
GLOSSARY OF TECHNICAL TERMS

This glossary contains certain definitions of technical terms used in this prospectus as they relate to us and as they are used in this prospectus in connection with our business or us. Some of these definitions may not correspond to standard industry definitions.

“A-A-O”	The anaerobic-anoxic-oxic (A-A-O) system can be used to treat coke plant waste water for simultaneous removal of nitrogen and COD as well as denitrification and transformation of organic pollutants. The anaerobic in the A-A-O system refers to an environment in which oxygen is absent, which enables coke plant waste water to result in less inhibitory effect on the subsequent nitrification process, and provided a more biodegradable and suitable carbon substrate for denitrifying bacteria.
“AC”	Alternating current, being electricity that changes direction periodically
“active power control”	The method of reducing the power output generated by wind turbines at any point in time. For pitch regulated WTGs, it is achieved by adjusting the angle of the blades facing the wind thereby changing the wind energy absorbed by WTGs
“attributable installed capacity”	The installed capacity calculated by multiplying an entity’s percentage ownership in the power project by the total installed capacity of such power project
“availability”	A percentage calculated by dividing the amount of time a WTG is not experiencing technical defaults over a certain period by the amount of time in such period
“blade”	The WTG component that drives the turbine rotor using wind energy
“BOT”	Build, operate and transfer
“COD”	Chemical Oxygen Demand, a test commonly used to indirectly measure the amount of organic compounds in water
“constant frequency”	The technology that converts the changing power frequency from the generator of a WTG into a constant grid frequency

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“constant speed”	Operation of a WTG whereby the rotational speed of the turbine rotor remains constant
“conversion efficiency”	The percentage of solar power that a solar cell converts into electrical power, as estimated based on feedback from selected customers that produce solar cells and modules
“CPV Cell”	Concentrated photovoltaic cell
“crystalline silicon cell”	Solar cells created with a mass-produced crystalline silicon material, also called c-Si cells, which dominates the PV market, accounting for approximately 86.5% of the total solar cell production in 2010
“crystalline silicon module”	Solar modules produced from crystalline silicon cells
“DC”	Direct current, being electricity which flows in one direction through the conductor
“DCS”	Distributed control systems. It refers to a control system usually of a manufacturing system, process or any kind of dynamic system, in which the controller elements are not central in location but are distributed throughout the system with each component sub-system controlled by one or more controllers
“direct-drive”	A drive-train concept in which the need for a gearbox is eliminated and the turbine rotor directly drives the generator rotor
“double-fed”	A double-fed concept in which both windings on stationary and rotating parts transfer power between shaft and electrical system
“EAM”	Enterprise asset management. This means the whole life optimal management of the physical assets of an organization to maximize value
“EMC” or “energy management contract”	A business model that allows companies to achieve energy conservation without an up-front capital cost
“EPC”	Engineering, procurement and construction. A business model under which the general contractor undertakes the design, procurement, construction and testing and is responsible for the project’s quality

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“ERP”	Enterprise resource planning, which integrates internal and external management information across an entire organization
“ESCO”	Energy Service Company. This refers to a company that provides energy conservation services to customers (who receive such services without incurring an up-front capital cost) and receives a profit from the cost savings of its energy conservation measures
“FGD”	flue gas desulfurization
“filter bag ash removal”	This refers to the method whereby fly ash solidifies while suspended in the exhaust gases and is then collected by electrostatic precipitators such as a filter bag
“flue gas desulfurization concession”	A concession agreement between the power plant and the flue gas desulfurization service provider. Under coordination by the relevant governmental agency, the power plant enters into the concession agreement with the professional flue gas desulfurization service provider for the right to income relating to flue gas desulfurization, which comprises right to receive special tariff for desulfurization and all other incentives under the favorable government policies for flue gas desulfurization. Under the concession agreement, the professional flue gas desulfurization service provider is responsible for the investment into, construction, operation and maintenance and daily administration of the desulfurization appliance installed at the power plant and achieving the desulfurization targets set out therein
“fly ash”	This is one of the residues generated in combustion, and comprises the fine particles that rise with the flue gases. In an industrial context, fly ash usually refers to ash produced during combustion of coal. Fly ash contains environmental toxins in significant amounts, such as barium, boron, strontium, vanadium and etc
“full power rectification”	The converter technology wherein the WTG converter’s rated capacity is equal to the WTG’s rated capacity
“gigawatt” or “GW”	A unit of power. 1 GW equals to 1,000 MW
“GL”	Germanischer Lloyd

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“grid connection”	When a WTG is connected to the grid and is transmitting power
“grid-friendly WTG”	WTG with capacities of, among others, low voltage ride through, active and reactive power remote control and power prediction, which are designed to deliver controlled and predictable electricity to the power grids
“high efficiency solar cell”	Solar cells whose open circuit voltage and light conversion efficiency are increased by forming n-type or p-type doped amorphous silicon layers on both sides of the crystalline silicon base
“IEC IV”	IEC IV is defined in IEC 61400-1 (second edition). In this edition WTGs are categorized into Class I, II, III and IV models. These four models define WTG models which are able to operate in environments with a reference wind speed of less than 50m/s, 42.5m/s, 37.5m/s and 30m/s measured at the hub height of a WTG and able to operate in environments with annual average wind speed of less than 10m/s, 8.5m/s, 7.5m/s and 6m/s, respectively. Definition of IEC IV is removed in IEC 61400-1 (third edition), but is still generally used to refer to WTG models that can cater for areas with the lowest wind speed
“IEC Type I, II, III and S models”	According to the IEC (International Electrotechnical Commission) 61400-1 (third edition) standard for WTG design, type I, II and III models are defined as a WTG models which are able to operate in environments with a reference wind speed of less than 50m/s, 42.5m/s and 37.5m/s measured at the hub height of a WTG and able to operate in environments with annual average wind speed of less than 10m/s, 8.5m/s and 7.5m/s, respectively; and a type S model is a WTG model able to operate in the specific environment defined by both the WTG manufacturer and the customer
“kilowatt” or “kW”	A unit of power. 1 kW equals to 1,000 watts
“kilowatt hour” or “kWh”	The unit of measurement for calculating the quantity of power production output. One kilowatt hour is the work completed by a kilowatt generator running continuously for one hour at the rated output capacity

