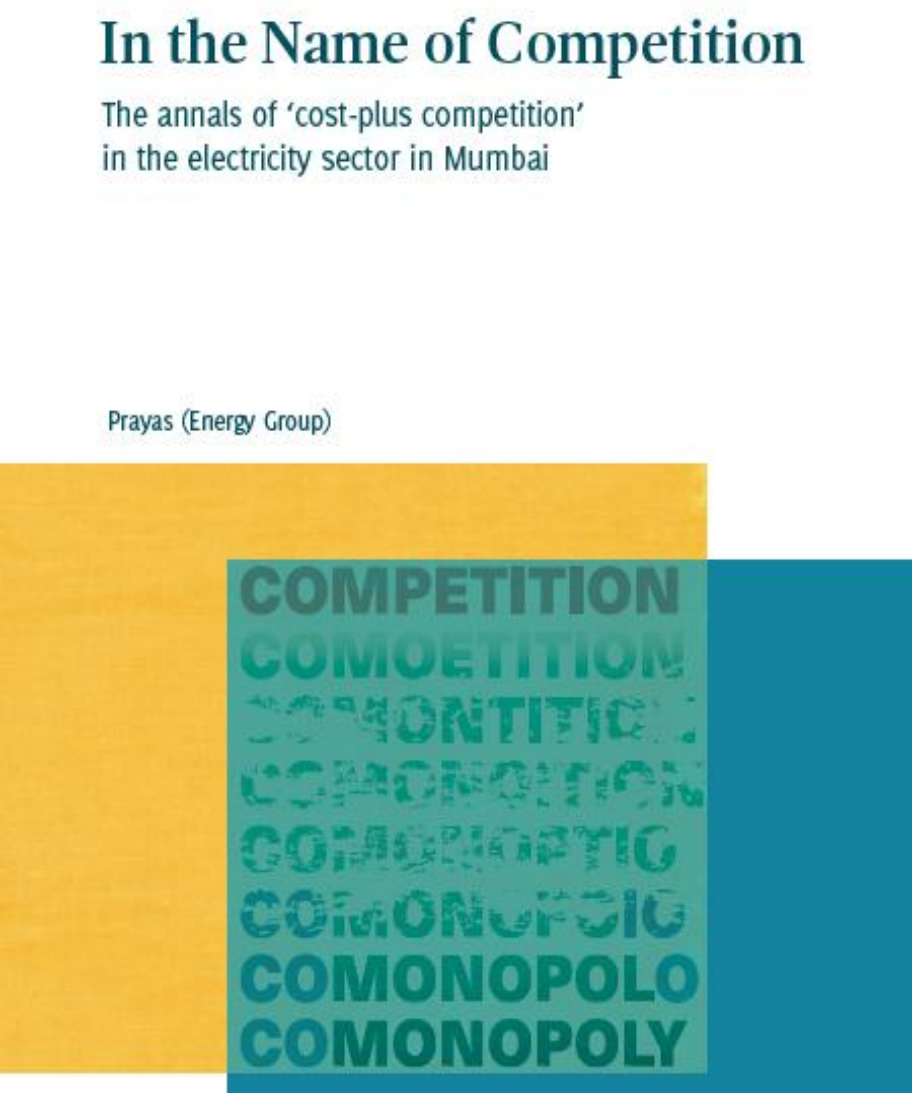


Consumer choice in Mumbai

Prayas (Energy Group)

