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**SENATE COMMITTEE ON ENERGY, UTILITIES AND  
COMMUNICATIONS**  
**Senator Ben Hueso, Chair**  
**2021 - 2022 Regular**

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**Bill No:** SB 423 **Hearing Date:** 4/12/2021  
**Author:** Stern  
**Version:** 2/12/2021 As Introduced  
**Urgency:** No **Fiscal:** Yes  
**Consultant:** Nidia Bautista

**SUBJECT:** Energy: renewable and zero-carbon resources

**DIGEST:** This bill proposes to explicitly accelerate procurement and planning of specified emerging renewable energy and zero-carbon resources into existing energy procurement and planning processes.

**ANALYSIS:**

Existing law:

- 1) Establishes the 100 Percent Clean Energy Act of 2018 as a policy of the state that eligible renewable energy resources and zero-carbon resources supply 100 percent of retail sales of electricity to California end-use customers and 100 percent of electricity procured to serve all state agencies by December 31, 2045. (Public Utilities Code §454.53)
- 2) Requires the California Public Utilities Commission (CPUC) and State Energy Resources Conservation and Development Commission (CEC), in consultation with the State Air Resources Board (CARB), to take steps to ensure that a transition to a zero-carbon electric system for the State of California does not cause or contribute to greenhouse gas (GHG) emissions increases elsewhere in the western grid. Requires the CPUC, CEC, and CARB, and all other state agencies to incorporate that policy into all relevant planning. Requires the CPUC, CEC, and CARB to use programs authorized under existing statutes to achieve that policy. (Public Utilities Code §454.53)
- 3) Requires the CPUC, in consultation with the California Independent System Operator (CAISO), to establish resource adequacy (RA) requirements for all load-serving entities (LSEs), including electrical corporations, electric service providers (ESPs), and community choice aggregators (CCAs), in accordance with specified objectives. (Public Utilities Code §380)

- 4) Requires the CPUC to adopt a process for each of those LSEs to file an integrated resource plan (IRP) and a schedule for periodic updates to the plan to ensure that it meets, among other things, the state's targets for reducing emissions of GHGs and the requirement to procure at least 60 percent of its electricity from eligible renewable energy resources by December 31, 2030. (Public Utilities Code §454.52)
- 5) Requires that the IRP contribute to a diverse and balanced portfolio of resources needed to ensure a reliable supply of electricity that provides optimal integration of renewable energy resources in a cost-effective manner and prevents cost shifting among LSEs. (Public Utilities Code §454.54)

This bill:

- 1) Makes several findings and declarations regarding the need to accelerate deployment of emerging renewable and zero-carbon resources that can provide firm baseload or firm flexible electricity, including green electrolytic hydrogen, new long-duration and multi-day storage resources and geothermal and offshore wind resources.
- 2) Requires CARB and CEC to timely incorporate emerging renewable energy and firm zero-carbon resources, as defined, into its energy and resource planning processes, as specified.
- 3) Requires the CEC, in consultation with the CPUC, CAISO, and CARB, on or before December 31, 2022, to submit to the Legislature an assessment of emerging renewable energy and firm zero-carbon resources that support a clean, reliable, and resilient electrical grid in California. This bill would require the CEC and CPUC, on or before December 31, 2022, to each adopt, and update as necessary, measures to bolster the near-, mid-, and long-term reliability and resiliency of California's electrical grid consistent with California's goals to reduce localized air pollutants and emissions of GHGs, as specified.
- 4) Requires the CPUC, as part of establishing the RA requirements, to ensure that the RA requirements result in the LSE having sufficient resources to maintain reliable electrical service during multi-day extreme or atypical weather events and that methods used to assess the qualifying capacity of stand-alone energy storage systems or hybrid resources account for how the reliability value of those resources may vary, as specified.
- 5) Requires the CPUC, as part of the integrated resource planning process, to evaluate and analyze potential needs for emerging renewable energy and firm

zero-carbon resource and technologies to contribute to a reliable, resilient, cost-effective, and clean electrical grid and integrate variable renewable energy resources into the electrical grid, to pursue opportunities to lower ratepayer costs by considering the ability of existing and emerging technologies to simultaneously address multiple reliability needs, and to establish mechanisms to encourage the stable development of emerging renewable energy and firm zero-carbon resources at a pace that is necessary to achieve both reliability needs and long-term renewable energy and zero-carbon energy goals.

