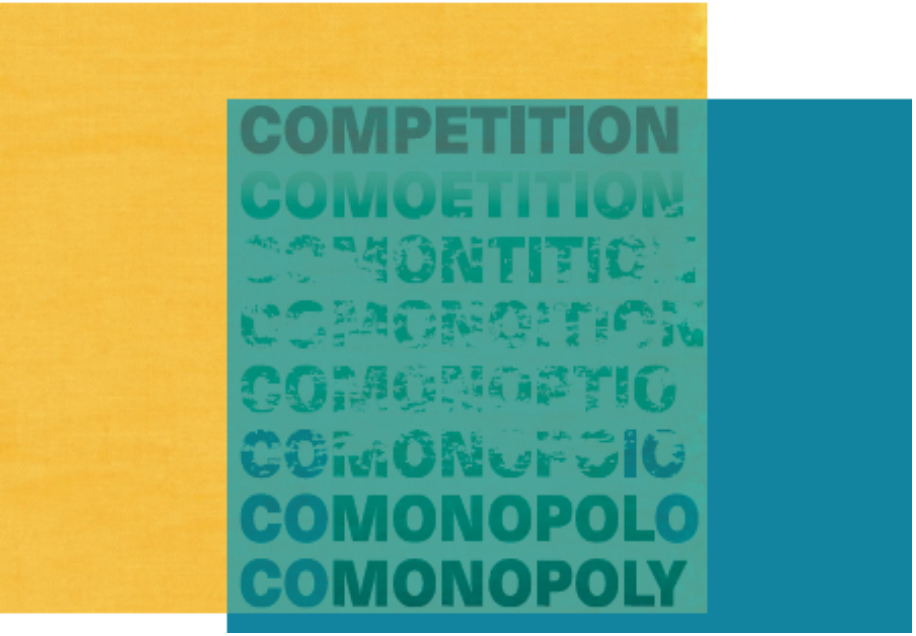
In the Name of Competition

The annals of 'cost-plus competition'
in the electricity sector in Mumbai

Prayas (Energy Group)



Summary presentation

Prayas (Energy Group)

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Link for full report:

www.prayaspune.org/peg/publications/item/333.html

Introduction

- Considered as the perfect candidate for introducing competition, Mumbai today, is the only major city in India with <u>two competing electricity distribution companies</u>

- A Supreme Court judgment of 2008 declared TPC as a licensee for all of Mumbai.

- Thus, Tata Power Company Ltd. (TPC) and Reliance Infrastructure Ltd. (RInfra) are parallel licensees in suburban Mumbai, and TPC and Brihanmumbai Electric Supply & Transport Undertaking (BEST) are parallel licensees for south Mumbai

Context and objective

Given the uniqueness of the Mumbai experiment, the report tries to analyse and present:

- History, evolution and experience of the parallel licence experiment in Mumbai and the role played by various institutions in shaping the outcomes

- Lessons for reforms aimed at furthering competition in retail supply of electricity

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Parallel distribution companies in Mumbai

Parallel licence arrangement

- Electricity Act, 2003 sees the distribution as consisting of wires and supply, and a distribution company meets its supply obligation by connecting consumers to its wires network and supplying them with electricity.

- TPC, having been a bulk-supplier, did not have a wide enough network of its own.

- To overcome the network challenge, the Maharashtra Electricity Regulatory Commission (MERC) operationalised the parallel licence arrangement via 'changeover', which allows consumers to remain connected to RInfra wires but receive supply from TPC.

- No changeover is allowed in south Mumbai as BEST refused to provide open access. Being a local authority under the Electricity Act, 2003, it is not mandated to provide such access.

The electricity geography of Mumbai

- Thus, Mumbai today is served by four electricity companies, namely BEST, RInfra, TPC and the Maharashtra State Electricity Distribution Company Ltd. (MSEDCL).

- The table provides the parallel licence status for the different areas of Mumbai:

	Name	Incumbent licensee	Parallel Licence status
1	South Mumbai	BEST	BEST and TPC have a parallel licence for this area, but changeover has not been operationalised here.
2	Suburban Mumbai (northern and western)	RInfra	RInfra and TPC both have a parallel licence for this area and changeover has been operationalised here.
3	Suburban Mumbai (eastern)	MSEDCL	There is no parallel licensee hence no changeover here.