10th March 2017

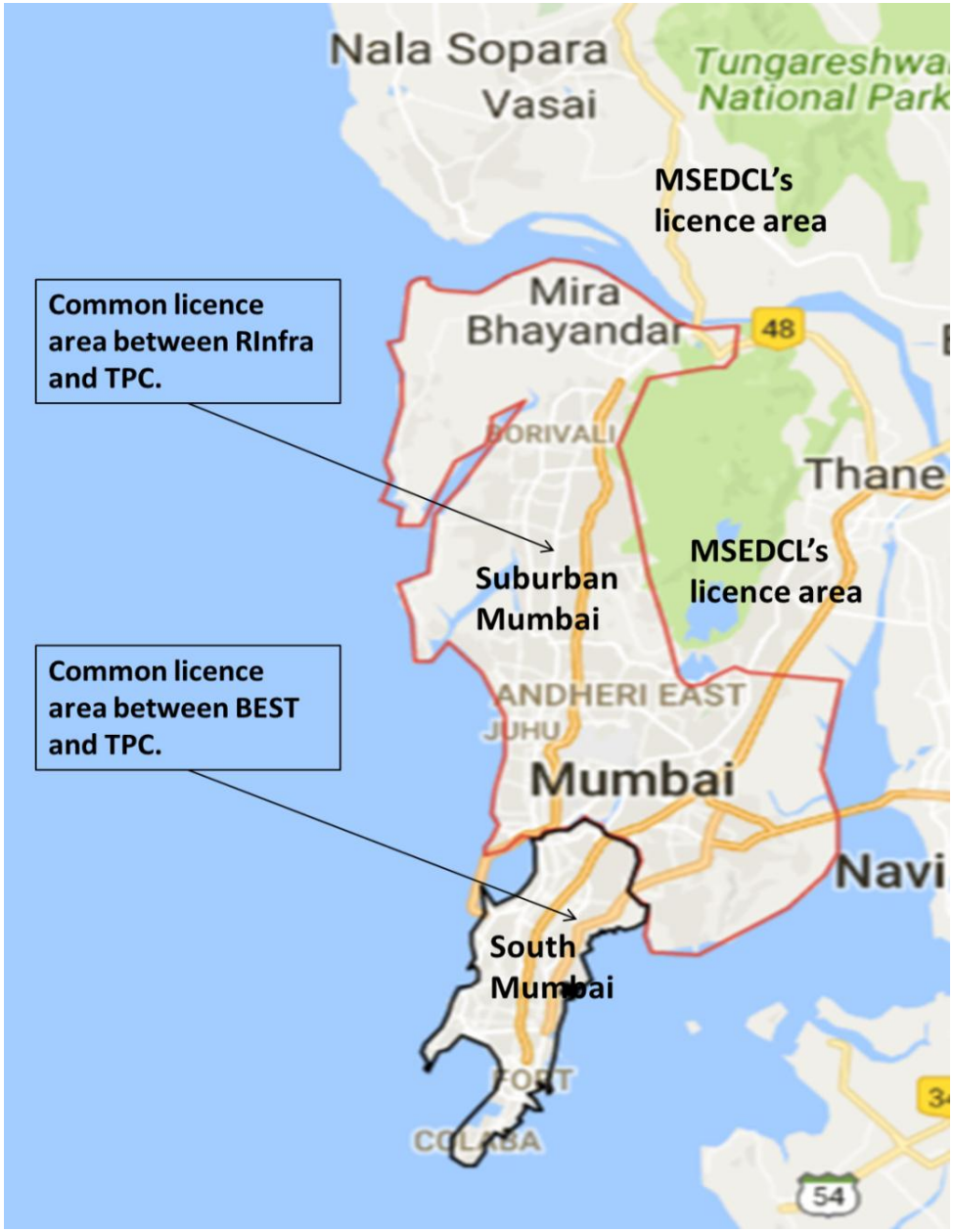
Outline

- Why this study?
- How consumer choice was operationalised in Mumbai?
- How did the institutions respond to the dynamics and exigencies of competition?
- What lessons can be learned from this experience?

Mumbai

- Considered to be an ideal candidate for introducing competition:
  - Low AT&C losses and near universal access
  - No unmetered consumer categories
  - No load shedding, relatively higher willingness/ability to pay

- Only major city in India with <u>two DISCOMs serving in the same area</u>



How did Mumbai end up in this unique situation?

- 1995: Disputes regarding parallel license started emerging soon after RInfra (earlier BSES) commissioned its generating station at Dahanu
- 1998: State government though aware of the dispute chose not to act and instead handed it over to MERC once it was formed in 1999
- 2003: MERC was more optimistic about Mumbai's readiness for embracing competition and decided to implement the parallel licence mechanism
- 2008: Supreme Court ruled that TPC had a parallel licence and hence could not be restrained in any manner

Parallel licence arrangement

- Electricity Act, 2003 sees the distribution as consisting of wires ***and*** supply
- TPC, having been a bulk-supplier, did not have much of a network of its own.
- To overcome the network challenge, MERC introduced '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.
- By 2015-16, 19% of all suburban Mumbai consumers were changeover consumers.

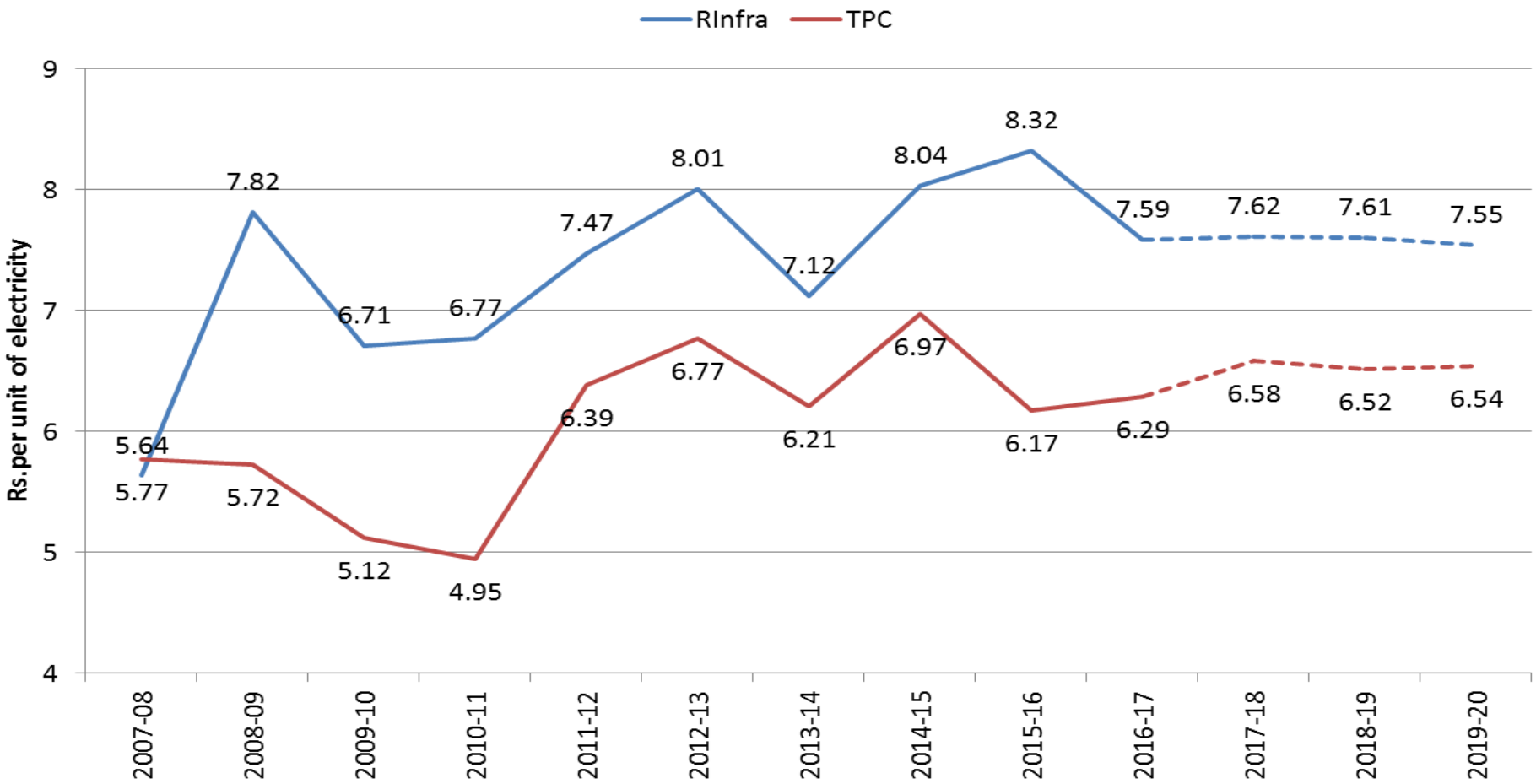
Company	Type of consumer	2008-09		2015-16	
		Consumer numbers	Sales mix (MU)	Consumer numbers	Sales mix (MU)
RInfra	Small and Medium (LT)	26.9 lakh	7305	23.7 lakh	6980
	Large (HT)	458	925	563	1027
TPC	Small and Medium (LT)	0.25 lakh	523	6.62 lakh	2952
	Large (HT)	134	1945	306	2803

