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REConnect Energy



March and April 2017

Volume 69



From the Management Desk:

The CERC announced new floor and forbearance prices for Renewable Energy Certificates. These prices have become applicable from April 2017. Floor price for solar RECs have reduced from Rs 3,500 to Rs 1,000 and for Non-Solar RECs from Rs 1,500 to Rs 1,000. This will have a major effect on existing REC projects, Obligated entities and on the market. As per our analysis, REC projects will bear a loss of Rs 1,866 crore on existing inventory and the defaulters will be at an advantage. ***On May 7, 2017, the Supreme Court passed an order putting a stay on REC trading as well as on the new price regime introduced by the CERC. As a result, trading is expected to be suspended till the court pronounces its judgement.***

Other notable regulatory updates during the period include analysis of various retail tariff orders (most SERCs declare new tariffs in April and May), RPO regulations of Andhra Pradesh and further steps towards ESCerts Trading. All of these have been discussed in detail in this newsletter.

The March trade session saw lower than expected demand - this was driven by the significant price reduction proposed by CERC. As a result of the price reduction, many obligated entities postponed their REC purchase decision to the next fiscal year. Total Non-solar demand was 8.88 lakhs (vs 10.4 L demand in February), and clearing ratios on IEX and PXIL were 6.11% and 9.6% respectively. Total solar demand was 1.43 lakhs, and the clearing ratio in IEX and PXIL were 2.90% and 2.74% respectively (Feb 2017 demand was 49,544). This was the last trading session of FY 16-17.

April trade session was the first trade session of the financial year 2017-18. Generally this trading session is a muted one as obligated entities have the full year to meet compliance. However, demand was significant as the revised, lower, prices took effect (see above para). Total Non-solar demand was 5.37 lakhs (vs 2.9 L demand in April 2016), and clearing ratios on IEX and PXIL were 4.56% and 4.4% respectively. Total solar demand was 2.08 lakhs, and the clearing ratio in IEX and PXIL were 2.53% and 8.76% respectively (April 2016 demand was 0.26 lakhs). The clearing ratio for Non-solar ratio stood at 4.56% in IEX and 4.4% in PXIL. Similarly, the clearing ratio for solar RECs stood 2.35% in IEX and 8.76% in PXIL.

We hope this volume an insightful read, and as always, look forward to your feedback.

-Team REConnect

New prices for RECs:

Executive summary:

- New prices are drastically lower. Solar RECs prices have reduced by 71% and non-solar RECs prices by 31%.
- No vintage multiplier has been given on existing inventory. This has resulting in a significant loss for existing projects - of Rs 1227.09 crore for solar projects and Rs 646.3 crore for non-solar projects
- RECs markets are likely to be paralyzed going forward as:
 - increase in demand for RECs or increase in compliance is unlikely as obligated entities face no penal consequences and only stand to gain by future price reductions
 - no new capacity will be set up in the future under REC mechanism as bankers are unlikely to finance such projects looking at loss incurred on assets.

(Supreme Court has stayed this order on May 7. As a result, trading is expected to be suspended till the court pronounces its judgement)

Analysis of the order:

Our previous NL analysed the draft order on revised floor and ceiling prices for RECs.

The Central Electricity Regulatory Commission released the final order on new floor and forbearance prices for RECs 30th March, 2017 which has become applicable from the 1st of April, 2017.

As per this order, the new floor and forbearance prices for solar and non-solar RECs are as follows:

For Solar RECs:

	Solar RECs (Rs/MWh)	Previous price	% reduction
Forbearance Price	2,400	5,800	58%
Floor Price	1,000	3,500	71%

For Non-Solar RECs:

	Non-Solar RECs (Rs/MWh)	Previous price	% reduction
Forbearance Price	3,000	3,300	9%
Floor Price	1,000	1,500	33%

This represents a drastic reduction of **71% on the price of solar RECs** and a reduction of **33% for non-solar RECs**. No vintage multiplier to compensate for the reduction in value of existing RECs has been provided. Overall, the value of RECs inventory has been reduced to Rs 1866 crore.

