Many Sparks but Little Light: The Rhetoric and Practice of Electricity Sector Reforms in India

Prayas (Energy Group), Pune

E-Pub launch Webinar

23 Jan 2018

Many Sparks but Little Light:

The Rhetoric and Practice of Electricity Sector Reforms in India

Prayas (Energy Group)

Prayas (Energy Group)

Dedicated to

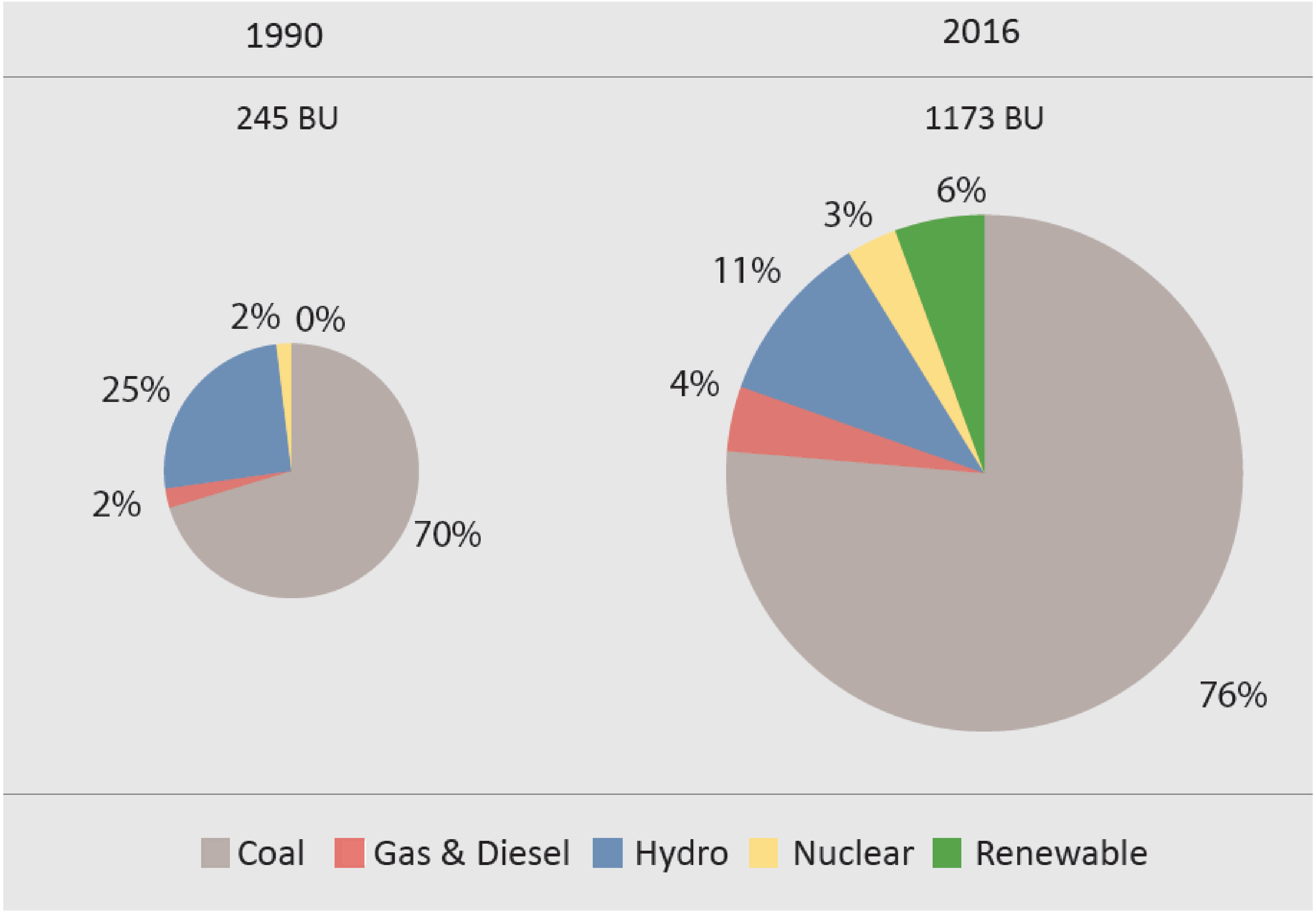
Girish Sant

(1966 – 2012)

