



SD WIND ENERGY

Power for the Planet



At SD Wind Energy, we proudly design, manufacture, and supply small wind turbines, and hybrid renewable energy solutions. We manufacture our small wind turbines at our Scottish facility for projects worldwide from Antarctica to Africa.

Continuous Power Generation

With over 7,000 small wind turbine installations worldwide we have the expertise to deliver your small scale renewable energy needs.

The SD Wind Energy small wind turbine product range offers solutions for a wide array of applications. Our unique downwind design, superior build quality and ability to operate in high wind speeds without the need to shut-down secures continuous power generation in the harshest environments.

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Our Range of Small Wind Turbines

SD Wind Energy provides a tailored renewable energy solution to suit your project requirements. We offer support from system design to commissioning and routine maintenance.



Choosing Your Turbine

Our range of turbines operate in all environments, from extreme cold, and hazardous locations to everyday domestic use. We are here to guide you through the process if you have any questions or require recommendations.

SD3	<small>ATEX</small> SD3EX	<small>MCS</small> SD6	SD6+	SD12
3kW-Rated	2.5kW-Rated	6kW-Rated	9kW-Rated	12kW-Rated
12,000kWh	9,000kWh	30,000kWh	37,500kWh	65,000kWh

Established Innovation

Our small wind turbine product range was first established in 1980 in Scotland by highly respected inventor and innovator – Gordon Proven who developed our wind turbines to be robust, reliable, and able to withstand extreme weather conditions.

Investment in innovation and fostering the development of key skills in-house enables us to challenge the industry norms and develop innovative and bespoke solutions incorporating real-time performance data. The SD Wind Energy team are expert in the design, manufacture, and installation of our small wind turbine and renewable energy solutions and can adapt to suit your project requirements.

Certifications

We proudly manufacture small wind turbines of the highest quality. Our accreditations showcase our commitment to continuous improvement of our established solutions.



Our Turbine's Performance

SD Wind Energy turbines are robust, reliable, and built to function in even the harshest environments. Our wind turbines are designed to operate up to Class 1 Wind Speeds (70m/s) in a variety of applications.



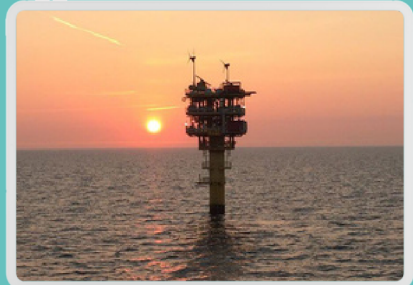
Marine Grade Technology

Marine-grade paint is used on all exposed areas of the turbine head to **prevent rust build-up** on the rotor hub from high salt content in the air. **Inconel springs** are also used which can withstand elevated temperatures of **+200°C and -200°C** and extremely **corrosive environments** such as floating platforms.



Cold Climate Technology

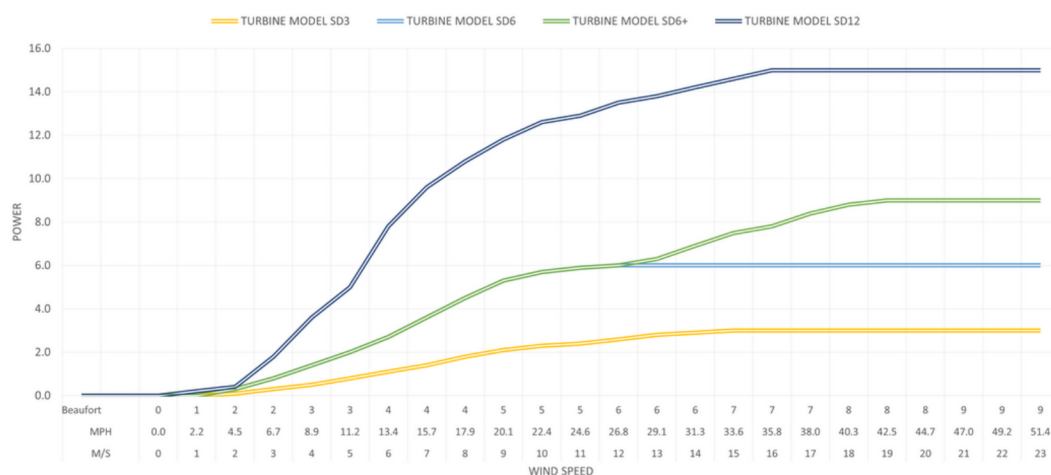
Our **cold climate turbines** use a **solid frame** to allow the turbine to function at **-45°C**. Covers are made of **Polypropylene plastic** which has a **high resistance to icing**. Covers are UV stabilized and black in colour to help ice thaw due to solar thermal conductivity. **Inconel springs** are also used which can withstand extreme temperatures of **-200°C**.