Impact on REC Projects:

RECs projects have borne the brunt of the price reduction. While the regulations were clear from the start that existing prices were valid till March 31, 2017, the loss due to reduction in the value of RECs has come as a shock to the market. The following example will make this clear:

	Non-Solar	Solar
Total REC'S	12926303	49,08,376
Value in Rs Cr (previous price)	1939	1718
Value in Rs Cr (New Price)	1293	491
Loss (Rs Cr)	646	1227

The repercussions of a such a drastic loss go far beyond the immediate reduction in revenue for the plant. The loss in value of assets and reduced cash flow from RECs generated in the past will likely result in the projects becoming Non-performing Assets, i.e. unable to service their debt. Further, for projects set up under the Accelerated Depreciation mechanism, the primary business of the investor may also be impacted.

The CERC attributed the loss incurred by the RECs project on market risk factors. It says in the order:

“ It is understood that investing in a market comes with its own risks and the commission believes that such risks are accounted for by the investors. The commission feels that the market must reflect the current ground realities”.

However, it must be kept in mind that the lack of sale of RECs is a result of lack of compliance and

of the SERC’s failing to implement their own regulation, rather than ‘market risk’.

Impact on Obligated Entities:

Obligated entities are the largest beneficiaries of the price reduction. While this is understandable as the price of RE power itself has been falling (especially solar), the beneficiaries in the current price reduction are those obligated entities that have been non-compliant of RPO regulations.

An example will make this clear:

Supposing that there are two obligated entities, A and B. It is assumed that both the entities have a consumption of 10,000,000 units per annum on which RPO obligation has to be met. Supposing that A complied with its RPO regulations on a yearly basis while B only complies once the REC prices have reduced (i.e. after March 31, 2017). In this example, we have assumed that both obligated entities are in the state of Maharashtra.

	RPO %	A		B	
		S (Cr Rs)	NS (Cr Rs)	S (Cr Rs)	NS (Cr Rs)
2010-11		30	86.4	-	-
2011-12		23.25	101.25	-	-
2012-13		23.25	116.25	-	-
2013-14		46.5	127.5	-	-
2014-15		17.5	127.5	-	-
2015-16		17.5	127.5	-	-
2016-17		350	15	-	-
2017-18		105	15	227.5	482.6
Total (Cr Rs)		1329.4		710.1	

This table represents the benefit that Obligated entity B will avail for not complying with their RPOs on an yearly basis. It can be seen that while **obligated entity A** has spent about **Rs**

1,329.4 Cr whereas **obligated entity B** has spent 710.1 Cr. there is a difference of **Rs 619.3 Cr**. This clearly shows that despite being a defaulter, the obligated entity B has benefited by a large amount because of the drop in REC prices. The percentage savings by entity B as compared to entity A is **53.42%**.

The above example is not hypothetical. Immediately after CERC released the draft order, R-Infra, an obligated entity, petitioned the MERC requesting that:

“if this balance REC requirement is allowed to be purchased in FY 2017-18, instead of in March, 2017, the REC purchase cost will be much lower, at Rs. 25 crore considering the lower price expected to be finalized by CERC, as against Rs. 42 crore as per the present REC prices. This would result in benefit of approximately Rs. 17 crore to consumers of RInfra-D.”

This was promptly allowed by MERC. In this case, while the benefit of the consumer has been factored in, the impact on RE generators was not even considered.

Impact on the future of REC Markets:

This order, which has resulted in a significant loss to existing projects is likely to paralyze the REC markets as (a) it is unlikely to increase demand for RECs or increase compliance significantly, and (b) no new capacity will be set up in the future. This is because of two reasons:

- Bankers and financiers of RE projects will certainly point to this order and not approve project finance for RECs based projects in the future

Rs

- This order states “*The forbearance and floor prices of RECs as above shall remain valid until further orders of the Commission*”. One can reasonably assume that RECs prices will continue to fall given reducing prices of RE and increasing APPC price. With no penal consequences, what incentive does a obligated entity have to purchase RECs at Rs 1/kwh, when, hypothetically it can purchase in the future at an even lower price?