Changeover in Mumbai

- Changeover was introduced through an interim order in October 2009 and created the following types of consumers in suburban Mumbai

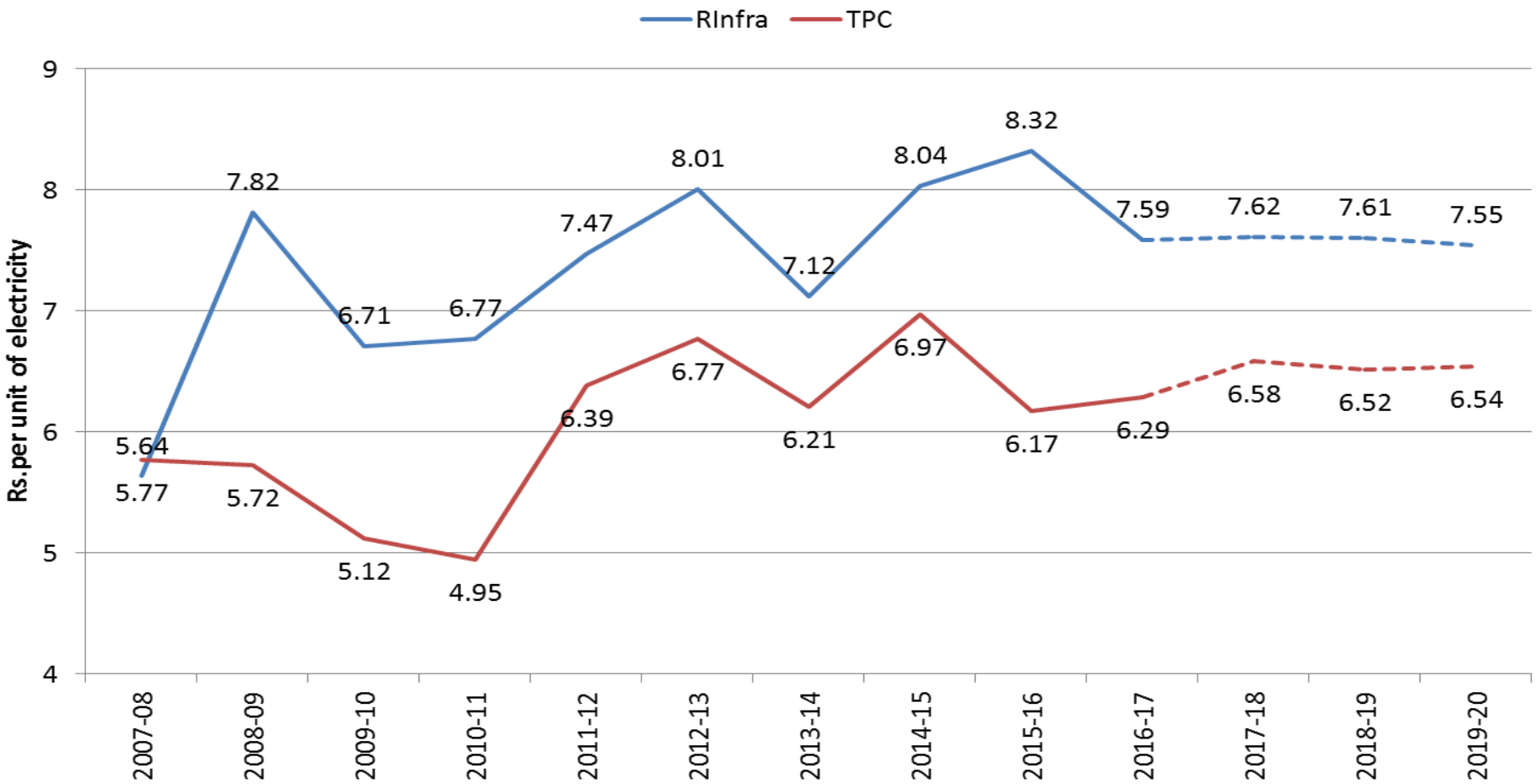
Wires		Electricity Supply		Type of consumers
From	To	From	To	
RInfra	RInfra	RInfra	RInfra	Direct Consumer of RInfra
RInfra	RInfra	RInfra	TPC	Changeover consumers
TPC	TPC	TPC	TPC	Direct Consumer of TPC
RInfra	TPC	RInfra	TPC	Switchover Consumers

- By 2015-16, 19% of all suburban Mumbai consumers were changeover consumers.

