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Enphase Energy Comments on CEC Battery FDAS RFI

Additional submitted attachment is included below.

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December 12, 2025

To: California Energy Commission
Docket Unit, MS-4
715 P Street
Sacramento, CA 95814

From: Enphase Energy

Re: Docket No. 25-FDAS-01 – Enphase Energy Response to CEC Request for Information on Flexible Demand in California for Residential Battery Energy Storage Systems

Dear Commissioners and Staff:

Enphase Energy, Inc. (Enphase) respectfully submits the below response to the California Energy Commission's (CEC or Commission) Request for Information (RFI) regarding Flexible Demand Appliance Standards (FDAS) for Residential Battery Energy Storage Systems (BESS).

I. Enphase Introduction

Founded in 2006, Enphase is a California-based global energy technology company and the world's leading supplier of microinverter-based solar-plus-storage systems. The Company delivers smart, easy-to-use solutions that connect solar generation, storage, and energy management on one intelligent platform. Its semiconductor-based microinverter system converts energy at the individual solar module level and brings a system-based high-technology approach to solar energy generation, storage, control, and management.

Our batteries are AC-coupled and designed with safety, serviceability, and performance in mind. They feature LFP (lithium iron phosphate) chemistry, low-voltage DC operation, advanced thermal management, and built-in redundancy enabled by our microinverter architecture. We ship IQ Batteries to customers across a wide range of global markets, including the United States, Puerto Rico, Canada, Mexico, Australia, New Zealand, Germany, Belgium, the United Kingdom, Italy, Austria, France, the Netherlands, Spain, Portugal, Luxembourg, Finland, Switzerland, Sweden, Denmark, and Greece.

As of Q3 2025, Enphase has shipped 84.8 million microinverters, representing approximately 30.21 GW of solar capacity, and around 2.24 GWh of energy storage systems. These shipments have been installed in more than 5 million systems across more than 160 countries.[1]

II. High Level Feedback on RFI

The CEC states that the RFI is meant to "[investigate] opportunities for incorporating flexible demand functionality for BESS," which can "support electric grid reliability, avoid GHG emissions associated with non-renewable generation sources, and save customers money." Enphase stresses that new residential BESS deployed in California already operate in furtherance of these stated objectives by virtue of time-

[1] https://investor.enphase.com/static-files/7a95029a-a55b-4f1a-8fe1-5b3c41fef946?v=Oct-2025, slide 4.

varying rates and grid service program opportunities, and due to pre-existing design, certification, and operational requirements contained in prevailing utility Rules and standards.

Time-of-Use (TOU) retail rates reflect the relative costs and emissions intensity of the grid at different times of day, providing a basic arbitrage opportunity for BESS to cycle for self-consumption and deliver benefits to the customer and grid alike. Then, dispatch commands from grid service or Virtual Power Plant (VPP) programs like Demand Side Grid Support (DSGS) or the Emergency Load Reduction Program (ELRP), or pre-determined high-value export hours in the Net Billing Tariff (NBT), instruct batteries when to fully discharge their available capacity and maximize their contributions to grid reliability, in preference to cycling for self-consumption.

Customers invest thousands of dollars to install batteries for specific reasons; namely, to control energy costs, increase energy independence, and to provide clean, back-up resiliency. Under NEM 1.0, in which customers could remain on a flat retail rate, pairing a battery with behind-the-meter solar PV provided a source of solar-charged backup power, but NEM 1.0 on its own[2] provided no requirement or economic incentive for residential customers to cycle PV-paired BESS on an ongoing basis, for customer or grid benefit. NEM 2.0, which mandated service on TOU rates, changed the paradigm, as batteries could charge from PV and discharge for self-consumption to avoid grid imports during the peak-time TOU period. This basic TOU self-consumption structure also underpins the NBT (also referred to as NEM 3.0)

BESS and BESS inverters are already subject to several requirements laid out in Rule 21, IEEE 1547-2018, UL 1741 SB, and UL 9540. Primary among these requirements, for purposes of this RFI, is that inverters, site gateways, and cloud servers must be capable of communications via open communication protocols like IEEE 2030.5. The California Public Utilities Commission (CPUC) is currently considering how to operationalize DER communications that utilize these protocols.