With the REC markets unlikely to grow, the question that arises is - what is the future of RPO itself? While the Discom's may meet future obligations through FIT/ reverse auction based projects, what 'market' based approach is likely to remain? and what options will be available to the open access consumers?

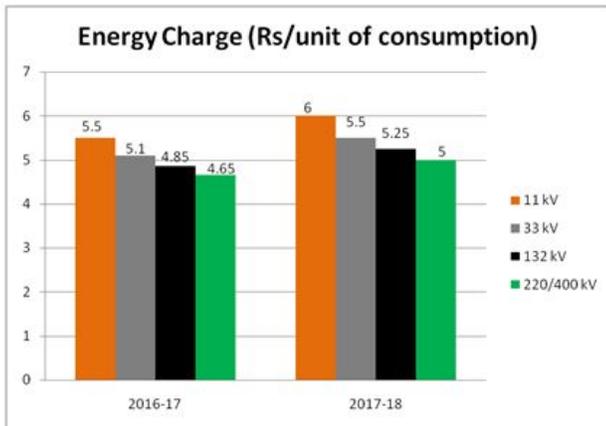
Regulatory Updates:

MPERC RETAIL TARIFF ORDER FOR FY 2017-18:

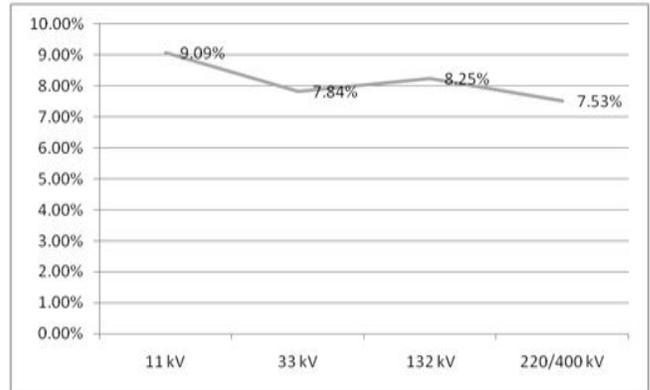
Madhya Pradesh Electricity Regulatory Commission (MPERC) in its order dated 1st April 2016 has determined the tariff for Low Voltage (LV), High Voltage (HV) and Extra High Voltage (EHV). An **additional surcharge** on the Cross subsidy surcharge has been introduced in this order.

A summary of the tariff for HV3 consumers which includes Industrial, Non-industrial and Shopping Malls has been given in the table below:

An analysis of the change in the energy charge from FY 2016-17 to FY 2017-18 is given as follows:



The percentage change in the Energy charge since late year can be seen as follows:



Wheeling Charges: The wheeling charges at Rs 0.25/ kWh

Cross subsidy surcharge: The cross subsidy surcharge is Rs 1.54 /kWh

Transition Charges: Rs 0.62 /kWh

Transmission Losses: For 33 kV: 5.83% and for ETH: 5.86%

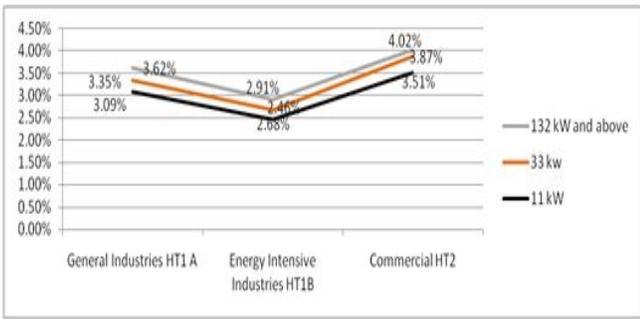
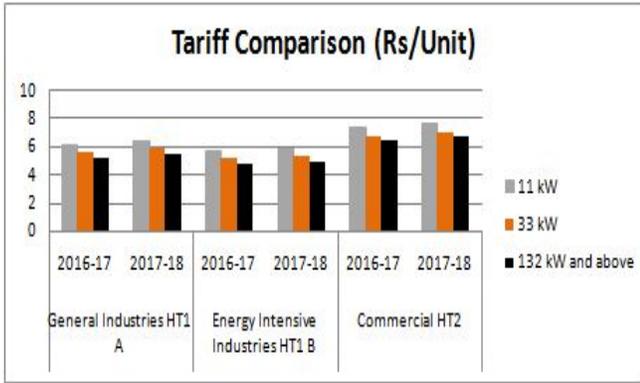
Additional Surcharge: Rs 0.646/kWh

