

‘Unlocking the Economic Potential of Rooftop Solar PV in Pakistan’

Summary of the study

Introduction

Pakistan has one of the largest unserved populations as far as electrification is concerned and so has a genuinely high potential for leapfrogging into a bottom-up solar photovoltaic (PV) diffusion. The demand for such a diffusion can be very high because of the multiple faults and flaws that characterize Pakistan’s utility-scale energy system (such as low electrification, load-shedding and high cost of grid-provided electricity). But, in spite of this potential, solar PV has so far had a limited usage in the country.

This research study by Rural Development Policy Institute probes the challenges and barriers embedded in the existing policy and institutional governance, restricting financing for rooftop solar/small-scale PV systems and carries out a systematic review of available solar lending instruments and business model lags in context of small-scale solar systems. The study also uncovers the nature, intensity and scope of the risks and challenges for renewable energy advancement and implementation of sustainable clean energy supply in Pakistan. It further examines solar PV finance challenges and business model lags that are prevailing in the existing socio-economic landscape and is based on a representative sample and in-depth interviews with several primary stakeholders.

In this study we also analyze the State Bank of Pakistan’s ‘SBP Financing Scheme for Renewable Energy’, which provides loans and financing for solar and wind technology on low interest rates with the aim to address Pakistan’s climate change and facilitate renewable energy uptake. Few other banks are also advancing similar loans under their independently designed schemes or regular financing with different terms and conditions. Despite such lending options, solar financing is still in its infancy and is characterized by several demand-side and supply-side barriers. Our analysis reflects the current state of analyses in relation to *Category II* of the SBP scheme—which covers small-scale and rooftop solar systems (systems up to 1 MW). We specifically provide an updated overview of some barriers and challenges undermining a more equitable spread of gains of the State Bank’s scheme among different groups of society—warranting urgent attention. We also critically review *how and why* different business models have failed to emerge in Pakistan.

Findings

The analysis paints an unequal picture of solar financing landscape, also heavily skewed toward handful of society who could fulfill the eligibility qualifications. The following is a summary of the key findings and conclusions:

1. Restricted adoption of SBP RE Finance scheme — Overall 28 banks/Development Financial Institutes have been allocated limits under the RE Scheme by SBP. However, as per our findings, only 13 banks are presently advancing loans under this scheme¹ and only limited branches of commercial banks are providing these services, which causes troubles for the consumers due to rush of people.

2. Limited scope — Several demand-side and supply-side barriers are present in the existing socio-technical regime, which create difficulties in availing finance. Banks have designed the salient features

¹ Overall, 21 Financial Institutes have extended financing under **Category II** to small borrowers as of June 2021. Since our analysis excluded DFI’s, the data showcased here covers only commercial banks and Micro-Finance Institutes.

of solar lending in terms of ‘securitization’ in such ways that it restricts its eligibility scope to a handful of society. This undermines equitable gains of the scheme. Furthermore, few financial institutes are also not advancing loans to ‘all areas’, ‘off-grid sector’ and certain solar related equipment’s such as ‘batteries.

3. Banks’ concerns — Majority of the commercial banks continue to be wary of small-scale renewable installations due to high perceived investment risk, low return and administrative cost of processing applications etc.

4. Low awareness and demand — Overall the general knowledge about solar PV financing is quite low among public. With no concerted efforts to increase user awareness on available financing options, its demand is low among the public.

5. Lagging business models — Pakistan is not only characterized by absence of emerging OPEX models but also the literature reflects very poorly on this ‘absence’ as the major preventing factor, substantially slowing down the otherwise immense potential held by ‘bottom-up energy transition’ in the country. For any desired transition, a deep analysis is needed on how innovative business models could be aligned with broader bottom-up energy investment to ensure that solar PV uptake among communities is not further delayed.

6. No adoption of OPEX business models at domestic level — Presently not even a single solar company is using OPEX business model at domestic level due to many barriers and lack of awareness.

7. Solar companies’ concern — Majority solar companies are reluctant to adopt OPEX business model at domestic level due to high perceived financial risk, low return on investment, long payback period and change of technology etc.

Conclusion

The ‘SBP Financing Scheme for Renewable Energy’ will play a vital role in allocating capital for decentralized renewable energy transition. Nonetheless, the scale of its success will remain dependent on its ‘diffusion among relevant institutes’ as well as ‘lending practices’ by these institutes. Based on this, more work is needed to fully integrate and overcome obstacles to solar PV financing under the facility. A lucrative financial model, which instead of profit-generation or securitization emphasizes more on an environmentally and socially inclusive transformation, is the need of hour. The OPEX business model will also be critical in Pakistan's quick adoption of rooftop solar. However, the scale of its success will be determined by its ‘diffusion across relevant institutes’ as well as banks’ ‘lending policies’. For any desired transition, reforms are also needed on encouraging innovative OPEX business models so that solar PV uptake among communities is not further delayed. Accordingly, larger focus of the operational solar lending practices and business models needs to be converged towards these objectives of inclusive transformation.

Methodology

The study was overall divided into two parts. The first two objectives probe challenges in relation to solar PV lending whereas the second part probes barriers in relation to OPEX business models. We also undertook extensive fact-finding research to (1) document factors responsible for restricted adoption of SBP RE Financing Scheme, (2) document barriers/difficulties to acquire financing under the scheme and (3) probe barriers/difficulties hindering emergence of OPEX business model at domestic level.