

India Energy Congress 2018

Reaching the last mile

Energy 4.0: Energy transition
towards 2030
February 2018

Agenda

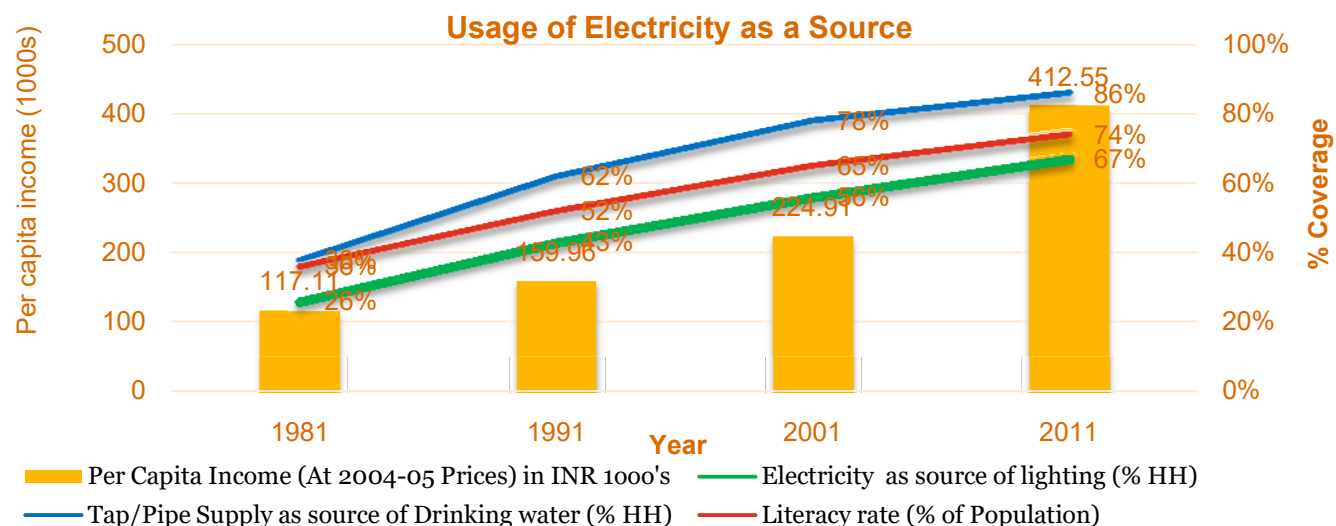
Access to energy scenario in India

Last mile connectivity issues & challenges

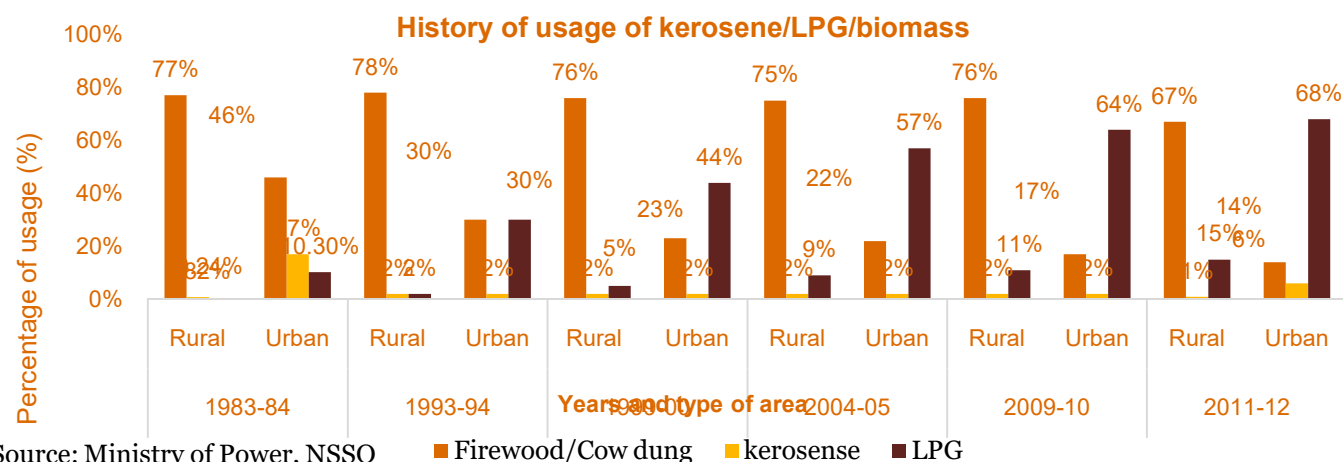
Key discussion points

Usage of energy by the population has impacted the demand, significantly...

Need for Education, Lighting, Clean Drinking Water, Cooking etc. and other facilities for improved standards of living has resulted in continuous increase in demand of energy.



As per the 2011 Census, India's electricity access rate increased by 15% points to 74% between 2000 and 2010. The population growth in rural areas contributed to a 65% increase alone



As per 2011 Census, around 69% of urban Indian kitchens use LPG, which is sold in portable cylinders, for cooking. However, more than 3.25 Crores HH have been added to LPG supply under UJWALA scheme in the year 2017 resulting in total LPG coverage to more than 82%.

