ARICO ENERGY

Wind Turbine

ARICO ENERGY is an internationally active Swiss company that specializes in the development, production and marketing of decentralized energy solutions.

www.arico-energy.com

Arico Energy
Your decentralized energy future

Arico Energy is an internationally active Swiss company that specializes in the development, production and marketing of innovative, decentralized energy solutions.

Independent of rising electricity costs!
With our tailor-made solutions for households, companies and industrial operations, we use the limitless power of nature - for a sustainable and cost-efficient energy supply.

We are your partner for your energy.

SOLAR ENERGY

SUN INTO ENERGY

Photovoltaic systems for the efficient use of solar energy for your home or business.

WIND ENERGY

WIND INTO ENERGY

Powerful wind turbines for constant and environmentally friendly electricity production.

CONTAINER STORAGE

EFFICIENT ENERGY STORAGE

Flexible and scalable storage systems for a stable and self-sufficient power supply.

Dr. Dietrich Bartelt

FOUNDER OF
BLUE G CAPITAL SÀRL

SENIOR ADVISOR
ARICO ENERGY

GLOBAL SUSTAINABLE
ENERGY PROJECTS

Born in 1964, he studied civil engineering and business administration at the RWTH Aachen University in Germany. He specialized in hydraulic engineering, water resource management, soil mechanics and environmental management.

He worked for the German energy company RWE for 21 years. As a senior manager, he coordinated occupational safety within the RWE Group for more than 1,000 companies and up to 130,000 employees. He was also responsible for coordinating environmental issues in several hundred companies in the RWE Group.

He has been active in renewable energy generation for over 30 years, particularly in setting up multinational projects, developing project management structures, site development, approval procedures, operating plants and implementing joint implementation projects. His focus is on hydropower, wind energy and solar energy. In parallel, he founded DB Sediments in 2009 and built the company into a global player.

In 2012, he published his dissertation on the topic of “Employees’ trust in their management” and its influence on the economic success of a company.

After leaving the global energy industry in 2013, he concentrated on the water-energy-food nexus with a particular focus on water in the Anthropocene. His entrepreneurial successes led to a nomination for the prestigious German industry innovation award in 2015 and the award as the second best start-up in Germany.

Patrik Johansson

SENIOR STRATEGY MANAGER

MEMBER OF THE BOARD
ARICO ENERGY

Mr. Patrik Johansson, a member of our Management Board, brings extensive expertise and many years of experience in the areas of building automation, system management, solar technology and photovoltaics to our company. He acquired his in-depth specialist knowledge through an engineering degree in energy technology, which gave him both theoretical and practical skills in the areas of energy technology and renewable energy. He is a proven expert in thermal energy, heating systems and various generation systems such as wind turbines, solar thermal energy and solar generators.

During his professional career, Patrik Johansson gained valuable industry experience as an energy consultant and continuously developed his skills. He has extensive knowledge of customer service and consulting, project management, establishing and maintaining sales partners and channels, and developing sales and marketing strategies. In addition, he has a deep understanding of the relevant laws and regulations as well as local markets and industries.

With five years of experience in LEED and EPC, Patrik Johansson has further deepened his knowledge of energy efficiency in building technology. He has successfully managed projects including cost-benefit analyses, project planning, and the installation and operation of energy saving and optimization technologies. His in-depth knowledge and extensive experience make him a valuable asset to our company and contribute significantly to the successful development and implementation of our energy consulting and project management services.

The technology

ENERGY-EFFICIENT POWER GENERATION

System variants

Our experts plan and install the systems to suit your needs. The systems pay for themselves in just 3 to 5 years and provide you with reliable, green energy for the next 20 to 25 years.

Our solutions for your energy

At Arico Energy, we rely on innovative and sustainable energy solutions to ensure a reliable and environmentally friendly power supply.

Our solar energy systems use the latest photovoltaic technology to efficiently convert solar energy into electricity. Whether for private households or companies - with our systems you can reduce your energy costs in the long term and make an important contribution to the environment.

In addition, we offer powerful wind turbines that continuously generate clean energy. Thanks to the latest technology, they are a reliable source of sustainable electricity production, regardless of the time of day or weather conditions.

To ensure a stable and self-sufficient supply, we rely on container storage solutions. These flexible and scalable storage systems make it possible to efficiently store excess energy and use it as needed - for maximum independence and security of supply.

