

REGULATORY ISSUES IN WIND ENERGY SECTOR

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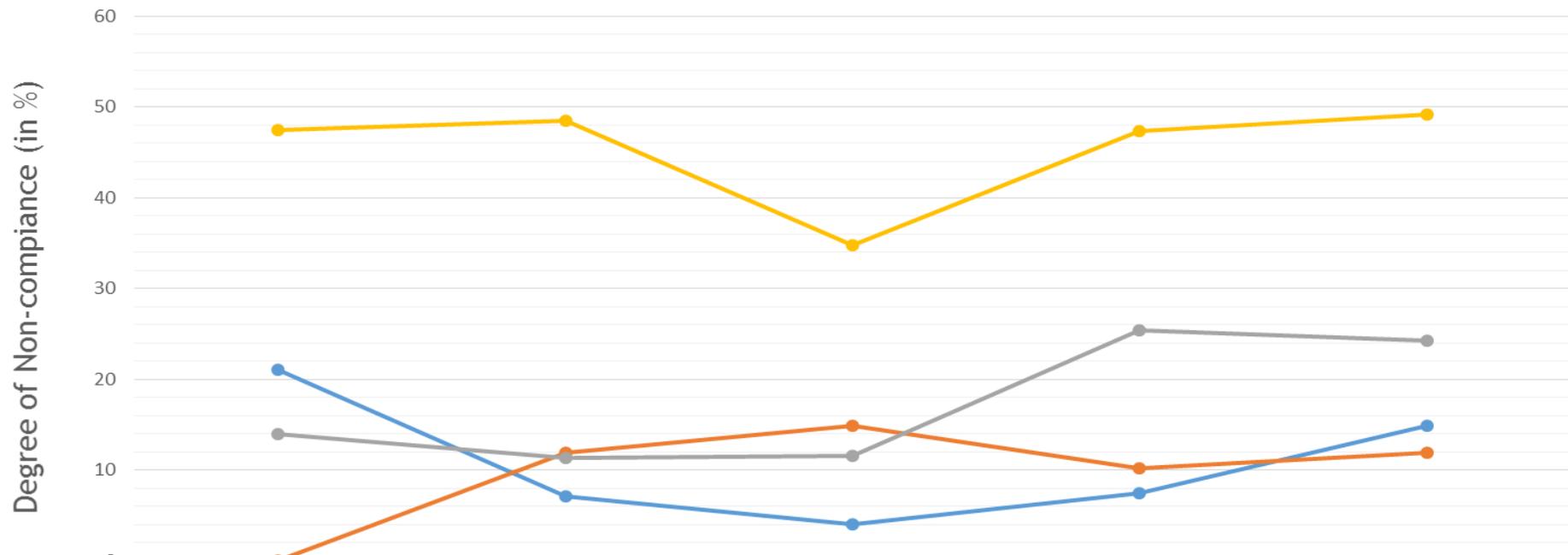


I. THE CHALLENGES & THE OPPORTUNITY

Challenging State of the RPO Market ...1

Non-compliance & Non-enforcement

- Only 6 of 24 sampled states (Arunachal Pradesh, HP, Karnataka, Meghalaya, Mizoram and TN) met their RPOs (FY 2011 to 2014).
- ❖ Trend of RPO non-compliance (as a %) for four states :



RPOs for states

| | 2011-12 | 2012-13 | 2013-14 | 2014-15 | 2015-16 |
|----------------|---------|---------|---------|---------|---------|
| ● Gujarat | 21 | 7.1 | 4 | 7.4 | 14.9 |
| ● Maharashtra | 0 | 11.9 | 14.9 | 10.2 | 11.9 |
| ● Rajasthan | 14 | 11.3 | 11.6 | 25.4 | 24.2 |
| ● Chhattisgarh | 47.4 | 48.5 | 34.7 | 47.3 | 49.1 |

Challenging State of the RPO Market ...2

Non-compliance & Non-enforcement

Unused RECs

- Glut of RECs yet targets remain unmet.
- CERC order dt 30.03.2017: 1.85 Cr RECs languish at power exchange
 - ❖ Non-solar RECs : 1.37 Cr
 - ❖ Solar RECs : 0.48 Cr

Non-imposition of penalties ... setting wrong incentives

- Situation worsened by not punishing non-compliance
 - ❖ No penalties in 17 underperforming states.
 - ❖ Where penalty imposed (Uttarakhand, Madhya Pradesh) is mere tokenism. Non-compliant entities NOT directed to purchase RE/ RECs.
- Enforcement diluted by frequent deferring of RPOs.

