

# Changing of Turnkey solution provider in Indian Wind

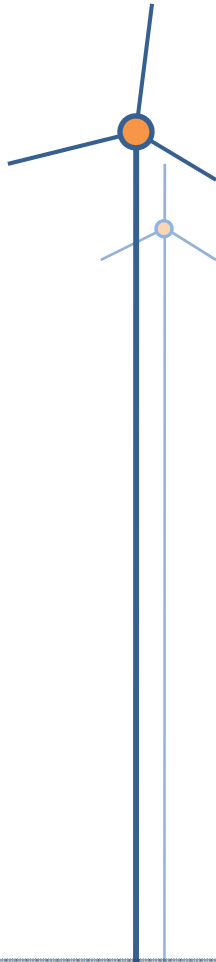
**Industry**

Presented By:

**Hiren Shah**



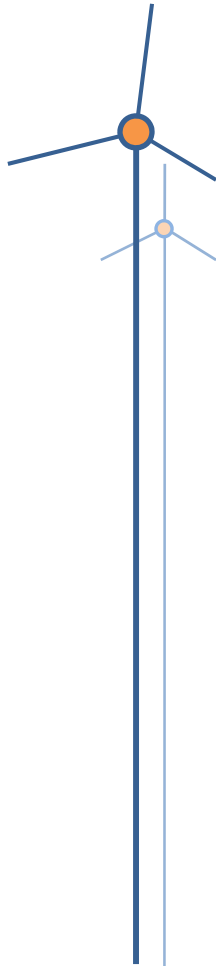
**GLOBAL WIND POWER LTD.**



# TOPICS

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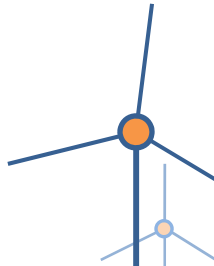
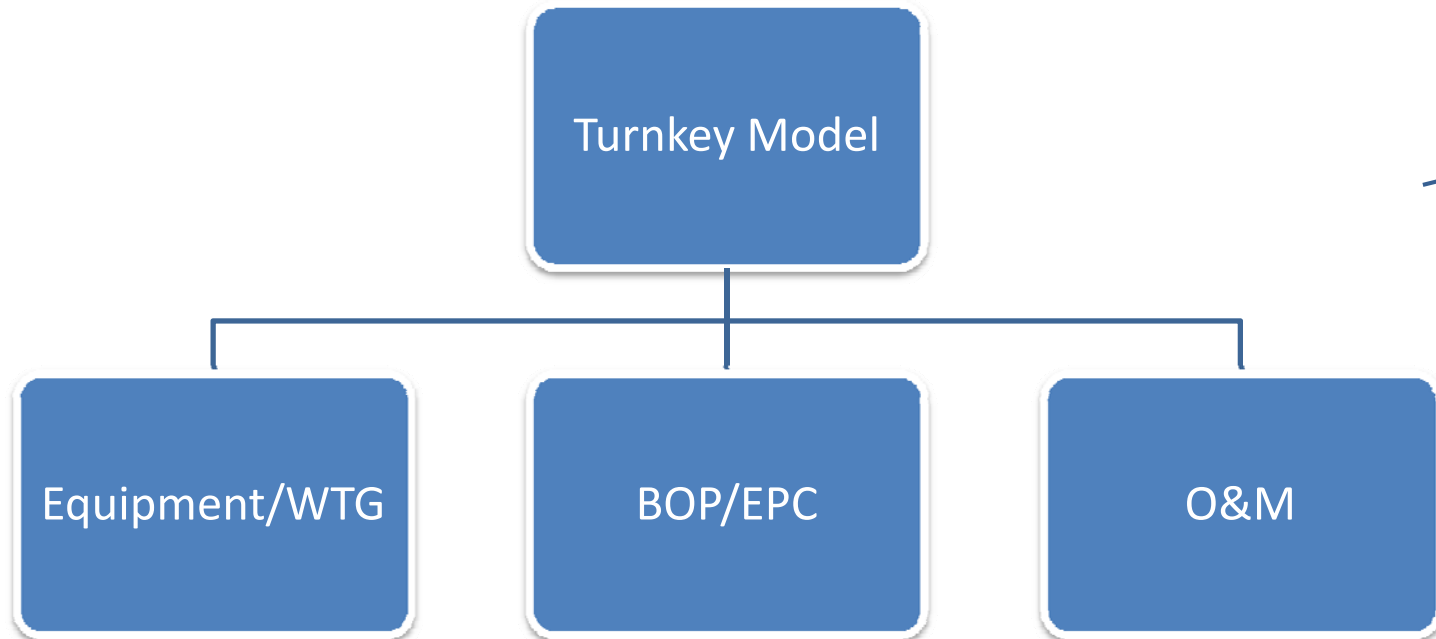
- Wind Ecosystem Value Chain
- Changes happening in:
  - Operational Model
  - Financing Model
- Operational Model
- Reasons for change in Turnkey Model
- Implications for the value chain
  - Manufacturers
  - EPC
  - IPP/Investors
- Options of Financing Wind Projects
- WTG Manufacturer's role in Financing
- Summary



