

## **Price and privatization Strategy towards developing energy sector in Andhra Pradesh**

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### **Abstract:**

The present paper is aim to present the Price and privatization Strategy towards developing energy sector in Andhra Pradesh. Andhra Pradesh has ambitious plans to increase its renewable energy capacity 2.5 times to 18 GW by 2022 and then four times by 2029. However, there are gaps that need to be addressed, if the state is to achieve this. In the tale of reforms, Andhra Pradesh has moved from a price- and privatisation-focused effort to one that aims to put consumers up front. If it fails, the results would be dismal and all too familiar like low tariffs combined with growing stranded capacity as new generation finds no takers, and declines in cross-subsidies as industrial customers flee. Andhra Pradesh must introduce time-of-day pricing to help manage peak demand and variability for renewable energy while providing a better deal for consumers.

**Key words:** Privatisation, low tariffs, energy technologies

### **1.0 Introduction**

The present paper is aim to present the Price and privatization Strategy towards developing energy sector in Andhra Pradesh. Situated in south-east India, the state of Andhra Pradesh is a leading producer of renewable energy with 7.2 GW of installed capacity as of December 2018. The state's share of renewable energy as part of total capacity has trebled in the last four years from 11% in 2014 to 30% in 2018. Andhra Pradesh has ambitious plans to increase its renewable energy capacity 2.5 times to 18 GW by 2022 and then four times by 2029. However, there are gaps that need to be addressed, if the state is to achieve this. In the tale of reforms, Andhra Pradesh has moved from a price- and privatisation-focused effort to one that aims to put consumers up front.

## **2.0 Policy Framework for promotion of Renewables**

The policy framework is the key to the success of renewable energy in any country. Policies aim at overall development and promotion of renewable energy technologies (RETs) and its applications. Policy initiatives encourage private sector to take part in renewable business as per provision of fiscal and financial incentives for a wide range of renewable energy (RE) programmes. Policies are largely financial, fiscal incentives or special directives aimed to encourage or enforced utilities to buy RE power, promoter companies to set up RE projects, equipment companies to manufacture RE equipment or private and government entities to undertake R&D relating to RE. In India, policy initiatives encourage domestic private investments with a provision of fiscal and financial incentives such as tax holidays, accelerated depreciation and duty rebates. At the central level, policy measures are administered through the Ministry of New and Renewable Sources (MNRE). The state governments contribute by making available infrastructural facilities for wheeling of power and buying power from renewable units.

**2.1 Foreign Investment Policy :** Foreign investors can enter into a joint venture with an Indian partner for financial and/or technical collaboration and for setting up of RE-based power generation projects. Proposals for up to 100 per cent foreign equity participation in a joint venture qualify for automatic approval and with this 100% foreign investment as equity is permissible with the approval of the Foreign Investment Promotion Board (FIPB). The Government of India encourages foreign

**2.2 Industrial Policy** In industrial policy, MNRE is promoting medium, small, mini and micro enterprises for manufacturing and servicing of various types of RE systems and devices. For setting-up of an RE industry, industrial clearances as well as no clearance is required from Central Electricity Authority (CEA) for power generation projects up to Rs 1,000 million.

**2.3 Joint Ventures Policies** Joint ventures are a financial as well as technical collaboration and they are used by foreign investors as it provides maximum visibility and presence in the country. A foreign investor can enter into a joint venture not only for manufacturing RE products and systems, but also in setting up RE-based power generation projects. Usually joint ventures are in the form of takeovers or strategic alliances with the existing reputed companies with a niche market. A foreign investor can set up a liaison office as an intermediate step before entering into a joint venture.

### 3.0 Energy Strategy reforms in Andhra Pradesh

Andhra Pradesh's power sector is going through a second phase of reforms. The first (1999-2004) was widely seen as focused on privatization of electricity distribution; this time the goal is to ensure affordable and reliable power supply for all. The state government has pledged to keep retail tariffs unchanged in the coming years for all consumer categories, while improving the quality of supply and service.

