

# OVERVIEW OF PROJECT FINANCING & ITS IMPACT ON WIND SYSTEM DESIGN



**Rajan Arora**  
**Renewable Energy Systems Americas Inc.**



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**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



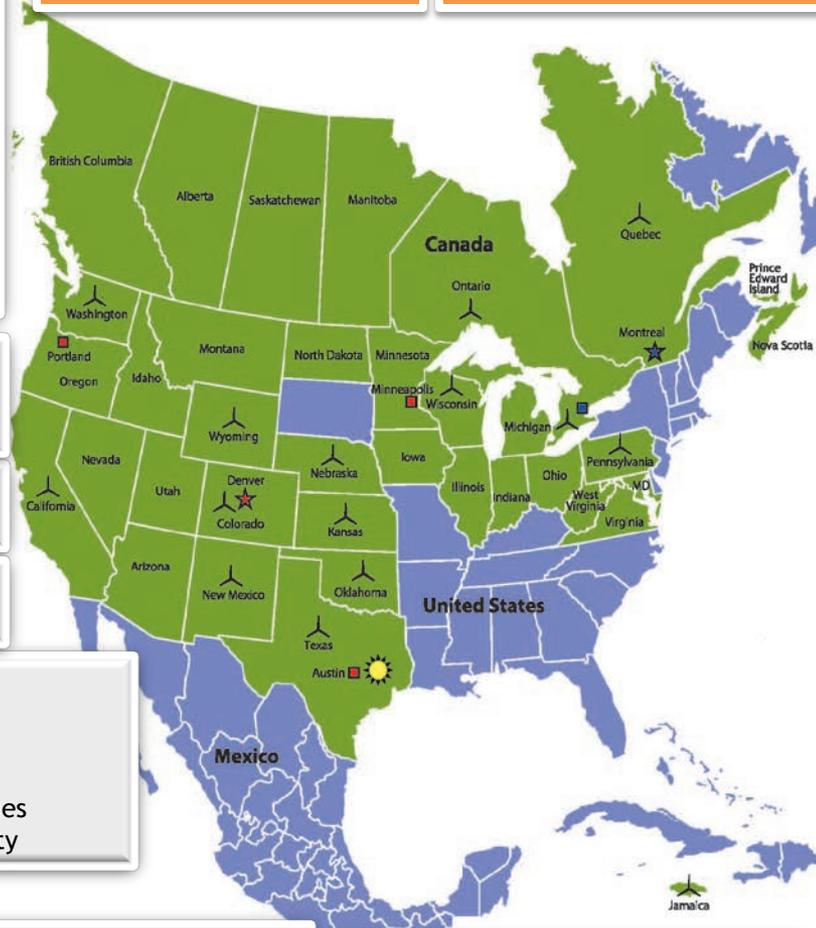
# ABOUT RES AMERICAS > WIND MWs CONSTRUCTED

## CONSTRUCTED

5274 MW

## UNDER CONSTRUCTION

431 MW



### 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
- Harvest Wind, Klickitat County
- Wild Horse II, Kittitas 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

