for the period of 2012–2014

Strong Emiratization Goal

To advance its national needs throughout a wide range of sectors for socioeconomic development, including the domestic nuclear energy programme, the UAE attaches special importance to the national ownership underpinned in concepts such as Emiratization. Towards reaching this goal, the number of Emiratis trained through IAEA activities has been increasing over the years.

In 2014, there were more than 150 Emiratis specially trained through the IAEA Technical Cooperation programme. This highlights the UAE's commitment to building and growing local human capacity for its nuclear power programme and for other relevant sectors.

Regional and Interregional Cooperation

As part of the IAEA TC programme, the UAE participates in 17 active regional and interregional TC projects within the Asia and the Pacific Division addressing common issues through joint activities. The UAE mainly contributes to regional cooperation under the umbrella of the regional cooperation agreement for Arab States in Asia for Research, Development and Training (ARASIA), as well as under the coordination of the Gulf Cooperation Council (GCC).

These projects contribute to the advancement of regional priorities, in addition to providing support to its ongoing national capacity strengthening efforts.

There has been active involvement in more than 10 regional and interregional projects throughout 2014. The pie chart (Figure 4) shows active participation by UAE stakeholders in international TC events through regional groups.

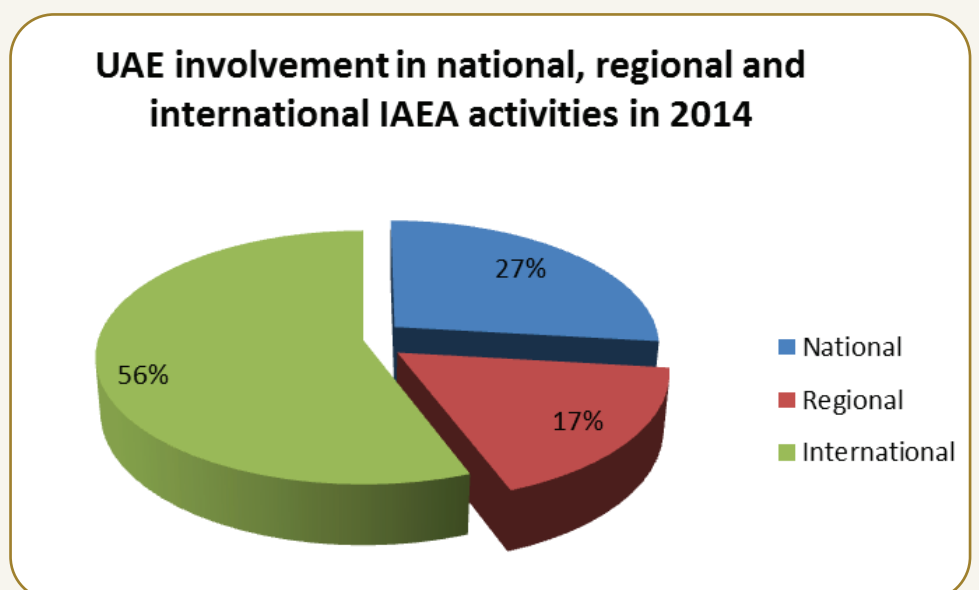


Figure 4. UAE involvement in national, regional and international IAEA activities in 2014



Joint UAE - IAEA Nuclear Energy Management School

The UAE has twice hosted the International Nuclear Energy Management (NEM) School, which brought together nuclear professionals from many GCC countries, among other IAEA Member States. The joint UAE-IAEA NEM School was initiated to provide a unique, international educational experience aimed at building future leadership to manage nuclear energy programmes, to promote and foster knowledge of a wide range of issues related to the peaceful use of nuclear technology. It is set to provide a unique worldwide networking opportunity for future managers in the area of nuclear energy. The UAE-IAEA NEM Schools were hosted by the Khalifa University of Science, Technology and Research in 2012 and 2015 at its campus in Abu Dhabi.



Group photo of NEM School participants with IAEA TC Delegation at the Khalifa University campus in Abu Dhabi, UAE, May 2015

Defining National Framework with IAEA Technical Cooperation

In December 2011, the UAE signed and updated its **Country Profile Framework (CPF)** with the IAEA to define its short and medium-term planning of technical cooperation for the period of 2012-2016.

In August 2012, the UAE submitted to the IAEA its **Country Nuclear Power Profile (CNPP)**, which compiles background information on the status and development of the nuclear power programme in the country, including its organizational, and industrial aspects, as well as the relevant legislative, regulatory and multi-lateral frameworks in the UAE.

In June 2013, the UAE signed an **Integrated Work Plan (IWP)** with the IAEA for the period of 2013-2017, which provides a framework of cooperation through which the IAEA will work with all stakeholders and role-players of the UAE's nuclear power programme for the development of the required infrastructure.



Signing of the UAE Integrated Work Plan with the IAEA TC Department, 5 June 2013, IAEA, headquarters, Vienna

Successful National TC Projects in UAE

With extensive support provided by the National Liaison Office to national stakeholders, the UAE national TC programme is recognised as one of the successful technical cooperation collaborations in the Asia and the Pacific region. The following are highlights of achievements within national TC projects in recent years:

- Establishment of the National X-ray Fluorescence Laboratory (NXFL) in Sharjah to enhance analytical capabilities in the region;
- Improvement of the Dubai healthcare sector through new methodologies on reducing the level of radiation exposure of patients;
- Establishment of the Secondary Standards Dosimetry Laboratory (SSDL), currently under construction - to be completed by the end of 2015. The SSDL will enable the UAE to offer calibration of dosimetries used in radiation therapy and diagnostic radiology in medicine, as well as measurement standards for radiation protection within other sectors of the UAE.



IAEA workshop on CT quality assurance at the American Hospital Dubai, 2013



Activities at the National X-ray Fluorescence Laboratory, 2014



IAEA TC delegation visit to SSDL construction site, Khalifa University campus in Abu Dhabi, 2014