

**PROJECTED ENERGY AVAILABILITY & COST FOR
FINANCIAL YEAR 2018-19**

1.0 The energy required by ESCOMs of Karnataka for the Financial Year 2018-19 is 66655.40 MUs considering STU transmission losses of 3.37%. The ESCOM wise energy requirement is shown in as **Table-1**.

Table-1

| ESCOMs | Energy requirement in MUs |
|--|----------------------------------|
| BESCOM | 33073.82 |
| GESCOM | 8891.35 |
| HESCOM including Hukkeri Society & AEQUS | 13958.55 |
| MESCOM | 5966.22 |
| CESC, Mysore | 7991.81 |
| Total | 69881.75 |

2.0 Energy being purchased by ESCOMs from different sources viz., KPCL Hydel, KPCL Thermal, Central Generating Stations , IPPs, NCE projects and other purchases through short term purchases to meet the deficit.

2.1 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 through email dated 21.11.2017 except YTPS, BTPS Unit -III, Yelahanka Combined Cycle, Sharavathy Valley project and Kali valley Projects. The energy projected by KPCL in respect of hydro stations is based on anticipated inflows of moving average of ten years less by 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 KPCL has projected the Energy from Yermarus Thermal Station I & II, BTPS Unit III and Yelahanka Combined Cycle. Since YTPS

declared commercial operation during April-2016, thereafter there is minimal generation from power plant. Therefore, energy from Yarmarus projects is not considered. Similarly, energy from Yelahanka Combined Cycle is also not considered. BTPS Unit -3 require time for stabilization of the plant.

2.2 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) | 4041.24 |
| 2 | Kali Valley projects (Nagajari & Supa Projects) | 2288.08 |
| 3 | Varahi Valley projects (Varahi & Mani Projects) | 1034.12 |
| 4 | Bhadra & Bhadra Right Bank | 52.32 |
| 5 | Ghataprabha (GDPH) | 75.37 |
| 6 | Mallapur & Others | |
| 7 | Kadra Dam | 247.58 |
| 8 | Kodasalli Dam | 282.41 |
| 9 | Gerusoppa/STRP | 513.83 |
| 10 | Almatti Dam Power House | 459.29 |
| 12 | Shiva & Shimsa | 290.56 |
| 13 | Munirabad | 97.96 |
| 14 | MGHE-Jog | 258.11 |
| | Total KPCL Hydel | 9640.87 |

**Table-3
THERMAL POWER STATIONS**

| Sl. No. | Stations | Installed Capacity in MW | Net generation in MUs |
|----------------|-----------------|---------------------------------|------------------------------|
| 1 | RTPS I &7 | 1470 | 8437.14 |
| 2 | RTPS Unit 8 | 250 | 1515.24 |
| 3 | BTPS Unit I | 500 | 3240.28 |
| 4 | BTPS Unit II | 500 | 3292.82 |
| 5 | BTPS UNIT-III | | 1177.09 |
| | Total | | 17662.57 |

2.3 Total Hydel generation would be 9640.87 MUs and Thermal is around 17662.57 MUs for 2018-19, totaling to 27303.44 MUs from KPCL Station.

3.0 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, over and above the design energy paid at 15 paise per kwh or 3% of the ROE whichever is less. The tariff for the Hydel station of Shiva and Shimsha, Munirabad & MGHE is based on the KERC tariff order dated 25.02.2015. The Capacity charges and primary energy rate details furnished by the KPCL is as shown in Table-4.

