Date of Hearing: April 22, 2026

ASSEMBLY COMMITTEE ON UTILITIES AND ENERGY
Cottie Petrie-Norris, Chair
AB 2647 (Calderon) – As Amended April 16, 2026

SUBJECT: Energy: nuclear powerplants: assessment

SUMMARY: Requires the California Energy Commission (CEC) to complete, on or before July 1, 2027, as part of the Integrated Energy Policy Report (IEPR) or separate report, a comprehensive assessment of the potential role for advanced nuclear technologies in supporting critical infrastructure in California and the potential for new, in-state nuclear powerplants to cost-effectively meet statewide needs for new electricity resources and meet the state's clean energy goals. Specifically, **this bill:**

1) Specifies legislative intent to ensure the use of a skilled and trained workforce for the construction and maintenance of any new advanced nuclear reactors that may be permitted and constructed in the future.

2) Requires the commission to consider all of the following in preparing the comprehensive nuclear assessment:
    a. An analysis of system costs, reliability benefits, emission impacts, deployment timelines, waste management and disposal pathways to include advanced fuel cycle technologies, environmental and public health impacts, and potential siting considerations.
    b. An evaluation assessing the potential of nuclear energy using high-renewable grid scenarios that require firm, dispatchable, zero-carbon resources to complement renewable resources, enhance grid reliability, and reduce overall system costs.
    c. An assessment of the ratepayer, taxpayer, and private costs associated with spent nuclear fuel management, including onsite, interim, and long-term storage pathways, in comparison with systemwide costs of waste, storage, and byproduct management across other electricity generation technologies.
    d. The potential for employment of a skilled and trained workforce, as defined, in construction, operation, and maintenance of nuclear powerplants.
    e. The potential need for procurement of electricity from nuclear powerplants after 2045.
    f. The comparative outcomes relative to existing and projected energy pathways in California.
    g. A comparative analysis of environmental, public health, and waste impacts across all electricity generation technologies.
    h. Recommended revisions to state law and regulations, including relevant sections on California's nuclear moratorium.
    i. Additional factors, as appropriate.

3) Requires the commission to consult with the California Public Utilities Commission (CPUC), the California Independent Systems Operator (CAISO), and other state agencies, as applicable.

4) Requires the CEC to hold workshops and solicit participation and comments from a broad range of stakeholders, including academic experts, potential developers, investors, electric corporations, labor, ratepayer advocates, and environmentalists.

5) Allows the CEC to update the assessment as appropriate.

6) Allows the CEC, CPUC, CAISO, and other public agencies to evaluate the potential of nuclear energy to meet long-term resource needs, notwithstanding the conditional statutory prohibitions on siting new nuclear plants.

EXISTING LAW:

1) Prohibits any nuclear fission thermal powerplant from being permitted in the state until the federal government approves technologies to reprocess the spent nuclear fuel rods, and the CEC reports to the Legislature affirmative findings of that federal action. (Public Resources Code § 25524.1)

2) Declares the policy of the state to encourage the use of nuclear energy, wherever feasible, recognizing that such use has the potential of providing direct economic benefit to the public, while helping to conserve limited fossil fuel resources and promoting clean air. (Public Resources Code § 800)

3) Requires the CEC to conduct assessments and forecasts of all aspects of energy industry supply, production, transportation, delivery and distribution, demand, and prices and use these assessments and forecasts to develop and evaluate energy policies and programs that conserve resources, protect the environment, ensure energy reliability, enhance the state's economy, and protect public health and safety. (Public Resources Code §§ 25000, *et seq*)

4) Requires the CEC, as part of its 2027 Integrated Energy Policy Report (IEPR), to include an assessment of the potential of fusion energy to contribute to the state's power supply. Defines "fusion" to mean a reaction in which at least one heavier, more stable nucleus is produced from at least one lighter, less stable nucleus, typically through high temperatures and pressures, and emitting energy as a result. Defines "fusion energy" to mean the product of fusion reactions inside a fusion device and used to generate electricity or other commercially usable forms of energy. (Public Resources Code § 25302.4)

5) Requires the CPUC to adopt a process for each load-serving entity (LSE) serving end-use customers in the state, to file an integrated resource plan (IRP) to identify the LSE's resource procurement over the coming decade, and schedule periodic updates to the plan to ensure that LSEs accomplish specified objectives. Requires each LSE to prepare and file an IRP consistent with those objectives on a time schedule directed by the CPUC and subject to CPUC review. (Public Utilities Code § 454.52)

6) Establishes a state policy that eligible renewable energy resources and zero-carbon resources supply 90% of all retail sales of electricity to California end-use customers by December 31, 2035, 95% of all retail sales of electricity to California end-use customers by December 31, 2040, 100% of all retail sales of electricity to California end-use customers by December 31,

2045, and 100% of electricity procured to serve all state agencies by December 31, 2035, as provided. (Public Utilities Code § 454.53)

7) Charges CAISO with management of the transmission grid and related energy markets in order to ensure the reliability of electric service and the health and safety of the public. (Public Utilities Code § 345.5)

FISCAL EFFECT: Unknown. This bill is keyed fiscal and will be referred to the Assembly Committee on Appropriations for its review.

