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Facilitating Distributed Energy Resources Requires Policy Actions

Required Policies to Enable DER

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Introduction

In the first part of this series,[1] we discussed how to empower India's retail customers to improve system efficiency, lower costs, and reduce emissions. We laid out the arguments for how deploying distributed energy resources (DER) in scale provides a key opportunity to empower customers. DERs include elements such as energy efficiency, demand response, storage resources, distributed generation closer to load (such as rooftop solar), and more. DERs empower customers to modify their electric usage in ways that will save them money, offer reliability products to electric wholesale system operators and discoms to increase reliability and efficiency of the system, and help reduce emissions. The promotion of DERs, however, requires affirmative action by utility regulators and policy makers.

The first paper discussed different business models that can be used to support DERs and concluded that allowing private sector participants to assist customers and bring latest technologies and private capital to DER investment is the fastest path to achieving India's goals. It recommended key actions regulators and policy makers must take; developing the policies needed to facilitate DERs is one of them. This second part outlines policies that will facilitate the entry of DER providers.

[1] Addepalli, R. (2022, August). *Empowering Retail Customers: Improve Efficiency, Lower Costs and Reduce Emissions*. Regulatory Assistance Project. https://www.raponline.org/knowledge-center/empowering-retail-customers-improve-efficiency-lower-costs-reduce-emissions/

Required Policy Actions

Distributed energy providers are a growing breed providing DERs to end-use customers, discoms, and wholesale system operators.[2] DER resources can be counted on to provide energy, capacity and ancillary services needs of the individual customer or the local distribution utility, or even the wholesale electric system operator, in an aggregated mode. For the DER market to flourish, electric utility regulators and policy makers should adopt a set of workable procedures and policies that allow the DERs to participate and provide services in the marketplace. The procedures and policies should be straightforward, reasonable, and relatively easy to develop and adopt. We outline some of the policies in the areas of licensing, establishment of utility or system operator DER programs, adoption of DER business rules, ways to provide access to customer data for DER providers, and customer education.

DER Provider Licensing Requirements

Licensing requirements[3] should detail the qualification criteria for distributed energy providers that will deliver DER services, as well as details for any potential license revocations. The qualification criteria could include factors such as the provider's technical capabilities, financial wherewithal, past business experience and credit qualifications. They should not be onerous but should be sufficient to ensure consumers are protected from unqualified providers. The revocation of a license would be based on the provider failing to meet rules and regulations and violating established norms.

Retail and Wholesale Market DER Program Design

DER programs can offer services to discoms at the retail level and to wholesale system operators at the wholesale level. These programs should be designed to meet discom or wholesale operator needs on retail or wholesale levels. For example, a discom may need load relief in certain areas for a defined period and call on DER customers to provide load relief at a retail level. Similarly, a wholesale operator can procure ancillary services from the DER providers.

DER programs can be designed to focus on procuring energy efficiency alone or demand response alone, roof top solar resources alone, storage resources alone, or a DER portfolio that contains all

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[2] For a list of DER providers in New York, see: New York State, Power to Choose. (n.d.). *Distributed Energy Resources (DER)*. https://documents.dps.ny.gov/PTC/der; For a list of demand response providers/aggregators in the New York ISO market, see: New York ISO (2022, June). *Demand Response Service Providers*. https://www.nyiso.com/documents/20142/1398619/Demand-Response-Providers-List.pdf/56d23e8a-fb7a-5e89-d5fb-85f16707eb71; For a list of DER providers in the California ISO market, see: California ISO. (n.d.). *Distributed Energy Resource Provider Market Participants*. http://www.caiso.com/Documents/ListofDistributedEnergyResourceProviderMarketParticipants.pdf

[3] For reference, see State of New York Public Service Commission. (2017, October). *Order Establishing Oversight Framework and Uniform Business Practices for Distributed Energy Resource Suppliers*. https://www3.dps.ny.gov/W/PSCWeb.nsf/96f0fec0b45a3c6485257688006a701a/eab5a735e908b9fe8525822f0050a299/$FILE/69779884.pdf/Order%20Etablishing%20Oversight%20Framework.pdf

elements of a DER. An example of the latter is dubbed as "non-wires alternatives (NWA)," where a discom can announce a reliability need on its system and solicit DER portfolio proposals to meet the identified reliability need instead of installing its traditional solutions to meet the needs (cables, transformers, substations, etc.).[4] It would compare the DER responses to its NWA solicitation with its own traditional solutions and make decisions on which solution is a better one for customers and the system, i.e. in terms of cost, system value, and environmental attributes.[5]

Any DER program must be carefully designed by the discom or the wholesale system operator. For example, demand response program design features would include, as well as answer the following questions:[6]

- Customer call notice requirements — how much notice time will be given to the participating customer before the customer is asked to act?
- Call criteria — under what system conditions will the customer be called?
- Duration of call — how long will the customer be asked to perform?
- Customer aggregation requirements — if multiple customers aggregate to provide the needs to the discom or wholesale system operator, what are the aggregation requirements?
- DER program contract structure — how is the program contract structured for the DER provider?
- Compensation determination methodology — how will the DER service be valued by the discom/wholesale system operator (administrative or market based, etc.)?

