Meeting Notes: Bidirectional EV Working Group - Meeting 1 – Kickoff & Framing

Date: March 6, 2026] | **Time:** 9:00 AM ET

On March 6, 2026, Customized Energy Solutions (CES) facilitated the first meeting of the **Bidirectional EV Working Group** (BEV WG). The meeting was held via Microsoft Teams. This memo summarizes the major topics of discussion, questions, and comments raised by participants.

1 Authority Charge, Timeline, and Working Group Structure

CES presented an overview of the Public Utility Regulatory Authority's (PURA's) December 2025 Final Decision in Docket 25-08-05, which directed convening of the BEV WG by **March 1, 2026** and submission of a report with recommendations by **August 1, 2026**. CES summarized the five required report elements: **(1) cross-program coordination; (2) technical requirements; (3) program terms and conditions; (4) incentive structure; and (5) distinctions between vehicle types.** CES also outlined the anticipated meeting cadence — six full working group meetings running through June 2026 — and the distinction between voting working group members and non-voting participants. The working group charter, meeting recordings, and materials are available at www.energystoragect.com/bevwg.

A participant asked about the process for selecting working group members. CES explained that PURA's order identified specific entities to be invited as voting members, and that a small number of additional invitations were extended by the Program Administrators and CES to ensure robust representation. The same participant asked whether there is an opportunity to petition for working group membership at this stage. CES indicated that requests could be submitted and that the matter would be addressed offline.

2 ESS Program Overview

The Connecticut Green Bank presented a high-level overview of the Energy Storage Solutions (ESS) Program, covering its residential and commercial tracks, performance incentive framework, program partners and aggregators, and key program parameters relevant to potential bidirectional EV integration.

A participant asked whether the ESS Program changes outlined in the 2025 Final Decision will be impacted based on the outcomes of this Working Group. Connecticut Green Bank clarified that the Program modifications are already being implemented and recommendations from this group will be considered separately via the report.

3 Vehicle Grid Integration: Definitions and Scope

Terminology and Technology Categories

CES presented a framing of the bidirectional charging landscape, introducing common terms (vehicle-to-grid or V2G, vehicle-to-home or V2H, vehicle-to-building or V2B, vehicle to everything or V2X, V1G or managed charging) and a proposed scope boundary — focusing the group's work on resources that discharge energy from the vehicle (both export-capable and non-export-capable serving on-site load), while excluding managed charging. This prompted participant discussion. Participants flagged several definitional nuances they felt warranted more careful treatment: the distinction between islanded-only and grid-parallel operation within the V2H category; the conflation of technically and regulatorily distinct situations within the V2B/non-export category; and the difference between V2G DC (inverter in the Electric Vehicle Supply Equipment also known as EVSE) and V2G AC (inverter onboard the vehicle), which have different interconnection processes. Participants also suggested the group adopt agreed-upon plain language terms rather than relying on acronyms, given that the same acronym can mean different things to different speakers. CES acknowledged these points and indicated the group will have dedicated opportunities to work through the specifics in future meetings.

Export vs. Non-Export Compensation

A participant asked whether export-capable and non-export-capable systems would be compensated at the same level under the ESS Program. CES responded that this is a core question for a future meeting — the answer will depend on whether there is a meaningful difference in the grid benefits each configuration provides.

Wholesale Market Participation

A participant asked whether the working group's scope extends to ancillary services such as frequency regulation or voltage support. CES clarified that the Energy Storage Solutions Program does not currently include wholesale market participation; the program is structured around event-based dispatch. CES noted that capacity market participation is explicitly prohibited under the current program design.

4 IES Pilots and Lessons Learned

The Connecticut Green Bank introduced Connecticut's Innovative Energy Solutions (IES) Program and highlighted three active pilots in the V2X space: **(1) a school bus fleet V2G integration pilot with United Illuminating (complete); (2) a residential pilot using a specific DC charger and EV model pairing (in progress); and (3) a pilot focused on electrifying municipal refuse trucks (in progress).** CES then summarized available findings from these pilots, covering technical readiness challenges (including charger-vehicle interoperability issues encountered in the school bus pilot), co-location with solar, and market and deployment readiness considerations.

Co-location with Solar and Metering

During the discussion of findings from the residential IES pilot, Bidirectional Energy (one of the IES participants) clarified that their use of net generation output meters was not a preference, but rather a consequence of the current regulatory structure: when export revenue from solar and export revenue from a bidirectional EV must be tracked separately (because they are compensated at different rates), a separate meter is required. The participant emphasized that Net Generation Output Meters (NGOMs) are cost-prohibitive for many sites and called for an open discussion on how to address this measurement challenge rather than defaulting to that solution.

A representative from UI noted that the PURA has already identified this co-location gap across multiple distributed resource technologies — not just bidirectional EVs — and offered to share a recently filed legislative report addressing the issue.

Prior ESS Participation by Bidirectional EV Projects

A participant noted that their organization had a bidirectional charging project participating in the legacy Connected Solutions Program prior to the rule change that removed bidirectional EV eligibility, and asked whether any other such projects exist and whether the interconnection and participation experience from those projects could inform the group's work. Eversource clarified that the project in question is in the Connected Solutions program, not ESS, and that Connected Solutions, a program designed to reduce a customer's on-site load, does not currently include bidirectional EVs for Eversource with the exception of certain pilot projects.

5 Interconnection Working Group Coordination

CES presented an overview of the parallel **Interconnection Working Group** (IXWG) process, noting that PURA's same December 2025 Final Decision (Order 25 of Docket No. 25-08-05) directed the electric distribution companies to make recommendations on updating interconnection standards to address bidirectional EVs, with a report due to PURA on **July 1, 2026**. CES outlined the division of scope: detailed interconnection process design falls to the IXWG, while the BEV WG will address program-level requirements (such as eligible equipment and metering standards) that will need to be harmonized with the IXWG's work.

Several participants engaged on the question of how the two groups will coordinate:

- The Connecticut Green Bank asked whether CES could flag relevant IXWG public meetings or comment opportunities for BEV WG participants who might want to participate. CES indicated it would do so to the extent feasible.
- A participant who co-facilitates the IXWG confirmed that IXWG meetings are public and offered to add interested parties to the distribution list, sharing their contact information in the meeting chat.
- CES confirmed it will attend IXWG meetings at which Order 25 is on the agenda and will share relevant updates with the BEV WG.

6 Proposed Topics for Subsequent Meetings

CES presented a proposed sequence of topics for the remaining five working group meetings, organized around PURA's five required report elements: **(1) bidirectional EV technology and vehicle class distinctions; (2) technical integration requirements (data, telemetry, DERM compatibility, cybersecurity); (3) cross-program participation and coordination with existing Connecticut programs; (4) incentive structure for bidirectional EVs under ESS; and (5) a final synthesis meeting for outstanding items and working group votes on recommendations.** CES noted that some topics may also be addressed through smaller parallel subgroups between full meetings.

CES solicited feedback on gaps or missing elements in the proposed sequence. Participants offered the following:

- A participant recommended that the meeting focused on vehicle classes and technology maturity also incorporate a forward-looking market perspective — specifically, products coming to market and evolving commercial availability of bidirectional chargers and EVs. Recent examples cited included the expansion of certain manufacturers' bidirectional-capable lineups and new vehicle-to-home product announcements. CES accepted this suggestion and indicated it would be integrated into the framing of that meeting.
- A participant offered three specific suggestions: (1) that battery size be added as a dimension alongside vehicle class in the technical requirements discussion; (2) that bidirectional EV incentives acknowledge V2G's dual identity — as both an energy storage resource and an electrification-of-transportation resource — and that special incentives be considered to encourage fleet operators to transition to EVs; and (3) that the group establish criteria for what would constitute sufficient readiness to scale from pilots to statewide deployment.
- A participant recommended that the technical integration meeting explicitly include EVSE — not just vehicles — as a subject requiring technical description and integration guidance.
- A participant raised the importance of distinguishing between systems that operate in parallel with the grid, those that operate only in islanded mode, and those capable of switching between modes — a distinction that had also surfaced during the earlier definitional discussion.
- A participant raised the question of whether technical requirements will focus on matched-pair registration of specific vehicles and chargers, or aim for broader interoperability standards. CES indicated the latter framing — broad interoperability — should be the primary focus, with specifics to follow.

7 Action Items and Next Steps

CES reiterated that meeting recordings and materials are available at www.energystoragect.com/bevwg. Working group members who had not yet confirmed their intent to serve were asked to do so by **March 11, 2026**. CES requested that any written questions or comments on the meeting should be submitted to CES by **March 12, 2026**.

Meeting Notes: Bidirectional EV Working Group - Meeting 2 – Vehicle Class Implications

Date: March 31, 2026 | **Time:** 9:00 AM ET

On March 31, 2026, Customized Energy Solutions (CES) facilitated the second meeting of the Bidirectional EV Working Group (Bidirectional EV WG). The meeting was held via Microsoft Teams. This memo summarizes the major topics of discussion, questions, and comments raised by participants.

1 Key Vehicle Class Distinctions and Relevance for ESS

CES introduced the rationale for discussing ways of categorizing bidirectional EVs, including PURA's directive that the WG consider "differentiated requirements or recommendations for [Medium and Heavy Duty or MHD] vehicles compared to [Light Duty or LD Electric Vehicles or EVs]", potential implications for program design recommendations which might differ by vehicle type, and understanding the potential level of potential participation by category of EV.

CES noted that the Program Administrators (PAs) will define LD EVs as having a gross vehicle weight rating (GVWR) of 8,500 lbs or less, and MHD has having 8,501 or above. CES noted other places this definition is used, including in the Connecticut Managed Charging program. CES also noted that this distinction may not always align with another means of classifying vehicles, namely, for personal and fleet/commercial use, given that some primarily personal use vehicles would be defined as MHDs using the GVWR definition.

Participants suggested that other distinctions may be more instructive for conversations related to integrating bidirectional EVs into the Energy Storage Solutions (ESS) program. Specifically, multiple participants agreed that commercial vs. residential use (which could be tied to the rate class of the meter where the resources are being interconnected) is likely a more useful distinction, aligning with different usage patterns and other characteristics relevant to ESS. Another participant suggested that the magnitude of potential discharge from a vehicle is correlated with weight; in that way the LD/MHD framing may sometimes be useful. CES summarized the emerging consensus – the WG report will consider and address LD/MHD distinctions, but that future discussions will likely focus on a residential vs. non-residential categorization, in line with the current ESS program.