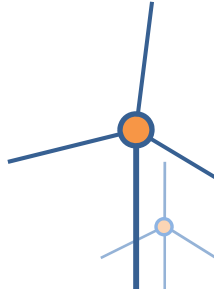
# Wind Ecosystem – Current Model

Operations: Turnkey project provided by Manufacturers

Finance: Arranged by Project Owner



Changes are underway in both, the Operational and Financing Models



# Changes in Operational Model

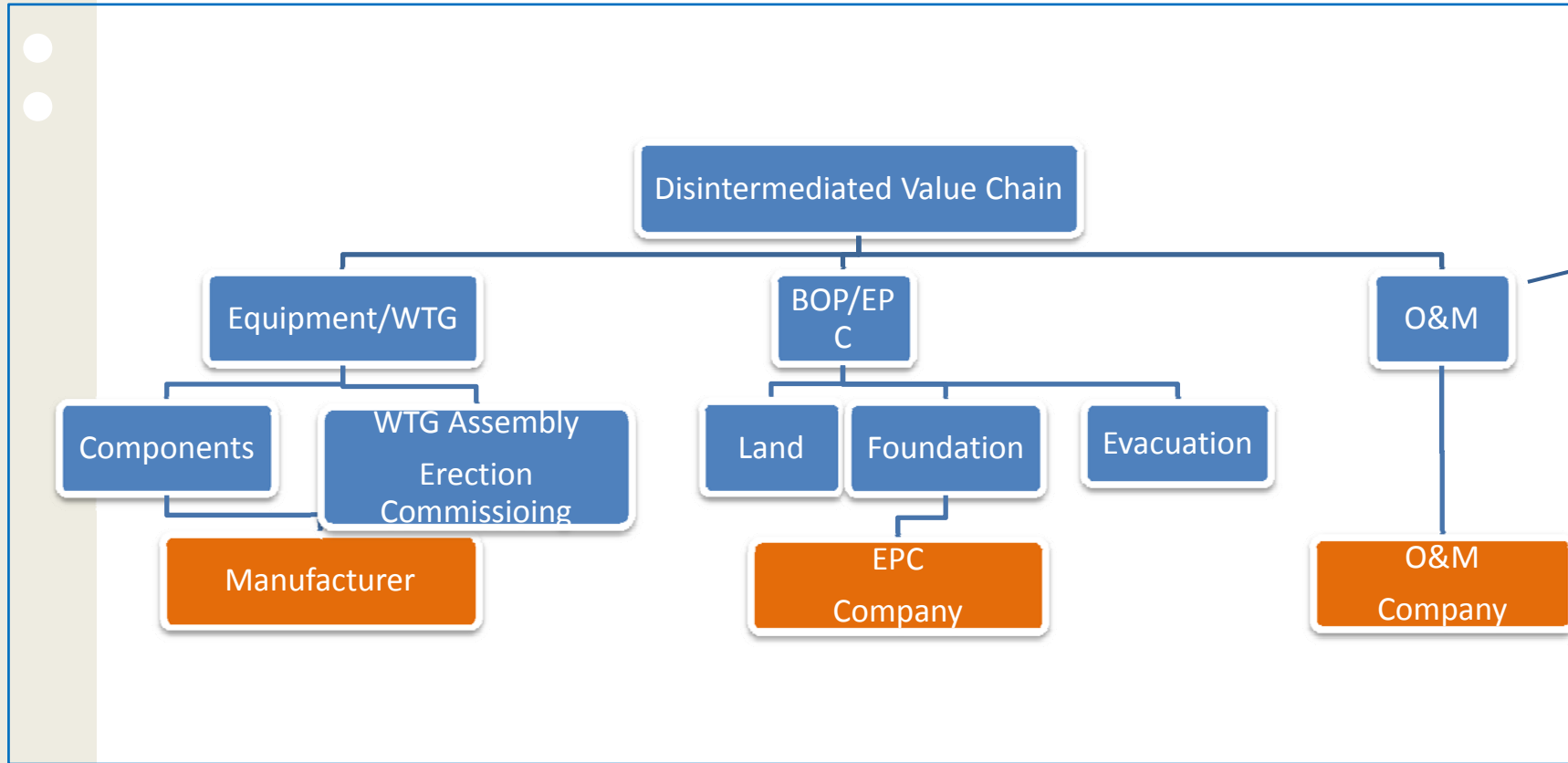
# Catalysts for changes in Operational Model