For these reasons, Enphase strongly recommends that the CEC decline to extend FDAS to battery energy storage systems under the auspices of SB 49. Doing so would unnecessarily add layers of complexity, confusion, and bespoke requirements to an existing suite of price signals and operational requirements that inherently lead batteries to operate in an economically and environmentally beneficial manner. These conditions have given rise to a robust competitive ecosystem of technology providers that successfully markets battery products to customers based on their economic and environmental value proposition. It is unclear what problem statement the CEC wishes to address by proposing to extend FDAS to BESS, or what intended outcome it seeks to realize that would improve upon the status quo.

Enphase certainly agrees that the existing price signals, operational requirements, and prevailing codes and standards that govern battery behavior can be further refined to align with the state's prevailing planning frameworks, namely Resource Adequacy and Integrated Resource Planning. The NBT and existing VPP programs like DSGS and ELRP largely operate *outside of* the energy and capacity markets that drive Load Serving Entities' (LSE) energy procurement costs passed onto ratepayers. Further improving upon these types of tariffs and programs can help maximize the load flexibility value that BESS resources can provide to customers, ratepayers, and the grid.

[2] The SGIP program has carried minimum annual cycling requirements for BESS. Early SGIP program evaluations demonstrated that this basic requirement, irrespective of rates or GHG signals, caused GHG emissions to rise, as many such batteries were programmed for demand charge management and led to discharges for peak shaving during the middle of the day during high solar hours, rather than during system net peak demand hours.

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III. Responses to RFI Questions

1. **Scope: Should the CEC consider expanding the scope of FDAS to include commercial-scale, greater than 20kWh, BESS? What are the potential benefits, limitations, and challenges of including commercial BESS alongside residential systems in this regulation? Are there specific market segments, system sizes, or control capabilities that would make commercial BESS appropriate for inclusion?**

   No. Enphase does not believe that BESS of any scale or capacity should be included in FDAS.

2. **Control Point: Should the CEC consider defining the "controllable node" as the point of regulation for residential BESS instead of focusing on multimode inverters? The controllable node refers to the component within a system that manages battery charging and discharging in response to external signals and user preferences. Would this approach better reflect the diversity of system designs and control architectures currently in use? What benefits or challenges might this shift present?**

   No. California Rule 21 has long defined communications capability requirements for inverters, site gateways or Energy Management Systems, and cloud servers.[3] These are reflected in IEEE 1547-2018, the distribution interconnection grid code that underpins Rule 21 along with all other interconnection tariffs in the United States,[4] which requires inverters to be capable of communications over open protocols for purposes of monitoring, control, and information exchange.[5]

   The CEC should not seek to define alternative avenues or nodes for control for inverter-based resources through FDAS. Doing so would needlessly create duplicative requirements on top of those that technology providers already must comply with to sell inverter-based products in all US states and territories.

3. **Capabilities: What software and hardware capabilities could enable residential BESS to relieve/eliminate grid congestion? How can control software be configured to respond to automated and/or manual override signals from the customer's BESS**

   All residential BESS on the market today, including Enphase's fourth-generation energy system centered around the IQ Battery 10C,[6] already contain adequate software and hardware capabilities to relieve grid congestion. As described further in subsequent responses, such products are controlled by algorithms that dictate BESS cycling schedules based on price signals and grid service commands to produce optimal outcomes for customers and the grid.

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[3] See, e.g., PG&E Rule 21, Section Hh. SMART INVERTER GENERATING FACILITY DESIGN AND OPERATING REQUIREMENTS FOR UL1741SB INVERTERS, 5. Communication Requirements, p. 207. https://www.pge.com/tariffs/assets/pdf/tariffbook/ELEC_RULES_21.pdf

[4] *Energy Policy Act of 2005*, Pub. L. No. 109-58, 119 Stat. 594 (Aug. 8, 2005), See Sec. 1254, p. 378. https://www.congress.gov/109/plaws/publ58/PLAW-109publ58.pdf

[5] IEEE Std 1547-2018, IEEE Standard for Interconnection and Interoperability of Distributed Energy Resources with Associated Electric Power Systems Interfaces, Section 10, Interoperability, information exchange, information models, and Protocols, p. 69.

