



## Energy Industry in India: Power Drives Current Discussions

### INDIA

#### AUTHORS

**Govind Hariharan**  
*Executive Director*

**Dimitri Dodonova**  
*Research Fellow*

ICA Institute  
Coles College of Business  
Kennesaw State University

1000 Chastain Rd., BB476  
MD 0403, Bldg. 4  
Kennesaw, GA 30144

☎ 770- 423-6580  
[www.icainstitute.org](http://www.icainstitute.org)



#### Sector Snapshot

### Energy Industry in India:

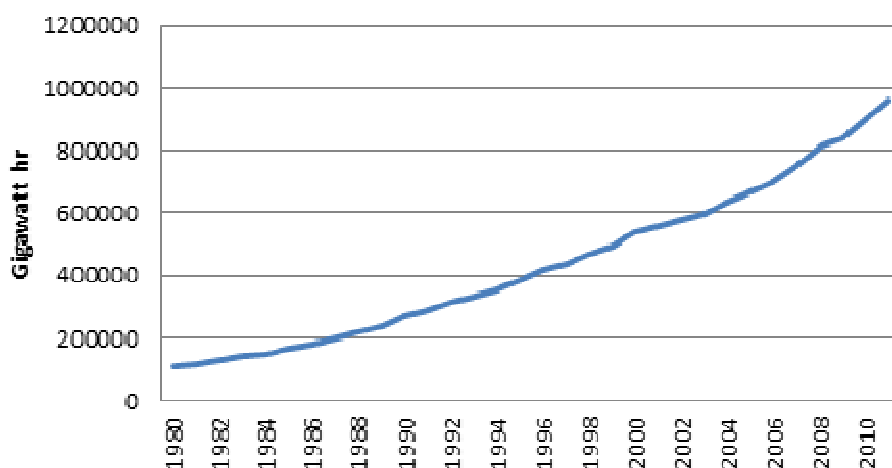
### Power Drives Current Discussions

As nations such as India charge into the industrialized world it is to be expected that energy production and infrastructure will take center stage. In India not a day goes by without heated discussions on power cuts at executive briefings, office water cooler as well as at neighborhood coffee shops.

Electricity generation in India increased sevenfold in the last 30 years, reaching 959,000 Gigawatt-hr in 2011 (fig 1), an average annual growth rate of 8% over the last five years. While the country is the world's third largest aggregate consumer of electricity, it ranks 142 out of 216 countries in per capita consumption.

**Fig 1**

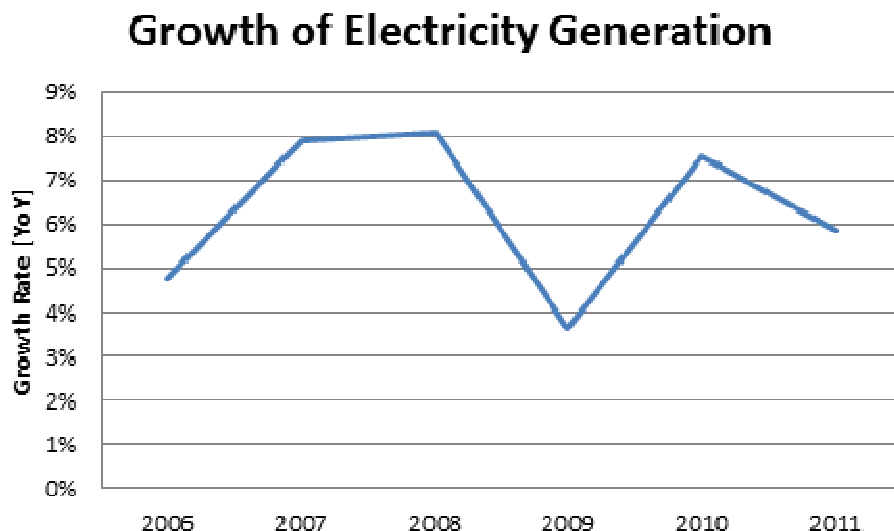
### Historic Electricity Generation



Source: CEIC Data

Similar to other sectors of the economy, the growth rate of electricity generation dropped drastically in 2009 to below 4%, the lowest in five years (fig 2).