BACKGROUND:

Planning for the Future – California has a complicated but robust electric planning and procurement regime spread across the CPUC, CEC, and CAISO. This regime guides the current procurement the LSEs conduct and informs mid- and long-term procurement strategies. The regime is complementary, where one resource may count toward meeting many facets of an LSE's procurement requirements and planning goals. Critical aspects of this planning process include the IRP, the SB 100 Report, and the IEPR.

The IRP: anticipated supply in 10-15 years – Since 2015, with the passage of SB 350 (De León, Chapter 547, Statutes of 2015), California regulators have worked to identify a diverse mix of resources to achieve our clean energy goals. SB 350 requires the CPUC to adopt a process for each LSE to file an IRP starting in 2017 and for each publicly-owned utility (POU) to file an IRP by January 1, 2019. The goal of the IRP is to reduce the cost of achieving GHG emission reductions by looking broadly at system needs, rather than at individual LSEs or resource types, in order to identify generation that reduces GHGs, improves reliability, and reduces overall cost. The IRP operates on a 2-year planning cycle, and forecasts system needs 10-15 years into the future. The most recent IRP analysis identified almost 60 gigawatts (GW) of new resources needed by 2035, arising from solar, wind, biomass, geothermal battery storage, and long-duration storage resources.[1]

SB 100 Report: anticipated supply in 20 years – While the IRP focuses on what energy mix is best suited to meet our GHG and reliability goals 10-15 years into the future, the Joint Agency SB 100 Report looks further out at a planning horizon to determine how best to implement the 100%-clean-electricity-by-2045 policy enacted under SB 100 (De León, Chapter 312, Statutes of 2018).[2] The first SB 100 report was finalized in March 2021, with a 24-year horizon, and included analyses of many pathways to achieve the state's 2045 clean energy goal, including a core scenario which selected offshore wind resources and long-duration storage, as well as study scenarios examining "zero-carbon firm resources."[3] The next SB 100 Report was due in 2025, as the report should be updated every four years. A joint agency workshop on the draft staff

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[1] Factsheet on the Decision Transmitting Electric Resource Portfolios to the California Independent System Operator for the 2025-2026 Transmission Planning Process: https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/energy-division/documents/integrated-resource-plan-and-long-term-procurement-plan-irp-ltpp/2024-2026-irp-cycle-events-and-materials/assumptions-for-the-2025-2026-tpp/2025-02-20-25_26tpp_d_factsheet.pdf

[2] CEC, CPUC, & CARB; *2021 SB 100 Joint Agency Report: Achieving 100 Percent Clean Electricity in California: An Initial Assessment*;" March 2021.

[3] p. 12, 2021 SB 100 Report.
https://efiling.energy.ca.gov/EFiling/GetFile.aspx?tn=237167&DocumentContentId=70349

results for the 2025 report was held on February 19, 2026.[4] An update is warranted, given the many changes since 2021, including the changes in forecasts for offshore wind generation[5] and the rapidly approaching clean energy targets.

The IEPR: anticipated demand in 10-15 years – Alongside the IRP and SB 100 Report, which focus on potential mid- and long-term procurement needs for the electricity system, the CEC conducts an IEPR to forecast all aspects of energy industry supply, production, transportation, delivery, distribution, demand, and pricing. 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, with updates every other year. The information generated from the IEPR's demand forecast is a key input into the IRP process at the CPUC.

Nuclear history in California – In 1976, the Legislature passed AB 2820 (Goggin) and AB 2822 (Nestande) to establish a moratorium on permitting new nuclear powerplants.[6] The California moratorium was challenged by PG&E and ultimately reviewed by the U.S. Supreme Court. In *PG&E v. Energy Commission*, 461 U.S. 190 (1983), the Supreme Court upheld California's moratorium law. A key basis of the Court's decision was a division of authority to make safety determinations (federal) and economic determinations (state). The Court found that the absence of a permanent waste disposal site could lead to unknown negative economic consequences. Since that time, the CEC has not found that a high-level waste disposal technology has been demonstrated or approved. Likewise, the Nuclear Regulatory Commission (NRC), which regulates commercial nuclear power plants and other uses of nuclear materials, has never made a finding that a demonstrated technology exists for either nuclear fuel rod preprocessing plants or the disposal of high-level nuclear waste.