[6] https://enphase.com/installers/storage/gen4

It is not clear what is meant by "automated or manual override signals" commanding "the software." BESS components and features like smart inverters and Power Control Systems (PCS) are programmed to respond autonomously to grid and site-level conditions that are sensed in real-time, without the need to communicate with the cloud. Such smart inverter or PCS settings can be updated via cloud communications from utilities or grid operators on an ongoing basis using open communication protocols, which is actively being considered in Track 3 of the CPUC's High DER Future OIR (R.21-06-017).[7]

4. **Technology: How can a standard that integrates battery operation with grid conditions account for different BESS (AC coupled versus DC coupled) and use cases (self-consumption, backup power, and DR events)? What technical constraints could limit a BESS's ability to participate in flexible demand programs? What are the various operational modes (ex. backup, self-consumption, etc.) used for BESS, and how does BESS software prioritize between modes? What hardware and software are needed to enable BESS to provide grid services and optimize costs for customers? What percentage of residential BESSs currently receive grid signals (e.g., electricity prices, GHG emissions, and California Independent System Operator Flex Alerts) to schedule load shifting, demand response?**

   The Enphase Energy System, consisting of solar, battery, and controllable devices like EVSE and heat pumps, operates on a microinverter-based, AC-coupled architecture. Enphase products are controlled by a cloud-based Home Energy Management System (HEMS) that determines optimal battery cycling and controllable device scheduling based on a forecast of PV production and user preferences, given prevailing rate schedules (flat, TOU, or dynamic / hourly), fixed NBT export values, and scheduled or emergent grid service commands. The customer, and not the BESS device itself, can select between Self-Consumption, "AI Optimization" (which enables exports under dynamic tariffs or NBT), and backup power modes. Enphase is not aware of residential BESS products on the market today that lack such basic communication and scheduling capabilities. These features are built by competitive providers around the availability of price signals and grid service programs with no additional standards required.

5. **Connectivity: What are the most common methods for communicating grid signals to BESSs (e.g., Ethernet, Wi-Fi, Cellular)? What are the costs and benefits of these methods that are identified? What are the strategies and technologies employed to enhance communication and connectivity for BESS in areas with limited infrastructure, poor communication, and connectivity?**

   Enphase gateways can connect via ethernet, Wi-Fi, or cellular. Enphase sells batteries with pre-paid cellular plans to provide a redundant communications backstop in the instance of a Wi-Fi or ethernet outage.

6. **Protocols and Interoperability: What are the communication protocols or components of existing communication protocols that are used to enable load shifting capabilities for residential BESSs? What are the advantages and disadvantages of each of the communication protocols? What is the implementation status of these communication protocols? What are the industry-wide standard communications protocols currently in**

[7] See *Smart Inverter Operationalization (SIO) Working Group Report, Business Cases and Use Cases*, issued in R.21-06-017 Track 3 on May 29, 2024. https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M532/K683/532683550.PDF

use or planned for BESS? What are the gaps and challenges to implementing load shifting capabilities? How can the standard ensure interoperability between BESS and other flexible demand appliances (e.g. EVSE, space conditioning and electric water heating), and various control systems (such as home management systems)?

Enphase Energy Systems communicate with the Enphase Cloud (including the HEMS engine as described above) using a proprietary protocol over Wi-Fi, ethernet, or cellular. Local, site-level communications between the Enphase Gateway and Enphase devices are achieved via a proprietary communication protocol over wired media. We can integrate our cloud API or HEMS engine with external pricing engines, third-party DERMS providers, or other API head-ends, as needed, that communicate hourly pricing or grid service event dispatches through the cloud, which get communicated downwards to schedule individual devices.

Enphase is aware of only one US utility (Rocky Mountain Power) and other geography (Australia) that have implemented open communication protocols such as IEEE 2030.5 to command BESS active power. This protocol has also been rolled out on a limited basis to communicate updated smart inverter settings (e.g., PPL in Pennsylvania) or dynamic operating envelopes (i.e., Power Import or Export Limitations using PCS) (again, in Australia). The CPUC is considering whether and how to operationalize IEEE 2030.5 communications via IOU DERMS for dynamically managed flexible connections in Track 3 of the High DER OIR (R.21-06-017).[8]

In Enphase's experience, using an open protocol for DER messaging does not absolve parties from performing months of integration and development work to enable seamless communications from server to client. In other words, using an open communications protocol does not equate with being "Plug and Play." Enphase equipment is certified to the IEEE 2030.5 Common Smart Inverter Profile (CSIP),[9] which certifies that Enphase equipment can respond via the common IEEE 2030.5 protocol to a variety of commands. However, this certification standard does not cover higher-level, operational integrations such as device onboarding and lifecycle management, which can entail unique requirements depending on the utility, the prevailing regulatory framework, and the specific set of data messaging or command functionality that is sought. Integrating with a DERMS provider or pricing engine using a proprietary protocol can oftentimes be a simpler exercise.

