OVERVIEW OF PROJECT FINANCING & ITS IMPACT ON WIND SYSTEM DESIGN

Rajan Arora
Renewable Energy Systems Americas Inc.
This document (“Report”) has been prepared by Renewable Energy Systems Americas Inc. (“RES”). RES shall not be deemed to make any representation regarding the accuracy, completeness, methodology, reliability or current status of any material contained in this Report, nor does RES assume any liability with respect to any matter or information referred to or contained in the Report. Any person relying on the Report (“Recipient”) does so at their own risk. Neither the Recipient nor any party to whom the Recipient provides the Report or any matter or information derived from it, shall have any right or claim against RES or any of its affiliated companies in respect thereof. Recipient shall treat all information in the Report as confidential.
RES Americas Background

Project Finance Overview

Project Finance Risk Overview
RES Americas

- More than 5,700 MW of renewable energy constructed and developed in North America
- Active in the US since 1997
- Corporate HQ near Denver, CO
- Regional offices:
  - Austin, TX
  - Minneapolis, MN
  - Montréal, QC
- ~250 employees
- Privately held
- Part of the RES Group of companies, an established leader in the global renewable energy industry
ABOUT RES AMERICAS > WIND MWs CONSTRUCTED

CONSTRUCTED

- Washington
  - Nine Canyon I, Benton County
  - Nine Canyon II, Benton County
  - Nine Canyon III, Benton County
  - Hopkins Ridge I, Columbia County
  - Hopkins Ridge II, Columbia County
  - Marengo I, Columbia County
  - Marengo II, Columbia County
  - Wild Horse, Kittitas County
  - White Creek, Klickitat County
  - Lower Snake River, Garfield County

- Nebraska
  - Ainsworth, Brown County
  - Flat Water, Richardson/Nemaha Co.

- Kansas
  - Central Plains, Wichita County

- Wisconsin
  - Butler Ridge, Dodge County

- Wyoming
  - Mountain Wind I, Uinta County
  - Mountain Wind II, Uinta County
  - High Plains, Carbon & Albany Counties
  - McFadden Ridge I—Carbon & Albany Counties
  - Dunlap Wind Energy Project—Carbon County

- California
  - Cameron Ridge, Kern County
  - Pacific Crest, Kern County
  - Hatchet Ridge

- Colorado
  - NREL, Boulder County
  - Cedar Point

- New Mexico
  - Llano Estacado, Curry County

UNDER CONSTRUCTION

- Canada
  - SNEEC, Quebec
  - Talbot, Ontario
  - Greenwich, Ontario

- Jamaica
  - Wigton

- Pennsylvania
  - Armenia Mountain, Tioga & Bradford Counties

- Texas
  - Woodward Mountain, Pecos County
  - King Mountain, Upton County
  - Sweetwater II, Nolan County
  - Sweetwater IV, Nolan County
  - Sweetwater V, Nolan County
  - Whirlwind, Floyd County
  - Lone Star, Shackelford & Callahan Counties
  - Hackberry, Shackelford County
  - South Trent Mesa, Nolan & Taylor Counties
  - Buffalo Gap III, Nolan & Taylor Counties
  - Bull Creek, Nolan County
  - Gulf Wind, Kenedy County
  - Harbor Wind Project

- Oklahoma
  - Crossroads, Dewey County
  - Blue Canyon VI, Caddo County
Cedar Point
- 252 MW
- Limon, CO
- $500M total project value

Crossroads
- 227 MW
- Seiling, OK
- $450M total project value

Greenwich
- 99 MW
- Dorion, ON
- $273M total project value

Lower Snake River
- 343 MW
- Pomeroy, WA
- $830M total project value
An Engineering-Based Culture

- Large in-house engineering / technical team
- Well-designed, high quality, economic projects
- RES consistently delivers results that are on time and on budget
- Construction projects have few to no change orders
- Repeat business – long term view
RES Americas works with a broad range of turbine suppliers, including not only the major manufacturers but also newcomers to the market.
RES Americas Background

Project Finance Overview

Project Finance Risk Overview
Lending to a single purpose entity for the construction of a revenue generating asset with limited or no recourse to the parent company that develops or “sponsors” the project.

Repayment of the loan is solely from the revenues generated from the operation of the asset owned by the entity.

Security for the loan:
- Assignment of all project cash flow
- Pledge of all shares and interest in the entity
- Liens on property
- All contracts, permits
- All other instruments necessary for continuing project operations

Project finance has emerged as a leading way to finance large infrastructure projects that might otherwise be too speculative and expensive to be financed by a corporation via its balance sheet.
Debt is non-recourse

Project has predictable cash flow with revenues contracted for long term

Project has a defined asset life which is adequate to repay the debt

Project risks are allocated to the parties that can best manage them

Lenders have a seniority position over other parties
PROJECT FINANCE OVERVIEW

PROJECT REVENUES

- Operating Account
  - Debt Payment Account
    - Debt Service Reserve Account
    - Major Maintenance Reserve Account
    - Subordinated Debt Account
    - Distribution Account
PROJECT FINANCE OVERVIEW

- Limited Partner
  - Tax Equity
    - Equity Contribution Agreement
  - Sponsors
    - Project Management Agreement
  - Lenders
    - Loan Agreement
    - Debt
  - U.S Dept of Treasury
    - PTC/ITC/Grant
  - Transmission Company
    - Interconnection Agreement
- General Partner
- Operator
- Equipment Supplier
- Land Owners
- EPC/BOP Contractor
- Off-take Purchaser

Agreements:
- Partnership Agreement
- Equipment Supply & Warranty
- Land Lease & Easements
- EPC/BOP Construction Agreement
- Off-take Agreement
- Operation/maintenance Agreement
- Equity Contribution Agreement
- Loan Agreement
- Debt
- Project Management Agreement
- Interconnection Agreement
- PTC/ITC/Grant
Risk is allocated to the party that can bear and manage that risk.
PROJECT FINANCE RISKS > VARIOUS RISKS

- Development Risk
- Performance & Technology Risk
- Transmission & Curtailment Risk
- Construction Risk
- Price Risk
- Operations Risk
- Credit Risk
- Change in Law
Banks will not take unquantifiable risks. Unless the technology has been used successfully in a number of projects, it presents such a risk.

**MANUFACTURER**
- Credit strength and track record of the manufacturer
- Intellectual property issues

**TURBINE**
- New or established?
  - Deployment history
- Key known issues
- WTG suitability – site specific IEC certification by third party
- Coverage for serial defects

**PERFORMANCE WARRANTY**
- Term of warranty
- Availability vs power curve
- Spare parts availability
- Lost revenue/PTC

The construction contractor or vendor may be willing to guarantee the technology. Liquidated damages must cover the full construction cost through mechanical completion.
**New technology accepted more readily when backed by strong OEM**

- Performance Guarantee
  - Mechanical Availability
  - Guaranteed Output
  - Power Curve Warranty
  - Parent Guarantee

**Other ways to mitigate technology risk**

- Demonstration Facilities
- Third-Party Credit Support
- Engineering Due-Diligence
- Insurance Products
WELL-DEVELOPED PROJECT = “FINANCEABLE”