Category	Year	2008-09	2009-10	2010-11	2012-13	2014-15	2015-16
Changeover consumers	Number	0	22,703	1,04,657	3,26,804	5,43,475	5,73,745
	% of total suburban consumers	0%	1%	4%	11%	18%	19%

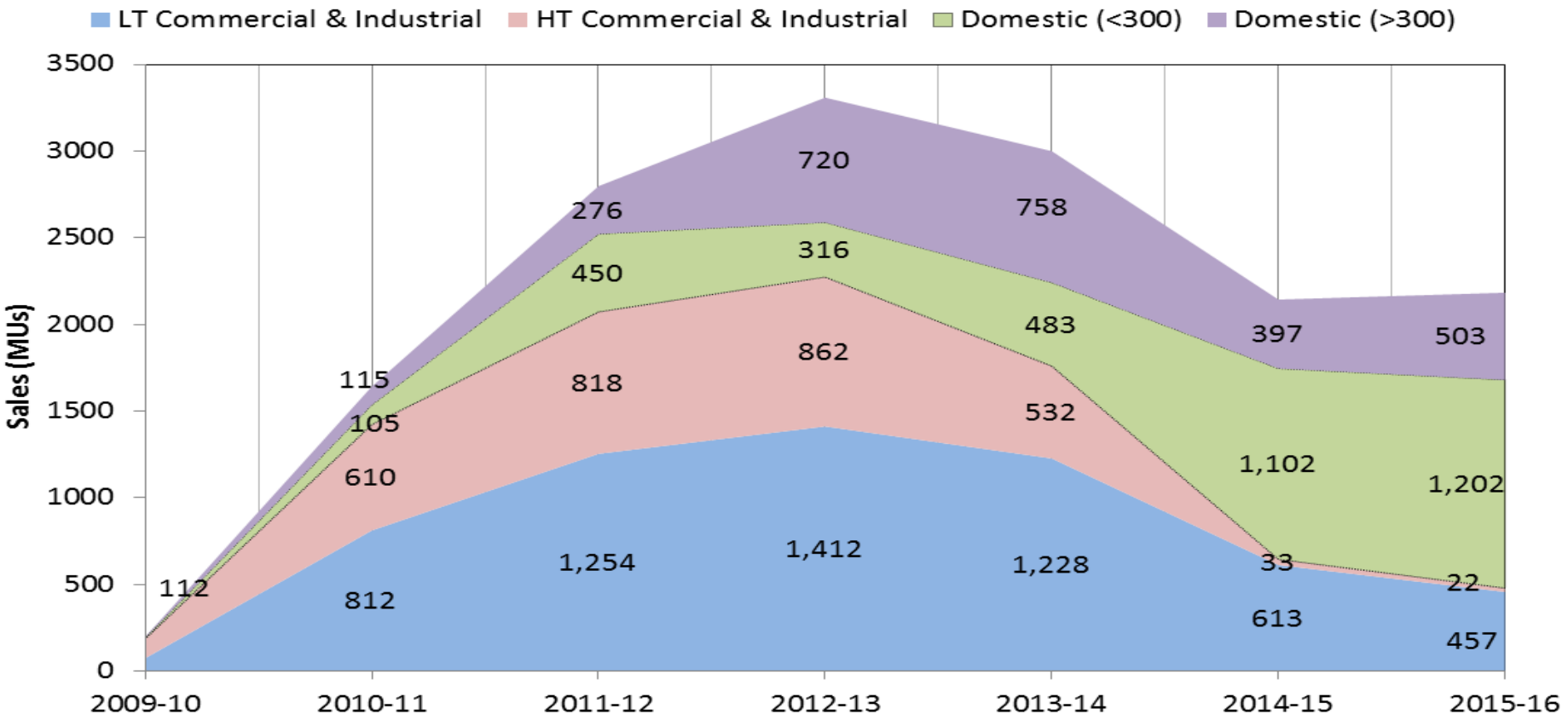
Difference in the average cost of supply

- The average cost of supply for RInfra was and continues to remain higher than its competitor, TPC



Composition of changeover sales

- Commercial and Industrial consumers were the first to take advantage of changeover, followed by domestic consumers
- Changeover sales composition changed drastically between 2009-10 to 2015-16:
  - In 2009–10 changeover consumers were primarily industrial and commercial consumers; whereas by 2015–16, they were mainly domestic consumers.



Diagnosing Mumbai

The report analyses three major issues in detail, namely:

- **power procurement planning** as power purchase accounts for more than 70% of the cost of supply for distribution companies;
- **the operationalisation of parallel licensees**, including rollout of the parallel network (which largely determines how consumers exercise their choice), and
- **the roles played by key stakeholders**, as well as other institutions such as the state government and the Appellate Tribunal for Electricity (APTEL) in shaping the outcomes.

