DOCKETED	
Docket Number:	19-ERDD-01
Project Title:	Research Idea Exchange
TN #:	247128
Document Title:	Center for Strategic Policy Innovation Comments - Behind-the-Meter Renewable Backup Power Technologies – Request for Information
Description:	N/A
Filer:	System
Organization:	Center for Strategic Policy Innovation
Submitter Role:	Public
Submission Date:	10/31/2022 11:25:03 AM
Docketed Date:	10/31/2022

Comment Received From: Center for Strategic Policy Innovation
Submitted On: 10/31/2022
Docket Number: 19-ERDD-01

Behind-the-Meter Renewable Backup Power Technologies â€“ Request for Information

Additional submitted attachment is included below.

CENTER FOR STRATEGIC POLICY INNOVATION

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October 30, 2022

Via Email (docket@energy.ca.gov)

Re: Docket No. 19-ERDD-01, "Behind-the-Meter Renewable Backup Power Technologies – Request for Information"

Dear Energy Commission:

Please accept these comments in response to your Request for Information (RFI) regarding "Behind-the-Meter Zero-Emission BackupTechnologies". On behalf of the *Center for Strategic Policy Innovation*, please know that this CEC effort is greatly appreciated. We believe the idea of helping to jumpstart the development of *micro-grid-related technology* that can be replicated time and again in a cost-effective manner will allow for the deployment of many more clean energy-anchored microgrids over time.

My comments today are directed to the RFI's general question No. 1, which requests general input on how to scale *zero emission* power backup/microgrid systems throughout California. However, my comments do not focus on microgrid technology itself; instead, my remarks are focused on the *elephants in the room* that are separate and apart from developing cost-effective, and readily scalable, microgrid system components.

Our first point is that zero-emission microgrids (which will mainly be distributed solar PV-anchored) will not be adopted at scale without providing incentives (and/or removing utility prohibitions) for the development of **in-front-of-the-meter** solar. The main reason for this constraint on significant microgrid buildout is that there are a limited number of locations where enough solar PV can be built on the customer's own land (i.e., *behind-the-meter* solar buildout designed to offset the customer's retail power usage) in order to create a microgrid of any consequence. As the Commission is well aware, solar PV, the necessary power generating anchor for in-city zero emission microgrid facilities, is not economical to build on a *distributed* (in city, and therefore by definition not at utility scale) basis if the system developer is limited to wholesale (typically 2-3 cents per kilowatt hour) pricing. That is why the only profitable in-city solar PV installations (let alone solar PV-anchored microgrids) operating at present are *behind-the-meter* (where they can serve to offset the customer's retail energy costs, and are therefore very profitable). For zero emission microgrids to be adopted at scale, flexibility in system siting must be granted to allow microgrid adopters to operate **in front of the meter** (on

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parks, vacant lots, etc.), yet be paid at a retail rate (or on a significantly above wholesale *feed-in-tariff* rate).

The second issue is also straightforward. If more grant and other assistance is directed toward subsidizing the costs of batteries and other energy storage systems (including green hydrogen-fed fuel cell technology) for **local microgrid operators** like city and county government and nonprofits, many more truly resilient solar-anchored microgrid projects will get built. While various well-intentioned programs have been put in place at the state and federal level to subsidize and encourage the use of batteries for energy storage purposes, we find that much of that storage-related monetary assistance is going to utilities, and much of that money is being spent for *pricing arbitrage* purposes, rather than on zero emission microgrids. We would like to see these battery incentives saved for those who are implementing solar PV-anchored microgrid/resiliency projects, especially those operating in disadvantaged communities.

We would also suggest as part of this effort that you work on identifying the **pathways** for achieving emission-free energy generation, transport and use to meet the zero emission goal. For example, while the creation of green hydrogen is a zero emission process, if the green hydrogen is then burned in a gas combustion engine or a micro turbine, that act of generating the electricity end product from that green hydrogen is then not a zero emission process. On the other hand, as I understand it, if green hydrogen is used in fuel cells, the conversion process is a chemical reaction, rather than a combustion process, and the resulting energy generation and consumption is a zero emission process.

Finally, further efforts to incentivize the use of technologies such as zinc-based batteries and small-scale CAES (condensed air energy storage) and, of course, fuel cells that utilize green hydrogen, will also help move us more quickly to be able to scale zero-emission microgrid systems.

Thank you again for having the foresight to reach out and analyze this crucial aspect of our move to decarbonization.

Very truly yours,

Kevin J. Daehnke, Esq.
President, *Center for Strategic Policy Innovation*


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