The order can be accessed [here](#)

APERC RELEASES RETAIL TARIFF ORDER FOR FY 2017-18

The Andhra Pradesh Electricity Regulatory Commission has released an order dated 31st March, 2017 regarding the Tariff for Retail Sale of Electricity during 2017-18.

The below table gives the comparison between the new tariff determined from FY 2017-18 and FY 2016-17 and % change in the tariff from FY 2016-17 and FY 2017-18 for different categories:



The percentage change in the energy charge ranges from **2.5% to approximately 4%**.

Wheeling Charges:

The tariff included the wheeling charges for FY 2017-18 and they are given as follows:

Wheeling Charges		
Voltage	APSPDCL FY 17-18	APEPDCL FY 17-18
33kV (Rs./Kva/Month)	0.23	0.23
11 kV (Rs./kVA/Month)	0.54	0.59

No information about wheeling loss has been given in this order.

Cross Subsidy Surcharge:

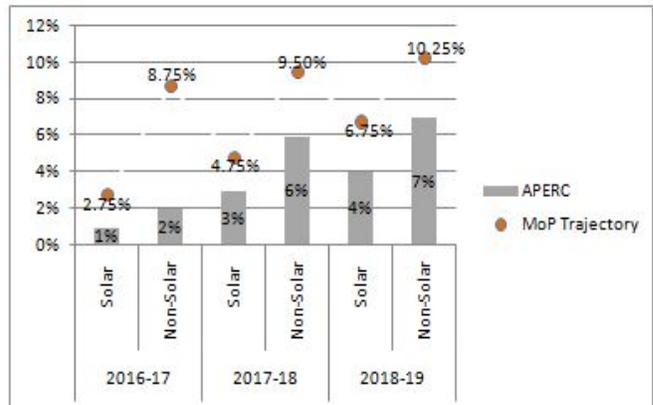
The percentage increase in the Cross Subsidy Surcharge (CSS) from FY 2016-17 to FY 2017-18 has been given below:

	APSPDCL				APEPDCL			
	11 kV	%	33 kV	%	11 kV	%	33 kV	%
FY 2016-17	3.32		2.5		3		2.57	
FY 2017-18	3.34	0.6%	2.87	14.8%	3.86	28.7%	3.61	40.5%

The regulation can be accessed [here](#)

ANDHRA PRADESH RELEASES RPO REGULATIONS, 2017:

The Andhra Pradesh Electricity Regulatory Commission (APEREC) has release RPO percentages for the years 2017-22. The RPO percentages have increased significantly since last year. In the year 2016-17, the RPO percentages were 2% for non-solar and 1% for solar. For the year 2017-18, the percentage has been increased to 6% and 3% for non-solar and solar respectively. This percentage is applicable on total consumption of electricity including hydro and mini-hydel. A comparison of the RPO percentages given by APEREC and those given in the national RPO trajectory is given as follows:



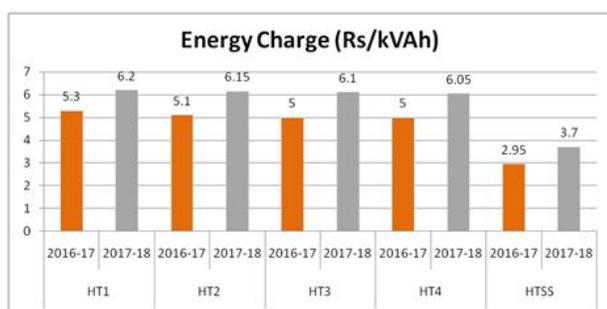
The regulation can be accessed [here](#).