- Market is not supply constrained but Delivery constrained
- The constraints in delivery are in respects of Approvals, Land acquisition, Evacuation and Grid Connectivity
- WTG Manufacturers competency is in technologically advanced quality wind turbines
- The disintermediated model is tried and tested model in other parts of the world
- There already exist EPC companies in India that can also take on the EPC of Wind Turbines

**Wind Turbine Manufacturers need to be relieved from other activities to focus on delivering quality and cost effective wind turbines and associated services**



# Wind Ecosystem – Disintermediated Value Chain

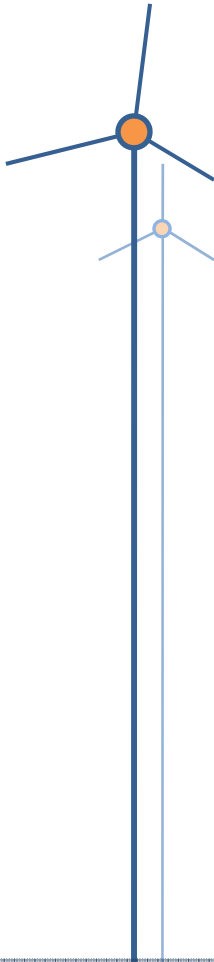


**Disintermediated Model is followed in most part of the world, where WTG manufacturer co-exists with other service providers**

# IMPLICATIONS FOR THE VALUE CHAIN - MANUFACTURERS

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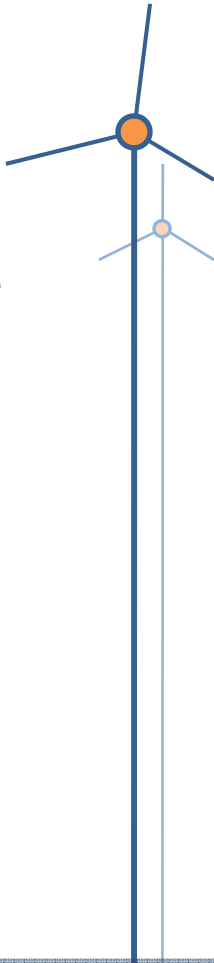
- Focus will be on increasing scale to reduce costs.
- The emphasis will need to be on spreading their risks across a range of products
- They need to actively drive their supply chain towards standardization and protect themselves from any bottleneck in the supply of monopoly components or raw materials.



# IMPLICATIONS FOR THE VALUE CHAIN – EPC

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- There is an opportunity for a handful of companies to establish themselves as the dominant EPCs that can also provide their services across a range of wind turbine models.
- These EPCs can reduce dependence on the current turnkey model and provide investors with increased flexibility.





# IMPLICATIONS FOR THE VALUE CHAIN – O&M

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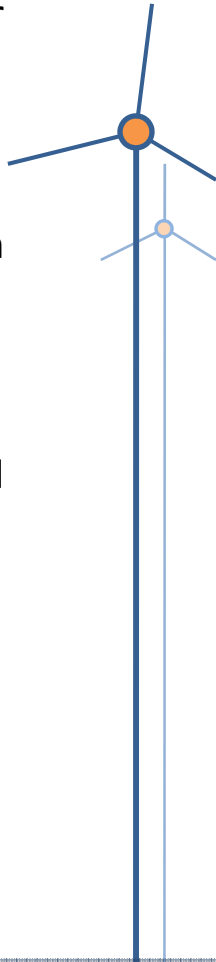
- Emergence of O&M companies that can take operation and maintenance services across the range of Wind Turbines not limited to any specific manufacturer
- With Operation and Maintenance service providers, the buyer is not tied to the manufacturer for the life of the turbine
- The buyer will have the freedom to choose the most cost effective service provider in oppose to the current structure where he is tied up with manufacturer at a fixed cost over the life of the turbine
- Manufacturer will license its training and knowledge. And earn from spare parts sale