Context and objective

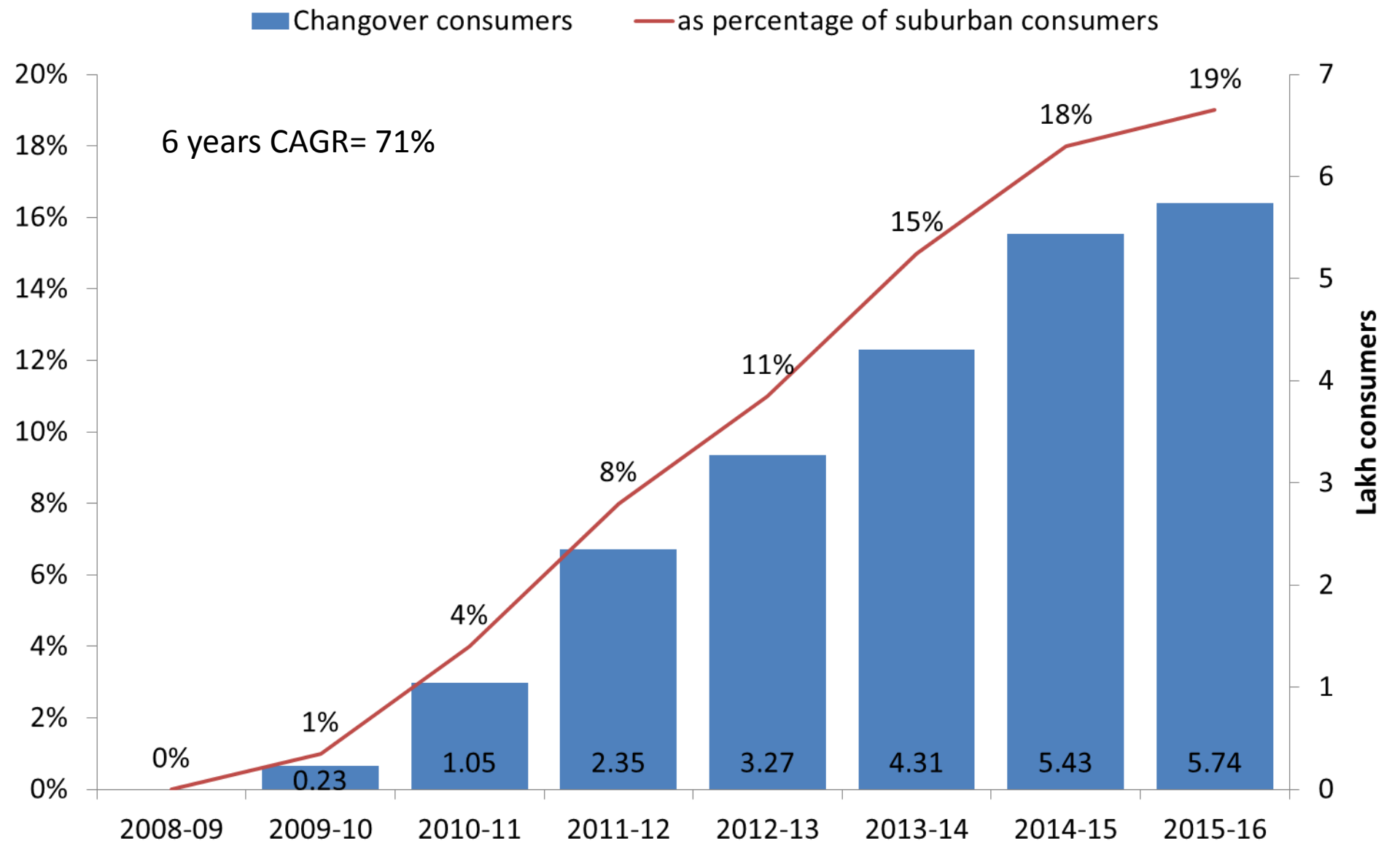
- Given the uniqueness of the Mumbai experiment, the report tries to analyse and present:
  - History, evolution and experience of the parallel licence experiment in Mumbai
  - Role played by various institutions in shaping the outcomes
  - Offer insights into what can be done to deal with the many challenges before Mumbai's power sector and lessons for reforms aimed at furthering competition in retail supply of electricity

