

V2G INCENTIVE
SUPPLEMENTAL MATERIALS





V2G INCENTIVE | LEVEL PLAYING FIELD CONCEPT

1. Principle: if one technology can provide the same service and performance as another subsidized technology, then it should be eligible for those same subsidies.
2. If V2G use cases that perform the same service are excluded from subsidies, then ratepayer funding is being used create market barriers for technology that would otherwise be more cost effective than what is currently being subsidized. In doing so, incentive programs are bringing about the opposite of what is intended.
3. V2G covers several potential areas of subsidy support which include:
 - Stationary Storage [focus of this presentation]
 - V2G EV systems currently qualify for the CA storage mandate. This would suggest they should also qualify for some form of SGIP incentives used to achieve the mandate - assuming V2G use cases and achieve SGIP performance requirements.
 - Certain V2G use cases may warrant additional study to create a special class of SGIP credits with different performance requirements similar to how residential and commercial classes currently work.
 - Recommend a large, commercial pilot to assess SGIP potential for a variety of V2X use cases.
 - EV charging infrastructure
 - could include potential and future direct incentive programs to help pay for EV infrastructure projects and subsidized charging rates, this could include waived demand charges although what is considered a subsidy may be complicated to assess.
 - While certain V2G use cases may be eligible for some programs already, others may rely on separate service drops and meters which would preclude almost all “V2B” use cases including customer bill management and customer resiliency. Not only would having a separate service drop and meter exclude V2B value from being realized, it would also likely add additional installation expense as well as administrative expense from the utility.
 - Programs that include direct control signals from the utility for managed charging, should also be available for V2G systems assuming the V2G system has access to and can follow the signal.
 - LCFS Credits
 - V2G systems should be eligible for LCFS credits for providing energy used for EV transportation. However, it is unclear if it should receive more.



V2G INCENTIVE | 2-STEP POLICY PROPOSAL

STEP 1: V2G PILOT SCOPE TO TEST INCENTIVE VIABILITY + STRUCTURE

Create pilots or additional scope in other V2G/V2X pilots to assess the performance of V2X systems relative to existing technology currently receiving subsidies such as SGIP. V2X use cases include ones identified by the VGI WG which offer high value and are viable today.

STEP 2: DEVELOP V2G INCENTIVE (FERMATA POLICY RECOMMENDATION 2.02)

This policy is part two of a two step recommendation that depends on the first part (V2G pilot) being successful enough to warrant investigating this second part. Pending a successful pilot per recommendation 7.04 and/or other pilot policies, V2G systems become eligible for incentives in order to create a "level playing field" for DERs that provide similar services. The current SGIP program could inform V2G incentive structure so that performance requirements, pricing, and other elements remain consistent where applicable and become modified when appropriate. For the first step, assessing potential incentive structures could be part of a larger scope for broader V2G pilots. A similar path could also be taken for V1G albeit with a separate scope.

GOAL:

An incentive policy for V2G services that allows different V2G technology to compete in the marketplace based on its performance and value relative to other DER technology currently receiving subsidies for the similar value and performance.

SUCCESS FACTORS + OUTCOMES

Per: D.16-06-055

1. Environmental benefits: reducing GHG emissions and criteria pollutants and the limitation of other environmental impacts;
2. Grid support: the reduction or shift of peak demand, improved efficiency and reliability of the transmission and distribution system, lowered grid infrastructure costs, the provision of ancillary services, and ensuring the reliability of customer distributed energy resources;
3. Market transformation: supporting technologies with the potential to thrive in future years without rebates;
4. Maximizing ratepayer value; and
5. Providing for equitable distribution of benefits among customer classes.

Additionally:

6. Accomplishes 1-5 with high cost effectiveness in terms incentives funded by rates payers and in terms of overall costs to supply these services
7. Increase in EV adoption by lowering the cost of EV ownership from value generated by energy storage services
8. Similarly, increase in EV charging infrastructure from value generated by energy storage services
9. per #6-8, lower costs will make it easier for lower income communities to access resiliency and clean transportation
10. Longer term, success will mean maximum grid reliability and stability as energy storage DER assets are mobile and abundant with total accessible energy capacity greater than what the grid needs.



V2G INCENTIVE | POTENTIAL STRUCTURES + METRICS

Focus on Point of Grid Interconnection

- Incentives are based on and flow through permanent, site-specific installations of chargers and EVSEs. This would most likely be an off-board charger in the “now” time frame but could be a bi-directional EVSE using on-board bi-directional chargers in the future.
- Allows locational value to be known for all kW dispatched.
- Easy to associate with site specific resiliency.
- With an off-board DC charger, incentive can be tied with the interconnect agreement.
- For fragmented models (likely in 2023 and beyond), where the EVSE site owner is different than the EV owner, some percentage of incentive could be guaranteed to pass through to the EV driver to make sure all stakeholders receive direct benefit.

Performance Based vs. Upfront Incentives

- Some V2G use cases may have higher V2G activity variability than others. Incentives for high variability use cases, such as non-unified, fragmented ownership of the EV and charger, could place more emphasis on performance and kWh discharge. This would be a simple way to account for different EV models, sites, driving cycles, and other factors impacted performance.
- For more predictable use cases such as fleets where the EV and charger can be associated closely, upfront incentives could be based on anticipated V2G activity. Other use cases with stable activity could include V2H single family, and potential MUD EV fleet amenity models.
- In the “now” timeframe, it may be easiest to simply start with unified, EV + EVSE packaged incentives that can closely resemble stationary storage. In addition to being simple, it is also likely that these will be the first V2G use cases introduced to the market in the near term.