

**PROJECTED ENERGY AVAILABILITY & COST FOR**  
**FINANCIAL YEAR 2020-21**

- 1.0** The energy required by ESCOMs of Karnataka for the Financial Year 2020-21 is 75404.69 MUs considering STU transmission losses of 3.13%. The ESCOM wise energy requirement is shown in as **Table-1**.

**Table-1**

<b>ESCOMs</b>	<b>Energy requirement in MUs</b>
BESCOM	35121.13
GESCOM	9366.47
HESCOM including Hukkeri Society & AEQUS	16312.64
MESCOM Including MSEZ	6453.45
CESC, Mysore	8151.00
<b>Total</b>	<b>75404.69</b>

- 2.0** Energy being purchased by ESCOMs from different sources viz., KPCL Hydel, KPCL Thermal & Gas based power Projects, Central Generating Stations, DVC, Priyadarshini Jurala Hydro Electric scheme, IPPs and Non-Conventional Energy source including solar projects.

**3.0 Hydro and Thermal Stations of KPCL**

The Energy availability of Hydel and Thermal stations of State Owned Power plants are considered as per the details furnished by KPCL in its letter dated 08.11.2019. The energy projected by KPCL in respect of hydro stations is based on average energy generated in last 10 years with a 1% auxiliary consumption as per PPA. Energy availability in respect of Thermal Stations is as per the targeted availability defined in the PPA/Regulations wherever applicable and less by applicable auxiliary consumption of each station. The Raichur Power Corporation Ltd (RPCL) furnished the projected energy and cost details for FY 2020-21 through email on 7.11.2019. KPCL has projected the Yelahanka Combined Cycle power projects is available for the FY 2020-21.

During the year 2020-21, Energy availability from different sources is more than the quantum required by ESCOMs, considering the following factors;

- i) The energy availability from KPCL stations, RPCL and KSPDCL as per the details furnished by Generating Stations.
- ii) Energy availability from CGS stations as per generation data received through email from SRPC applicable for the FY 2020-21.
- iii) The energy availability of DVC stations as per the data furnished through email dated 5.11.2019
- iv) 85% of the 90% of the installed capacity has been considered for UPCL project
- v) NCE projects commissioned and energy actual supplied during year 2018-19 has been considered for 2020-21 onwards.
- vi) Solar projects selected through bidding route for which cumulative utilization factor as per the PPA is considered.
- vii) In respect of Taluka wise, 1 to 3 MW farmers category is likely to be commission during 2019-20 onwards is as per the scheduled CoD date as furnished by ESCOMs/KREDL.
- viii) The energy availability from Jurala Priyadarshini is as per energy supplied for the year 2019-20 and in respect of TBHES, the energy availability is as per the energy supplied for the year 2018-19 is considered.
- ix) The energy availability from Medium term cogeneration plants of 637 MW at 60% PLF is considered.

Generating Stations	Energy in Mus	Source
KPCL Hydro	11567.03	KPCL
KPCL Thermal:		
RTPS -1 & 7	8623.16	KPCL
RTPS 8	1600.69	KPCL
BTPS		
Unit I	3447.48	KPCL
Unit II	3503.38	KPCL
Unit III	4900.22	KPCL
Yelahanka Combined Cycle gas Power projects	2502.00	KPCL
Raichur Power Corporation ltd		

Yermarus TPS - 1& 2	11288.57	RPCL
CGS	16134.04	Generation data submitted by generator to SRPC for 2020-21
Kudigi	8520.52	85% of 2400 MW (Karnataka share 50%)
DVC	2614.05	As per DVC
UPCL	7522.99	90% of 85% installed capacity
NCE Projects	21326.35	As per actuals of ESCOMs for the FY 2018-19 with proposed solar projects likely commissioned during the year 2019-20 & 2020-21
TBHE & Jurala projects	183.60	Actuals of 19-20(Jurala) and 2018-19(TBHE)
Medium Term procurement of Co-generation Plants	1285.06	60% of Exportable capacity
<b>Total</b>	<b>104959.13</b>	

The availability of energy from different sources is more than quantum required by ESCOMs and hence available quantum from different sources have been reduced on the basis of Merit Order Despatch is as detailed below;

