



**INDIAN GOVERNMENT'S KEY TARGETS AND POLICIES
RELATING TO REDUCTION AND ELIMINATION OF ENERGY
POVERTY**

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ABSTRACT

This paper is a guide for the people highlighting Indian Government's key targets and policies relating to reduction and elimination of energy poverty in the country. It is a well-known fact that India is one among the developing Asian country behind in the energy production. For a developing country, the elimination of poverty is the base of planning process for the economy. The increased growth is regularly the vehicle to remove poverty, and decent energy is central to India's growth policy. Poverty is emulated not only in disposable income of a household, but also in the energy level available to household to equitable its need for cooking, lighting and worth full employment. There is an increasing recurrence of the importance of access to clean and reliable energy for poverty mitigation. Improving in the modern energy sources can make a difference in the human well-being and country's development.

KEYWORDS: Elimination of poverty, Targets, Utilization, Rural areas, Energy.

INTRODUCTION

Reliable and economical key to energy for lighting, heating, cooking, mechanical power, transport and telecommunications is significant to pursuing the goal of poverty eradication and wider sustainable development. This brief sets out how energy access should be implementing into wider up growth outcomes and to tackle poverty and inequalities. Energy

play a vital role in every human well-being life, energy gives every medium of access for a good life.

India's aspirations and awareness of inequalities can be powerful instruments of change. In the words of Jim Yong Kim, the President of the World Bank Group, "For a very long time, the rich have known to some extent how the poor around the world live. What's new in today's world is that the best-kept secret from the poor, namely, how the rich live, is now out."^[1] Recent speedup in India's growth may act as the motivation needed to reduce poverty rates. During the 11th Five-Year Plan period (2007–2012) India's GDP growth was 8%, compared with 7.6% in the 10th Five-Year Plan (2002–2007) and 5.7% in the 9th Five-Year Plan (1997–2002). The population down the poverty line declined at the rate of 1.5 percentage points per year from 2004–2010 and has been reducing faster in recent years. In 2009–2010, an estimated 29.8% of India's population of 350 million people lived below the poverty line.^[2] Energy poverty and the area of cross cutting development issues agenda cannot be meaningfully addressed without growth in financial, political and technical support decentralised energy plan. Electricity is more feasible, sustainable and cost effective to bridge many rural populations. In such context, deploying of grid electricity can be very slow, expensive and unreliable and importantly it is mostly dependent on Fossil fuel.

As per the "International Energy Agency (IEA), to reach the target of universal access by 2030, at least 55% of new electricity generation will have to acquire from decentralized mostly renewable energy sources".^[3]

Regard less, India is well steady to meet the Millennium Development Goal target of 50% reduction of poverty in between 1990 and 2015. Markedly, India has a younger population not only in comparison to advanced economies, but also in relation to some other large developing countries around the world. The working labour force in India is expected to increase in growth by 32% between 2012 and 2032, whereas it will decline by 4.0% in industrialized countries and 5.0% in China.^[4] These added workers can add to increase potential, provided that improved health facility services, education, and skill development are made available to make sure meaningful employment for India's young men and women.

Theory

Computing Energy Poverty in India

Poverty mainly conjugates with energy shortage. While there are many definitions for energy poverty, a practical view is that energy poverty is the lack of way in to present energy services. At the time of independence in 1947, India's entire electricity production capacity was merely 1362 MW, leaving most of the country without sufficient access.

In 2007 the International Energy Agency's World Energy Outlook (WEO) determined on China and India. To exactly pass on energy poverty and to permit for progress to be deliberate, the WEO used the Energy Development Index (EDI). Three indicators were used to calculate the EDI are as follows:

1. Split of households by means of cleaner, more resourceful cooking and heating fuels such as LPG, kerosene, electricity, and biogas
2. Share of households with right of entry to electricity.
3. Electricity utilization per capita.

Based on statistics from 2005, the normal EDI for India was 0.295; for reference, this was lesser than countries such as South Africa (0.808) and China (0.636), but superior than others such as Indonesia (0.263) and Bangladesh (0.123). Within the Indian states there was wide difference. The Union Territories had an EDI on top of 0.707, while 12 states had an EDI well under the national average, between 0.292 and 0.058. Vitality, five exceedingly populated states were among those with low EDIs: West Bengal (0.246), Jharkhand (0.171), Orissa (0.154), Uttar Pradesh (0.142), and Bihar (0.058).^[4] The 2007 WEO approximate that 412 million Indian people were lacking access to electricity in 2005. In the Reference circumstances for the future, 60 million people in rural India would still not have way in to electricity in 2030. The reference case also proposed that the number of people depend on wood and dung for cooking and heating fuels would turn down from 668 million in 2005 to 472 million in 2030.

The IEA also approximate that an asset cost of \$41/person, translating to a total price of US\$17 billion, would be essential to join all Indian people to electricity. A sum of over US\$6 billion has already been used up, as of March 2014, at the Rajiv Gandhi Grameen Viduyutikaran Yojana (RGGVY), a method aimed at building accelerated rural electricity infrastructure and domestic electrification. An equal quantity is dedicated to be depleted over the next three years.^[5]

Based on information collected in India's 2011 census, Table 1 provides the number of households using many sources of lighting. Now a days, electricity supplies almost 67% of lighting. In some cases, houses may be related to the grid, but may not collect reliable or enough electricity, due to scarce generation or transmission ability or theft. Illegal links and aging infrastructure are major challenges in front of India's energy suppliers. Loss of revenue and hazardous conditions disclose the need for major improvements.