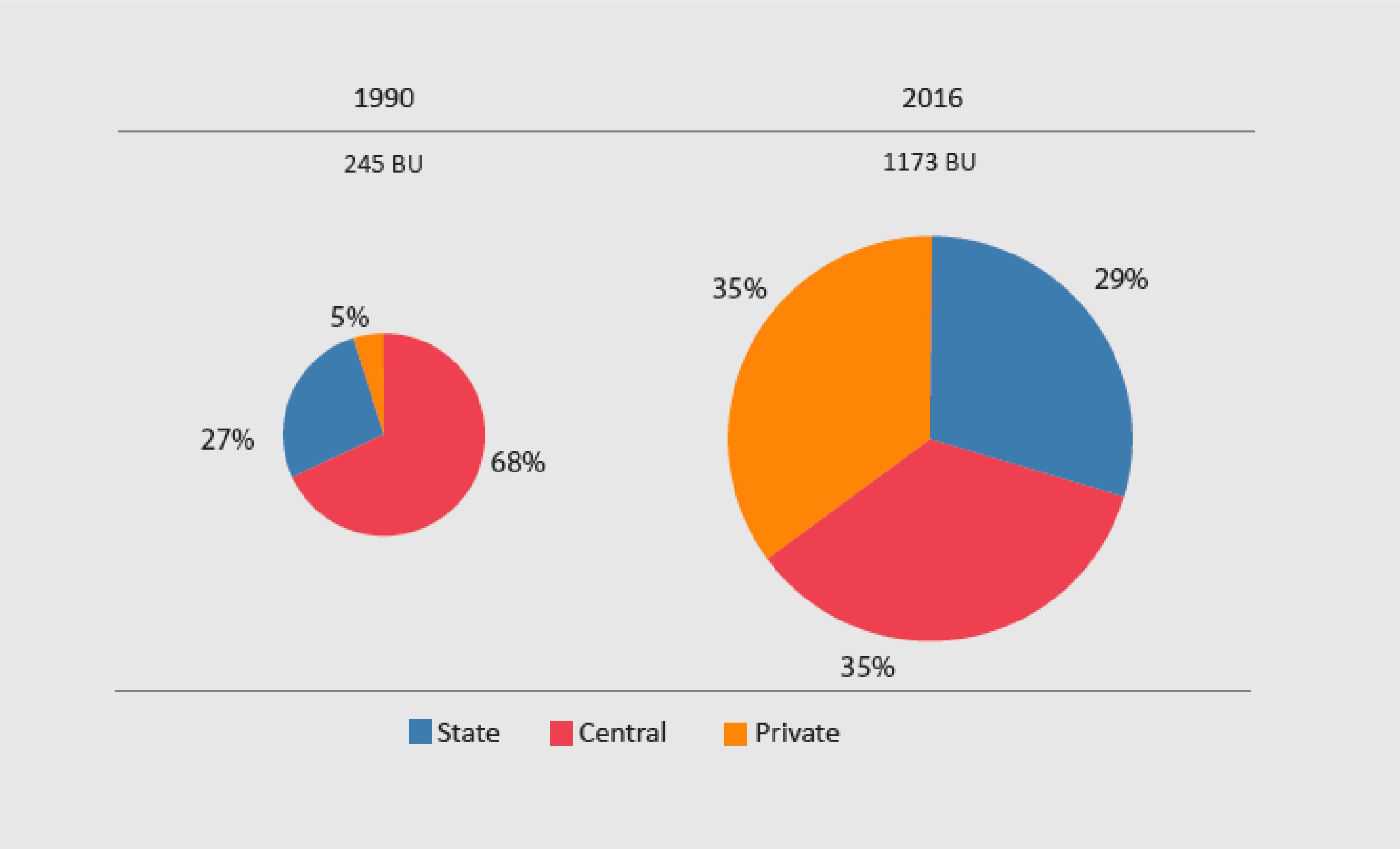
Founding coordinator of Prayas (Energy Group) who continues to inspire our work

- Twenty Five Years of Reforms
  - – A lot has happened..