Difference in the average cost of supply

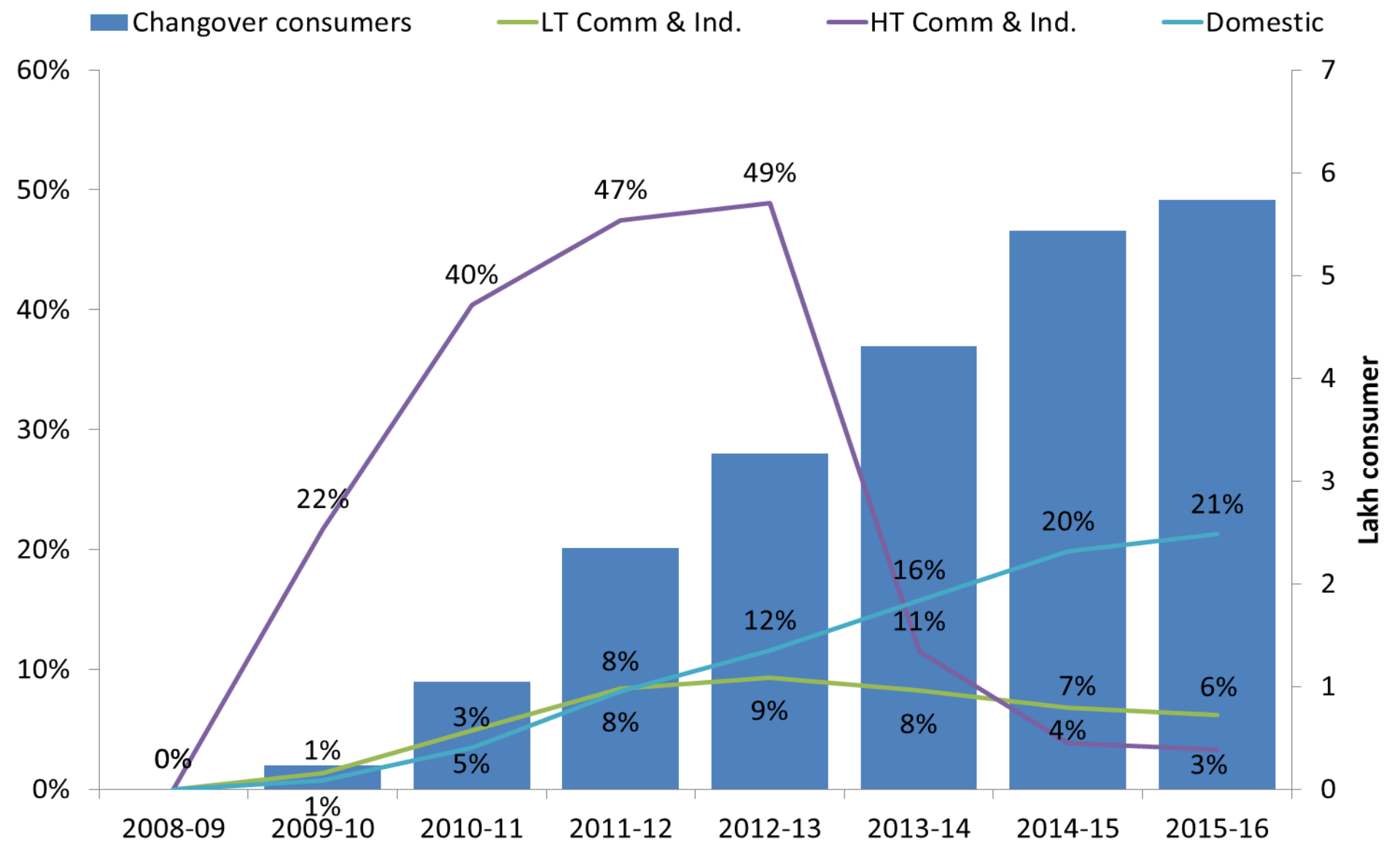
- The average cost of supply for RInfra was and continues to remain higher than its competitor, TPC