Since 2012, only one of the four nuclear power plants developed in California by electric utilities has continued to operate: PG&E's Diablo Canyon powerplant. Two of the four nuclear powerplants, PG&E's Humboldt Bay plant and SMUD's Rancho Seco plant, have been decommissioned. Developed in the early 1960s, Humboldt Bay was shut down in 1976 for refueling and never restarted due to seismic and cost issues. Developed in the early 1970s, Rancho Seco was shut down in 1989 in response to a voter referendum, after a troubled operational history that made it unreliable and expensive. The fourth, the San Onofre Nuclear Generating Station (SONGS), jointly owned by Southern California Edison and San Diego Gas and Electric, was closed in 2012 for repairs and permanently retired in 2013. Diablo Canyon represents just under 9% of California's total in-state generation.

COMMENTS:

1) *Author's Statement.* According to the author, "I'm pleased to author AB 2647, a companion measure to SB 100, which was signed in 2018 to mandate 100% clean electricity by 2045 using sources defined as those with zero net greenhouse gas emissions. Since then, California has adopted the most progressive clean energy policies to reduce greenhouse gas emissions and combat climate change. AB 2647 requires the

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[4] https://efiling.energy.ca.gov/GetDocument.aspx?tn=268470&DocumentContentId=105616
[5] p. 5, Representative Statewide Electricity Portfolio Modeling as Guidance for Individual Plans, CPUC, https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M595/K085/595085015.PDF
[6] Public Resources Code § 25524.1, 25524.2

California Energy Commission, on or before July 1, 2027, to prepare a comprehensive assessment of the potential role for advanced nuclear technologies in supporting critical infrastructure in California. The assessment will consider the potential for new, in-state nuclear powerplants to cost-effectively meet statewide needs for new electricity resources. Additionally, AB 2647 authorizes the Energy Commission, the Public Utilities Commission, the Independent System Operator, and other public agencies to evaluate the potential of nuclear energy to meet long-term resource needs."

2) *Purpose of Bill.* AB 2647 directs the CEC to conduct an assessment on the potential of advanced nuclear technologies to support critical infrastructure in California. The bill also directs considerations to be made towards the potential of new, in-state nuclear powerplants to cost-effectively meet statewide electricity and clean energy needs.

   The goal of this bill is to help inform how the State will meet clean energy and reliability goals, including the SB 100 (De León, Chapter 312, Statutes of 2018) requirement to achieve 100% zero-carbon electricity by 2045. Nuclear energy may be helpful in achieving California's ambitious clean energy goals. Indeed, nuclear energy is a type of firm energy resource, meaning that it is available when other sources of energy, such as wind and solar, are unavailable or offline. This weather- and season-dependent nature of some renewable resources creates reliability challenges that need to be addressed for California to meet its clean energy goals. Therefore, firm resources, such as nuclear (among others), may provide a critical path forward. Nuclear energy already plays a significant role in the State's energy profile, with Diablo Canyon contributing to about 9% of the state's total electricity supply.[7]

3) *Assessing the future of nuclear.* In 2021, SB 423 (Stern, Chapter 243, Statutes of 2021) was signed into law, and required the CEC, in consultation with the CPUC, CAISO, and CARB, to submit to the Legislature an assessment of emerging firm zero-carbon resources that support a clean, reliable, and resilient electrical grid. The report was published in December 2024 and identified the following resources as those "that reliably produce zero-carbon or renewable energy on demand": long duration energy storage, hydropower, geothermal, renewable natural gas, hydrogen, small modular reactors, fusion, and carbon capture.[8] Two of these resources – small modular reactors and fusion – are nuclear technologies and therefore may be of focus for the assessment conducted in the present bill. To that point, the author may want to consider providing further clarity on technologies envisioned with the direction to assess "advanced nuclear technologies."

   In the SB 423 report, the resources listed above were identified, in part, for their commercial feasibility (or near-commercial feasibility) in addition to being able to potentially address system reliability needs, local reliability needs, and de-energization events. However, the report also identified the following challenges to adopting these resources, all of which are particularly relevant for nuclear technology: [9]

   - Elevated costs

[7] https://www.energy.ca.gov/data-reports/energy-almanac/california-electricity-data/2024-total-system-electric-generation
[8] p. 1-2, SB 423 Emerging Renewable and Firm Zero-Carbon Resources Report
[9] p. 51, SB 423 Emerging Renewable and Firm Zero-Carbon Resources Report

- Supply chain limitations
- Public perception concerns
- Infrastructure dependencies
- Specific siting requirements
- Performance challenges

These resources are also considered in the IEPR and IRP from the CEC and CPUC, respectively. These two reports are not specific to only examining firm zero-carbon resources, such as nuclear, but do consider their role in the State's energy mix. While there is overlap across these reports, a closer examination of nuclear energy may provide critical insight into whether, and how, this resource can be better incorporated into California's energy portfolio. In particular, an update regarding the previously identified barriers may be informative for decision-making needed to meet California's quickly approaching clean energy goals.