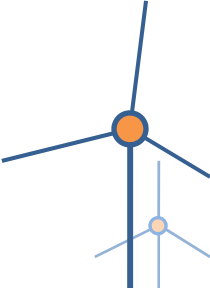


# IMPLICATIONS FOR THE VALUE CHAIN – IPP/INVESTORS

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- IPPs will have to develop competencies beyond running RFPs and arranging capital. This will help them improve their returns and, more importantly, mitigate their exposure to risk.
- Decision makers will have to place a higher emphasis on the long term sustainability of the vendors they partner with.
- Can choose to do the upfront activity of securing evacuation approvals and land rights

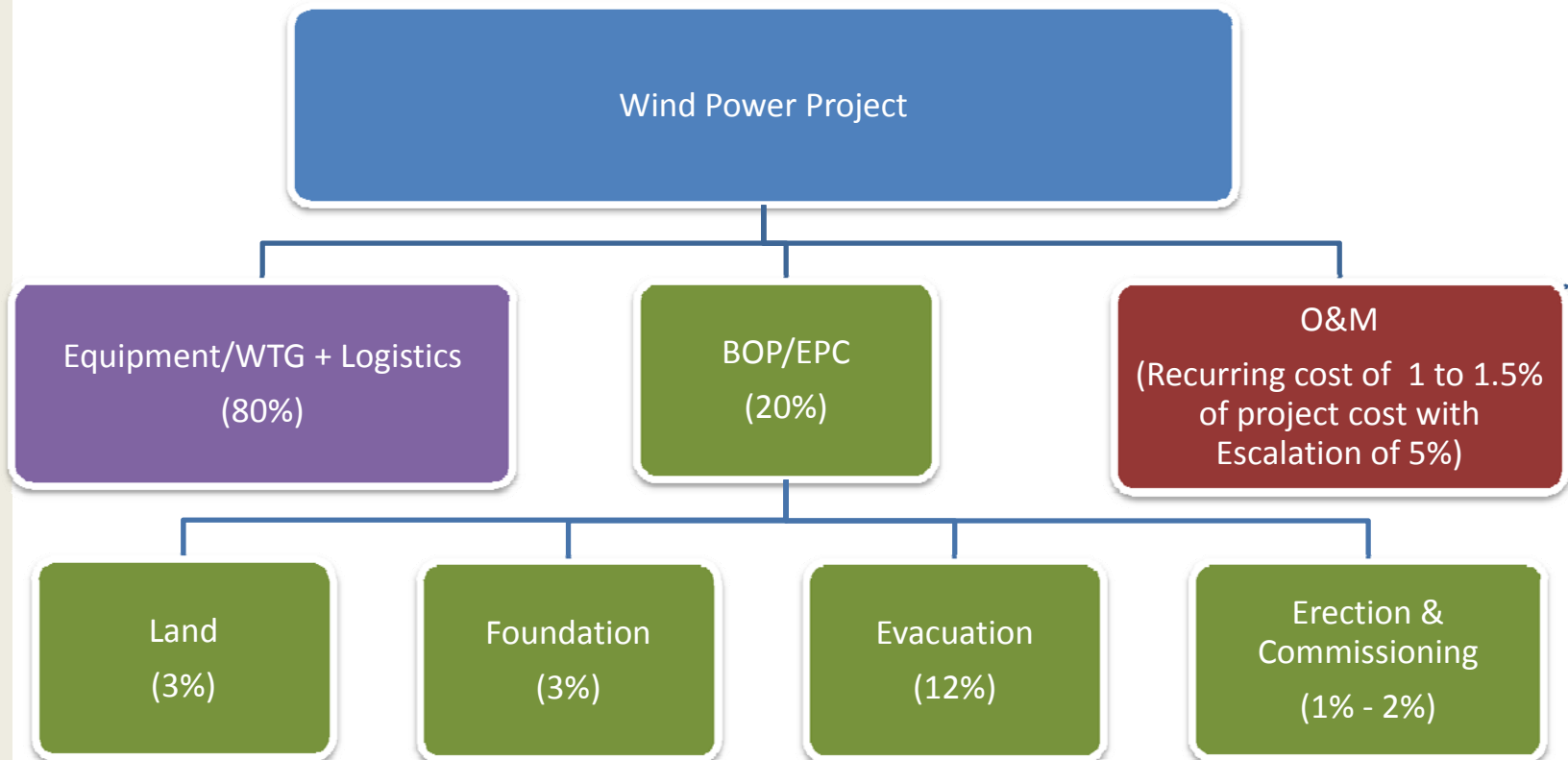




# Changes in Financing Model



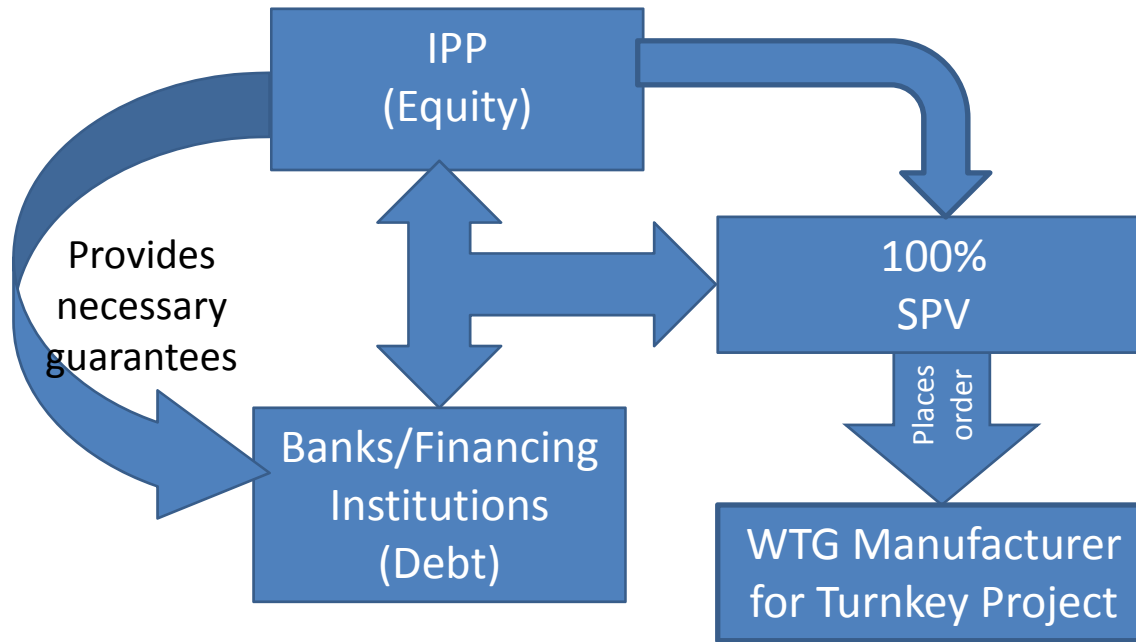
# Cost Breakdown of typical onshore Wind Power Project



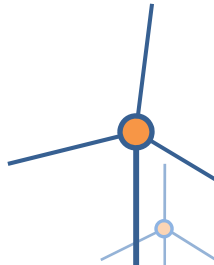
➔ **Wind Turbine costs approx. 80% of the total project cost**



# Current Model of Financing



**IPP is primarily responsible for arranging Financing**

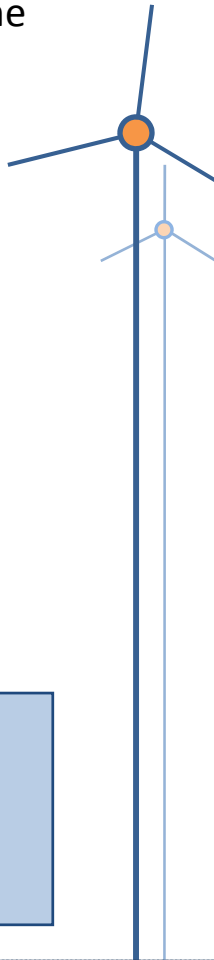