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“low voltage ride through capability” or “LVRT”	The ability of a WTG to remain on-line and provide reactive power in the face of major disturbances to the grid. During times of large voltage dips, an LVRT capable WTG can remain operational and available rather than disconnection from the grid. Ride-through capability at a zero volt level can help maximize the stability of the grid
“MBBR”	Moving Bed Biofilm Reactor (MBBR) water treatment process employs polyethylene biofilm carriers operating in mixed motion within an aerated wastewater treatment basin. Each biocarrier provides protected surface area to support the growth of heterotrophic and autotrophic bacteria within its cells. The MBBR technique is designed to remove BOD/COD and nitrogen from the wastewater and it delivers a flexible, cost-effective and easy-to-operate means with expandable and more compact design for waste water treatment
“MBR”	Membrane Bioreactor (MBR) water treatment process combines membrane-based filtration techniques with biologically active processes that utilize living organisms to break down stubborn contaminants in the waste water. MBR employs ultra-filtration (UF)/micro-filtration (MF) membrane separation technique instead of the conventional activated sludge method with secondary disinfection and conventional filter units, which could achieve high efficient solid/liquid separation and biofilm bacterium filtration and is suitable to meet a high water reuse standard. The MBR process is an emerging advanced wastewater treatment technology and is now widely used for municipal and industrial waste treatment
“megawatt” or “MW”	A unit of power. 1 MW equals to 1,000 kW
“MIS”	Management information system, a system that provides information needed to manage organizations efficiently and effectively
“MW-level WTGs”	WTGs with rated output capacity of equal to or greater than 1 MW
“nacelle”	The structure at the top of the tower just behind the blades that houses the key components of the wind turbine, including the turbine rotor shaft and generator
“NOx”	Nitrogen compound

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“permanent magnet”	A material that retains its magnetic properties without external magnetic field
“permanent magnet generator” or “permanent magnet synchronous generator”	A synchronous generator in which permanent magnet is used on the generator rotor
“pitch control” or “pitch regulated”	A method of controlling the power of a WTG by using the control system to adjust the angle of the blade (or inlet angle)
“plasma ignition combustion stabilization technology” or “PICS technology”	System services consist of designing and installing plasma-assisted ignition and combustion systems for coal-fired power plants which no longer need fuel-related appliances and facilities such as oil tanks and fuel transportation systems
“Polysilicon”	Polycrystalline silicon, a material consisting of small silicon crystals
“power curve”	The curve showing the relation between the output power of a WTG and the wind speed “rated output capacity” The output capacity as per a WTG nameplate
“PV”	Photovoltaics, a method of generating electricity by converting solar radiation
“rated wind speed”	The wind speed range at which a WTG can produce its rated output capacity
“renewable energy”	Energy sources that are sustainable, or for all practical purposes, cannot be depleted, such as wind, solar, geothermal and biomass
“retrofit”	The addition of new technology to older systems to improve its efficiency
“SCADA”	Supervisory Control and Data Acquisition
“SCR”	Selective catalytic reduction
“Sea water FGD”	A type of seawater process refers to absorption and neutralization of SO ₂ in the flue gas by harnessing the natural characteristics and elements of seawater
“SIS”	Supervisory information system
“SNCR”	Selective non-catalytic reduction
“SO ₂ ”	Sulphur dioxide

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“stall-regulated”	A method to control and regulate the power generated by a WTG. When the wind speed exceeds the rated wind speed of the WTG, the blade stalls and no further increase in the energy is captured by the turbine rotor, thereby controlling the power output of the WTG
“steam turbine flow passage retrofitting”	A service to increase the efficiency and safety level of steam turbines of power plants, this service involves design the flow passage system of the steam turbine to improve the flow efficiency of the steam in the passage, reduce steam leakage in passing through the internal flow passage and therefore increase the efficiency of the turbine and the generator
“terawatt hour” or “TWh”	The unit of measurement for calculating the quantity of power production output. 1 TWh equals to 1 billion kWh
“thin-film solar cells”	Solar cells made through depositing several thin layers of silicon or more complex materials on a substrate such as glass
“total installed capacity”	The sum of the rated output capacity for power generation equipment, such as WTGs, installed
“tower”	The supporting structure which supports and elevates a turbine rotor and nacelle
“turbine rotor”	The component of a WTG that consists of a hub and blades and drives the generator rotor
“unit capacity”	The rated power of an individual WTG
“variable pitch system”	The electrical system in a WTG that ensures high efficiency at different wind velocities. This system is capable of real-time regulation of the WTG’s rotational speed when wind velocity changes through control of the blade angle for optimal operation and energy capture
“wastewater treatment”	Use of chemical and biological processes to remove pollutants from wastewater before discharging it into a water body
“WFGD”	Wet flue gas desulfurization
“WTG”	Wind turbine generator