Sources	Available quantum in Mus	Quantum offtake by ESCOMs in Mus	Difference in Mus	Justification
RTPS 8	1600.69	963.06	637.63	Due to higher variable cost, Offtake of power from these power plants is reduced. The full Fixed cost is considered for tariff filing.
BTPS Uni1	3447.48	1216.34	2231.14	
BTPS Unit-2	3503.38	1320.18	2183.20	
BTPS Unit-3	4900.22	4278.79	621.43	
RTPS Unit1 to 8	8623.16	6033.41	2589.75	
Yelahanka Combined Cycle gas Power projects	2502.00	428.46	2073.54	Plant is expected to available during the month of Nove-2020 and energy would be scheduled for the month of Feb-2021 and March-2021 @ 60%

Yermarus TPS - 1 & 2	11228.57	3030.18	8198.39	The capacity charges considered for full. However energy considered for One unit of 800 MW @ 85%
Kudigi Units 1,2 &3	8520.52	1272.96	7247.55	Due to higher variable cost, Offtake of power from these power plants is reduced. The full Fixed cost is considered for tariff filing.
UPCL	7522.99	3751.19	3771.8	Due to higher variable cost, Offtake of power from the power plants is reduced. The full Fixed cost is considered for tariff filing.
Total	51849.00	22294.56	29554.44	

**3.1** The availability of Energy from Hydel & Thermal Power Station's details furnished by KPCL is shown in **Table 2 & 3**.

**Table-2**  
**HYDEL ENERGY**

Sl. No.	Generating Source	Energy in MUs
1	Sharavathy valley project ( Sharavathy, Linganamakki & Chakra Projects)	5003.18
2	Kali Valley projects ( Nagajari & Supa Projects)	3119.00
3	Varahi Valley projects ( Varahi & Mani Projects)	1008.51
4	Bhadra & Bhadra Right Bank	47.86
5	Ghataprabha (GDPH)	68.06
6	Mallapur & Others	0
7	Kadra Dam	370.69
8	Kodasalli Dam	347.07
9	Gerusoppa/STRP	525.41
10	Almatti Dam Power House	434.56
12	Shiva & Shimsa	291.47
13	Munirabad	91.44
14	MGHE-Jog	259.79
	<b>Total KPCL Hydel</b>	<b>11567.03</b>

**Table-3**  
**THERMAL POWER STATIONS**

Sl. No.	Stations	Installed Capacity in MW	Net generation in MUs
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1	RTPS I &7	1470	6033.41
2	RTPS Unit 8	250	963.06
3	BTPS Unit I	500	1216.34
4	BTPS Unit II	500	1320.18
5	BTPS UNIT-III	700	4278.79
6	Yelahanka Combined Cycle	370	428.46
7	Yermarus TPS - 1 & 2	1600	3030.18
<b>Total</b>			<b>17270.41</b>

**3.2** Total Hydel generation would be 11567.03 MUs and Thermal is around 17270.41 MUs for 2020-21, totaling to 28837.44 MUs from KPCL Station and Raichur Power Corporation Ltd.

#### **4.0 Projection of cost - KPCL Hydel and Thermal Stations:**

##### **Hydel Stations:**

The tariff rates worked out by KPCL based on KERC order dated 03.08.2009 for hydel stations except for Shivasamudram, Shimsha, Munirabad & MGHE. The tariff for the hydel stations is based on the design energy. The over and above the design energy paid at 15 paise per kwh or 3% of the ROE whichever is less. The Hon'ble Commission vide order dated 25.02.2015 determined the tariff for KPCL Hydro Stations of Shiva and Shimsha, Munirabad & MGHE upto 2019. The tariff proposed by KPCL in its letter dated 8.11.2019 is considered for above hydro stations. The rate details furnished by the KPCL is as shown in Table-4.

**Table-4**

<b>Sl. No.</b>	<b>Source</b>	<b>Design energy in MUs</b>	<b>Paise per Unit</b>
<b>A</b>	<b>KPCL - Hydel</b>		
1	Sharavathy valley project ( Sharavathy, Linganamakki & Chakra Projects)	3737.95	47.26
2	Kali Valley projects	2058.77	74.57
3	Varahi Valley projects ( Varahi & Mani Projects)	848.69	140.31
4	Varahi 3 & 4	848.69	37.79
5	Bhadra & Bhadra Right Bank	50.49	545.66
6	Ghataprabha (GDPH)	84.97	256.69
7	Mallapur & Others	0	0

8	Kadra Dam	419.9	258.88
9	Kodasalli Dam	372.48	177.02
11	Gerusoppa/STRP	442.62	176.97
12	Almatti	384	174.12
13	Shiva & Shimsa	252	52.48
14	Munirabad	65	360.50
15	MGHE-Jog	119	71.06