Table-4

| Sl. No. | Source | Design energy in MUs | Paise per Unit |
|----------------|---|-----------------------------|-----------------------|
| A | KPCL - Hydel | | |
| 1 | Sharavathy valley project (Sharavathy, Linganamakki & Chakra Projects) | 3737.95 | 48.97 |
| 2 | Kali Valley projects | 2058.77 | 85.27 |
| 3 | Varahi Valley projects (Varahi & Mani Projects) | 848.69 | 121.31 |
| 4 | Varahi 3 & 4 | 848.69 | 38.27 |
| 5 | Bhadra & Bhadra Right Bank | 50.49 | 432.17 |
| 6 | Ghataprabha (GDPH) | 84.97 | 201.27 |
| 7 | Mallapur & Others | | |
| 8 | Kadra Dam | 419.90 | 228.25 |
| 9 | Kodasalli Dam | 372.48 | 159.48 |
| 11 | Gerusoppa/STRP | 442.62 | 162.34 |
| 12 | Almatti | 384.00 | 160.25 |
| 13 | Shiva & Shimsa | 252.00 | 103.78 |
| 14 | Munirabad | 65.00 | 67.77 |
| 15 | MGHE-Jog | 119.00 | 65.65 |

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, BTPS unit-1, is considered. The capacity charges determined by KERC in respect of following units are considered.

| Sl. No. | Stations | Date of order | Capacity charges applicable for 2018-19 (Amount in Rs. crore) |
|---------|-------------|---------------|--|
| 1 | BTPS Unit-2 | 25.02.2015 | 474.58 |
| 2 | RTPS Unit-8 | 25.02.2015 | 230.66 |

The average variable cost for the month of July -2017, Aug-2017 and Sep-2017 is considered for energy charges for FY 2018-19.

Table-5

| Sl. no. | Stations | 2018-19 | |
|---------|------------------|-------------------------|-----------------------------|
| | | Fixed cost Rs in Crores | Variable cost Paise per Kwh |
| 1 | RTPS unit 1 to 7 | 858.05 | 299.57 |
| 2 | RTPS unit-8 | 230.66 | 293.37 |
| 3 | BTPS unit-1 | 310.09 | 327.71 |
| 4 | BTPS unit-II | 474.58 | 292.47 |
| 5 | BTPS Unit-III | 254.25 | 285.27 |

The average cost of hydel stations works out to 94.91paise per unit and thermal units is around 422.38 paise per unit. The Income tax is included in the capacity charges component in respect of RTPS and BTPS Units. In case of hydel stations, tax component included in the primary energy charges component.

4.0 Central Generating Stations:

4.1 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.

4.2. 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 CEA for preparation of LGBR for the year 2017-18 is considered for energy available for 2018-19. Out of the total month wise energy available at Ex-bus, the share of Karnataka including unallocated share for the month of October 2017 is taken to arrive the energy available to Karnataka for FY 2018-19. 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 13.11.2017 to 19.11.2017 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**.

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 | 14620.00 | 17.86 | 2610.55 |
| 2 | RSTP-III | 3517.00 | 18.74 | 659.02 |
| 3 | RSTP-Talcher | 14139.00 | 18.34 | 2593.09 |
| 4 | Simhadri station II | 6663.00 | 20.74 | 1382.04 |
| 5 | Vallur unit-I & II | 8634.00 | 11.65 | 1005.95 |
| 6 | NLC II Stage-1 | 3364.00 | 24.03 | 808.40 |

| | | | | |
|----|--------------------------------|---------|-------|---------|
| 7 | NLC II Stage-2 | 4606.00 | 24.35 | 1121.42 |
| 8 | NLC expansion I | 2691.00 | 25.92 | 697.51 |
| 9 | NLC expansion Stage II(Unit-1) | 2759.00 | 25.91 | 714.88 |
| 10 | NTPL-2X 500 MW | 6233.00 | 22.07 | 1375.56 |
| 11 | MAPS | 2433.00 | 7.47 | 181.75 |
| 12 | Kaiga Unit-1& 2 | 2978.00 | 31.25 | 930.63 |
| 13 | Kaiga Unit-3&4 | 2738.00 | 33.76 | 924.35 |
| 14 | Kudamkulam Unit-1 | 5804.00 | 23.41 | 1106.72 |
| 15 | Kudigi Station(3X800 MW) | 3723.77 | 52.09 | 1939.71 |
| 16 | DVC- Maija (unit 7 &8) | 1000 | 20 | 1489.20 |
| 17 | DVC- Koderma (unit 1 & 2)) | 1000 | 25 | 1861.50 |