CES highlighted MHD/LD distinctions for battery size, noting that while larger vehicles tend to have larger batteries, there is a wide variety in battery size in within LDs and MHDs; CES also noted that EVSE and interconnection also dictate the kW that a given vehicle can discharge.

CES briefly discussed the importance of understanding usage patterns and how they do or do not align with ESS event windows, considering both diurnal and seasonal usage patterns. Electric school buses were

highlighted as having usage patterns (particularly seasonal patterns) uniquely well-aligned with ESS events.

CES briefly described the distinction between AC vs. DC coupled bidirectional EVs; in AC-coupled systems, the inverter is in the vehicle, while in DC-coupled systems, it is not (instead it is usually in the electric vehicle supply equipment or EVSE). Currently, almost all bidirectional EVs are DC-coupled; CES suggested that while this is likely to remain the case for MHDs, there may be more AC-coupled LD EVs as relevant certifications and interconnection processes adapt to the nuances associated with an AC-coupled system.

CES briefly noted that vehicle ownership and operational profile, which would be better linked with residential vs. commercial categorization as opposed to LD vs. MHD may also have important implications for integrating bidirectional EVs into ESS.

CES noted that level of participation was important to the program for two primary reasons: 1) the ESS program has a 580 MW cap, and the PAs would like to ensure that program capacity is allocated to resources that perform robustly, and 2) there are administrative costs associated with implementing the program, so some minimum level of performance could help ensure that benefits justify the administrative costs. Several participants reiterated that they thought that a residential vs. commercial distinction will be more helpful than LD vs. MHD. One participant commented that the ESS program has shifted to a primarily pay for performance model, mitigating risks of compensating resources that do not perform. Participants asked about the primary drivers of administrative costs, e.g., whether it was attributable to individual participants or to adding a vehicle class. The Program Administrators said that it was both, citing costs to establish ESS for bidirectional EVs overall, handling integrations into the distributed energy resource management systems (DERMS), ongoing data management costs, etc.

2 Market Readiness and Potential Gating Criteria

CES provided some high-level statistics related to EV registrations and purchases in Connecticut, noting that, to date, there is significantly more adoption of LD vehicles than MHD. CES also highlighted statistics related to bidirectional-capable EVs registered in Connecticut, noting that not all bidirectional EVs owners have bidirectional capable EVSE (electric vehicle supply equipment) or other required hardware for the vehicles to be discharging energy.

CES highlighted the importance of EV/EVSE interoperability for ensuring a positive customer experience and that assets (e.g., a specific EVSE or EV) do not become effectively stranded. The positive customer experience is critical for ensuring the sustained adoption of bidirectional EVs.

One participant drew on experience from the Massachusetts Clean Energy Center's V2X pilot program to describe the administrative burden of managing a pre-approved matched-pair list: determining which chargers are bidirectionally capable, which operate grid-parallel, which commercial vs. residential installations are eligible, and which specific model years of vehicles interoperate with approved chargers is resource-intensive and prone to errors. Another participant agreed, pointing out that specific communication protocols may vary by generation of a specific type of equipment, further complicating attempts to document interoperability. This led to a conversation related to the feasibility of using qualified product lists as a means to determining whether specific EV/EVSE pairings will be V2G-capable, vs. an approach that relies primarily on resources demonstrating their ability to export energy. The group

discussed that the latter option might place more of an onus on participants to establish which EVs and EVSE would be compatible. One participant suggested that EVSE manufacturers are better positioned to identify viable pairings, as they tend to run interoperability testing. CES posited that perhaps aggregators/the entities responsible for enrolling individual resources could ultimately be responsible for ensuring compatibility.

CES asked for participants to provide thoughts on possible gating criteria that could be used to establish whether EV models, vehicle classes, or other units of aggregation of EVs were ready to participate in the ESS program. This would consider the anticipated level of provided benefits (and how this compares to administrative costs) as well as customer experience. Participants offered the following possible gating criteria:

- Ability to integrate with the utilities' DERMS (Distributed Energy Resource Management System) providers.
- Meeting interconnection requirements as well as criteria laid out in current managed charging and/or make ready programs. A participant noted that one exception might be the requirement for make-ready incentives that EVSE be interconnected behind a dedicated meter; the participant did not think this requirement (which would prohibit EVSE being collocated with existing load) was appropriate for ESS.
- One participant emphasized that the current use of a qualified product list, which enables customers to easily identify eligible equipment, is one key to the success of the current ESS program.
- There was a brief discussion around the possibility that aggregators (which, in some instances, might also be EVSE and or EV manufacturer) could be required to meet some minimum level of enrolled capacity in order to participate in the program.

3 Enrollment and Participation Pathways

CES gave a brief overview of the current pathways through which ESS customers enroll in the program and through which telemetry data flows to the DERMS providers. CES asked for participants to discuss how they envision these pathways working for bidirectional EVs.

One participant noted that for bidirectional EVs, there will be instances in which data flows from the manufacturer's (potentially EVSE or EV) data cloud to an aggregator before being transmitted to the DERMS. The participant noted that, even for a given EVSE manufacturer, there may be instances in which data flows directly from the manufacturer to the DERMS provider and other instances in which the data flows through an aggregator.

Several participants emphasized the importance of maintaining flexibility in how customers could enroll and data may be aggregated and transmitted to the DERMS.

4 Action Items and Next Steps

CES reiterated that meeting recordings and materials are available at www.energystoragect.com/bevwg. CES requested that any members interested in opining on a list of potentially applicable standards and

certifications which would be discussed during the third working group meeting should send an email expressing that interest by 4/1.

5 Attendee List

An attendee list is provided below. Organizational information was not collected; information collected below is based on CES' best attempt at associating individuals' names with the appropriate organization.

Attendee	Organization
Aileen Cole	Great Plains Institute (IXWG Rep)
Alex Wang	OCC
Amanda Stevens	Eversource
Amy Findlay	ChargeScape
Ann Yu	CES
Anna Bella Korbatov	Fermata
Benjamin North	DEEP
Brian Morris	UI
Chris Kluesener	Matcha
Devin Sorgi	Uplight
Dominic Gatti	Tesla
Emmett Werthmann	WRI (World Resources Institute)
Eric Annes	DEEP
Frances Bell	Bidirectional Energy
Gaurav Saini	Zum
Jacqueline Piero	Mobility House
Jennifer Runyon	Eversource
Julie Mitchell	ChargeScape
Katie Peterson	Mobility House
Kevin Boughan	Eversource
Kevin Moss	Connecticut Green Bank
Kipling Haviland-Hack	Energy Hub
Lean Brams	Highland
Logan Taricani	UI
Madeline Frierson	CES
Mark Scully	People's Action for Clean Energy
Max Clarke	EV Energy
Nachum Sadan	GridEdge Networks
Nikhon Schuler	Eversource
Nitin Satish	Zum
Pallav Prakash	Zum
Prabisha Bhandari	OCC

Robert Whelan	UI
Sara Harari	Connecticut Green Bank
Sara Pyne	Connecticut Green Bank
Sergio Carrillo	Connecticut Green Bank
Stephan Wollenburg	CES
Stephen Crolius	Carbon-Neutral Consulting
Steve Letendre	VGIC (Vehicle Grid Integration Council)
Tiffany Hammond	First Student
Toni Berlandy	Eversource
Walter Barozi	DEEP
Zach Woogan	VGIC (Vehicle Grid Integration Council)

Meeting Notes: Bidirectional EV Working Group - Meeting 3 – Technical Integration of EVs into the Energy Storage Solutions Program

Date: April 16, 2026 | **Time:** 9:00 AM ET

On April 16, 2026, Customized Energy Solutions (CES) facilitated the third meeting of the Bidirectional EV Working Group (Bidirectional EV WG). The meeting was held via Microsoft Teams. This memo summarizes the major topics of discussion, questions, and comments raised by participants.

1 Device Enrollment Approach

CES introduced the first agenda item by framing a foundational question for program design: *what is the unit of enrollment for bidirectional EVs in the Energy Storage Solutions (ESS) Program?* CES described three potential options – enrolling the electric vehicle supply equipment (EVSE) alone, enrolling a paired combination of EVSE and vehicle, or enrolling the vehicle itself – and offered context on the implications of each. CES noted that the current ESS program enrolls a specific combination of inverter and battery at a specific site associated with a specific utility account number.

CES presented a straw proposal: that the program would enroll the EVSE at a specific location and account, given that the EVSE is fixed at a known point of interconnection behind a known meter. Under this proposal, the Program Administrators (PAs) may optionally collect information about the vehicle or vehicles most likely to be connected to the enrolled EVSE for evaluative purposes, but this information would not be binding and would not trigger re-enrollment obligations if vehicles changed.

Participants broadly supported the EVSE-centric enrollment approach. One participant, citing the IEEE concept of a "reference point of applicability," noted that the EVSE represents the stable point of interconnection and that this framework applies cleanly to both direct current (DC) coupled systems – where the inverter is located in the EVSE and which represent the majority of deployed bidirectional systems today – as well as to alternating current (AC) coupled systems. The same participant noted that in both configurations, the EVSE is the appropriate reference point, independent of which vehicle is connected.

Another participant expressed support for EVSE-only enrollment, noting that in the V2G AC configuration, the EVSE acts as the gatekeeper for determining whether a connected vehicle is compliant. This participant suggested that the optional vehicle data collection element of the straw proposal be removed, in order to minimize enrollment friction and reduce administrative burden on customers.

Other participants offered additional perspectives. A participant emphasized that the EVSE is the component responsible for grid code compliance and metering, and supported enrolling at the EVSE level. The same participant noted that changing the vehicle connected to an EVSE should not trigger re-enrollment, though relevant vehicle characteristics – such as battery capacity – may be worth capturing at enrollment for program evaluation.

Another participant raised a practical concern: without knowledge of the vehicle, Program Administrators have limited ability to forecast aggregate output. The participant acknowledged the pay-for-performance structure of the current ESS program, which mitigates financial risk from non-performance, but suggested that some level of visibility into connected vehicle characteristics would support program planning. Another participant noted that even with vehicle-level data, customers retain discretion over what portion of battery capacity they choose to make available, so such data would provide an approximation rather than a firm commitment.

A participant from an aggregator noted an additional consideration related to the ESS program cap: without upfront vehicle information, it may be difficult to assess how much capacity is actually behind each enrolled EVSE as the program approaches its 580 MW ceiling. The participant acknowledged this is not an immediate concern given current enrollment levels.