### 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

# ABOUT RES AMERICAS > RECENT WIND EXPERIENCE



## Cedar Point

- 252 MW
- Limon, CO
- \$500M total project value



## Crossroads

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



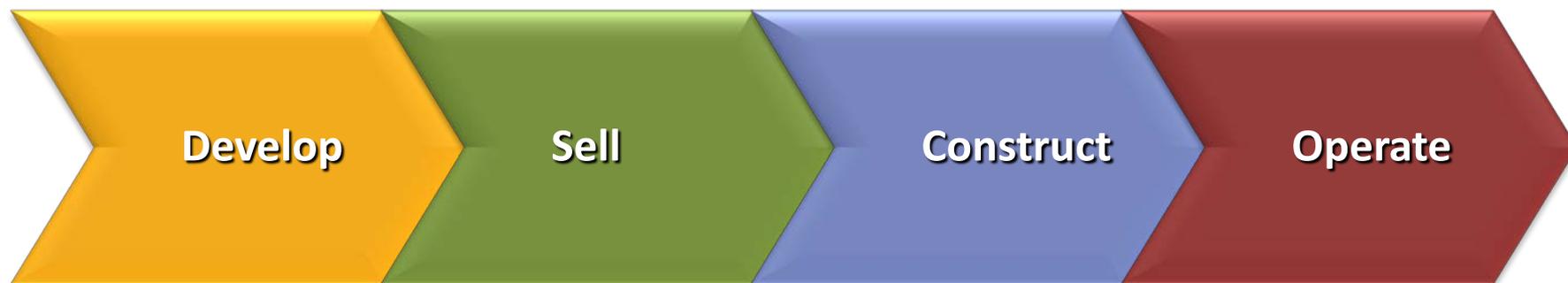
## Greenwich

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



## Lower Snake River

- 343 MW
- Pomerey, WA
- \$830M total project value



- Site & market selection
- Land lease & acquisition
- Wind resource assessment
- Layout design/optimization
- Community relations
- Permitting & approvals
- Transmission/interconnection

- EPC or BOP
- Construction management
- Equipment procurement
- Design layout
- Substation & transmission
- Infrastructure development
- Controls and planning
- Safety

- Project financing
- Tax monetization
- Preventive maintenance
- Availability monitoring
- Data collection & analysis
- Equipment optimization
- Asset management
- Financial reporting

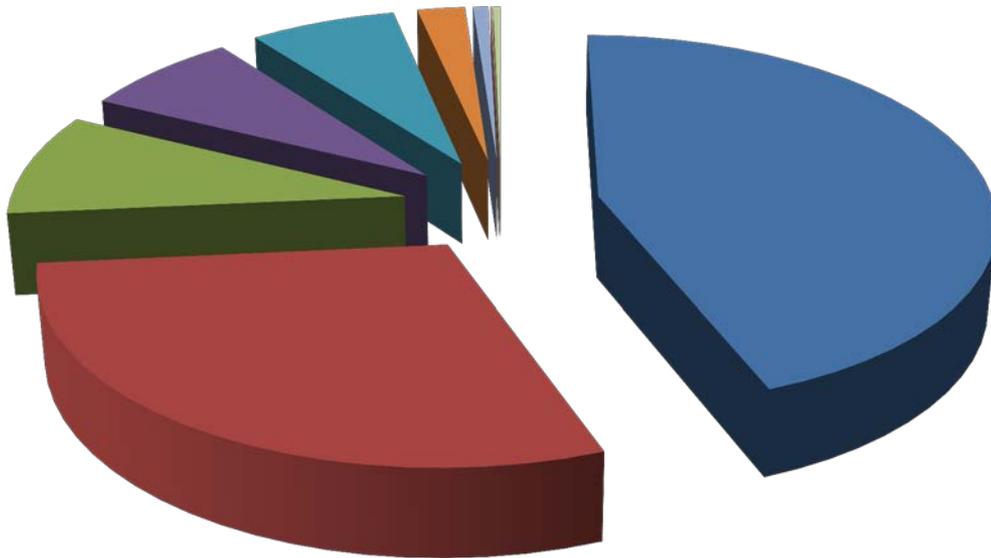
## An Engineering-Based Culture

- 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

## ABOUT RES AMERICAS > TECHNOLOGY EXPERIENCE

RES Americas works with a broad range of turbine suppliers, including not only the major manufacturers but also newcomers to the market.

# of MW's



SIEMENS



Vestas®



SUZLON

POWERING A GREENER TOMORROW



NORDEX

We've got the power.