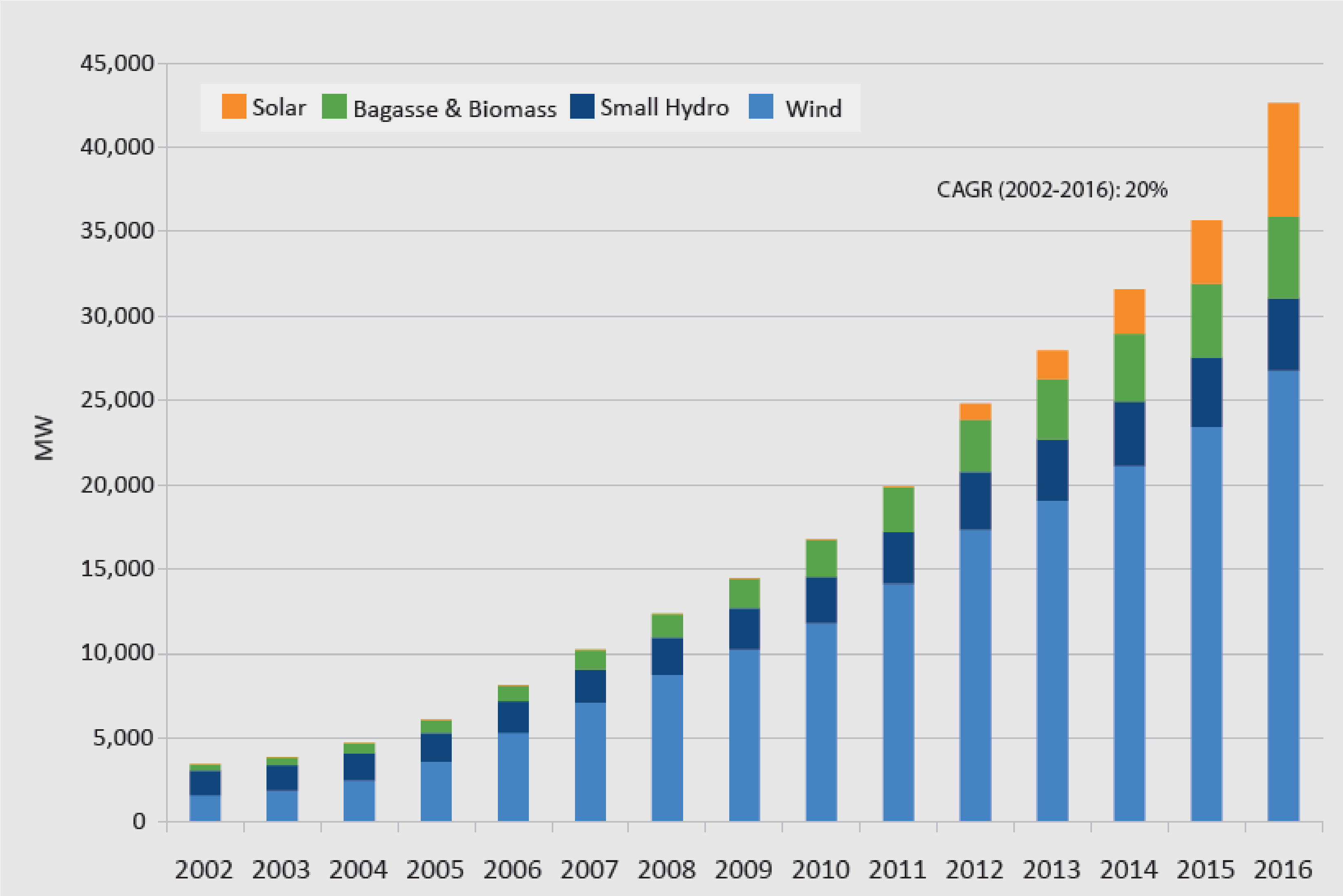
Generation-fuel mix 1990 and 2016



Generation-ownership mix 1990 and 2016



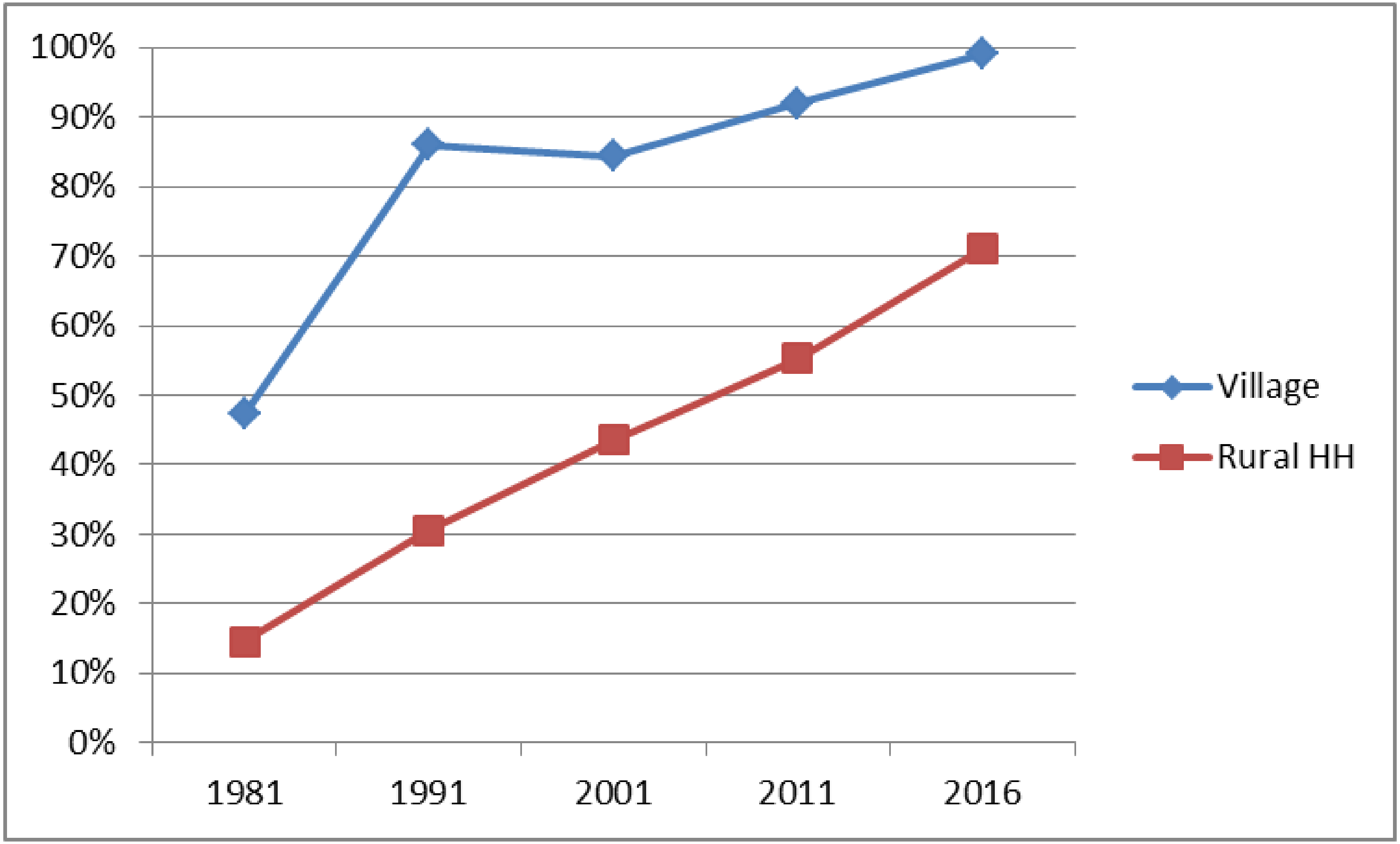
RE generation capacity (MW) from 2002–16