BERC RELEASES TARIFF ORDER FOR FY 2017-18

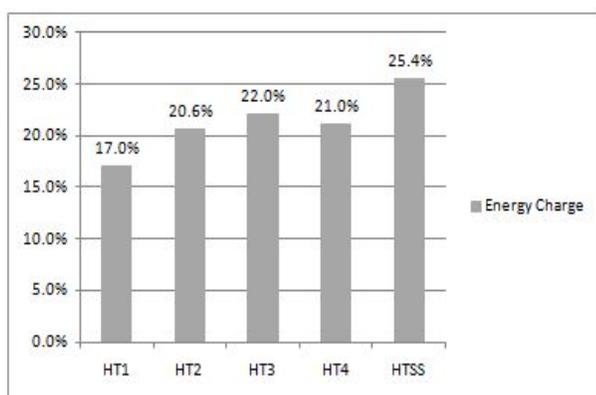
BERC has released its tariff order for both SBPDCL (South Bihar Power Distribution Company Ltd) and NBPDC (North Bihar Power Distribution Company Ltd). There has been a considerable hike in tariff since the last time.

This was also covered in an [article](#) by the Times Of India.

The following table describes the change in tariff from 2016-17 to 2017-18 and the percentage change in energy charge:



The percentage change in the energy charge for these categories is given as follows:



There is a very high increase in the energy charge since last year. The percentage change ranges from 17% to 25%.

The order can be accessed [here](#).

KERC RETAIL TARIFF ORDER FY 2017-18:

Karnataka Electricity Regulatory Commission in its order dated 11th April, 2017, has approved the retail supply tariff for 2017-18. The tariff hike proposed by the KERC for industrial and commercial consumers and a comparison of the existing and the new tariff proposed by the commission can be seen as follows:

Category	Description	Existing Tariff	New Tariff	Increase
HT2 (a)(i) HT Industrial	Demand Charges	190/kVA	210/kVA	Rs 20/kVA
	Energy Charge			
	0-1 lac units	625	665	40 Paise increase
	Above 1 lac units	675	695	20 Paise increase
HT 2 (a)(ii) HT areas other than those covered in HT2 (a)(i)	Demand Charges	180/kVA	200/kVA	Rs 20/kVA
	Energy Charge			
	0-1 lac units	620	660	40 Paise increase
	Above 1 lac units	660	680	20 Paise increase
HT 2 (b)(i) HT commercial	Demand Charges	210/kVA	230/kVA	Rs 20/kVA
	Energy Charge			
	0-2 lac units	805	845	40 Paise increase
	Above 2 lac units	835	855	20 Paise increase
HT2 (b)(ii) HT areas other than those covered in HT2 (b) (i)	Demand Charges	200/kVA	220/kVA	Rs 20/kVA
	Energy Charge			
	0-1 lac units	785	825	40 Paise increase
	Above 1 lac units	815	835	20 Paise increase

Cross Subsidy Surcharge is Rs 1.59/unit.
Wheeling charge is Rs 0.17/kWh

The value of Cross Subsidy Surcharge has increased from Rs 0.89 per unit for FY 2016-18 to Rs 1.59 per unit for the year 2017-18. This makes all open access transactions economically unviable. Last year, the CSS on solar was waived off till March 2018 because of which the focus of the consumers will shift from open access to solar.

which the focus of the consumers will shift from open access to solar.

The order can be accessed [here](#).

CERC DETERMINES AMOUNT PAYABLE FOR ISSUANCE OF ESCERTS REGULATIONS, 2016:

In a recent order dated 24.03.2017, the apex electricity regulator CERC has finalised the fees and charges payable by the Designated consumers to the registry for the purpose of meeting the cost and expenses towards the management of registry and software platform.

The fees and charges determined through this order may be applicable upto Financial Year 2019-20 or as may be determined by the CERC in consultation with Registry and the Administrator

The Fees & charges applicable are tabled below:

Particulars	Proposed Fees & Charges (Amount in Rs)	Final Fees & Charges (Amount in Rs)
Registration Fee (One time upon registration)	15,000	15,000
ESCerts Fee (Per ESCerts)	7	5

The link to the order can be found [here](#).

