6. CONCLUDING REMARKS

India has set a high and ambitious target of achieving 175 GW of renewable energy by 2022 and plans to scale it further to 450 GW by 2030.1 The interim target of 175 GW includes 100 GW of solar capacity addition out of which 40 GW is earmarked for RTS and OGS – which can play a key role in decarbonizing India's energy supply and increasing the reliability of energy in its underserved regions.[43] In addition, multiple other downstream applications are emerging – energy storage, EV charging, and rural non-farm productive use appliances – that will play a vital role in achieving India's sustainable energy targets in the coming decade

POLICY GAPS

While government policies have had a positive impact on greenhouse gas mitigation and job creation, over the last few years, DISCOMs , fueled in part by policy shifts,are increasingly resistant towards DRE. On top of this, the recent COVID-19 outbreak has created multiple execution and supply chain disruptions as well as financing challenges for DRE developers.

However, the market potential for DRE segments such as RTS and OGS and their multiple downstream applications – energy storage, EV charging, solar pumps, solar cold storage, and rural non-farm productive use appliances - remains large.

Government policy going forward should foster private market growth while providing a meaningful role for DISCOMs so that they stay relevant and do not feel the threat of disintermediation.

The commercial and industrial (C&I) segment in India consumes 51 percent of power in India, adding a large share to the DISCOM income. Due to the cross-subsidy model of power pricing, this segment bears the burden of the highest per-unit cost of power.

As a result, this segment has the highest tendency to adopt RTS and would benefit the most from favorable policy around future downstream applications such as behind-the-meter energy storage. Affluent residential consumers are the next most inelastic to power prices and would similarly benefit from falling prices and favorable policy around energy storage in the future.

Rural and agricultural segments pay the lowest power price but suffer the most from intermittent and low-quality supply of power. This leads them to incur indirect effects such as low quality of life for households and low quality of output for farmers. This segment would benefit the most from downstream applications of off-grid solar (OGS). Targeted schemes, such as KUSUM for agricultural pumps, and conversion of power subsidy into DBT would help to alleviate losses for DISCOMs as well as improve the competitiveness of the agricultural/ rural sector and the quality of life of rural households.

FINANCING GAPS

The RTS industry is largely fragmented, with only a few players reaching a pan-India scale – these are mostly early entrants that were either backed by Indian corporate or foreign private capital. The remaining players are largely local installers, executing work orders for the larger players. The OGS market also remains small and fragmented, with limited interest from private capital and largely reliant on philanthropy or subsidized private funding.

However, over the last few years, the smaller RTS and OGS companies have been able to better develop their business models and are now in need of growth-stage funding. Information asymmetry, due to lack of project preparation and targeted transaction advisory, has been the primary cause of lack of access to capital.

Though impact investors have scaled up their operations over the last decade, participation among private capital owners such as family offices, high net-worth individuals, and corporates remains limited. With competing demands for capital from mainstream business models, such investors view DRE as less financially attractive. Blended finance instruments can potentially help to bridge this gap.

The nature of impact investors in India is quite close to that of commercial financial investors, with a focus on generating both market returns and development impact through investing in mature stage companies/projects. An opportunity exists to finance smaller and emerging companies in niche segments that have the potential to scale over the next few years.

Companies, after the startup and technology development stage, require further support in the form of seed capital and technical assistance/strategic advisory to move towards commercialization and to attract growth equity. Smaller RTS and OGS developers lack the required capabilities to navigate the entire credit appraisal process of lenders. This lack of expertise also reduces the probability of reaching financial close for small-sized firms.

In these circumstances, philanthropies have an important role in stimulating the DRE sector. The sector needs a combination of policy advocacy, knowledge dissemination, and catalytic finance.

DRE and its downstream applications offer an opportunity to not only meet India's climate and energy access targets, but also provide attractive returns to financial investors. It also providers pathways for India to reduce import-dependence on crude oil as well as create economic growth and jobs in the long run. In addition, addressing existing policy and financing gaps would not only allow for better targeting and risk-hedging of government spending programs, but would also allow capital to be recycled efficiently, thereby enhancing both the duration and magnitude of the impact.

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