



Renewable Energy Regulation in India: History and Overview

Mahesh Vipradas
Suzlon Energy Ltd.



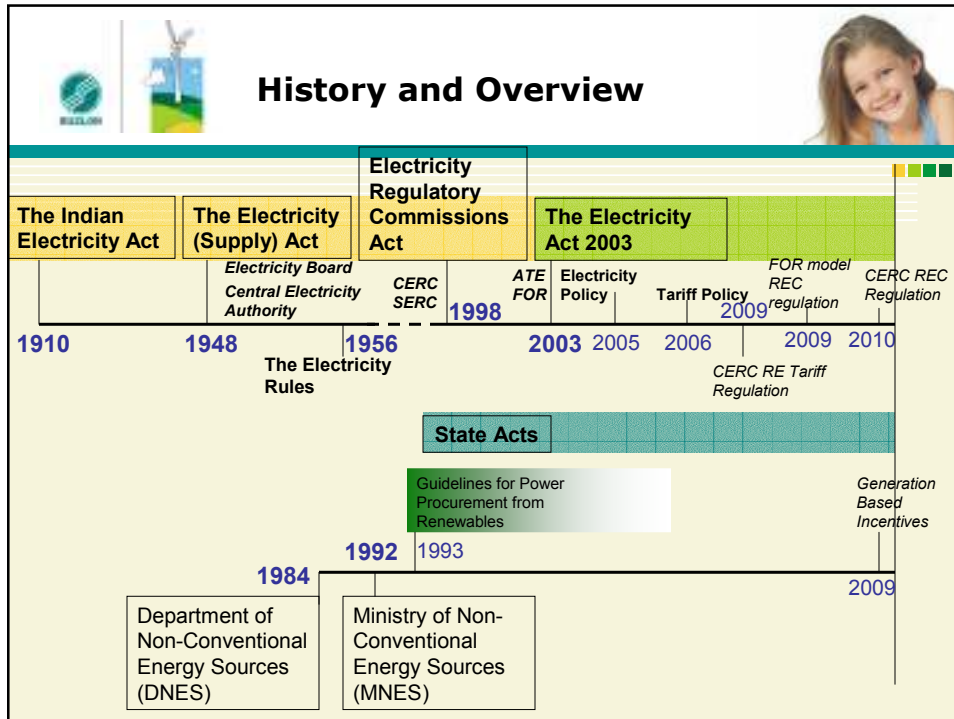
Disclaimer



Except for the historical information contained herein, statements in this presentation, which contain words or phrases such as "will", "would", "expect", "believe", and similar expressions or variations of such expressions may constitute "forward-looking statements". These forward-looking statements involve a number of risks, uncertainties and other factors that could cause Suzlon Energy Limited's (the "Company's") actual results to differ materially from those suggested by the forward-looking statements. These risks and uncertainties include, but are not limited to, the performance of the Indian economy and of the economies of various international markets, the performance of the wind power industry in India and world-wide, competition, the Company's ability to successfully implement its strategy, the Company's future levels of growth and expansion, technological implementation, changes and advancements, changes in revenue, income or cash flows, the Company's market preferences and its exposure to market risks, as well as other risks. The Company undertakes no obligation to update forward-looking statements to reflect events or circumstances after the date thereof.

This presentation and any information presented herein are not, and are not intended to be, offers to sell nor solicitations of offers to buy the Company's equity shares or any of its other securities and shall not constitute an offer, solicitation or sale in any jurisdiction in which such offer, solicitation or sale is unlawful

The Company's equity shares have not been and will not be registered under the U.S. Securities Act 1933, as amended (the "Securities Act"), or any state securities laws in the United States and, as such, may not be offered or sold in the United States or to, or for the benefit of, U.S. persons (as such term is defined in Regulation S under the Securities Act) absent registration or an exemption from the registration requirements of the Securities Act and applicable state laws. Any offering of the equity shares to be made in the United States (or to U.S. persons) was made by means of a prospectus and private placement memorandum that may be obtained from the Company. Such prospectus and private placement memorandum will contain detailed information about the Company and its management, as well as financial statements.



RE History....

- MNES Guidelines
 - Power purchase @ 2.25 Rs/unit with 5% annual escalation
 - Wheeling and Banking provisions
- These guidelines were adopted by different state utilities



Power Sector Regulatory



- Orissa- first state to have a state act “Orissa Electricity Reform Act 1995”
- Electricity Regulatory Commissions Act 1998
 - The state commissions became the key player for regulating the electricity sector including determining tariffs



The Electricity Act 2003



- **Section 3 of EA 2003:** National Electricity Policy and Plan including *optimal utilization renewable sources of energy*
- **Section 4 of EA 2003:** national policy permitting stand alone system (*including those based on RE sources of energy*) for rural area.
- **Section 61 of EA 2003:** The appropriate commission while determination of tariff shall be *guided by promotion of co-generation and generation of electricity from RE*