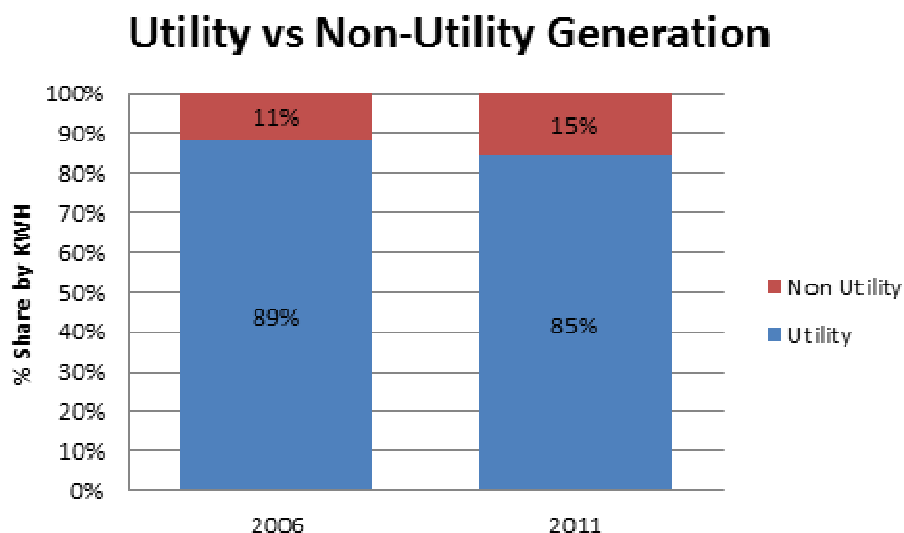
Fig 2



Source: CEIC Data

Utility generation of electricity, the energy generated by a party engaged in the distribution and selling of electricity to the public, represented 85% of total electricity generated during 2011. Non-Utility generation has been gradually increasing over the last years. In 2006, non-utility generation represented 11% of total electricity; in 2011, this group accounted for 15% (fig 3).

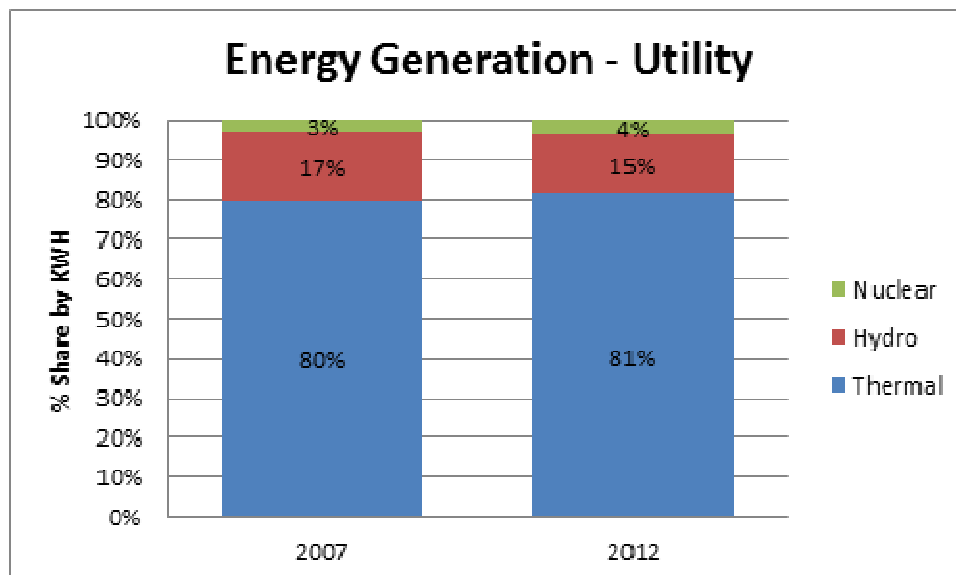
Fig 3



Source: CEIC Data

Thermal energy is the main source of energy in India with 81% of total utility generation during the fiscal 2012 ending in March. Nuclear energy while still marginal has increased one percentage point over the last five years (fig 4).