Source: Ministry of Power, NSSO

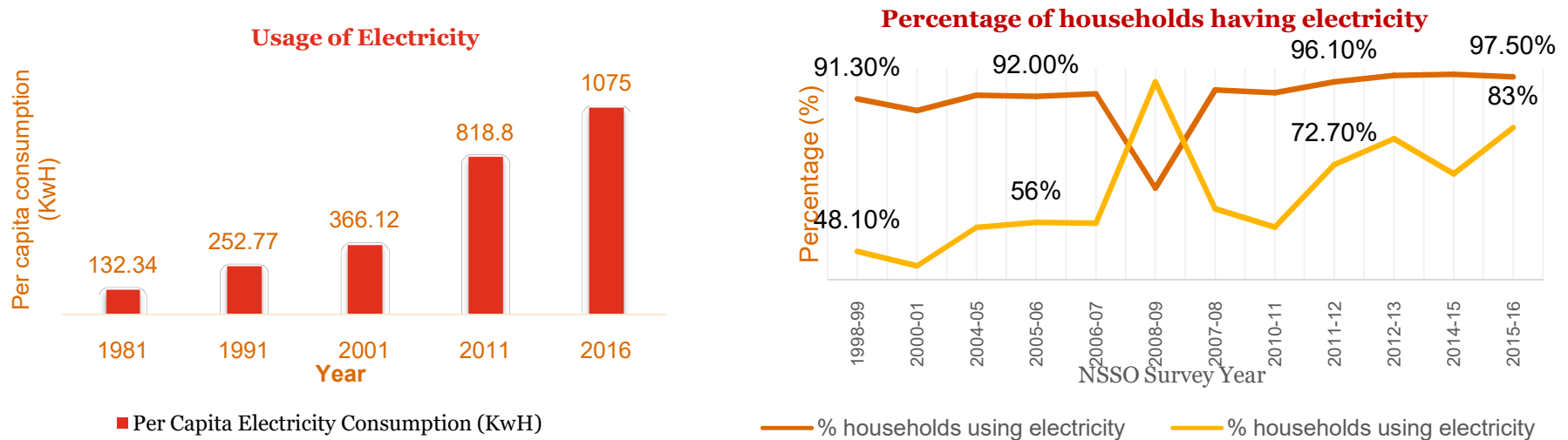
Reaching the last mile

PWC

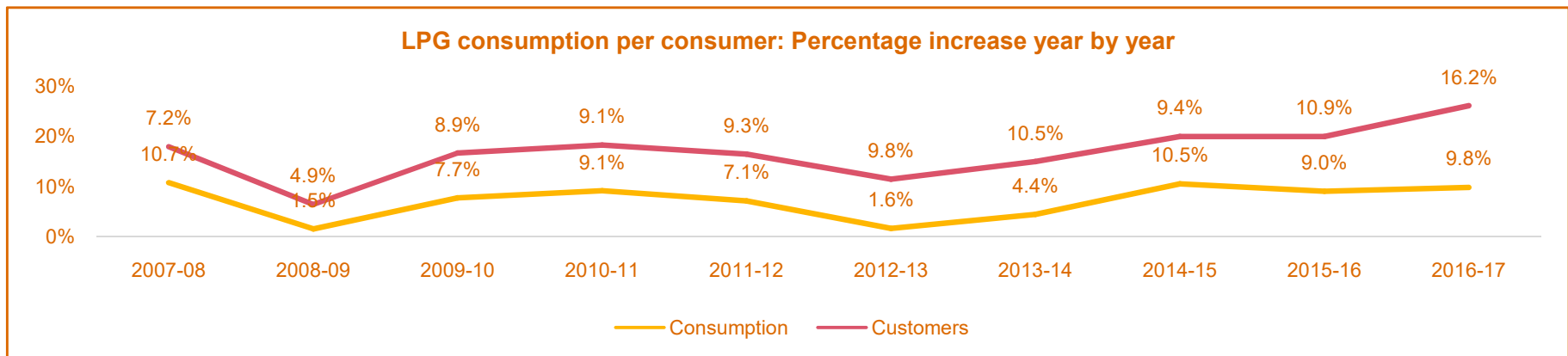
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...resulting in increased need for access to cheaper, reliable and on-demand energy

Chart-representation of electricity and cooking gas demands over the years



Below is the graph showing the yearly increment in percentage of LPG consumption among customers all over India from 2007 to present.



The demand-supply scenario has impacted the access to energy due to a number of issues...

Pricing

- Electricity: Higher Tariff , prolonged dependence on subsidy, Low Paying capacity, Psychology of free Power
- Gas: High Refilling Cost.

Regulatory

- Electricity: Pricing reform strategies for rural households, Tariff Rationalization
- Misuse, malpractices and corruption by private dealers and distribution chain

New Service Connection

- Long procedure & time to get a new service connection
- Higher initial connection costs in Gas

Awareness

- Lack of awareness about Govt. schemes .
- Lack of awareness about health, safety and environmental concerns related to cooking fuel.