ATEX Certified Design

Our **SD3EX** is the only **ATEX Zone 2 Certified** small wind turbine which has been specially developed for the Oil & Gas sector and has been successfully operating in the North Sea for over a decade. Our SD3EX is helping to establish **safety** alongside **innovation** in providing renewable energy within the Oil & Gas industry and other **electrical hazardous environments**.

POWER VS WIND SPEED



SD3

The SD3 is a 3kW rated small wind turbine which can contribute to your energy mix at remote access sites, off-grid battery charge applications and domestic and small-scale commercial installations. The robust design ensures longevity of operation with a lifespan of 25 years +.



Rated Power

3kW

Cut in Speed

2.5 m/s

Survival Wind Speed

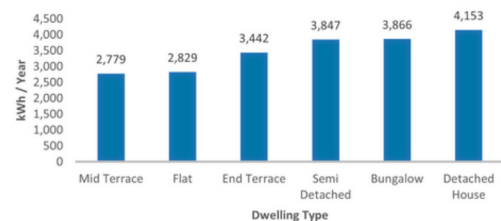
Class 1 (70 m/s)

APPLICATIONS

Our SD3 wind turbine has been applied in a variety of settings including **Agriculture, Domestic, Remote Locations, Islands, Utility, Telecommunications, and Unmanned Oil and Gas platforms.**

At the UK average wind speed of 4 m/s, our SD3 can generate up to **3,333 kWh annually**. This is the equivalent of **80% of the average electricity usage for a detached house** (excluding electric heating). With a Wind Speed of 7.5 m/s, our SD3 can generate up to **10,800 kWh annually**.

AVERAGE ANNUAL ELECTRICITY BY DWELLING TYPE



 **Falkland Isles**

SD3 Case Study

Over **100 x SD3 and SD6** wind turbines provide **24-hour power** to **85%** of farms and rural dwellings in the Falkland Islands. This is regarded as the **largest** fleet of off-grid, small-scale wind turbines in the world.

SD3EX

The SD3EX is 2.5kW rated wind turbine and has ATEX Zone 2 Certification. A low maintenance requirement and minimum downtime can reduce OPEX by 96% due to a decreased need for mobilisation to unmanned platforms and reduced reliance on diesel generators.