75%
WIND TECHNOLOGY

45%
WIND (OFFSHORE)

25%
WIND (ONSHORE)

12.5%
SOLAR

Container storage

We store your energy

Arico Energy offers an innovative and efficient solution for storing energy from wind and solar plants with our container-based energy storage systems in the power ranges from 1MW to 5MW. These systems are designed to compensate for the intermittent nature of renewable energy sources and ensure a stable and reliable power supply.

Our container storage solutions are characterized by a modular design that allows flexible adaptation to specific requirements.

They offer high efficiency in energy storage and recovery, use advanced sodium batteries and support intelligent control systems for automatic integration with existing wind and solar plants.

Arico Energy
Container storage

HOHE EFFIZIENZ: SCHNELLE LADE- UND ENTLADEZEITEN FÜR EINE ZUVERLÄSSIGE ENERGIEBEREITSTELLUNG.

Thanks to the modular design, the storage systems can be flexibly adapted to individual requirements. They are characterized by high efficiency in the storage and recovery of energy and use advanced sodium batteries that offer a long-lasting and sustainable solution. Our storage solutions maximize the self-consumption of solar and wind power and at the same time make an important contribution to grid stability. With intelligent control systems, they enable seamless integration into existing systems and support smart, automated energy use.

Best vertical
Wind turbine

HIGH AERODYNAMIC EFFICIENCY IN ALL WIND TYPES:

- Multidirectional, turbulent, rising, very slow and gusty winds.
- Wind speed interruption: 2.5 m/s (9 km/h)
- At high wind speeds, the turbine does not need to be stopped by an external braking system like most turbines on the market, but continues to generate maximum energy thanks to the unique aerodynamics of the rotor and the self-regulating speed through staggered movement.
- Easy maintenance with an annual one-time service.
- Measured at a distance of 10 meters and a wind speed of 6 m/s, the sound pressure is only 32 dBA, making it ideal for urban and private applications, and is completely silent.
- Roof or ground installation for off-grid or grid-connected solutions The normal, relatively slow rotation speed between 10 and 40 rpm avoids environmental impact on birds and ensures less fatigue of components.
- Due to the slow rotation movement, rotor blades offer an excellent advertising and sponsorship platform.

Wind turbine
1KW

Information	AIA-KW1
Measured power	1 KW
Maximum output power	1,1 KW
Output voltage	24V 48V
Blade height	1 m
Rotor diameter	0,7 m
Start wind speed	1,2 m/s
Nominal wind speed	10 m/s
Strength wind speed	45 m/s
Generator	Permanent magnet generator
Generator efficiency	>0.96
Turbine weight	32 kg
Noise level	<10db
Temperature range	-35C mit+60C
Design life cycle	20 Years
Warranty	Standard 2 years

Wind turbine
3KW

Information	AIA-KW3
Measured power	3 KW
Maximum output power	3,5 KW
Output voltage	24V – 48V
Blade height	1 m
Rotor diameter	0,8 m
Start wind speed	1,2 m/s
Nominal wind speed	10 m/s
Strength wind speed	45 m/s
Generator	Permanent magnet generator
Generator efficiency	>0.96
Turbine weight	52 kg
Noise level	<10db
Temperature range	-35C mit+60C
Design life cycle	20 Years
Warranty	Standard 2 years

Wind turbine
5KW

Information	AIA-KW5
Measured power	5 KW
Maximum output power	6 KW
Output voltage	48V – 96V – 220V – 380V
Blade height	1,4 m
Rotor diameter	1,2 m
Start wind speed	1,2 m/s
Nominal wind speed	10 m/s
Strength wind speed	45 m/s
Generator	Permanent magnet generator
Generator efficiency	>0.96
Turbine weight	78 kg
Noise level	<10db
Temperature range	-35C mit+60C
Design life cycle	20 Years
Warranty	Standard 2 years