Finally, Enphase strongly opposes any effort to mandate the use of, or compatibility with, a specified open protocol for local (i.e., site-level) device communications behind the meter (BTM) – i.e., to dictate how devices in a vendor's proprietary technology solution communicate with one another. This domain represents a primary competitive arena between technology providers and affects the design, certification, and operation of hardware and firmware. There are many ways to realize what in essence boils down to a net import or export of electricity at the utility meter, based on the availability and configuration of BTM devices, customer preferences, and the solutions developed by competitive technology providers. Device manufacturers should not be forced to build products that are interoperable with other network cloud providers or with other devices.

[8] E.g., *Assigned Commissioner's Ruling Seeking Additional Information on DER Enabled Near Term Flexible Connections*, R.21-06-017, issued November 3, 2025. https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M586/K143/586143237.PDF

[9] https://sunspec.org/contributing-members/enphase-energy/

7. **Cost Optimization and MIDAS Integration: How can a residential BESS best minimize customers' electricity costs both with and without self-generation (such as solar PV)? How can residential BESSs best utilize the CEC's Market Informed Demand Automation Server (MIDAS), which provides free access to utilities' time-varying rates, GHG emission signals, and California Independent System Operator (California ISO) Flex Alerts? More details can be found here: Market Informed Demand Automation Server (MIDAS) (ca.gov).**

An API integration from the MIDAS rates engine to, e.g., Enphase's cloud-based HEMS optimization engine would enable the BESS to minimize customer bills, with or without PV. The HEMS will account for the presence and "free" battery charging associated with sites with co-located PV, or its programming will note standalone battery configurations and optimize battery cycling based on grid charging.

a. **Are there options for BESS systems to leverage signals from CEC MIDAS? What are the key functionalities that are required for BESS to respond to CEC MIDAS signals? Are there changes to MIDAS that would better support BESS load flexibility than the existing configuration?**

A HEMS algorithm is needed to optimize the use of PV, BESS, and other BTM devices against the price signals presented by MIDAS. Assuming MIDAS communicates a "bidirectional" price – in other words, the customer is exposed to the same price to either consume energy from the grid or to mint export credits by sending power to the grid – the basic question that a HEMS algorithm must solve for is: is it most economical in any interval to self-consume power, or to be a net importer or exporter of energy? The HEMS algorithm makes the optimal decision and communicates schedules to devices appropriately. This includes, e.g., the option to curtail PV production and import grid energy in negative pricing intervals, or to curtail as much load as possible and maximize exports during high priced hours. If the HEMS algorithm decides to export power to the grid in a given interval, it will have concluded that the opportunity to mint export credits in that interval is greater than the opportunity cost of not reserving that capacity for self-consumption (i.e., to avoid grid imports) in subsequent intervals.

b. **Are there any strategies to best utilize BESS with Demand Response events? What is the role of BESS charging and discharging from the grid?**

California lacks a ubiquitous, scalable, battery-specific Demand Response program (i.e., a VPP program) that both 1) credits BESS for exporting to the grid and 2) derives **market-based** value by either participating in the State's Resource Adequacy framework or reducing the amount of Resource Adequacy capacity that LSEs need to procure. Enphase is very open to discussing ways to improve the state's VPP program landscape, and DER valuations therein, with CEC staff.

Since 2014, the CPUC's Net Energy Metering rules[10] have included a concept of "NEM Integrity" that prohibits BESS paired with NEM PV from charging from and exporting to the grid. The simplest, most cost-effective measure to ensure this is to program PV-

[10] See D.14-05-033, https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M091/K251/91251428.PDF

paired BESS upon time of commissioning to operate via one of two PCS modes: 1) "Import Only," where batteries are technically allowed to charge from the grid but are prevented from exporting to the grid; and 2) "Export Only," where batteries are only allowed to charge from solar PV but are free to export to the grid.

