

Presentation for



Aligning Green Power Partners with New Renewable Energy Projects

July 24, 2013

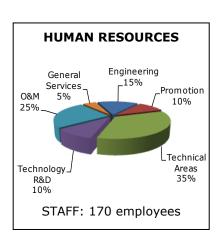
## **DEVELOPER**



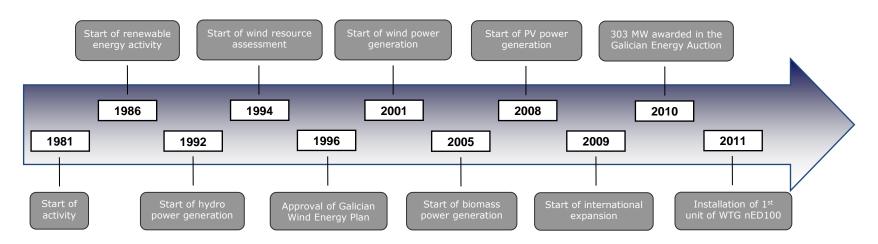
#### **PROFILE**

- Company 100% owned by the Fernandez Castro Family, with a 25-year successful track record exclusively in the renewable energy industry.
- Highly skilled personnel (170 employees).
- Headquarters in Lugo (Spain). Offices in Madrid (Spain), Warsaw (Poland), Boston (USA) and Natal (Brazil).
- Vertical integration of operations
   Engineering, R&D, O&M, Operation in power markets, etc.
- NORVENTO produces clean energy
   NORVENTO operates renewable power plants
   utilizing the four commercially available
   technologies: WIND, HYDRO, BIOMASS and SOLAR.

# Project portfolio developed > 1,000 MW



#### **HISTORY**

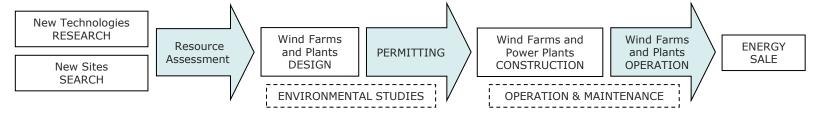




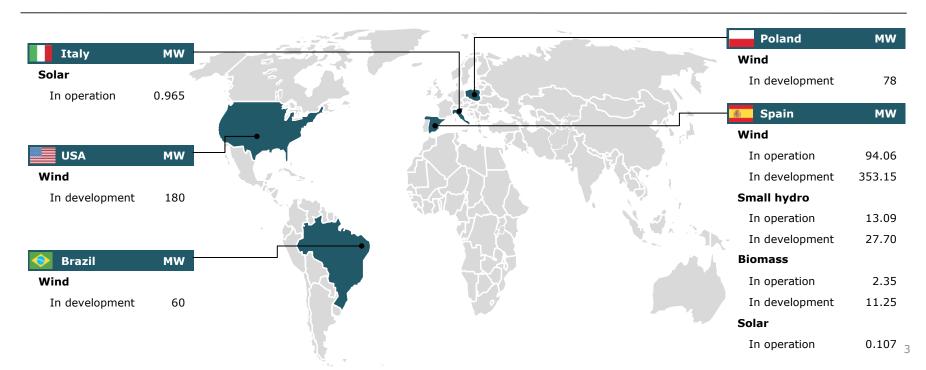


## **ACTIVITY**

**NORVENTO** generates clean energy from renewable resources and covers the entire value chain

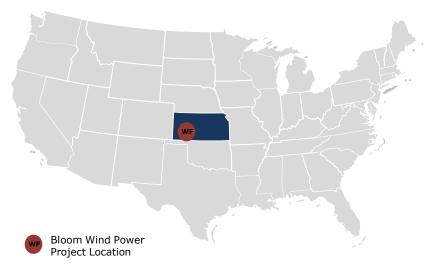


## GEOGRAPHIC FOOTPRINT AND PROJECT PIPELINE





#### PROJECT LOCATION AND SITE CONTROL





- The Bloom Wind Power Project is a 180 MW wind power project under development in Ford and Clark Counties, Kansas.
- Norvento USA has signed long term wind lease and easement agreements for approximately 11,500 contiguous acres of privately-owned land, for an operation period of up to 30 years.
- The Project site is characterized as a sparsely populated area, with flat terrain and active farmland crossed by wide existing roads, easing site access, installation of wind turbines and O&M activities. Some areas of short grass prairie exist within the Project area and are primarily used as pasture lands.
- Micro-siting has taken into account the landowners' and Governmental Agencies' concerns, as well as the constraints identified in the Project area, including County regulations and existing infrastructure.
- Although a wind turbine model has not been definitively selected for the site, preliminary studies have assumed a layout with 60 3 MW wind turbine generators .







