



Embracing the Challenging Scenarios in Wind Industry by downsizing the Component through dedicated research in structural components of wind turbine

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Presented by: SUDHANSU BHUSAN PRUSTY

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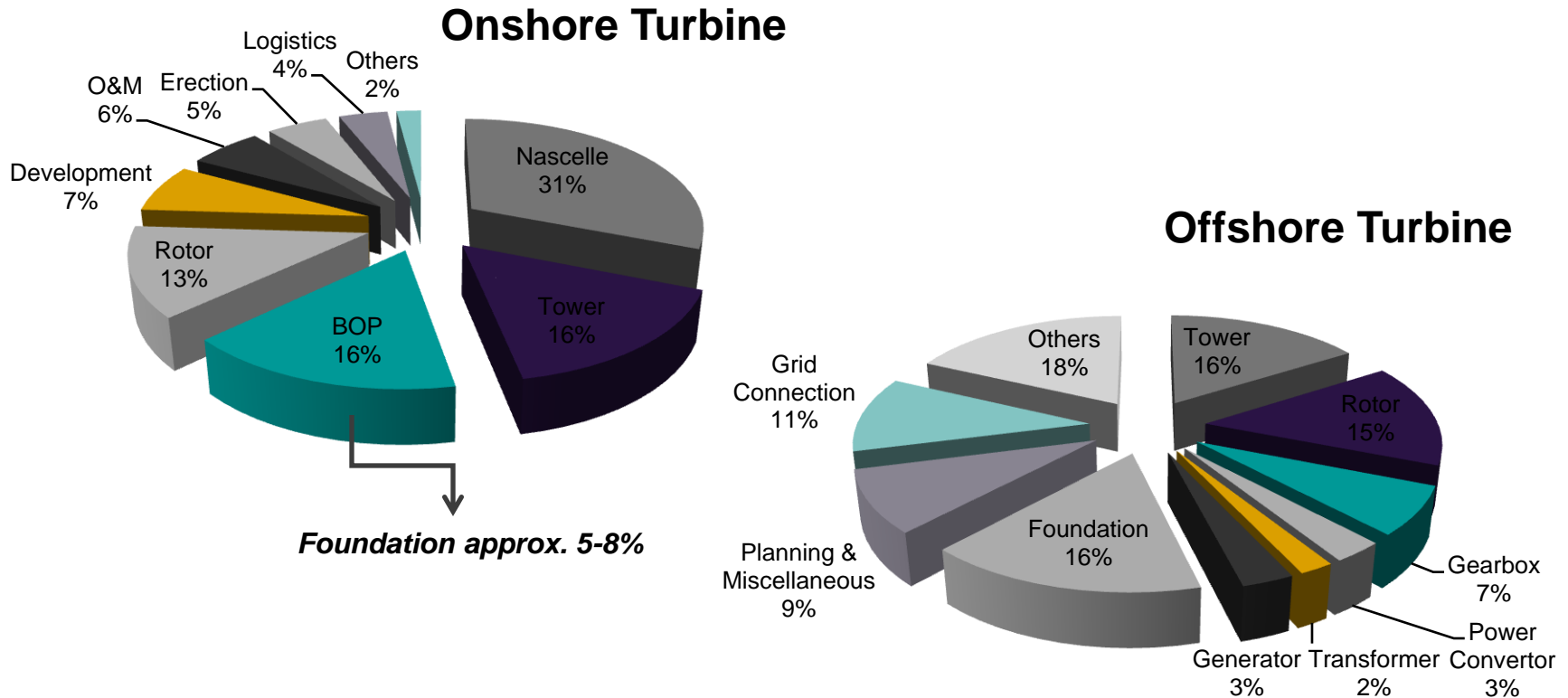
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COST DYNAMICS & WHY FOUNDATION?

The cost Dynamics of various turbine components



Why Foundation?

Opportunity Cost >

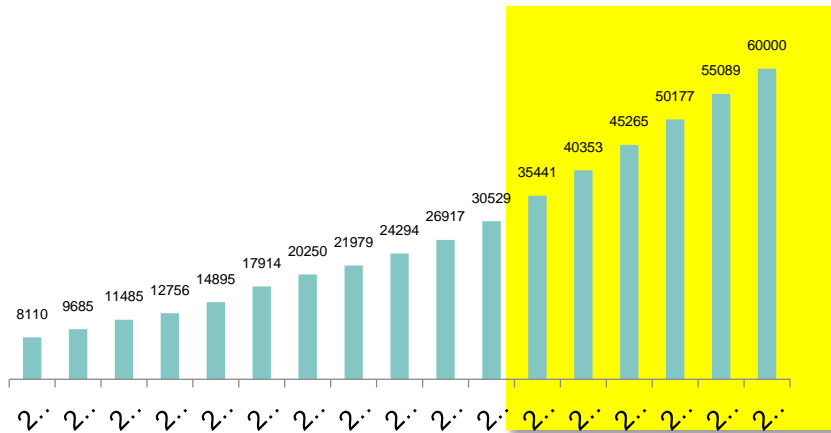
Turn around time for design < compared to other components

Lead time for Planning <

MARKET ANALYSIS

Trends in India

Installed Capacity in MW



Ministry of New and Renewable Energy sets the target for 2022 at 60GW. This means that India's target is to increase its usage of renewable and clean energy almost 2 times than current.