CES summarized the emerging consensus: the program would enroll at the EVSE level, at a specific location and account. Possibly optional collection of vehicle information at the time of enrollment – without imposing binding obligations or re-enrollment requirements upon vehicle changes – was identified as a reasonable approach to support program evaluation while preserving flexibility. CES noted that the telemetry discussion later in the agenda could offer another mechanism for capturing vehicle-level data – for instance, by reporting stored energy (kWh) from the vehicle – in a way that would inform ongoing evaluation without complicating enrollment. CES indicated that a formal proposal on this item would be circulated for member vote at the opening of Meeting 4.

2 Qualified Product List

CES introduced the concept of a Qualified Product List (QPL) and described how the current ESS program uses a QPL based on inverter and battery combinations, with equipment manufacturers submitting a New Technology Application (NTA) to demonstrate compliance with program-required certifications. CES noted that the current NTA checks for UL 1973, UL 1741 SA, and UL 9540, and that some of these requirements would need to be revisited for bidirectional EVSE. CES referenced the California Energy Commission's V2G equipment list as one of the few existing examples of a bidirectional-EVSE-specific product list.

CES presented a straw proposal for a bidirectional EVSE QPL: the list would cover eligible EVSE only – not individual vehicles or EVSE-vehicle pairings – qualification would be based on applicable standards (to be defined in the following agenda item), and the QPL would explicitly not attempt to address interoperability between specific EVSE and vehicle models.

Participants expressed broad support for this proposal. A participant strongly endorsed excluding interoperability from the QPL, noting that interoperability standards and equipment compatibility evolve rapidly, that vehicle Original Equipment Manufacturers (OEMs) bear primary responsibility for ensuring

their vehicles work with certified chargers, and that attempting to maintain a matched-pair list would create administrative burden without commensurate benefit. The same participant noted that EVSE manufacturers and other partners are better positioned to communicate compatible vehicle pairings directly through dealer and sales channels.

Another participant also supported the proposal while raising a question about what specific information would be listed for more complex systems, where multiple components – such as a gateway device in addition to the charging unit – together comprise the bidirectional system. CES acknowledged this level of detail would need to be addressed in the NTA process and invited the participant to share specific examples for consideration.

A participant noted that the Electric Power Research Institute (EPRI) maintains a more current and broader national V2G equipment list than the California CEC list, and suggested it could serve as a useful reference. The participant also raised the question of QPL maintenance: *who would be responsible for keeping the list current, and how quickly could new equipment be added?* CES noted that this distinction is meaningful – a Program-Administrator-maintained QPL captures DERMS integration status, which an external list such as EPRI's would not reflect. CES invited participants to share views on whether a program-specific or externally referenced QPL would be preferable.

A participant from the Program Administrators offered additional context on the NTA timeline, noting that demonstrating UL certifications is typically quick – on the order of days to a week – whereas DERMS integration testing is the more time-consuming step, often taking four to six months due to the back-and-forth between the integrating party and DERMS providers. A participant from a DERMS provider added that the timeline varies depending on whether an equipment manufacturer is an existing DERMS integration partner: expanding an existing partner's qualified product offerings can take hours or days, while onboarding an entirely new integration partner is a longer process. A participant from a fleet operator flagged that timely QPL additions are operationally critical for fleets procuring equipment on a regular cycle, and suggested that Program Administrators consider establishing a defined review timeline – for example, a 45-day turnaround commitment – for new NTA submissions.

A participant from an equipment manufacturer raised the concern that maintaining separate QPLs with varying requirements across different state programs creates market entry friction. The participant expressed interest in mutual recognition or cross-referencing between program QPLs to reduce duplicative certification efforts. Another participant affirmed that this was part of the intent behind the EPRI list – to enable states to reference a common resource rather than each maintaining a distinct list.

CES summarized the discussion as reflecting support for the straw proposal: an EVSE-only QPL, grounded in applicable certifications and standards, and not attempting to address interoperability. Questions around maintenance responsibility, EPRI cross-referencing, and review timelines were noted as areas for further development.

3 Applicable Standards and Certifications

CES introduced this agenda item by contextualizing the ESS program's role: Program requirements represent one layer of a broader regulatory and permitting landscape, alongside interconnection requirements, local codes, and other applicable standards. CES noted that the current ESS program

manual references a broad list of standards and certifications using "as applicable" language, but that the NTA currently performs hard checks for three specific certifications: UL 9540, UL 1973, and UL 1741 SA. CES also noted that UL 1741 SB is now required by the utilities through the interconnection process for inverter-based distributed resources, while the program manual currently requires UL 1741 SA.

In advance of the meeting, CES had solicited feedback from participants on whether current ESS certifications and standards would apply to EVSE versus the EV itself, and whether additional certifications should be considered. CES summarized the feedback: many current standards have some applicability to EVSE; applicability to the EV itself is more limited. In most instances, this would not require any changes, given the "as applicable" language in the program manual. CES noted that UL 1973 and UL 9540 are unlikely to apply to bidirectional EVSE in the same way they apply to stationary storage, and that the NTA process would likely need to be updated accordingly.

3.1 UL 1741 and AC vs. DC Coupled Systems

CES described UL 1741 as the primary certification that utilities reference when interconnecting inverter-based distributed energy resources, and outlined its application to both DC-coupled and AC-coupled bidirectional EV systems.

For DC-coupled systems – in which the inverter is located in the EVSE – UL 1741 SA or SB applies in a manner closely analogous to stationary storage. This is a well-established certification pathway. For AC-coupled systems – in which the inverter is located in the vehicle – certification is more complex. CES described two available pathways:

- The first pathway involves certification of the EVSE to UL 1741 SC (currently in final development stages, expected to be published within 2026) with an accompanying requirement that the vehicle be certified to SAE J 3072. This is generally considered the more scalable long-term path for AC-coupled resources.
- The second pathway uses the UL 1741 CRD (Composite Reference Document) SB route, under which a specific EVSE and vehicle pairing is certified together as a composite distributed energy resource (DER). This pathway is currently available and has been used by at least one manufacturer, but is considered less scalable due to the matched-pair structure.

CES noted that the interconnection working group (IXWG) is actively considering how these pathways apply to interconnection, and encouraged participants with views on interconnection-specific implications to engage in that process.

3.2 Communication Standards: ISO 15118 and OCPP

CES described ISO 15118 as a communication standard governing the exchange between EVSE and vehicle. CES noted that the -20 version is the first iteration to explicitly address bidirectional power flows and therefore would likely be the appropriate version to reference for V2G applications. CES framed the program-level question as whether to require 15118-20 as a condition of QPL eligibility, not as an interconnection requirement per se, but as a program design choice reflecting goals such as future interoperability, protection against stranded assets if an OEM exits the market, and ease of use for customers who may want to use different vehicles with their charger over time.

A participant suggested that the applicable requirements may differ between residential and commercial/fleet applications, and noted that ISO 15118 compliance is not universal among currently deployed residential bidirectional EVSE, where it adds cost. A participant with expertise in IEEE standards noted that from a utility and interconnection perspective, ISO 15118 may not be relevant – utilities focus on the EVSE-to-utility communication, not the EVSE-to-vehicle communication – but acknowledged that the Program Administrators could still choose to require it for program eligibility on broader interoperability grounds.

A participant from a fleet operator using school buses noted that their systems use ISO 15118-20 but without Transport Layer Security (TLS) 1.3 security provisions, given the secure, closed nature of bus depot environments. The participant requested that any program requirement accommodate this exception, and agreed to follow up with written details.

CES conducted an informal polling exercise within Teams on whether participants would support 15118-20 as a program requirement. Poll responses and other indicators from participants suggested strong support for 15118-20 as a program requirement.

On OCPP (Open Charge Point Protocol) – a communication standard for the management of charging equipment via a central management system, which is referenced in a number of public charging rebate programs – participant responses were more divided. A small number of participants indicated opposition to an OCPP requirement. One participant observed that OCPP is an evolving protocol and that any requirement would need to reference a minimum version (e.g., OCPP 1.6 or later, or 2.0.1 or later) rather than a fixed version. A participant with IEEE standards expertise noted that OCPP 2.1 is under discussion for inclusion by reference in the forthcoming revision of IEEE 1547. CES noted that a distinction between residential and non-residential applications might be worth exploring – i.e., whether OCPP might be appropriate as a commercial requirement but not a residential one – though one participant cautioned that IEEE standards do not currently draw this distinction. CES indicated that the facilitators would discuss OCPP treatment with the Program Administrators and reflect the split in views in any proposal circulated for Meeting #4.

3.3 Safety Standards: UL 9741 and UL 2594

CES asked whether participants had objections to UL 9741 (specific to bidirectional EVSE) and UL 2594 (a general EVSE safety standard) as Program requirements. No participants objected. No participants advocated for additional safety standards beyond those already referenced in the current program. Participants were also asked whether they would support including safety certifications specific to the EV itself (as opposed to the EVSE) as program requirements; no participant made the case for doing so.

3.4 Other Standards

CES noted that SAE J 3072 is closely linked to the UL 1741 SC pathway: an EVSE certified to 1741 SC would require the connected vehicle to be certified to J 3072. CES asked whether participants saw a reason to include J 3072 as a standalone program requirement, independent of the 1741 pathway framework. Given that at least one manufacturer uses a proprietary communication approach that is IEEE-compliant but not J 3072-based, and given that the 1741 SC pathway has not yet been finalized, no specific support emerged for J 3072 as a standalone requirement. CES noted that relying on the 1741 framework by reference – which will incorporate J 3072 as applicable – may be sufficient.

4 Metering and DERMS Integration

CES described the current ESS program approach to metering and data integration. The Program currently allows the use of inverter-provided data for metering purposes; it does not require a separate production meter and does not measure performance at the retail delivery point. Required telemetry fields include static device information (customer name, address, utility account, equipment make and model, nameplate kW and kWh) as well as real-time performance data: kW discharged and stored kilowatt hours (i.e., state of charge), reported at 15-minute intervals with no more than one month latency per PURA's directive. CES noted that the Program does not currently prescribe a specific communication protocol for DERMS integration; equipment must demonstrate the ability to integrate with the relevant DERMS provider, but the specific technical approach is resolved between the equipment manufacturer or aggregator and the DERMS provider.

CES asked whether participants anticipated challenges with applying a requirement for 15-minute, port-level telemetry – including kW and stored kWh – to bidirectional EVs. A participant from an EVSE manufacturer affirmed that this data is generally available and should not present a material barrier.