I. Power purchase planning

Power purchase in Mumbai has the following features:

- The transmission constraint on importing electricity into Mumbai has not been fully resolved even after many years, and is often used to justify pre-identified power purchase agreements

- These agreements are usually signed between the distribution companies and their sister concerns, on a 'cost-plus' basis

- No Mumbai distribution company has ever signed a long term power purchase contract based on competitive bidding

- The companies have heavily relied on the short term market for meeting any shortfall, and will purchase around 23% (RInfra) and 29% (TPC) of their power from this market by 2020

Costs of generation

- The table gives the average power purchase cost for coal-based thermal capacity added by various states between 2012 and 2017.
- Except Bihar and U.P, most power purchase cost is below Rs. 4 per unit.

State	Average power purchase cost approved for the 2016-17 (Rs per unit)	Share of private capacity in the total capacity added between 2012 and 2016
Punjab	3.11	91%
Gujarat	3.11	38%
Madhya Pradesh	3.44	50%
Rajasthan	3.46	59%
Maharashtra	3.66	64%
Haryana	3.72	66%
Bihar	4.05	30%
Uttar Pradesh	4.44	70%
VIPL (RInfra)	4.42	-
Unit 8 (TPC)	4.44	-

II. Operationalisation of parallel licensees

- The following table gives the consumer numbers and sales mix for RInfra and TPC. As can be seen, RInfra had several small and medium consumers requiring cross-subsidy in 2008-09 while TPC had mostly large consumers.

Company	Type of consumer	2008-09		2015-16	
		Consumer numbers	Sales mix (MU)	Consumer numbers	Sales mix (MU)
RInfra	Small and Medium (LT)	26.9 lakh	7345	23.7 lakh	6980
	Large (HT)	458	925	563	1027
TPC	Small and Medium (LT)	0.25 lakh	523	6.62 lakh	2952
	Large (HT)	134	1945	306	2803

- The difference in costs and the difference in sales mix has implications for:
  - Cross-subsidy requirements
  - Recovery of revenue gaps (regulatory assets)
  - Parallel network
  - Meeting supply obligations to all consumers
- None of these issues were dealt with adequately during the operationalisation of changeover

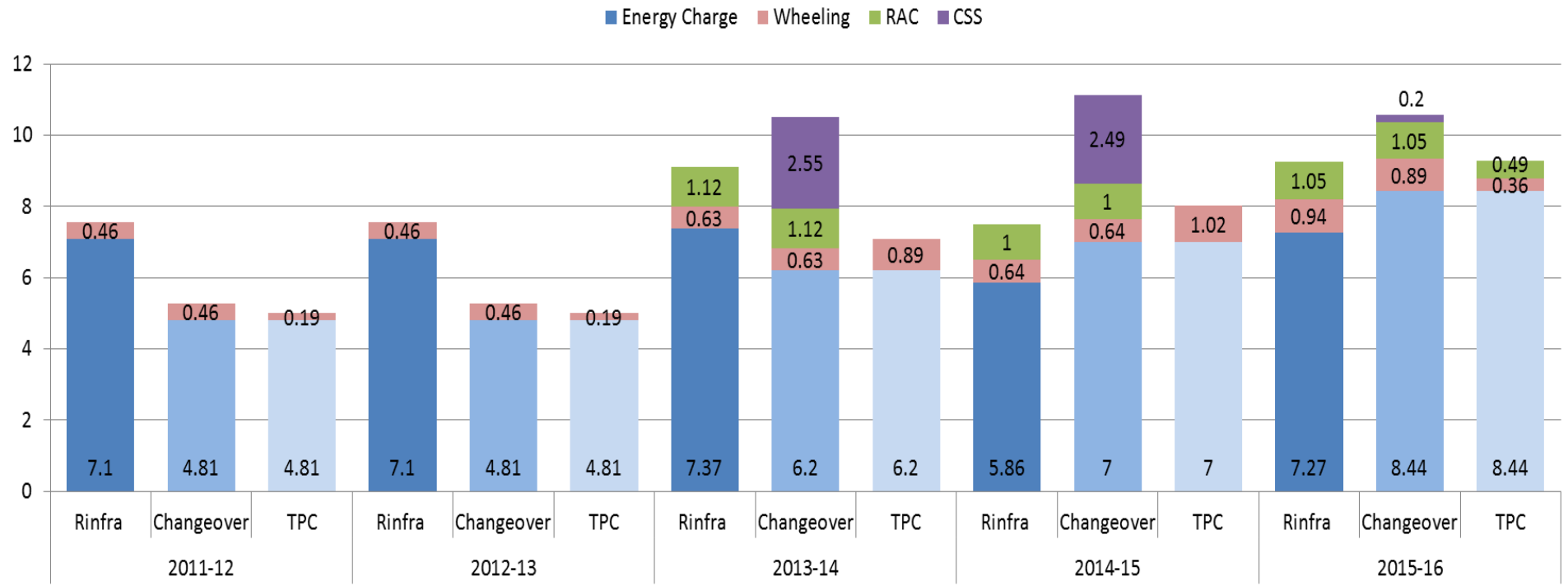
Recovery of cross-subsidy and past losses