Table-7

| Stations | Energy scheduled @ generators Ex-bus in MUs | Injection loss in % | With drawl loss in % | Injection state POC loss in MUs | Energy scheduled after Injection state loss | withdrawal state POC loss in MUs | Energy @ KPTCL periphery |
|-------------------------------------|---|---------------------|----------------------|---------------------------------|---|----------------------------------|--------------------------|
| N.T.P.C-RSTP-I&II | 2610.55 | 0.86 | 1.61 | 22.45 | 2588.10 | 41.67 | 2546.43 |
| NTPC-III | 659.02 | 0.86 | 1.61 | 5.67 | 653.35 | 10.52 | 642.83 |
| NTPC-Talcher | 2593.09 | 1.88 | 1.61 | 48.75 | 2544.34 | 40.96 | 2503.38 |
| NLC TPS2-Stage 1 | 808.40 | 1.11 | 1.61 | 8.97 | 799.43 | 12.87 | 786.56 |
| NLC TPS2-Stage 2 | 1121.42 | 1.11 | 1.61 | 12.45 | 1108.98 | 17.85 | 1091.12 |
| NLC TPS1-Expn | 697.51 | 1.11 | 1.61 | 7.74 | 689.76 | 11.11 | 678.66 |
| NLC II expansion I | 714.88 | 1.11 | 1.61 | 7.94 | 706.95 | 11.38 | 695.57 |
| MAPS | 181.75 | 0.61 | 1.61 | 1.11 | 180.64 | 2.91 | 177.73 |
| Kaiga Unit 1&2 | 930.63 | 1.11 | 1.61 | 10.33 | 920.30 | 14.82 | 905.48 |
| Kaiga Unit 3 &4 | 924.35 | 1.11 | 1.61 | 10.26 | 914.09 | 14.72 | 899.37 |
| Simhadri Unit -1 &2 | 1382.04 | 0.86 | 1.61 | 11.89 | 1370.15 | 22.06 | 1348.09 |
| NTPLUnit-2X 500 MW | 1375.56 | 1.36 | 1.61 | 18.71 | 1356.85 | 21.85 | 1335.01 |
| KudamKulam | 1106.72 | 1.36 | 1.61 | 15.05 | 1091.67 | 17.58 | 1074.09 |
| Vallur TPS Sg I ,2 &3 | 1005.95 | 0.61 | 1.61 | 6.14 | 999.81 | 16.10 | 983.71 |
| Kudigi(3X800 MW) | 1939.71 | 0.86 | 1.61 | 16.68 | 1923.03 | 30.96 | 1892.07 |
| DVC - Mejsa thermal Power Station | 1489.20 | 0.63 | 1.61 | 9.38 | 1479.82 | 23.83 | 1455.99 |
| DVC - Koderma Thermal Power Station | 1861.50 | 0.63 | 1.61 | 11.73 | 1849.77 | 29.78 | 1819.99 |
| Total | 21402.27 | | | | | | 20836.08 |

4.3. 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 for Transmitting the CGS power and other states power. The POC charges as per RTA for the month of October-2017 is considered for FY 2018-19, which includes POC, Reliability support Charges and HVDC Charges. Considering the POC of October2017, the total POC payable by ESCOMs for the year 2018-19 is Rs.1770.12 crore. The CERC determined the charges for POSOCO-SRLDC for the control period vide order dated 29.12.2016. Out of the charges receivable by SRLDC, the share of Karnataka works out to Rs. 2.27 crore