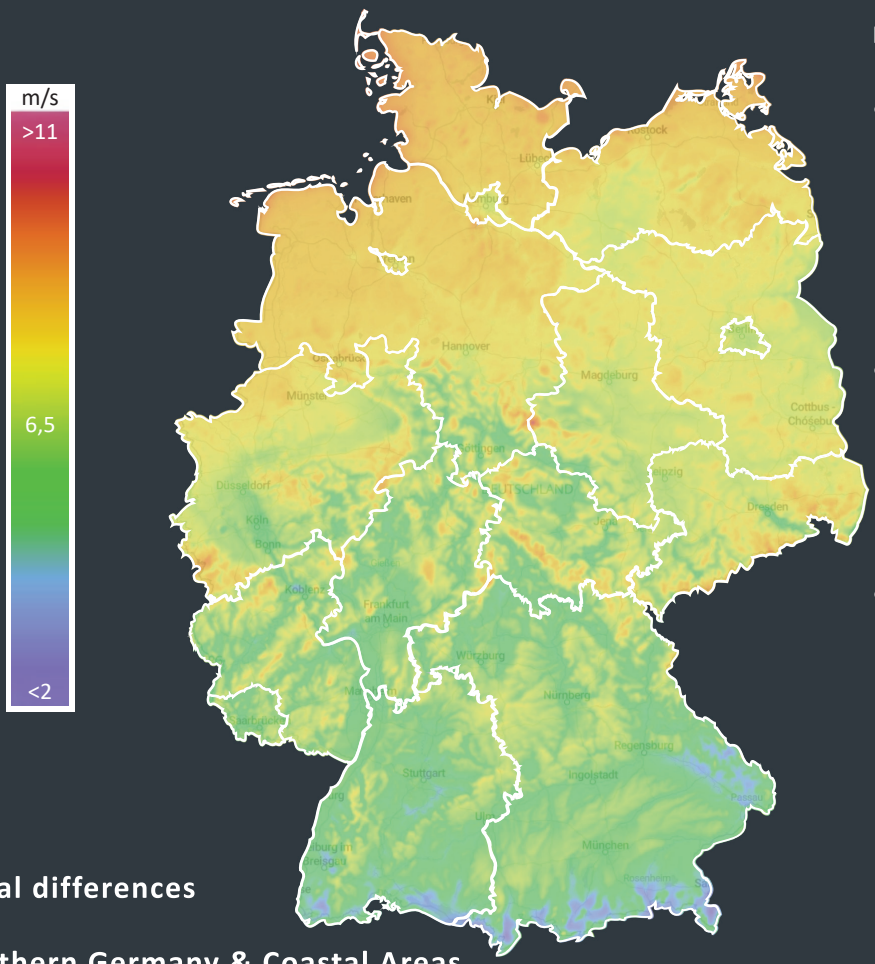
Wind turbine
10KW

Information	AIA-KW10
Measured power	10 KW
Maximum output power	12 KW
Output voltage	48V – 96V – 220V – 380V
Blade height	2,08 m
Rotor diameter	2 m
Start wind speed	1,2 m/s
Nominal wind speed	10 m/s
Strength wind speed	45 m/s
Generator	Permanent magnet generator
Generator efficiency	>0.96
Turbine weight	110 kg
Noise level	<10db
Temperature range	-35C mit+60C
Design life cycle	20 Years
Warranty	Standard 2 years

Wind in Germany

This map shows the average wind speeds in Germany based on regional measurements.
The wind strength is color-coded to visually highlight different wind zones.

Here you can find your location with your wind strength.
www.vortexfdc.com



Farbskala (links)

- **Red (>11 m/s):**
  Very high wind speeds, especially in northern Germany and on the coast. Ideal for wind turbines with maximum efficiency.
- **Yellow-green (approx. 6.5 m/s):**
  Average wind speed, typical for inland areas with moderate wind potential.
- **Blue-purple (<2 m/s):**
  Very low wind speeds, especially in southern and sheltered areas such as valleys or forested regions.

Regional differences

- **Northern Germany & Coastal Areas**
  (Schleswig-Holstein, Lower Saxony, Mecklenburg-Western Pomerania)
  → High wind speeds with an average of over 6.5 m/s up to 11 m/s.
- **Low mountain ranges (Harz, Black Forest, Ore Mountains)**
  → Varying wind speeds, often between 4 to 7 m/s, depending on altitude.
- **Southern Germany (Bavaria, Baden-Württemberg)**
  → Lower wind speeds below 6 m/s, especially in valleys and sheltered regions.

Energy production plants

The annual energy production for different wind turbines at different wind speeds.