4) *Double referred*. This bill is double referred. It was first heard in the Assembly Committee on Natural Resources on April 20th, 2026 (11-1-2).

5) Related Legislation.

AB 1757 (Gallagher) exempts nuclear "microreactors" (nuclear fission powerplants comprised of units 20 megawatts or less) from the conditional moratorium on permitting new nuclear fission powerplants. Status: pending a reconsideration hearing in the Assembly Committee on Natural Resources.

SB 925 (McNerney) requires the CEC to produce a strategic plan for the development of nuclear fusion facilities in California. Status: pending hearing in the Senate Committee on Environmental Quality.

SB 931 (Laird) requires the CPUC to ensure the continued, full funding of the Community Impacts Mitigation Program for the extended operation of the Diablo Canyon nuclear powerplant. Status: pending hearing by the Senate Committee on Energy, Utilities, and Communications.

6) *Prior Legislation.*

SB 80 (Caballero) requires the CEC to establish a program to provide financial incentives for fusion energy research. This bill specifies that it will only become operative if a separate measure or budget bill provides funding for its implementation. Status: Chapter 334, Statutes of 2025.

AB 2092 (Mathis, 2024) directed the CPUC to conduct a feasibility study on the use of SMRs for energy generation in the state and submit a report to the legislature on or before January 1, 2027. Status: Held in the Assembly Committee on Appropriations.

AB 1172 (Calderon) requires the CEC to evaluate various fusion technologies and to analyze the feasibility of using nuclear fusion in the state as part of its 2027 integrated energy policy report (IEPR). Status: Chapter 360, Statutes of 2023.

SB 846 (Dodd) authorizes the extension of operating the Diablo Canyon Nuclear powerplant (DCPP) beyond the current expiration dates (of 2024 for Unit 1 and 2025 for Unit 2), to up to five additional years (no later than 2029 and 2030, respectively), under specified conditions. Status: Chapter 239, Statutes of 2022.

SB 423 (Stern) requires the California Energy Commission (CEC) to submit to the Legislature an assessment, by December 31, 2023, of "firm zero-carbon resources" that support a clean, reliable, and resilient electrical grid and that will achieve the existing statutory goal of ensuring eligible renewable energy resources and zero-carbon resources supply 100 % of all retail sales of electricity to California end-use customers and 100 % of electricity procured to serve all state agencies by December 31, 2045. Status: Chapter 243, Statutes of 2021.

SB 100 (De León) establishes the 100 Percent Clean Energy Act of 2018, which increases the RPS requirement from 50 % by 2030 to 60 % 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 % clean energy. Status: Chapter 312, Statutes of 2018.

REGISTERED SUPPORT / OPPOSITION:

Note: This bill was significantly amended on April 16th. Organizations listed below reflect positions on the previous version of the bill. The committee is unaware how these organizations' positions have changed, if at all, in light of the new version of the bill.

Support

Bay Area Council
Bay Area New Liberals (Center for New Liberalism)
California Council for Environmental & Economic Balance (CCEEB)
California Fresh Fruit Association
California State Association of Electrical Workers
California State Pipe Trades Council
County of San Luis Obispo
Edison International and Affiliates, Including Southern California Edison
Generation Atomic
Mothers for Nuclear
Native Nuclear
New California Coalition
Northern California Power Agency
Nuclear Is Clean Energy Club
Nucleation Capital
Radiant Industries, INC.
Southern California Association of Scaffold Contractors
Southern California Contractors Association
Southern California Public Power Authority (SCPPA)
Stand Up for Nuclear
State Building & Construction Trades Council of California
The Breakthrough Institute

Third Way
Turlock Irrigation District
Upland Chamber of Commerce

Oppose

Alliance for Nuclear Responsibility
California Land Watch
Cleanearth4kids.org
Climate Action California
Climate Resolve
Coalition for Nuclear Safety
Committee to Bridge the Gap
Ecological Options Network
Environment California
Environmental Working Group
Fission Transition INC.
Fresnans Against Fracking
Green Party of Marin County
Green Party of Orange County
Long Beach Alliance for Clean Energy
Parents Against Santa Susana Field Lab
Physicians for Social Responsibility - Los Angeles
Protect Rural Escondido
Resource Renewal Institute
Samuel Lawrence Foundation
San Clemente Green
San Francisco Bay Area Physicians for Social Responsibility
San Luis Obispo Mothers for Peace
Santa Cruz Climate Action Network
Sierra Club California
So Cal 350 Climate Action
Sunflower Alliance
The Utility Reform Network (TURN)
Union of Concerned Scientists
West Berkeley Alliance for Clean Air and Safe Jobs

Oppose Unless Amended

Western Electrical Contractors Association

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