Transportation/Evacuation

- Electricity: Poor Grid Connectivity to rural areas
- Gas: Limited pipelines & Poor connectivity in rural •

Viability

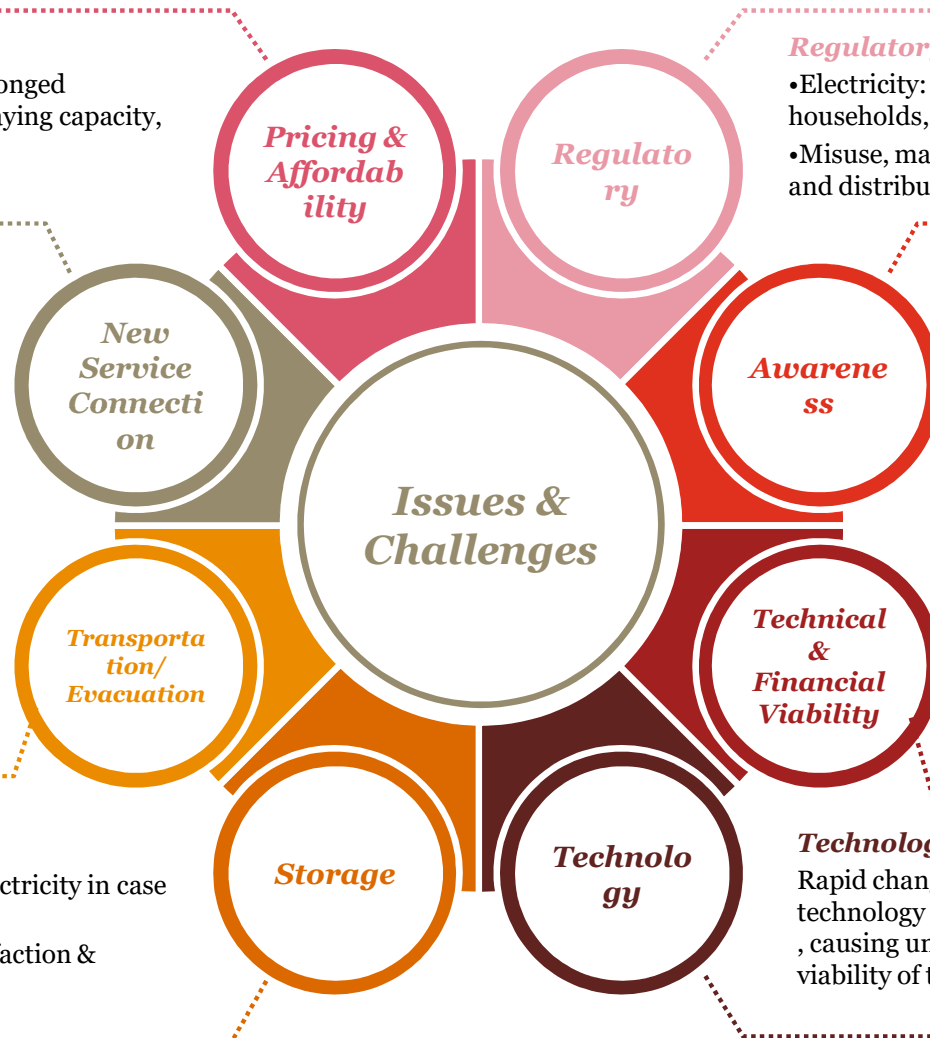
- Technical issues: Higher Technical Losses, Theft , Reluctance by Discoms due to high cost of grid extension and low recovery , O&M challenges in difficult terrain
- Financial issue : Difference in actual cost of supply and tariff, lack of affordable financing resources

Storage

- Electricity: Limited storage of electricity in case of Distributed Generation/ Solar
- Gas: Limited Storage for Liquefaction & transportation

Technology Leapfrog

- Rapid changes in technology may render existing technology obsolete due to greater efficiency & pricing , causing uncertainty in the usability, acceptability and viability of the deployed technology today.



Which needs a relook at the way we answer the related questions (do not change this slide)

1. Do our last mile goals reflect the ground realities in terms of meeting the deficit in energy access, both in terms of availability of reliable and affordable electricity and cooking gas supplies?
2. Whether there is a need for a radical thought to be put in place for improving the last mile connectivity situation and improve the overall energy access situation?
3. How have the existing set of policies / schemes supported the improvements in the last mile connectivity situation? Are the policies and measures adequately designed and implemented to promote the use of non-conventional energy and locally available resources to improve energy access, so as to optimize cost as well as establish a sustainable ecosystem?
4. How can we engage the Private Sector more, especially in the context of deploying innovative and disruptive technologies e.g. micro grid, mini grid and off-grid systems in electrification, and piped-gas supply, smaller gas cylinders in cooking gas, considering their business goals? What models of collaboration can be thought of? Whether we already have policies to facilitate the same?
5. What kind of awareness / education should be targeted for last mile beneficiaries? How should these be administered?
6. What kind of supply-side reforms are still necessary in the electricity and cooking gas sectors, to further improve the last mile connectivity issues, in terms of improving reliability, affordability and consumer preferences?

Thank You.

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