Attachment	Wind	Production (kWh/J)
1 kW	6m/s	2190.00 kWh
3 kW	6m/s	6570.00 kWh
5 kW	6m/s	10950.00 kWh
10 kW	6m/s	21900.00 kWh
1 kW	7m/s	2628.00 kWh
3 kW	7m/s	7884.00 kWh
5 kW	7m/s	13140.00 kWh
10 kW	7m/s	26280.00 kWh
1 kW	8m/s	3504.00 kWh
3 kW	8m/s	10512.00 kWh
5 kW	8m/s	17520.00 kWh
10 kW	8m/s	35040.00 kWh
1 kW	9m/s	4380.00 kWh
3 kW	9m/s	13140.00 kWh
5 kW	9m/s	21900.00 kWh
10 kW	9m/s	43800.00 kWh

Container
mit 10 KW

Arico Energy offers a revolutionary solution for wind turbines in a compact container unit. Our specially developed portable wind turbine systems set new standards in the industry and are unique in their category. Thanks to their mobile design, they are easy to transport and can be used flexibly. The transfer takes place via a special trailer vehicle that complies with all common road standards.

Container
mit 10KW

The intelligent container model enables fully automatic installation of the turbine system. All necessary components – batteries, control systems and water pumps – are integrated in the container and ready for immediate operation.

Innovative technology for maximum efficiency
Our wind turbines are based on a further development of existing wind technology. Installation is carried out using portable screw foundations that can be attached quickly and easily to almost any surface.

Thanks to a 4.0-certified smart control system, remote monitoring and control is possible in real time. All system data can be read out remotely and optimized to ensure maximum efficiency.

Flexibility for a wide range of applications
Our modular wind power systems are optimized for different industries and can be customized. Battery packs, irrigation pumps and other components are integrated into the system depending on the application. Arico Energy offers customized solutions for a sustainable and efficient energy supply - regardless of the location and infrastructure.

Wind - Hybrid - System
Solar photovoltaics

Arico Energy presents a pioneering hybrid turbine design that combines different technologies and functions in a single turbine. Developed by our R&D department, this vertically aligned wind turbine (VAWT) offers a versatile and sustainable solution for urban and rural applications.

It is easily transportable, easy to install and combines wind energy, solar energy and LED billboards in a single system.

Information	AIA-VAWT
VAWT wind generator	**5 Winged / 5000 Watt**
LED lighting fixtures	**2 x 150 Watt**
Solar energy panels	**25 m² / 5000 Watt**
LED advertising unit	**4 Quantity / 125cm x 250cm**
Batteries	**Variable**

Wind - Hybrid - System
Solar photovoltaics

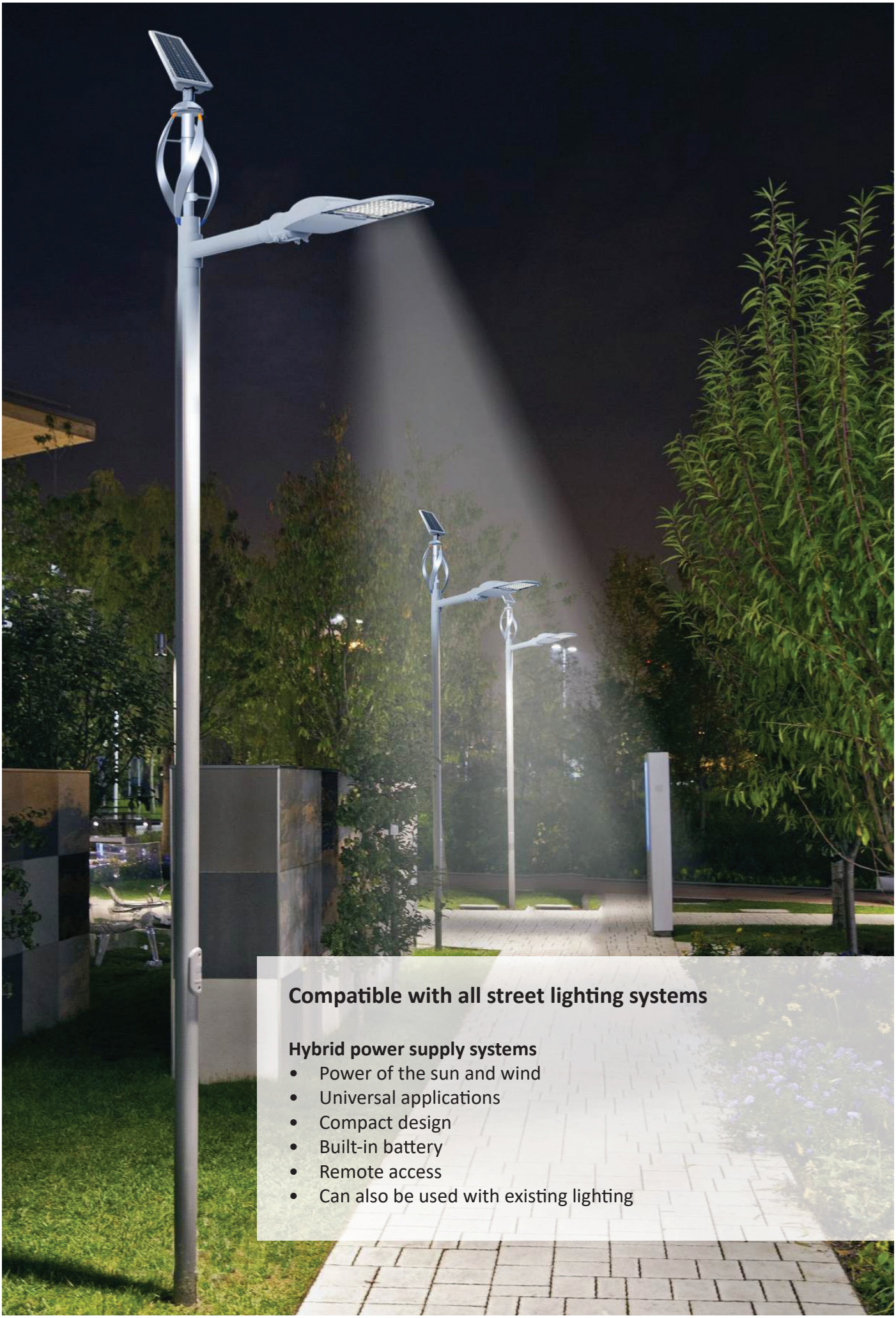
Windgenerator (VAWT)
The state-of-the-art wind generator unit is designed for quiet operation and enables efficient and environmentally friendly energy generation – ideal for urban and rural use.