We are just half the way mark.

Global Trends

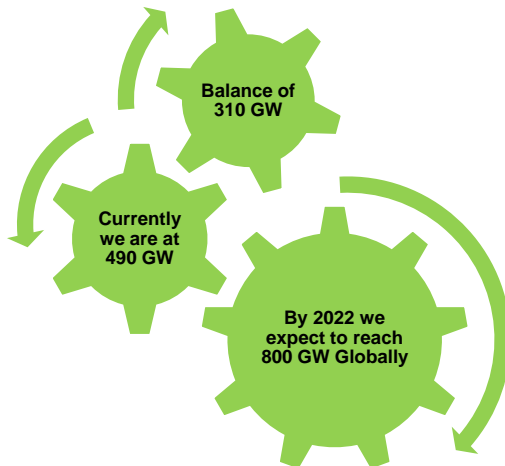
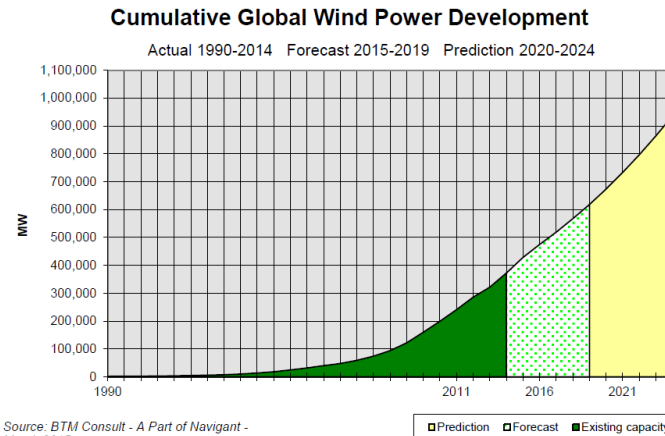


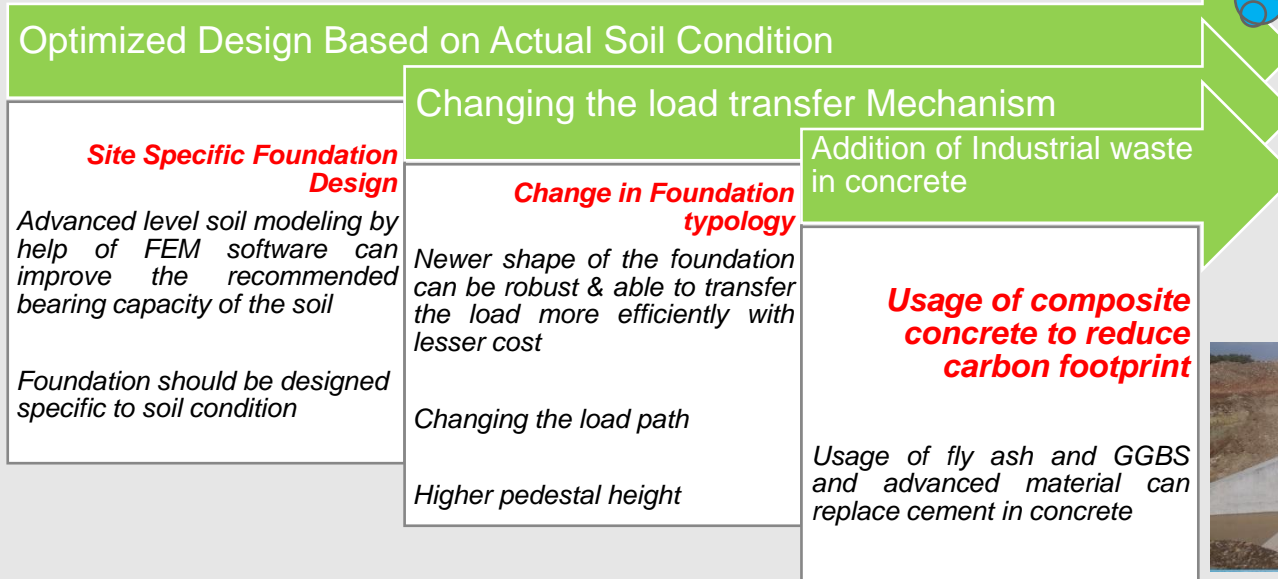
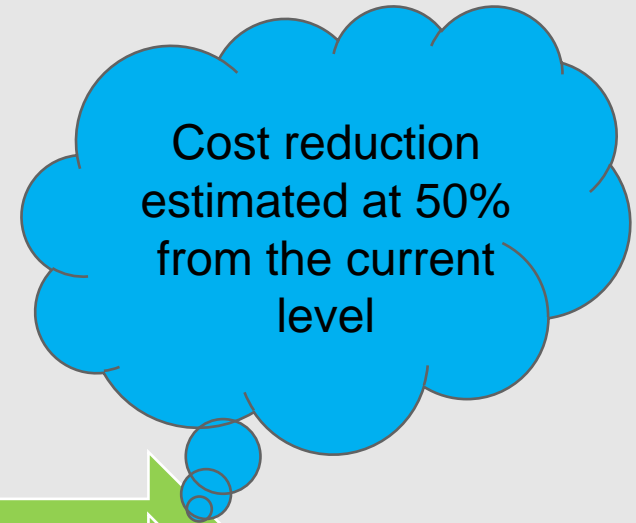
Figure 7.13 Cumulative Wind Power Development, World Markets: 1990-2024



