Chubu Electric Power Co., Inc.
Joetsu Thermal Power Plant Construction Office
Takaaki Kato

Supply area and Frequency

the Japan Sea

Joetsu Thermal P/S

the Pacific Ocean
Outline of Joetsu P/S

1-1,1-2,2-1,2-2 (2Groups, 4Blocks)

Total output: 2,380 MW (1,190 MW/Group, 2Groups)

System: Multi-Shaft Type Combined Cycle
(Composed of 2 Gas Turbines, 2 HRSGs and 1 Steam Turbine)

Fuel: LNG (180,000 kL × 3 Tanks)

Fuel consumption: 2,000,000 t/year (approximately)

CO₂ reduction effect: 1,600,000 t/year (approximately)

Multi-Shaft type Combined Cycle system
Composed of 2 Gas Turbines, 2 HRSGs and 1 Steam Turbine
### Schedule of the Joetsu project

<table>
<thead>
<tr>
<th>Year</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-1Block</td>
<td>▼ ☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>▼ July 40</td>
</tr>
<tr>
<td>1-2Block</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>▼ July</td>
</tr>
<tr>
<td>2-1Block</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>2-2Block</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>▼ May</td>
</tr>
<tr>
<td>LNG Equipment</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Tank1</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>▼ First LNG ship arrival Dec.-11</td>
</tr>
<tr>
<td>Tank2</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>▼ LNG Tank cool down April-21</td>
</tr>
<tr>
<td>Tank3</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>▼ July</td>
</tr>
</tbody>
</table>

---

### Gas Turbine / Steam Turbine / HRSG

- **Gas Turbine**
- **Steam Turbine**
- **Heat Recovery Steam Generator (HRSG)**
**LNG Transportation**

- **Sakhalin ~ JoetsuP/S**
  - 1,500 km
  - 3 days

- **LNG Ship**

**2011**

- LNG 13,123 × 10^3 t

**Regions**

- Qatar
- Russia
- Indonesia
- Australia
- Africa
- Malaysia
- Yemen
- Peru
- Other
LNG imports (Chubu Electric Power Co., Inc.)

LNG consumption

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>LNG consumption (× 10^3 t)</td>
<td>170</td>
<td>460</td>
<td>1,300</td>
<td>1,880</td>
<td>1,880</td>
<td>1,880</td>
</tr>
</tbody>
</table>

The Fifth Japan–Russia Energy and Environment Dialogue in Niigata

©ERINA
Natural Gas supply by tank truck

Natural Gas supply by pipeline or tank truck for industry (Chubu Electric Power Co., Inc.)

Sales of natural gas as LNG (×10³ t)

by pipeline

by tank truck