Source: Ministry of New and Renewable Energy

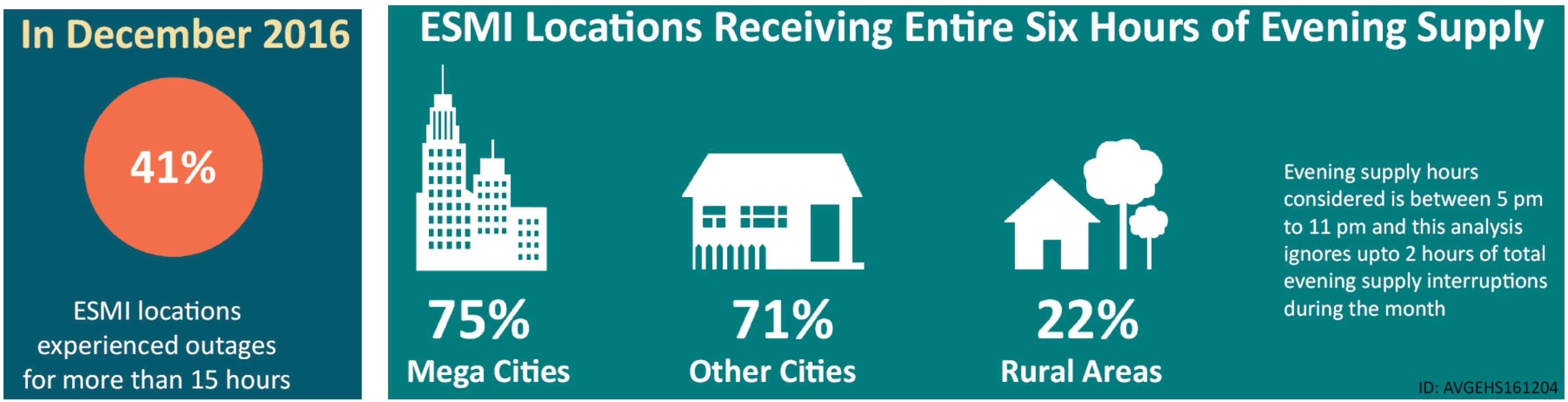
- Twenty Five Years of Reforms
  - A lot more needs to happen…

~ 30 % Rural HHs still do not have access…



Electricity – going beyond access

- Poor quality of supply even for HHs that are electrified



  – Poor voltage

- Access does not translate to better lives (labour saving, entertainment, productive uses)

Motivation for the book

- Review the experience of reforms in last 25 years
  – What has worked and what has not, and why ?
  – Look at reforms in multiple sub-sectors and their inter-linkages, which are often neglected

- Draw attention to lessons
  – To improve the design and implementation of further reforms
  – So that the sector overcomes its challenges in an *equitable, sustainable and timely manner.*