Source: BTM Consult - A Part of Navigant - March 2015

Scope of Improvement

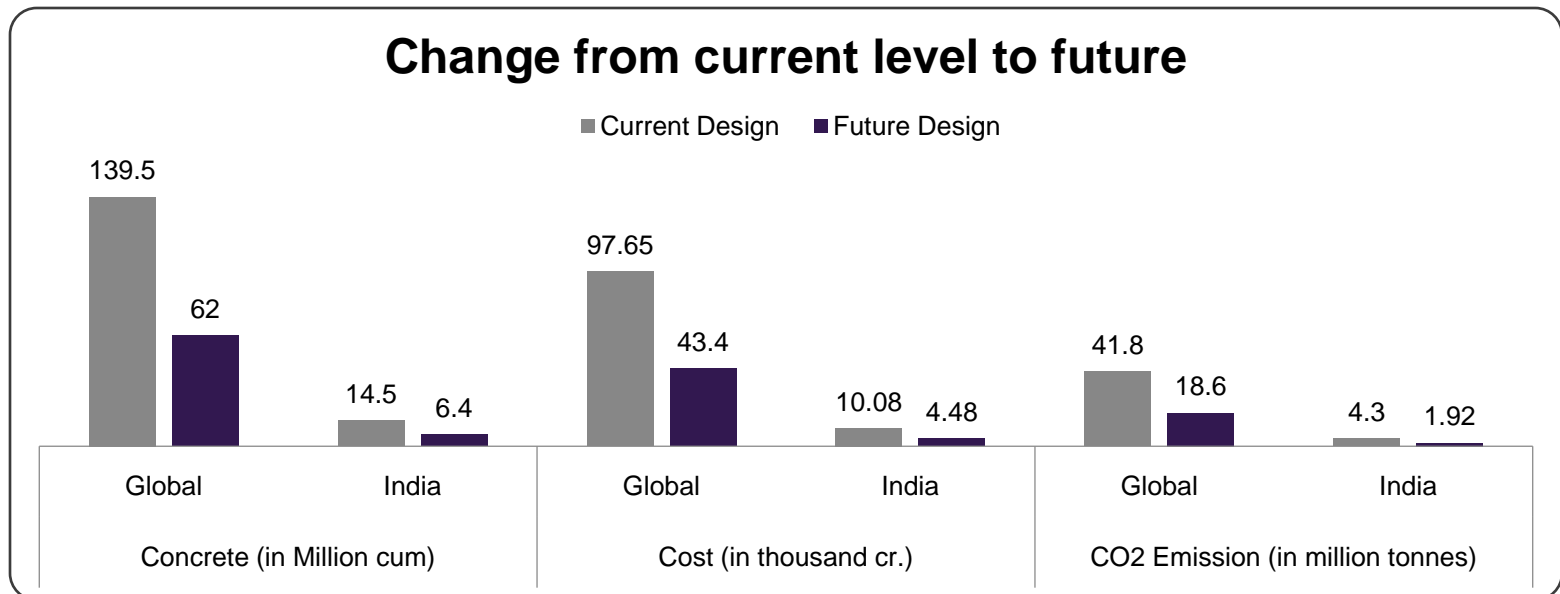
Further cost reduction opportunity is possible through dedicated research on the foundation!!!