# WTG manufacturer's role in Financing is currently limited

- In the current Model, IPP/Customer takes on the task of arranging financing where he needs to prove the selection of right turbine, site and reasonable assurance of the generation to financing agencies
- IPP needs to address the queries for which they are not directly in control
- IPP secures funding on the basis of financial strength of its company
- WTG manufacturer supports with relevant supporting information

**Traditional method of Project Financing places the burden on the IPP for both:**

1. **Securing the financing and**
2. **Negotiating the lowest rate , moratorium, repayment period etc**



# Change in WTG manufacturer's role in Financing

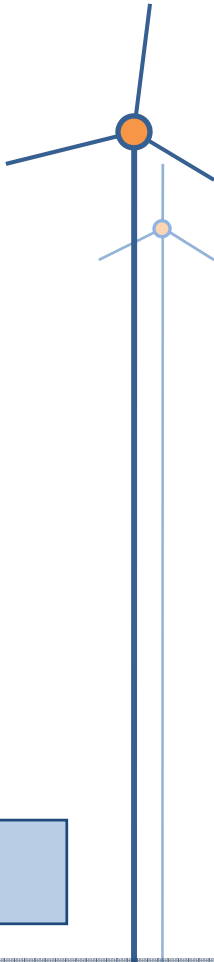
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The WTG Manufacturer is now stepping up and providing a host of options to enable the IPP :

