### PROJECT HIGHLIGHTS

- Provides 16 MW of baseload renewable energy
- Enough energy to power 25,000 homes
- Fuel is comprised up to 30% of local wood biomass

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The Evermore combined heat and power (CHP) power plant, owned by Evermore Renewable Energy, is being built on a Londonderry Port and Harbour Commissioners site at Lisahally in Northern Ireland. The biomass project, which is expected to cost £81 million, is being part-funded by the UK Government’s Green Investment Bank. Power NI will purchase all of the electricity from the 16 MWe plant on a long-term contract – the equivalent of enough energy to power 25,000 homes and businesses in the area.

Under an equipment supply contract awarded by Burmeister & Wain Scandinavian Contractor (BWSC) A/S in October 2013, Alstom has equipped the power station with a 18 MW Geared Reaction steam turbine (GRT) that has been designed and manufactured in the UK, Hungary and Poland.

The GRT’s performance and efficiency were the main criteria in the contract award. With its knowledge of turbine and power plant design, Alstom was able to work with BWSC to optimise and improve overall plant efficiency.

To support the end customer’s operational time constraints the turbine was pre-assembled in the factory before shipment, with the gearbox and instrumentation mounted on a skid. This requires a simple foundation to which it is easy to mount the steam turbine generator package, thus saving money on installation and commissioning times.

### CUSTOMER PROFILE

BWSC is a global turnkey developer, contractor and operator of tailored medium to large-scale power plants – both conventional fossil-fuelled power plants as well as selected renewable and waste-to-energy technologies. They will also operate and maintain for Evermore Renewable Energy.
ENVIRONMENTAL BENEFITS
The Evermore biomass project will increase the renewable energy capacity in Northern Ireland by around 10%. It plays a key role in reducing the amount of wood being sent to landfill by 110,000 tonnes per annum, which equates to around 2 million tonnes over the plant’s 20-year lifetime. It will also save around 3.7 million tonnes of greenhouse gas emissions – the equivalent of taking 77,000 cars off the road.

ALSTOM’S SOLUTION
The modular design of this GRT allowed Alstom to secure its first biomass reference in the United Kingdom. Alstom worked with the customer to design the turbine with a low back-pressure for this particular application in order to achieve a high overall cycle efficiency.

TECHNICAL SPECIFICATIONS
<table>
<thead>
<tr>
<th>Rated Power Output</th>
<th>18 MW</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fuel</td>
<td>Biomass (wood)</td>
</tr>
<tr>
<td>Steam Turbine</td>
<td>GRT</td>
</tr>
<tr>
<td>Configuration</td>
<td>Condensing</td>
</tr>
<tr>
<td>Live-Steam</td>
<td>83 bar / 482°C</td>
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<tr>
<td>Exhaust Pressure</td>
<td>0.048 Bar</td>
</tr>
<tr>
<td>Cycle Efficiency (gross)</td>
<td>36.91%</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