

SG 3.4-145
Delivering India's positive energy



Next-generation turbine for the Indian market

SG 3.4-145: a wind turbine designed for the Indian winds and optimised to deliver enhanced performance with the highest levels of reliability

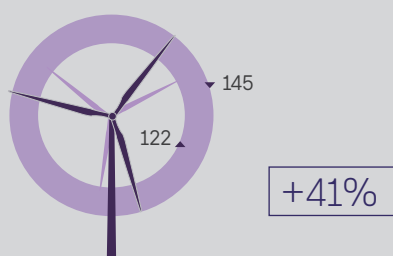
Siemens
Gamesa, your
technology
partner

Siemens Gamesa, committed to the energy transition and sustainable performance, drives the development and continuous improvement of advanced products specifically designed to meet the needs of every customer. Our mission is to offer cutting-edge technological solutions that optimize the LCoE, ensuring sustainable returns throughout the entire lifecycle of the project.

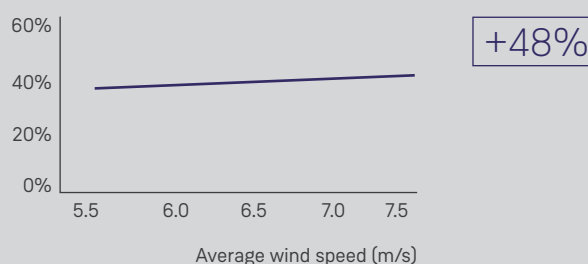
For this reason, we offer a catalog of solutions adapted to every type of site and condition, backed by:

- Our reputation as a stable partner (nearly 146 GW installed and over 91 GW maintained all over the world).
- A track record spanning more than 40 years.
- The recognition of the wind power sector.

Swept Area Increase



AEP Increase SG 3.4-145 vs. SG 2.2-122



Delivering India's positive energy

Envisioning a sustainable future and energy independence for the country, India has changed the course of its wind industry. It has created a proactive-policy environment as well as a competitive market with a clear need for products that can deliver better generation and higher profitability during low winds. The SG 3.4-145 wind turbine is designed to achieve the long-term wind energy targets of the country and complies with the expectations of the wind energy investors.

The SG 3.4-145 is optimised for Indian wind conditions with a clear objective to deliver the lowest Levelised Cost of Energy (LCoE), and a great opportunity to accelerate wind-powered growth for the country. In other words, it is indeed delivering India's positive energy.

The next-generation product for Indian winds

The SG 3.4-145 wind turbine is based on the SG 3.4-132, with several GWs installed worldwide. Thanks to the operative experience accumulated over 40 years in the wind energy market, and the application of thoroughly tested and validated technologies, this Class S/III solution ensures high performance and reliability.

The SG 3.4-145 turbine delivers a nominal power of 3.465 MW and can operate up to 3.6 MW under specific site conditions. With an increased rotor swept area of 41%, which delivers 48% more AEP than the previous SG 2.2-122, the SG 3.4-145 is one of the most efficient and cost-effective solutions in the market. With a portfolio of towers of 127.5, 133.5 and 146 m this model enables to harness the available wind potential at every site.

Based on proven technology

With a 71m fiberglass blade, optimised for low-wind sites along with thoroughly tested and validated airfoils, the SG 3.4-145 model guarantees both high-energy production and low-noise emission levels. Siemens Gamesa incorporates a combination of a three-stage gearbox (two planetary stages and one parallel) and a doubly-fed induction generator. The

high-performance passive cooler outside the nacelle and the cabinets' improved ventilation ensures efficient thermal conditioning and performance at high-temperature sites.

Technical specifications



General details

Rated power	3.465 MW
IEC class	III/S
Flexible power rating	3.6 MW
Control	Pitch and variable speed
Standard operating temperature	Range from 0°C to 45°C (with de-rating)
Technology	Geared + DFIG

Rotor

Diameter	145m
Swept area	16,513 m ²
Power density	209.8 W/m ²

Blades

Length	71m
Airfoils	Siemens Gamesa
Material	Fiberglass reinforced with epoxy resin

Tower

Type	Multiple technologies available
Height	127.5 m, 133.5 m, 146 m and site specific

Gearbox

Type	3 stages
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Generator

Type	Doubly-fed induction machine
Voltage	690 V AC
Frequency	50 Hz
Protection class	IP 54
Power factor	0.95 CAP-0.95 IND throughout the power range ⁽¹⁾

⁽¹⁾ Power factor at generator-output terminals, on low voltage side before transformer input terminals.

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