

# Policy and Regulations- Inject of RE to the grid with its challenges



## RE progress on Karnataka and its projection

RE Progress Report upto April -2019				
SI No	RE Sources	Allotted Capacity in MW	Commissioned Capacity in MW	Cancelled Capacity in MW
1	Wind	18282.97	4779.14	7927.88
2	Hydro	3010.05	853.46	737.51
3	Co-gen	2177.65	1731.16	0.00
4	Biomass	391.18	134.03	0.00
5	Municipal Solid Waste	25.50	0.00	0.00
6	<a href="#">Solar</a>	9336.68	6128.85	380.00
Total		33224.03	13626.64	9045.39

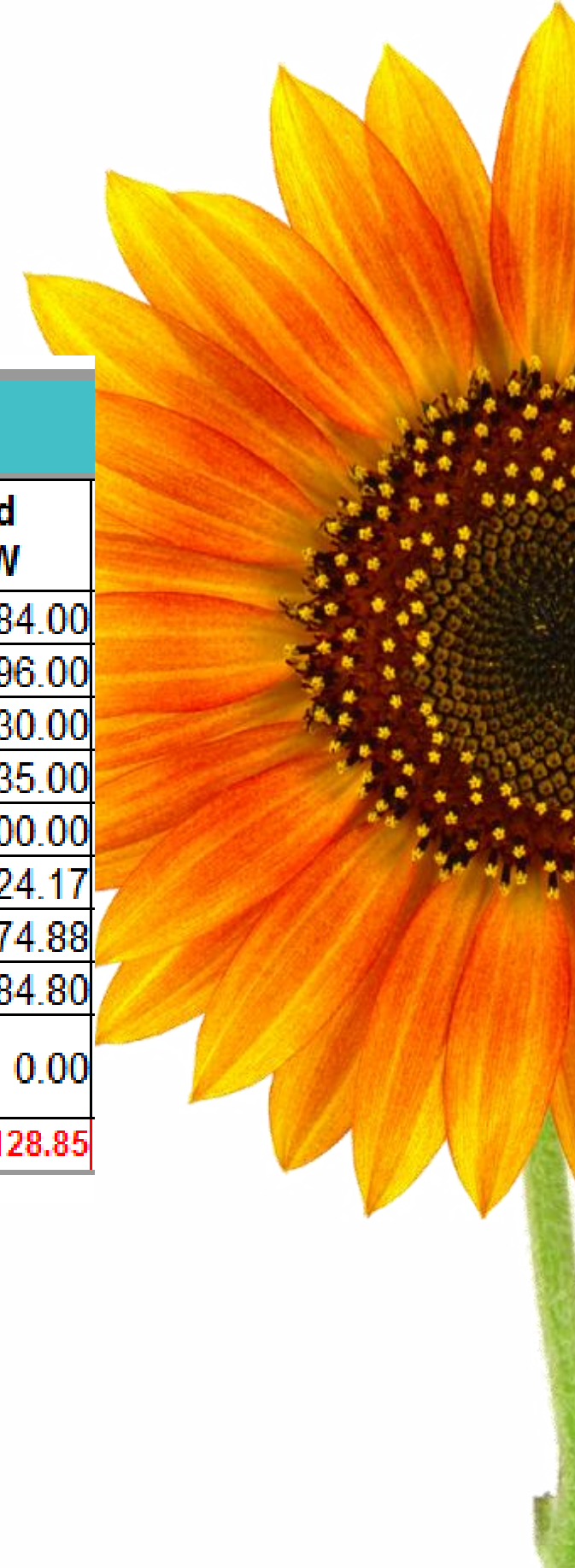
Government of Karnataka has a target to achieve minimum of 8%  
It is proposed to install a minimum 6,000 MW solar power projects  
by March 2021, where in 2,400 MW from Rooftops





# Solar installations till date in Karnataka

Solar Abstract List			
upto April -2019			
SI No	RE Sources	Allotted Capacity in MW	Commissioned Capacity in MW
1	Competitive Bidding	2710.00	1784.00
2	Land Owning Farmer, Solar 1-3 MW	314.00	296.00
3	SECI	970.00	930.00
4	JNNISM	35.00	35.00
5	Mega Solar Park, Pavagada	2000.00	1400.00
6	IPP	2153.38	1224.17
7	Private Park	919.50	274.88
8	Roof Top, IPDS, Suryaraitha of ESCOMs	184.80	184.80
9	KREDL 50 MW Solar Power Project at Pavagada (EPC Mode)	50.00	0.00
	<b>Total</b>	<b>9336.68</b>	<b>6128.85</b>