Rated Power

2.5kW

Cut in Speed

2.5 m/s

Survival Wind Speed

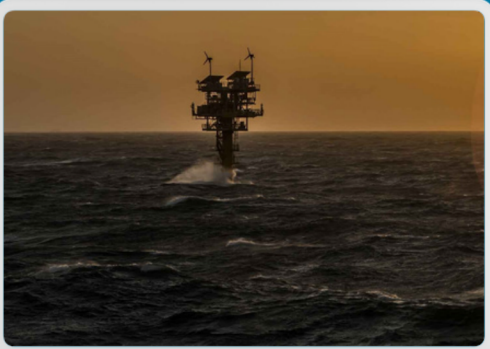
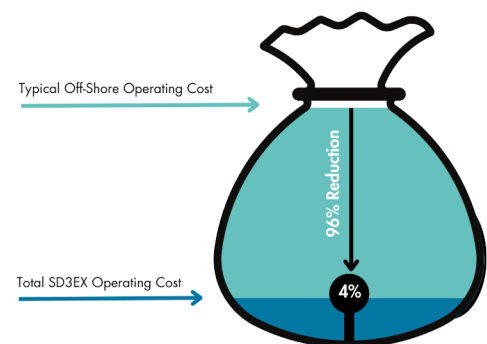
Class 1 (70 m/s)

APPLICATIONS

The SD3EX is primarily designed for use in **Oil and Gas** platforms but is suitable for applications in any **Zone 2** hazardous environments.

Previous projects have included installations on Oil and Gas platforms in the **North Sea** and the **Gulf of Thailand** supporting **energy self-sufficiency**.

OPEX Reduction with SD3EX



📍 Gulf of Thailand

SD3EX Case Study

In **2023**, SD Wind Energy operatives travelled to **Thailand** to deliver **training** for our **Oil and Gas client** to install their **SD3EX** on an **offshore platform** in the Gulf of Thailand. This is a **pilot project** for the region in association with **Chevron**.

SD6

The SD6 is a MCS Certified 6kW rated small wind turbine which can be implemented as an alternative to mains generated electricity for most households and is suitable for remote access sites, off-grid battery charge applications and small-scale commercial installations. The robust design ensures longevity of operation with a lifespan of 25 years +.



Rated Power

6kW

Cut in Speed

2.5 m/s

Survival Wind Speed

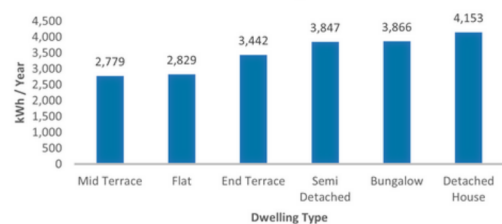
Class 1 (70 m/s)

APPLICATIONS

Our **SD6** wind turbine has been applied in a variety of settings including **Agriculture, Domestic, Islands, Schools and Local Authority Buildings, Utility, Telecommunications and Remote or Difficult to Access Environments such as Mountain Tops and Floating Vessels.**

At the **UK average wind speed of 4 m/s**, our SD6 can generate up to **4,494 kWh annually**. This is the equivalent of **100% of the average electricity usage for a detached house** (excluding electric heating). With a wind speed of **7.5 m/s**, our **SD6** can generate up to **20,500 kWh annually**.

AVERAGE ANNUAL ELECTRICITY BY DWELLING TYPE



Antarctica

SD6 Case Study

Antarctica's first **zero-emission** research station is powered by **SD Wind turbines**. The '**Princess Elisabeth Research Station**' is powered entirely by renewable energy, including **9 x SD6** Wind turbines.

SD6+

The SD6+ is based on the SD6, using the same design that is modified during our manufacturing process to increase power generation. It is a 6kW turbine that can reach up to 9kW at high wind speeds. The SD6+ is applicable for the same applications as the SD6, but is especially effective at high wind sites.



Rated Power

9kW

Cut in Speed

2.5 m/s

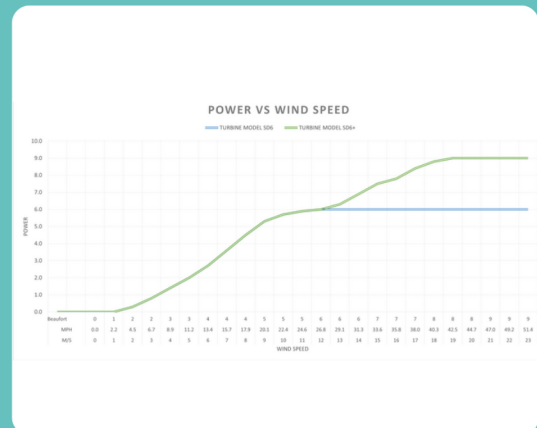
Survival Wind Speed

Class 1 (70 m/s)

APPLICATIONS

Our **SD6+** wind turbine has been applied in a variety of settings and is especially effective in **high wind areas** including **Highlands and Islands, Coastal Areas and Remote or Difficult to Access Environments** such as **Mountain Tops and Floating Vessels**.

