
IAEA Annual Report 2012

Article VI.J of the Agency's Statute requires the Board of Governors to submit "an annual report to the General Conference concerning the affairs of the Agency and any projects approved by the Agency".

This report covers the period 1 January to 31 December 2012.

Contents

<i>Member States of the International Atomic Energy Agency</i>	iv
<i>The Agency at a Glance</i>	v
<i>The Board of Governors</i>	vi
<i>The General Conference</i>	vii
<i>Notes</i>	viii
<i>Abbreviations</i>	ix
Overview	1
Nuclear Technology	
Nuclear Power	19
Nuclear Fuel Cycle and Materials Technologies	24
Capacity Building and Nuclear Knowledge Maintenance	28
for Sustainable Energy Development	
Nuclear Science	32
Food and Agriculture	37
Human Health	41
Water Resources	44
Environment	47
Radioisotope Production and Radiation Technology	50
Nuclear Safety and Security	
Incident and Emergency Preparedness and Response	55
Safety of Nuclear Installations	59
Radiation and Transport Safety	63
Management of Radioactive Waste	66
Nuclear Security	69
Nuclear Verification	
Nuclear Verification	75
Technical Cooperation	
Management of Technical Cooperation for Development	87
Annex	95
Organizational Chart	122

Member States of the International Atomic Energy Agency

(as of 31 December 2012)

AFGHANISTAN	GREECE	OMAN
ALBANIA	GUATEMALA	PAKISTAN
ALGERIA	HAITI	PALAU
ANGOLA	HOLY SEE	PANAMA
ARGENTINA	HONDURAS	PAPUA NEW GUINEA
ARMENIA	HUNGARY	PARAGUAY
AUSTRALIA	ICELAND	PERU
AUSTRIA	INDIA	PHILIPPINES
AZERBAIJAN	INDONESIA	POLAND
BAHRAIN	IRAN, ISLAMIC REPUBLIC OF	PORTUGAL
BANGLADESH	IRAQ	QATAR
BELARUS	IRELAND	REPUBLIC OF MOLDOVA
BELGIUM	ISRAEL	ROMANIA
BELIZE	ITALY	RUSSIAN FEDERATION
BENIN	JAMAICA	RWANDA
BOLIVIA	JAPAN	SAUDI ARABIA
BOSNIA AND HERZEGOVINA	JORDAN	SENEGAL
BOTSWANA	KAZAKHSTAN	SERBIA
BRAZIL	KENYA	SEYCHELLES
BULGARIA	KOREA, REPUBLIC OF	SIERRA LEONE
BURKINA FASO	KUWAIT	SINGAPORE
BURUNDI	KYRGYZSTAN	SLOVAKIA
CAMBODIA	LAO PEOPLE'S DEMOCRATIC REPUBLIC	SLOVENIA
CAMEROON	LATVIA	SOUTH AFRICA
CANADA	LEBANON	SPAIN
CENTRAL AFRICAN REPUBLIC	LESOTHO	SRI LANKA
CHAD	LIBERIA	SUDAN
CHILE	LIBYA	SWEDEN
CHINA	LIECHTENSTEIN	SWITZERLAND
COLOMBIA	LITHUANIA	SYRIAN ARAB REPUBLIC
CONGO	LUXEMBOURG	TAJIKISTAN
COSTA RICA	MADAGASCAR	THAILAND
CÔTE D'IVOIRE	MALAWI	THE FORMER YUGOSLAV REPUBLIC OF MACEDONIA
CROATIA	MALAYSIA	TOGO
CUBA	MALI	TRINIDAD AND TOBAGO
CYPRUS	MALTA	TUNISIA
CZECH REPUBLIC	MARSHALL ISLANDS	TURKEY
DEMOCRATIC REPUBLIC OF THE CONGO	MAURITANIA	UGANDA
DENMARK	MAURITIUS	UKRAINE
DOMINICA	MEXICO	UNITED ARAB EMIRATES
DOMINICAN REPUBLIC	MONACO	UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND
ECUADOR	MONGOLIA	UNITED REPUBLIC OF TANZANIA
EGYPT	MONTENEGRO	UNITED STATES OF AMERICA
EL SALVADOR	MOROCCO	URUGUAY
ERITREA	MOZAMBIQUE	UZBEKISTAN
ESTONIA	MYANMAR	VENEZUELA
ETHIOPIA	NAMIBIA	VIETNAM
FIJI	NEPAL	YEMEN
FINLAND	NETHERLANDS	ZAMBIA
FRANCE	NEW ZEALAND	ZIMBABWE
GABON	NICARAGUA	
GEORGIA	NIGER	
GERMANY	NIGERIA	
GHANA	NORWAY	

The Agency's Statute was approved on 23 October 1956 by the Conference on the Statute of the IAEA held at United Nations Headquarters, New York; it entered into force on 29 July 1957. The Headquarters of the Agency are located in Vienna. The IAEA's principal objective is "to accelerate and enlarge the contribution of atomic energy to peace, health and prosperity throughout the world".

