



NUCLEAR ENERGY COMMISSION

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COUNTRY REPORT: MONGOLIA

Application of Nuclear Science and Technology for Protection of Environment

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Mongolia at Glance:

Population
3.1 million

Area
1.5 million
km.sq

Temperature
Difference
-40C +40C



National Flag



Inflation
5.1%
(Sep, 2017)

Capital city
Ulaanbaatar

GPD growth
5.3 %
(Sep, 2017)

GDP
\$36.6 billion
(2016)



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International instruments

- Agreement between IAEA and Government of Mongolia on Methods under the Treaty on the Non-proliferation of Nuclear Weapons /its Protocol, 1972/
 - Additional Protocol to Agreement between IAEA and Government of Mongolia on Methods under the Treaty on the Non-proliferation of Nuclear Weapons /2003/
 - Convention on the Physical Protection of Nuclear Material /1985/
 - Convention on Early Notification of a Nuclear Accident /1987/
 - Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency /1987/
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Interests in international instruments

- Amendment to Convention on the Physical Protection of Nuclear Material(CPPNME)
- Revised Small Quantity Protocol
- Convention on Nuclear Safety
- Joint Convention on the Safety of Spent Fuel management and on the Safety of Radioactive Waste Management



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Nuclear legal framework

- National Security Concept of Mongolia /2010/
 - Sustainable Development Concepts-2030 /2016/
 - **State Policy on Exploitation of Radioactive Minerals and Peaceful Uses of Nuclear Energy /2009/**
 - **Nuclear Energy Law /2009/**
 - Law on Nuclear Weapon Free Status (2000)
 - Program for Implementation of the State Policy /2009/
 - Government's Action Plan for 2016-2020
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Nuclear Energy as a clean energy

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Mongolia needs of using nuclear energy:

- to increase the diversity of energy resources,
- to fight climate changes and air pollution





- According to this document following strategic objectives were stated in the field of uses of nuclear energy:
 - Phase 1. (2016-2020): to increase renewable energies to 20% of total energy, **providing preparation work for using nuclear energy.**
 - Phase 2. (2021-2025): to increase renewable energies to 25% of total energy, **complete preparation work for using nuclear energy.**
 - Phase 3. (2025-2030) to increase renewable energies to 30% of total energy, **start using nuclear energy.**



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Uranium activities

- As of today, 22 exploration and 9 mining licenses are registered among 11 entities at Mineral Resource Petroleum Authority of Mongolia (MRPAM).
- According to the statistics of MRPAM in the first quarter of 2017 (MRPAM, 2017), uranium geological resources are assessed at 151,139 tU in twelve deposit areas;
- Areva Mines and Gurvansaikhan LLCs signed Deposit Development Agreement with MRPAM respectively and are preparing to launch Pilot tests next year.





Updated and New regulations:

- Basic Regulation on Radiation Protection and Safety (2016)
 - Radiation Safety Standard (2015)
 - Regulation on Security of Radiation Sources (2015)
 - Radiation Safety Regulation on Exploration of Radioactive Mineral (2015)
 - Regulation on Management of Radioactive Waste from Mining and Milling of Ores (2015)
 - Regulation on Internal Control of Licensee (2015)
 - Technical Regulation for Acid in-situ leach Uranium Mining (2015)
 - Mongolian Integrated Nuclear Security Support Plan (2015)
 - Drafted radiation safety regulation for uranium mining and milling
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Potential Nuclear Technologies for Environmental Protection in Mongolia

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- Nuclear energy has lowest impact on the environment comparing with other energy sources;
- Beam accelerators against carbon emissions from the thermal power plants and waste water treatment;
- Radioactive sources to fight soil erosion and determine heavy metals and pollutants in the environment and;
- Isotopic hydrology for water management and;
- Expand R&D in nuclear basic and applied studies including technology applications and radiation safety mostly fighting environmental pollutions in urban areas and monitoring in uranium mining and milling operations.



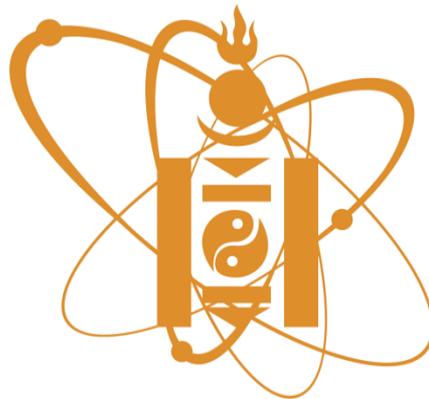
Summary

- Mongolia is working to strengthen and develop its legal and regulatory frameworks for protection of human health and environment against negative impacts of ionizing radiation;
 - New regulations and guidance are based on the IAEA BSS and EU guidance;
 - Planning to join a number of international conventions related with nuclear safety and safeguard;
 - Paying high attention to the human resources development as well as safety culture and quality assurance
 - Aiming to expand R&D in nuclear basic and applied studies including technology applications and radiation safety and;
 - Mongolia has interests in nuclear applications related with the environmental protection including nuclear power as a clean energy source.
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THANK YOU FOR YOUR ATTENTION



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