



एनटीपीसी NTPC
A Maharatna Company

Corporate Centre

CERC Consultation Paper – 2019-24





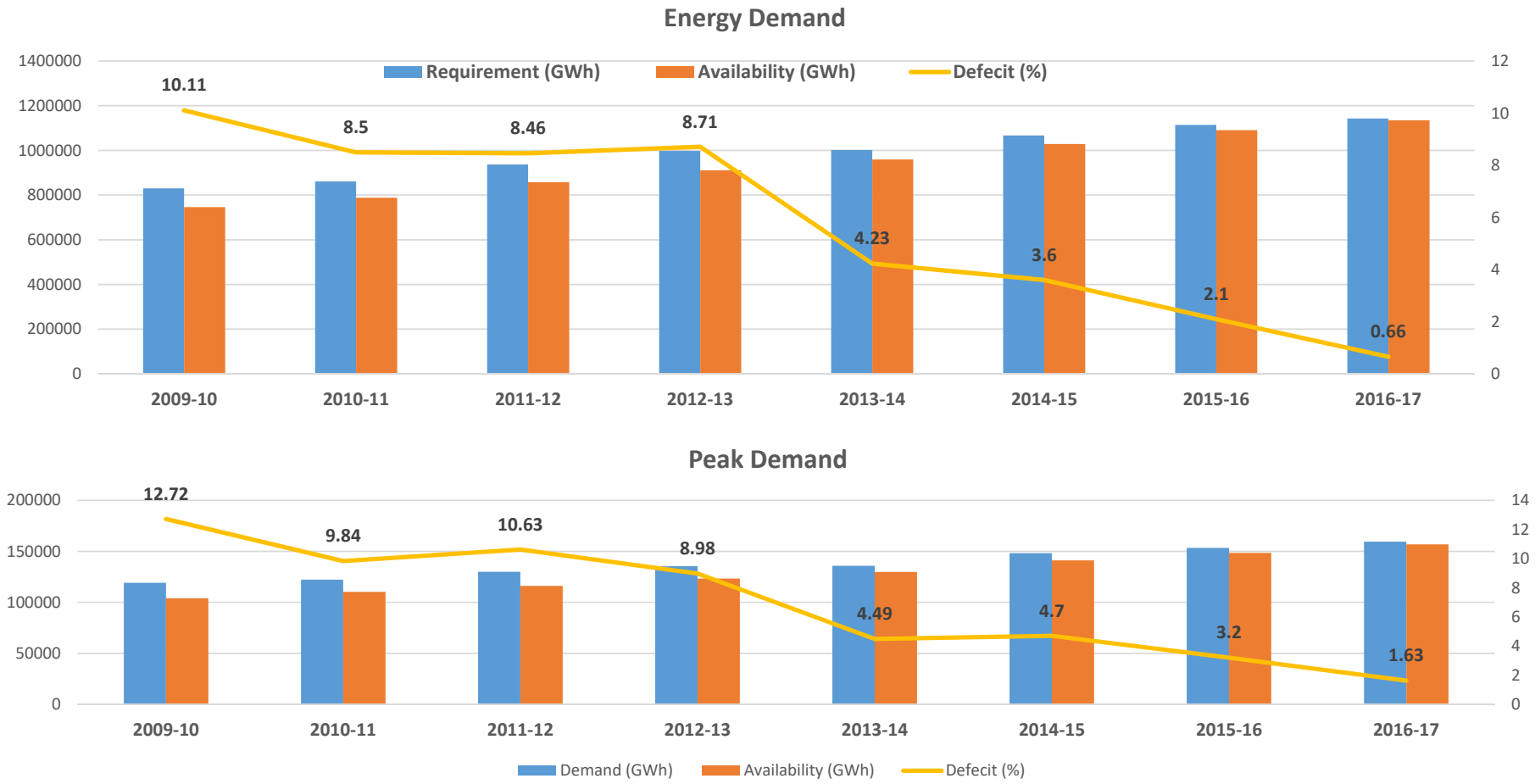
Background

- Consultation paper on Terms and Conditions of Tariff Regulations for 2019-24 issued by CERC.

