



IBERDROLA
RENEWABLES

Wind Farm Development

Mark Stacy – Director
Rocky Mountain Wind Development

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IBERDROLA Renewables Today: The worldwide leader⁽¹⁾. . .



#1 Worldwide: Presence in 19 Countries ⁽¹⁾

Europe	_____	#1
Spain	_____	#1
United Kingdom	_____	#1
United States	_____	#2

#1 in the Pipeline ⁽²⁾

NOTES

(1) Proforma Scottish Power

(2) Based on pipelines announced to the markets by competitors



IBERDROLA **RENEWABLES**

#1 Worldwide

- **9,624MW Installed Worldwide**
- **3,031MW Installed in USA (31%)**
- **#2 in USA**
- **Active in 20 States**
- **7 Sites Under Development in Wyoming**
 - **6 Counties**
 - **~2,500MW**
- **Corporate Goal: 1,000 MW/yr in USA**

Presence in renewable energy in 19 countries.



Source: Company data as of June 30, 2007,
Proforma Scottish Power

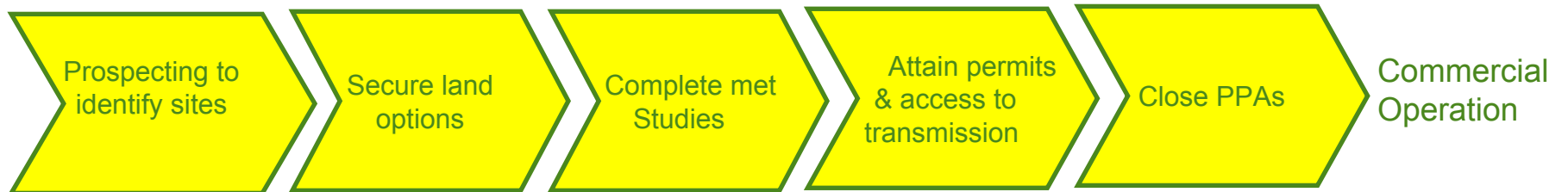
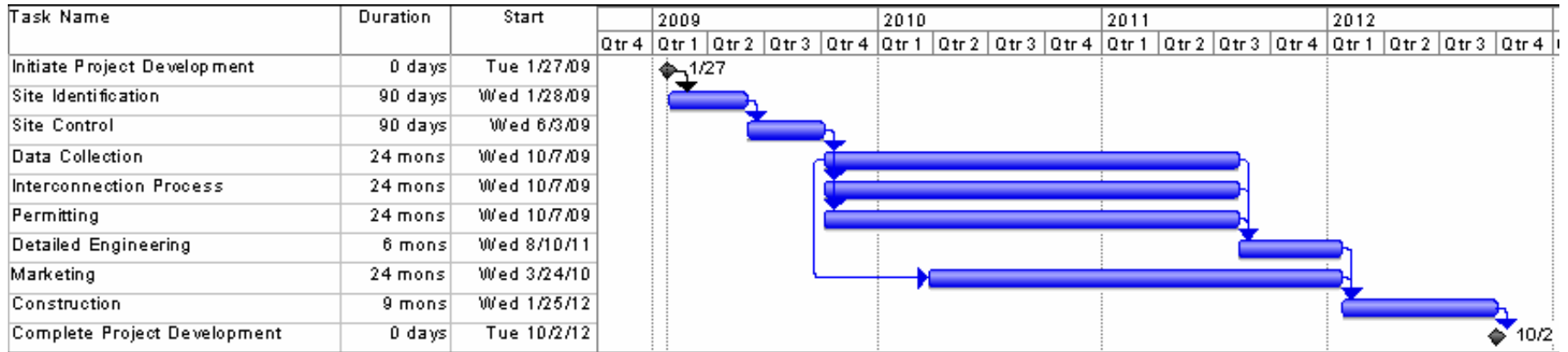
Project Development

- Preliminary Site Identification
- Land Acquisition
- Development Activities
- Construction

Identify Roadblocks to Success

- Regulatory Uncertainty
- Tax Regimes
- Infrastructure (Transmission)