# Month wise peak demand and energy requirement - Karnataka

Anticipated month-wise power supply position for 2018-19

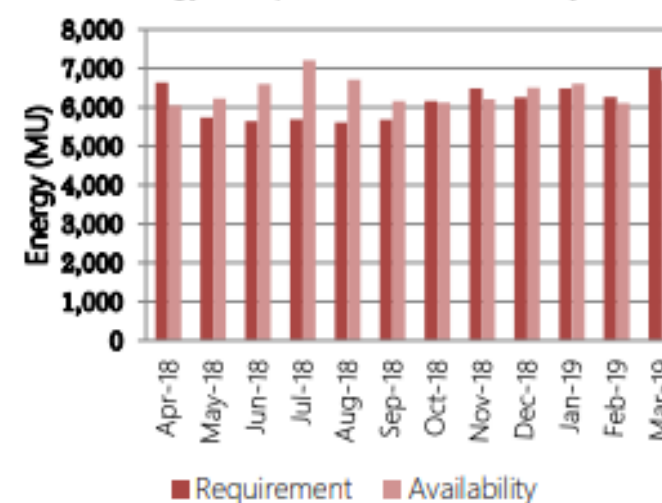
## Karnataka

Month	Peak				Energy			
	Demand	Availability	Surplus(+)/ Deficit(-)		Requirement	Availability	Surplus(+)/ Deficit(-)	
	(MW)	(MW)	(MW)	(%)	(MU)	(MU)	(MU)	(%)
Apr-18	10,380	9,939	-441	-4.3	6,632	6,043	-589	-8.9
May-18	9,705	9,748	43	0.4	5,734	6,221	487	8.5
Jun-18	9,618	10,257	639	6.6	5,639	6,599	960	17.0
Jul-18	9,447	10,947	1,500	15.9	5,690	7,209	1,519	26.7
Aug-18	9,589	10,323	734	7.7	5,608	6,705	1,097	19.6
Sep-18	9,752	9,906	154	1.6	5,684	6,160	476	8.4
Oct-18	10,126	9,489	-637	-6.3	6,158	6,121	-37	-0.6
Nov-18	10,580	9,854	-725	-6.9	6,481	6,204	-277	-4.3
Dec-18	10,109	10,002	-107	-1.1	6,251	6,502	251	4.0
Jan-19	10,317	10,214	-104	-1.0	6,483	6,600	117	1.8
Feb-19	10,766	10,483	-283	-2.6	6,261	6,101	-160	-2.6
Mar-19	11,000	10,479	-521	-4.7	7,000	6,676	-324	-4.6
Annual	11,000	10,947	-53	-0.5	73,621	77,140	3,519	4.8

Peak: Demand vs Availability



Energy: Requirement vs Availability





# Challenges

- **Maintaining & balancing the grid becomes critical due to inadequate tools to calculate the exact load profile** - outdated grid infrastructure due to grid operators are backing-down operations which impacts not just the renewable energy sector but the overall power reliability.
- GOI is working on **analyzing the following areas** like,
  - Grid Integration and Regulatory View
  - Review of Electricity Tariffs DISCOM wise
  - Operating Layouts
  - State wise Load Profiling
  - PV Cost and Design
  - Market Potential of EPC players
  - Cost of Energy and Grid Parity, Supply Infrastructure
  - Environmental and Social Impacts to achieve the goal.



- ✓ **Curtailment issues** - Offtakers have trouble predicting power demand or transmission efficiency, which leads to uncertainty over the offtake obligation, thereby causing issues for the developer. The fluctuating nature of renewable power and risks associated with having a fixed term for projects.
- ✓ **PPA Tariffs** - Provides a certainty of revenue for seller and security of supply for purchaser
- ✓ **Commercial curtailments** -In case of low demand, an element of commercial curtailment comes into play, where expensive power or power for which penalty amounts (for curtailment) is low, is likely to be curtailed first.





- ✓ **Grid Unavailability** - The transmission charges for parts of the system having different NATAF are aggregated thereafter. This brings further accountability on the transmission companies to ensure availability of the grid.
- ✓ Due to mentioned factors, **utilities are indirectly opposing more distributed energy installations**, since most of our financially distressed power distribution companies (discoms), also bulk purchasers of power, have held back from buying expensive power (whether conventional or renewable-based) thus confining power markets.
- ✓ This would have **direct financial and operational impact for pay-outs for surplus power fed to the grid.**



## ▼ All Plants (503)

Plant Info		Actual Energy				Expected Energy	
Plant Name	Plant Size	Today	Last Month	This Month	Lifetime	Last Month	This Month
00P0IG	8.00 kWp	37.47 kWh	1.05 MWh	1.02 MWh	40.48 MWh	<div>1.32 MWh</div> <div>80%</div>	<div>1.32 MWh</div> <div>83%</div>
00C9LJ	12.50 kWp	42.66 kWh	1.39 MWh	1.27 MWh	54.80 MWh	<div>2.06 MWh</div> <div>67%</div>	<div>2.06 MWh</div> <div>66%</div>
00KI6I	11.00 kWp	52.84 kWh	1.61 MWh	1.46 MWh	58.64 MWh	<div>1.82 MWh</div> <div>89%</div>	<div>1.82 MWh</div> <div>86%</div>
00MYTL	9.00 kWp	43.00 kWh	1.23 MWh	1.14 MWh	46.53 MWh	<div>1.49 MWh</div> <div>83%</div>	<div>1.49 MWh</div> <div>82%</div>
00KT64	6.00 kWp	0.00 kWh	0.00 kWh	0.00 kWh	28.81 MWh	<div>990 kWh</div> <div>0%</div>	<div>990 kWh</div> <div>0%</div>
00P7J0	19.50 kWp	78.40 kWh	2.55 MWh	2.34 MWh	72.26 MWh	<div>3.22 MWh</div> <div>79%</div>	<div>3.22 MWh</div> <div>78%</div>
00MYST	10.00 kWp	8.85 kWh	536 kWh	341 kWh	45.82 MWh	<div>1.65 MWh</div> <div>32%</div>	<div>1.65 MWh</div> <div>22%</div>
00M5FR	6.75 kWp	32.55 kWh	1.03 MWh	929 kWh	37.11 MWh	<div>1.11 MWh</div> <div>92%</div>	<div>1.11 MWh</div> <div>89%</div>





Thank you for your  
attention !!