The Agency at a Glance

(as of 31 December 2012)

- 158** Member States.
- 77** intergovernmental and non-governmental organizations worldwide invited to observe the Agency's General Conference.
- 55** years of international service.
- 2474** professional and support staff.
- €327 million** total regular budget for 2012.¹ Extrabudgetary expenditures in 2012 totalled **€82.8 million** (including open purchase orders from previous years).
- €62.3 million** target in 2012 for voluntary contributions to the Agency's Technical Cooperation Fund, supporting projects involving **3250** expert and lecturer assignments, **4880** national experts, meeting participants and other project personnel, **3117** participants in training courses and **1675** fellows and scientific visitors.
 - 2** liaison offices (in New York and Geneva) and **2** safeguards regional offices (in Tokyo and Toronto).
 - 2** international laboratories (Seibersdorf and Monaco) and research centres.
 - 11** multilateral conventions on nuclear safety, security and liability adopted under the Agency's auspices.
 - 4** regional agreements relating to nuclear science and technology.
- 121** Revised Supplementary Agreements governing the provision of technical assistance by the Agency.
- 114** active CRPs involving **1547** approved research, technical and doctoral contracts and research agreements. In addition, **76** Research Coordination Meetings were held.
- 19** national donors and **1** multinational donor (European Union) to the voluntary Nuclear Security Fund.
- 179** States in which safeguards agreements were being implemented^{2,3}, of which **119** States had additional protocols in force, with **1965** safeguards inspections performed in 2012. Safeguards expenditures in 2012 amounted to **€21.2 million** in regular budget and **€25.5 million** in extrabudgetary resources.
- 20** national safeguards support programmes and **1** multinational support programme (European Commission).
- 2.7 million** people read more than **17 million** pages on the Agency's *iaea.org* site, and viewed stories on the Agency's *Facebook* site over **12.7 million** times.
- 3.5 million** records in the International Nuclear Information System, the Agency's largest database.
 - 1 million** documents, technical reports, standards, conference proceedings, journals and books in the IAEA Library and **15 540** visitors to the Library in 2012.
- 211** publications, brochures, leaflets, newsletters and other promotional material issued in 2012 (in print and electronic formats).

¹ At the UN average rate of exchange of \$1.2858 to €1.00. The total budget was € 341.5 million at the \$1.00 to €1.00 rate.

² The 179 States do not include the Democratic People's Republic of Korea, where the Agency did not implement safeguards and, therefore, could not draw any conclusion.

³ And Taiwan, China.

The Board of Governors

The Board of Governors oversees the ongoing operations of the Agency. It comprises 35 Member States and generally meets five times a year, or more frequently if required for specific situations. Among its functions, the Board adopts the Agency's programme for the incoming biennium and makes recommendations on the Agency's budget to the General Conference.

In the area of nuclear technologies, the Board considered the *Nuclear Technology Review 2012*.

In the area of safety and security, the Board kept implementation of the IAEA Action Plan on Nuclear Safety, approved in 2011, under review throughout the year. The Board discussed the *Nuclear Safety Review for the Year 2012* and also debated the *Nuclear Security Report 2012*.

As regards verification, the Board considered the *Safeguards Implementation Report for 2011*. It approved a number of safeguards agreements and additional protocols. The Board kept under its consideration the implementation of the NPT safeguards agreement and relevant provisions of United Nations Security Council resolutions in the Islamic Republic of Iran, and the issues of the implementation of the NPT safeguards agreement in the Syrian Arab Republic and the application of safeguards in the Democratic People's Republic of Korea.

The Board discussed the *Technical Cooperation Report for 2011* and approved the Agency's technical cooperation programme for 2013.

Composition of the Board of Governors (2012–2013)

Chairperson:

HE Mr John BARRETT
Ambassador
Governor from Canada

Vice-Chairpersons:

HE Mr Pál KOVÁCS
Minister of State for Climate Change and Energy
Governor from Hungary

HE Mr Xolisa Mfundiso MABHONGO
Ambassador
Governor from South Africa

Algeria
Argentina
Australia
Belgium
Brazil
Bulgaria
Canada
China
Costa Rica
Cuba
Egypt
France
Germany
Greece
Hungary
India
Indonesia
Italy
Japan

Korea, Republic of
Libya
Mexico
Nigeria
Norway
Pakistan
Poland
Russian Federation
Saudi Arabia
South Africa
Sweden
Thailand
United Kingdom of Great Britain and
Northern Ireland
United Republic of Tanzania
United States of America
Uruguay

The General Conference

The General Conference comprises all Member States of the Agency and meets once a year. It debates the annual report of the Board of Governors and the Agency's activities during the previous year, approves the Agency's financial statements and budget, approves any applications for membership, and elects members to the Board of Governors. It also conducts a wide ranging general debate on the Agency's policies and programmes and passes resolutions directing the priorities of the Agency's work.