Long-term Certainty & Predictability is lacking: RISK

- Maharashtra: RE policy of 2008 changed in 2015
 - ❖ 2008: Target to commission 2000 MW wind power
 - ❖ 2015:
 - Target to commission 1500 MW wind power.
 - Unclear whether this is only new projects or those already being developed
- Andhra Pradesh Solar Policy
 - ❖ 2012: Granted incentives for 7 years, i.e., until 2019.
 - ❖ 2015: Curtailed the availability period to 2017.

Single-window Clearance: needed

- To ensure state level speedy project approvals.
- Once bid, PPA be signed
- Once installed, RE power be “must run” in reality

Opportunity ...2

Captive Plants and Ending Subsidies

Rules for captive power plants

- Need certainty on proposed amendments to the Electricity Rules, 2005.

Balanced phase out of Subsidies

- Subsidies be phased out progressively for mature technologies based on a long term roadmap without impairing investments.

Pricing Externalities

- Create framework to price of externalities associated with RE.
- Damage to human health from fossil fuels be priced in tariff to pay for green energy costs.
- Cost of fossil fuel-fired power rises by USD 0.01 to 0.13/kWh, depending on the country and technology (assuming USD 20-80/tonne of CO₂)

[\(Source: IRENA \(2015\)\)](#)

Opportunity ...3

Solar Farms, WTG Manufacturing, Externalities

Projects be bid and awarded after:-

- Clearly demarcated land - consider avoid delays and conflicts

(Source: [Mercom](#))

- Suitable access roads are available to secure timely construction

(Source: [Mercom](#))

Domestic WTG Manufacturing capacity

- NIWE: 20 domestic WTG manufacturers.
- MNRE must create stable framework to enhance Indian WTG capacity
 - ❖ Make India an export hub and incubator of new technologies
 - ❖ Domestic Content Requirement on WTG will boost domestic manufacturing

II. IMPROVING CREDITWORTHINESS:

ADDRESSING RISK - ENHANCING FINANCE

Credit Enhancement & Hedging

Investment Needed

- Securing low-cost, long-term domestic debt: need \$160bn need to achieve 175 GW target (excluding ancillary infrastructure)

(Source: [Scroll/ Reuters \(2015\)](#))

Credit Enhancement and Hedging

- Government/ international agencies may issue guarantees against development risks (off-take, policy, credit, currency, etc.): boost lenders' confidence in project viability.
- Fund be set up at the Central and/or State level to:
 - ❖ Offer credit enhancement (or loan guarantees)
 - ReNew Power's green bonds worth ₹451 Crore.
 - India Infrastructure Finance Company partly guaranteed 28%; ADB 50%
 - ❖ Provide loans on favourable terms
 - ❖ Address/ offset the costs of hedging international debt.

Status of Unutilized National Clean Energy Fund

| Year | Amount of Coal Cess Collected | Amount Credited to NCEF | Amount of NCEF used to finance Projects |
|--------------|-------------------------------|-------------------------|---|
| 2010-11 | 1,066.46 | 0.00 | 0.00 |
| 2011-12 | 2,579.55 | 1,066.46 | 220.75 |
| 2012-13 | 3053.19 | 1,500.00 | 246.43 |
| 2013-14 | 3,471.98 | 1,650.00 | 1218.78 |
| 2014-15 | 5393.46 | 4,700.00 | 2087.99 |
| 2015-16 | 12,623.33 | 4,700.00 | 5247.09 |
| 2016-17 | 26,148.20 | 8,447.00 | - |
| Total | 54336.17 | 25810.46 | 9021.04 |

[Ministry-wise Allocation](#)

All figures are in Rupees Crore | (Source: [Ministry of Finance](#))

De-risking Development – Discom Woes

Discoms in the Doldrums: Credit risk re. payments from financially stressed Discoms

- Maharashtra, Rajasthan & Madhya Pradesh defaulting since 2015 : owe wind developers Rs. 2591 Crore.
- Disrupts IRR and dissuades lenders/investors
- Need to strengthen UDAY outcomes.

Regulator forced to act: Multiple petitions by WEGs re. recurring MSEDCL non-payment led MERC in order dated 16.03.2016 to observe

- MSEDCL's financial woes are extraneous to contractual obligations.
- MSEDCL must pay dues (and delay surcharge) to WEGs within 30 days, failing which interest would be payable on the due amounts.

