SENATE COMMITTEE ON APPROPRIATIONS
Senator Anna Caballero, Chair
2025 - 2026 Regular Session

AB 740 (Harabedian) - Virtual power plants: load shifting: integrated energy policy report

Version: August 18, 2025
Urgency: No
Hearing Date: August 25, 2025

Policy Vote: E., U. & C. 16 - 0
Mandate: No
Consultant: Ashley Ames

Bill Summary: This bill would require the California Energy Commission (CEC), on or before November 1, 2026, to adopt a virtual power plant (VPP) deployment plan.

Fiscal Impact:
- The CEC estimates one-time costs of $191,309 and ongoing costs of $114,976 annually (Energy Resources Program Account [ERPA]) for one temporary and one permanent position to execute the required analysis within less than a year. The permanent position would continue in future fiscal years. The CEC notes an ongoing structural deficit within the ERPA fund, its main operational funding source.

Background: VPPs, generally considered a connected aggregation of DER technologies, can offer deeper integration of renewables and demand flexibility, which in turn offers more customers cleaner and more affordable power. At its core, a VPP is comprised of hundreds or thousands of households and businesses that offer the latent potential of their thermostats, EVs, appliances, batteries, and solar arrays to support the grid. These devices can be flexibly charged, discharged, or managed to meet grid needs. When these devices are aggregated and coordinated, they can provide many of the same energy services (capacity, energy, ancillary services) as a traditional power plant.

In 2020, the Federal Energy Regulatory Commission released Order No. 2222, which enabled DERs to better participate in electricity markets run by regional grid operators, primarily mediated by a DER aggregator (a VPP or the utility itself). Despite this federal permission structure, how VPPs should integrate into CAISO is still unclear. In addition, there remains ambiguity as to how aggregators are classified relative to utilities, how they will be regulated by the CPUC, and how these programs can be deployed at scale.

Proposed Law: This bill would:

1. Define “virtual power plant” to mean an actively coordinated aggregation of behind-the-meter DERs, including, but not limited to, EVs and chargers, electric water heaters, smart thermostats, smart plugs, smart buildings and their controls, battery storage systems like those installed with rooftop solar systems, and flexible commercial and industrial loads, that are dispatchable and can balance electricity demand and supply and reduce or shift demand.

2. Require the CEC, on or before November 1, 2026, to adopt a VPP deployment plan.

3. Require the CEC, in developing the plan, to take certain actions in developing the plan, including:

    a. Consult and collaborate with the CPUC, the CAISO, and the disadvantaged community advisory group.
    b. Hold no less than two public workshops to solicit public input on the development of the strategy.
    c. Convene stakeholder sessions to solicit input from organizations representing various sectors.

4. Require that the plan meet specified requirements, including identifying:

    a. The resources, policies, and timelines needed for VPP to help meet the statewide load-shift goals adopted pursuant to §25302.7.
    b. Barriers and opportunities for VPP resources to qualify for resource adequacy (RA) obligations.
    c. Barriers and opportunities for VPP resources to act as load-modifying resources that reduce a LSE's RA obligations.

5. Require the plan adopted pursuant to these provisions to be included in the CEC's IEPR.

6. Require each electrical corporation to annually report to the CEC its contribution towards meeting the load-shift goal.

Related Legislation:

AB 44 (Schultz) of 2025, would require the CEC to create and share methods for adjusting LSEs' energy demand forecasts. These methods will be based on the use of technologies and programs that reliably reduce or shift electricity use, as agreed upon by the CEC, the CPUC, and the CAISO.

SB 541 (Becker) of 2025, would require the CEC to establish the incremental load shifting needed to meet the statewide load-shifting goal in the annual IEPR.

SB 59 (Skinner, Chapter 765, Statutes of 2024) authorized CARB, in consultation with the CEC and the CPUC, to require BEVs to be bidirectional-capable if it determines that there is a sufficiently compelling benefit to the BEV operator and the electrical grid.

AB 205 (Ting, Chapter 61, Statutes of 2022) authorized funding and changes in many energy focused programs, including the DSGS Program and appropriated $200 million to the CEC to run the Program.

SB 846 (Dodd, Chapter 239, Statutes of 2022) primarily extended the operations of the Diablo Canyon Powerplant. The bill also directed the CEC to establish a statewide goal for load shifting and to incorporate the goal in each IEPR.

Staff Comments: There's been growing interest about the use of VPPs to support the electric grid and help address some of the current challenges, including affordability, RA, flexibility, and others. As with all resources, costs relative to benefits is of concern.

An April 2024 report by the Brattle Group, *Virtual Power Plants Can Be a Solution for California's Growing Need for Affordable Capacity*, projected that VPPs at scaled could avoid $750 million per year in traditional power system costs by 2035. The Brattle Group projected roughly $500 million of those savings being paid to VPP participants and overall system savings for customers of $50 million per year. The study also identified the potential of 7,500 MW of VPP in California by 2035 (about 15% of the state's current peak demand).

VPPs offer the potential for ratepayer savings, reliability services and other energy system needs, however, these outcomes are not a given. California is already piloting and exploring opportunities for further deployment of VPPs which could help reduce load at critical times that could reduce the need for electric grid investments. However, VPPs need further study and understanding of how they can better be deployed to help the state. This bill requires the CEC to develop such a plan and requires specified considerations, particularly related to VPPs and their ability to meet RA.

-- END --