#### WIND RESOURCE

- The wind regime in the Project area is characteristic of the region, with north and south prevailing wind directions.
- Excellent wind resource with a capacity factor of at least 50%, based on almost two years of on-site wind data (first met mast installed in September 2011).
- The wind resource is measured by two met masts installed within the Project area:
  - 80 m met mast (guyed lattice tower), erected in September, 2011, with sensors at 80 m, 60 m and 40 m.
  - 60 m met mast (tilt-up tubular tower), erected in November, 2012, with sensors at 60 m, 50 m and 30 m.

## **MET MASTS**





#### PERMITTING AND ENVIRONMENTAL STUDIES

A set of complete environmental studies has been undertaken, without detecting any environmentally or culturally significant resources that would preclude the successful siting and permitting of the Project:

- Critical Issues Analysis.
- Assessment of Threatened and Endangered Species.
- Whooping Crane and Bats Likelihood Assessment.
- Spring and Avian Surveys.
- Field-Verified Habitat Assessment.
- Wetland and Surface Water Survey.
- Kansas SHPO Consultation.
- Telecommunication Interference Study and NTIA Consultation.

A consultation process with the USFWS and KDWPT has also been initiated. Norvento USA is currently undertaking additional environmental studies in order to address the recommendations made by the State and Federal Wildlife Agencies:

- Longnose Snake Mitigation Plan and Action Permit.
- Bird and Bat Conservation Strategy Plan.
- USFWS Whooping Crane Consultation.
- Cultural Resources Reconnaissance Survey.
- Unanticipated Discoveries Plan.
- USACE Wetlands Consultation.

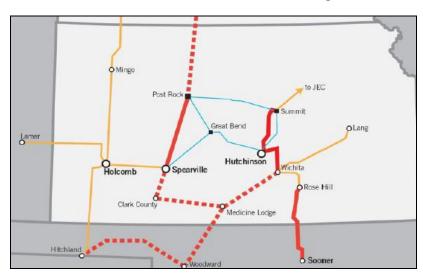
These studies are expected to be completed in the 3Q of 2013.

The Conditional Use Permit application has been submitted to Ford County in July, 2013.



#### INTERCONNECTION

- Point of interconnection in a 345 kV substation adjacent to the project boundary, resulting in a short transmission line.
- This 345 kV substation is part of the Kansas V–Plan transmission line developed by ITC Great Plains and designed to connect western Kansas to eastern Kansas by December, 2014.
- The Definitive Interconnection System Impact Study was issued in February 2013. A restudy was completed in May 2013, resulting in lower Network Upgrade costs.
- The Interconnection Facilities Study commenced in March 2013.
- Other interconnection alternatives available include the HVDC Grain Belt Express Clean Line, from southwest Kansas to the MISO and PJM regions, and the Plains & Eastern Clean Line, from the Oklahoma Panhandle to the SERC and TVA regions.



Source: ITC Great Plains

## **POWER MARKETING**

- Up to 180 MW, with a net capacity factor of at least 50%, available at the busbar, as early as December 2014.
- Bloom Wind output available from SPP 345-KV network following completion of aggregate transmission service study process and negotiation of transmission service agreement(s).
- Output also available from Grain Belt Express in Missouri (MISO) and at the eastern terminus in Indiana (PJM) as well as from the eastern terminus of Plains & Eastern Express in Tennessee (SERC) in 2017-18.

## **PROJECT ATTRIBUTES**

- Site control (Project area and point of interconnection).
- Wind resource measurement program since September, 2011 indicates a net capacity factor of at least 50%.
- Environmental site assessment completed no fatal flaws.
- Project site has been reviewed by the KDWPT and USFWS, and has clearance from the FAA and other Federal Agencies.
- Additional environmental studies to address USFWS and KDWPT recommendations currently in process (expected to be completed in the 3Q of 2013).
- Conditional Use Permit application submitted in July, 2013 Project continues to receive strong community support.
- No other major State or Federal permits are currently required prior to the start of project construction.
- Definitive Interconnection System Impact Study completed.
- Interconnection Facilities Study initiated.



# **CONTACT INFORMATION**

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