Demand response program designs should also include:

- DER performance requirements (specific performance criteria the DER provider would have to meet).
- Measurement and verification protocols (how performance is measured for compensation purposes):
    - Baseline measurements
    - Performance measurements
    - Metering requirements
- Testing of DER equipment (criteria for testing DER technical performance capabilities).

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[4] Athawale, R. (2021, June). *Reliability is a challenge but the opportunities are endless*. Regulatory Assistance Project. https://www.raponline.org/blog/reliability-challenge-opportunities-endless/

[5] For an example, see Consolidated Edison of New York. (2021, January). *Non-Wires Solutions Implementation, Community, And Outreach Plan*. https://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId=%7B190BD4D8-CEAE-431F-B409-3F4E6F83982E%7D

[6] For an example, see ConEdison. (2022, February). *Commercial Demand Response (Rider T) Program Guidelines*. https://www.coned.com/-/media/files/coned/documents/save-energy-money/rebates-incentives-tax-credits/smart-usage-rewards/smart-usage-program-guidelines.pdf?la=en

Other DER solicitations can be tailored specifically to the particular DER. These program design parameters should be designed by discoms/wholesale system operators based on system needs and policy goals in consultation with stakeholders, especially the DER providers, and approved by the regulators.

Discom/Wholesale Market Business Rules

The business rules must specify the obligations and rights of the DER providers. They cover areas such as:

- Marketing or advertising standards to which a DER provider must adhere.
- The consumer protections it must provide.
- The methods of enrolling customers and the contracts used to sign up customers.
- Procedures for dispute resolution with customer.

Access to Customer Data

A critical element for reducing the soft costs of DER providers is enabling them to get access to customer data. Typically, a discom would have access to every customer's historical data, including load profile, bill payment pattern, and more. For DER providers to enroll customers who can contribute to discom or wholesale system operator needs, the DER providers need information on customer usage and credit histories so they can target the right customer population for marketing. Ease of access to customer data reduces customer enrollment costs for DER providers.

Before a discom, however, can share any customer data with DER providers, there should be protocols for addressing customer privacy and consent requirements. Further, there should be protocols developed for how data should flow among customers, discoms/wholesale system operators and DER providers.

Consumer Education

Without the participation of customers, DERs cannot be implemented. Customers need to understand the value DERs provide to them individually and collectively to the system. They need to be convinced that the benefits of participating in DER programs outweigh any associated costs of participation. Benefits include savings on electric bills, more comfort in the home or business, improved system efficiency leading to lower overall system costs, and reduction in harmful emissions. The costs include any infrastructure installations for customer sites allowing them to participate, and usage curtailment when called upon and associated discomfort or business costs along with any other opportunity costs.

There are numerous metrics for evaluating costs and benefits from a customer perspective, discom/wholesale system operator perspective and overall societal perspective. Regulators,

discoms and wholesale system operators all should provide objective information to customers on the benefits and costs of DER programs. DER providers will clearly work with individual customers and explain the benefits and costs. Further, broad and focused customer education should be designed and delivered. This would also reduce soft costs to DER providers in customer acquisition. Regulators, discoms and wholesale system operators can also provide information to customers about qualified DER providers to contact.

Conclusion

DERs are proven technologies contributing to resource and reliability needs, improving system efficiency, and helping reduce emissions in the system. More importantly, DERs provide added value to customers. There is a need to deploy DERs on a large scale to exploit these benefits. The private DER provider market can bring its expertise and capital to bear and offer innovative DER products and services. A platform is needed, however, with transparent rules and participation criteria for them to enter the market. This second piece enumerated numerous actions regulators and policy makers must implement to facilitate the proliferation of a DER provider market. Regulators and policy makers should initiate dialogue with stakeholders and pass regulations or rules that will begin to make this market happen now and help empower retail customers.

In our next paper, we describe the business model changes required for discoms to actively embrace promoting DER solutions.

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