**Note: Paise 4 as royalty charges is considered for the actual generation**

### **KPCL Thermal Stations:**

The tariff rates worked out by KPCL based on various parameters of tariff orders in respect of thermal stations RTPS units 1 to 7, RTPS-8, BTPS unit-I, II & III is considered. The Yelahanka Combined Cycle Power Plant is yet to be declared commercial operation by KPCL and tariff is to be determined by KERC and hence the tariff proposed in the letter dated 8.11.2019 is considered. The KERC in its order dated 25.02.2015 determined capacity charges in respect of BTPS unit 2 and RTPS Unit-8 from the date of commission to end of 31.03.2019. Hence, tariff proposed in the letter dated 8.11.2019 by KPCL is considered for the following units;

Sl. No.	Stations	Capacity charges applicable for 2020-21 (Amount in Rs. crore)
1	BTPS Unit-2	456.55
2	RTPS Unit-8	214.74

The average variable cost for the month of July -2019, Aug-2019 and Sep-2019 is considered for energy charges for FY 2020-21;

**Table-5**

Sl. No.	Stations	2020-21	
		Fixed cost Rs in Crores	Variable cost Paise per Kwh
1	RTPS unit 1 to 7	1014.26	362.37
2	RTPS unit-8	214.74	342.20
3	BTPS unit-1	365.86	392.47
4	BTPS unit-II	456.55	366.85

5	BTPS Unit-III	1004.88	346.27
6	Yelahanka Combined Cycle	197.08	475.08
	Total	3253.37	

The average cost of hydel stations works out to 93.80 Paise per unit and thermal units is around 698.97 paise per unit. The Income tax has been shown separately, the amount as indicated by KPCL in the letter dated 8.11.2019.

Raichur Power Corporation Ltd has furnished the capacity charges, energy charges and Income tax applicable for their station for the financial year 2020-21 is considered.

**Table 5a**

<b>Raichur Power Corporation Ltd</b>	<b>Fixed charges Rs/Crores</b>	<b>Variable cost (Ps/unit)</b>
Yermarus TPS - 1 & 2	2240.00	381.17

## **5.0 Central Generating Stations:**

**5.1** ESCOMs have a share in Central Generating station of NTPC, Neyveli Lignite Corporation (NLC), Nuclear power stations and other Joint Venture Projects. The allocation of capacity entitlement from these stations includes both firm and unallocated share. The unallocated share is vary depending upon the allocation issued by Ministry of Power, GoI.

**5.2.** The energy available to ESCOMs depends on the scheduled generation and share in a month and other parameters such as availability and outages (forced and planned). The net energy available at ex-bus generation details furnished by Central Generating Stations to SRPC for proposed to preparation of LGBR for the year 2020-21 is considered. Out of the total month wise energy available at Ex-bus, the share of Karnataka including unallocated share for the month of October 2019 (cumulative) is taken to arrive the energy available to Karnataka for FY 2020-21. In order to arrive energy available at Karnataka Periphery, POC losses of injection (State/Power station wise) and losses of withdrawal of the state for the week 18.11.2019 to 24.11.2019 as notified by the NLDC is taken. The scheduled energy available at ex-bus and share of Karnataka is shown in **Table-6** and net energy available at KPTCL periphery after considering the POC losses is shown in **Table-7**.



The energy from new NLC Thermal Power Project of 1000 MW is expected to be available during FY 2021. Out of 1000 MW installed capacity Karnataka, having a share of 70 MW.

**Table - 6**

Sl. No.	Stations	Total Energy scheduled at EX-bus in MUs	Share of Karnataka in %	Karnataka Share in MUs
1	RSTP-I&II	12487	18.29	2284.25
2	RSTP-III	3250	18.92	614.93
3	RSTP-Talcher	13085	17.78	2326.25
4	Simhadri station II	5570	18.66	1039.31
5	Vallur unit-I & II	7419	10.31	765.12
6	NLC II Stage-1	3351	22.71	761.05
7	NLC II Stage-2	4602	22.98	1057.59
8	NLC expansion I	3096	25.79	798.49
9	New NLC Thermal power project	2421	8.07	625.15
10	NLC expansion Stage II(Unit-1)	5844	25.82	471.57
11	NTPL-2X 500 MW	5786	20.48	1185.09
12	MAPS	1039	8.50	88.32
13	Kaiga Unit-1& 2	2788	31.57	880.17
14	Kaiga Unit-3&4	2628	34.07	895.36
15	Kudamkulam Unit-1	6718	23.29	1312.70
16	Kudamkulam Unit-2	7008	22.10	1548.77
17	Kudigi Station(3X800 MW)	4845	52.02	1316.03
18	DVC- Maija ( unit 7 &8 )	5944	20.00	1188.90
19	DVC- Koderma (unit 1 & 2)	5944	25.00	1486.12
	Total			20645.16