In 2012, the Conference — upon the recommendation of the Board — approved Fiji, San Marino and Trinidad and Tobago for membership of the Agency. At the end of 2012, the Agency's membership was 158.

Notes

- The *IAEA Annual Report 2012* aims to summarize only the significant activities of the Agency during the year in question. The main part of the report, starting on page 17, generally follows the programme structure as given in *The Agency's Programme and Budget 2012–2013* (GC(55)/5).
- The introductory chapter, 'Overview', seeks to provide a thematic analysis of the Agency's activities within the context of notable developments during the year. More detailed information can be found in the latest editions of the Agency's *Nuclear Safety Review*, *Nuclear Technology Review*, *Technical Cooperation Report* and the *Safeguards Statement for 2012 and Background to the Safeguards Statement*.
- Additional information covering various aspects of the Agency's programme is available, in electronic form only, on iaea.org, along with the *Annual Report*.
- Except where indicated, all sums of money are expressed in United States dollars.
- The designations employed and the presentation of material in this document do not imply the expression of any opinion whatsoever on the part of the Secretariat concerning the legal status of any country or territory or of its authorities, or concerning the delimitation of its frontiers.
- The mention of names of specific companies or products (whether or not indicated as registered) does not imply any intention to infringe proprietary rights, nor should it be construed as an endorsement or recommendation on the part of the Agency.
- The term 'non-nuclear-weapon State' is used as in the Final Document of the 1968 Conference of Non-Nuclear-Weapon States (United Nations document A/7277) and in the Treaty on the Non-Proliferation of Nuclear Weapons (NPT). The term 'nuclear-weapon State' is as used in the NPT.

Abbreviations

ABACC	Brazilian–Argentine Agency for Accounting and Control of Nuclear Materials
Abdus Salam ICTP	Abdus Salam International Centre for Theoretical Physics
AFRA	African Regional Co-operative Agreement for Research, Development and Training Related to Nuclear Science and Technology
ARCAL	Co-operation Agreement for the Promotion of Nuclear Science and Technology in Latin America and the Caribbean
BWR	Boiling water reactor
CRP	Coordinated research project
EBRD	European Bank for Reconstruction and Development
EC	European Commission
ESTRO	European Society for Radiotherapy and Oncology
Euratom	European Atomic Energy Community
Europol	European Police Office
FAO	Food and Agriculture Organization of the United Nations
FORATOM	European Atomic Forum
GEF	Global Environment Facility
HEU	High enriched uranium
ICAO	International Civil Aviation Organization
ICPO–INTERPOL	International Criminal Police Organization–INTERPOL
ICRP	International Commission on Radiological Protection
ICRU	International Commission on Radiation Units and Measurements
IEA	International Energy Agency (OECD)
ILO	International Labour Organization
INFCIRC	Information Circular (IAEA)
INIS	International Nuclear Information System
INPRO	International Project on Innovative Nuclear Reactors and Fuel Cycles
IOC	Intergovernmental Oceanographic Commission (UNESCO)
IRPA	International Radiation Protection Association
ISO	International Organization for Standardization
LEU	Low enriched uranium

LMFR	Liquid metal fast reactor
LWR	Light water reactor
NATO	North Atlantic Treaty Organization
NPT	Treaty on the Non-Proliferation of Nuclear Weapons
OECD	Organisation for Economic Co-operation and Development
OECD/NEA	OECD Nuclear Energy Agency
OPEC	Organization of the Petroleum Exporting Countries
OSCE	Organization for Security and Co-operation in Europe
PAHO	Pan American Health Organization
PHWR	Pressurized heavy water reactor
PWR	Pressurized water reactor
RBMK	High-power channel-type reactor
RCA	Regional Co-operative Agreement for Research, Development and Training Related to Nuclear Science and Technology
SAL	Safeguards Analytical Laboratory (IAEA)
SQ	Significant quantity
UNDESA	United Nations Department of Economic and Social Affairs
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNICEF	United Nations Children’s Fund
UNIDO	United Nations Industrial Development Organization
UNOPS	United Nations Office for Project Services
UNSC	United Nations Security Council
UNSCEAR	United Nations Scientific Committee on the Effects of Atomic Radiation
WHO	World Health Organization
WMO	World Meteorological Organization
WNA	World Nuclear Association
WWER	Water cooled water moderated energy reactor