Creating Value from Origination to Commercial Operation

EDFR is a technology agnostic provider of renewable generation, storage, and management solutions.

- **ORIGINATION**
  - Comprehensive analysis, identification and evaluation of prospective sites and matching those sites with customer needs.

- **DEVELOPMENT**
  - Resource assessment, permitting, site design, interconnection rights and technology selections.

- **TRANSACTION**
  - Securitization of energy offtake and financing.

- **CONSTRUCTION**
  - Implementation of all aspects of the system, design, installation, and construction to ensure a quality build.

- **ASSET OPTIMIZATION**
  - Asset management, monitoring and maintenance to ensure profitable and optimal performance of facility.
robust pipeline / continuous GROWTH

24 GW
of development across North America
(as of 12/2018)

Wind
Solar
Wind / Solar
Offshore Wind / Solar
Offshore Wind

as of 12/31/18
Development 101
Greenfielding

- Interconnection is becoming one of the largest drivers
- Must have community support
- Where are the customers/market drivers?
- Environmental/land use
- Regulatory requirements

1.66 MW, Bellevue, OR
Are landowners and community interested?

- **Jobs**
  - 200 temporary jobs, potentially more, during construction
  - 8-10 long term permanent positions during operation

- **Tax Benefits**
  - ~$1M annual Production Tax Payment to local government.

- **Landowner Payments**
  - Sustainable income for landowners, escalating @ 2.5%, over 30+ years.

- **Indirect Benefits**
  - Gas stations, restaurants, hotels, grocery
Pre-construction Study

**Environmental**
- Sensitive Species (eagles, bats, etc) and Habitat (grass/wooded land)
- Wetland delineation
- Consultation with USFWS/MN DNR
- Cultural Investigation

**Interconnection**
- 3-4 year timeline for the Midcontinent Independent System Operator (MISO)
- Costs can be project killers and are increasing due to congestion and lack of infrastructure investments

**Geotechnical and Hydrology Studies**
- Determines foundation or pilings needed

**FAA/DoD/Beam Path**
- Determination of No Hazard needed
- Radar must be cleared by DoD
- Aircraft Detection Lighting System
Turbine Siting

Constraints are numerous and siting is difficult, particularly in MN

- Environmental
- Cultural
- Geotechnical
- Hydrology
- Airspace
- Noise and Shadow Flicker
- Real Property Title
- Terrain Grade
- Roads
- Resource
- Land Use and Landowner Input
- Public Safety
Permitting in Minnesota

- Projects above 50MW must receive a Large Wind Energy Conversion permit (LWEC).
  - Every study listed plays a role in the MN LWECS + additional social value
  - Public input is requested and highly valued
  - ~1+ year process to receive permit
  - Decommissioning plan is required including security

11.89 MW, Elmsley West, Ontario
Local Control/Permitting

Developers work with the county to prepare and update officials

Townships/Counties:

- Conditional Use Permits for Substation/Operations and Maintenance buildings
- Road Use Agreement
- Drainage Agreement
- Development Agreement

*Local support is crucial!*
Can developers IMPROVE?

Always

- Continue partnering with the FAA/DoD for additional safe lighting options
- Better communication and education
- Less larger turbines or more smaller turbine debate
- Continue partnership with Wind Wildlife Association to study species impact
THANK YOU!

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