These NEM Integrity rules are more than 10 years old, established when NEM 1.0 was in effect, and grew out of the concern that BESS would charge from the grid overnight and collect retail rate NEM credits for exporting "brown power" instead of green power. They also were established under a statutory interpretation that the BESS is an "addition or enhancement" to the NEM PV, thus allowing battery discharge to be cut into NEM export credits.

The NBT, with bifurcated import and export rates, challenges the basic underpinnings of NEM Integrity rules. The NBT export rate schedule purports to credit exports for the "actual" (i.e., forecasted) avoided cost value they provide to the grid in a given interval, rather than being credited at the retail rate. Given this, it should not matter which combination of resources contribute to grid exports or depend on whether solar PV is present at a site, as any such exported kWh is credited for the "actual" grid value it provides. The CPUC's "CalFuse" dynamic rate pilots have also been premised (in theory at least, unclear about practice) on removing NEM Integrity restrictions and allowing 1:1 symmetrical buy / sell exposure at the utility meter, regardless of whether solar PV is present, and allowing any combination of technology to participate.

A pending settlement in SCE's General Rate Case would allow standalone V2G resources to export to the grid and collect NBT export credits. If the CPUC adopts this settlement, it would start to spell the end of NEM Integrity.

8. **Cybersecurity: What are the cybersecurity challenges and needs associated with communicating signals from the grid or a third-party, and interacting with BESS? How would these cybersecurity protocol challenges be used to address the risks to both customer data and grid reliability? What are the risks and benefits of enabling remote software updates to incorporate new standards, and what processes can be used to mitigate these risks?**

   Enphase's cloud communications follow state-of-the-art encryption protocols. IEEE 2030.5 also provides the basis for cybersecure communications. Track 3 of the CPUC's High DER OIR (R.21-06-017) is considering whether to adopt further measures to address DER cybersecurity, including the potential to require IEEE 1547.3 compliance and UL 2941 certification as a condition of interconnecting inverter-based DERs.[11]

9. **Resilience: In the event of a loss of communication and/or connectivity, how should the residential BESS function? What are the potential risks and benefits of each approach, especially in terms of grid reliability, user experience, and long-term sustainability? What is the current status of interoperability standards that would allow previously installed BESS to point to a different cloud-software control layer if the original control layer is disbanded for business reasons?**

[11] See Report linked in Footnote 7, starting p. 175.

Enphase's battery products do not depend on cloud communications to ensure safe and reliable operations. The main functions of cloud communications are device scheduling, communicating data for the customer app experience, and monitoring device operations and health over the short- and long-term. If cloud communications are lost, the system will continue to work in a safe state of operation according to the prevailing settings at time of communications loss. Inverters and supporting local communications systems are programmed and certified according to UL standards to react autonomously in real-time and revert to safe states based on the availability and condition of site-level and grid power.

It's unclear if any BESS vendor has used an open communications protocol to communicate with its own cloud, in the same way that certain EVSE hardware vendors have built their own networked cloud communications around OCPP. That said, echoing our response to Question 6, Enphase strongly opposes any effort by CEC or any other agency to mandate that cloud-to-DER hardware communications operate via a prescribed protocol.

10. **Valuation Tools: Staff is considering using the California Public Utilities Commission's (CPUC) Avoided Cost Calculator (ACC) for internal data evaluation while CEC continues to draft a standard for residential BESS. To what extent is the ACC a reliable and valuable tool for forecasting hourly value for electricity import or export to the grid? Are there specific strengths or limitations in the ACC's methodology or assumptions that should be considered when valuing Net Billing Tariff for BESS? Are there other sources that CEC staff should consider in valuing or forecasting hourly value for electricity imports or exports to the grid?**

    No response.

11. **Customer Experience: What types of information or awareness campaign do the Load Serving Entities (LSE) or other entities provide participants in the BESS installation program to help customers understand the benefits BESS provides? What percentage of customers have a residential BESS? What reasons do customers give for installing BESS at their residence? Do customers with residential BESSs have options for more than one rate structure? What tariff structure or options are utilized by the installed stock of BESS? Do customers with a residential BESS prefer a specific rate structure that LSEs or other entities provide? Do customers who add a BESS to their residence stay with their previous rate structure? What financial incentives or rate structures are most effective in encouraging customers to adopt and use for BESS? What are the estimated costs and benefits for customers of participating in the flexible demand program for BESS, including potential bill savings and the impact on BESS lifespan?**

    Enphase will defer to LSEs to describe their awareness campaign, though it is not clear what is meant by the "BESS installation program." Enphase does not have a view on the total percentage of residential customers in California with BESS, though DG Stats provides BESS interconnection data. The CEC could also consider, e.g., battery attachment rates under the NBT.