Constrained Evacuation Infrastructure

- Peculiarities of low CUF / availability and unpredictable wind, requiring higher redundancies in network
- Constraint in connecting renewable energy to load centres
 - ❖ 2015 : 63 of 118 sanctioned projects in AP stalled due to evacuation
 - ❖ New models for evacuation be developed and operationalised (duly accounting for the concerns/ needs of utilities and developers)

III. SUGGESTED REGULATORY INTERVENTIONS

Role Envisioned for RPOs and RECs...1

Behavioural Change: CARROT & STICK

Make REC purchase a Conditionality of Funding under UDAY Scheme

Establish a robust Rating System for obligated entities with

- Design similar to BEE's star ratings
- Rating based on RPO compliance + buying RECs.

Compliance data of obligated entities re. periodic reporting

- Hosted on a updated and publicly accessible database.
- Specific agency may be tasked with maintenance of the data.
- Non-submission erodes ranking + persistent defaulters punished by fines.

Role Envisioned for RPOs and RECs ...2

Outstanding REC Stock

- Pricing of forbearance/floor prices be flexible + market-driven.
- Alternatively, scrap forbearance/floor price system.
 - ❖ REC prices be determined solely by market forces - no mandatory cap or floor
 - ❖ Avoid perverse incentive to purchase cheaper RECs over RE
- CERC discontinued 'vintage multiplier' for RECs starting from 31.03.2017 since:
 - ❖ Such market risks are to be borne by investors.
 - ❖ If allowed, it would lead to further stranding of inventory of RECs
- MNRE may sanction a scheme to purchase outstanding RECs at favourable prices to avoid their becoming NPAs.

THANK YOU

RPOs Prescribed by SERCs

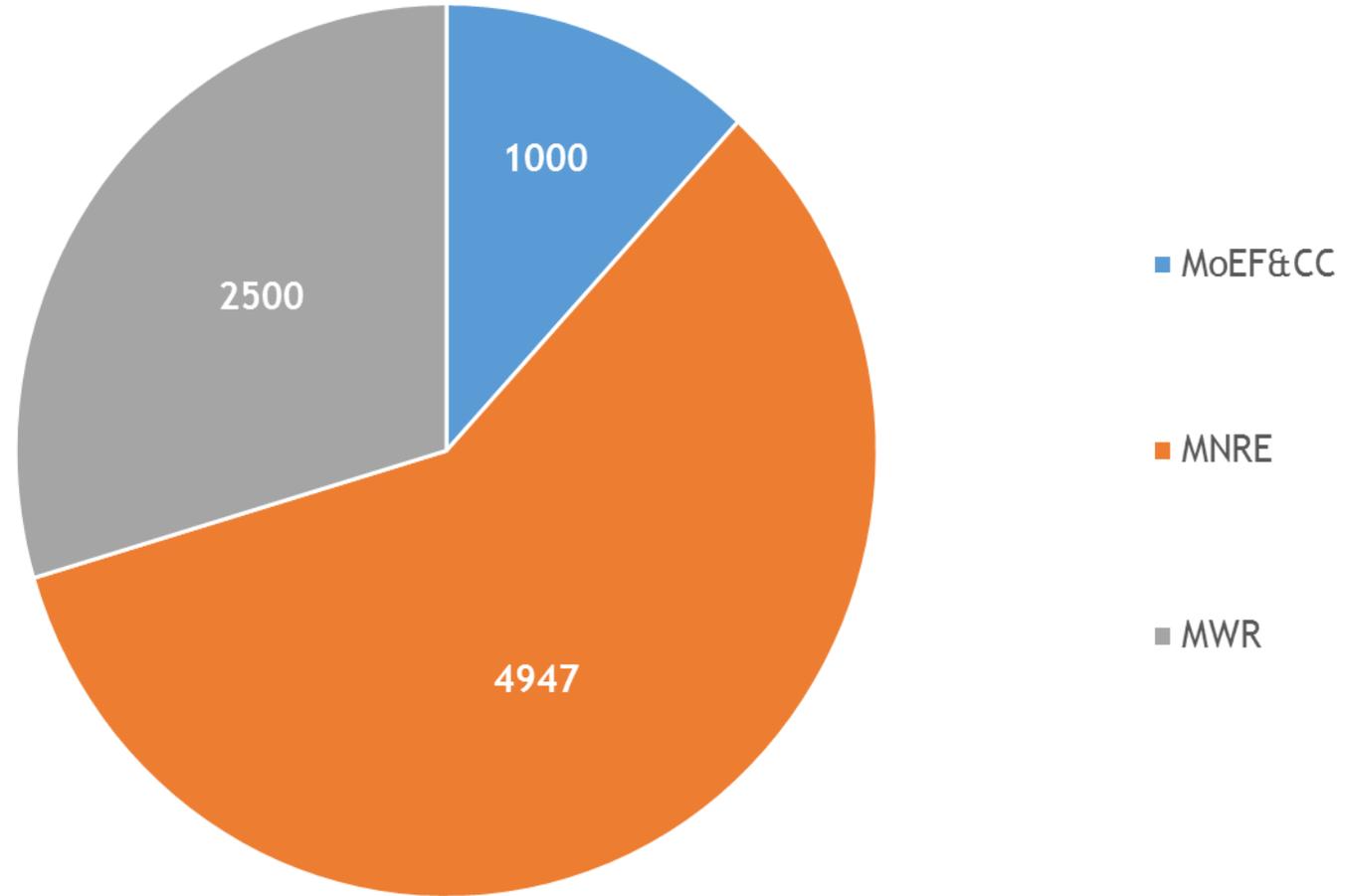
Gujarat, Maharashtra, Rajasthan and Chhattisgarh