- Neither feasible nor desirable to present a ‘blue-print’ or ‘plan’ for reforms

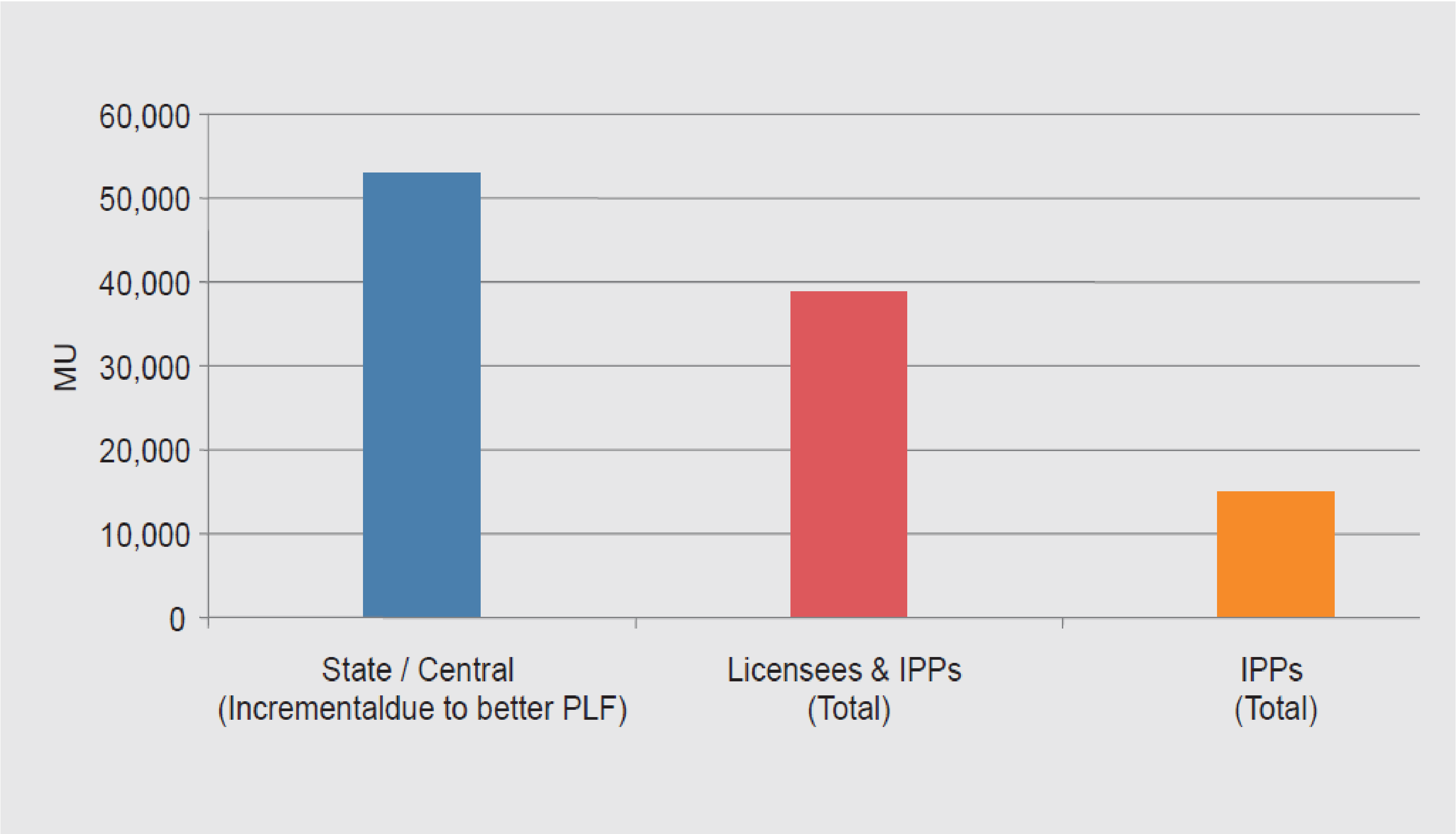
TABLE OF CONTENTS

TABLE OF CONTENTS

Examples of major reforms reviewed

- IPP process and competitive bidding era
- Hydro power policy 1998 and 50,000 MW initiative
- Solar and Wind sectors
- Private sector participation in distribution, consumer choice experiments, DISCOM bailouts
- Coal allocation – linkages and captive blocks
- NELP, Gas pricing

