



*A Presentation on
“Competitive and Investable Energy Market :
Policy & Regulatory Framework of Power Markets in India”*

By
Central Electricity Regulatory Commission

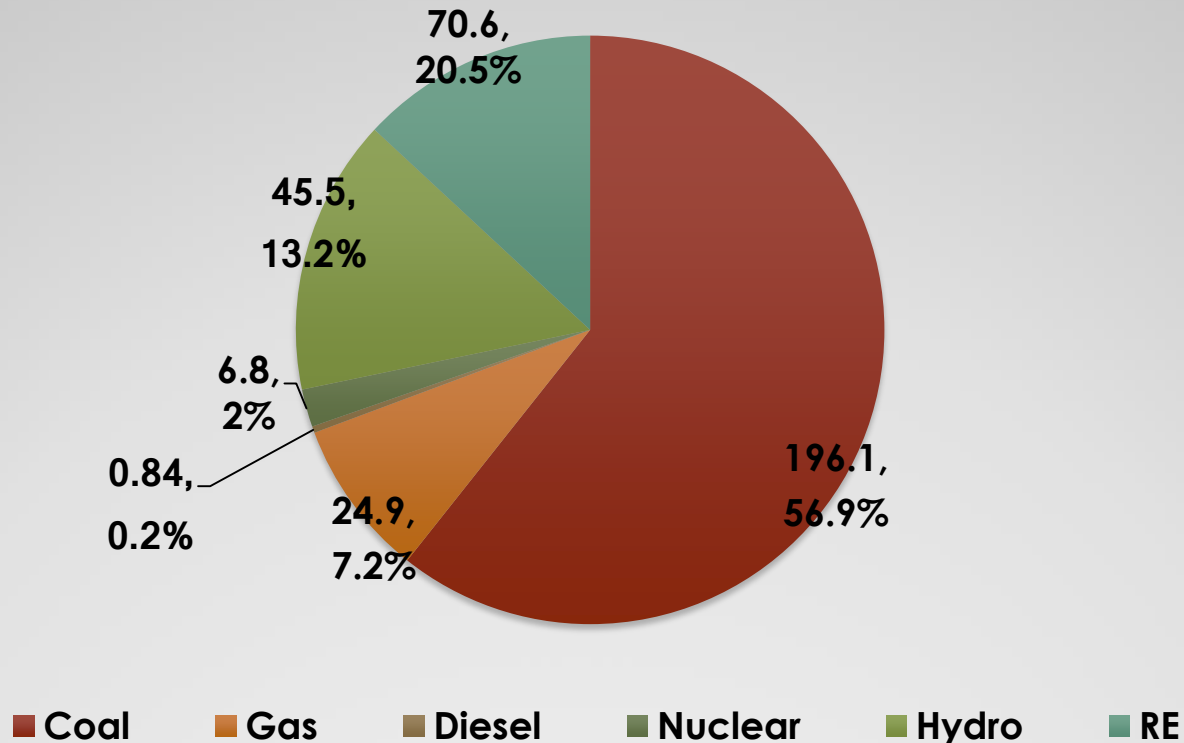
For
Asia Pacific Energy Regulatory Forum

In this presentation

- **Vision of Power Market in India**
- **Evolution of Electricity Industry in India**
- **Regulatory Initiatives**
- **Future of Power Markets in India**