## **Background**

*SB 100 (De León, Chapter 312, Statutes of 2018).* SB 100 establishes the 100 Percent Clean Energy Act of 2017 which increases the Renewables Portfolio Standard (RPS) requirement from 50 percent by 2030 to 60 percent, and creates the policy of planning to meet all of the state's retail electricity supply with a mix of RPS-eligible and zero-carbon resources by December 31, 2045, for a total of 100 percent clean energy. SB 100 also requires CARB, CEC, and CPUC to issue a joint report by January 1, 2021, and at least every four years, that describes technologies, forecasts, affordability, and system and local reliability. The report is required to include an evaluation of costs and benefits to customer rate impacts, as well as, barriers to achieving the SB 100 policy. In January 2021, the Joint Agency report was released

*Renewable Portfolio Standard (RPS).* California's ambitious RPS program is jointly implemented and administered by the CPUC and the CEC. The RPS program requires the state's energy LSEs, including investor-owned Utilities (IOUs), CCAs, ESPs and publicly owned utilities (POUs) to procure 60 percent of their total electricity retail sales from eligible renewable energy resources by 2030, and a mix of RPS-eligible and zero-carbon resources by December 31, 2045, for a total of 100 percent clean energy. The RPS requires milestones on the path to 2030, including interim goals of 25 percent by 2016, 33 percent by 2020, 44 percent by 2024, and 52 percent by 2027. The state is well on its way to achieving its existing RPS targets. Most POUs are on track to meet their 2020 goals and working towards their 2030 goals. The state's three largest electric utilities generally have met current procurement goals and anticipate exceeding future procurement goals, with each having procured over 40 percent eligible renewable energy resources.

*Integrated Resources Plan (IRP).* As required in SB 350 (De León, Chapter 547, Statutes of 2015), the IRP process requires the CPUC to identify a portfolio of resources for electricity procurement that provides optimal integration of renewable energy in a cost-effective manner, and minimize impacts on ratepayer's bills. The identification of this portfolio is intended to guide LSEs' IRPs, which

help ensure that utilities meet GHG reduction targets for the electricity sector. The reference system plan is a guide – not a mandate. As part of the IRP planning cycle, the CPUC adopts a reference system plan, which identifies the energy procurements needed to help the LSEs meet specific GHG reduction goals. In its most recent IRP, the CPUC adopted a GHG reduction goal of 46 million metric tons (MMT) by 2030. To meet this target, the CPUC identified specific procurements for LSEs, noted in the IRP reference system plan. The CPUC also included a scenario at the 38 MMT GHG target in 2030 to serve as an optimal portfolio guide for LSEs required to file individual IRPs.

*Resource Adequacy (RA).* Following the California energy crisis of 2000-01, the California Legislature enacted legislation to prevent future incidents of widespread black outs and rolling brown outs due to lack of electric generating capacity. Among the reforms was the adoption of Public Utilities Code §380 which directs the CPUC, in consultation with the CAISO, to establish RA requirements for all LSEs, including IOUs, ESPs, and now includes CCAs which did not exist at the time of the crisis. The current RA program consists of system, local, and flexible requirements for each month of a compliance year. In October, LSEs under the jurisdiction of the CPUC must demonstrate that they have procured 90 percent of their system RA obligations for the five summer months (May-September) of the following year, as well as 100 percent of their local requirements, and 90 percent of their flexible requirements for each month of the coming compliance year. The CPUC has recently adopted changes to RA, including increasing the planning reserve margin from 15 percent to 17.5 percent and in some cases to 19 percent.