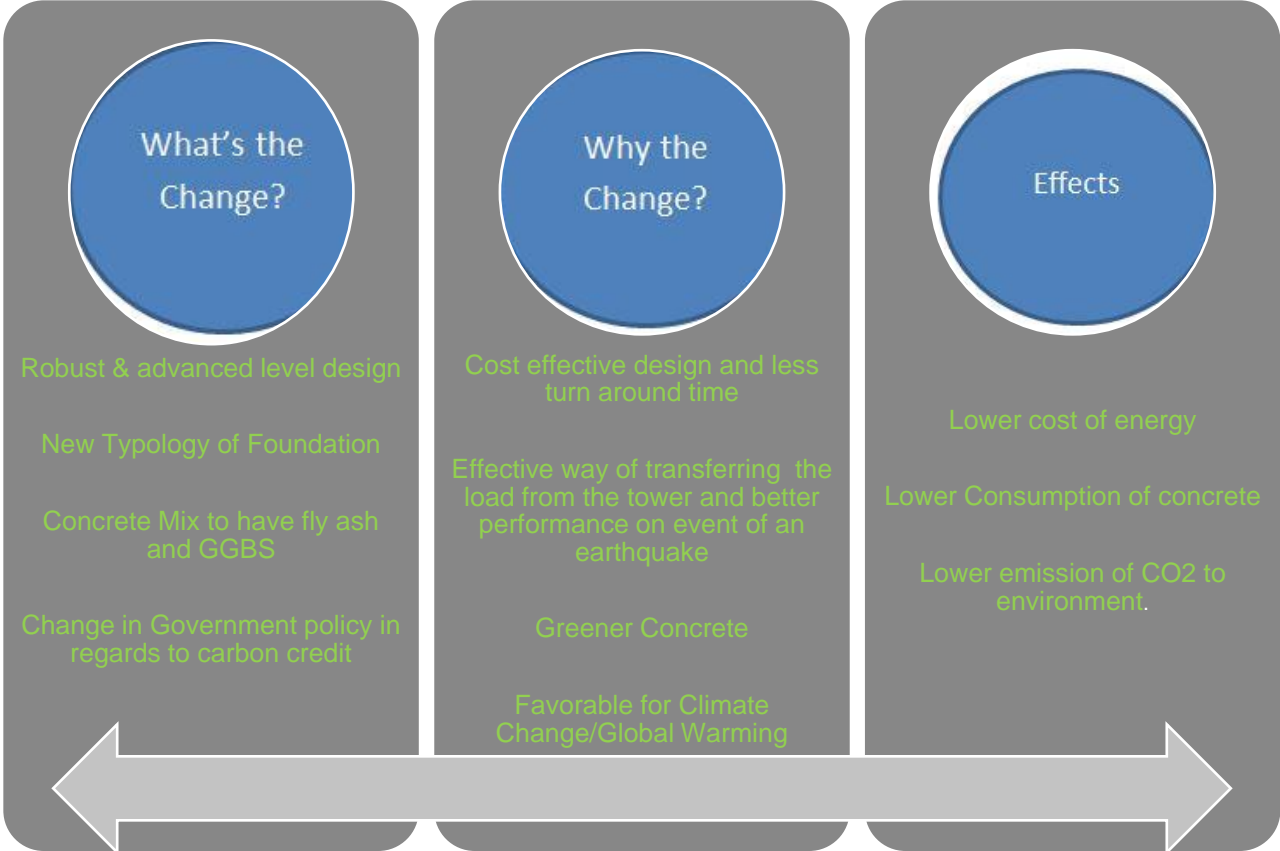
Moving towards precast foundation can make a paradigm Shift in installation cost of foundation

OPPORTUNITY COST

Description	Global			India		
	Volume (in Million cum)	Cost in thousand Cr.	CO2 emission (in million tons)	Volume (in Million cum)	Cost in thousand Cr.	CO2 emission (in million tons)
Future Forecast of consumption & Emission						
Current Design	139.5	97.65	41.8	14.5	10.08	4.3
Future Design	62	43.4	18.6	6.4	4.48	1.92
Change in %	55%					



CONCLUSION



Huge Potential in reduction in foundation concrete to the tune of 60% of conventional design which works out to a overall cost reduction of 33% which impacts the COE

Exponential increase in concrete qty. is curbed as we go higher hub heights.

Composites in Concrete making process reduces cement consumption to lower the heat of hydration.

Emission of CO2 has an impact on Global warming

Contact

SUDHANSU BHUSAN PRUSTY

MANAGER FOUNDATION ENGINEERING

Phone +91 (44) 39242424 (31263)

Mobile +91 8754434872

psudhansubhusan@gamesacorp.com

Thank U

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