Current Status - Generation

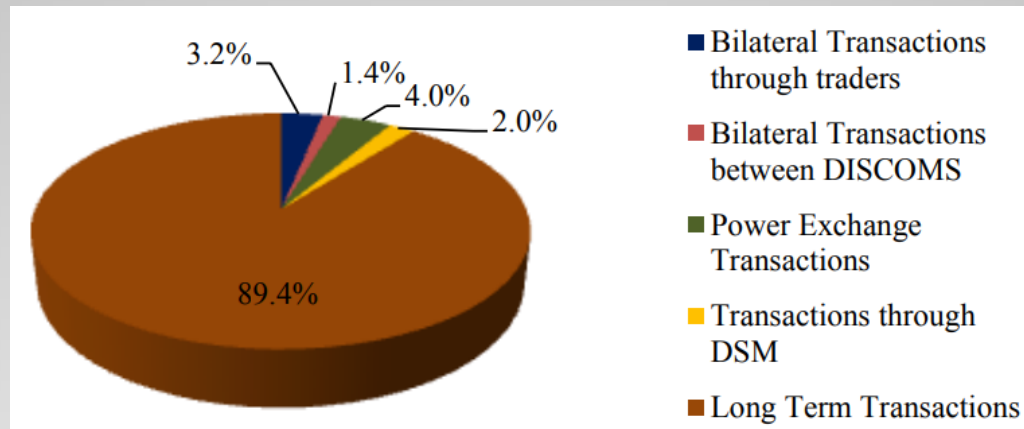
Installed Generation Capacity 344.7 GW



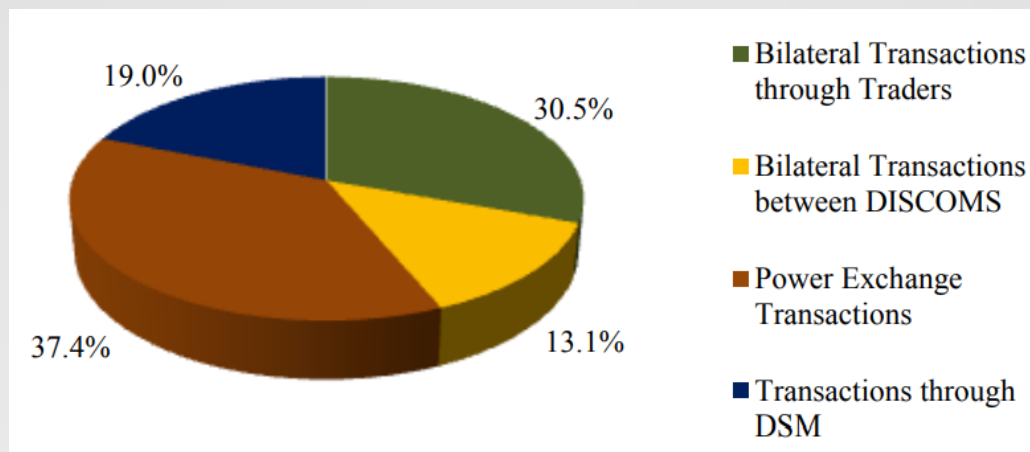
- Against the peak demand of 164.07 GW, met 160.75 GW (2% shortfall)
- Against the energy demand of 1212.134 BU, met 1203.567 (0.7% shortfall)