4.4 The CERC has determined the tariff for the generating station like, NTPC and NLC station for the control period 2014 to 2019. The capacity charge considered based on various orders are as detailed below:

| Sl. No. | Stations | Date of order | Capacity charges applicable for 2018-19(Amount in Rs. crore) |
|----------------|----------------------------------|----------------------|---|
| 1 | RSTP-I&II | 24.1.2017 | 1061.23 |
| 2 | RSTP-III | 8.11.2016 | 270.49 |
| 3 | RSTP-Talcher | 16.02.2017 | 1007.23 |
| 4 | Simhadri station II | 29.7.2016 | 1069.77 |
| 5 | Vallur unit-I & II | 11.7.1017 | 1847.69 |
| 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 (Unit-1) | 24.7.2017 | 728.05 |
| 10 | NTPL-2X 500 MW | 11.7.2017 | 1090.16 |
| 11 | Kudigi | As per the petition | Rs. 1.86 per unit |
| 12 | DVC-Mejia | 3.10.2016 | 1019.20 |
| 13 | DVC-Koderma | 28.2.17 | 1175.74 |

The average variable cost for the month of Aug-2017, Sep-2017 and Oct-2017 is considered for energy charges for FY 2018-19. In case of

MAPS, Kaiga, and Kundamkulam, rate per unit for the month of Oct-2017 is considered.

| Particulars | MAPS | Kaiga Units 1 to 4 | Kudamkulam |
|--------------------------------------|---------------|-------------------------------|-------------------|
| Base Price | 1.9797 | 2.9837 | 3.5448 |
| Fuel adjustment charges | 0.0003 | | 0.4275 |
| Heavy Water adjustment charges | 0.0382 | 0.0060 | |
| Heavy Water lease adjustment charges | | 0.0128 | |
| Insurance | 0.0885 | 0.1381 | 0.0397 |
| Decommissioning Reserve | 0.0200 | | 0.0200 |
| Nuclear Liability & Forex adjustment | 0.0500 | | 0.0597 |
| Total tariff | 2.1767 | 3.1406 | 4.0916 |

4.5 The capacity charges (Fixed Cost) and variable cost considered for 2018-19 is shown in Table-9.

Table-9

| Central Projects | FC Rs in Cr | VC Paise per Kwh |
|-----------------------------------|------------------------|-----------------------------|
| N.T.P.C-Ramagundam | 189.49 | 227.93 |
| NTPC-VII | 50.68 | 222.07 |
| NTPC-Talcher | 184.73 | 215.70 |
| NLC TPS2-Stage 1 | 72.04 | 274.30 |
| NLC TPS2-Stage 2 | 100.87 | 274.30 |
| NLC TPS1-Expn | 71.59 | 255.10 |
| NLC II Expansion-1 | 188.65 | 251.50 |
| MAPS | | 217.67 |
| Kaiga unit I &II | | 314.06 |
| Kaiga Unit 3 &4 | | 314.06 |
| Simhadri Unit -1 &2 | 221.89 | 275.47 |
| Vallur TPS Stage I &2 &3 | 215.27 | 278.53 |
| NTPL | 240.59 | 316.03 |
| KudamKulam | | 409.16 |
| Kudigi | 360.79 | 351.17 |
| DVC- Mejia thermal Power Station | 203.84 | 228.60 |
| DVC Kodemma thermal Power Station | 293.93 | 185.23 |

4.6 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 already part of capacity charges and not payable separately and hence not considered.

5.0 Independent Power Producers

5.1. 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. The auxiliary consumption of 5.25% as per CERC Regulation 2014 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 truing up order dated 24.03.2017 for FY 2013-14 excluding cost of secondary fuel is considered for FY 2018-19. The average variable cost for the month from August-2017 to October-2017 is considered for projected energy scheduled at 85% of 90% of the 1200 MW. The energy and cost details are shown in Table-10.