LED lighting fixtures
Highly efficient LED system lights integrated into the turbine ensure sustainable and energy-saving lighting of streets, squares and public areas.

Solarenergymodules
Our highly efficient solar modules of the new generation work in hybrid mode with the turbine and enable energy generation of up to 10,000 watts per hour in an area of just 2.5 square meters.

Advertising unit with LED monitor
The lower unit of the turbine is equipped with a modern LED screen, which is ideal for advertising purposes. This online-capable remote access system offers flexible and dynamic advertising options for companies and public institutions. The batteries and control systems for self-sufficient operation are also located inside.

With the multifunctional VAWT wind turbine from Arico Energy, we are setting new standards in intelligent, sustainable and efficient energy supply - a solution that makes optimal use of renewable energies and at the same time offers innovative additional functions.



Compatible with all street lighting systems

Hybrid power supply systems

- Power of the sun and wind
- Universal applications
- Compact design
- Built-in battery
- Remote access
- Can also be used with existing lighting

Lantern
100W

LANTERN 100 WATT

Information	Lantern 100 Watt
Measured power	100 Watt
Maximum output power	110 Watt
Output voltage	9V 12V
Blade height	50 cm
Rotor diameter	45 cm
Start wind speed	1,2 m/s
Nominal wind speed	10 m/s
Strength wind speed	45 m/s
Generator	Permanent magnet generator
Generator efficiency	>0.96
Turbine weight	6 kg
Noise level	<10db
Temperature range	-35C mit+60C
Design life cycle	20 Years
Warranty	Standard 2 years

Wind - Hybrid - System
Haltestellenkonzept

Information	Bus stop concept
Material	**Waterproof polymer composite housing**
Mounting	**Solar drive: Top mount Ø2 inch, Lantern: Horizontal mount**
Weight (without mast)	**13.2 kg**
Options	**Motion sensor, anti-theft screws**
Intelligent lighting options	**Intelligent lighting and detection, remote monitoring**

Compatible with all street lighting systems

Hybrid power systems

- Hybrid energy solution
- Long-lasting energy storage
- Waterproof & robust construction
- Intelligent control
- Highly efficient LED lighting
- Simple & flexible installation