Basic Development Schedule



Site Selection



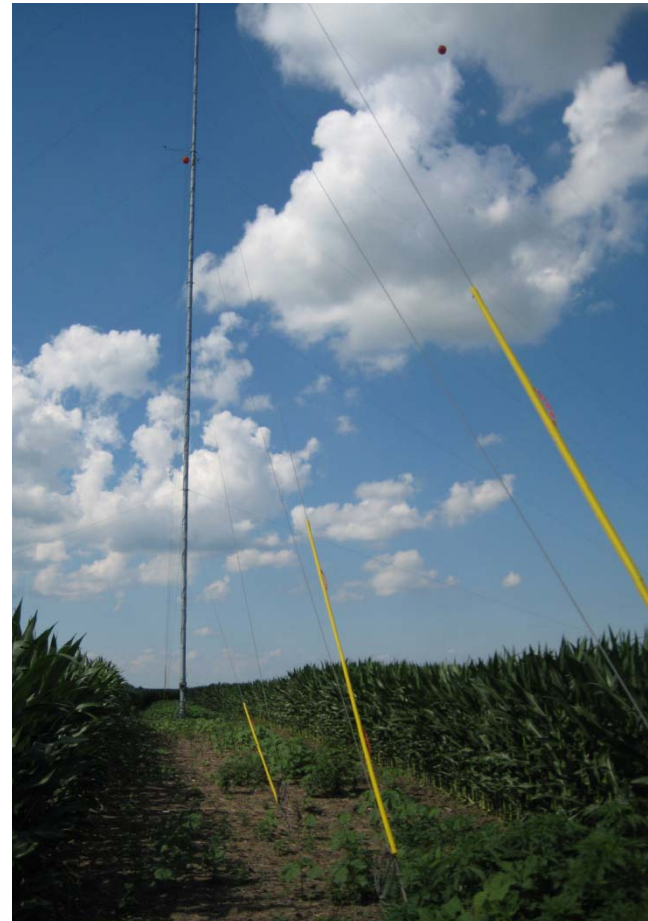
- Wind Resource
- Access to Transmission
- Ownership
- Other Considerations

Acquire Land

- Wind Lease
 - Development Period
 - \$/acre
 - 5 years
 - Extended Period
 - Nameplate Capacity
 - Generation

Wind Data Collection

- Install 1-3 met towers in representative locations; # of towers depends on size of project area and topographic complexity
- If available, correlate to nearby long-term reference data point
- After 6-12 months of data collection, create initial turbine layout and add towers within planned corridors



Ongoing Development Activities

- Monitor and analyze wind data
- Request interconnection
- Identify permitting requirements
- Perform environmental/cultural studies
- Market power
- Work with local officials

Interconnection Process

- **OASIS request** establishes queue position
- **Feasibility Study** is initial, high-level report and rough cost estimate (~3-6 months)
- **System Impact Study** is more detailed report and more accurate cost estimate and breakdown (~3-6 months)
- **Facility Study** is very detailed and provides complete explanation of what facilities would be required, whether they would be network upgrades or project-specific (direct assignment) and full cost breakdown (~6-9 months)
- **Interconnection Agreement** sets responsibilities between generator and transmission provider and is typically filed with FERC (~3-6 months)
- **Construction** of necessary upgrades (timing depends on scope, could be anywhere from 6 months to multiple years)

General Permitting Studies

- Biological
 - Collection of existing data
 - Avian point-count field surveys (multiple seasons)
 - T&E, Rare Plants, Wetlands
- Cultural
 - Desktop analysis
 - Tribal consultation
 - Pedestrian Field Surveys
- Other
 - FAA
 - Military (radar and flight paths)
 - Local land use standards (socioeconomic, visual, noise, etc.)

Marketing the Project

- Power Purchase Agreement (PPA)
- Build to Sell (BTS)
- Liquid Market

Working with local officials

- Roads & other impacts
- Economic Development
- Payment in Lieu of Taxes (PILOT)

Final Development Activities

- Final Layout
- Engineering and surveys for roads/collection system
- Contractor bids
- Coordinate turbine delivery and construction schedules

Balance of Plant (BOP) Facilities

- Access Roads – Gravel roads linking wind turbine strings to existing roads.
- Electrical Collection System – Cables that electrically connect wind turbines to the project collection substation.
- Project Collection Substation – Steps up voltage to interconnection level.
- Operations & Maintenance Building – Houses central office, computer systems for facility operations, equipment storage and maintenance areas.