At present, the central government is pushing strongly to raise retail tariffs to reflect the rising costs of supply, a target set for states under the UDAY scheme for discoms' financial turnaround. This makes Andhra Pradesh's plan—to improve electricity without any additional cost burden on the consumers—particularly intriguing. Can Naidu pull off this trick while avoiding negative consequences for the state's electricity sector? What are the consequences of failure?

The context for this latest gambit is the reform effort of 1999-2004. Despite backing by the chief minister, supportive and skilled regulators and utilities, and the central government, the plan to improve discoms' health through tariff and management reforms did not receive public support. Although discoms registered efficiency gains, the public focused on the accompanying tariff hikes, which caused mass agitation. Some have suggested this was central to the state defeat in the 2004 state assembly election.

In his return to power in 2014 in a smaller Andhra Pradesh has devised a reframed reform strategy. First, consumers are at the centre of reforms and are promised high-quality service at affordable prices. Notably, however, this does not include promises of a 24/7 supply of free power to farmers, as in Telangana.

Second, the reform relies on disruptive technologies to bring down discoms' power bills through a five-point strategy:

- Improve supply through enhanced renewable energy (RE) generation, energy storage technologies, and full capacity utilisation of conventional power plants;
- Implement energy efficiency measures;
- Strengthen the transmission and distribution (T&D) network to bring down losses to below 6 percent;

- Adopt information technology for better consumer services;
- Improve financial management of power projects, including loan swaps.

There are early signs of progress. The state has achieved 7 GWs of RE installed capacity, which is 10 percent of national RE capacity and 30 percent of the state's total generation capacity. To complement RE capacity, Andhra Pradesh has inaugurated the first thermal battery plant of India and allocated more than 100 acres for energy storage projects. The state has set a target of 10 lakh (1 million) electric vehicles on the road by 2023, backed by a dedicated electric mobility policy and planned investment of Rs 30,000 crore (300 billion rupees). Andhra Pradesh has emerged as a national front-runner in the State Energy Efficiency Preparedness Index. To improve efficiency and reliability of the T&D network, the state initiated a \$570 million project last year, with donor assistance.

What works in the state's favour is that it has some breathing room to manoeuvre because of several reasons. After the bifurcation of the state, Andhra Pradesh gained from a slight reduction in subsidised load (domestic and agriculture) and aggregate technical and commercial (AT&C) losses. Since it is a relatively wealthy state, it has managed a persistent revenue gap by increased state subvention, from 12 percent of discoms' revenue requirement in 2014-15 and 2015-16 to 19 percent in 2018-19, as illustrated in figure. This has prevented a decline in quality of service.

In September 2018, the per-unit revenue gap was 0.06 rupees, one-fifth the national average, and AT&C losses were 11 percent, half the national average, as reported by the UDAY portal. These developments make Andhra Pradesh a leader in UDAY target achievements while providing the fiscal space to manage the political demands for explicit subsidies. Further, Andhra Pradesh has ambitious plans to increase its renewable energy capacity 2.5 times to 18 GW by 2022 and then four times by 2029. However, there are gaps that need to be addressed, if the state is to achieve this.