- Equipment Financing
- Project Financing
- Lease Financing



Subsequent slides provide additional details



# Change in WTG manufacturer's role in Financing

## Equipment Financing

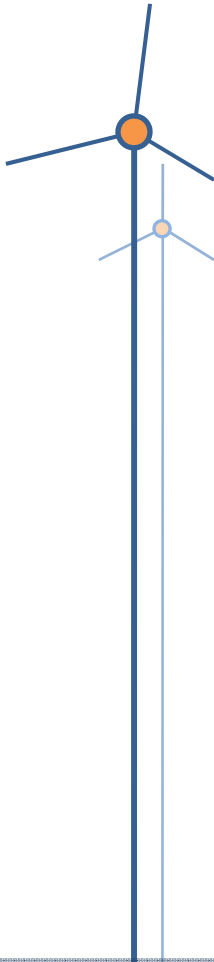
- Manufacturer can have arrangement with the financing institutions where all the study regarding the performance of the machines is addressed in advance
- This is limited to the cost of the Equipment

## Project Financing

- Irrespective of the model, the manufacturer is still the key partner on the basis of which funding is evaluated
- Therefore the manufacturer can take on the onus of arranging the financing for as much of the project cost as possible
- IPP will provide the comfort as necessary to address the perceived risks from the lender's point of view

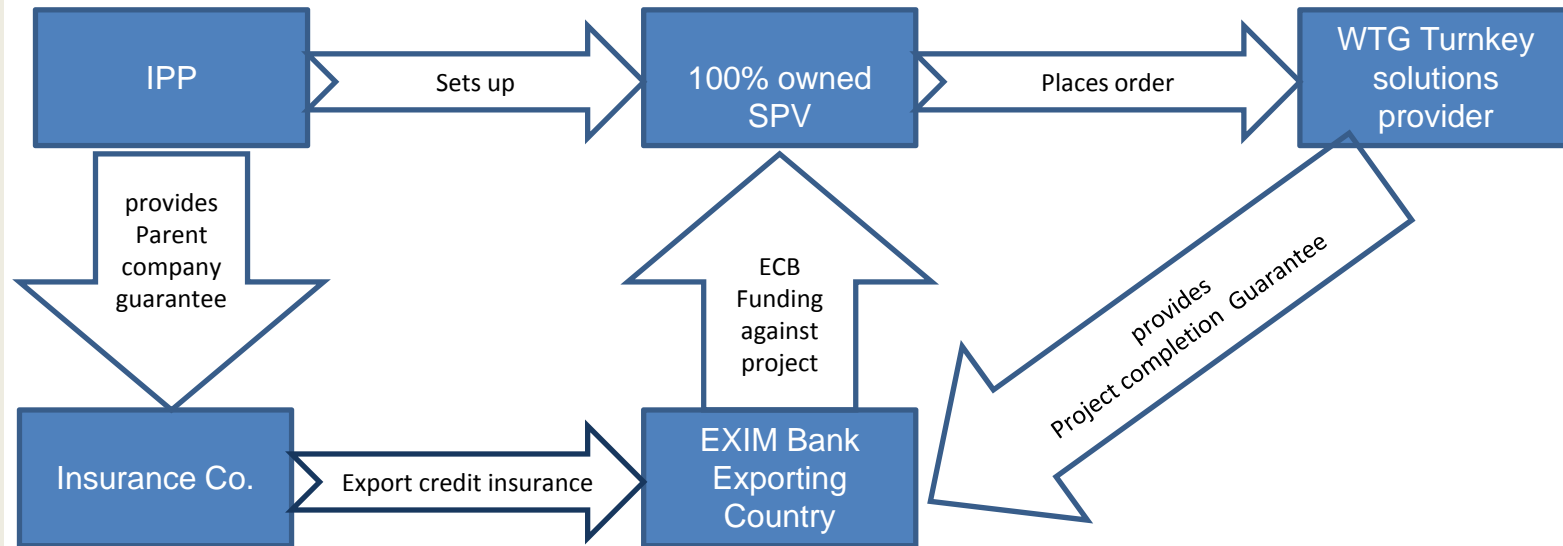
## Lease Financing

- The extended version of project Financing can be Lease Financing.
- A Leasing company can be the owner of the project and lease to the customer over the life of the turbine