Current Status – Electricity Market

Share of Market Segments 2017-18

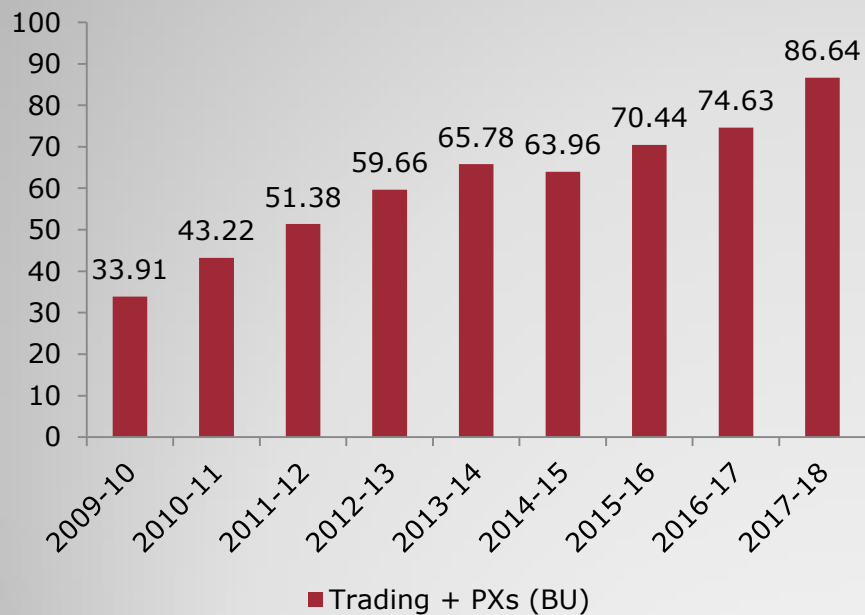


Share of Short Term Market Segments 2017-18

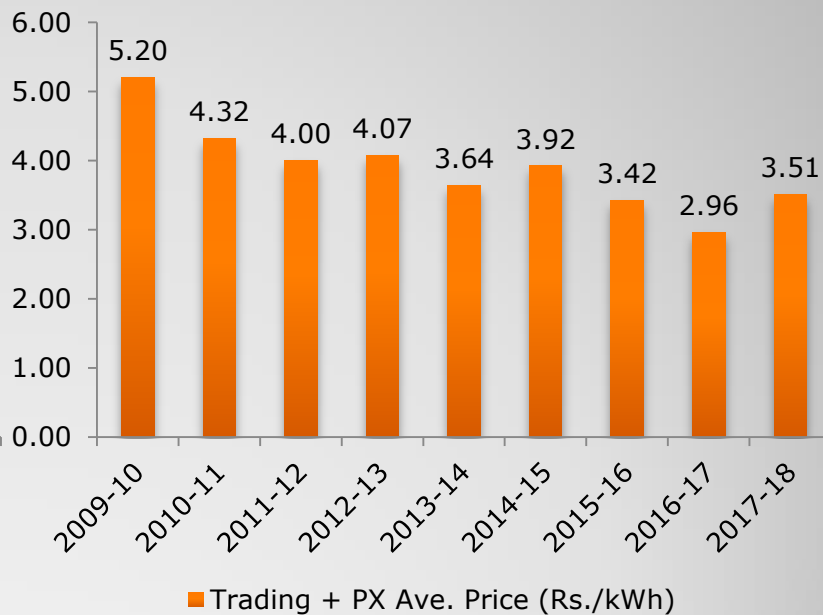


Vibrant Short Term Market

Trading + PXs Volume (BU)



Trading + PX Ave. Price (Rs./kWh)



Multiplicity of Players

- **600+ Generating Stations**
- **30+ Transmission Licensees**
- **70+ Distribution Utilities**
- **2 Power Exchanges**
- **43 Trading Licensees**
- **1 NLDC, 5 RLDCs, All State SLDCs (system operators)**

2.

Vision of Power Market in India

Transition from Monopoly **to Multi-buyer-Multi-seller *market structure***

Monopoly – virtual nationalization of electricity sector in 1948

- Operational inefficiency
- absence of cost reflective tariff
- Inadequate generation capacity matching economic growth

Opening of generation sector: 1991

- Limited success;
- Distribution still remained a concern

Focus on Distribution Reforms: 1998

- Reorganisation of SEBs
- Independent regulator
-Wholesome growth still missing!

Paradigm shift in 2003Electricity Act, 2003.....

Competition – Electricity Act, 2003

Enabling multiplicity of players and inducing efficiency improvement

Competition/Market - Supply Side:

- **De-licensing of Power Generation**
- **Concept of Trading in Electricity**

Competition/Market – Carriage Side:

- **Market Access: non-discriminatory access to network**

Competition/Market - Demand Side:

- **Reorganisation of SEBs**
- **Open Access Consumers**

Competition / Market : Supply Side

De-licensing of Generation / Competitive Bidding

- **EA 2003 : No requirement of license for generation. Liberal provision for captive generation**
- **Competitive bidding guidelines under section 63 of the Act**

Competition / Market : Supply Side....

Power Trading

- **Trading- Licensed activity under the Act.**
- **Regulators entrusted with the responsibility of development of market.**

Competition / Market : Carriage Side

Non-Discriminatory Access to Network

- **Concept of Open Access**
 - **Ensuring consumer choice**
- **Transmission companies debarred from trading in electricity**
 - **Ensuring neutrality in carriage business**

Competition / Market : Demand Side

Reorganisation of SEBs

- **Section 131 of the Electricity Act provides for reorganization/unbundling of State Electricity Boards.**

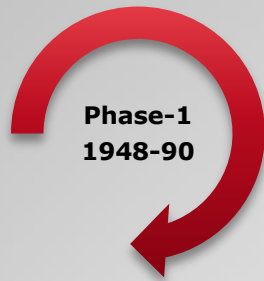
Open Access Consumers

- **with direct access to suppliers other than discoms**

3.