**Table-7**

Stations	Energy scheduled @ generators Ex-bus in MUs	Injection loss in %	With drawl loss in %	Injection on state POC loss in MUs	Energy scheduled after Injection state loss	withdra wal state POC loss in MUs	Energy @ KPTCL periphery
N.T.P.C-RSTP-I&II	2284.25	1.40	1.65	31.98	2252.27	37.16	2215.11
NTPC-III	614.93	1.40	1.65	8.61	606.32	10.00	596.32
NTPC-Talcher	2326.25	1.14	1.65	26.52	2299.73	37.95	2261.79
NLC TPS2-Stage 1	761.05	1.40	1.65	10.65	750.39	12.38	738.01
NLC TPS2-Stage 2	1057.59	1.40	1.65	14.81	1042.78	17.21	1025.57

NLC TPS1-Expn	798.49	1.40	1.65	11.18	787.31	12.99	774.32
NLC II expansion I	625.15	1.40	1.65	8.75	616.40	10.17	606.23
NLC Thermal Projects	471.57	1.40	1.65	6.60	464.97	7.67	457.30
MAPS	88.32	1.15	1.65	1.02	87.30	1.44	85.86
Kaiga Unit 1&2	880.17	2.40	1.65	21.12	859.05	14.17	844.87
Kaiga Unit 3 &4	895.36	2.40	1.65	21.49	873.87	14.42	859.45
Simhadri Unit -1 &2	1039.31	1.15	1.65	11.95	1027.35	16.95	1010.40
NTPLUnit-2X 500 MW	1185.09	1.90	1.65	22.52	1162.57	19.18	1143.39
KudamKulam	1312.70	1.65	1.65	21.66	1291.04	21.30	1269.74
KudamKulam	1548.77	1.65	1.65	25.55	1523.21	25.13	1498.08
Vallur TPS Sg I ,2 &3	765.12	0.65	1.65	4.97	760.15	12.54	747.61
Kudigi(3X800 MW)	1316.03	1.65	1.65	21.71	1294.32	21.36	1272.96
DVC - Mejsa thermal Power Station	1188.90	0.64	1.65	7.61	1181.29	19.49	1161.80
DVC - Koderma Thermal Power Station	1486.12	0.64	1.65	9.51	1476.61	24.36	1452.25
<b>Total</b>	20645.16						20021.05

**5.3** The power drawl from the Central Sector Generating Stations either through the PGCIL lines or any lines constructed by developer selected through competitive bidding route from the generating plants. ESCOMs will pay POC (Transmission charges) to PGCIL/Independent Power Transmission Utility for Transmitting the CGS power and other states power. The POC charges as per RTA for the month of October-2019 is considered for FY 2020-2021 which includes POC, Reliability Support Charges and HVDC Charges. Considering the POC of October 2019, the total POC payable by ESCOMs for the year 2020-21 is works out to Rs.2356.71 crore.

ESCOMs	POC Charges Rs.Crs.
BESCOM	1304.43
GESCOM	275.18
HESCOM	363.73
MESCOM	192.92
CESC	220.45
<b>Total</b>	<b>2356.71</b>

CERC has notified CERC( Sharing of Inter-State Transmission Charge and Losses) Regulation,2019 for which Hon'ble CERC invited comments/suggestion to be submitted before 2<sup>nd</sup> December 2019. The new Regulation does not specify the POC charges applicable for Karnataka State. Any changes in the existing POC charges, the same will intimated to Hon'ble Commission after notified new Regulation and applicability of period along with POC Charges.

**5.4** The CERC yet to be determined POSOCO-SRLDC charges for the control period 2019 to 2024. However, charges in the order dated 29.12.2016 has been considered. Subsequently, CERC revise the O& Charges, Certificate linked incentive, Additional HR expenses and Performance linked incentive in the CERC order dated 10.6.2019, 27.06.2019 and 28.06.2019. The applicable charges considering the above orders, the share of Karnataka works out to Rs. 2.48 crore.