Table-10

| Stations | Energy in Mus | Fixed cost Rs in Cr | Variable cost Paise per Kwh |
|----------|---------------|---------------------|-----------------------------|
| UPCL | 7462.68 | 1198.02 | 302.67 |

6.0 Non conventional Energy Source (NCE source)

6.1 The actual generation of NCE projects for the year 2016-17 has been considered for 2018-19 including Solar, Co-generation, Bio-mass, Wind Mills and Mini Hydel projects.

6.2 Project which are expected to be commissioned during 2018-19 is based scheduled COD of the projects in respect of 1 to 3 Farmer scheme, Talukwise solar and Bidding by KREDL . The rate is are per the revised

order issued by Commission in respect of 1 to 3 farmer scheme. The rats for other projects are as per the bidding rates.

6.3. The PLF is based on KERC order dated 30.7.2015 is considered to arrive energy for FY 2018-19.

6.4. The energy generated from Solar park in respect of 600 MW developed by NTPC for the FY 2018-19 is as below:

| | Open Category | Capacity in | CUF in % | Tariff per unit | Energy in Mus | Amount in RS |
|---|---|-------------|----------|-----------------|---------------|--------------|
| 1 | M/s Yarrow Infrasture | 50 | 27.00 | 4.79 | 118.26 | 56.65 |
| 2 | M/s Tata Power Renewable Energy Private limited | 100 | 24.70 | 4.79 | 216.37 | 103.64 |
| 3 | M/s Parampujya Solar Energy private limited | 100 | 27.25 | 4.79 | 238.71 | 114.34 |
| 4 | M/s Fortum FinnSurya Energy private Ltd | 100 | 25.80 | 4.79 | 226.01 | 108.26 |
| 5 | M/s ACME Reneri Solar Power private ltd | 50 | 27.50 | 4.79 | 120.45 | 57.70 |
| 6 | M/s ACME KuruKshetra Solar Energy Private Ltd | 50 | 27.50 | 4.79 | 120.45 | 57.70 |
| 7 | M/s Renew wind Energy Private Ltd | 50 | 25.00 | 4.8 | 109.50 | 52.56 |
| | DCR category | | | | | |
| 8 | M/s Tata Power Renewable Energy Private limited | 50 | 26.35 | 4.84 | 115.41 | 55.86 |
| 9 | M/s Parampujya Solar Energy private limited | 50 | 26.40 | 4.86 | 115.63 | 56.20 |
| | | 600 | | | 1380.80 | 662.90 |

6.5 Ministry of power for allocation of power for allocation of 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 2233.80 MUs (300 MW @85% PLF)

6.6 ESCOM wise NCE energy projected for FY 2018-19 is shown in **Table 11.**

Table-11**(Energy in MUs)**

| Minor IPPs | BESCOM | GESCOM | HESCOM | MESCOM | CESC |
|----------------------------------|----------------|----------------|----------------|---------------|----------------|
| Existing NCE projects | | | | | |
| Co-generation | | 18.37 | 201.08 | | 28.61 |
| Biomass | 64.62 | 48.04 | | | 7.33 |
| Mini Hydel | 290.71 | 102.26 | 80.95 | 227.80 | 145.71 |
| Wind mill | 2356.83 | 193.55 | 844.35 | 284.20 | 223.56 |
| KPCL wind mill | 7.76 | | | | |
| Solar | 265.21 | 45.12 | 43.27 | 74.91 | 46.64 |
| KPCL Solar | 4.15 | 2.71 | 3.53 | | |
| NTPC Bundled power - Coal | 236.04 | 67.59 | 96.11 | 39.60 | 54.60 |
| NTPC Bundled Power-Solar | 57.31 | 16.41 | 23.33 | 9.62 | 13.26 |
| Captive/Wind MOA | | 3.04 | 150.71 | | |
| Total of existing NCE | 3282.63 | 497.09 | 1443.33 | 636.13 | 519.71 |
| New NCE Projects | | | | | |
| Co-generation | | | | | |
| Biomass | | | | | |
| Mini Hydel | | | | | |
| Wind mill | | | | | |
| Solar | 892.12 | 396.13 | 259.00 | 28.30 | 341.20 |
| Farmer 1 to 3 MW | 139.81 | 23.30 | 84.88 | 4.99 | 24.96 |
| NTPC Bundled power - Coal | 1036.26 | 337.75 | 424.42 | 176.25 | 259.12 |
| NTPC Bundled Power-Solar | 640.55 | 208.78 | 262.35 | 108.94 | 160.17 |
| Total of New NCE projects | 2708.74 | 965.95 | 1030.65 | 318.48 | 785.46 |
| Total | 5991.37 | 1463.04 | 2473.98 | 954.61 | 1305.16 |