The Electricity Act 2003



- Section 86(1) The State Commission shall discharge the following functions, namely:
 - (e) promote cogeneration and generation of electricity from renewable sources of energy **by providing suitable measures for connectivity with the grid** and sale of electricity to any person, and also specify, for purchase of electricity from such sources, **a percentage of the total consumption of electricity in the area of a distribution licence;**



National Electricity Policy



- ‘..there is an urgent need to promote generation of electricity based on such sources of energy’ – 5.12.1
- ‘...Progressively the share of electricity from non-conventional sources would need to be increased as prescribed by State Electricity Regulatory Commissions’ – 5.12.2



National Electricity Policy



- 'Such purchase by distribution companies shall be through competitive bidding process. Considering the fact that it will take some time before non-conventional technologies compete, in terms of cost, with conventional sources, the Commission may determine an appropriate differential in prices to promote these technologies' – 5.12.3



National Tariff Policy



- Section 6.4: step by step introduction of competition
 - Preferential tariff
 - It will take some time before non-conventional technologies can compete with conventional sources in terms of cost of electricity. Therefore, procurement by ***distribution companies shall be done at preferential tariffs*** determined by the Appropriate Commission
 - Competition within same technology
 - Competition within renewables
 - Competition with other sources



Implementation



State	Percentage to be procured from renewable	Year
Tamil Nadu	13%, 14%	09 -10, 10-11
Maharashtra	3% - 6%	06-07 to 09-10
Karnataka	10%	08-09 to 10-11
Andhra Pradesh	5%	09-10 to 13-14
Rajasthan	4.8 – 9.5%	07-08 to 11-12
Madhya Pradesh	10%	till 11-12
Kerala	3%	till 2009
Andhra Pradesh	5%	Till 13-14
West Bengal	2%- 10%	08-09 to 11-12
Gujarat	2%	08-09

- Applicability on “Consumption”
- Enforcement Mechanism



Implementation



State	Wind tariff (Rs/kWh)
Andhra Pradesh	3.50
Gujarat	3.56
Karnataka	3.40
Kerla	3.14
Madhya Pradesh	4.03
Mahahrashtra	3.50
Rajasthan	4.28
Tamil Nadu	3.39

Different Benchmarks and methodologies



CERC RE Tariff Regulation



- Applicable for interstate schemes and central sector
- Also acts as guideline for tariff designing at state level
 - Provides benchmarks
 - e.g. RoE 19% and 24% pre-tax
 - Clarity on evacuation by defining interconnection point: line isolator on outgoing feeder on HV side of the pooling sub-station/generator



CERC RE Tariff Regulation



- Indexation mechanism for capital cost
- Indexation mechanism for fuel cost for biomass and cogeneration projects
- CUF linked to resource



National Action Plan on Climate Change



- Target for RE Purchase may be set at 5% of total grid purchase, to be increased by 1% each year for 10 years.
- SERCs may set higher target than this minimum at any point in time.
- Central & State Govts may set up a verification mechanism to ensure that renewable power is actually procured
- Appropriate authorities may issue certificates that procure renewable power in excess of the national standard. Such certificates may be tradable, to enable utilities falling short to meet their RPS.
- Penalties as may be allowed under EA 2003 may be levied, if utilities are still falling short in RPS.



Next Level of Regulation



- The demand would increase
 - if all states have RPS: @5% RPS with 664660MU consumption the RE power requirement would be 19000MW
- Applicability of RE procurement obligation on Captive and Open Access consumers
 - Sec 86(1)e- specify, for purchase of electricity from such sources, a percentage of the total consumption of electricity in the area of a distribution licence
 - About 20000MW captive capacity in India



Next Level of Regulation



- **Renewable Energy Certificates (RECs)**
 - The 'renewable' attribute is separated from 'electricity'
 - Power can be sold to local utility at average procurement price
 - Tariff determined based on cost recovery (i.e. not cost plus)
 - The REC is issued to generator and sold / traded independent of power
 - Only RECS are used for RPS compliance



RECs



- Settlement between distribution licensees in the same / different states for RPS compliance
- Compliance easy for captive and OA consumers
- No need of scheduling/ OA charges for inter state transfers
- In the openly traded REC – market discovery of price....



FOR Model REC Regulation



- Draft regulations which can be issued by the SERCs
 - Recognizing the Certificates issued under the CERC Regulations, 2009 as the valid instruments for the discharge of the mandatory obligations



CERC REC Regulation



- Provide the basic framework for issuance and trade of RECs
 - Solar and non-solar RECs
 - Central agency: registration, issuance of RECs, repository of transactions
 - State agency: accreditation and recommendation of registration
 - Market discovery of price for REC, with floor and forbearance price
 - Power sale at pooled cost of local distribution licensee



In summary...



- Implementation of EA 2003
 - State level tariff orders and RPO/RPS orders/regulations
 - CERC initiatives
 - Tariff regulation
 - REC regulation
- Upcoming issues
 - Operationalisation of REC framework
 - Grid integration and evacuation issue



Thank you