

Germany's Energy Talk

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Investing into transmission and distribution networks – Graph 2

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To set the record straight. In terms of country size and population, Germany is fitting into Maharashtra. In terms of total power generation and consumption India fits almost 1:1 into Germany. In other words total electricity consumption was about the same in 2005.

The second graphics in our series “Germany’s Energy Talk” shows the annual investment in the electrical power distribution and transmission system. In the case of Germany this means upgrading and modernisation with little expansion, because there is 100% electrification. However the very few 15 minutes to 2 hour forced outages that happened recently, received considerable attention in Germany. People are questioning to what extent investments in transmission and distribution upgrading had been neglected! In Germany one assumes a technical and economical life of the system T&D of 50 years. The total investment in modernisation and strengthening the German T&D system is therefore estimated at 40 Billion € (Rs. 2.2 Lakh Crore) until 2020. In other words on the average 2.85 Billion €/ year or Rs. 16,000 Crore/ year. The value of the entire power generation, transmission and distribution system of Germany if it were replaced today amounts to about 300 Billion (300,000,000,000) € or Rs. 1,650,000 Crore. One third of it is investment in power generation and two thirds are invested in transmission and distribution.

And how big is the German T&D network? It has the following length:

- 1,067,100 km Low Voltage, 0.4 kV
- 493,000 km Medium Voltage, 6 – 60 kV
- 75,000 km High Voltage, 60 – 220 kV
- 3,600 km Very High Voltage, 220 / 380 kV

In summation at all voltage levels and over 1,671,300 km length a total of 596,100 GWh have been transmitted and distributed in 2006 while 681,800 GWh were generated of which 66 GWh went into export.

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