6.5 The average cost of the year 2016-17 is considered for existing Hydro and Wind projects.

6.6 In respect of new Bio-mass, Co-generation, Wind Mill and Mini Hydel the tariff considered is as per the KERC order dated 1.1.2015.

6.7 The rate as per KERC order dated 24.02.2015 is considered for existing Bio Mass and Co-generation projects.

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

7.0 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 2016-17 is considered for 2018-19 as energy excepted to receive during the year 2018-19. 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.

Table-13

| | Apr-18 | May-18 | Jun-18 | Jul-18 | Aug-18 | Sep-18 | Oct-18 | Nov-18 | Dec-18 | Jan-19 | Feb-19 | Mar-19 | Total |
|-----------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|---------|
| Energy in Mus | 0 | 0.016 | 0 | 16.48 | 24.75 | 56.99 | 20.90 | 0 | 0 | 0 | 0 | 0 | 119.104 |
| 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 | 48.88 |

8.0 The energy from T. B. Dam power is shared between AP/Telangana and Karnataka. The 1/5th share of revenue expenditure and energy has been shared between two states. The actual cost and energy supplied for the FY 2016-17 is considered for 2018-19. The power purchase cost and energy from T. B. Dam has been estimated to 13.25 MUs and Rs. 1.36 crore.

Table-14

| | Apr-18 | May-18 | Jun-18 | Jul-18 | Aug-18 | Sep-18 | Oct-18 | Nov-18 | Dec-18 | Jan-19 | Feb-19 | Mar-19 | Total |
|--------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|-------|
| Energy in Mus | -0.28 | -0.31 | -0.12 | 1.95 | 2.77 | 3.53 | 3.95 | 2.21 | 0.03 | -0.11 | -0.28 | -0.09 | 13.25 |
| Amount in Rs crore | 0.06 | 0.08 | 0.08 | 0.07 | 0.08 | 0.12 | 0.14 | 0.08 | 0.10 | 0.11 | 0.12 | 0.32 | 1.36 |

9.0 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

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:

| Year of Commissioning | FY17 (Rs. Ps.) | FY18 (Rs. Ps.) | FY19 (Rs. Ps.) | FY20 (Rs. Ps.) | FY21 (Rs. Ps.) |
|-----------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 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 |

The rate applicable for FY 2018-19 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