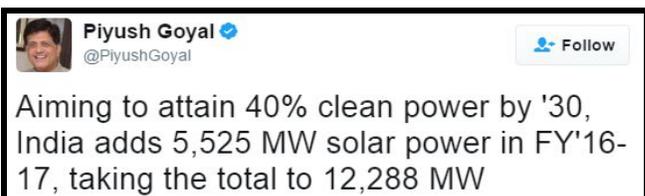
Highlights from the press/social media

The PAT scheme by BEE (Bureau of Energy) has been able to save almost RS 37 crore. After the hugely successful first cycle, the second cycle already has 621 DC (Designated Consumers) from 11 sectors designated by BEE. The cycle will come to an end in 2019.

The vice-president of REConnect Energy, Chetan Adhikari stated in the Hindu Business Line "many DCs are likely to 'bank' their ESCerts and carry them over to the second cycle. Conversely if the prices fall steeply, DCs might find it cheaper to buy the certificates rather than invest in energy efficiency."

He also added that as per him, there is a possibility that the number of RECs supplied will be 38 lack while the demand is only for 14 lack. This means that there will be a huge oversupply of ESCerts. The prices of the certificates will be between Rs 1,226 crore and Rs 3,464 crore. ESCerts do not have a floor or ceiling price unlike RECs.

Link to the article can be found [here](#).



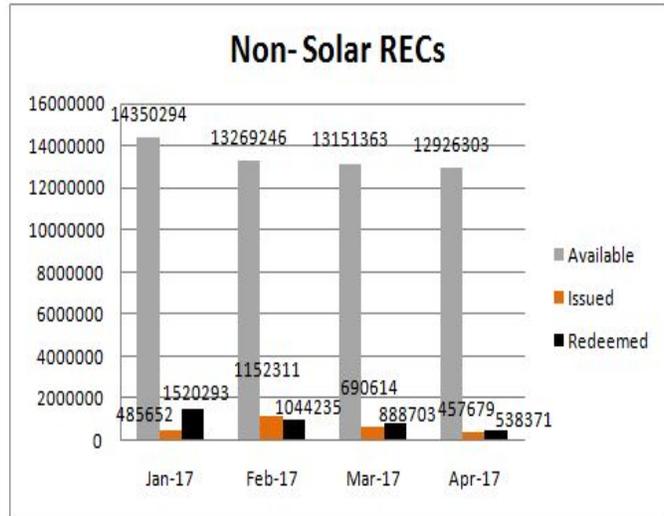
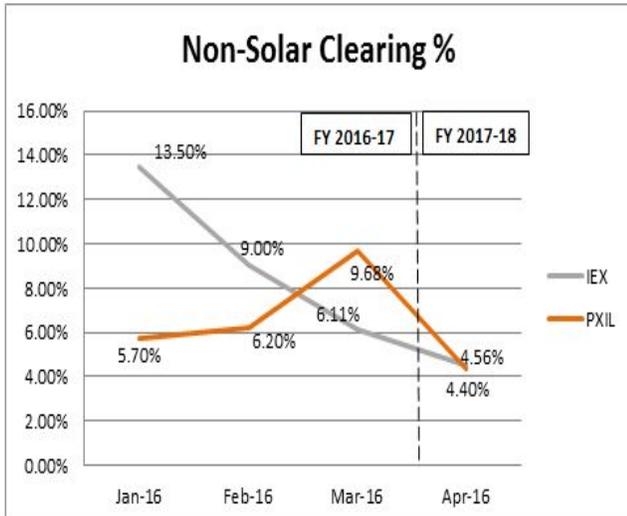
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Aiming to attain 40% clean power by '30, India adds 5,525 MW solar power in FY'16-17, taking the total to 12,288 MW

