Alstom converts Unit 2 of the first IPP plant to supply electricity to the Indonesian Owned Electricity Company in South Sulawesi

### PROJECT HIGHLIGHTS

- Providing GRT steam turbines to convert Unit 2 to combined-cycle operation
- Increasing power without expanding fuel usage by improving the fuel-efficiency of the plant

### CUSTOMER PROFILE

Energy World Corporation Limited (EWC) is an independent, integrated energy company based in Hong Kong and listed in Australia and the US. It is primarily engaged in the production and sale of power and natural gas and has primarily gas and power operations located at Sengkang, South Sulawesi in Indonesia, and also produces gas, power and LNG in Australia. In power generation, it owns 95% of the gas-fired power plant in Sengkang. The other 5% of the plant is owned by an Indonesian company, as required by law.

### CASE STUDY: INDUSTRIAL STEAM TURBINES

**Sengkang**

**Indonesia**

**Country:** Indonesia  
**Project:** Sengkang Unit 2 combined cycle conversion  
**Customer:** Energy World Corporation Limited (through PT Energi Sengkang Indonesia)  
**Scope:** GRT steam turbine, TOPACK generator, condenser  
**Electrical output:** 65 MW  
**Commercial operation:** 2013 (combined cycle)

The Sengkang Power Plant is located close to the village of Patila in the region of Wajo, South Sulawesi. The facility, which has two generating units, utilises natural gas produced from the nearby Kampung Baru Gas Field. In 2011 Alstom supplied a steam turbine to convert Unit 2 of the plant to combined cycle operation.

Under an extended scope of supply contract, Alstom delivered the steam turbine, generator, gearbox, auxiliaries and control system, as well as the condenser and condensate pumps.

The GRT steam turbine uses the heat recovered as steam from the existing gas turbines to produce an additional 65 MW of power.

Alstom’s ability to offer a short delivery time was a key factor in the contract award, as it allowed the customer to begin saving fuel as soon as possible. This has both economic and environmental benefits. A combination of a competitive offer, high turbine efficiency and a proven track record in Indonesia were also key differentiators.

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ENVIRONMENTAL BENEFITS
The availability of a clean, efficient and reliable source of electricity generation at Sengkang supports economic development and industrial growth in the region and in South Sulawesi.

ALSTOM’S SOLUTION
The addition of a steam turbine to convert Sengkang Unit 2 to a combined cycle plant has increased the efficiency of the installation significantly. Having a more fuel-efficient plant increases power without increasing fuel usage, thus improving the environmental footprint.

TECHNICAL SPECIFICATIONS
<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rated Power Output</td>
<td>65 MW</td>
</tr>
<tr>
<td>Fuel</td>
<td>Gas (CCPP)</td>
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<tr>
<td>Steam Turbine</td>
<td>GRT</td>
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<tr>
<td>Configuration</td>
<td>Condensing</td>
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<tr>
<td>Live-Steam</td>
<td>60 bar / 530°C</td>
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<tr>
<td>Pressure in the deaerator</td>
<td>0.2 bar</td>
</tr>
</tbody>
</table>

WHY CHOOSE ALSTOM?
• Supplier of over 20% of the world’s installed steam turbine capacity
• More than 100 years of rich and diverse experience
• Presence in more than 100 countries
• Solutions adapted to any type of fuel or industry
• Over 1,000 small steam turbines delivered (< 100 MW) totaling 17 GW

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