| Sl. No. | NAME OF THE SELLER | Rate as per KERC order dated 11.4.2017 (Rs/kwh) | Energy @ 60% PLF in Mus | Amount in Rs crore |
|----------------|--|--|--------------------------------|---------------------------|
| 1 | GODAVARI BIOREFINERIES LTD. | 4.35 | 56.45 | 24.55 |
| 2 | JAMAKHANDI SUGARS LTD. -I | 4.35 | 28.22 | 12.28 |
| 3 | JAMAKHANDI SUGARS LTD. -II | 5.33 | 28.22 | 15.04 |
| 4 | NIRANI SUGARS LTD | 4.95 | 54.43 | 26.94 |
| 5 | NSL SUGARS LTD., KOPPA, | 4.35 | 21.57 | 9.38 |
| 6 | NSL SUGARS LTD., KO THUNGABHADRA | 5.08 | 33.87 | 17.21 |
| 7 | NSL SUGARS LTD.,Aland | 5.22 | 38.30 | 19.99 |
| 8 | PARRY SUGAR INDUSTRIES LTD., HALIYAL | 4.38 | 39.31 | 17.22 |
| 9 | PARRY SUGAR INDUSTRIES LTD., SADASHIVA UNITS | 4.38 | 18.14 | 7.95 |
| 10 | SRI CHAMUNDESHWARI SUGARS LTD. | 4.38 | 36.29 | 15.89 |
| 11 | SRI PRABULINGESHWAR SUGARS & CHEMICALS | 4.35 | 50.40 | 21.92 |
| 12 | COREGREEN SUGAR & FUELS PVT.LTD | 5.08 | 30.24 | 15.36 |
| 13 | MANALI SUGARS LTD., MALAGHAN, BIJAPUR | 5.33 | 20.16 | 10.75 |
| 14 | VIJAYANAGARA SUGAR PVT. LTD., | 4.95 | 30.24 | 14.97 |
| 15 | BHALKESHWARA SUGARS LTD | 5.33 | 18.14 | 9.67 |
| 16 | G M SUGARS LTD. | 4.45 | 20.16 | 8.97 |
| 17 | GEM SUGARS LTD., | 4.35 | 24.19 | 10.52 |
| 18 | SHREE RENUKA SUGARS LTD, BURLATTI | 4.32 | 50.40 | 21.77 |
| 19 | SHREE RENUKA SUGARS LTD, HAVALGA | 4.95 | 40.32 | 19.96 |
| 20 | SHREE RENUKA SUGARS LTD, MUNOLI | 4.35 | 30.24 | 13.15 |
| 21 | KPR SUGARS LTD | 5.22 | 36.29 | 18.94 |
| 22 | SHIVASHAKTHI SUGARS LTD | 5.22 | 48.38 | 25.26 |
| 23 | SHIRAGUPPI SUGARS LTD | 5.28 | 24.19 | 12.77 |
| 24 | SOUBHAGYA LAXMI SUGARS LTD | 5.28 | 33.38 | 17.63 |
| 25 | DAVANAGERE SUGARS | 4.35 | 22.18 | 9.65 |
| 26 | INDIAN CANE POWER LTD | 5.33 | 108.86 | 58.02 |
| 27 | VISWARAJ SUGARS | 4.45 | 28.22 | 12.56 |
| | Total | 482.42 | 970.82 | 468.34 |

10.0 ESCOMs have signed Power Purchase agreement with Generators/Trader for procurement of power on short term basis from November-2017 to 31.5.2018. The quantum of energy @75% PLF of the contracted Capacity in respect of short term procurement and ate arrived as per e-reverse action for the months of April-2018 & May-2018 is considered.. The details are indicated in the Table-16

Table-16

| Short term power procurement | | | | | | |
|-------------------------------------|-----------------------------------|-----------------|-----------------------------|-------------------|--------------------------------|----------------------------|
| | Name of the company | Capacity | Rate per unit Rs/kwh | No of days | Energy in Mus @ 75% PLF | Amount in Rs Crores |
| Southern Region | | | | | | |
| 1 | M/s JSW Energy Private Limited | 200 | 4.08 | 61 | 219.6 | 89.60 |
| 2 | M/s Global Energy Private Limited | 300 | 4.08 | 61 | 329.4 | 134.40 |
| All India | | | | | | |
| 1 | M/s Global Energy Private Limited | 200 | 4.08 | 61 | 219.6 | 89.60 |
| 2 | Shree Cements | 100 | 4.08 | 61 | 109.8 | 44.80 |
| 3 | M/s PTC India Limited | 100 | 4.08 | 61 | 109.8 | 44.80 |
| | Total | 900 | 4.08 | | 988.20 | 403.19 |

11.0 The projected energy and cost allocated among the ESCOMs is as per GoK order dated 31.3.2017 and allocation of bundled power of NTPC Solar Park is as per PPA