*Integrated Energy Policy Report (IEPR).* The IEPR provides a cohesive approach to identifying and solving the state's pressing energy needs and issues. The report, which is crafted in collaboration with a range of stakeholders, develops and implements energy plans and policies. Senate Bill 1389 (SB 1389, Bowen and Sher, Chapter 568, Statutes of 2002) required the CEC to conduct assessments and forecasts of all aspects of energy industry supply, production, transportation, delivery and distribution, demand, and prices. The CEC is then required to use these assessments and forecasts to develop energy policies that conserve resources, protect the environment, ensure energy reliability, enhance the state's economy, and protect public health and safety." The CEC adopts an IEPR every two years and an update every other year.

*SB 423.* This bill proposes to accelerate deployment of emerging renewable and zero-carbon resources that can provide firm baseload or firm flexible electricity, specifically naming green electrolytic hydrogen, new long-duration and multi-day storage resources, and geothermal and offshore wind resources, and other resources. This bill also explicitly incorporates specific reference to these

resources in several planning and procurement processes, including CARB's Scoping Plan, CEC's IEPR, CPUC's IRP process, and requires the CEC to adopt measures to bolster these resources (including via procurement). This bill also proposes changes to the RA program with specific standards regarding sufficient resources to maintain reliable electrical service during multi-day extreme or atypical weather events, and that ensure methods to qualifying capacity of stand-alone energy storage systems or hybrid resources.

*Author's purpose.* "There is no time to waste before planning for, supporting, and procuring the diverse set of increasingly firm, zero carbon resources that we need to provide a reliable, low cost, 100 percent clean electricity grid. The next SB 100 evaluation is not due until 2025, and while the agencies commit to ongoing analysis and annual workshops in the meantime, four years is too long to wait for a more thorough evaluation of these issues. Indeed, at a six gigawatt (GW)/year pace, by 2025, we would have added about 24 GW of new renewable energy and storage resources, which is equivalent to the total capacity of all renewable power in the state as of 2019, the latest year data is available. With such scale and need on the horizon, and the impacts we've witnessed from heat waves and public safety power shutoffs, we can't afford to get it wrong – we need to start planning for, and supporting, the emerging renewable and firm zero carbon resources that will provide a more reliable, diverse, low cost and clean electricity grid."

*Is a bill necessary?* The recent August rolling blackouts and extension of permits for once-through cooling gas plants may suggest to some that California is challenged to transition the electric system to the SB 100 zero-carbon goals. While the named resources in the bill are included in some of the existing planning processes, geothermal in the IRP modeling, the sponsors of this bill express frustrations that emerging technologies aren't better considered in the modeling, including offshore wind and multiday storage. The CPUC and the SB 100 Joint Agency Report acknowledge limitations on including some of the emerging technologies, largely due to lack of certainty regarding costs and transmission requirements, in some instances. Nevertheless, the CPUC states that many of these resources were included in sensitivity analysis in the IRP and as part of the SB 100 Joint Agency Report.

*Need for additional assessment?* The author notes that the SB 100 Joint Agency Report is not required again until 2025. This bill would require a similar evaluation, but with these specified resources explicitly named, sooner than 2025.

*Reference to baseline scenarios.* Unclear what the reference to baseline planning scenarios implies in relation to CARB's Scoping Plan. ***As such, the author and committee may wish to strike this reference.*** CARB has also expressed concern

regarding whether they should be referenced in this bill in relation to specific energy procurement. If this bill moves forward, the author may wish to consider whether Section 2 is necessary for this bill.

*Limit CEC for requiring procurement.* The POU's have valid concerns regarding the proposed expanded role for the CEC in overseeing their IRPs and potentially proposing procurement. The sponsor of this bill notes that some POU's are being quite innovative in accelerating and diversifying their energy procurement portfolios. The sponsors specifically cite Los Angeles Water and Power and Sacramento Municipal Utility District's recent procurement planning announcements advancing zero-carbon resources. *As such, the author and committee may wish to amend this bill to remove reference to the POU's IRPs and to allow the CEC to make recommendations, but not require procurement of POU's.*