| State | Year | Renewable Purchase Obligation (%) | | |
|--------------|---------|-----------------------------------|----------|-------|
| | | Solar | Other RE | Total |
| Gujarat | 2015-16 | 1.50 | 7.50 | 9.00 |
| | 2014-15 | 1.25 | 6.75 | 8.00 |
| | 2013-14 | 1.00 | 6.00 | 7.00 |
| | 2012-13 | 1.00 | 6.00 | 7.00 |
| | 2011-12 | 0.50 | 5.50 | 6.00 |
| Maharashtra | 2015-16 | 0.50 | 8.50 | 9.00 |
| | 2014-15 | 0.50 | 8.50 | 9.00 |
| | 2013-14 | 0.50 | 8.50 | 9.00 |
| | 2012-13 | 0.25 | 7.75 | 8.00 |
| | 2011-12 | 0.25 | 6.75 | 7.00 |
| Rajasthan | 2015-16 | 2.00 | 8.20 | 10.20 |
| | 2014-15 | 1.50 | 7.50 | 9.00 |
| | 2013-14 | 1.00 | 7.20 | 8.20 |
| | 2012-13 | 0.75 | 6.35 | 7.10 |
| | 2011-12 | 0.50 | 5.50 | 6.00 |
| Chhattisgarh | 2015-16 | 1.00 | 6.25 | 7.25 |
| | 2014-15 | 0.75 | 6.00 | 6.75 |
| | 2013-14 | 0.50 | 5.75 | 6.25 |
| | 2012-13 | 0.25 | 5.50 | 5.75 |
| | 2011-12 | 0.25 | 5.00 | 5.25 |