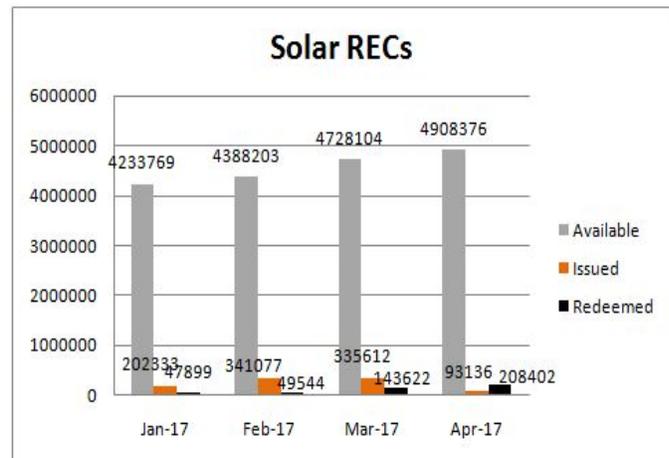
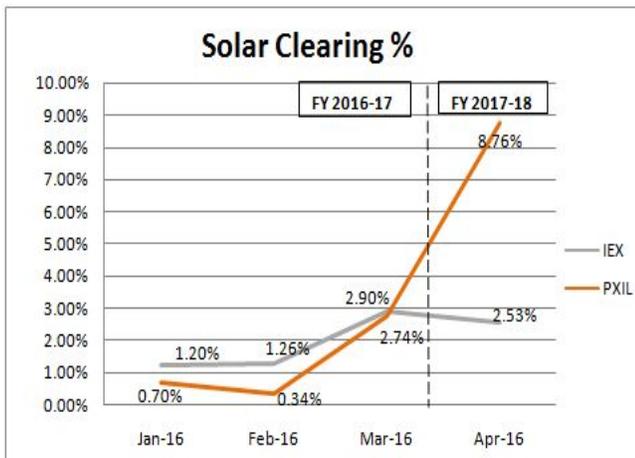
For past trading history, please click [here](#).

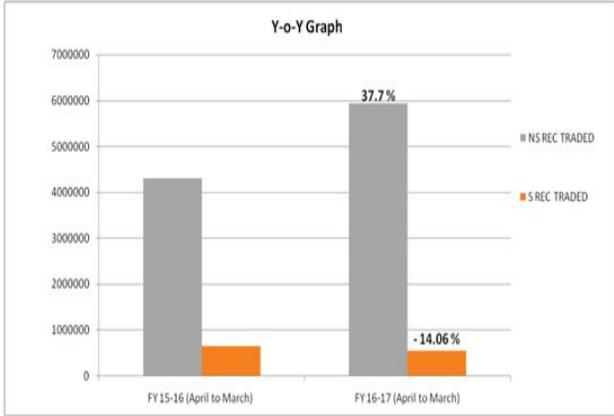
REC Trade statistics:

Non Solar – In March the clearing ratio stood at 6.11% and 9.68% in both IEX and PXIL. There has been a decrease of nearly 15% in the number of RECs traded as compared to February. In the month of April, the clearing ratio stood at 4.56% and 4.4% for IEX and PXIL respectively.

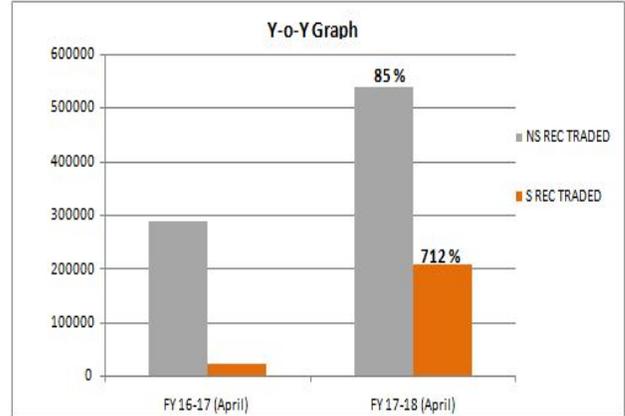


Solar – In March, the clearing ratio stood at 2.90% and 2.74% in IEX and PXIL respectively, with a drastic increase of nearly 190% in total demand of Solar RECs as compared to the number traded in February. For the month of April, the clearing ratio stood at 2.53% and 8.76% in IEX and PXIL respectively.





