



# South Dakota Public Utilities Commission Public Input Hearing

**SEPTEMBER 13, 2017** 



### **About Geronimo Energy**

Geronimo Energy is full-service, American renewable energy company that has successfully delivered over 1,600 megawatts of wind and solar projects that are currently in operation or under construction throughout the United States. Project partners for this portfolio include:

























- Geronimo Expansion Presence
- Advanced Wind Projects
- Advanced Solar Projects
- Early Stage Wind Projects
- Early Stage Solar Projects
- Greenfield Wind Sites Identified
- Greenfield Solar Sites Identified

PROJECT SIZE:











### **Crocker Wind Farm**

#### PROJECT DEVELOPER

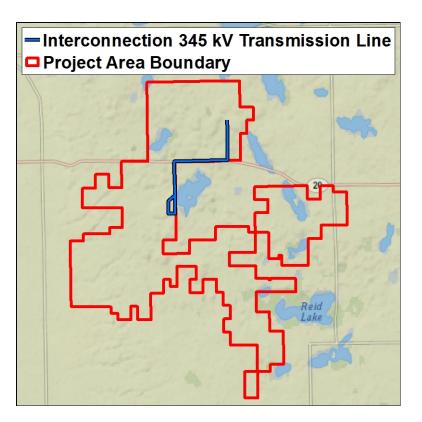
Crocker Wind Farm, LLC, a wholly owned subsidiary of Geronimo Energy,
 LLC

#### **PROJECT DETAILS**

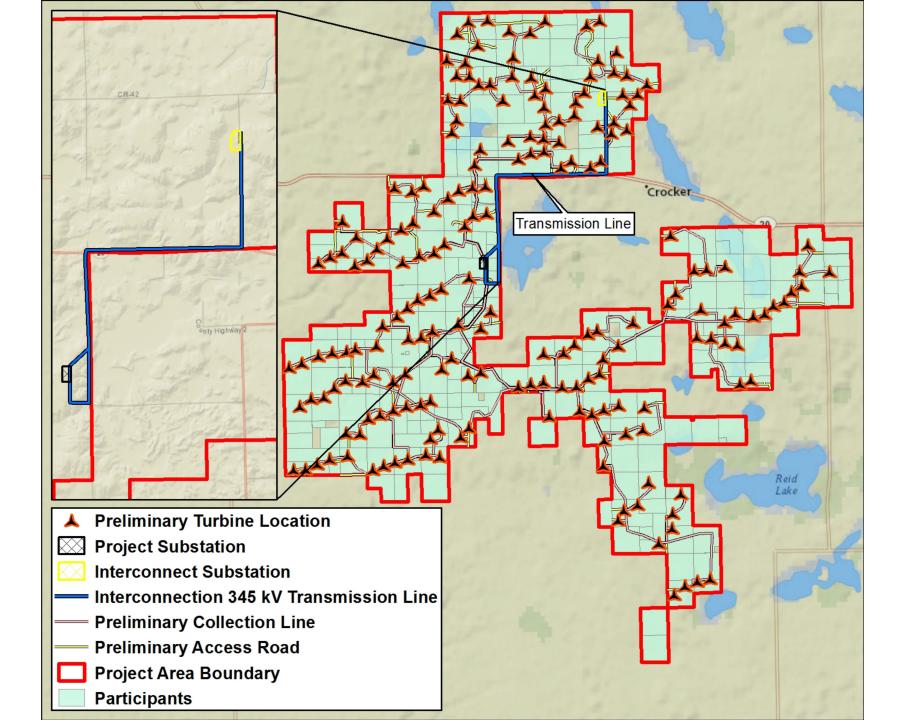
- Up to 400 MW
- Up to 200 turbines, depending on model selected
  - Maximum height of 500 feet
  - Maximum rotor diameter of 446 feet
- Underground 34.5 kV collection system
- Access Roads
- MET Towers
- Transmission Line Route ~ 6.5 miles of 345 kV interconnecting to the Basin Electric Groton-to-Watertown transmission line



## **Project Location/Schedule**

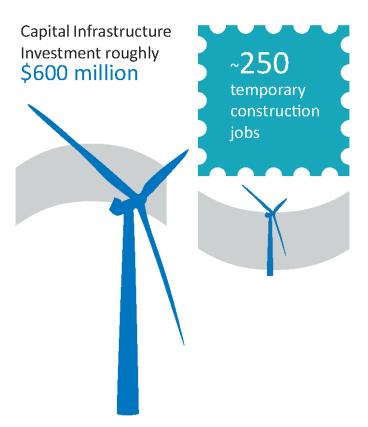


- Located near Crocker in Spring Valley, Warren, Ash, Woodland and Cottonwood Townships
- Project area ~ 30,000 acres
- ~60 participating landowners
- Project facilities will be located on ~237 acres, less than 1% of project area
- Targeting construction as early as the third quarter of 2018
  - ~12-18 months to construct
  - o COD end of 2019