A participant raised a question about metering accuracy requirements, noting that in some programs, revenue-grade metering requirements necessitate the installation of additional sub-meters at the site, which can be a significant cost driver for residential deployments. CES clarified that the current ESS program measures performance using data from the inverter itself, not from a separate production meter or the retail delivery point, and that accuracy requirements are therefore tied to inverter-level data standards rather than to utility-grade metering. CES noted that relevant standards among those already discussed address data accuracy at the inverter level. A participant from the Program Administrators confirmed this characterization, noting that the current program manual language references utility grade metering without strictly requiring revenue-grade certification, and that this requirement has not been uniformly enforced. A participant from a utility echoed that hybrid inverters associated with solar-plus-storage installations often do include revenue-grade metering due to solar-related requirements, whereas battery-only inverters do not always meet that bar.

A participant clarified a nuance around export measurement: for sites with other on-site load – most residential and many commercial installations – the retail meter measures net export and cannot isolate the contribution of the bidirectional EVSE. This is precisely why the current program relies on inverter-level data rather than meter-level data. It was discussed that at some sites, such as a bus depot, where charging equipment often constitutes the majority of on-site load, export measured at the retail meter and export measured at the inverter would be closely aligned.

A participant from a fleet operator noted a separate consideration relevant to school bus deployments funded through EPA grants: such grants often include Build America, Buy America (BABA) compliance requirements, which can create complications when meters or other equipment must be procured to meet program requirements. The participant suggested that use of a SCADA-based monitoring system could provide equivalent data quality while satisfying BABA procurement requirements. CES acknowledged the point and noted that the ESS program does not currently impose net meters

requirements – that is an interconnection consideration – but that these implementation nuances are worth tracking.

5 Action Items and Next Steps

CES indicated that a formal written proposal on device enrollment will be circulated in advance of Meeting #4 for member vote at the start of that session. Similarly, proposals reflecting the discussion on QPL structure and standards and certifications requirements will be prepared and circulated.

CES noted that Meeting 4 will focus on cross-program participation – examining the landscape of other Connecticut programs applicable to EVs and EVSE, including managed charging and make-ready programs, and how these programs can complement the ESS program, how benefits can be claimed across programs, and how conflicts can be avoided.

6 Attendee List

An attendee list is provided below. Organizational information was not collected; information collected below is based on CES' best attempt at associating individuals' names with the appropriate organization.

Attendee	Organization
Aileen Cole	Great Plains Institute (IXWG Rep)
Alex Wang	OCC
Amanda Stevens	Eversource
Amy Findlay	ChargeScape
Benjamin Loebick	UI
Benjamin North	DEEP
Brendan Gallagher	UI
Brendan Smith	CGB
Brian Morris	UI
Chris Kluesener	Matcha
Devin Sorgi	Uplight
Dominic Gatti	Tesla
Frances Bell	Bidirectional Energy
Jennifer Runyon	Eversource
John King	UI
Joseph Marinaccio	Eversource
Katerina Miller	UI
Katie Peterson	Mobility House
Kevin Boughan	Eversource
Kevin Matthews	First Student
Kevin Moss	Connecticut Green Bank
Kipling Haviland-Hack	Energy Hub

Lean Brams	Highland
Logan Taricani	UI
Madeline Frierson	CES
Mark Scully	People's Action for Clean Energy
Max Clarke	EV Energy
Nachum Sadan	GridEdge Networks
Nagashree Manwatkar	Uplight
Pallav Prakash	Zum
Pierre Margaff	UI
Prabisha Bhandari	OCC
Sara Harari	Connecticut Green Bank
Sara Pyne	Connecticut Green Bank
Sergio Carrillo	Connecticut Green Bank
Stephan Wollenburg	CES
Steve Letendre	VGIC (Vehicle Grid Integration Council)
Tiffany Hammond	First Student
Toni Berlandy	Eversource
Walter Barozi	DEEP

Meeting Notes: Bidirectional EV Working Group – Meeting 4 – Cross-Program Participation

Date: May 7, 2026 | **Time:** 9:00 AM ET

On May 7, 2026, Customized Energy Solutions (CES) facilitated the fourth meeting of the Bidirectional EV Working Group (Bidirectional EV WG). The meeting was held via Microsoft Teams. This memo summarizes the major topics of discussion, questions, and comments raised by participants.

1 Why Cross-Program Participation Matters

CES opened the meeting by framing the purpose of the session: understanding how incorporating bidirectional EVs into the Energy Storage Solutions (ESS) Program may interact with other Connecticut programs and policies applicable to EVs. CES noted that the Public Utilities Regulatory Authority's (PURA's) directive explicitly asks the working group to address potential overlap in ratepayer benefits and existing Distributed Energy Resource Management System (DERMS) functionality across programs. CES identified several additional dimensions worth examining: conflicting program goals, eligibility definitions, or dispatch signals; gaps in the programs for certain vehicle types or participant types; gaps in what is being incentivized along the overall investment chain; and customer experience implications, including enrollment complexity and the experience of participating in multiple programs simultaneously.

CES emphasized that the working group's charge – and the scope of the report to PURA – is focused on recommendations for ESS. While other programs may benefit from future refinement, the group was asked to take the overall design of those programs largely as given and focus on what can be addressed within ESS.

CES briefly oriented participants to the landscape of Connecticut programs relevant to bidirectional EVs: CHEAPR (purchase incentive for the vehicle itself); electric distribution company (EDC) electric vehicle supply equipment (EVSE) and make-ready rebate programs; the EDC Managed Charging program (incentives for shifting and curtailing charging); commercial EV charging tariffs (rate design for commercial EV charging accounts); and the ESS program (incentives for discharging back to the grid). CES noted that the meeting would focus most heavily on managed charging, given the clearest potential for interactions with ESS, and that the remaining programs would be addressed more briefly.

2 Managed Charging Programs

2.1 Program Overview

Representatives from Eversource and UI provided an overview of the EDCs' Managed Charging programs for participants who may have had less familiarity with the program design. The Managed Charging

program has two main components for residential customers: a make-ready side providing rebates for Level 2 smart chargers and wiring upgrades (which, as of 2026, are income-eligible only), and managed charging incentives available to any residential customer meeting eligibility criteria. On the commercial side, a light-duty fleet Managed Charging program which is offered as a more traditional event-based, demand response program, is available at commercial sites, with managed charging required for sites that receive make-ready funds for non-public plugs.

CES asked how customers actually interact with the program – specifically, what it looks like to set a charging schedule. Representatives explained that residential customers enrolled through EV.Energy download an app through which they set their target state of charge and the time by which they need it. Customers enrolled through ChargeScape interact through original equipment manufacturer (OEM)-native interfaces. For customers in the advanced tier, utilities and their technology partners are able to actively optimize when within the off-peak window charging actually occurs, based on real-time state of charge.

A participant from UI clarified that visibility into vehicle state of charge is what differentiates the two participation tiers: the baseline tier requires only that 80% of charging occur during off-peak hours, and does not require real-time state-of-charge data from the vehicle; the advanced tier involves more active management and requires that the program partners have access to state of charge information. A participant from an OEM asked who specifically holds the control switch for managing charging under the advanced tier. The response was that the utilities set the off-peak window parameters and customer constraints, while the technology platform providers (EV Energy, ChargeScape) actively manage charging schedules within those parameters using automated control algorithms.

On the design rationale for the residential versus fleet programs, a participant from UI explained that the key driver is the availability of integrations: the EDCs have established technology integrations with a number of residential platforms, which enables active management on the residential side. Those same integrations do not exist for commercial chargers in fleet settings, which is why the fleet program is structured around demand response event notifications rather than continuous active management. An EDC representative noted that PURA has also signaled a preference for continuous load shifting over discrete event-based demand response, which is a further reason the residential program has moved in the direction of off-peak rewards rather than discrete demand response (DR) events. For Eversource, 2026 is the final year in which demand response events will also be layered into the residential program; UI has already discontinued DR events.

A participant from Eversource shared program performance data from the prior year, noting that the program produced approximately a 7 percentage point reduction in on-peak charging (from roughly 22% to 16% of total charging occurring during peak hours), and that at roughly 7,000 enrolled vehicles, this translated to approximately 3.5 MW of shifted load.

2.2 Interactions with ESS: Benefits, Conflicts, and Baselines

CES described the key dimensions along which Managed Charging and ESS may interact. On load profile effects, CES noted that ESS participation implicitly affects charging behavior even beyond explicit dispatch signals: a vehicle that is expected to discharge during ESS events is also strongly incentivized not to charge during those windows, given the significant opportunity cost; and because participating vehicles are exporting energy they must subsequently re-import, their aggregate consumption increases, which

changes the baseline from which Managed Charging benefits are evaluated. CES also noted the potential for timer peak effects on both the charging and discharging sides: without active management, ESS resources may all begin discharging simultaneously at the start of an event, and may all begin charging again as soon as an event concludes.

On benefit counting, CES presented a proposed framework: Managed Charging provides incentives for shifting or curtailing charging, with no compensation for discharging; ESS provides incentives for discharging, with no direct compensation for when charging occurs, except that charging during an ESS event period counts negatively against the participant's average performance calculation. CES suggested that under this framework, the two programs are not compensating the same kilowatts: Managed Charging claims load-shift benefits, while ESS claims discharge-event performance. CES acknowledged, however, that the programs are claiming the same categories of benefit (capacity value, transmission and distribution value, etc.), and that the interaction between them creates baselining challenges, particularly for the Managed Charging program.

A participant from ChargeScape raised a concern about double penalization: if charging during an ESS event reduces ESS compensation, and the same charging is also penalized under the Managed Charging program, a customer could face overlapping negative consequences. CES agreed this was a valid concern worth working through. Another participant added that customer compensation under ESS should never go negative – the floor should be zero, not a bill to the customer. A participant from Eversource confirmed that this is consistent with how the utilities operate in analogous demand response programs: performance that falls short does not generate a bill.

A participant from UI raised a broader policy concern: PURA is simultaneously signaling to the EDCs that it wants Managed Charging programs to extract more value from EVs – including potentially through localized approaches targeting constrained feeders – while the Bidirectional WV working group is developing recommendations for an ESS program that will add complexity to that objective.

CES summarized the group's sense on benefit counting: there was no strong argument that the two programs would be double-counting the same kilowatts, though the interaction between them introduces legitimate baselining complexity. CES suggested that the scale of this issue should be kept in perspective – bidirectional-capable EVs will represent a small fraction of total Managed Charging enrollment in the near term.

2.3 Implementation: Coordination, Customer Experience, and Stacking

CES asked participants to discuss what co-participation would actually look like in practice: *How would a customer enroll in both programs? How would conflicting signals be resolved? What are the metering implications?*

A participant from UI described the implementation challenge in direct terms: coordinating two programs running in parallel on the same asset requires real-time communication between their respective technology platforms, visibility into what the vehicle is doing at any given moment, and a way to give the customer coherent visibility into their participation across both.