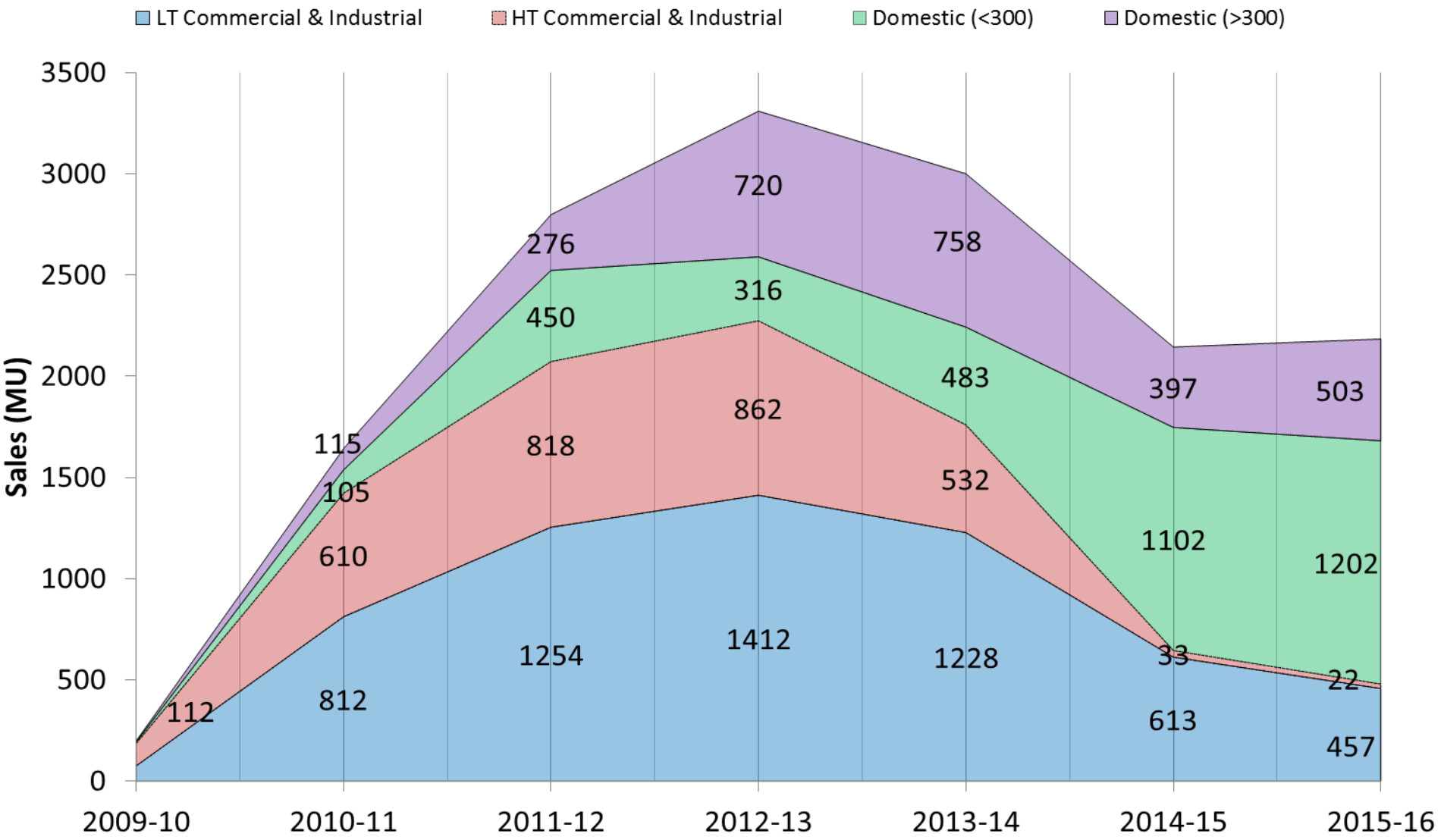
Changeover in Mumbai



Changeover in Mumbai

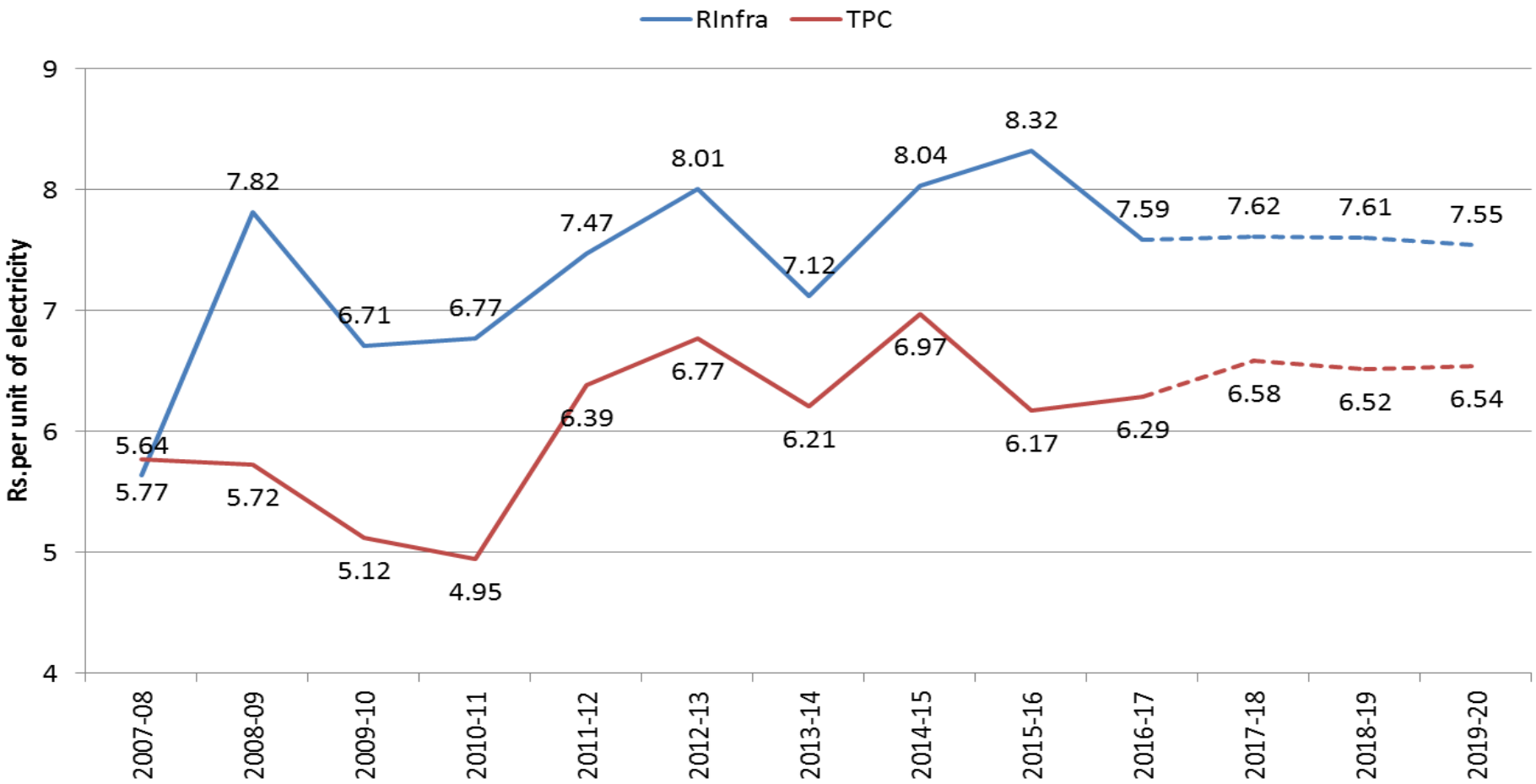


Changeover in Mumbai



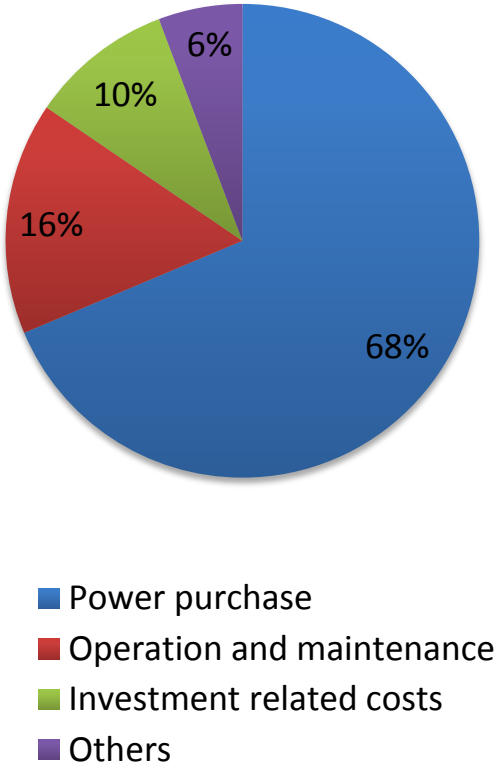
Difference in the average cost of supply