Information	Bus stop concept
Technology	**Photovoltaic module (monocrystalline silicon)**
Performance	**9V / 33Watt**
Electrical properties (per module)	**VOC: 22.89 V / VMPP: 18.54 V / ISC: 2.85A / IMPP: 2.7A / 36 cells**
Dimensions	**700mm x 400mm x 80mm**
Lifetime	**25 Years**
Tilt angle	**25° , 50°**
Structure	**Waterproof polymer composite housing**
Certificates	**IEC 61215; IEC 61730 I and CE, ISO, ROHS**
Warranty period	**2 Years**
Technology	**Vertical axis wind turbine**
Performance	**9V / 50Watt**
Dimensions	**600mm x 400mm**
Lifetime	**10 Years**
Tilt angle	**-20° , 80°**
Structure	**Polymer & composite**
Certificates	**IEC 61215; IEC 61730 I and CE, ISO, ROHS**
Warranty period	**5 Years**
Battery technology	**3.2V / 54,000mAh LiFePO4**
Voltage	**12V**
Capacity	**120 Wh**
Operating temperature range	**-40°C to +70°C (-40°F to +158°F)**
Lifetime	**12 Years**
Certificates	**EN 62133**
Technology	**New generation, waterproof**
Communication	**Bluetooth**
Input voltage	**12V**
Maximum PV open circuit voltage	**22.5V**
Maximum charge/discharge current	**5A**
Cabling	**Marine quality wiring for all applications**
Electrical protection	**Electronic fuse**
Lifetime	**12 Years**
Water resistance	**IP65 with sealed connectors**
Operating temperature range	**-20°C to +70°C (-4°F to +158°F)**
Certificates	**CE; EN61000; EN61547; EN55015; EN62493; EN 62479 EN300328; EN 301489-1**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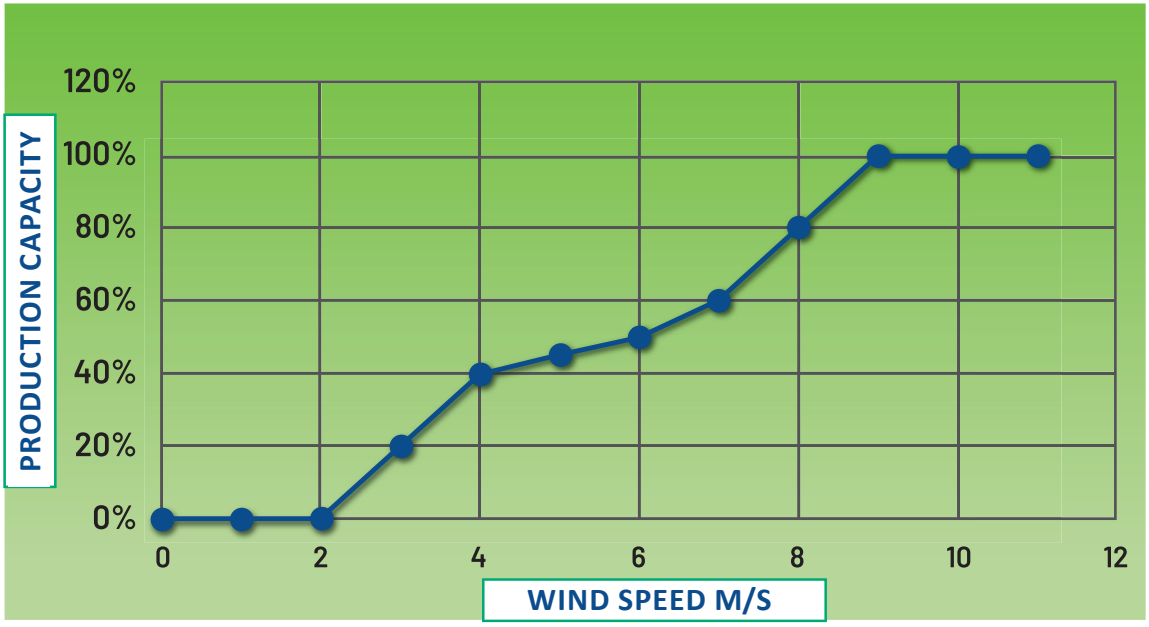
DECENTRALIZED ENERGY GENERATION

Arico Energy focuses on the optimal use of natural resources at each site to maximize production times, increase cost efficiency and optimize the payback period of the plants.

For decentralized energy production, Arico Energy has developed an innovative hybrid energy system that integrates vertical axis wind turbines and photovoltaic solar panels. This solution is particularly suitable for off-grid installations as it offers the possibility of incorporating a battery bank to ensure energy autonomy of up to 2 to 3 days.

Calculation of production capacity at different wind speeds:



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