A participant raised a specific coordination problem: if an EVSE-side aggregator is managing a vehicle for ESS dispatch, and separately an OEM-side aggregator (e.g., ChargeScape) is managing the same vehicle for Managed Charging, there is currently no clear mechanism for those two to coordinate. The participant

suggested one possible approach: limiting co-participation in ESS to the Managed Charging Baseline tier only, as this would reduce the number of aggregators involved and provide more flexibility to meet the ESS schedule. However, the participant acknowledged this approach has its own tradeoffs.

A participant from ChargeScape offered a different framing: from the perspective of OEM-integrated platforms, the EV is a single asset that can be managed holistically for both programs simultaneously. The participant suggested a sequential enrollment model in which customers first enroll as EV users in Managed Charging (since transportation is the primary use case), and then access ESS as an add-on layer for those who are eligible. The participant emphasized that requiring customers to actively manage two separate program enrollments would be a significant customer experience burden, especially in the early years when bidirectional-capable EVs are rare and customers will need meaningful support.

A participant from an EV manufacturer noted that for some manufacturers, existing software can co-optimize across multiple programs and customer preferences simultaneously. The participant suggested that the Advanced Managed Charging tier may actually be more compatible with ESS co-participation than the Baseline tier, because the active state-of-charge management in the Advanced tier can be co-optimized with a discharge schedule in a way that a passive timer-based approach cannot. The same participant emphasized that customer opt-out capability is a critical safeguard: as long as the customer can override what external systems are telling their vehicle to do, the core customer experience – that the vehicle is available when needed – can be protected. However, the participant also acknowledged that these capabilities are not uniformly available across all technology combinations, and that cross-platform coordination remains a real challenge.

A participant from Eversource noted that from the utility perspective, caution is warranted at the outset: given the experience of even well-designed programs encountering edge-case enrollment issues, moving slowly and getting it right for an initial cohort is preferable to creating a poor experience that damages the program's reputation early.

CES summarized the group's position: from a policy and benefit-counting perspective, co-participation in Managed Charging and ESS appears feasible. From an implementation perspective, however, there is substantial work to do to make it work well for customers. CES also flagged one specific interaction to flag in the report: to the extent that receiving a make-ready rebate currently requires participating in Managed Charging, the group would want to ensure that ESS participation does not inadvertently disqualify a customer from accessing make-ready funding.

3 Other Relevant Programs

3.1 CHEAPR

CES briefly described CHEAPR as a point-of-sale rebate for new or used EV and plug-in EV purchases, administered by the Department of Energy and Environmental Protection (DEEP), with current eligibility focused on income-qualified customers and those in environmental justice communities, and a vehicle manufacturer's suggested retail price (MSRP) cap of $50,000. CES noted that CHEAPR does not appear to involve specific benefit claims that would create double-counting concerns with ESS. Representatives from DEEP on the call were invited to correct that characterization if inaccurate. No conflicts or interactions were identified by participants.

3.2 EVSE and Make-Ready Rebates

CES noted that the EDC EVSE and make-ready rebate programs – including both utility-side and customer-side make-ready investments – had been substantially covered in the Managed Charging discussion. CES flagged the key interaction already noted: some make-ready rebates carry a requirement to participate in Managed Charging, which means care will be needed to ensure that ESS participation does not unintentionally create a barrier to customers accessing make-ready funding.

A participant from an EVSE manufacturer raised a related point from the prior meeting's discussion on qualified product lists: while the working group reached rough consensus that ESS should not impose particularly stringent forward-looking interoperability requirements (given that the relevant standards are not yet finalized), make-ready programs may have different incentives to push toward interoperability standards, given the upfront capital involved. The participant flagged this as a potential surface for inconsistency if an EVSE is on the make-ready qualified product list (QPL) but faces different or additional requirements under ESS. CES acknowledged the point, noted it did not appear to be a significant practical barrier given its review of the make-ready QPLs, but agreed it was worth flagging in the report.

3.3 Commercial EV Charging Tariffs

CES described the commercial EV charging tariffs offered by the EDCs, which apply to commercial accounts only. CES explained that these tariffs appear designed primarily to make low-load-factor EVSE installations financially viable by adjusting volumetric and demand charges based on load factor, rather than to actively shift behavior. CES noted one potential ESS interaction: because low-load-factor EVSE installations face higher volumetric rates under these tariffs, the economics of cycling a battery (i.e., importing energy to charge and then exporting it during ESS events) are somewhat worse for those installations, which is relevant when thinking about ESS incentive levels. No other conflicts were identified. CES noted that these tariffs use the gross vehicle weight rating (GVWR) definition for light-duty versus medium/heavy-duty classification (8,500 lbs threshold), consistent with the EDC definitions discussed in prior meetings.

3.4 Medium and Heavy-Duty EV Program

CES briefly noted the recently launched medium and heavy-duty (MHD) EV program. CES noted that this program includes a demonstration component for electric school buses. No material conflicts with ESS were identified. Participants were invited to raise any concerns; none were raised.

4 Broader Policy Considerations

A participant from UI offered a broader observation: the working group is operating under a PURA directive from the ESS docket, which asks the group to consider how bidirectional EVs can participate in ESS. But the more fundamental policy question – whether EVs should be treated as stationary batteries, or as mobile distributed energy resources (DERs) that provide multiple benefits and serve as someone's primary means of transportation – is one that PURA has not yet resolved. The participant noted that trying to fit an EV into a battery program, without accounting for those significant differences, is part of what makes the cross-program coordination so complex. The participant suggested that a policy determination from PURA on this framing question could substantially reduce the implementation complexity.

CES acknowledged the tension: the Bidirectional EV working group's charge comes from the ESS docket, but the report can both make specific ESS recommendations and note the larger policy question the participant raised.

5 Action Items and Next Steps

CES indicated that a Microsoft Form will be circulated to working group members in advance of Meeting 5 to collect votes on the straw proposals developed during Meeting 3 (device enrollment, QPL structure, and standards and certifications). Members will be asked to indicate support or non-support for each proposal, and to provide alternative language if they do not support a proposal. CES noted that where consensus is not clear from the written responses, proposals will be revisited at the final working group meeting.

CES indicated that Meeting 5 will focus on bidirectional EV incentive structure – specifically, the rationale for incentive levels, whether the ESS incentive should differ for bidirectional EVSE versus stationary storage, and incremental cost considerations. CES noted it would be reaching out to participants in advance to request any available data on the incremental cost of going from a charge-only EV to a fully V2G-capable system.

6 Attendee List

An attendee list is provided below. Organizational information was not collected; information collected below is based on CES' best attempt at associating individuals' names with the appropriate organization.

Name	Organization
Eric Annes	DEEP
Walter Barozi	DEEP
Prabisha Bhandari	OCC
Kevin Boughan	Eversource Energy
Leah Brams	Highland Electric Fleets
Max Clarke	EV Energy
Aileen Cole	Great Plains Institute (IXWG Rep)
Michael Crowley	United Illuminating
Amy Findlay	ChargeScape
Madeline Frierson	Customized Energy Solutions
Dominic Gatti	Tesla
Tiffany Hammond	First Student
Sara Harari	Connecticut Green Bank
Kipling Haviland-Hack	EnergyHub
Steve Letendre	Vehicle Grid Integration Council (VGIC)
Mark Moniz	Eversource Energy
Brian Morris	United Illuminating

Kevin Moss	Connecticut Green Bank
Benjamin North	DEEP
Katie Peterson	The Mobility House
Sara Pyne	Connecticut Green Bank
Rick Rosa	United Illuminating
Ella Roseman	EnergyHub
Jennifer Runyon	Eversource Energy
Lidia Ruppert	DEEP
Nachum Sadan	GridEdge Networks
Nitin Satish	Zum
Nikhon Schuler	Eversource Energy
Mark Scully	People's Action for Clean Energy
Brendan Smith	Connecticut Green Bank
Devin Sorgi	Uplight
Amanda Stevens	Eversource Energy
Logan Taricani	United Illuminating
Sean Tully	Eversource Energy
Alex Wang	OCC
Emmett Werthmann	World Resources Institute
Robert Whelan	United Illuminating
Stephan Wollenburg	Customized Energy Solutions
Ann Yu	Customized Energy Solutions

Meeting Notes: Bidirectional EV Working Group – Meeting 5 – Incentive Structure

Date: May 29, 2026 | **Time:** 9:00 AM ET

On May 29, 2026, Customized Energy Solutions (CES) facilitated the fifth meeting of the Bidirectional EV Working Group (Bidirectional EV WG). The meeting was held via Microsoft Teams. This memo summarizes the major topics of discussion, questions, and comments raised by participants.

1 Current ESS Structure

CES opened the meeting by orienting participants to the existing incentive structure within the Energy Storage Solutions (ESS) Program, framing it as necessary context for the meeting's primary focus on incentive design for bidirectional EVs.

CES explained that, for the majority of the program's history, the ESS incentive structure consisted of two main component. First, a performance-based incentive, paid based on average kilowatts discharged during active events throughout the given season. Resources were not penalized for non-participation in any given active event but received no compensation for events in which they did not discharge.

Second, an upfront incentive, denominated in dollars per kilowatt hour of installed capacity, accompanied by an obligation to dispatch at least 80% of nameplate kilowatt hours over the course of passive events (occurring every non-holiday weekday during the summer season). Resources failing to meet this threshold could be subject to clawbacks of portions of the upfront incentive. Under this legacy construct, total compensation was relatively evenly split between the upfront and performance components over the ten-year participation period.

CES noted that this structure changed significantly with the Year 5 Final Decision issued by the Public Utilities Regulatory Authority (PURA), which introduced what the program documentation refers to as "Construct 5." The primary change under Construct 5 was a substantial shift in total compensation away from the upfront incentive (referred to as the "enrollment incentive" in Construct 5) and toward the performance-based incentive.

Under Construct 5, the enrollment incentive remains available in some cases, particularly for residential customers and certain priority C&I customers, but at substantially more modest values than under the legacy construct. For non-priority commercial customers, there is no enrollment incentive. Performance incentive rates are substantially higher than under the legacy construct and continue to be based on average discharge during active events.

A participant asked CES to clarify the Grid Edge customer designation. CES confirmed that Grid Edge eligibility is based on whether the customer falls within the top decile of their circuit for frequency or duration of outages.

2 Benefit-Cost Analysis Framework

CES provided background on the benefit-cost analysis (BCA) framework used to evaluate the ESS program. CES explained that this context is important for understanding what benefits the program is designed to deliver as well as how incentive levels are assessed and calibrated by PURA.