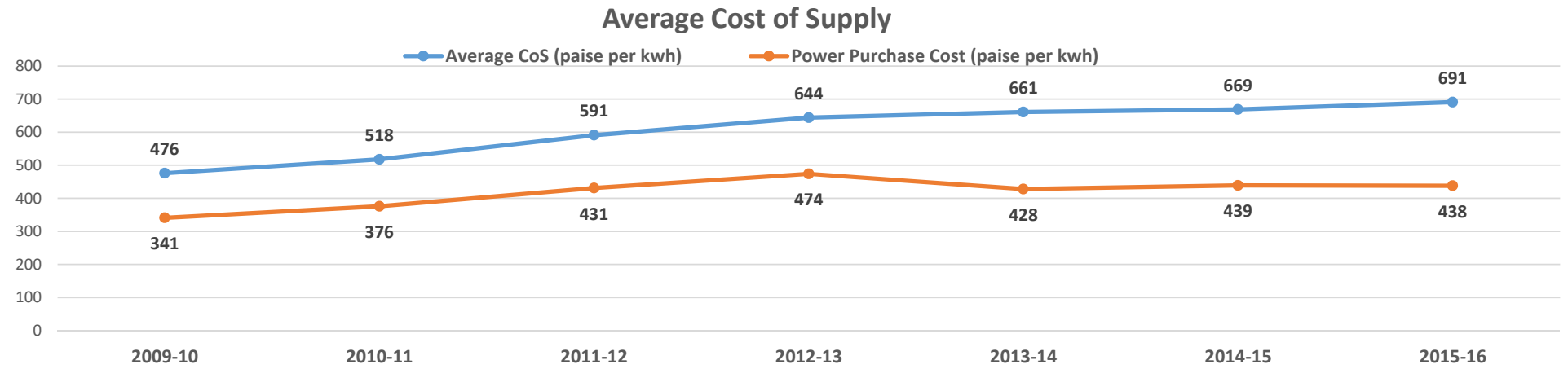
- Paper circulated with the aim of initiating discussions on various aspects of tariff determination and soliciting inputs of the stakeholders.

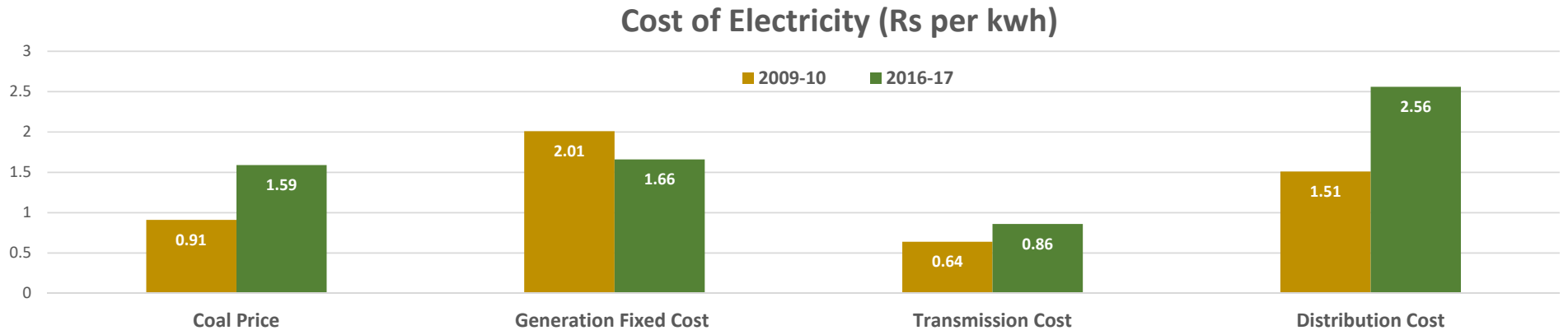
- Comments have been invited latest by **15th July 2018**.

Indian Electricity Sector : Availability



Indian Electricity Sector : Cost of Supply





Cost of Supply : 2009-10 – Rs. 5.07 per kwh 2016-17 – Rs. 6.67 per kwh

Tariff Structure : Three Part Tariff

Suggested Approach		Description
Thermal	➢ Two part tariff operates well in power deficit scenario ➢ Gap between the Plant Availability Factor and Plant Load Factor has widened	Annual Fixed Charges (AFC) split into 2 parts – 1. Fixed- Risk free return (RoE), depreciation & part O&M expenses. **Linked to PAF** 2. Variable - Incremental return & balance O&M expenses - **Linked to Dispatch** 3. Energy charges- Fuel cost

Thermal Stations : > 25 years

Suggested Approach	Description	Description
Thermal	➢ Old Stations were conceived based on the policy/ regulatory environment and technology available at that time ➢ Have advantage from financial consideration but operational cost could be high	Policy/ Regulatory Decision required **Options:** (i) Replacement of inefficient sub critical units by super critical units, (ii) Phasing out of the old plants, (iii) Renovation of old plants (iv) Extension of useful life

Optimum Utilization of Capacity : Gas Stations

Suggested Approach	Description	Options
Gas	➢ Ability for quick Ramp-up and Ramp-down ➢ Could balance the variations of the renewable generations	(i) Scheduling and dispatch may be shifted to regional level (ii) All the gas stations capacities may be pooled at regional level

Optimum Utilization of Capacity : Coal Stations

Suggested Approach	Description	
Coal stations	Unutilized capacity is allowed to be utilized by other distribution companies or through open market	1. Generating Co & Discom may redefine Annual Contracted Capacity out of total contracted capacity. 2. Discom shall have right to recall balance Unutilized Capacity (UC) during next year subject to payment of part fixed charges (10-20%) or to the extent of debt service obligation. 3. UC may be aggregated and bid out to discover market price. 4. Surplus capacity to be reallocated to Discoms at market price.