IPP generation contribution to total generation in 2002



Capacity Addition in last three 5 year plans

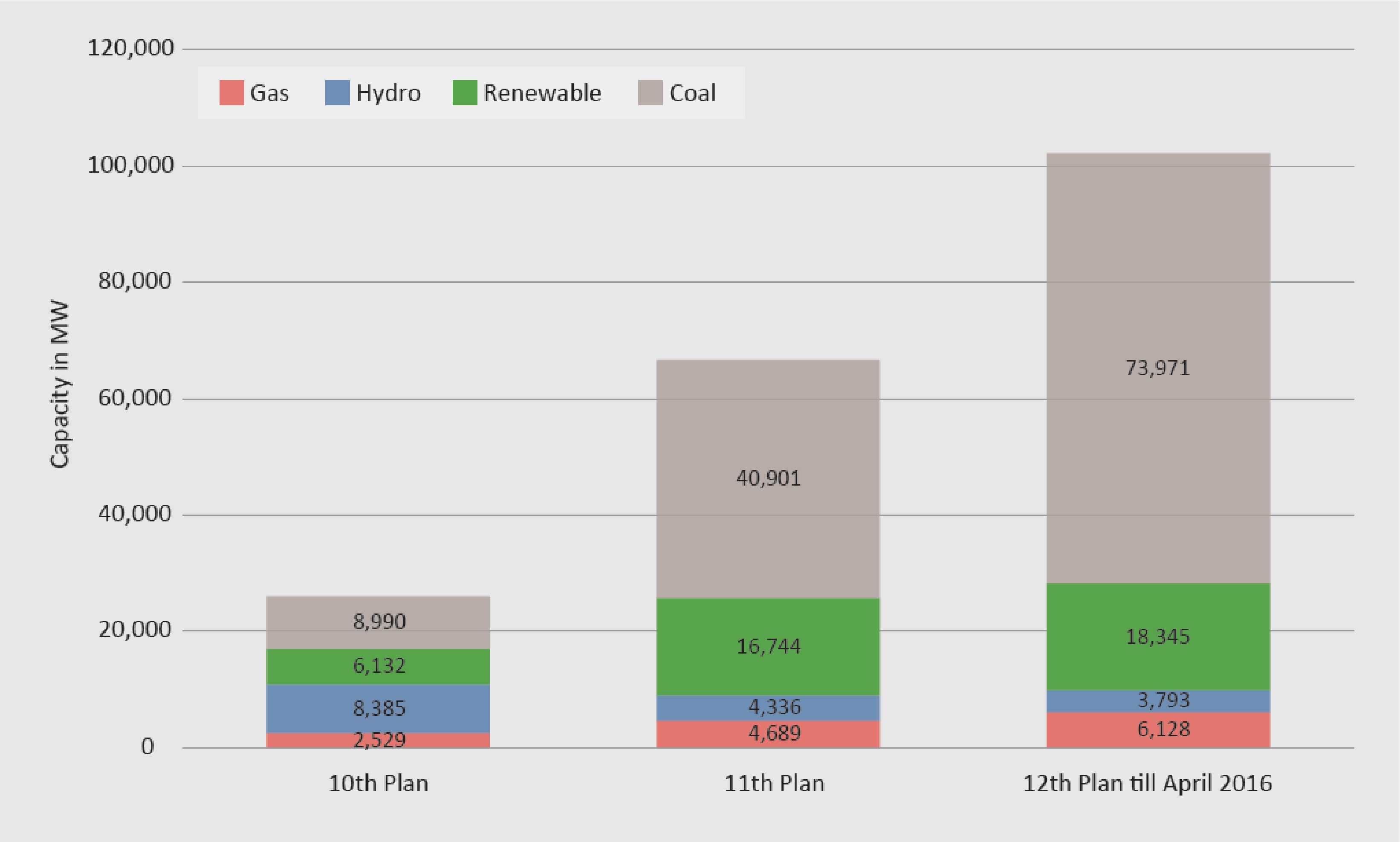
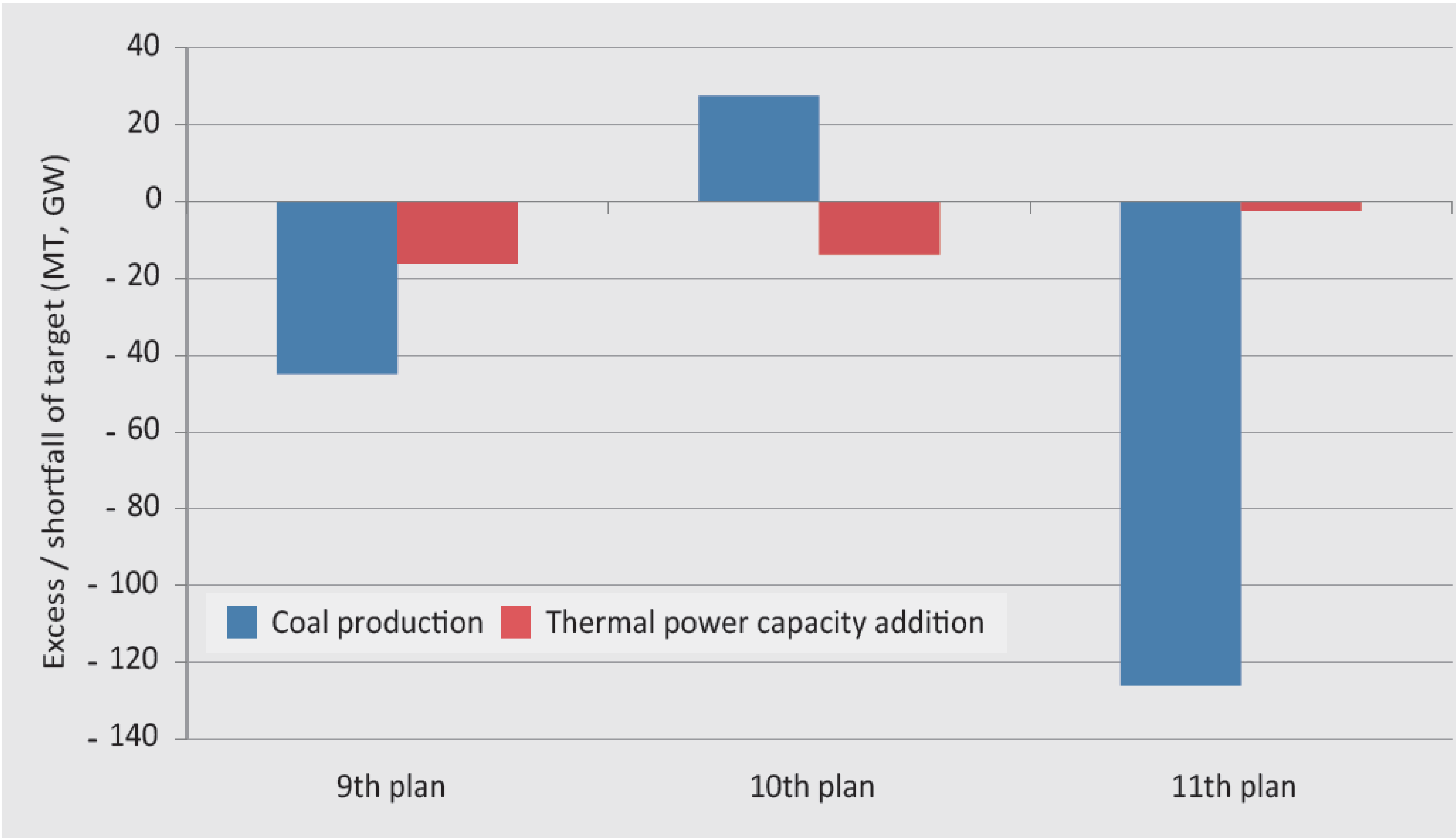


