Japan Oil, Gas and Metals National Corporation (JOGMEC) has been established on February 29, 2004, integrating Metal Mining Agency of Japan (MMAJ) and Japan National Oil Cooperation (JNOC), with the mission to ensure a stable supply of energy and nonferrous metals for Japan.

<table>
<thead>
<tr>
<th>Year</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>1963</td>
<td>Establishment of the Metallic Exploration Financing Agency of Japan</td>
</tr>
<tr>
<td>1967</td>
<td>Establishment of Japan Petroleum Development Corporation (JPDC)</td>
</tr>
<tr>
<td>1964</td>
<td>Geological survey and Exploration activities started and the name changed to the Metallic Minerals Exploration Agency of Japan.</td>
</tr>
<tr>
<td>1972</td>
<td>To improve the technology for exploration and production of oil and gas, Technology Research Center (TRC) was established in JPDC.</td>
</tr>
<tr>
<td>1973</td>
<td>Mine pollution control activities started and the name changed to the Metal Mining Agency of Japan.</td>
</tr>
<tr>
<td>1978</td>
<td>The national stockpiling program begun and the name changed to Japan National Oil Corporation (JNOC)</td>
</tr>
<tr>
<td>1983</td>
<td>National Stockpiling of rare metals started.</td>
</tr>
</tbody>
</table>

2004 | Establishment of JOGMEC
1. Support for Exploration and Development
   (1) Information collection, analysis, and dissemination
   (2) Geological Surveys
   (3) Finance, investment and loan guarantees

2. Support for mine pollution control

3. Research and Development

4. National Stockpiling of Rare Metals
History of Mineral Exploration Activities in Mongolia

- High Potential of mineral resources in Mongolia

- JICA/JOGMEC (MMAJ) launched Technical Cooperation Program for Mineral Resources Development in 1991, and 6 projects has been carried out continuously until 2003 by Japanese ODA budget.

- Joint Basic Exploration Scheme (JBES) started from 2003 by Japanese ODA budget.

1. METI (Government of Japan)
   - ODA Budget

2. JICA
3. JOGMEC (MMAJ)

4. Agreement of the Technical Cooperation (Scope of Work)
   - Exploration Works
   - Technology Transfer

5. Government of the Recipient Country

6. Results
Location Map of the Technical Cooperation Programs in Mongolia

- **Uul (1992-95)**
- **Central North (1999-2000)**
- **Tsagaan Tsakhir Uul (1996-97)**
- **Altan-Tal (1994-95)**
- **Erdenet Mine**
- **Ulaanbaatar**
- **Western Erdenet (2001-03)**
- **Tsav (1992-95)**
6 alteration zones were delineated by satellite image analysis. Within 4 zones, gold mineralization was confirmed by groundtruth.

### Brief Summary of the results of the Technical Cooperation Programs (1 / 2)

<table>
<thead>
<tr>
<th>Areas</th>
<th>Target Minerals</th>
<th>Survey method</th>
<th>Brief Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uudam Tal</td>
<td>Pb, Zn, Au</td>
<td>-Existing data analysis</td>
<td>Existing data analysis and reconnaissance geological survey indicated potential of polymetallic and gold mineralization in several districts.</td>
</tr>
<tr>
<td>(500,000km²)</td>
<td></td>
<td>-Geological survey</td>
<td></td>
</tr>
<tr>
<td>(1991-1993)</td>
<td></td>
<td>-Geophysical survey</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>-Drilling</td>
<td></td>
</tr>
<tr>
<td>Tsav (Mine Site)</td>
<td>Pb, Zn, Ag</td>
<td>-Existing data analysis</td>
<td>Geologic reserve of 1,540,000 ton ( Au 1.5g/t, Ag 263g/t, Pb 6.84%, Zn 4.01%, Cu 0.23%) was confirmed.</td>
</tr>
<tr>
<td>(1992-1995)</td>
<td></td>
<td>-Tunneling</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>-Ore-separation test</td>
<td></td>
</tr>
<tr>
<td>Altan-Tal</td>
<td>Au, Cu, Pb, Zn</td>
<td>-Existing data analysis</td>
<td>96 alteration zones were delineated by satellite image analysis. Within 4 zones, gold mineralization was confirmed by groundtruth.</td>
</tr>
<tr>
<td>(345,000km²)</td>
<td></td>
<td>-Satellite Image analysis</td>
<td></td>
</tr>
<tr>
<td>(1994-1995)</td>
<td></td>
<td>-Groundtruth</td>
<td></td>
</tr>
</tbody>
</table>
Air-borne geophysical survey, geological and geochemical survey, and drilling survey indicated the potential of porphyry type mineralization in the Zuukhiin gol district.

