Aussie coal is not India's answer

What Indians need is affordable, environmentally benign, locally-generated renewable energy, not Australian coal.

EAS SARMA

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Around 145 million households are without electricity in India, largely due to the high cost. But Australian coal is not the answer, E.A.S Sarma, former Secretary of the Indian Government's Ministry of Power explains.

Prime Minister Tony Abbott's recent statement in *The Australian,* that Adani's Carmichael coal mine in Queensland is "absolutely critical for the welfare literally of tens of millions of people in India" and "will provide for decades to come for 100 million people in India who currently have no power," lacks appreciation of the reality on the ground.

The number of households without electricity in India is significantly large. Though the country added 95,000 MW of new generation capacity during 2002-2012, the number of households without access to electricity remained steady at around 145 million during the corresponding timeframe. The primary reason for this is the high cost of electricity.

Despite subsidies, the average domestic tariffs have remained high, around 4-11 cents/kwh, and most households cannot afford such expensive electricity. Moreover, many households live in makeshift shelters for which it is difficult to provide electricity.

About the Author

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Dr EAS Sarma is a former Secretary to the Government of India in the Ministries of Power and Finance. He was earlier Principal Adviser (Energy) in the national Planning Commission.

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There are several reasons for the high cost. The Indian electricity supply system is heavily skewed in favour of coal-based power, which can only cater to the steady component of the demand, not the peak-time demand. Such a supply system results in peak-time shortages and makes electricity expensive. Over the years, the excessive emphasis on adding new generation capacity at the expense of the transmission and distribution (T&D) facilities has diminished the supply reliability and resulted in high T&D losses, averaging over 20 per cent, which in turn has added to the cost. Also, there are hundreds of villages in remote areas far away from the grid, and extending the grid to them is difficult and cost intensive.

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In other words, adding new coal-based power to the grid will only accentuate the electricity generation mix imbalance, and add to the already high cost of electricity, making it difficult for low-income households to take advantage of it. What is urgently needed is to step up investments on the T&D system to bring down the T&D losses, and add new generation capacities that can meet peak-time demand. The future emphasis should be on distributed generation facilities that can provide electricity to remote villages, and roof-top solar generators wherever feasible.

According to an analysis, when a village is more than 5 kilometres from the grid, the cost of supplying electricity from solar and other off-grid facilities is far below the cost of supply from conventional sources such as coal. This is due to the high cost of building the T&D system. Moreover, the unit cost of solar electricity is declining significantly.

There is also a growing public opposition to industrial projects, especially large centralised power plants, such as coal-based and nuclear plants, as they uproot thousands of families from their lands, pollute their environment and disrupt their lives. Burning coal, whether local or imported, generates large quantities of fly ash containing toxic pollutants like lead, zinc, arsenic, cadmium, sulfur, mercury and radioactive uranium/ thorium isotopes, which adversely affect the health of the people near the power stations, often the rural poor.


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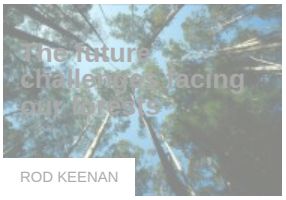
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A study on people residing near coal-based power plants along the border of Uttar Pradesh and Madhya Pradesh has revealed unsafe levels of mercury in their blood samples, at times as high as 110 parts per billion (ppb). The safe limit set by the United States Environment Protection Agency (USEPA) is 5.8 ppb.

Similarly, studies around a coal power plant in the Punjab have indicated widespread radioactive contamination of the environment, impacting the health of pregnant women and children.

Such huge social costs outweigh the perceived benefits of coal.

India is a large coal producer and plans are afoot to reduce its dependence on coal imports. As a result, non-coking coal imports have since declined from 131 million tonnes in 2013-14 to 39 million tonnes in 2014-15. Most of the imported coal comes from sources other than Australia, which are cheaper than Australian coal. A study from the Institute of Energy Economics and Financial Analysis has shown that the cost of producing electricity using imported Australian coal in India is double the current average wholesale cost of electricity. Indians simply cannot afford expensive Australian coal.

Image by Biswarup Ganguly on Wikimedia Commons. https://commons.wikimedia.org/wiki/File:Coal_Miners_1993.JPG

Though India is endowed with large coal resources of its own, the extractable deposits will not last more than 15-20 years. It can ill afford expensive imported coal. Hydrocarbon resources are equally scarce and nuclear power is beset with huge potential risks and inter-generational health impacts. India's energy options are therefore limited. There is no viable alternative to a decisive shift towards energy efficiency improvements and renewable energy development based on distributed generation.

India is endowed with a vast solar energy potential of about 5,000 trillion kWh per year, with most regions receiving 4-7 kwh per square metre per day. Assuming that 10 per cent of it could be converted into electricity, 0.22 per cent of that potential can generate as much electricity as presently generated.

Australian coal, like any other coal, will adversely impact the health of the people and, in view of its high cost, it will not benefit those who currently have no access to electricity. What Indians need is affordable, environmentally benign, locally-generated renewable energy, not coal.

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ecojag
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REPLY

145 million Indians can't afford energy costs from present dirty mix of fossil fuels & ineffective infrastructure delivery. 1200 million Indians have access to an abundant energy source. It's 8 minutes away, it's wireless, it's safe and it's free: it's the sun. Nature has been using it effectively almost for forever, but we have Show more

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