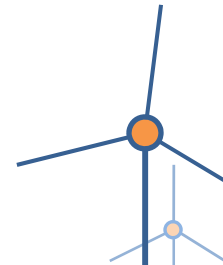
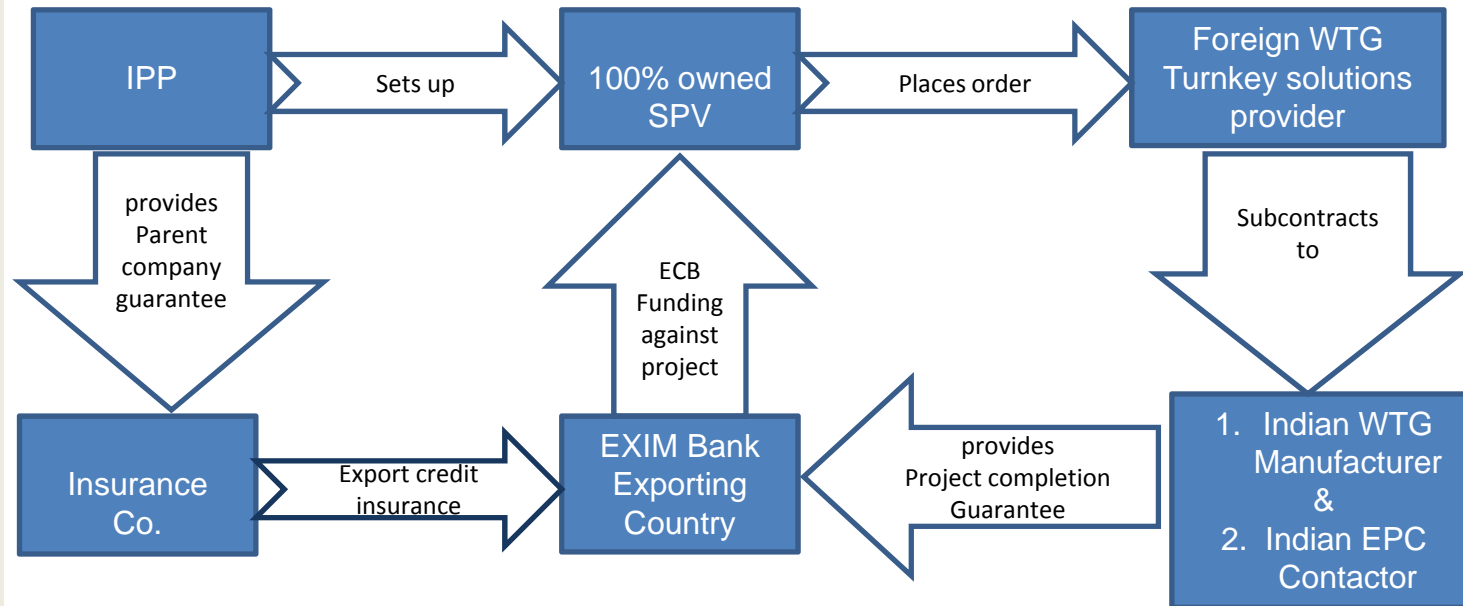


# Equipment Financing – In cases of >50% import content



**Importing components provides access to ECB (3 years) for amount equivalent to Import content of the turbines, a benefit that can be passed on to the IPPs**