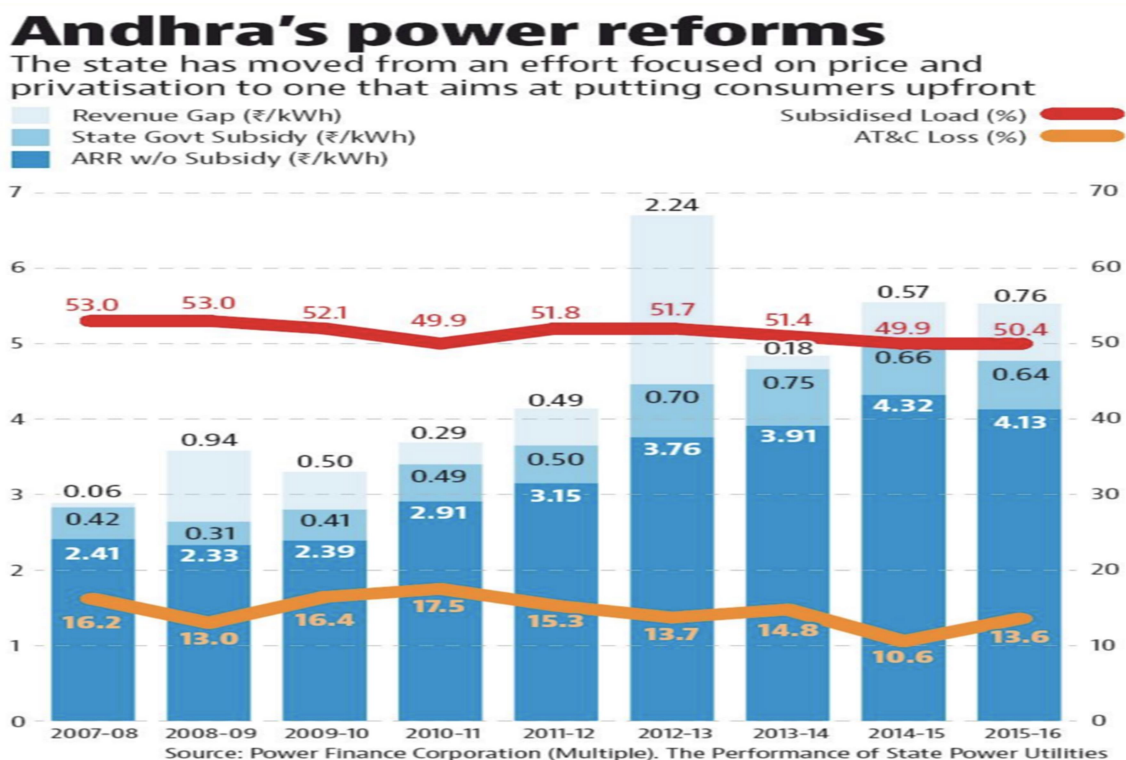


Fig 1: Bar Chart Illustrating Andhra's Power reforms .

However, for long-term gains, the state will need to use this breathing room to bring down the costs of supply and create enough demand for the additional power capacity it is adding through RE and augmented capacity utilisation. Naidu hopes his plans for industrialisation will absorb the surplus power. Whether this works will depend on growth in industrialisation as well as proper resource planning for the additional generation capacity.

Notably, Andhra Pradesh has sought to capture the gains of falling RE generation costs as technology improves. The counter, and more problematic, story is that industrial consumers would leave the grid to capture these gains through direct installation of RE, which would cut into the cross-subsidy available for poorer customers. Andhra Pradesh is seeking to manage this transition by proactively adopting these disruptive technologies in an effort to reduce the power bills for all, but also retaining industry through improved quality and a stable tariff.

In the tale of reforms, Andhra Pradesh has moved from a price- and privatisation-focused effort to one that aims to put consumers up front. If it fails, the results would be dismal and all too familiar: low tariffs combined with growing stranded capacity as new generation finds no takers, and declines in cross-subsidies as industrial customers flee. But the reforms are designed specifically and deliberately to avoid these traps, which is what

makes them interesting. If Andhra Pradesh succeeds, it will signal an alternative, consumer welfare-focused model of power reforms. While it is too early to predict success, this is an effort worth watching.

#### 4.0 Conclusion

Andhra Pradesh is in an advantageous position with installed capacity of gas and pumped hydro storage that can provide balancing power when renewable energy is not available. The state should adopt an all-inclusive portfolio of flexible power technologies comprising gas, pumped hydro storage, concentrated solar thermal and batteries, etc., along with demand side response management to incentivise consumers to respond to periods of peak demand by automatically curtailing unnecessary demand. Andhra Pradesh must introduce time-of-day pricing to help manage peak demand and variability for renewable energy while providing a better deal for consumers. The state could also minimise risk by facilitating land acquisition and grid availability, etc. like industrial solar parks dramatically reduce land acquisition and grid connection risks, both allowing national and international capital to flow, while lowering the cost of capital and hence the tariff required.

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