COUNTRY FACT SHEET

BRAZIL

- One operating uranium mine
- Potential for mining uranium-bearing phosphates
- All of mined uranium is used domestically, after being shipped abroad where the material is converted and mostly enriched and then returned to Brazil for further processing
- Two operating nuclear reactors, providing 3% of Brazil’s electricity. A third reactor is under construction
- Brazil’s constitution gives exclusive rights for uranium exploration, mining, milling, conversion, enrichment, reprocessing and trade to the federal government

<table>
<thead>
<tr>
<th>Convention</th>
<th>Year signed / entered into force</th>
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<tr>
<td>Nuclear Non-proliferation Treaty (NPT)</td>
<td>--/1998</td>
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<td>Convention on the Physical Protection of Nuclear Material (CPPNM) and 2005 Amendment</td>
<td>1981 / 1987</td>
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<td>Convention on Assistance in Case of a Nuclear Accident or Radiological Emergency</td>
<td>1986 / 1991</td>
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Legislation

Articles 21 and 177 of Brazil's Federal Constitution (1988) give exclusive rights to federal government for electric power generation; nuclear fuel cycle; regulating, licensing and controlling nuclear safety, environmental protection and nuclear trade. All activities are to be undertaken solely for civilian purposes, subject to approval by Brazil's national congress. One of the most important changes to come with the Federal Constitution was the introduction of the Brazilian Environmental Protection Agency (IBAMA) in 1989.

Federal Laws

Law No. 6,189: CNEN's Set-up as Regulatory and Licensing Federal Authority, 1974.
Law No. 7,781: Revision of Law No. 6,189, 1989.
Law No. 9,765: Licensing, control and inspection tax for nuclear and radioactive materials and utilities, 1999

CNEN main national standards

CNEN-NE.2.01: Physical Protection of Operational Units of Nuclear Installations, 1996.
CNEN-NN.2.02: Nuclear Material Control and Safeguards, 1999.
CNEN-NE.3.02: Radiation Protection Services, 1988
CNEN-NE.5.02: Transport Storage and Handling of Nuclear Fuels, 2003

Actors

The Brazilian nuclear regulatory body is the National Nuclear Energy Commission (Comissao nacional de Energia nuclear, CNEN), responsible for licensing nuclear power plants and nuclear facilities; performing regulatory activities; and training and organizing personnel, according to the Law 4,118 of 1962.

In 1988, a new company, Indústrias Nucleares do Brasil SA (INB) replaced NUCLEBRAS and its subsidiaries, with limited authority. INB became responsible for rare earth's, mining of nuclear minerals and yellow cake and nuclear fuel production. INB is a subsidiary of the National Nuclear Energy Commission (CNEN) but reports directly to the Ministry of Science and Technology and is administered independent from CNEN.
In 1989, the Brazilian Institute of Environment (IBAMA) was created and designated to conduct the environmental licensing of all installations, including nuclear facilities. CNEN is the co-authority on radiation aspects related to environmental licensing of nuclear facilities. This co-authority role means that a CNEN assessment and review has to be considered in the final decision by IBAMA. These organisations elaborate regulations according to its attributions and fields of competence and follow their implementation.

Ministry of Science and Technology (Ministério da Ciência, Tecnologia e Inovação) administers the Indústrias Nucleares do Brasil (INB).

Brazilian-Argentine Agency for Accounting and Control of Nuclear Materials (ABACC) is a binational agency created by the governments of Brazil and Argentina, responsible for verifying the peaceful use of nuclear materials.

Support Centre for Safety and Radiation Protection (Centro de Apoio à Segurança Física Nuclear e Radiológica – CENASF) responsible for promoting training, institutional collaboration and security culture at installations with nuclear or radioactive material, including during transportation.

Operating Mines

Caetité's uranium facilities - URA

URA is an open-pit mine and with a co-located physical and chemical processing plant. It is owned by Indústrias Nucleares do Brasil (INB) and is located in the Municipality of Caetité. The projected processing capacity is 180,000 tonne/year of mine ore with an average content of 0.29% of U3O8 to produce approximately 400 tonne/year of U3O8 as Ammonium Diuranate – ADU. Feasibility studies for Caetité Unit expansion have been carried out. The expansion will increase annual production capacity and doubling current production levels. The cost of expansion is estimated to be US$ 3.5 million. It is not clear when or if the expansion will be approved.

All of the uranium mined at Caetité is shipped to France where the material is converted and mostly enriched and then returned to Brazil for further processing to feed Brazil’s two operating nuclear power plants.

Google map link

Potential Mines

Santa Quitéria or Itataia phosphate-uranium deposit is located approximately 45km south-east of the town of Santa Quitéria and approximately 170km southwest of Fortaleza in the state of Ceará. It is the largest discovered uranium reserve in Brazil (estimated 142,200 tonnes of uranium at approx 1000ppm) intermixed with phosphates (production capacity approx. 240,000t/year of phosphates). If approved, uranium production from Itataia would exceed Brazil's uranium needs and therefore would require a shift in policy which currently does not allow Brazilian uranium for export.

GOOGLE MAP LINK