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National Clean Energy Fund

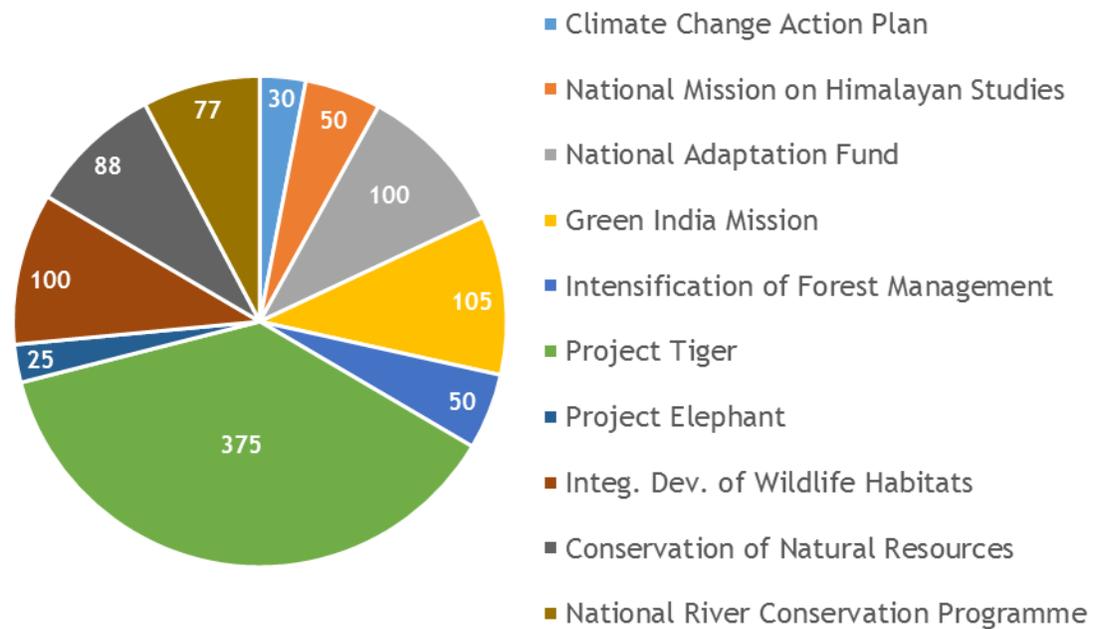
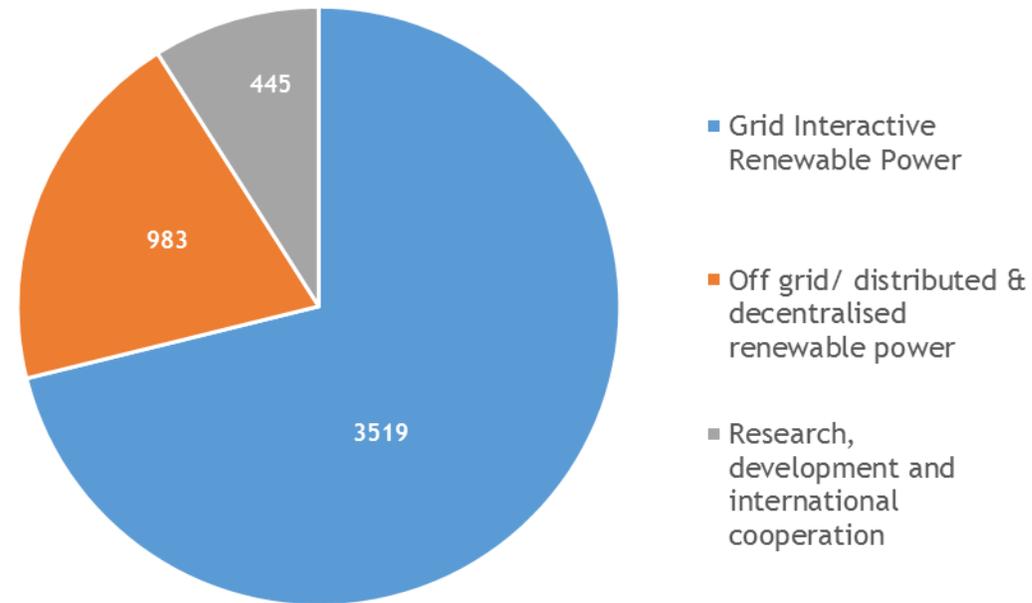
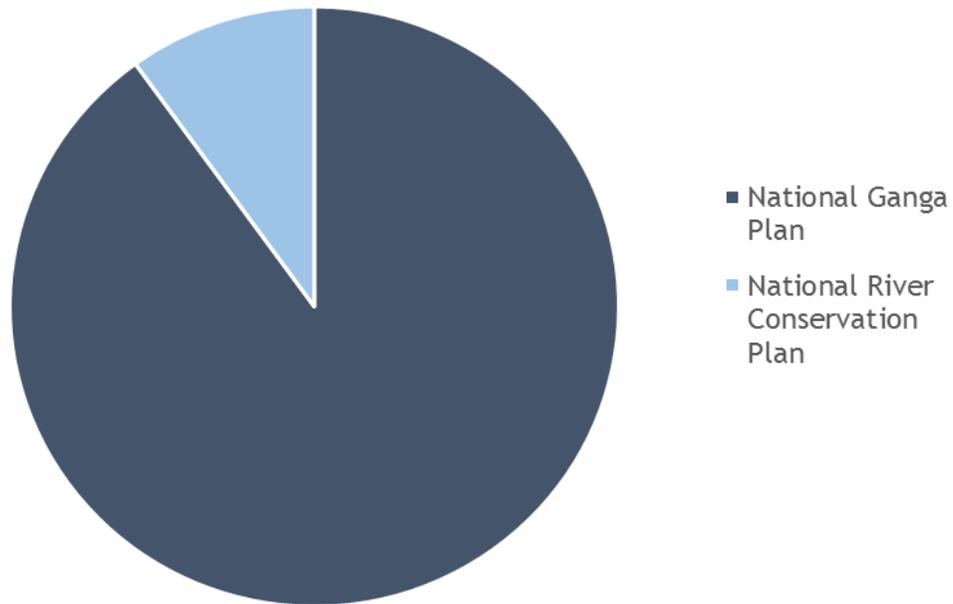
Ministry- & Scheme-wise Allocation for BE 2016-17



[Scheme-wise Allocation](#)

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All figures are in Rupees Crore | (Source: [Ministry of Finance](#))



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