- The average cost of supply has been increasing



Power purchase planning

Break-up of total revenue requirement as per major cost heads - FY 2016-17



Characteristics of Mumbai's power purchase planning

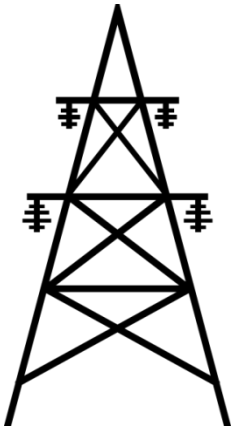
- Intertwined with the licence issues
- Transmission constraints which limit power purchase options
- Islanding, which is often used as a reason to justify certain power purchase contracts
- No load shedding, but high cost of power purchase

Power purchase planning

- The transmission constraint on importing electricity into Mumbai has not been fully resolved even after many years

Date	Commission's response
2006	"The shortage in the city of Mumbai is expected to continue for some time to come, till such time as either additional generation capacity is set up or additional power is available from outside the State, and the transmission corridor issues are resolved."
2011	"The Commission … is of the view that there are severe constraints in bringing in power into Mumbai area on the existing EHV network. The constraints as above cannot be removed until further augmentation in the capacity of the said interconnecting EHV network is carried out, which will take some time. As all the consumers of TPC-D are located within Mumbai area, additional bulk power transmission on the said transmission links having restriction on capacity, may tend to make the supply system unreliable."
2016	"Moreover, sourcing of power from outside for Mumbai, in particular, is still constrained by transmission availability. This also limits the quantum of power which can be procured through competitive bidding."

Power purchase planning



1. The constraint is often used to justify pre-identified power purchase agreements, usually signed between the distribution companies and their sister concerns, on a 'cost-plus' basis.

Section 63

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

3. The companies have heavily relied on the short term market for meeting any shortfall. With falling market prices, the tied generation is being backed down. Today around half the electricity consumed in Mumbai is imported into the city.

Power purchase planning

Cost of generation for Mumbai

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	-

Operationalisation of changeover

The difference in costs and the difference in sales mix has implications for:

- Cross-subsidy requirements
- Recovery of revenue gaps (regulatory assets)
- Meeting supply obligat consumers
- Parallel network

2006

PPA between TPC & BEST, and TPC & its distribution arm. Appeals filed

2008

SC declares TPC as a licensee for all of Mumbai; TPC supply to RInfra falls to 500 MW

2009

RInfra 's market purchases increase

<u>Changeover operationalised</u>; SC declares that generators cannot be forced to sell power without PPAs