Evolution of Electricity Industry

Evolution of Electricity Industry



**Until
1990**

No Competition

- No choice
- Government makes decision

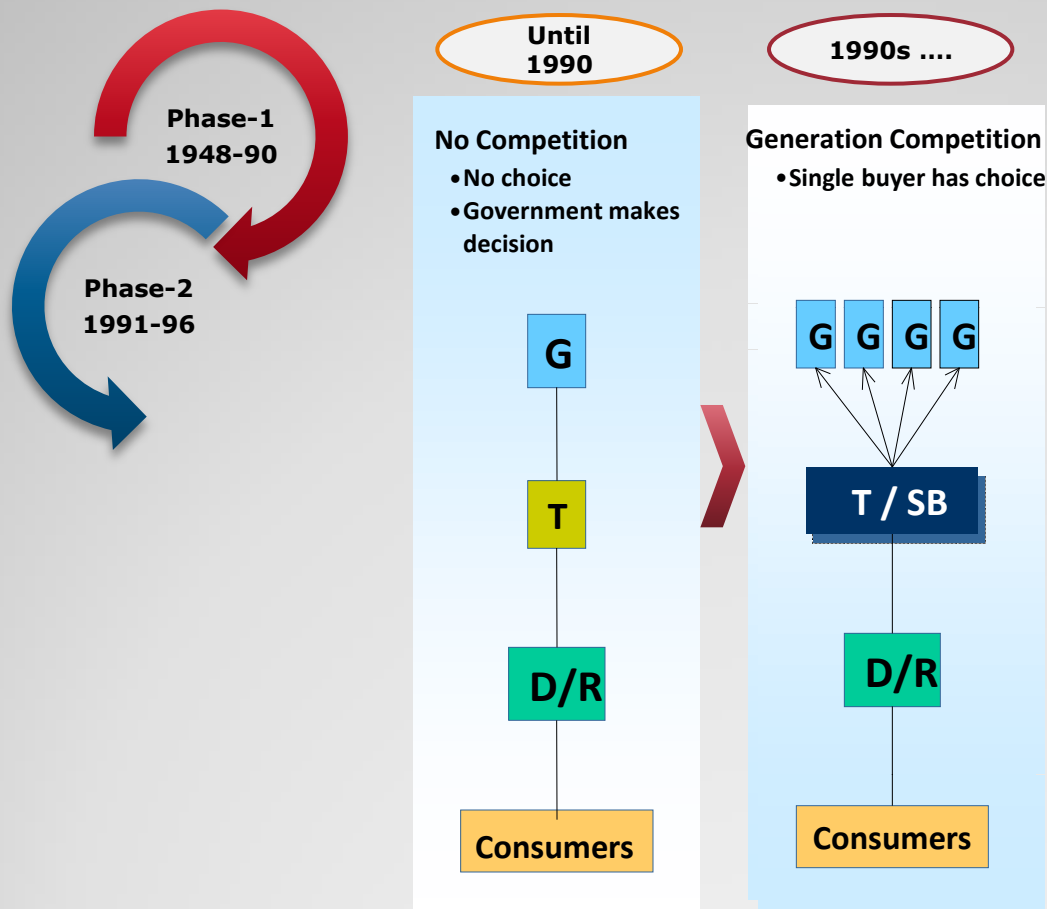