Table 1: Source 2011 census of India.

| Area | Total Number of Households | Main Source of Lighting | | | | | |
|--------------|----------------------------|-------------------------|------------|--------------|---------|---------|-------------|
| | | Electricity | Kerosene | Solar energy | Oil | Other | No lighting |
| Total | 246,740,228 | 165,935,192 | 77,552,588 | 1,087,175 | 505,723 | 494,526 | 1,165,054 |
| Rural | 167,874,291 | 92,845,936 | 72,442,827 | 916,485 | 408,071 | 362,742 | 898,230 |
| Urban | 78,865,937 | 73,089,256 | 5,109,731 | 170,690 | 97,652 | 131,784 | 266,824 |

India's lane to improve Energy Poverty

In a complete analysis of energy poverty and its ramifications. I consider the following steps as urgent attention.

1. Raise of energy accessibility and availability for commercial use.
2. Endorse all forms of power generation, if possible with cleaner fuels.
3. Focus without delay on reasonable power.
4. Advance availability of power through healthy sharing utilities.
5. Increase rural electrification
6. Take on household electrification in rural areas that are economically weaker.
7. Promote better cook stoves for biomass fuel in rural areas
8. Improve energy efficiency to shrink power utilization and requirement.
9. Encourage clean coal technologies.
10. Increase energy security through the greater removal of domestic fuel.

Energy on Money

Being profoundly reliant on high-priced oil imports, which could fill up to 85–90% of oil demand in the upcoming decades, India's choices are restricted. Although the under-recoveries of state-run oil marketing companies due to the sale of subsidized diesel, kerosene, and LPG were Rs.161,000 crore (1 crore = 10 million) in 2012–2013 and Rs.140,000 crore in 2013–2014.¹³ This is on the order of US\$24 billion annually. There is also a subsidy of Rs.450 on each cylinder of LPG and a subsidy of nearly Rs.34 on each litre of kerosene.

Moreover in the foreign exchange issue there is also the weight incurred for very much subsidizing these fuels. This leads to no feasible option other than pushing for electricity, basically coal-fired, to meet the need for reasonable energy.

Table 2. It includes the authentic and projected sources of electricity. In 2012, coal accounted for 56% of the installed power capacity and 70% of generation. In the 12th Five-Year Plan the Planning Commission projected future sources of electricity. In 2017 the share of coal was projected to be 57% of capacity and 69% of production. Due to a major importance on new renewable, hydro and natural gas's collectively share in generation was expected to be only 14% by 2030.^[6]

Table 2: India's Projected electricity sources through PCI (2013).^[7]

| | Capacity (%) | | | Generation (%) | | |
|--------------------|--------------|------|------|----------------|------|------|
| | 2012 | 2017 | 2030 | 2012 | 2017 | 2030 |
| Coal | 56 | 57 | 42 | 70 | 69 | 58 |
| Oil | 1 | 1 | 0 | 0 | 0 | 0 |
| Natural Gas | 9 | 6 | 3 | 7 | 5 | 3 |
| Hydro | 20 | 15 | 13 | 14 | 12 | 11 |
| Renewables | 12 | 17 | 33 | 6 | 9 | 16 |
| Nuclear | 2 | 4 | 9 | 3 | 5 | 12 |

RESULT

Reviewing the genuine electricity capacity reveals that even the current ongoing projections underestimated coal's role. As of 31 March 2014, the capacity of coal was nearly 60% (see Figure 1), as nearly three percentage points more than projections for 2017.

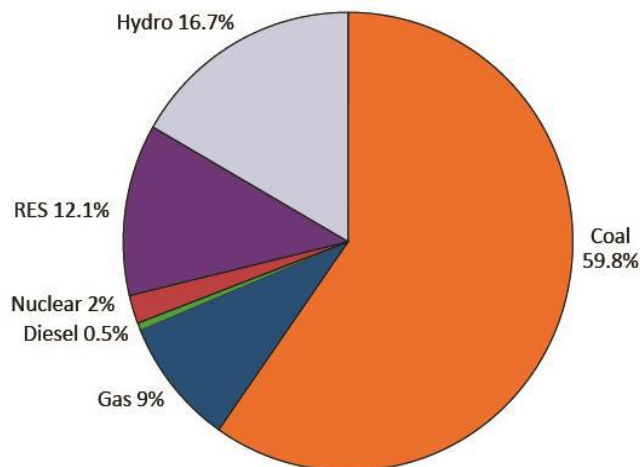


Fig. 1: Installed electricity capacity as of 31st March 2014.

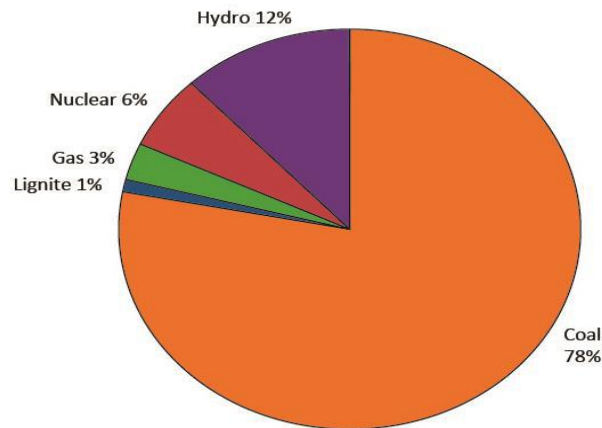


Fig. 2: On grid electricity capacity.

CONCLUSIONS

India is an energetic democratic country strong-minded to root out poverty and energy poverty. The ongoing process may be slow, but it is steady. Victory will lie in optimizing domestic strengths, indigenous wealth, and the best technologies worldwide. Progress can be highlighted by the fact that per capita power consumption practically doubled between 2002 and 2013, from 567 to 912 kWh. Power shortages have decreased by more than half within the last two years across Indian states. The silent uprising should conclude in extending profit of useful, affordable, efficient, and sufficient energy to all.

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