

POWER FOR ALL RESEARCH SUMMARY

Jobs, decentralized renewables, and the energy transition

**POWER
FOR
ALL**

109,000

DIRECT, FORMAL DRE JOBS
ACROSS INDIA, KENYA AND
NIGERIA

5x

SIZE OF PRODUCTIVE USE
WORKFORCE COMPARED TO
DIRECT, FORMAL
WORKFORCE

1 in 4

WOMEN IN THE DRE
WORKFORCE

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As part of the Powering Jobs campaign, in late 2018 Power for All conducted the first comprehensive jobs census of the decentralized renewable energy (DRE) sector, covering pico-solar appliances, solar home systems (SHS), standalone and grid-tied commercial and industrial (C&I) systems, mini-grids and productive use applications such as solar water pumps. We synthesize key findings in three countries – India, Kenya and Nigeria.¹

The DRE sector is a significant employer in emerging economies that suffer from high rates of joblessness. Although nascent and just beginning to scale, it has already grown a workforce comparative to the utility power sector and has wide, positive impact through formal, informal and productive use jobs.

- » In 2017–18, the DRE sector in India provided as many direct, formal jobs (95,000) as the on-grid solar PV sector (92,400)². In Kenya, DRE accounted for 10,000 jobs compared to 11,000 from the national utility KPLC.³ In Nigeria, DRE accounted for 4,000 jobs, compared to 10,000 by the electricity, gas, steam and air conditioning sector.⁴
- » By 2022–23, the direct, formal workforce could grow 100% in India, 70% in Kenya and more than 10 fold in Nigeria, reaching 190,000, 17,000 and 52,000 jobs respectively.
- » In 2017–18, the DRE sector accounted for 210,000 informal jobs in India, 15,000 in Kenya and 9,000 in Nigeria – almost double the size of the direct, formal workforce.
- » By 2022 – 23 the sector could provide as many as 210,000 direct, informal jobs in India, 30,000 in Kenya and 24,000 in Nigeria.
- » Early and rough estimates of productive use jobs stimulated through new or improved electricity access in 2017–18 show 470,000 jobs provided in India, 65,000 in Kenya and 15,000 in Nigeria – five times the size of the DRE sector’s direct, formal workforce.

Pico-solar appliance and SHS companies are currently the jobs engine of the DRE sector, though employment from mini-grids is likely to grow, match and potentially exceed in some regions.

- » In 2017–18, pico-solar appliances and SHS dominated the DRE market accounting for the vast majority of jobs in the sector. But as more national electrification strategies focus on mini-grids and productive use applications, employment trends may evolve.
- » In India for instance, pico-solar appliance and SHS companies accounted for 97% of direct, formal jobs in 2017-18. But if government-led mini-grid targets are achieved, by 2022–23 mini-grids would grow to account for half of total direct, formal jobs⁵
- » Similarly, in Kenya, pico-solar appliance and SHS companies provided 78% of direct, formal jobs in 2017–18 while mini-grids accounted for 3%. With strong investment in mini-grids expected, they would make up 29% of direct, formal jobs by 2022–23.
- » In Nigeria, standalone and grid-tied C&I companies lead the sector and provided 71% of direct, formal jobs. To achieve the government’s Vision 30:30:30 with mini-grids as the centerpiece, 50,000 mini-grid jobs will be needed, accounting for 96% of direct, formal jobs by 2022-23.

The DRE sector provides skilled, middle-income and long-term work. Sales and distribution skills are important for sustaining the sector, while management skills represent a critical gap for unlocking further sectoral growth.

- » More than two-thirds of the DRE workforce is skilled, compared to 50% for the global utility-scale solar sector workforce.⁶

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- » Average non-managerial DRE wages fall in the middle-income range for each respective country: US\$200–2,000 in India, US\$760–1,200 in Kenya and US\$480–645 in Nigeria.^{7,8,9}
- » Pico-solar appliance and SHS companies depend heavily on sales and distribution and tend to leverage a large informal workforce for product sales through distributed networks making sales and distribution the largest jobs function.
- » Importantly, while business and management job functions only comprise a fifth of the sector's direct, formal jobs, across all countries surveyed this is reported as the most critical and most difficult skill set to recruit, representing a significant skills gap.
- » General business "soft skills", such as business ethics, personal protection and strategic planning, were also noted a major skills gap, needed across all job functions and company types.
- » Employee retention for direct, formal jobs in the DRE sector averages more than 30 months for all 3 countries, longer-term than the jobs created by the utility-scale renewable sector on average.¹⁰

Women account for only a quarter of direct, formal jobs, but a high share of informal jobs. Youth participation in the sector is high. Opportunities exist to increase the role of both groups.

- » Women's participation in the DRE sector is low, at approximately 25% across all three countries, slightly lower than the 32% of the broader global renewable energy sector.¹¹
- » The percentage of women in DRE leadership roles is also approximately 25% across each country, except India, where it is lower, at less than 20%.
- » Conversely, the percentage of women engaged in informal work is high. In India, as much as 60% of informal jobs are taken up by women. This may be due to the recognized importance of women in rural sales and distribution networks.
- » In India and Kenya, more than 40% of the workforce are youth though currently in Nigeria the youth participation rate is 28%.
- » DRE companies agree that there is a strategic opportunity for women's and youth participation if business culture, recruitment and skills development challenges can be overcome.

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- » DRE is an engine for creating good, skilled jobs in emerging economies through formal employment, with 2 to 5 times more jobs being created through informal work and productive use.
- » The sector is already employing as many workers as traditional power utility sectors, and it has just started to scale. Further policy support will reinforce this opportunity and alleviate high unemployment.
- » The DRE sector is still a largely untapped opportunity for creating jobs for women and youth. At present, less than 25% of the workforce are women. Women's participation brings proven benefits, especially in sales and distribution.

Sources:

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