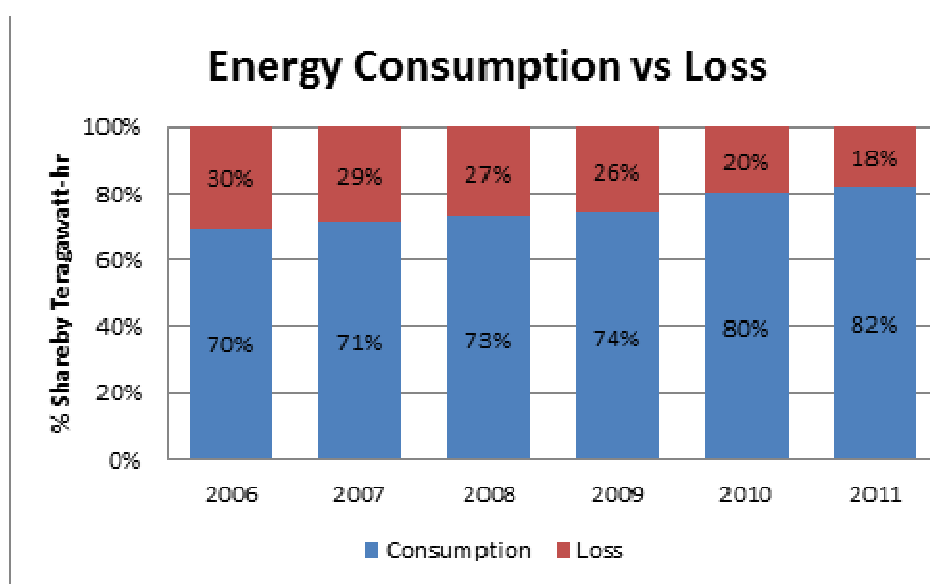
Fig 4



Source: CEIC Data

Energy loss during distribution represented an astonishing 30% of total electric supply during 2006. These losses have been gradually reduced, reaching 18% in 2011 (fig. 5).

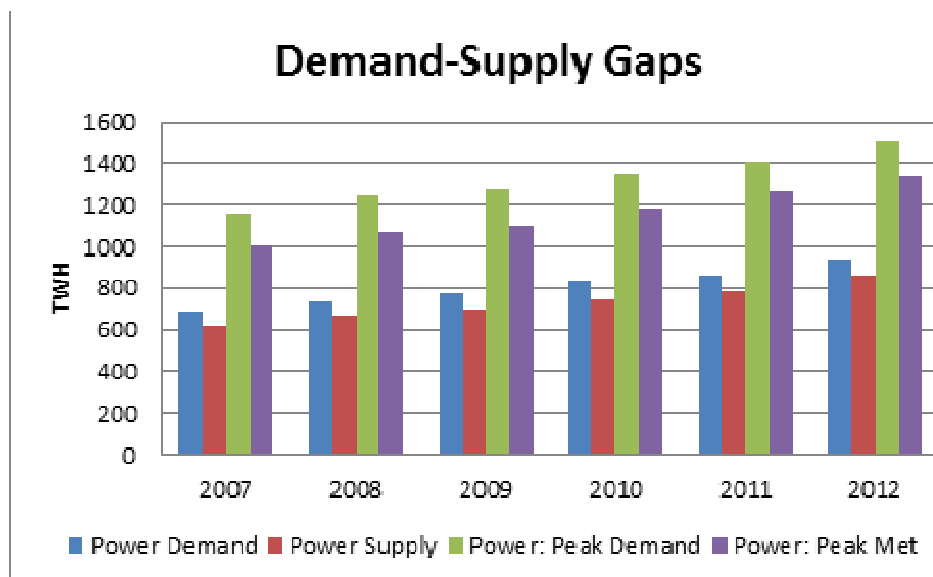
Fig 5



Source: CEIC Data

The 8% annual energy generation growth rate has not been enough to satisfy the growing Indian energy needs. At the national level, demand has been consistently greater than supply (fig 6).