- **Regulatory Assets**:
  - A striking feature of the Mumbai experience is the creation of regulatory assets, for *both* RInfra and TPC
  - Within eight years, suburban Mumbai moved from zero to regulatory assets of more than Rs. 3,500 crore

- **Belated charges**:
  - The recovery of regulatory assets and cross-subsidy was not decided immediately. It was decided 21 months later, in July 2011, after 1.54 lakh consumers had chosen to change their electricity supplier.
  - The MERC decided that changeover consumers would pay for the regulatory asset of the wires distribution company.
  - In addition, changeover consumers would pay cross-subsidy surcharge like open access consumers.

Tariff design

- MERC, concerned about the skewed consumer mix, tried to manage tariffs to balance the number of large and small consumers for the distribution companies.
- Such a tariff design and the delayed introduction of RAC and CSS made changeover lucrative for some consumers and expensive for others.
- In the following table, the charges (Rs. per unit) to be paid by large industrial consumers are given. The variation of the energy and other charges has no apparent link to the cost of supply of the companies.



Flip-flops on parallel network

- In 2008-09, MERC had suggested that TPC use RInfra wires to supply to consumers, but had left the issue of TPC's own network unclear. TPC began supplying consumers using RInfra wires as well as expanding its own wires network.

- In 2011, RInfra alleged cherry-picking of large consumers by TPC. Finding merit in these claims, the MERC restricted consumer migration to those consuming below 300 units a month and ordered TPC to develop its entire network in 11 identified clusters within a year

- After a year, finding the progress on network expansion slow, the MERC declared all consumers consuming up to 300 units a month in the identified 11 clusters as 'direct' consumers of TPC. The APTEL set aside these two orders of the MERC.

- Thus, eight years into changeover, there is still no clarity on TPC's network.

III. Role of institutions

- Aware of the issues since 1998, the state government was not in favour of parallel licensees, but chose not to amend licences. It instead off-loaded the problem on to the MERC, which at the time did not have the power to amend licences.

- MERC, optimistic about the Mumbai situation, held that TPC was a parallel licensee. However, its restriction on TPC led to appeals and finally, to the Supreme Court judgment of 2008, which made the parallel licence fait accompli.

- In 2008, when the matter came back to MERC, it failed to effectively use its powers under the Electricity Act 2003 to address implementation issues. Its inability to provide clarity on the need and extent of parallel network and certainty with regard to tariff left consumers disillusioned.

- The state government intervened belatedly in 2010, mandating TPC to supply power to RInfra, and then failed to take responsibility for the same before the High Court.

- TPC and RInfra are the most active of litigants - all tariff orders but one since 2008 has been challenged in higher forums. Endless litigation has increased uncertainty regarding tariffs, and made it difficult for concerned citizens to actively participate in the regulatory process.

Lessons and the way forward

Lessons and the way forward

- **Creating a conducive environment for competition**: Competition requires clearly defined and unambiguous entry and exit criteria, non-discriminatory open access to the transmission and distribution systems, stringent norms for supply and service quality, and robust mechanisms for monitoring supply and service quality. Efforts towards such policy and regulatory measures should precede any move towards competition.

- **Defining clear rules and regulations**: Mumbai experience clearly shows that not having a clear road map supported by appropriate laws and regulations can cost consumers dearly. The government and the regulators should also be ready to make any mid-course corrections.

- **Abolishing the cost-plus tariff approach**: Mumbai experience shows that in case of multiple service providers, it becomes imperative to abolish the cost-plus system for tariff determination. Failure to do so would lead to consumers paying for the inefficiencies of not one but multiple supply licensees.

Lessons and the way forward

- **Ensuring supply obligation**: With only two parallel licensees, relatively high paying capacity, and near-universal access, Mumbai faced challenges in ensuring its supply obligation. This problem will become worse with multiple licensees. Unless there is a strong regulatory mandate to ensure supply obligation, small consumers are unlikely to benefit from competition.

- **Bridging information asymmetries:** One of the key reasons that the changeover process left so many consumers disillusioned was that they did not have the crucial information regarding the manner in which their tariff was going to change. Competition in retail supply of electricity, if introduced, would require greater transparency, clarity on tariff structure as well as effective enforcement of provisions dealing with information sharing.

Thank you

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Link to full report:
http://www.prayaspune.org/peg/publications/item/333.html
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