Surface alteration indicated possible high-sulfidation gold mineralization and porphyry type mineralization around Western Erdenet district.

Some drills intersected gold-bearing veins. However gold mineralization was small-scale and judged to be uneconomic.

<table>
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<th>Areas</th>
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<th>Brief Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tsagaan Tsakhir Uul</td>
<td>Au, Cu, Pb, Zn, W</td>
<td>-Geological survey</td>
<td>Some drills intersected gold-bearing veins. However gold mineralization was</td>
</tr>
<tr>
<td>(43km²) (1996-1997)</td>
<td></td>
<td>-Geophysical survey</td>
<td>small-scale and judged to be uneconomic.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>-Drilling</td>
<td></td>
</tr>
<tr>
<td>Central North</td>
<td>Cu, Mo, Au</td>
<td>-Existing data analysis</td>
<td>Surface alteration indicated possible high-sulfidation gold mineralization</td>
</tr>
<tr>
<td>(200,000km²) (1999-2000)</td>
<td></td>
<td>-Satellite Image analysis</td>
<td>and porphyry type mineralization around Western Erdenet district.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>-Groundtruth</td>
<td></td>
</tr>
<tr>
<td>Western Erdenet</td>
<td>Cu, Mo, Au</td>
<td>-Geophysical survey</td>
<td>Air-borne geophysical survey, geophysical Survey (IP), geological and</td>
</tr>
<tr>
<td>(5,500km²) (2001-2003)</td>
<td></td>
<td>-Geological and geochemical</td>
<td>geochemical survey, and drilling survey indicated the potential of porphyry</td>
</tr>
<tr>
<td></td>
<td></td>
<td>survey</td>
<td>type mineralization in the Zuukhiin gol district.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>-Drilling</td>
<td></td>
</tr>
</tbody>
</table>
Joint Basic Exploration Scheme (JBES: 2003~)

- **Exploration**
- **JOGMEC Operator**
- **Exploration Expenditure**
- **Acquiring Option of Equity**
- **METI Consignment**
- **Partner Providing Property**
  - (opportunity to exploration)
  - Receiving exploration results
- **JV Agreement**
  - Unincorporated JV
  - Transfer (if exploration results are positive and a Japanese company wishes a further exploration.)
- **Japanese Company**
- **ODA Budget**
- **Additional and Detailed Exploration**

*Japan Oil, Gas and Metals National Corporation*
1. Joint Basic Exploration Scheme (JBES) was implemented as a new mineral exploration program in 2003.

2. JOGMEC conducts the JBES under a consignment contract with the Ministry of Economy, Trade and Industry (METI).

3. Two Primary Objectives of the JBES
   - accelerating mineral production and resultant economic growth in developing countries, and
   - contributing to a stable supply of mineral resources to Japan.

4. Major Target
   Currently primary interest is placed on Copper projects especially in Asia and Latin America.
5. JV Partner
   Governmental organizations or private companies which hold mineral properties in developing countries.

6. JV Agreement
   - Ordinary joint venture exploration agreement (Farm-in agreement), i.e. JOGMEC acquires an option of equity interest of the Property expending exploration fee.
   - An option acquired by JOGMEC will be transferred to a Japanese company with the first priority, if exploration results are positive and a Japanese company wishes a further exploration.

7. Budget
   A typical annual project budget between US$100,000 to $1 million is envisaged, however this will be flexible depending on the project. Typical period will be 1 to 5 years.
Location map of the JBES projects in Mongolia

Erdenet Mine (Cu, Mo)
Zuukhin gol
Ulaanbaatar
Ondorkhaan

China
Russia

Japan Oil, Gas and Metals National Corporation
   - Partner
     Mongolian Ministry and company
   - Target mineral: Cu
   - Area: 850km²
   - Survey method
     Drilling Survey

2. Ondorkhaan project (2003~)
   - JV partner
     Mongolian company
   - Target mineral: Cu
   - Area: 45,000km²
   - Survey method
     Geological survey, Geophysical survey (IP), Drilling survey
Future perspective

- Encouraging results from the JBES projects.

- JOGMEC’s portion of the project will be transferred to (a) Japanese company(ies) for a further exploration and a mine development, if exploration results are positive and a Japanese company wishes to invest.

- Newly developed Mine in Mongolia will contribute to the Mongolian economy.

- Products will be exported to overseas.