Figure 6.1: Relative achievement of coal production and thermal capacity addition



Significant Stranded Assets

- Most capacity addition is base load, thermal
- Stranded capacity
  - - 20 GW Gas,
  - > 20 GW coal
- More than 20 GW projects seeking tariff revision on accounting of fuel issues
- Stressed Assets Claimed to be over 3 lac crore Rs.

Distribution Privatisation and Franchisee

- Odisha – Public – Private – Public – Private ?
- Delhi – Regulatory Assets > 15,000 Cr.
- Franchisee
  - Limited success – e.g. Bhiwandi
  - Several failed attempts – Aurangabad, Nagpur, Agra, Kanpur, Sagar, Ujjain
  - New franchisees – Rajasthan, Odisha

Scale and Significance of Bailout Schemes

Period	Name of scheme	Scheme magnitude	Comparable to
2001	2001 scheme for repayment of SEB Dues	₹ 41,473 crores	Central and state planned expenditure on social services in 2001–02
2012	Financial Restructuring Plan (FRP)	About ₹ 1.19 lakh crores	Cumulative expenditure on wages in the MNREGA scheme (2006–14)
2015	Ujwal Discom Assurance Yojana (UDAY)	About ₹ 2.01 lakh crores as on July 2016	Comparable to India's defence spending for 2015–16

Twenty Five Years of Reforms
– Many challenges… some old, some new

- Financial viability of the sector and affordable tariff
- Fundamentally changed context of global climate debate and its implications for India
- Grid integration of renewable energy (RE)
- Rapid changes in costs and technology
  - Renewable Energy (centralised and de-centralised)
  - End use efficiency, Electric vehicles
  - Electricity storage
- Movement towards retail competition
  - Carriage and content
  - Open access, RE captive

Why did the reforms not deliver as expected ?

- Poorly conceived objectives
  - Increase investment, generation capacity
  - Universal access became major objective after a decade of ushering in of reforms in 1991

- Weak plans and design flaws
  - Inadequate attention to interlinkages to other sectors
  - Ambiguous framing of New Coal Distribution Policy

