

SURVEY RESULTS: SCOPING INTEREST IN THE SOUTH AFRICAN DISTRIBUTED ENERGY GENERATION SECTOR

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This briefing note reports on the key results of a short ‘snapshot’ industry survey (239 respondents)¹ aimed at gauging interest in the renewable energy (RE) distributed generation sector in South Africa.

KEY SURVEY RESULTS

1. There is very substantial interest in the uptake of distributed generation in South Africa over the next five years, particularly in the form of solar PV, wind, and battery storage projects.
2. Survey respondents expressed interest in both on-site generation by or for a user of electricity, as well as off-site generation for wheeling across the grid between a generator and a user of electricity.
3. Respondents expressed an interest in a range of ownership options with an even split between those wanting to generate electricity for their own use, those wanting to sell electricity to one other user, and those wanting to sell electricity to multiple other users.
4. 61% of respondents that have experience in and/or interest in developing RE distributed generation projects have been dissuaded from doing so due to unfavourable RE policy, legal, regulatory, planning, electricity price or tariff issues in South Africa.
5. The two most pressing barriers to distributed generation deployment listed by respondents were policy uncertainty and mixed messaging in respect of South Africa’s stance on renewable energy, and a restrictive and inadequate regulatory framework for distributed generation uptake.
6. Other barriers that were listed include the time taken to obtain Eskom or municipal grid connection permission, capital cost and lack of clarity on a wheeling framework.
7. If the threshold for licencing projects was lifted to 50MW or higher, it is likely that there will be significant additional uptake of distributed generation in South Africa. Based on survey responses, calibrated by estimates by other researchers and relevant international experience, we make a conservative estimate that at least approximately 5000MW of additional capacity could be unlocked over the next 5 years in residential, commercial, industrial, and agricultural sectors.

¹ The survey was conducted in December / January 2020/21 by EE Business Intelligence at request of Meridian Economics. It was aimed at municipal, public sector, commercial, industrial, mining and agricultural customers of electricity in South Africa; developers of distributed renewable energy (RE) installations to these sectors; Independent Power Producers (IPPs), for either on-site

generation by or for a user of electricity or off-site generation for wheeling across the grid between a generator and a user of electricity. The survey excludes RE installations by Eskom or RE installations under the REIPPP programme of the DMRE IPP Office.

SOUTH AFRICA'S DISTRIBUTED GENERATION INDUSTRY HOLDS LARGE UNTAPPED POTENTIAL

The Council of Scientific and Industrial Research (CSIR) published a three-step load shedding recovery plan in 2020², aimed at highlighting mechanisms to mitigate power cuts and restore power system adequacy. The first recovery step is termed 'customer response at scale', premised on the implementation of urgent regulatory reforms designed at unlocking self- and distributed generation deployment. The CSIR estimates that there is roughly a total of 3400MW of capacity that could be deployed by the end of 2022, in the form of roughly 500MW solar PV in the residential sector, 1650MW commercial and agricultural sectors and 1300MW in the industrial sector. By 2024, the CSIR estimates that a cumulative total of 4900MW could be deployed on condition that an enabling regulatory regime is established.³ However, due to current regulatory restrictions, much of this potential remains capped.

RAPID GROWTH IN THE SOLAR ROOFTOP SECTOR HAS BEEN EXPERIENCED IN OTHER COUNTRIES

Vietnam saw a 25-fold increase from 2019 to 2020, with over 7000MW of rooftop solar capacity being developed in one year. Combined with rapidly growing utility-scale solar capacity, this means that the industry has already surpassed the "12.5GW solar power by 2025" national target – by the year 2021.⁴

Australia's energy regulator anticipates an average of 3200MW of rooftop solar capacity to be added each

year for the next four years. This investment would effectively double the country's current capacity to 26GW by the end of 2024.⁵ A critical factor that has boosted Australia's rooftop solar industry is the elimination of red tape beyond the necessary safety and technical requirements.⁶

In India, rooftop solar is the fastest growing sub-sector of renewable energy generation, demonstrating a compound annual growth rate of 47% from 2016-2019.⁷ This growth rate staggered during the onset of the covid-19 pandemic, but recovered steadily in the second and third quarter of 2020.⁸ India's commercial and industrial (C&I) sector has been the driving force for rooftop solar industry growth. Rooftop solar is now cheaper than C&I grid tariffs in all major states in India, thus incentivising the rapid deployment of self-generation projects by C&I consumers.⁹

CONCLUSION

Overall, the 'snapshot' survey based on the responses of 239 industry players reveals that there is large market interest in investing in the distributed generation sector in South Africa. This accords with relevant international experience outlined above. The current lack of policy certainty and restrictive regulatory regime are key barriers in the uptake of distributed generation. The survey results suggest that reforming the regulatory regime by lifting the threshold for licencing projects to above 50MW or higher will send a powerful policy signal that will unlock an estimated 5000MW of additional capacity, which would go a long way to rapidly addressing SA's current debilitating power supply constraints.

² Wright, J. and Calitz, J. 2020. "Setting up for the 2020s: Addressing South Africa's electricity crisis and getting ready for the next decade... and now Covid-19," CSIR & GreenCape Webinar, August 2020.

³ Creamer, T. 2020. "Urgent decisions needed to address substantially worsening electricity outlook, CSIR warns." *Engineering News*, 21 January.

⁴ IEEFA, 2021. "Vietnam's extraordinary rooftop solar success deals another blow to the remaining coal pipeline." *Institute for Energy Economics and Financial Analysis*, 12 January.

⁵ Australian Government Clean Energy Regulator, 2020. *September Quarter: Quarterly Carbon Market Report*.

⁶ Deign, J. 2020. "What other countries can learn from Australia's roaring rooftop solar market." *Greentech Media*, 3 August.

⁷ Gulia, J. and Garg, V. 2020. "Powering up sunshine – untapped opportunities in India's rooftop solar market." *IEEFA*, July 2020.

⁸ Shukla, H. 2020. "Where does India's rooftop solar market stand since covid-19 lockdown?" *Mercom India*, 14 December.

⁹ Garg, V. and Buckley, T. 2019. "Vast potential of rooftop solar in India: setting the pace for rapidly increasing rooftop solar installations in India." *IEEFA*, May 2019.