Road and Turbine Staking



- Consult with landowners
- Consult with highway department

Construction



- 1st Land payments
- Landowner consultation
- 1st Economic benefits

Access Road



Trenching Equipment



Complete Foundation

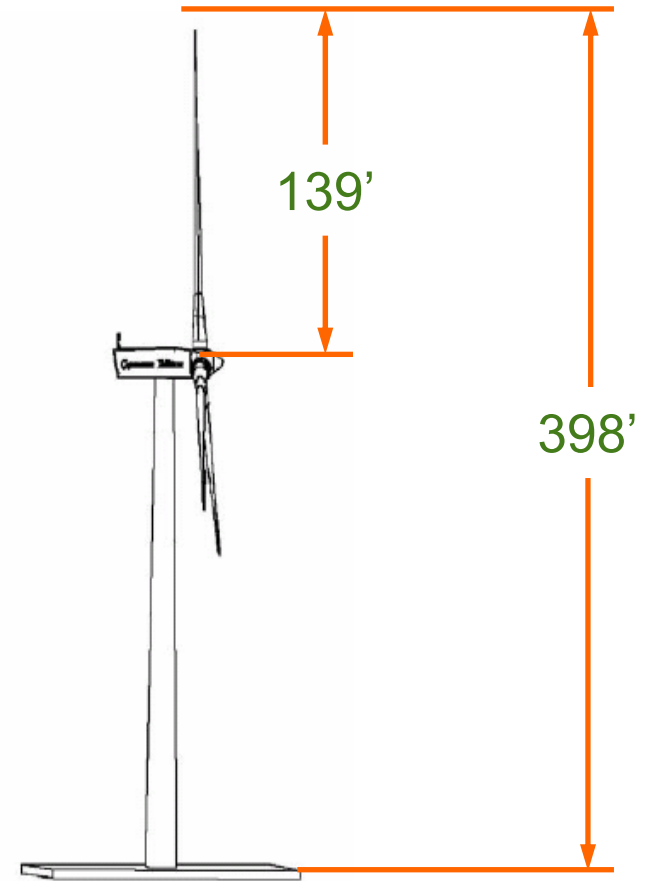
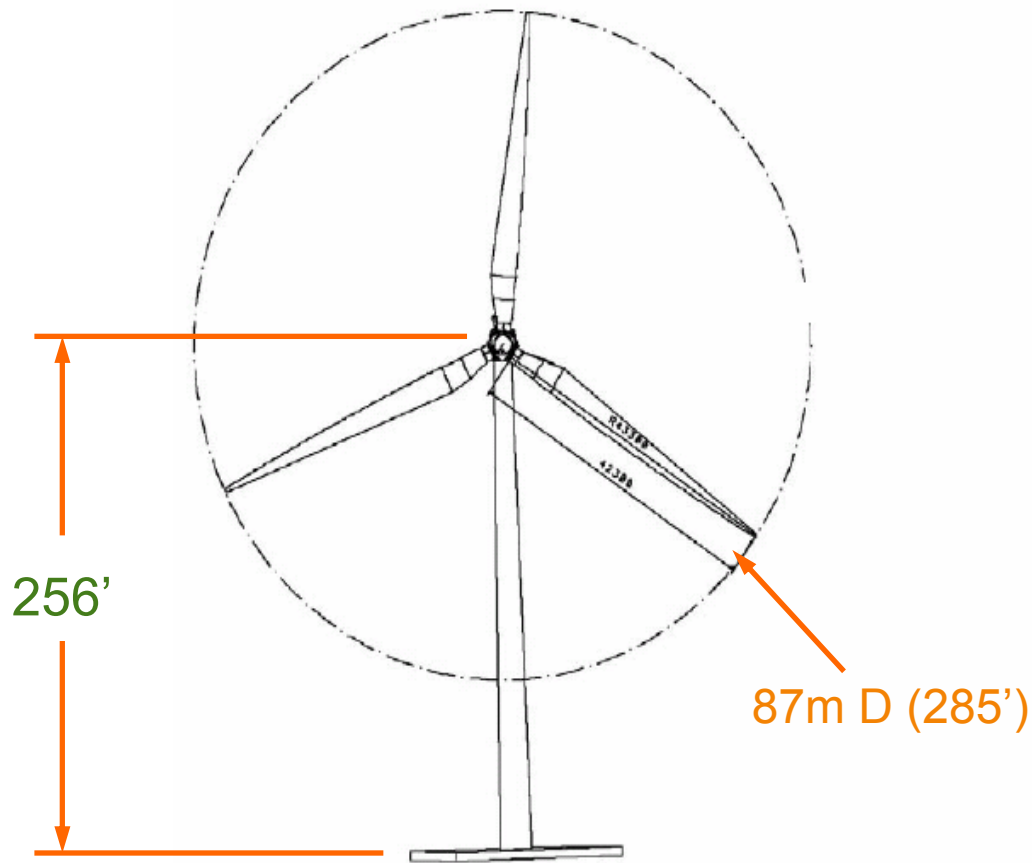


Graded Foundation



Wind Turbines

2.0 MW Gamesa G87 Example



Blades Delivered



Nacelle Delivery



Nacelle



Tower Erection



Turbine Erection



Rotor on Site



Transmission



Substation Excavation



Substation



O&M Building



Wind Farm



Economic Development



Conclusion

QUESTIONS?

Mark.stacy@iberdrolausa.com

[**www.iberdrolarenewables.us/**](http://www.iberdrolarenewables.us/)