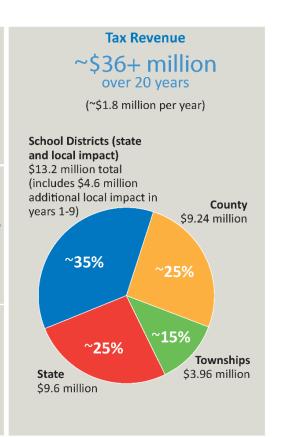




## **Economic Benefits**(based on 400 MW project)







wages over 20 years)



### **Economic Benefits – Community Fund**

#### WHAT IS IT?

- 501(c)(3) organization
- Guarantees annual payments for 20 years of an operational wind farm
- Purpose: provide charitable funds from the project to the local project area
- Up to \$80,000 per year for a 400 MW project
  - \$20,000 per year for every 100 MW
- Spending of the fund is fully controlled and advised by a nominated board of signed landowners and/or members of the community.

# What have other project communities done with these funds?

- Purchased new fire truck and ambulance
- Provided scholarships
- Provided local business grants
- Improved or built city and school parks
- And more!



### **Project Development Milestones**

#### **SECURE SITE**

 Land acquisition is complete through voluntary lease agreements with landowners

#### **COLLECT DATA**

Three meteorological towers in the Project Area with years of data

#### INTERCONNECTION AGREEMENT

Existing agreement allows project to connect to the transmission grid

#### **IDENTIFY EXISTING CONSTRAINTS**

Regulatory, existing infrastructure including transmission, roads, etc.

#### **PRELIMINARY LAYOUT**



### **Project Development Milestones (cont.)**

#### **FIELD STUDIES**

~90% complete, includes field review and environmental studies

#### **LANDOWNER INPUT**

Meetings for feedback on facility locations

#### **SECURE PERMITS**

Local, state, and federal

#### **FINALIZE LAYOUT**

Select turbine and complete geo-technical studies

#### **SELL POWER**

Power will be sold under a PPA or potentially owned by a utility



### **Public Infrastructure**

Prior to construction coordination/ agreements will occur to ensure safety and minimize impacts.

- ITC, rural water, pipelines, residential electrical services
- SD PUC Road Bond
- County/Township Road Agreements:
  - Pre-construction conditions
  - Modifications for construction
  - Terms for maintenance/cost reimbursement
  - Post-construction restoration





## **Key Parts of Wind Farm Construction**

- Access Roads
- Foundations
- Delivery of Equipment
- Erection of Turbines
- Collector System
- Substation
- Transmission Line
- Restoration and Repair





## **Key Parts of Wind Farm Construction Access Roads**





## **Key Parts of Wind Farm Construction Foundations**





# **Key Parts of Wind Farm Construction Delivery**

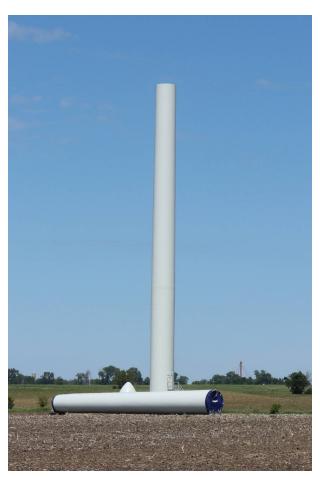








## **Key Parts of Wind Farm Construction Erection**









# **Key Parts of Wind Farm Construction Collector System**





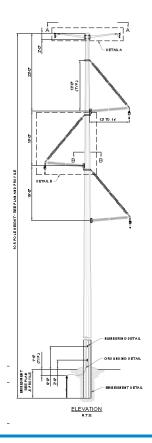
## **Key Parts of Wind Farm Construction Substation**



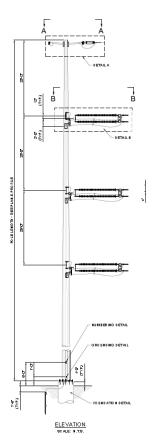


## **Key Parts of Wind Farm Construction Transmission**

Typical Single Circuit Pole



Typical
Deadend
Single
Circuit Pole





## **Key Parts of Wind Farm Construction Restoration**





### **Decommissioning**

At the end of commercial operation, project owner is responsible for removing facilities:

- Turbine removal
- Underground collection
- Substation and interconnection facilities
- Turbine and substation foundation removal
- Access roads
- Financial assurance will be provided as required by permits and applicable law



## Thank you!



Geronimo Energy 952-988-9000