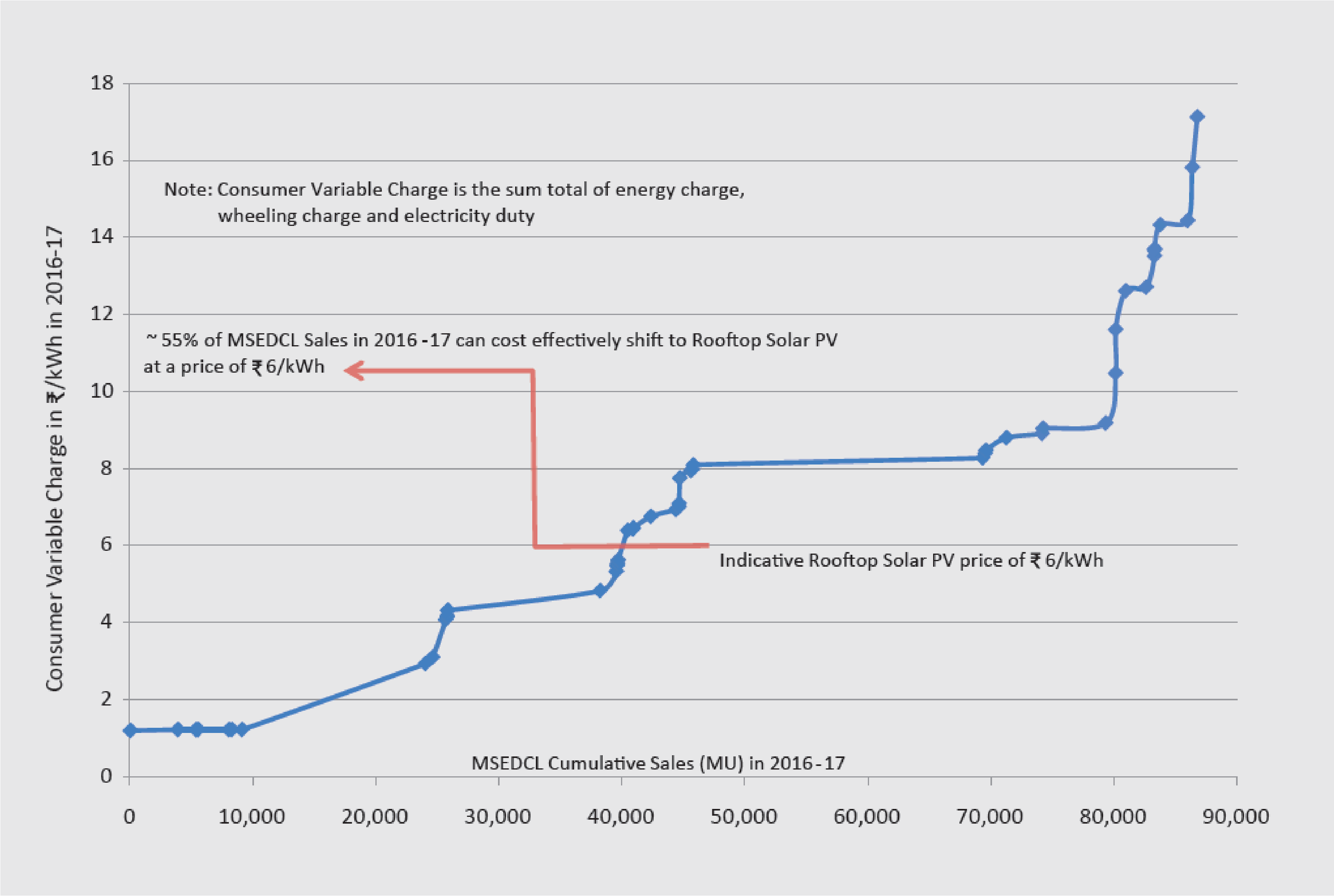
- Weak institutions
  - PNGRB – never meant to perform effectively
  - Coal sector regulator – still on paper

Why did the reforms not deliver as expected ?

- Insufficient competition
  - Oil and Gas sector
  - In spite of unbundling vertical integration persists - Power procurement from affiliate / group companies

- Entrenched vested interests
  - Allocation of captive coal blocks and linkages
  - Granting of pipeline contracts just before enactment of PNGRB

Solar Rooftop Viability in Maharashtra



Emerging scenario

- Non-discom supply options will be more economical and technically feasible for 'paying consumers'
  - Demand uncertainty for Discoms
  - Power purchase planning will become more complex
  - Increasingly limited scope for cross-subsidy based tariff design

Role of DISCOM is changing:

- Current scenario
  - Responsible for wires and supply
  - Universal supply obligation
  - Dominant grid user
  - State demand ≅ discom demand
- Future scenario
  - Provider of wires
  - Supplier of last resort
  - Grid balancing
  - Meeting energy needs of small LT, rural and agri. consumers

What can one learn from the experience so far ?

- Need clear prioritisation of social and environmental objectives (Access, quality of supply, environmental norms)
  - Explicitly stated, comprehensively planned and effectively monitored

- Agile and comprehensive planning
  - Interlinkages with sub-sectors, global context, rapid changes in technology and costs

- Transparent, accountable and effective institutions
  - Data, resource maps, regulatory structure in oil & gas and coal, autonomy and capacity of SLDCs

What can one learn from the experience so far ?

- Participative policy formulation and regulation
  - Fuel sector, monitoring, generation capacity planning

- Enhancing competition
  - Unequal risk-reward regime in open access, adhering to competitive bid processes and contracts

- Improving efficiency of sector actors
  - Effective use of technology to monitor energy flows, strengthening planning capacity of DISCOMs

Thank you.

E-book available (in e-pub format) can be downloaded from Prayas website at :

http://tinyurl.com/ManySparksButLittleLight