**5.5** The Tariff in respect of Central Generating Stations like NTPC, NLC and DVC stations for the Control period 2019 to 2024 is yet to determined by CERC for the stations belonging to Generators, Similarly, Transmission Charges of PGCIL owned transmission lines for the next control period is also to be determined by the CERC. Under the above circumstances, the Capacity charges applicable for the period 2018-19 is considered for FY 2020-21. The capacity charge considered based on various orders are as detailed below;

<b>Sl. No.</b>	<b>Stations</b>	<b>Date of order</b>	<b>Capacity charges applicable for 2020-21 (Amount in Rs. Crore)</b>
1	RSTP-I&II	24.1.2017	1068.28
2	RSTP-III	8.11.2016	272.45
3	RSTP-Talcher	16.02.2017	1012.59

4	Simhadri station II	29.7.2016	1081.69
5	Vallur unit-I & II	11.7.2017	1858.96
6	NLC II Stage-1	12.6.2017	299.80
7	NLC II Stage-2	12.06.2017	414.29
8	NLC expansion I	18.10.2016	276.18
9	NLC expansion Stage II (U-1)	24.7.2017	728.06
10	New NLC Thermal projects	As per the petition	1381.72
11	NTPL-2X 500 MW	11.7.2017	1090.17
12	Kudigi	As per the petition	2613.67
13	DVC-Mejia	3.10.2016	1019.21
14	DVC-Koderma	28.2.17	1175.74

The average variable cost for the month of Aug-2019, Sep-2019 and Oct-2019 is considered for energy charges for FY 2020-2021. In case of Kaiga, and Kundamkulam, average rate per unit for the months of Aug-2019, Sep-2019 and October -2019 is considered. The applicable rate in respect of MAPS station for the FY 2020-21 as per their letter dated 14.11.2019 is considered

Particulars	MAPS	Kaiga Units 1 to 4	Kudamkulam Unit -1	Kudamkulam Unit -2
Base Price	2.626	3.465	3.545	3.545
Heavy Water adjustment charges	0.000	0.000	0.420	0.420
Heavy Water lease adjustment charges	0.000	0.014	0.000	0.000
Insurance	0.098	0.150	0.041	0.041
Decommissioning Levy	0.020	0.020	0.020	0.020
Forex Variation Adjustment Charges	0.000	0.000	0.039	0.039
Nuclear Liability & Forex adjustment	0.050	0.000	0.050	0.050
Others			0.000	0.000
Total tariff	2.794	3.649	4.115	4.115

**5.6** The capacity charges (Fixed Cost) and variable cost considered for 2020-21 is shown in Table-9.

**Table-9**

Central Projects	Fixed Cost (Rs in Cr)	Variable Cost (Paise per Kwh)
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N.T.P.C-Ramagundam	195.42	261.57
NTPC-VII	51.55	257.40
NTPC-Talcher	180.02	223.17
NLC TPS2-Stage 1	68.09	268.57
NLC TPS2-Stage 2	95.21	268.57
NLC TPS1-Expn	71.23	246.33
NLC II Expansion-1	188.00	252.10
New NLC Thermal Power project	111.50	219.60
MAPS	0.00	279.39
Kaiga unit I &II	0.00	364.90
Kaiga Unit 3 &4	0.00	364.90
Simhadri Unit -1 &2	201.83	324.23
Vallur TPS Stage I &2 &3	191.71	373.03
NTPL	223.29	289.40
KudamKulam Unit1	0.00	411.53
KudamKulam Unit2	0.00	411.53
Kudigi	1359.74	407.40
DVC- Mejia thermal Power Station	203.84	295.67
DVC Kodemma thermal Power Station	293.93	272.73

5.6 Income tax for the CGS station included in the capacity charges payment on normative basis by grossing up of RoE with effective tax rate of the respective financial year of the generating company. Income tax is included as a part of capacity charges and not payable separately and hence not considered.

## 6.0 Independent Power Producers

6.1. The generation of 1200 MW of UPCL Unit -1 & Unit-2 taken at 85% of 90% installed capacity as per PPA/ approval given by Government. Tariff in respect of control period 2019-20 to 2023-24 is yet to be determined by CERC and hence the auxiliary consumption of 5.25% as per CERC Regulation 2019 and additional auxiliary consumption 1.2% allowed by CERC vide order dated 20.02.2014 and 10.07.2015 is taken. The capacity charges determined by CERC in the order dated 27.06.2019 for FY 2013-14

excluding cost of secondary fuel is considered for FY 2020-21. The average variable cost for the month from August-2019, Sep-2019 and Oct-2019 is considered. The energy and cost details are shown in Table-10.