Customers invest in BESS (typically paired with solar PV) for several reasons, including but not limited to, achieving enhanced energy independence and resilience; managing energy bills and hedging against rising energy costs; streamlining and increasing the cost-effectiveness of electrifying end uses like heating, cooling, cooking, and transportation; and for environmental reasons.

PV-paired BESS customers on the NBT are required to take service on specified electrification rates that contain TOU periods. TOU rates provide a basic arbitrage opportunity for BESS to extract economic benefits. Larger differentials between TOU periods present enhanced arbitrage opportunities for BESS. It is Enphase's understanding that the initial rollout of TOU rates features TOU period differentials that are artificially narrowed and dampened compared to the actual time-based causation of system level costs, due to concerns over customer acceptance of TOU rates.

Up front and / or ongoing incentives for, e.g., VPP program participation can help encourage BESS adoption among new customers. Again, California continues to lack a ubiquitous and scalable VPP program that provides access to the full potential market-derived value of BTM BESS, which in turn can assist in customer acquisition and recruitment activities and help finance asset deployment. In terms of costs and benefits, Enphase is currently estimating between a 9- and 11-year payback for PV+BESS under the 2025 vintage of NBT.

12. **System Design: When developing policy for residential BESS, should the CEC define all-in-one battery, controls, and inverter systems as distinct from systems where these components are housed separately? What are the benefits and challenges of each configuration in terms of installation flexibility, system scalability, maintenance, and overall cost-effectiveness, and should all-in-one systems be handled differently in regulation?**

    Again, the CEC should not seek to regulate BESS through FDAS. Existing utility Rules, product standards and certifications, and price signals and grid service programs adequately govern the use of BESS to achieve the CEC's stated objectives.

13. **Data Sources: CEC staff based their California residential BESS stock estimates, growth rates, and load shapes on data provided by the CEC 2024 Integrated Energy Policy Report. Are there other California-specific information sources that staff should consider?**

    No response.

14. **Multifamily Access: What options are available for tenants and occupants in multifamily buildings to access financial benefits from BESS? How would the control software need to change to support load flexibility in this configuration? What, if any, BESS software options exist to allow building owners or operators to manage demand as well as provide grid services? Are there examples of tenant-or resident-owned BESS that could provide these services and could be cost-effectively moved with residents to future residences?**

    BESS is equally available to multi-family tenants without any needed changes in control software. Unfortunately, the CPUC adopted a Virtual NEM successor tariff that has dramatically reduced the economic benefits of deploying PV+BESS at multifamily, by prohibiting on-site netting for accounts associated with non-residential submeters (i.e., those serving common areas or facilities) at multimeter properties.[12]

15. **Equity: What are the equity considerations for BESS, and how can FDAS address these issues in regulation? For example, are there concerns that flexible demand will be disproportionately accessible based on income level? Are there other factors or impacts that should be considered if there were to be disproportionate accessibility?**

    The biggest equity consideration around BESS is up-front cost.

16. **Miscellaneous: After reviewing the scope and questions posed in this request for information, are there additional issues or considerations that should be addressed by CEC staff?**

    Enphase appreciates the Commission's review of our comments. We reiterate our main recommendation that the CEC should decline to adopt new regulations to govern BESS under FDAS. Battery energy storage is a mature technology that is deployed through a healthy competitive ecosystem of hardware manufacturers, software solutions providers, financiers, distributors, and installers. Price signals and existing rules and standards under the CPUC's jurisdiction guarantee that commercially-available BESS products already achieve the CEC's stated goals of integrating renewables, providing grid benefits, and reducing customer bills. Enphase would be glad to meet with CEC to discuss its views on ways to improve the price signals and grid service dispatches to maximize the value of these critical resources.

Respectfully submitted,

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[12] See D.23-11-068, https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M520/K977/520977266.PDF