2.1 Test Perspectives

CES described the range of BCA test perspectives used in Connecticut, highlighting two in particular: the Participant Cost Test (PCT) and the Ratepayer Impact Measure (RIM).

The PCT evaluates program economics from the perspective of the project owner or participant, assessing whether available incentives and other benefits are sufficient to offset system costs. A PCT ratio of 1.0 is a key threshold: a ratio below 1 suggests the incentive may be insufficient to make projects financially viable, while a ratio substantially above 1 may signal that the incentive is more generous than necessary.

The RIM evaluates the effect of the program on non-participant ratepayers. The primary cost under the RIM is the incentive itself, which must ultimately be recovered from ratepayers, while the primary benefits are avoided costs experienced by ratepayers (such as reduced capacity and transmission costs). PURA has traditionally used a RIM threshold of 1.4, meaning the benefits to non-participants should exceed costs by at least that margin.

CES noted the fundamental trade-off between the two tests: reducing incentive levels improves the RIM (lower costs to ratepayers) while reducing the PCT (lower compensation to participants), and vice versa. A participant observed that this trade-off is not fully symmetrical, as incentive levels also affect the level of participation and, by extension, the magnitude of grid benefits actually delivered.

2.2 Benefit Drivers

CES noted that the vast majority of ESS program benefits are denominated in kilowatts or megawatts and fall into three primary categories. The first is avoided generation capacity, reducing the total capacity that needs to be procured in ISO New England and Connecticut's share of those costs. The second is demand reduction induced price effects (DRIPE), or reductions in coincident peak demand that lower the marginal clearing price for capacity, benefiting all ratepayers. The third is transmission and distribution (T&D) value, consisting of consistent demand reductions that defer or avoid investments in the distribution and transmission systems.

A participant asked CES to confirm that benefit values are derived from the Avoided Energy and Supply Cost (AESC) study conducted by Synapse Energy Economics for New England states. CES confirmed.

2.3 Current Program Performance

CES briefly presented program-level benefit-cost results from the most recent annual report (filed August 2025, updated October 2025). Key observations included the following. At the overall program level, the PCT is hovering near 1.0 and the RIM is noticeably above the 1.4 target. Benefit-cost ratios are stronger for C&I participants than for residential participants; this difference is driven primarily by the lower per-unit cost of commercial systems, which allows for lower per-unit incentive levels while still maintaining favorable PCT ratios, whereas the higher system costs on the residential side result in a

residential PCT below 1.0, even as overall program ratios remain within acceptable ranges. Despite a residential PCT below 1.0, residential participation remains robust.

3 Incremental Cost Framework for Bidirectional EVs

3.1 Incremental vs. Full System Costs

CES introduced the conceptual framework it is proposing for evaluating the economics of bidirectional EV participation in ESS. Unlike stationary storage, where the full system cost is attributable to the program because the battery's primary purpose is grid services (plus resiliency), an EV is primarily a transportation asset. The ability to provide grid services is a secondary benefit. CES proposed that the appropriate cost basis for evaluating bidirectional EV participation in ESS is the incremental cost of moving from a unidirectional EV to a fully V2G-capable system including EVSE – i.e., the costs that would not be incurred absent the desire to participate in ESS.

CES noted that this framing is the primary cost lens that would be applied in a participant cost test for bidirectional EV projects.

Participants generally endorsed the incremental cost framing, with several observations. A participant raised the concern that framing V2G capability as a peripheral or secondary use of the EV may inadvertently diminish its importance. The participant observed that an EV serves multiple purposes and none of these purposes is inherently more primary than others that incentives should be attractive enough to encourage customers to opt into V2G capability at the point of purchase. CES agreed with the broader intent, and noted that the ESS program is specifically designed to incentivize the grid services dimension of EV capabilities; it acknowledged that V2G-specific incentives within ESS should be attractive enough that a customer choosing between a unidirectional and bidirectional EV would see a meaningful financial rationale for choosing V2G capability – not that the program is designed to incentivize EV adoption broadly.

Another participant echoed this framing, describing the EV as both a form of clean transportation and a distributed energy resource (DER), with Connecticut programs providing incentives for each dimension separately. Another participant noted an asymmetry between stationary storage and EVs: with stationary storage, there is no additional behavioral ask of the customer beyond enrollment, whereas an EV owner must actively ensure their vehicle is parked and plugged in during dispatch events, which may warrant additional compensation beyond what the strict financial calculus would imply. CES agreed with this point and suggested it could be reflected in the analysis either as an additional incremental cost item, or by setting a PCT target slightly above 1.0 for bidirectional EVs (e.g., 1.1) to account for the behavioral friction not captured in purely financial terms.

A participant asked whether data exists on whether stationary storage customers are purchasing batteries specifically to participate in ESS, or whether they already had storage for other reasons; CES noted it has not conducted recent surveys on this question and acknowledged the data would likely differ between residential and commercial customers, and the participant noted that this matters because the program is currently asking customers to make an incremental purchasing decision specifically to access ESS, which is a different dynamic from participating with equipment they already own.

3.2 Cost Categories

CES identified several categories of incremental cost relevant to bidirectional EV participation. Incremental EVSE costs are the difference in cost between a standard, unidirectional charger and a bidirectional-capable EVSE; CES noted that for residential light-duty customers, illustrative figures are based on comparing the Wallbox Quasar 2 to a non-bidirectional equivalent, while for commercial applications preliminary figures suggest incremental costs of approximately $10,000–$15,000 for a Level 2, 30–40 kW commercial charger.

Interconnection costs are highly location-specific and subject to significant uncertainty, particularly on the commercial side, and CES acknowledged that very limited data specific to bidirectional applications is available. Labor and project management costs are associated with incremental project management, monitoring, and other upfront activities related to bidirectional capability. Charging costs may arise because increased cycling of the vehicle battery can lead to incremental electricity costs, though CES noted these are likely modest relative to overall charging costs, given that the number of full equivalent cycles attributable to ESS events is small compared to total vehicle usage. Battery degradation was assessed by CES as likely minimal in the context of ESS participation, citing estimates of approximately five equivalent full cycles per season attributable to ESS, compared to well over 100 equivalent cycles annually for a typical electric school bus or fleet vehicle, though CES noted these numbers are highly illustrative. Finally, customer friction is the behavioral cost associated with ensuring the vehicle is available and plugged in during dispatch events; CES discussed this as a potential cost category, acknowledging it has real financial dimensions (missed events, opportunity cost of constrained vehicle use) as well as non-financial ones.

A participant raised the issue of the number of ESS dispatch events and its relationship to both participation risk and compensation. CES noted that this is a genuine design question: more events reduce the risk that any single absence meaningfully reduces annual compensation, but also dilute the per-event compensation rate. CES cited the Connected Solutions program, which offers both a targeted pathway (approximately 3–8 events per year) and a daily pathway (approximately 30–60 events), with substantially different per-kilowatt compensation rates reflecting the different frequency of demand. A participant from Eversource Energy affirmed that program design should remain anchored in grid value: more events are not inherently better if they are less valuable to the grid, and PURA will focus on what the program is actually delivering.

3.3 Data Gaps and Sources

CES noted that available data on the incremental cost of bidirectional EV systems is extremely limited. Most cost data address the incremental cost of moving from an internal combustion engine (ICE) vehicle to an EV, but comparatively little addresses the move from a unidirectional EV to a V2G-capable system.

Participants identified several potential data sources and considerations. A participant noted that the Massachusetts Clean Energy Center (MassCEC) is funding a V2X pilot program involving approximately 80 deployments across residential and medium/heavy-duty (MHD) applications, which may yield relevant cost data; CES noted the tight timeline – the working group report must be filed by August 1, 2026, with a draft due by end of June – and asked whether any data might be available in time, and a participant that is enrolled in the MassCEC pilot indicated that while it has projects in the MassCEC pilot, installations are unlikely to be complete before approximately Q1 2027. A participant offered to share

data on site-level costs associated with transitioning switchgear from unidirectional to bidirectional capability, noting that these hardware costs are a meaningful component of incremental project costs.

A participant raised the importance of specifying the reference point for incremental cost comparisons, as costs differ significantly depending on whether the bidirectional EVSE being evaluated is a first-generation product requiring a fundamental redesign versus a mature product that has been in production for some time; early bidirectional models reportedly carried cost premiums on the order of 30% or more due to the redesign required to integrate bidirectional components, whereas mature products would carry a smaller incremental premium.

A participant noted that economies of scale are a major factor on the commercial MHD side, with incremental costs looking very different on a per-port basis for a single-charger installation versus a 15-charger depot. Another participant noted that, for commercial MHD applications that require higher-power DC fast charging, the incremental cost of going from a unidirectional to a bidirectional DC fast charger is reportedly in the range of 10–30%.

4 Incentive Structure Design

4.1 General Framework

CES asked participants to share their views on how an incentive structure for bidirectional EVs should be designed, and specifically whether the current Construct 5 approach – a modest enrollment incentive paired with a substantially higher performance incentive – is an appropriate model for bidirectional EVs.

The discussion surfaced a range of perspectives, reflecting differences in stakeholder priorities and the varying characteristics of residential versus commercial MHD applications. Key themes included the following. Several participants, expressed support for an enrollment incentive with a performance component – a structure that combines a modest upfront (enrollment) incentive to help offset the incremental cost of bidirectional hardware with a substantial performance-based incentive; a participant noted that the upfront component helps customers overcome the incremental hardware cost at the point of purchase, while the performance component addresses the ongoing friction of making the vehicle available during dispatch events.

Several participants also emphasized the importance of ROI clarity, noting that regardless of incentive structure, the program must enable customers and project developers to clearly calculate their expected return on investment; one participant observed that uncertainty about future incentive levels – particularly what rates will be available for projects enrolling one or two years from now – is a significant barrier to investment decisions, and CES acknowledged this and noted that the ten-year incentive rate lock currently available in ESS, along with the program's defined participation structure, provides important certainty for project economics.

On the question of incentive form, a participant expressed a preference for performance-based incentives in commercial MHD applications, favoring pay-for-performance structures over upfront incentives; the participant cited the current political and policy environment around ratepayer-funded programs, noting that performance-based programs are more defensible as they demonstrate a clear link between compensation and delivered grid value, and referenced concerns about the trajectory of Connected Solutions in Massachusetts as an example of the vulnerability of programs that do not demonstrate clear ratepayer benefit.