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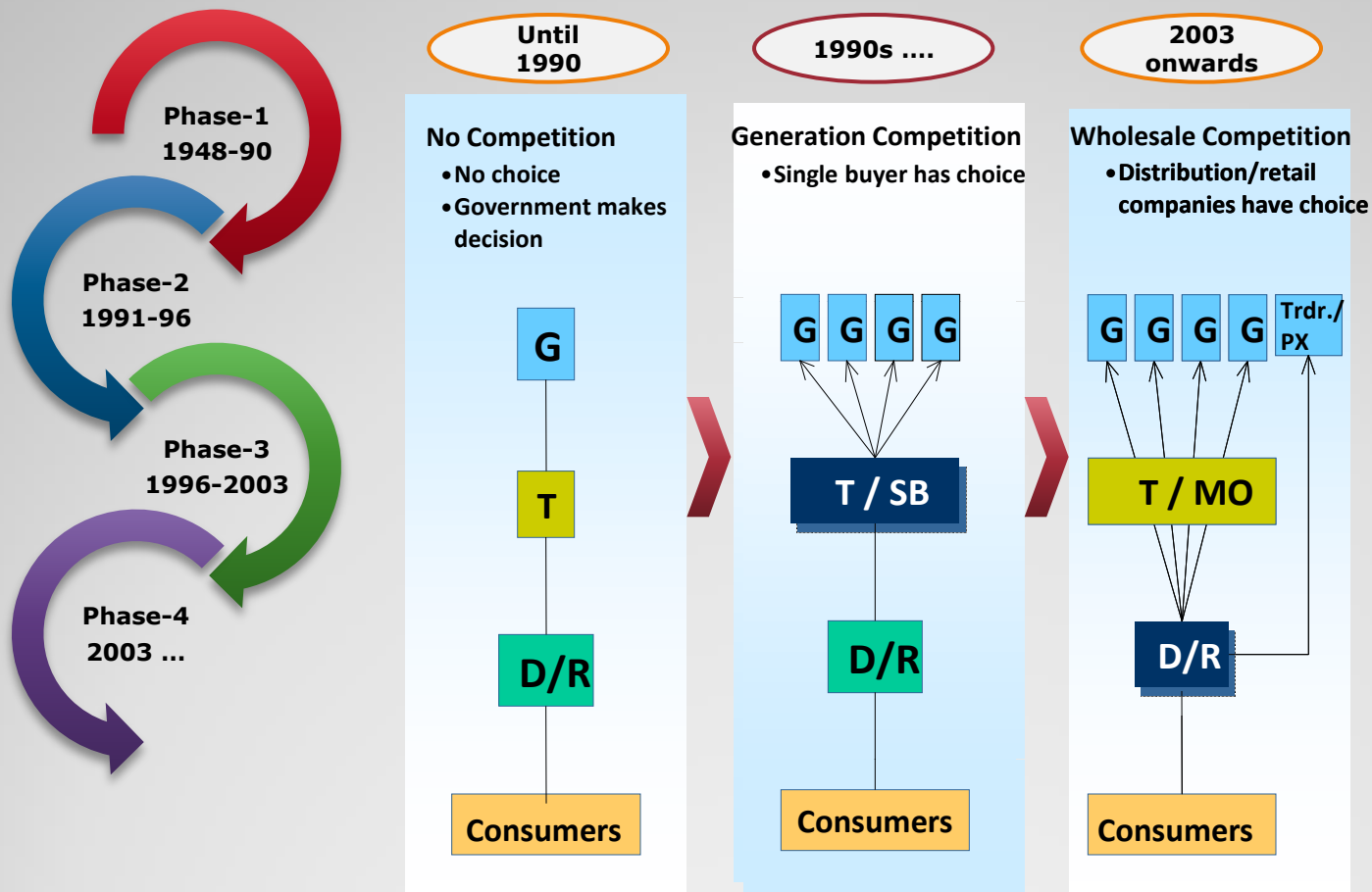
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Consumers

