SG 2.2-122
Greater capacity factor in low-wind sites
One of the key aspects to Siemens Gamesa’s success is the continuous development of new and advanced products adapted to the business case of every customer. We strive to provide the best technological solutions for each project, while driving down the LCoE.

For this reason, we offer an optimized, streamlined catalog of proven solutions adapted to every type of site and condition, backed by:

- Our reputation as a trusted and stable partner (99 GW installed worldwide).
- A proven track record spanning 40 years that makes Siemens Gamesa a benchmark for wind projects.
- The recognition of the wind power sector.
One of the greatest capacity factors in low-wind sites

The SG 2.2-122 wind turbine is one of the latest additions to the Siemens Gamesa 2.X product platform, a benchmark in the wind power sector thanks to its excellent capacity factor and high profitability. Specifically optimized for low-wind low-turbulence conditions, this model seeks competitive positioning in markets with locations of this type, such as China and India.

Boasting a 122-meter rotor combined with a 2.2 MW generator, this new turbine will address our customers' needs at Class S sites thanks to its extremely low power density and reduced Levelized Cost of Energy.

Proven Siemens Gamesa technology

The knowledge acquired through our latest products, specifically in the optimization of design, prototyping, validation and industrialization processes, has been a key factor in the development of the SG 2.2-122 wind turbine.

SG 2.2-122 has a 60-meter blade. This is a new development from the 56-meter variant extensively validated in Siemens Gamesa projects involving wind turbines with a 114-meter rotor, through which we have achieved maximum production combined with reduced noise emission levels. In addition, the electrical system that it incorporates is also common to all other solutions with 2.1 MW of nominal power.

Versatility and extensive experience

With over 8% increase in energy production compared to the SG 2.1-114 model, the SG 2.2-122 turbine completes the Siemens Gamesa range in the 2 to 3 MW segment for low-wind sites.

Endorsed by its reliability, with an average fleet availability greater than 98%, and by its extensive experience, Siemens Gamesa 2.X stands out for its versatility and maximum performance at all locations and in all wind conditions. Its range of rotors and tower heights (63-153 meters) combined with different environmental options creates an excellent proposal for harvesting maximum energy from the wind with the greatest efficiency.

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Technical specifications

<table>
<thead>
<tr>
<th>General details</th>
<th></th>
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<tbody>
<tr>
<td>Rated power</td>
<td>2.2 MW</td>
</tr>
<tr>
<td>Wind class</td>
<td>IEC III/S</td>
</tr>
<tr>
<td>Control</td>
<td>Pitch and variable speed</td>
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<tr>
<td>Standard operating temperature</td>
<td>Range from 0ºC to 40ºC (1)</td>
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</table>

<table>
<thead>
<tr>
<th>Rotor</th>
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<tbody>
<tr>
<td>Diameter</td>
<td>122 m</td>
</tr>
<tr>
<td>Swept area</td>
<td>11,690 m²</td>
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<tr>
<td>Power density</td>
<td>188.19 W/m²</td>
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<table>
<thead>
<tr>
<th>Blades</th>
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<tbody>
<tr>
<td>Length</td>
<td>60 m</td>
</tr>
<tr>
<td>Airfoils</td>
<td>Siemens Gamesa</td>
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<tr>
<td>Material</td>
<td>Fiberglass reinforced with epoxy or polyester resin</td>
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<table>
<thead>
<tr>
<th>Tower</th>
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</thead>
<tbody>
<tr>
<td>Type</td>
<td>Multiple technologies available</td>
</tr>
<tr>
<td>Height</td>
<td>108, 127 m and site-specific</td>
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</table>

<table>
<thead>
<tr>
<th>Gearbox</th>
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<tbody>
<tr>
<td>Type</td>
<td>3 stages</td>
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<table>
<thead>
<tr>
<th>Generator</th>
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<tbody>
<tr>
<td>Type</td>
<td>Doubly-fed induction machine</td>
</tr>
<tr>
<td>Voltage</td>
<td>690 V AC</td>
</tr>
<tr>
<td>Frequency</td>
<td>50 Hz/60 Hz</td>
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<td>Protection class</td>
<td>IP 54</td>
</tr>
<tr>
<td>Power factor</td>
<td>0.95 CAP-0.95 IND throughout the power range (2)</td>
</tr>
</tbody>
</table>

(1) Different versions and optional kits are available to adapt machinery to high or low temperatures and saline or dusty environments.
(2) Power factor at generator output terminals, on low voltage side before transformer input terminals.
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