**RES Americas Background**

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**Project Finance Risk Overview**

## Asset-Based Debt Financing Method

**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

## PROJECT FINANCE OVERVIEW > KEY CHARACTERISTICS

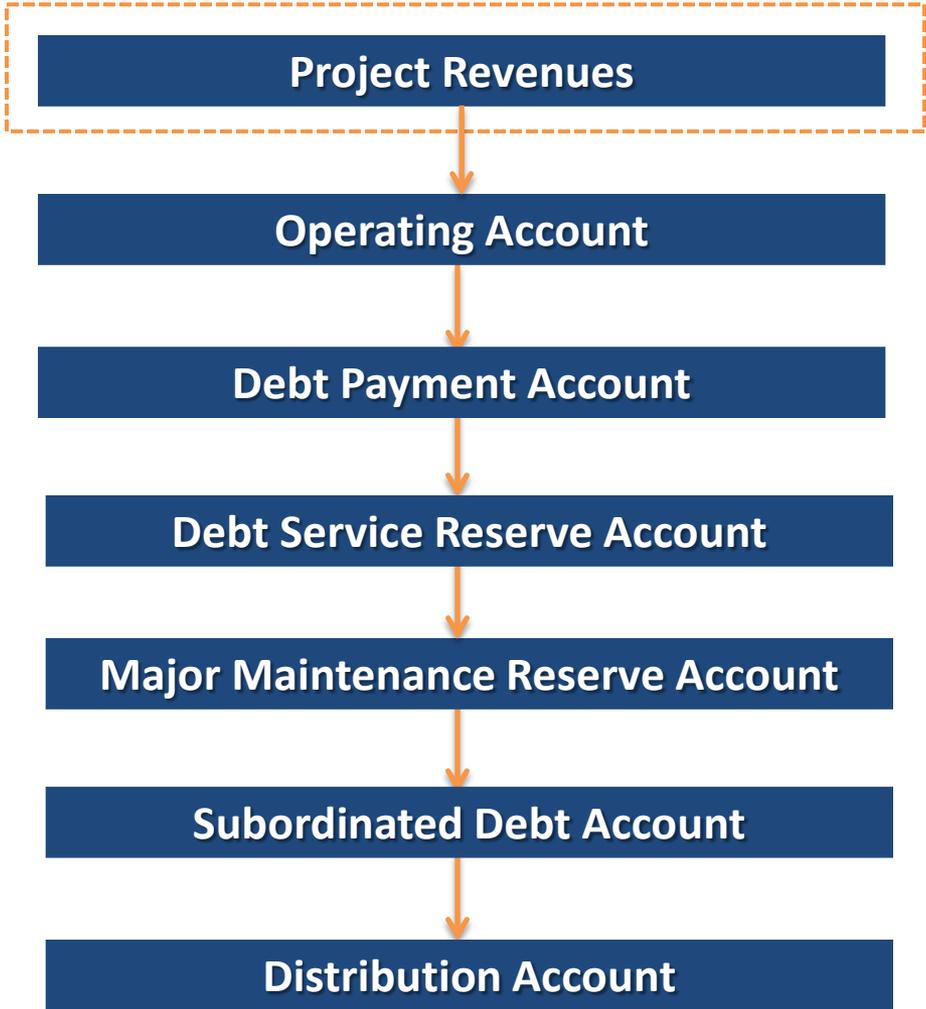
Debt is non-recourse

Project has predictable cash flow with revenues contracted for long term

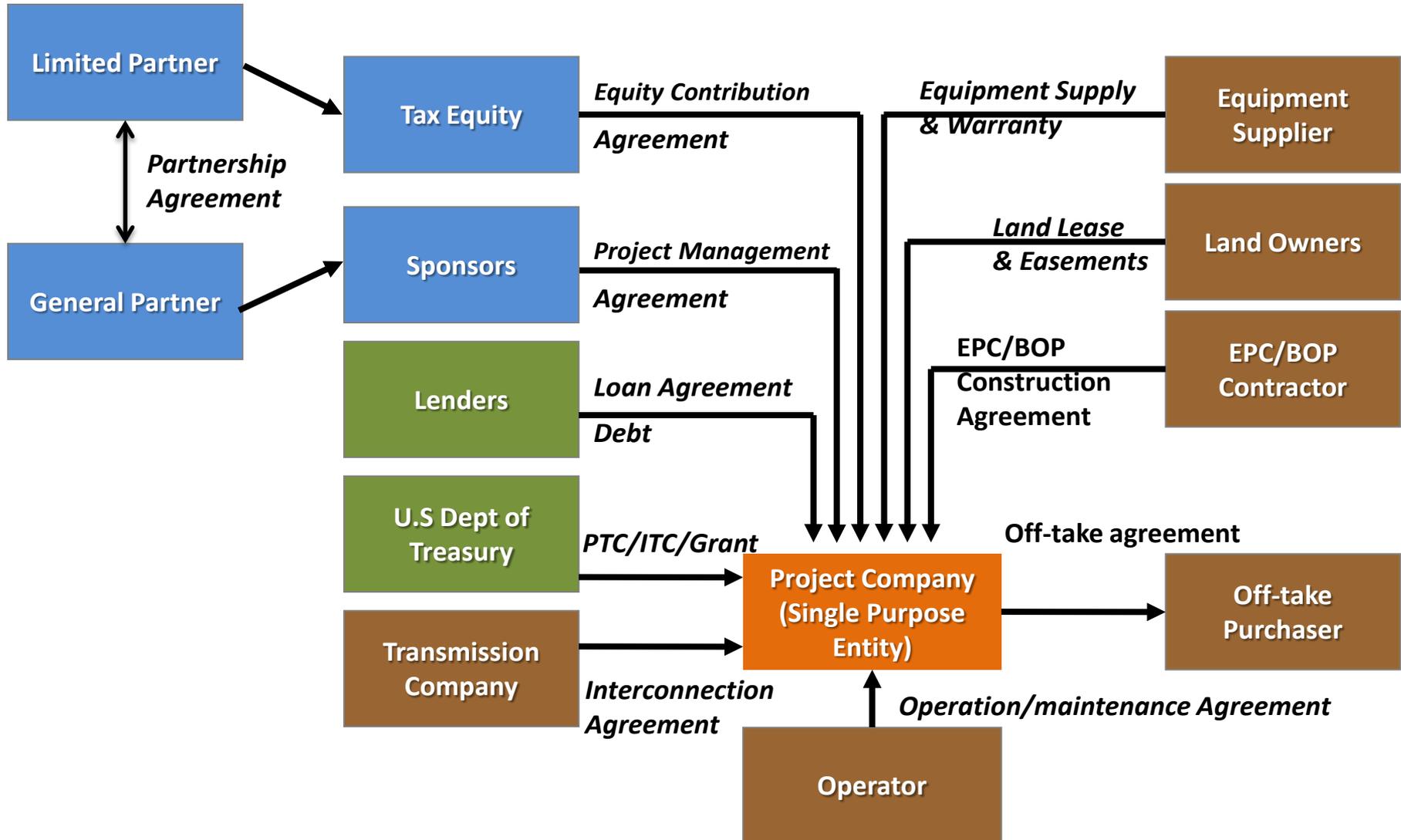
Project has a defined asset life which is adequate to repay the debt

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

Lenders have a seniority position over other parties



# PROJECT FINANCE OVERVIEW > STRUCTURE



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**THEORY OF RISK ALLOCATION**



**Risk is allocated to the party that can bear and manage that risk**

# PROJECT FINANCE RISKS > VARIOUS RISKS



# PROJECT FINANCE RISK > TECHNOLOGY RISK

***Banks will not take unquantifiable risks. Unless the technology has been used successfully in a number of projects, it presents such a risk.***

<p><b>MANUFACTURER</b></p>	<ul style="list-style-type: none"> <li>▪ Credit strength and track record of the manufacturer</li> <li>▪ Intellectual property issues</li> </ul>
<p><b>TURBINE</b></p>	<ul style="list-style-type: none"> <li>▪ New or established?               <ul style="list-style-type: none"> <li>▪ Deployment history</li> </ul> </li> <li>▪ Key known issues</li> <li>▪ WTG suitability – site specific IEC certification by third party</li> <li>▪ Coverage for serial defects</li> </ul>
<p><b>PERFORMANCE WARRANTY</b></p>	<ul style="list-style-type: none"> <li>▪ Term of warranty</li> <li>▪ Availability vs power curve</li> <li>▪ Spare parts availability</li> <li>▪ Lost revenue/PTC</li> </ul>

**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”**