The **SD6+** follows the **same power curve as the SD6** until winds reach **12m/s**. The power then **increases exponentially to 9kW**.



Stewarton

SD6+ Case Study

SD Wind Energy HQ is powered by an **SD6+** and **SD3** wind turbine. The SD6+ generated **561 kWh** in **September 2023**. Live data collected from our SD6+ helps us monitor our turbines' performance and **renewable energy generation** as we strive towards achieving **Net Zero** by 2045.

SD12

The SD12 is a 12kW rated wind turbine and has been rebranded from the P35-2. The SD12 is our largest turbine offering and can be implemented as an alternative to mains generated electricity for high electricity usage three phase households and commercial applications. The robust design ensures longevity of operation with a lifespan of 25 years +.



Rated Power

12kW

Cut in Speed

3 m/s

Survival Wind Speed

Class 2 (54 m/s)

APPLICATIONS

Our **SD12** wind turbine has been applied in a variety of settings and is especially effective in **high electricity usage domestic sites** and **commercial applications** such as **Dairy Farms, Manufacturing and Research Facilities, Hospitality and Schools, and Local Authorities.**

At the **UK average wind speed of 4 m/s**, our **SD12** can generate up to **12,609 kWh annually**. With a wind speed of **7.5 m/s**, our **SD12** can generate up to **50,000 kWh annually**.



SD12 Annual Average Generation
= 12,600 kWh at 4 m/s Wind Speed



1 Dairy Cow Requires 350 kWh Annually



The SD12 Can Provide Renewable Energy for 36 Dairy Cows Annually.



 **Canada**

SD12 Case Study

In St. John's in Canada an **SD12** turbine provides power for a family run Dairy Farm. Allowing the business to function **independently** with a low reliance on national **grid power**, the **SD12** lowers business **running costs** and overall **carbon emissions**.

Our Hybrid & Renewable Solutions

At SD Wind Energy, we are highly experienced in developing innovative hybrid renewable energy systems comprising of Wind Energy, Solar PV and Battery Storage with the support of a network of expert partners.



Choosing Your Energy Solution

Our experienced team will conduct a desktop wind survey to identify the suitability of a site and discuss integration with Solar PV and Battery Storage. At SD Wind Energy, we are expert in the design, manufacture and installation of our small wind turbines and renewable energy solutions and can adapt to suit your project requirements, regardless of how impossible they may seem.

Hybrid Energy Grids

Hybrid Renewable Energy solutions can be an excellent option for locations that experience a combination of suitable wind speeds and sunshine throughout the year. In conjunction with an SD Wind Energy turbine, solar can help maximise power generation on still, sunny days. Integrating battery storage reduces reliance on the national grid and can offer freedom to go entirely off grid by storing excess energy generated. We are proud to have successfully completed several hybrid renewable projects across the globe to address extreme and challenging energy requirements.



📍 Greenland

1 x SD6 turbine working in conjunction with **solar panels** and **battery storage** at a mountaintop Telecoms Station.



📍 South Africa

1 x SD6 turbine working in conjunction with **8 x solar panels** and **battery storage** at an unmanned energy station.



📍 South Korea

2 x SD3 turbines as part of an **off-grid containerised** system.



Get In Contact

Further Information

If you would like to learn more about our range of small wind turbines and hybrid and renewable energy solutions please get in touch. You can also find information and project case studies on our website and social media.



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