On voucher-based disbursement, a participant from suggested that, where upfront incentives are provided, structuring them as vouchers (reducing the purchase price at the point of transaction) rather than rebates (requiring the customer to advance the full cost and seek reimbursement) would be more accessible, particularly for commercial fleet operators managing capital budgets, citing the New York State Energy Research and Development Authority (NYSERDA) program structure as a model.

Offering a caution on clawback provisions, a participant strongly recommended against any performance obligation attached to an enrollment incentive, noting that even the prospect of clawback provisions would be a significant deterrent for residential EV owners, who need to be able to prioritize transportation over grid participation; CES clarified that under Construct 5 the enrollment incentive does not carry a performance-based clawback (though disenrollment may have consequences), and the participant affirmed that this structure is appropriate.

Turning to alternative incentive structures, a participant encouraged the group to consider structures that are more intuitive and easily understood by customers, suggesting that a "plug-in incentive" model – where customers are rewarded simply for having their vehicle plugged in and available, rather than for specific V1G or V2G actions – could support long-term participation; CES acknowledged this concept, noting it is under consideration in the MassCEC pilot, but identified a fundamental tension in that ESS must ultimately deliver kilowatts to the grid, so any incentive structure that does not directly tie compensation to kilowatt delivery requires a mechanism – such as an aggregator intermediary compensated on a kilowatt basis – to ensure program benefits are actually realized.

On incentive levels and EV adoption, a participant argued that incentives should be structured to be meaningfully more attractive than what is available to customers with unidirectional EVs, in order to create a genuine financial pull toward V2G-capable purchases. CES agreed that ESS should create a financial pathway compelling enough to influence purchase decisions toward V2G-capable systems while noting that ESS is one of multiple programs (including Managed Charging and CHEAPR) that collectively provide incentives across the EV investment chain.

Finally, framing V2G as a grid service, a participant emphasized that, regardless of the framing around EV adoption broadly, the ESS program should be understood as compensating a grid service; the participant expressed the view that the market is already moving in the direction of bidirectional EVs and that ESS does not need to create that trend and suggested that the enrollment incentive need not fully cover incremental costs, as program reliability and the ability to lock in performance incentive rates over a ten-year period allow customers and developers to make the economics work through financing or forward-looking revenue projections.

4.2 Denomination of Upfront Incentives

CES raised the question of how any potential upfront (enrollment) incentive for bidirectional EVs should be denominated. The current ESS approach uses dollars per kilowatt hour of installed battery capacity. CES noted that this may not translate well to bidirectional EVs for several reasons. First, the effective capacity available to ESS during an event is constrained by the EVSE inverter capacity rather than the full vehicle battery, making kilowatt hours of vehicle battery less meaningful as a unit. Second, enrollment may be structured around the EVSE rather than the vehicle, making the vehicle battery capacity

potentially unavailable or irrelevant to the incentive calculation. Finally, participation rates for EVs relative to stationary storage are not well understood.

Discussion surfaced two primary perspectives on the appropriate unit. The first favored kilowatts (kW): a participant from argued that, because ESS is fundamentally a capacity program and because the effective power output of bidirectional EVs during events is constrained primarily by the EVSE inverter capacity rather than vehicle battery size, the enrollment incentive should be denominated in kW, illustrating the point by noting that a vehicle with a very large battery (e.g., 100 kWh) running through an 11.5 kW inverter will not be able to discharge its full battery in a typical two-to-four-hour event window; another participant agreed, also noting that customers will typically discharge from approximately 80% to 20% state of charge rather than from full to empty, further limiting the effective energy throughput. The alternative perspective favored kilowatt hours (kWh): a participant argued that battery capacity (kWh) is also a relevant factor, since higher-capacity batteries tend to be associated with higher vehicle costs, and an incentive denominated in kWh would reflect this relationship.

4.3 Illustrative Economics

CES presented a high-level illustrative model to provide a sense of how the participant cost test might be applied to bidirectional EV projects, acknowledging significant uncertainty in all input assumptions. The model assumes that approximately one quarter of nameplate vehicle battery capacity would be discharged during events, driven in part by the power constraints of the EVSE inverter. Participation rates were assumed at approximately 30% of active events for residential customers and 75% for commercial MHD customers; CES noted that commercial fleet operators with lower event participation rates are unlikely to find the economics of bidirectional EVSE investment compelling, suggesting that the MHD customer base that does participate will tend to have higher availability. Results, expressed as IRR and NPV, vary considerably depending on customer type, incentive tier (standard versus low-income residential, large versus medium/small commercial, grid edge versus non-grid edge), and incremental cost assumptions, with the range of outcomes substantially wider on the residential side, where the spread in available incentive levels is larger. CES emphasized that the model is illustrative and intended to convey the key input drivers and sensitivities rather than to recommend specific incentive levels.

A participant raised the point that any forward-looking BCA must acknowledge significant uncertainty in participation projections, particularly for a new category of resources.

5 Action Items and Next Steps

CES asked that working group members who have not yet responded to the survey on the straw proposals from Meeting 3 (device enrollment, qualified product list structure, and standards and certifications) do so promptly. Members with available incremental cost data for bidirectional EV systems were encouraged to share it with CES as soon as possible, given the report drafting timeline.

Meeting 6 will be a two-hour meeting with two primary goals: (1) reviewing areas of consensus and non-consensus from across the full working group process, and providing another opportunity for discussion on unresolved questions; and (2) presenting the Program Administrators' high-level recommendations to PURA regarding if and how different vehicle classes should be incorporated into the ESS program. CES indicated that these preliminary recommendations will be shared in advance of Meeting 6 to allow for substantive discussion during the meeting. CES noted that the working group report will document the

full range of perspectives expressed across meetings, highlighting areas of significant consensus and clearly noting areas of divergence along with the reasoning behind differing views.

6 Attendee List

An attendee list is provided below. Organizational information was not collected for all participants; information below reflects CES's best effort to associate individuals with their organizations based on available information.

Name	Organization
Alex Wang	OCC
Amanda Stevens	Eversource
Amy Findlay	ChargeScape
Brendan Smith	CGB
Brian Morris	UI
Devin Sorgi	Uplight
Dominic Gatti	Tesla
Ella Roseman	EnergyHub
Emmett Werthmann	WRI
Frances Bell	Bidirectional Energy
Jacqueline Piero	Mobility House
Jennifer Runyon	Eversource
Kevin Matthews	First Student
Lean Brams	Highland
Logan Taricani	UI
Madeline Frierson	Customized Energy Solutions
Mark Scully	People's Action for Clean Energy
Max Clarke	EV.Energy
Michael Crowley	UI
Nachum Sadan	GridEdge Networks
Nikhon Schuler	Eversource
Nitin Satish	Zum
Pallava Prakash	Zum
Prabisha Bhandari	OCC
Rick Rosa	UI
Sara Harari	Connecticut Green Bank
Sara Pyne	Connecticut Green Bank
Sergio Carrillo	Connecticut Green Bank
Stephan Wollenburg	CES
Steve Letendre	VGIC (Vehicle Grid Integration Council)

Tiffany Hammond	First Student
Toni Berlandy	Eversource
Walter Barozi	DEEP

Meeting Notes: Bidirectional EV Working Group – Meeting 6 – Draft Recommendations and Working Group Synthesis

Date: June 12, 2026 | **Time:** 9:00 AM ET

On June 12, 2026, Customized Energy Solutions (CES) facilitated the sixth meeting of the Bidirectional EV Working Group (Bidirectional EV WG). The meeting was held via Microsoft Teams. This memo summarizes the major topics of discussion, questions, and comments raised by participants.

1 Program Administrator Draft Recommendations

The Program Administrators provided their preliminary recommendations for how bidirectional EVs should be incorporated into the Energy Storage Solutions (ESS) program. A representative from the PAs opened by framing the overall approach as deliberate and phased. Four primary objectives were described as underlying the recommendations: cost-effectiveness, maturity, scale and administrative efficiency, and customer experience.

On cost-effectiveness, the representative noted that any bidirectional EV program expansion must be tied to measurable grid benefits and must pass the cost-benefit screening tools currently applied in the ESS program, including both a ratepayer impact measure and a participant cost test. On maturity, the representative cited the importance of learning from ongoing pilots – including the IES bidirectional pilot and the Mass CEC V2X pilot – before broader scaling, noting that communication standards and metering requirements also need to be sufficiently developed. On scale and administrative efficiency, the representative observed that programs carry costs and that there must be a tangible volume of participating assets to justify those costs. On customer experience, the representative emphasized that EVs are transportation assets first and grid resources second, and that problems with early deployments could delay broader adoption.

1.1 Commercial Recommendations

A PA representative presented the following preliminary recommendations for EVSE installed behind meters on commercial rates:

- Eligibility: EVSE installed behind the meter on a commercial utility rate, with a minimum discharge rating of at least 20 kW per port.
- Program participation: at this time, vehicles may enroll in either the light-duty Managed Charging program or the ESS program, but not both simultaneously. The representative noted

that dual enrollment is a goal, but that the technological and operational roadmap for managing simultaneous signals from both programs has not yet been fully worked out.

- Performance incentive: rather than establishing a new vehicle-specific rate, the PAs propose to use an existing approved rate, specifically, the small and medium commercial rate. The current rate is $325/kW for the first five years, declining to $175 per kW for years six through ten.
- No enrollment incentive: the PAs do not recommend an enrollment incentive. The representative noted that, relative to stationary storage, the incremental costs associated with moving to a bidirectional-capable EV and EVSE from one-directional is modest.

1.2 Residential Recommendations

For residential-connected resources, the PA representative described a recommendation to defer program opening pending the conclusion of current pilots. The IES Bidirectional Energy pilot is expected to conclude within the next twelve months, though a six-month extension has been requested. The Mass CEC V2X pilot, which is also expected to yield applicable learnings, is also ongoing. The representative indicated that, based on the preliminary PA recommendations, the earliest residential vehicles could enter the program, assuming pilot learnings are incorporated, would be the summer of 2028.

Consistent with the commercial recommendations, residential resources would be required to choose between Managed Charging and ESS program participation, pending development of a dual-enrollment pathway. Performance incentives would follow the existing ESS rate structure for Standard, Underserved, and Low Income residential customers. No enrollment incentive was recommended.

2 Discussion of Draft Recommendations

A participant asked about the rationale for the 20 kW minimum discharge threshold for commercial EVSE, noting that a fleet of light-duty vehicles using Level 2 chargers rated at 10–12 kW would not qualify. The PA representative explained that the 20 kW threshold is intended to target higher-value, higher-kW systems – noting that certain vehicle types primarily connect at DC fast charging speeds – and that the intent is to avoid overlap with the existing light-duty fleet managed charging program. The representative confirmed that while the threshold is effectively aligned with the current school bus market, it is not intended to be vehicle-class-specific, and that other commercial vehicle types are expected to become eligible as they come to market.