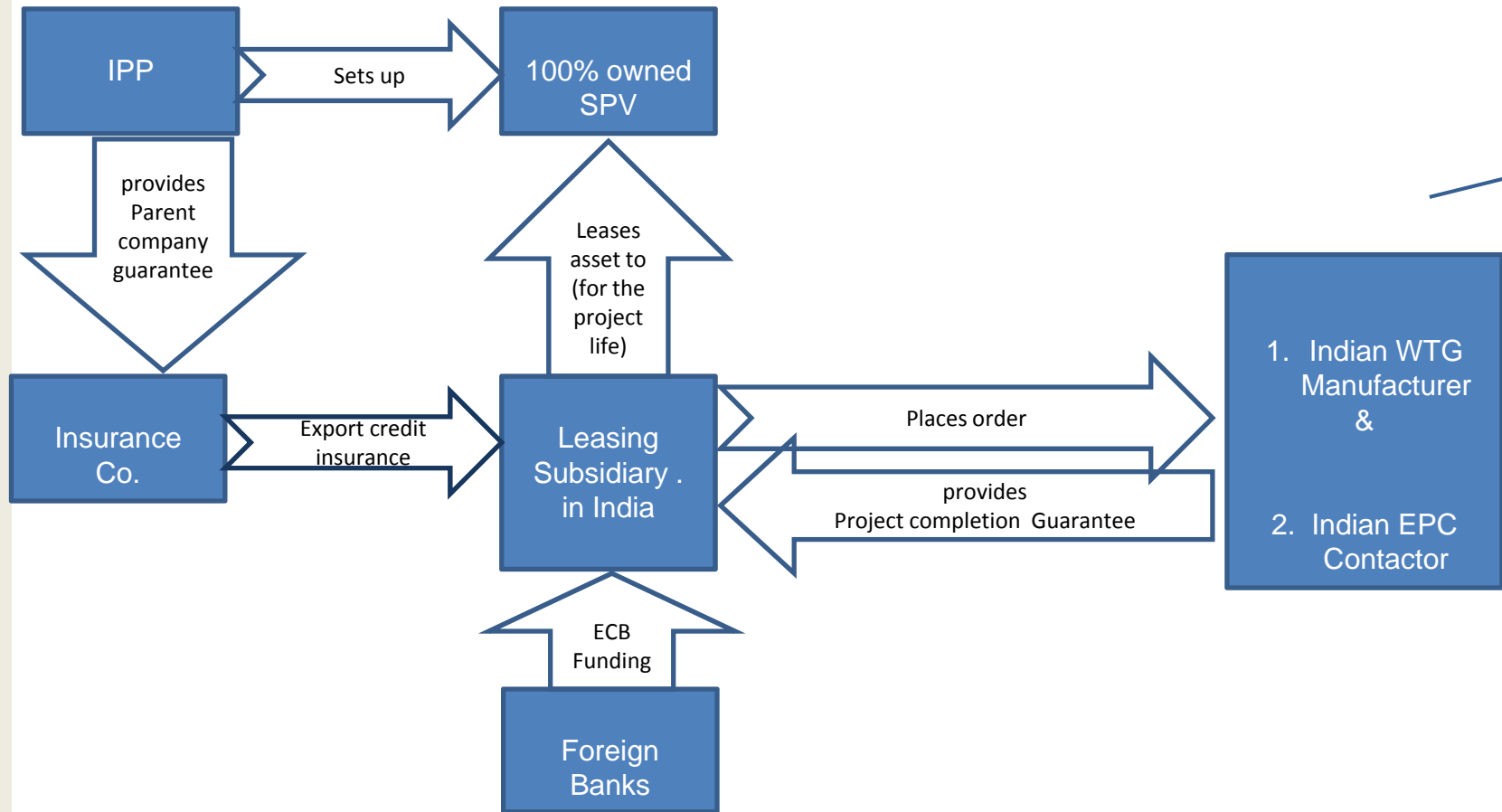
# Project Financing with Foreign Currency



**Project Financing provides you access to ECB for a potentially higher percentage of the value of the project**



# Lease Financing (Exploratory Stage)



**Lease Financing allows to have long term financing through ECB Funds**



# Traditional Vs. New Financing

Points	Current Approach	New Options
Arrangement of Financing	IPP/Customer responsible	Manufacturer already has a tie-up
Options Available	One option available; Debt-Equity 70:30	Three options outlined above
Cost of Finance	Mostly Domestic 12-15% basis strength of the IPP	ECB Option if available 7-12% with hedging
Repayment period	8-10 Years	Can be up to 15 Years for option 1 and 2

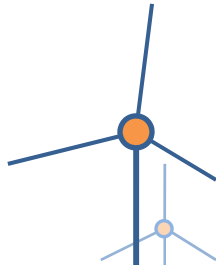


**Newer methods provide better options**

# **SUMMARY:** Model that got us here will not be the same that takes us through the next ten years

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- Wind projects have several challenges on all fronts
- The operation model needs to be and is in the process of being disintermediated
- Manufacturers need to and are playing a bigger role in supporting the IPPs for financing the projects
- The can increase profitability for both
  - Manufacturers in being able to deliver a higher value
  - IPPs in terms of being able to shorten the time for financial closing and reduce the risk premium



**THANK YOU**

**Hiren Shah**

CEO

Global Wind Power Ltd

Cell: +91 93204 55222

[Hiren.shah@gwpl.co.in](mailto:Hiren.shah@gwpl.co.in)

[www.gwpl.co.in](http://www.gwpl.co.in)