2011

Changeover consumers to pay CSS and RAC

2012

Regulatory asset of Rs. 3377 crore

- Changeover restricted to <300 units
- Parallel network in 11 clusters

2013

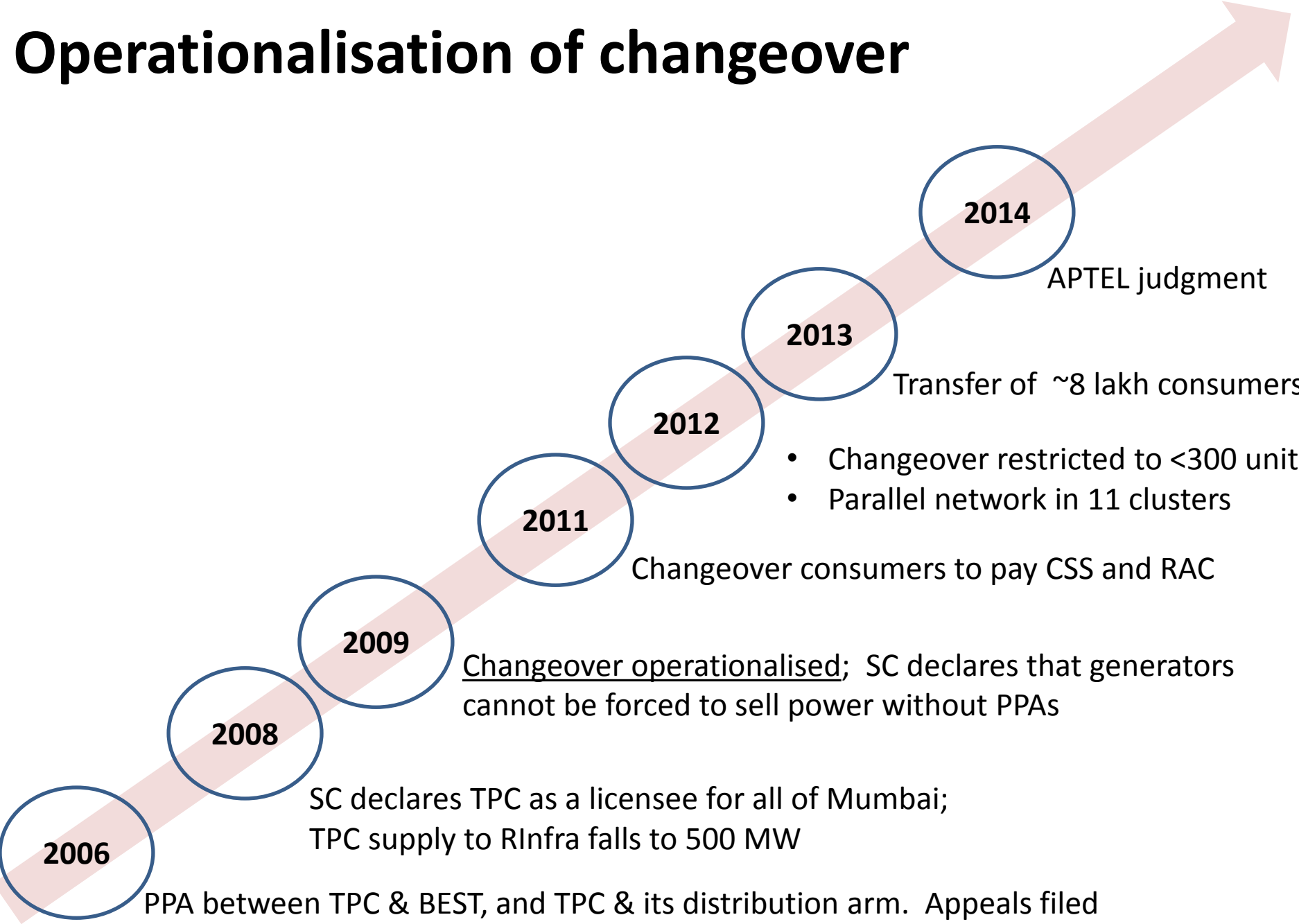
Transfer of ~8 lakh consumers

2014

APTEL judgment

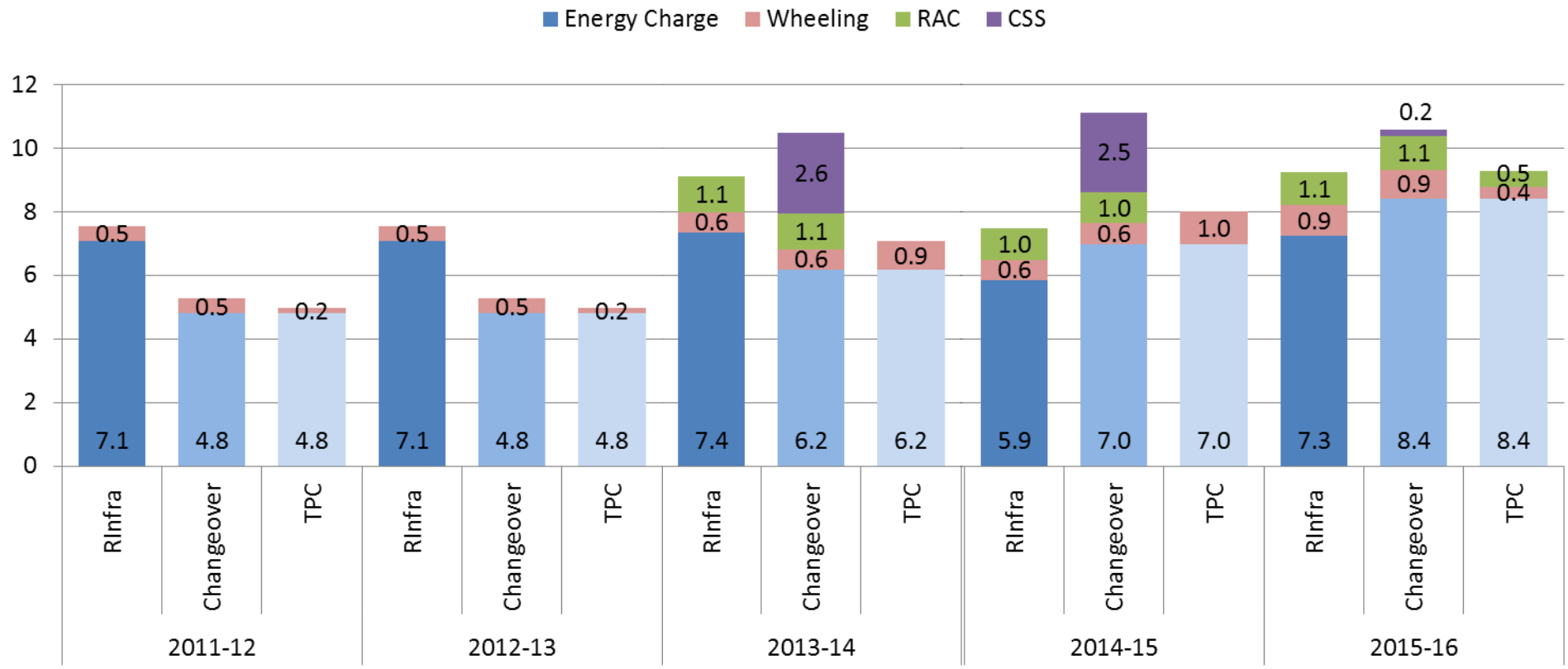
Still no clarity on TPC's network

Operationalisation of changeover



Operationalisation of changeover

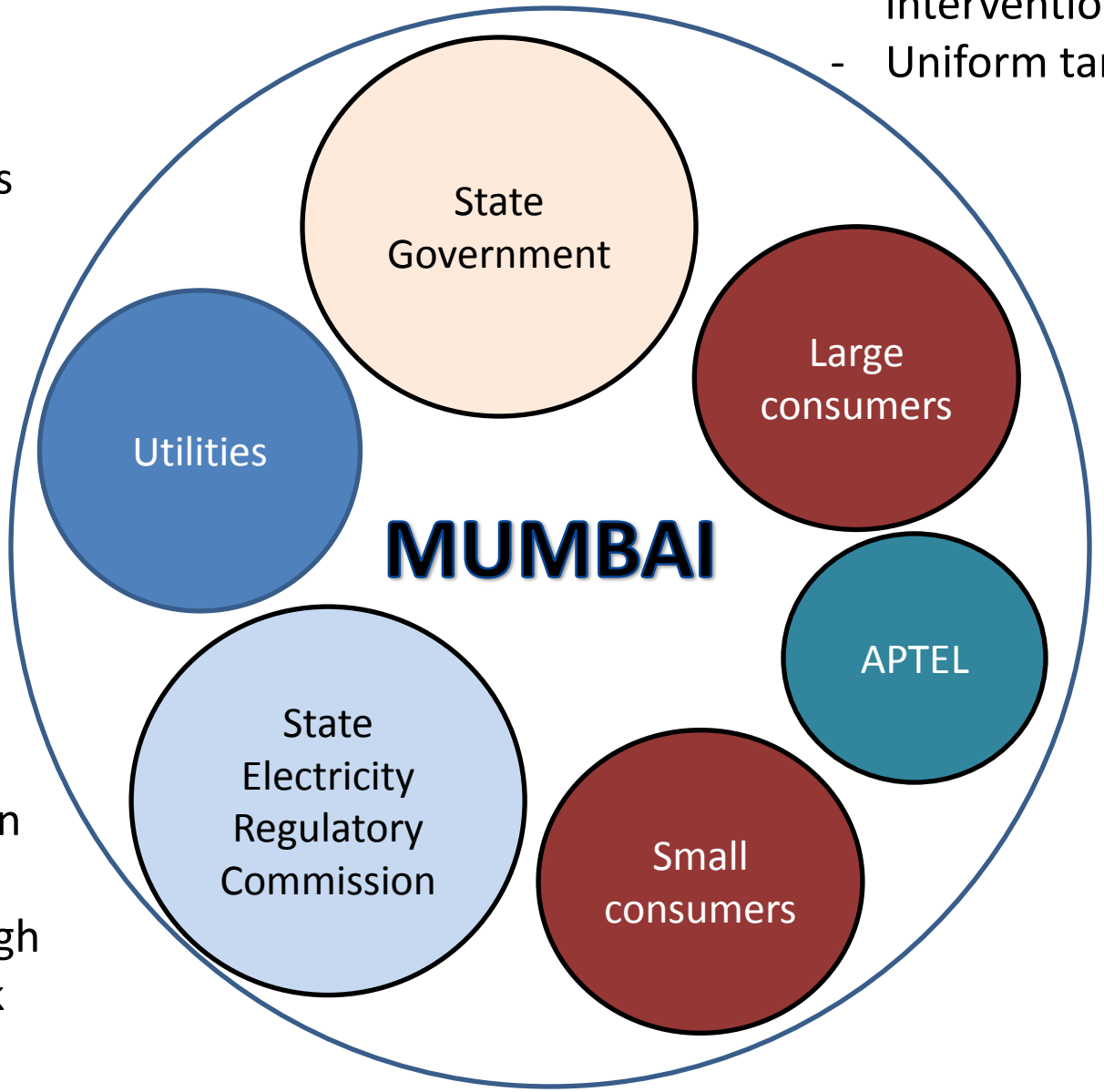
- MERC, concerned about the skewed consumer mix, tried to manage tariffs to balance the number of large and small consumers for the distribution companies.
- HT Industry charges (Rs. per unit)



Role of institutions

- Power purchase intervention
- Uniform tariffs

- Lack of consensus
- Information asymmetries
- Litigation and credibility of institutions



- Implementation issues
- Thinking through the Framework

What needs to be done in Mumbai?

- Key requirements for an effective solution
  - Putting an end to cost-plus tariff approach
  - Protecting the interests of small consumers while also ensuring tariff certainty
  - Facilitating choice of supplier, including open access and net metering
  - Putting an end to (further) regulatory asset creation
  - Allowing greater flexibility in operations to distribution companies, especially, to meet supply obligation in the most optimum manner
  - Requiring no major legislative change (within the existing legal and regulatory framework)

Proposed scheme: Applicable only for Suburban Mumbai (RInfra and TPC consumers)

- Freeze regulatory assets and revenue gaps and recover them from *all* sub-urban consumers
- Impose tariff ceiling for the all consumer categories along with a cap on wheeling charges and cross-subsidy surcharge
- Fix tariffs for 0-300 units per month residential and LT-commercial 0-20 kW consumers at reasonable level
- Give the companies full flexibility in terms of power procurement and CAPEX and OPEX so as to maximise sales and revenue.
- Both licensees should be mandated to make their wires available for changeover