*RA standard.* The CPUC has been actively making changes in recent years and months to RA standards, including increases to the planning reserve margins. A number of the opponents, and even some of the supporters, of this bill express concerns with the additional changes proposed in RA by this bill which could further hamper RA procurement. *Recognizing the author's intent to support procurement of emerging zero-carbon firm resources, the author and committee may wish to strike the language proposing changes to RA.*

### **Prior/Related Legislation**

SB 68 (Becker, 2021) revise state's energy procurement policy to establish a goal that 100 percent of electrical load be supplied by eligible clean energy resources, as defined. The bill would establish the California 24/7 Clean Energy Standard Program, which would require that 85 percent of retail sales annually and at least 60 percent of retail sales within certain subperiods by December 31, 2030, and 90 percent of retail sales annually and at least 75 percent of retail sales within certain subperiods by December 31, 2035, be supplied by eligible clean energy resources, as defined.

SB 646 (Hertzberg, 2021) among other provisions, makes changes to the IRP so that the benefits and costs of energy procurement by an electrical corporation are equitably distributed.

SB 100 (De León, Chapter 312, Statutes of 2018) would establishes the 100 Percent Clean Energy Act of 2017 which increases the RPS requirement from 50 percent by 2030 to 60 percent, and creates the policy of planning to meet all of the

state's retail electricity supply with a mix of RPS-eligible and zero-carbon resources by December 31, 2045, for a total of 100 percent clean energy.

**FISCAL EFFECT:** Appropriation: No Fiscal Com.: Yes Local: Yes

**SUPPORT:**

Clean Power Campaign, Sponsor  
Berkshire Hathaway Energy  
Form Energy  
Plug in America  
The Climate Center

**OPPOSITION:**

California Municipal Utilities Association  
Northern California Power Agency  
Southern California Edison  
Southern California Public Power Authority

**ARGUMENTS IN SUPPORT:** According to the author:

The growing effects of climate change are revealing more and more the serious limitation of our energy grid. As was experienced last August, when an extreme heat wave across the west resulted in energy demand reaching high enough levels that it required the California Independent Systems Operator (CASIO) to issue a Flex Alert, for the first time in nearly 20 years, calling upon all Californians to conserve their energy use in order to avert rolling power outages. Millions of Californians did their part to conserve energy but it was not enough to avoid CASIO from ordering rolling blackouts for a brief period of time. Our energy grid was not prepared. Last month in Texas, during extreme cold weather affecting parts of the Midwest, demand for energy to heat homes in freezing temperatures and a lack of energy resiliency measures resulted in rolling blackouts that lasted days. These extreme weather events are not going away but are likely to increase, and if we rely on the same energy planning processes that got us to August, then the same outcome is certain to happen. It is vitally important for our state's energy agencies to plan for these extreme weather events and to assess how to increase and integrate emerging renewable energy and firm zero-carbon resources that support a clean, reliable, resilient electrical grid in California.

**ARGUMENTS IN OPPOSITION:** The California Municipal Utility Association (CMUA), Southern California Public Power Authority (SCPPA), and the Northern California Power Agency (NCPA) oppose the bill for the following reasons: (1) the proposed procurement authority granted to the CEC, (2) the proposed CEC oversight of the POU's IRPs, and (3) the proposed changes to RA that would establish a "troublesome new standard" that could affect the CAISO tariff subjected on POU's. They state:

SB 423 inappropriately gives the CEC the authority to adopt measures to bolster reliability, including procurement measures. POU's, working under the oversight of their locally elected governing boards and within the parameters of their balancing authority area protocols, are responsible for their procurement on behalf of their customers to satisfy federal, state, and local reliability standards... We are not convinced that authorizing the CEC to undertake procurement measures will do anything to enhance reliability.

Southern California Edison (SCE) opposes this bill stating SB 423: "is unnecessary, as regulatory agencies are already considering these resources in their planning processes." SCE expresses concerns that this bill would create a technology carveout for certain resources, circumventing the CPUC's planning authority and increasing customer costs. SCE states that the "IRP is the appropriate forum to determine the best path forward, while recognizing the reliability and affordability tradeoffs, among several other factors."

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