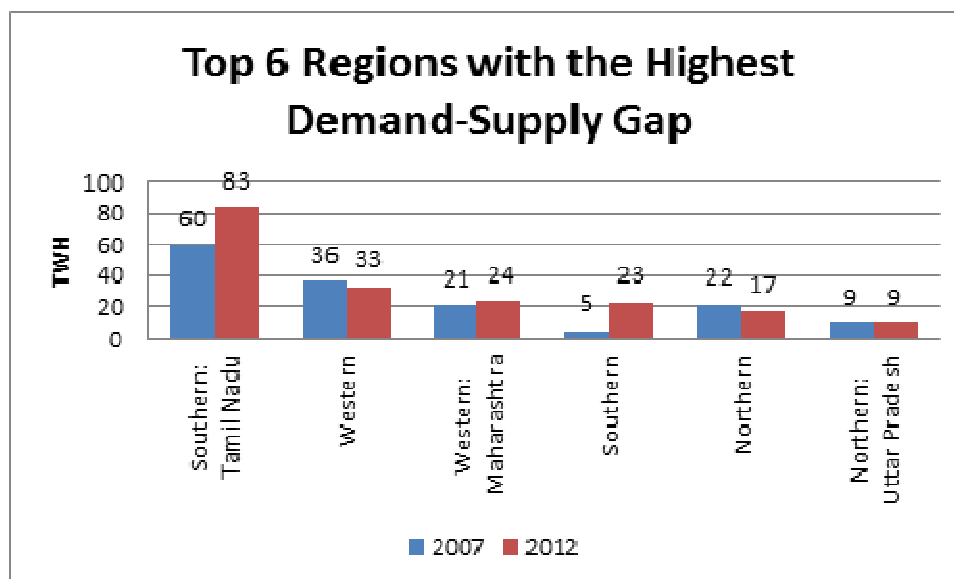
Fig 6



Source: CEIC Data

Some particular regions in the country have been more affected by the energy shortage. The highly industrialized Tamil Nadu state experienced an 83 TWH demand-supply gap in fiscal 2012 ending in March, a gap 23 TWH greater than the one it suffered five years ago (fig 7).

Fig 7

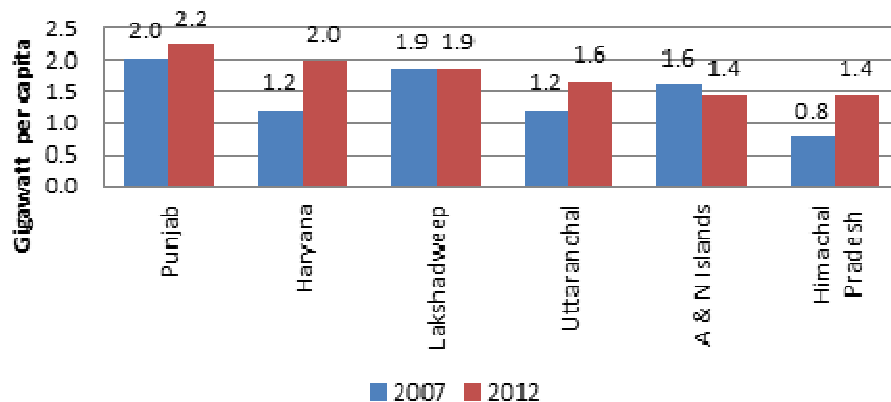


Source: CEIC Data

Electricity in other parts of the country is more available. Punjab leads the list of regions with the highest electricity capacity per capita, recording 2.2 GW per capita during the fiscal 2012, followed by Haryana and Lakshadweep, with 2.0 and 1.9 GW per capita, respectively (fig 8).