- MERC to focus on compliance with service quality norms and monitoring of sales and migration

→ The scheme requires no legislative amendments and can be implemented within the exiting legal and regulatory framework

Proposed scheme tariff structure

Particulars	Sales	Uniform Wheeling	Uniform RAC	Uniform CSS	Non-Power supply charge	Power supply charge	Total ABR
	MU	Rs/u	Rs/u	Rs/u	Rs/u	Rs/u	Rs/u
		A	B	C	D = (A+B+C)	E	F = (D+E)
LT 0-100	2400	1.33	1.30	NA	2.6	3	5.63
LT 100-300	2200	1.33	1.30	NA	2.6	4.5	7.13
LT Com 0-20 kW	2000	1.33	1.30	1.85	4.5	5.5	9.98
Other LT	3700	1.33	1.30	1.85	4.5	6.5	10.98
HT Industrial	1000	1.33	1.30	1.85	4.5	6.5	10.98
HT commercial	1200	1.33	1.30	1.85	4.5	6.5	10.98
Other HT	500	1.33	1.30	1.85	4.5	6.5	10.98
Total	13000						9.19

What the proposal accomplishes?

- Puts an end to cost-plus approach and RAC
  - Ensures recovery of all past dues

- Gives certainty to consumer by deciding ceiling for all tariff components

- Consumers
  - Interests of small consumers would be protected.
  - Clarity and certainty regarding the maximum tariff.
  - Can opt for open access or net-metering to further reduce tariffs

- Companies
  - Flexibility to manage distribution cost, power procurement and network rollout so long as they meet the ceiling and comply with service quality norms

Lessons from the Mumbai experience

- **Creating a conducive environment for competition**:
  - clearly defined entry and exit criteria, 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.

- **Abolishing the cost-plus tariff approach**:
  - Failure to do so would lead to consumers paying for the inefficiencies of not one but multiple supply licensees.

- **Ensuring supply obligation**:
  - Unless there is a strong regulatory mandate to ensure supply obligation, small consumers are unlikely to benefit from competition.

- **Bridging information asymmetries:**
  - Competition in retail supply of electricity, if introduced, would require greater transparency, clarity on tariff structure and effective enforcement of such provisions.

Thank you

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