

# POWER FOR ALL FACT SHEET

## Jharkhand sets to improve rural electricity service and provide green jobs with renewables

### POWER FOR ALL

Jharkhand is one of states where decentralized renewable energy (DRE) technologies have the highest potential to provide clean, high-quality electricity, while providing employment and improving social services, especially in its rural areas. A state with India's richest coal reserve, Jharkhand is instead turning to renewable energy to serve its population. This Fact Sheet provides data from the Council for Energy, Environment and Water (CEEW)<sup>1</sup> and the Initiative for Sustainable Energy Policy (ISEP)<sup>2</sup> that highlights why Jharkhand has chosen this path and the opportunities arising from its transition towards a clean and just energy future.

## 3%

HOUSEHOLD ELECTRICITY  
CONNECTIONS FROM DRE IN  
JHARKHAND

## 500MW

JHARKHAND ROOFTOP  
SOLAR TARGET BY 2023

## 3x

INCREASED USE OF  
ELECTRICITY AS A PRIMARY  
SOURCE OF LIGHTING FROM  
2015 TO 2018

**Jharkhand has made great strides electrifying its population, from a 10% rural electrification rate in 2001 to 87% by 2019. The state also observed a significant shift away from kerosene to electricity for lighting.**

- » In 2001, the state had only 10% of its rural population electrified; by 2011, the number jumped to 32%; by 2018, 83% of rural households were connected to the national grid. The latest data in 2019 showed that 87% of the households had access to electricity from either national grid or DRE. (J1, p.25; J2, p.14)
- » The success can be attributed to the Saubhagya scheme<sup>3</sup>, which has connected 1.5 million households in Jharkhand to the national grid. (J2, p.8)
- » Rural households are shifting away from kerosene as a primary source for lighting. Between 2015–18, rural households that use kerosene as primary light source reduced by more than half (76% to 34%) while those that use electricity grew by three-fold (20% to 60%). By 2019, 84% of rural households used electricity as their primary source of lighting while only 13% relied on kerosene. (J1, p.25; J2, p.15)

**Access does not translate to actual consumption. Rural households in Jharkhand face a bottleneck for higher consumption and many fall back to being unelectrified. Affordability and reliability are the main challenges of grid electricity.**

- » Between 2015–18, about one-fifth of the rural households in Jharkhand moved from Tier 0 (<4hrs of access) to Tier 1 (4-8hrs). However, the number of households with Tier 2 (8-20hrs) consumption increased by barely 2%. (J1, p.26)
- » 50% of unelectrified households could not afford a connection, while 44% could not afford the monthly bill. About 26% of unelectrified households had previously been connected but lost their connections due to inability to pay or a breakdown in supply/infrastructure.
- » Even when connections are given for free, 10% still choose to stay unconnected, indicating that the challenge of higher electricity uptake does not lie only in access. (J2, p.16,19,27)
- » Likewise, affordability is not the only barrier to higher tier consumption - 74% of Tier 1 households found reliability to be the primary issue to progress into the next tier. (J1, p.28)
- » Hours of grid electricity supply improve only marginally from a median of 8 hours in 2015 to 9 hours in 2018 and 2019. Reliability of supply varies greatly between states, from 4 hours in Garhwa to 16 hours in Ranchi. (J1, p.27; J2, p.18)
- » Only 51% of grid-connected households are metered and only 54% receive bills. Inefficient metering and irregular billing not only discourage end-use consumption, but also result in the poor financial situation of the state distribution company. (J2, p.6,20,21)

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### By the Numbers:

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**With strong support from government and partners, DRE is well-positioned to address these challenges, with higher customer satisfaction rates and better reliability.**

- » 97% of electrified households in Jharkhand have access through the national grid while 3% have electricity access from DRE, such as micro-grid or solar home systems. (J2, p.14)
- » Of the 30 MW of installed solar capacity in 2018, 16% was from off-grid solar. In addition to existing high adoption of DRE, the Jharkhand State Solar Rooftop Policy also set a target to deploy 500 MW rooftop solar capacity by 2023.<sup>4,5</sup>
- » Of those rural households in Jharkhand with electricity access only 36% are satisfied with their electricity service, while another study in 4 other states shows 80% household satisfaction rate for mini-grid electricity.<sup>6</sup> (J2, p.17)

**The shift away from fossil fuel to renewable- and electricity-based energy consumption provides employment opportunities. Upskilling and retraining the workforce is necessary to protect the rural, vulnerable population from the job displacement effect of this transition.**

- » Jharkhand has India's richest coal reserve and the industry employs many people. About 1% of the rural population surveyed by ISEP is directly employed by the coal industry, with many more potentially benefiting from indirect and informal opportunities. (J2, p.33)
- » Direct, formal coal employment, however, has dropped by 16% between 2013–18 in Jharkhand. On the other hand, in 2018, DRE already provided 90,000 direct, formal jobs in India, and has a 2x-5x rural employment impact potential through creating informal and productive use jobs.<sup>7</sup> (J2, p.34)
- » Transitioning coal workers into other alternatives is difficult. The decreasing coal demand is leaving the unskilled, rural coal workers with few other employment options. Many would turn to illegal mining, or migrate to cities. (J2, p.38) ISEP recommends upskilling and retraining the coal workforce to integrate into the growing DRE sector.

### Share the Message

- » Jharkhand has made significant progress providing rural electricity access. Despite improved access, however, affordability, quality and reliability challenges persist.
- » DRE is responsible for 3% of connections across the state and generally accounts for higher customer satisfaction.
- » Integrating decentralized renewable energy provides an opportunity for rural population in Jharkhand to enjoy higher quality supply while potentially mitigating the job displacement effect of declining coal consumption.

### Sources:

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2. Aklin, M., Blankenship, B., Nandan, V. and Urpelainen, J. "Energy in Rural Jharkhand." ISEP and Oak Foundation, Jan. 2020. (Herein J2)
3. Accessible online: <https://saubhagya.gov.in/>
4. "Jharkhand State Solar Rooftop Policy 2018." Government Jharkhand, Dec. 2018.
5. "Energy Status Paper: Jharkhand," Center for Environment and Energy Development, Aug. 2018.
6. "Rural Electrification in India: Customer Behaviour and Demand." Smart Power India, Feb. 2019.
7. "2019 Power Jobs Census: The Energy Access Workforce." Power for All, Jul. 2019.