

## Coal-fired projections: on the draft energy policy

The [NITI Aayog's Draft National Energy Policy](#) (DNEP) predicts that between now and 2040, there will be a quantum leap in the uptake of renewable energy together with a drastic reduction in fossil fuel energy intensity. Because of economic and population growth, India's annual per-capita electricity consumption is expected to triple, from 1075 kWh in 2015-16 to over 2900 kWh in 2040. The DNEP assumes 100% electrification throughout India in the near term — Prime Minister Narendra Modi recently announced that the government will invest \$2.5 billion to provide electricity connections to every home in India by the end of 2018 — and steadily improving energy efficiency. But the DNEP fails to consider several critical issues involved in the ongoing energy transition.

Despite the fact that existing coal plants are running at low efficiencies, the DNEP relies on coal power to sustain the nation's base load requirement to meet rising energy demand. It proposes that coal will fuel 67% of India's power generation in 2022.

The first anomaly is that while India claims it will make a big push for renewables, it will continue to rely on coal for its baseload generation. While renewables grow, coal power grows too. This duality is possible because India did not commit to any actual reductions in its greenhouse gas emissions at the Paris climate meeting in 2015.

The second anomaly is that even with this target, India will need only 741 million tonnes of coal in 2022 and 876 million tonnes in 2027. But the Ministry of Coal continues to push its ambitious targets to raise coal production to 1.5 billion tonnes by 2020, of which 500 million tonnes is expected to be produced by private coal mines and about 1 billion tonne by the public sector.

The DNEP does not say what would be the fate of new allottees of coal mines which have bid aggressively and won rights to mine coal for captive power generation. What would they do with their coal if they can't generate power with it? Generation of power is licence free under the Electricity Act of 2003, so private miners do not need any licence to set up generating plants. All they need is a connection to the grid. Since the grid is State-owned, the Central government has adequate leverage to defer or delay connections.

In the past three years, with slow industrial growth, independent coal producers have been faced with reduced demand for their power. Power plants, both public and private, have been running at merely 60% plant load capacity utilisation. Coal producers await respite and look to the ministries of coal and power for support. Such support may not be forthcoming. The conventional power industry already suffers a high level of bank loan defaults, insolvency and other legal proceedings. It is not surprising that new energy investors are crowding the nascent solar space.

The DNEP fails to highlight the gradual substitution of internal combustion engines with electric vehicles. Several European nations have announced their plans to go for 100% electric vehicles in the next two decades. This transformation in the automobile sector could be accompanied by grid- and consumer-level electricity storage at homes, offices and factories. While storage and electric vehicles are cursorily mentioned, the DNEP does not focus on these crucial subjects.

The DNEP acknowledges that India's oil consumption has grown 63% from 2005 to 2016 whereas refining capacity has grown only 15%. Gas consumption has increased 38% while production has actually fallen since 2012. India's energy security does require a large strategic storage of oil to take care of any vagaries in its international supply chain. India has been building up its stored reserves while international oil prices have dropped in the past couple of years. But the strategic storage of oil does not tackle the systemic causes of this high dependence on oil.

The peaking of India's oil demand could have been envisaged but has not been identified in the DNEP. On the one hand, the draft policy recognises that by 2040, India's oil import dependence may reach 55% from the current level of 33%. On the other hand, it offers nothing to curtail such dependence. All that the DNEP offers is to promote use of public transportation and railways to reduce oil consumption. Unless electric transport is carefully planned, India's dependence on imported oil is likely to continue.

The drafting committees need to examine the paradigm shifts occurring in storage and electric vehicles to promote new technologies in renewable energy, such as smart grids, smart homes, battery storage and concentrated solar heat and power. Why has India missed the revolutions in these technologies? India has also missed opportunities in the manufacturing of equipment. New institutions, organisations and funding mechanisms for promoting renewable technologies need to be created not later than this year's end.

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