**Table-10**

<b>Stations</b>	<b>Energy (in Mus)</b>	<b>Fixed cost (Rs in Cr)</b>	<b>Variable cost (Paise per Kwh)</b>
UPCL	3751.19	1229.35	368.67

## **7.0 Non conventional Energy Source (NCE source)**

- 7.1 The actual generation of NCE projects for the year 2018-19 has been considered for 2020-21 including Solar, Co-generation, Bio-mass, Wind Mills and Mini Hydel projects.
- 7.2 Project which are expected to be commissioned during 2019-20 is based on scheduled CoD of the projects in respect of 1 to 3 Farmer scheme, Talukwise solar and Bidding by KREDL is considered for FY 2020-21. The rate is as per the revised order issued by Commission in respect of 1 to 3 farmer scheme. The rates for other projects are as per the bidding rates.
- 7.3. The KREDL in its letter dated 7.11.2019 furnished in the list of solar projects commissioned during the year 2019-20 and projects to be commissioned during FY 2020-21. The same is considered for energy projection during FY 2020-21
- 7.4. The PLF is based on tariff orders issued by KERC for control period from 2018-19 to 2020-21 is considered to arrive energy for FY 2020-21
- 7.5. Ministry of power allocated un allocated power of coal based NTPC stations for bundling with solar power in ratio of 1.2 (unallocated power: Solar power) as envisaged under National Solar Mission Phase-II, Batch-II Tranche-I. Accordingly, Ministry of Power, GOI, allocated 300 MW to Karnataka from unallocated power of coal based NTPC stations of Eastern Region and Western Region. The expected energy from bundled power of coal is around 2018.94 MUs ( 300 MW @85% PLF after considering the losses)

7.7 ESCOM wise NCE energy projected for FY 2020-21 is shown in

**Table 11.**

**Energy in Mus**

<b>Existing NCE Projects</b>	BESCOM	GESCOM	HESCOM	MESCOM	CESC	Total
Co-generation	0.00	86.02	430.25	0.00	44.65	560.92
Biomass	63.62	30.02	0.00	0.00	15.66	109.30
Mini Hydel	456.95	107.57	32.65	348.08	283.48	1228.73
Wind mill	2939.71	1495.88	2234.40	266.23	200.29	7136.51
KPCL wind mill	10.08	0.00	0.00	0.00	0.00	10.08
Solar	2528.94	635.24	1081.48	409.92	633.01	5288.59
Solar rooftop	92.18	0.00	0.00	0.00	54.88	147.06
KPCL Solar	3.50	2.19	3.13	0.00	0.00	8.82
NTPC Bundled power Coal	144.46	46.03	59.10	24.51	35.62	309.73
NTPC Bundled Power Solar-SR region	56.21	17.91	22.99	9.53	13.86	120.50
Captive/Banking energy	65.20	40.45	339.30	0.00	0.00	444.95
NTPC Bundled power Coal,WR region ,Pavagada	935.81	305.01	384.95	159.16	234.00	2018.94
NTPC Bundled Power Solar, Pavagada	579.59	188.91	237.39	98.58	144.93	1249.40
<b>Total</b>	<b>7876.25</b>	<b>2955.22</b>	<b>4825.64</b>	<b>1316.01</b>	<b>1660.40</b>	<b>18633.51</b>
<b>New NCE Projects</b>						0.00
<b>Co-generation</b>	0.00	0.00	0.00	0.00	0.00	0.00
Biomass	0.00	0.00	0.00	0.00	0.00	0.00
Mini Hydel	0.00	0.00	0.00	0.00	0.00	0.00
Wind mill	0.00	0.00	0.00	0.00	0.00	0.00
Solar Power @ Pavagada	1028.43	225.90	305.84	143.05	143.05	1846.27
Farmer 1 to 3	0.00	0.00	0.00	0.00	0.00	0.00
Solar Power Under VGF Scheme	0.00	0.00	0.00	0.00	0.00	0.00
Solar Power Under Talukwise scheme	472.07	108.19	133.15	91.54	41.61	846.56
<b>Total</b>	<b>1500.50</b>	<b>334.09</b>	<b>438.99</b>	<b>234.59</b>	<b>184.66</b>	<b>2692.83</b>
<b>Grand Total</b>	<b>9376.75</b>	<b>3289.30</b>	<b>5264.63</b>	<b>1550.60</b>	<b>1845.06</b>	<b>21326.35</b>

7.7 The average cost of the year 2018-19 is considered for existing Hydro

and Wind projects.