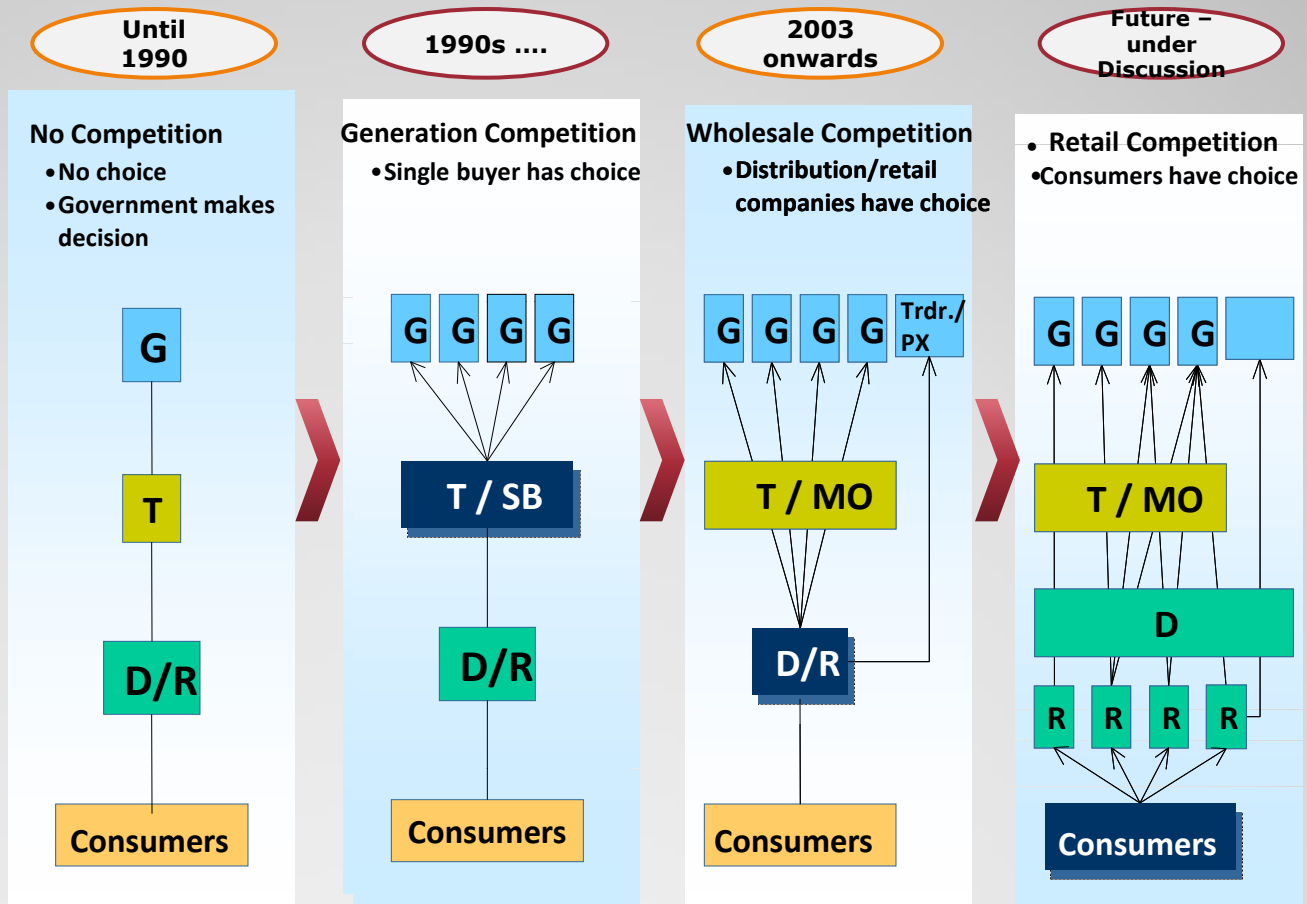
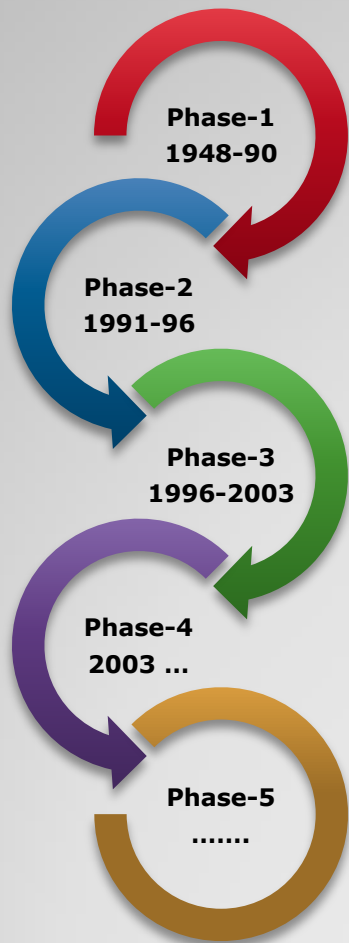
Evolution of Electricity Industry



Evolution of Electricity Industry



Evolution of Electricity Industry



4.

Regulatory Initiatives

- **Open Access Framework**
- **Trading licenses**
- **Power Exchanges**
- **Roadmap for Reserves**
- **Ancillary Services**
- **Flexing Thermal Generation**
- **Renewable Energy Certificates Mechanism**

5.

Future of Power Markets – A Perspective

Future of Power Markets in India

- **Linking of Deviation Settlement Price with Day Ahead Market Price**
- **Real Time Market Design**
- **Re-Designing of Ancillary Services Mechanism**
- **Centralized economic dispatch model in the day ahead market**

Thank you

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