Several participants expressed concern about the residential deferral and urged the PAs to consider an earlier soft launch. One participant noted that major OEM manufacturers are actively planning and launching new bidirectional EV products, and cited a recent announcement by General Motors that a large number of already-sold vehicles could be enabled for grid-parallel bidirectional operation through a software update. The participant urged the PAs to consider beginning a soft launch in 2027 to allow the residential market to begin developing, arguing that an additional year of delay would be harmful to companies bringing these technologies to market.

Another participant, speaking from the perspective of the active residential pilot, described a tension in the market: technology companies need sufficient market certainty before committing to a state program, but scaled programs seeking greater market maturity may not see the volumes they're looking for until a

stable program is announced. The participant noted that a clear commitment to a residential program would help demonstrate to technology partners that the opportunity is durable and not a one-year window.

A third participant, echoed those points and noted that light-duty vehicles are already participating in grid events in other jurisdictions through existing aggregation and DERMS platforms, and that the technology and aggregation infrastructure to enroll light-duty vehicles in ESS is available ahead of the 2027 program season. The participant urged the PAs to push for a 2027 residential launch, and at minimum to ensure that the interconnection work currently underway in the parallel working group is not inadvertently scoped in a way that excludes light-duty vehicles.

CES noted that the PA intent is to provide a clear, committed roadmap with specific milestones that would trigger expanded eligibility – not an open-ended deferral. CES suggested that one of the most useful contributions participants could make, in written follow-up comments, would be to help identify concrete, mutually agreeable milestones that could be used as clear triggers for expanding the program to residential customers. CES also noted that PURA, not the PAs, will make the ultimate determination, and encouraged participants to keep recent PURA decisions and priorities in mind when formulating their recommendations.

A participant raised the concern that deferring residential program opening without any interim mechanism risks a loss of momentum – both for the market and for program design readiness. The participant suggested that rather than waiting passively for pilots to conclude, the PAs consider carving out a modest budget to continue a structured pilot within the ESS program during the upcoming cycle, allowing program design to evolve in parallel with market development.

Another participant, focused on the Medium/Heavy Duty market, offered a different perspective, stating support for the PA recommendation on the commercial side and noting that the proposed compensation structure is within a range sufficient to support investment payback. The participant expressed caution about enrollment incentives, noting that in the current regulatory and political environment, performance-based incentives are more defensible than upfront payments that are not directly tied to grid benefits. The participant clarified that this view was specifically about the commercial segment and did not necessarily apply to residential.

A participant noted that the original ESS program provided upfront enrollment incentives to help stationary storage overcome early adoption barriers, and suggested that V2G technology, while entering a more mature program structure, is itself earlier on the adoption and cost curve than stationary storage was when those incentives were provided. The participant drew an analogy between the declining block incentive structure that benefited early battery adopters and a potential analogous structure for early V2G adopters. CES acknowledged the point and noted the relevant context: the shift away from upfront incentives in the Year 5 Decision was driven by performance concerns, not by technology maturity alone.

A participant asked the PAs to elaborate on the specific barriers to dual enrollment in managed charging and ESS, and what conditions would need to be met for that to become possible. A PA representative explained that the Managed Charging program and the ESS program are managed using different DERMS providers and that there is no established mechanism for a single asset to receive coordinated signals from both systems simultaneously. The primary concern is customer experience: cases where charging does not behave as expected are already a significant source of customer support inquiries in the managed

charging program, and introducing a second program with potentially conflicting signals compounds that risk. The representatives noted that they see dual enrollment as a goal, and that the intended direction is for vehicles to participate in both programs – partly because ESS-only participation could cause vehicles to charge in spikes immediately following a discharge event, which is itself undesirable. The barrier is the technological roadmap to get there.

3 Review of Prior Working Group Discussions

CES briefly synthesized the key discussions and areas of consensus and divergence from prior meetings, for the purpose of ensuring those perspectives would be appropriately reflected in the final report.

3.1 Device Enrollment (Meeting 3)

CES noted that the straw proposal – that the EVSE is the unit of enrollment, with the PAs optionally collecting vehicle information for evaluative – received wide support from working group members who submitted written feedback. No substantive objections were raised in the meeting.

3.2 Qualified Product List (Meeting 3)

CES summarized the QPL straw proposal and member feedback. The proposal called for a EVSE-only QPL, not attempting to address interoperability, requiring V2G capability, UL 1741 SB or SC certification, IEEE 1547, UL 9741, UL 2594, and integration with the program administrators' DERMS. Member feedback raised several themes: that IEEE 1547 is likely incorporated by reference into UL 1741 and may not need to be cited independently; and that some members advocated for referencing the EPRI QPL rather than maintaining a program-specific list. In feedback collected by CES, some participants advocated that the QPL should be on the basis of ability to connected to a DERMS as opposed to that connection already being established. CES noted that the QPL is intended to be a customer-facing list of equipment that can be immediately enrolled, and only equipment that has completed DERMS integration can meet that bar.

3.3 UL 1741 Certification Pathways (Meeting 3)

CES summarized the three-pathway framework reflected in the straw proposal: UL 1741 SB for DC-coupled systems; UL 1741 SC (pending finalization) plus SAE J 3072 for AC-coupled systems; and UL 1741 SB CRD for composite DER pairings. No significant objections were raised.

3.4 Communication Protocols (Meeting 3)

CES summarized the straw proposal – ISO 15118-20 as a program requirement with PA discretion to grant exceptions, and Open Charge Point Protocol (OCPP) not required – and noted that this was the topic that generated the most divergent feedback. One participant reiterated that while it supports the goal of interoperability, requiring 15118-20 may exclude equipment that is otherwise capable of participating. A participant expressed support for requiring a DERMS-to-EVSE communication standard as well, not just the EVSE-to-vehicle standard, recommending that OCPP 2.1 should be a program requirement. A participant raised the aggregation layer question – noting that many utilities prefer to work through aggregators rather than direct EVSE connections, which affects how end-to-end standardization should be framed. CES noted that OCPP was omitted primarily because of divergent opinions in provided

feedback and uncertainty about which version would be appropriate and whether older versions address bidirectional functionality; CES invited additional written feedback on OCPP from interested participants.

A PA representative added context on why communication protocol requirements, including EVSE-to-vehicle standards, are within the program's purview: the ESS program has experienced the failure of battery manufacturers and the resulting inability to communicate with orphaned devices. Requiring open standards is intended to protect customers who have enrolled expecting ten years of performance incentives from being stranded if their equipment manufacturer exits the market.

3.5 Safety Standards

CES noted that the straw proposal for UL 9741, UL 2205, and UL 2594 as explicit QPL requirements received broad support with no objections.

3.6 LD vs. MHD Classification (Meeting 2)

CES noted that the working group reached clear consensus that light-duty versus medium/heavy-duty classification based on a gross vehicle weight rating threshold is not the most operationally useful distinction for program design. Residential versus commercial utility rate class emerged as the more meaningful dividing line, and the PA recommendations reflect that framing. CES noted no significant dissent on this point.

3.7 Cross-Program Participation (Meeting 4)

CES summarized that the working group reached consensus that co-participation in managed charging and ESS does not create a benefits double-counting problem from a policy standpoint, but that implementation presents significant practical challenges – including conflicting dispatch signals, baselining complexity for managed charging program evaluation, and the absence of existing integrations between the two programs' technology platforms. The PA recommendations reflect the current position of requiring a choice between programs while working toward a dual-enrollment pathway over time.

3.8 Incentive Structure (Meeting 5)

CES noted that Meeting 5 focused on incremental cost drivers and a discussion of incentive design, primarily the question of upfront versus performance-based incentives. Key themes included: significant variability in incremental costs that is expected to narrow over time; the argument that performance-based incentives are more politically durable and directly tied to ratepayer value; and the counterargument that upfront or front-loaded incentives may be necessary to enable early adoption given current equipment cost premiums. CES noted that both perspectives will be reflected in the final report, alongside the PA recommendation for a performance-only structure.

4 Report and Process Next Steps

CES described the structure and timeline for the final report. The report will be filed with PURA by August 1, 2026. It will include background on market conditions and other jurisdictions' approaches, a synthesis of the working group discussions identifying areas of consensus and divergence, and the PA-specific recommendations – including both what should be implemented immediately and a roadmap for future program expansion. CES noted that the explicit articulation of a future roadmap is intended to give PURA

an opportunity to weigh in on the PA vision in the Year 6 docket Decision expected in early December 2026, providing market signal clarity that goes beyond the immediate program season.

CES noted that given the number of participants and timeline, the group will not be asked to provide line-by-line edits on the report. Participants will receive a prompt for written feedback on the recommendations discussed in the meeting, and are encouraged to share any perspectives they want captured in the report. CES indicated a turnaround of at least one week would be provided for that feedback.

A participant asked about the proceeding timeline after the report is filed. A PA representative clarified that the ESS docket (Docket No. 26-08-05) has been opened and provided an overview of the schedule. A Final decision is currently scheduled for December 2, 2026.

5 Attendee List

An attendee list is provided below. Organizational information was not collected; information collected below is based on CES' best attempt at associating individuals' names with the appropriate organization.

Attendee	Organization
Alex Wang	OCC
Amanda Stevens	Eversource
Amy Findlay	ChargeScape
Anu Kadyan	WRI
Benjamin Noth	DEEP
Brian Morris	UI
Dominic Gatti	Tesla
Ella Roseman	EnergyHub
Emmett Werthmann	WRI
Frances Bell	Bidirectional Energy
Jacqueline Piero	Mobility House
Jennifer Runyon	Eversource
Katie Peterson	Mobility House
Kevin Boughan	Eversource
Kevis Moss	Connecticut Green Bank
Lean Brams	Highland
Lidia Ruppert	DEEP
Logan Taricani	UI
Madeline Frierson	Customized Energy Solutions
Mark Moniz	Eversource
Mark Scully	People's Action for Clean Energy
Michael Crowley	UI
Nachum Sadan	GridEdge Networks
Nikhon Schuler	Eversource
Nitin Satish	Zum

Robert Whelan	UI
Sara Harari	Connecticut Green Bank
Sara Pyne	Connecticut Green Bank
Sergio Carrillo	Connecticut Green Bank
Stephan Wollenburg	CES
Steve Letendre	VGIC (Vehicle Grid Integration Council)
Walter Barozi	DEEP