7.8 In respect of Solar Power Projects, the rate obtained through tender is considered.

## 8.0 Jurala Project

The ESCOMs having a share of 50% from Jurala Priyadarshni Hydro Electric Projects ie 117 MW. The net energy exported to Karnataka from Jural Priyadarshni Hydro Electric Projects for the year 2019-20 is considered for 2020-21. The TSERC vide tariff order dated 6.7.2017 determined the capacity charges for the project for the control period from 1.4.2014 to 31.3.2019. The 50% of the capacity charges applicable for the financial year 2018-19 is considered. The capacity Charges for the next control period is yet to be determined by TSERC hence capacity charges applicable for the year 2018-19 is considered for the year 2020-21 also.

**Table-13**

	Apr-20	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Total
Energy in Mus	0	-0.032	-0.048	3.013	29.061	54.738	42.291	27.529	0	0	0	0	156.552
Amount in Rs Cr	4.89	4.89	4.89	4.89	4.89	4.89	4.89	4.89	4.89	4.89	4.89	4.89	58.66

**9.0** The energy from T. B. Dam power is shared between AP/Telangana and Karnataka. The 1/5<sup>th</sup> share of revenue expenditure and energy has been shared between two states. The actual cost and energy supplied for the FY 2018-19 is considered for 2020-21. The power purchase cost and energy from T. B. Dam has been estimated to 27.05 MUs and Rs. 3.04 crore.

**Table-14**

	Apr-20	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Total
Energy in Mus	-0.07	-0.20	-0.35	2.91	9.38	5.28	4.31	0.42	1.84	1.69	0.38	1.46	27.05
Amount in Rs crore	1.04	0.33	0.09	0.15	0.16	0.12	0.14	0.09	0.10	0.09	0.10	0.64	3.04

**10.0 Medium Term Power Purchase – Co generation power plant for a period of 5 years**

GoK vide Order EN 16 PPT 2016 dated 11.11.2016 accorded approval to purchase power from Bagasse Based Co-generation Units of 28 Sugar factories with an exportable capacity of 501 MW during the



season only in the State with the approval of KERC for a period of 5 (FIVE) years commencing from 2016-17 at the tariff determined by KERC. Subsequently , Gok accorded approval to procure power from additional 12 number with total capacity of 137 MW

KERC vide order dated 11th April 2017 has determined the final tariff for the co-generation units for the financial year 2016-17 to 2020-21. As per the KERC order, the tariff payable per unit for the energy supplied from the co-generation plants commissioned in different years during the period from 2005 or earlier to 2014 are as detailed below:

<b>Year of Commissioning</b>	<b>FY17 (Rs. Ps.)</b>	<b>FY18 (Rs. Ps.)</b>	<b>FY19 (Rs. Ps.)</b>	<b>FY20 (Rs. Ps.)</b>	<b>FY21 (Rs. Ps.)</b>
Variable Charges	3.14	3.32	3.51	3.71	3.92
2005 and Earlier	3.98	4.16	4.35	4.55	4.76
2006	3.96	4.14	4.33	4.53	4.74
2007	3.95	4.13	4.32	4.52	4.73
2008	4.01	4.19	4.38	4.58	4.79
2009	4.08	4.26	4.45	4.65	4.86
2010	4.58	4.76	4.95	5.15	5.36
2011	4.71	4.89	5.08	5.28	5.49
2012	4.85	5.03	5.22	5.42	5.63
2013	4.91	5.09	5.28	5.48	5.69
2014	4.96	5.14	5.33	5.53	5.74

BESCOM and other ESCOMs have filed Revision Petition No.9/2017 against the Commission order dated 11.4.2017 and prayed for reduction in the tariff of co-generation units determined by KERC. The hearing completed in April 2018 and reserved for orders. In the meantime, KERC desired to apply the variable cost determined in the generic tariff order dated 14-05-2018 (considering the bagasse cost as free) to the tariff order dated 11-04-2017. A Writ petition No.31942 of 2018 was filed in the Hon'ble High Court and Court directed not to proceed in the matter. The above WP is not yet been listed in the Hon'ble High Court.

The rate applicable for FY 2020-21 as per the above table is considered with 60% of the energy generated from the exported capacity for a period of 140 days. The above rates are subject to final outcome of the review

petition filed by ESCOMs before KERC. The details are indicated in **Table-15**.