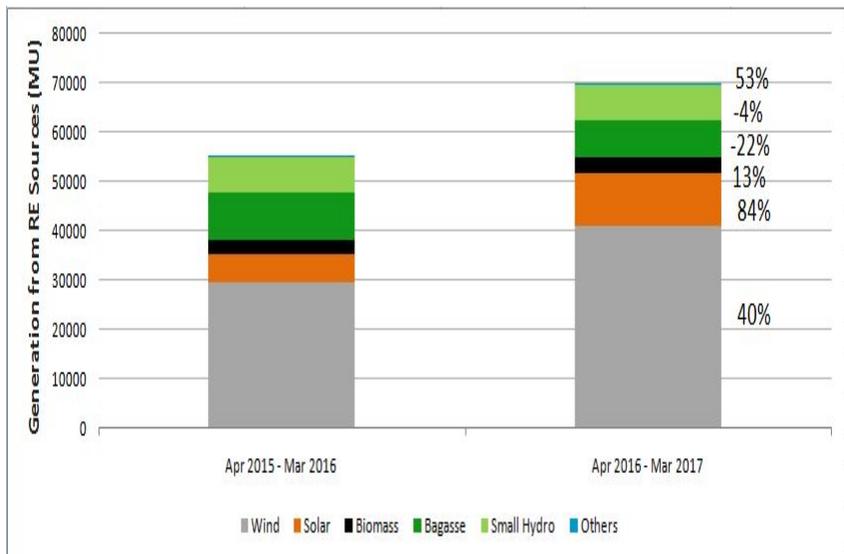
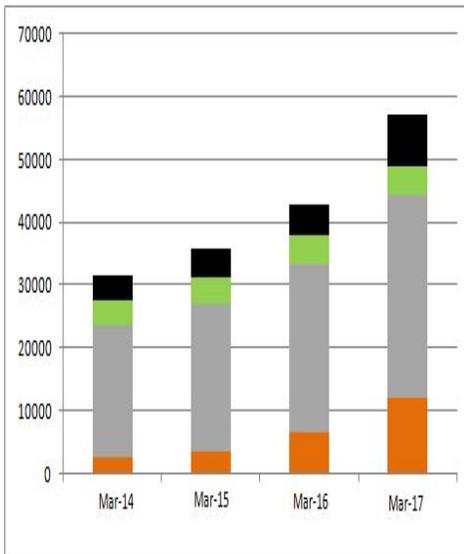
For FY 16-17, Non-solar RECs trading volume increased by 37%, while Solar RECs volume reduced by 14% as compared to FY 15-16. Record low solar prices in bidding has reduced demand for Solar RECs.



Revised prices of RECs became applicable from April 2017. As a result, significant demand pertaining to last FY actually materialised in April 2017. As a result there was a 712% and 85% increase in the number of solar and Non-solar RECs traded.

RE Generation

Source: CEA reports, REConnect analysis



There has been a 39% increase in the electricity generation from wind projects in the FY 2016-17 as compared to FY 2015-16. The increase in generation from solar projects is 84%. This aligns with the government's preference towards solar. There has been a decrease in the generation from Bagasse and Small hydro.

About

REConnect Energy is India's leading service provider to the renewable energy sector. We provide advanced data analytics for grid management, REC and ESCerts trading services. We also work with power consumers to manage Renewable Purchase Obligation (RPO) liabilities, and develop and execute their energy sourcing strategy. We are India's largest provider of forecasting and scheduling services, serving government and power generators. We are a knowledge focused company that prides itself in providing premium services to our clients backed by proprietary technology, an in-house data science capability and in-depth research & analysis.

REConnect is run by an experienced and professional team. The team consists of members with relevant experience of working at IEX, L&T, JP Morgan, Arthur Andersen and Gensol. Key members of the team are alumnus of IIT Bombay and Columbia University (an Ivy League university).

For more details of services provided and profile of the management team, please visit our [website](#).