Fig 8

### Top 6 States by Electricity Capacity per Capita

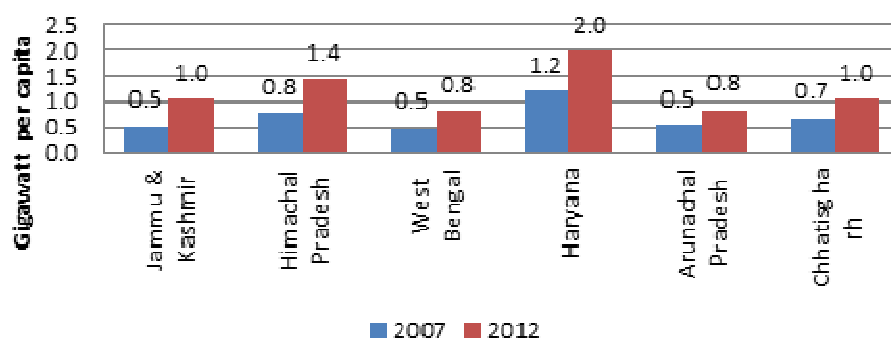


Source: CEIC Data

Some other regions enjoyed a recent increase in installed electricity capacity. Jammu & Kashmir doubled its capacity per capita between 2007 and 2012, from .5 GW to 1.0 GW per capita (fig 9). Other outstanding examples of recent capacity growth include Himachal Pradesh, West Bengal and Haryana.

Fig 9

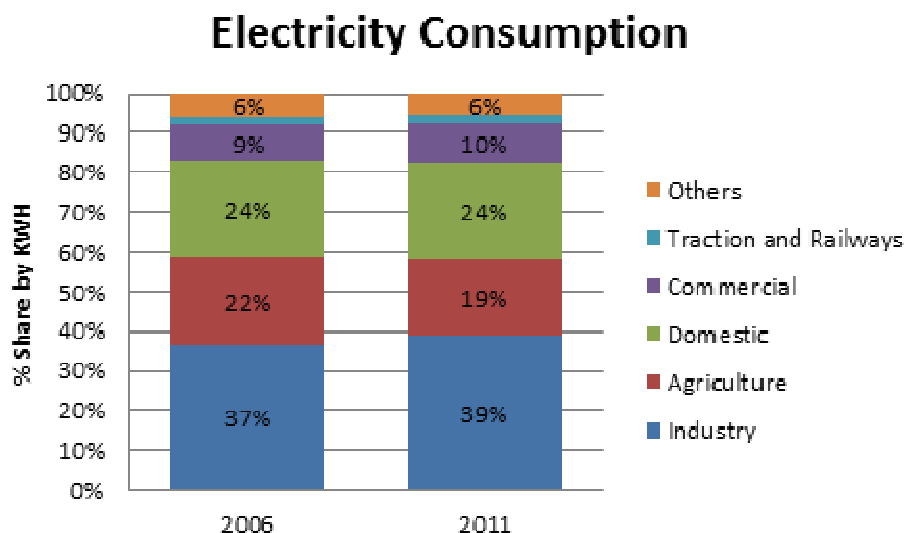
### Top 6 States by 2007-2012 Electricity Capacity per Capita Percent Change



Source: CEIC Data

As India becomes more industrialized, its energy needs have soared. The domestic industry accounted for 39% of total consumption during fiscal 2011, a 2-point increase compared to its share in 2006 (fig 10). Similarly with increasing reliance on energy intensive consumer appliances as opposed to labor intensive appliances to cool homes, provide entertainment at home etc., domestic consumption occupies the second largest share.

Fig 10



Source: CEIC Data

Sustaining the rapid growth in the economy that we have come to expect of the emerging economies, like India, while also meeting the growing use of electricity based appliances in household's demands an attention to this sector that is perhaps second only to food and water.