**Table -15**

<b>Sl. No.</b>	<b>NAME OF THE SELLER</b>	<b>Rate as per KERC order dated 11.4.2017 (Rs./kwh)</b>	<b>Energy @ 60% PLF in Mus</b>	<b>Amount in Rs. crore</b>
1	Godavari biorefineries ltd. Unit-1	4.76	28.22	13.43
2	Godavari biorefineries ltd. Unit-2	5.36	28.22	15.13
3	Jamakhandi sugars ltd. -1	4.76	6.05	2.88
4	Jamakhandi sugars ltd. -2	5.74	22.18	12.73
5	Jamakhandi sugars ltd. -3	5.74	28.22	16.20
6	Nirani Sugars Ltd., -unit-2	5.36	22.18	11.89
7	Nirani Sugars Ltd., unit -3	5.49	32.26	17.71
8	NSL sugars ltd., Koppa,	4.76	21.57	10.27
9	NSL sugars ltd., Thungabhadra	5.49	33.87	18.59
10	NSL sugars ltd., Aland	5.63	38.30	21.57
11	Parry sugar industries ltd., haliyal	4.79	39.31	18.83
12	Parry sugar industries ltd., sadashiva units	4.79	18.14	8.69
13	Sri chamundeshwari sugars ltd.	4.79	36.29	17.38
14	Sri prabulingeshwar sugars & chemicals	4.76	50.40	23.99
15	Coregreen sugar & fuels pvt. ltd	5.49	30.24	16.60
16	Manali sugars ltd., malaghan, bijapur	5.74	20.16	11.57
17	Vijayanagara sugar pvt. Ltd.,	4.86	30.24	14.70
18	Bhalkeshwara sugars ltd	5.74	18.14	10.41
19	GM sugars ltd.	4.86	20.16	9.80
20	Gem sugars ltd.,	4.76	24.19	11.52
21	Shree renuka sugars ltd, Burlatti	4.74	50.40	23.89
22	Shree renuka sugars ltd, Havalga	4.86	40.32	19.60
23	Shree renuka sugars ltd, Munoli	4.76	30.24	14.39
24	KPR sugars ltd	5.63	36.29	20.43
25	Shivashakthi sugars ltd	5.63	48.38	27.24
26	Shiraguppi sugars ltd	5.48	24.19	13.26
27	Soubhagya Laxmi sugars ltd	5.48	33.38	18.29
28	Davanagere sugars	4.76	22.18	10.56
29	Indian cane power ltd	5.74	108.86	62.49
30	Viswaraj sugars	4.76	28.22	13.43
31	Athani Sugars Ltd	5.63	33.61	18.92
32	Satish Sugars	5.63	44.35	24.97
33	Doodh Ganga Krishna Sahakari Sakkare Kharkane U-1	4.76	21.17	10.08
34	Doodh Ganga Krishna Sahakari	5.74	16.13	9.26

	Sakkare Kharkane U-II			
35	Ugar Sugar - Malli Nagarhalli, Jevargi	4.79	14.11	6.76
36	Ugar Sugar - Ugar, Athani Taluk	4.76	62.50	29.75
37	Bannari Aman - Alaganchi	5.74	24.19	13.89
38	Bannari Aman - Kuntur	4.76	25.60	12.19
39	Nandi Sahakari Sakkare Kharkane	4.76	24.19	11.52
40	Hiranakeshi Sahakri Sakkare Kharkane -Phase I	4.79	24.19	11.59
41	Hiranakeshi Sahakri Sakkare Kharkane -Phase II	5.49	24.19	13.28
	<b>Total</b>		1285.06	669.66

**11.0** The projected energy and cost allocated among the ESCOMs is as per GoK order dated 05.03.2019 and allocation of bundled power of NTPC Solar Park is as per PPA.

**12.0** The ESCOMs wise energy and cost projected for the financial year 2020-21 is as below:

<b>ESCOMs</b>	<b>Energy requirement in MUs</b>	<b>Power Purchase cost (Rs/Crores)</b>	<b>Average cost (Rs./unit)</b>
BESCOM	35121.13	20240.23	5.76
GESCOM	9366.47	4246.31	4.53
HESCOM including Hukkeri Society & AEQUS	16312.64	6701.03	4.11
MESCOM Including MSEZ	6453.45	2945.89	4.56
CESC, Mysore	8151.00	3196.20	3.92
<b>Total</b>	<b>75404.69</b>	<b>37329.66</b>	4.95