Capital Cost

Suggested Approach	Description	Options
Generating Stations	➢ Capital cost has direct correlation with fixed charges ➢ Allowed after prudence check ➢ Tariff Policy stipulates evolving of benchmarking capital cost.	I. Move away from investment approval as reference cost and shift to benchmark/reference cost for prudence check of capital cost II. RoE may be restricted to the base corresponding to the normative equity as envisaged in the investment approval or on benchmark cost. III. Incentive for early completion and disincentive for delay.

Financial Parameters

Suggested Approach	Description	Implication
Depreciation	Depends on three factors viz. rate base which includes subsequent additions also, method of depreciation and useful life.	i) Continue the present approach of weighted average useful life in case of combination, due to gradual commissioning of units; ii) Consider additional expenditure during the end of life with or without reassessment of useful life. iii) Reassess life at the start of every tariff period or every additional capital expenditure iv) Extend useful life of thermal (coal) assets to 35 years v) Reduce rates which will act as a ceiling.

Financial Parameters

Suggested Approach	Description	Description
Debt Equity ratio	As per Hon'ble CERC Financial institutions are willing to extend finance upto debt equity ratio of 80:20 depending on the credit appraisal of the utilities. When demand for capacity addition is low, maintaining debt : equity of 70:30 may need review.	D/E of 80:20 in new projects where financial closure is yet to be achieved.

Financial Parameters

Suggested Approach	Description	Description
Rate of return on equity	To provide Reasonable return on Investment Over a period of time RoE has evolved as an acceptable approach	1. Review RoE for new projects considering market and risk perception. 2. Differential rate for Gen and Tx. Segments 3. Additional return for storage based hydro 4. Pre-tax or post tax 5. Reduction of RoE in case of delay
Cost of debt		Link cost of debt with benchmark viz RBI policy repo rate or 10 year GoI Bond yield.

FUEL

Suggested Approach	Description
GCV	Take actual GCV and quantity at the generating station end and add normative transportation losses for GCV and quantity for each mode of transport and distance between the mine and plant for payment purpose by the generating companies Specify normative GCV loss between as billed and as received. Identify losses to be booked to coal supplier and the railways Specify normative loss between GCV as received and GCV as fired. Standardize GCV computation method
Alternate source	Stipulate procedure along with ceiling rate.

Operational Parameters

Suggested Approach	Description
Operating norms – Heat rate, Specific fuel, APC	Lower PLFs due to lower demand, RE integration would need to be factored while setting the norms.
PAF	Review considering fuel availability. Shift from annual cumulative to lower period- monthly quarterly or half yearly
Incentive	Review linking incentive to fixed charges in view of variation of fixed charges over the useful life and on vintage of asset - Need for different incentives fornew and old stations; Review linking incentive to vintage and peak/off-peak period

O&M Expenses and IWC

Suggested Approach	Description
IWC	Review of benchmark for fuel stock or consideration of actual stock. Linking to target availability may be reviewed in case of wide variation between PAF and PLF.
O&M Expenses	1. Address impact of installation of pollution control systems and mandatory use of treated sewage water in thermal plants. 2. Review escalation factor based on WPI/CPI as they do not capture unexpected expenditure. 3. Review O&M expenses of plants being operated continuously at low levels 4. Separate norms based on vintage of generating station

Tariff mechanism for Pollution Control System

Suggested Approach	Options
Whether “change in Law” Technical specifications based on the difference in actual emission and revised emission, proposed technology, construction period, phasing plan for shutdown during the construction period; Feasibility of undertaking implementation of new norms with R&M proposal for plants having low residual life, say, less than 10 years Change in Auxiliary Consumption and operation and maintenance expenses due to implementation of pollution control equipment's	Debt Service obligation during construction period and recovery of depreciation may be provided with the condition that such depreciation may be adjusted during the remaining period Possibility of reducing funding cost through suitable change in debt:equity requirements. Relaxation in funding from equity may be introduced and the rate of return on equity may be aligned with the interest on debt; As the level of emission is linked to actual generation, it would be appropriate to link recovery of supplementary tariff with the actual generation or availability or combination of both.

Alternative Tariff Models

Suggested Approach	Description
Normative tariff: By fixing each component of AFC as % of total AFC.	Escalable component : O&M De-escalable components: Balance components Methods of determining escalable & non-escalable factors Methodology to reduce the impact on tariff due change in tariff principles
Peak off-peak Tariff	1. Higher PAF (95%) during peak season (say 4 months) linked to recovery of 20% AFC. 2. PAF of 80% during the year linked to recovery of 80% AFC.

Other Issues

Suggested Approach	Description
Late payment surcharge & rebate	1. Premium over MCLR instead of 1.5% per month. 2. Modalities to get rebate: mode of bill presentation, authorised signatory, definition of 2 days for availing 2% rebate
Standardization of billing process	1. Standard process including formats, verification and timeline. 1. Linking of ED on APC with actual or normative APC.

Thank You

Demand is on upswing