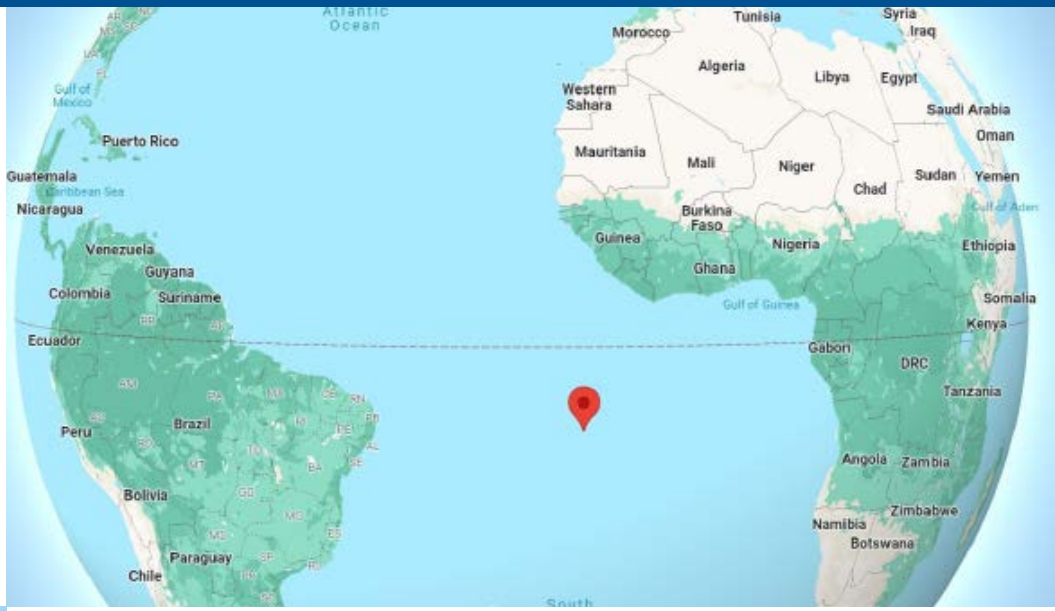
EWT
Direct Drive Wind Turbines

CASE STUDY
POWERING ASCENSION ISLAND

EWT's 900kW Wind Turbine with Battery Energy System for the US Space Force



NEED FOR A RELIABLE SUSTAINABLE AND SECURE ENERGY SOURCE

Ascension Island, a remote location in the Atlantic Ocean, hosts a US Space Force base critical for national security. The need for a reliable, sustainable, and secure energy source led to the installation of an EWT 900kW DW54 wind turbine combined with a 1 MW battery energy system, with the project led by Jade Creek Construction, a subsidiary of Akima in partnership with Selah Group. This initiative aimed to bolster energy security, reduce carbon emissions, and power mission-critical operations on the island.

CONSTRUCTION PARTNERS

SELAH Group

JADE CREEK

Ascension Island faced significant challenges concerning energy resilience and environmental impact. Reliance on traditional fossil fuel-based generators not only posed logistical challenges due to the island's remote location but also raised concerns about carbon emissions and long-term sustainability. The mission-critical operations of the US Space Force required a continuous, reliable, and secure power supply.

INSTALLATION THE WIND TURBINE

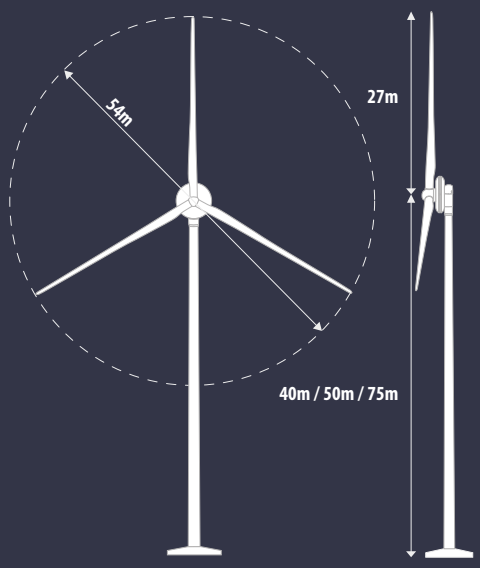
To address these challenges, an EWT 1 MW DW54 wind turbine was installed, harnessing the island's consistent wind patterns. This turbine, known for its robust and efficient design, integrated seamlessly into the island's landscape. Paired with a 1 MW battery energy system, excess energy generated by the turbine is stored, providing a continuous power supply even during periods of low wind.

A RELIABLE AND SUSTAINABLE POWER SOURCE

The integration of the wind turbine and battery energy system significantly transformed the energy landscape of Ascension Island. The US Space Force base now has a reliable and sustainable power source, reducing dependence on traditional fossil fuels. This initiative has resulted in a substantial reduction in carbon emissions, contributing to the island's environmental sustainability goals.
Moreover, the system's reliability has ensured continuous power supply, critical for the Space Force's operations. It has enhanced energy security, mitigating the risks associated with the logistical challenges of transporting fuel to the remote island.

The success of the EWT 1 MW DW54 wind turbine combined with a battery energy system on Ascension Island serves as a blueprint for similar initiatives in remote and critical facilities worldwide. The adaptability and efficiency of this renewable energy solution demonstrate the feasibility of sustainable power generation, offering an innovative approach to energy security and environmental sustainability.

The collaborative effort to implement the EWT 1 MW DW54 wind turbine and battery energy system on Ascension Island stands as a testament to the US Space Force's commitment to sustainable, secure, and reliable energy solutions. This initiative not only powers a critical mission but also paves the way for a cleaner, more resilient future in remote and sensitive locations.



EWT DW54

EWT's DW54 direct drive wind turbine has been designed for sites with low wind speeds, performing exceptionally well in areas with a wind resource of up to 7.5 metres per second at hub height.

POWER CURVE

The power curve is valid for standard atmospheric conditions whereby a temperature of 15 °C and an air density of 1.225 kg/m3 are considered, together with a vertical wind shear exponent of 1/7. The data is applicable for a non-complex site with no flow inclination and clean blades.

ANNUAL ELECTRICITY GENERATION / POWER OUTPUT

The annual electricity production for different annual mean wind speeds at hub height is calculated assuming a Weibull wind speed distribution with a shape factor (k) of 2.0. Transformer and other losses are not taken into account.

DW54

ROTOR DIAMETER	IEC WIND CLASS	CUT-IN WIND SPEED	CUT-OUT WIND SPEED
54m	IIIA	3 m/s*	25 m/s

**All wind speeds mentioned are based on 10 minute averages*

GLOBAL LEADER IN SUSTAINABLE ENERGY SOLUTIONS

EWT is the energy industry's global partner in sustainable energy solutions. We design, manufacture, and install wind turbines across the globe under the brand name DIRECTWIND. Our range of sub 1MW direct drive wind turbines enable long-term efficient power generation from wind energy in all geographical and climatic conditions. Our commitment to sustainable energy drives our mission to provide efficient and cost-effective wind energy solutions for businesses, communities, and individuals worldwide.

All EWT wind turbines are offered with comprehensive support services, including installation, maintenance, and technical support, to ensure the longevity and efficiency of our wind turbines.

By choosing EWT wind turbines, you're not only investing in reliable and sustainable energy solutions but also contributing to a cleaner and healthier planet. Join us in our mission to harness the power of the wind and make a significant impact on the global transition to clean and renewable energy sources. Together, we can create a more sustainable future for generations to come.

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