SENATE COMMITTEE ON ENERGY, UTILITIES AND COMMUNICATIONS
Senator Benjamin Allen, Chair
2025 - 2026 Regular

Bill No:	SB 925	**Hearing Date:**	4/13/2026
Author:	McNerney		
Version:	3/12/2026 Amended		
Urgency:	No	**Fiscal:**	Yes
Consultant:	Nidia Bautista		

SUBJECT: Fusion energy: State Energy Resources Conservation and Development Commission: strategic plan: certification and environmental review

DIGEST: This bill requires a strategic plan for the development of nuclear fusion facilities.

ANALYSIS:

Existing law:

1) Requires the State Energy Resources Conservation and Development Commission (California Energy Commission (CEC)) to undertake various actions in furtherance of meeting the state's clean energy and pollution reduction objectives. 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.*)

2) Requires the CEC, beginning November 1, 2003, and biennially thereafter, to adopt an integrated energy policy report that contains an overview of major energy trends and issues facing the state, presents policy recommendations based on an in-depth and integrated analysis of the most current and pressing energy issues facing the state, and includes an assessment and forecast of system reliability and the need for resource additions, efficiency, and conservation. (Public Resources Code §25302)

3) Defines "Fusion" and "Fusion Energy" and requires the CEC to include an assessment in the 2027 Integrated Energy Policy Report (IEPR) regarding the potential for fusion energy to contribute to California's power supply. (Public Resources Code §25302.4)

4) Authorizes persons proposing specified electrical generation, electrical transmission, hydrogen production, energy storage, and geothermal projects to apply, on or before June 30, 2030, to the CEC to certify sites and related facilities as environmental leadership development projects, as specified. Makes a site and related facility certified by the CEC subject to streamlining benefits related to the California Environmental Quality Act (CEQA) with no further action by the applicant or the Governor. Under existing law, the CEC's certification is in lieu of any permit, certificate, or similar document required by any governmental agency and supersedes any applicable statute, ordinance, or regulation, except as specified. (Public Resources Code §25545)

5) 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)

6) 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)

This bill:

1) Makes numerous findings and declarations concerning the potential of fusion energy to service California's load and provide zero-carbon energy.

2) Requires the CEC, in coordination with specified agencies, to develop a strategic plan for the development of fusion energy in California.

3) Requires the CEC to submit the strategic plan to the Legislature on or before December 31, 2028.

4) Requires the CEC, in coordination with relevant agencies and the fusion energy industry, to:

    a) develop a strategy for the expansion and development of fusion research and development in California,
    b) develop a strategy for supporting the commercialization of fusion energy in California,
    c) develop a regulatory framework for fusion energy and a roadmap for licensing and permitting for new fusion energy research and fusion energy facilities, and

d) assess the level at which fusion energy at scale would best support California's long-term renewable energy and greenhouse gas emission reduction goals.

5) Requires the above information to be included in the strategic plan.

6) Expands the types of facilities eligible to be certified as environmental leadership development projects by the CEC, upon the submission of the above-described strategic plan, to include fusion energy electrical generating facilities, demonstration facilities, or applicable research and development facilities.

Background

Nuclear energy. There are two fundamental ways to release energy from nuclear reactions: fission and fusion of atomic nuclei. Nuclear fission is a process where the atomic nucleus splits apart; nuclear fusion is where atomic nuclei combine (or fuse) together. Both processes are theorized to generate energy. In nuclear fission, the process often yields some combination of particles and energy, often with radioactive decay. In nuclear fusion, the process can manifest as either an absorption or release of energy, sometimes with radioactive decay.

Nuclear fission electricity generation is commercially available today, such as the Diablo Canyon Nuclear Powerplant. Very generally, for fission-based electricity generation, the atomic splitting releases heat and energy which is used to boil water; the water produces steam, which turns a turbine to generate electricity.

Electricity generation based on fusion has yet to become commercially viable and is still in research and development. There are multiple fusion methods that are currently being pursued for use in a commercial reactor system. Similar to fission, the released energy from a fusion process would be converted to heat, which in turn is converted to electricity via a conventional generator cycle. Although the fusion reaction theoretically does not produce significant or long-lived radioactive byproducts, the high-energy particles irradiate the surrounding reactor vessel and associated components. The irradiated material could pose potential disposal problems similar to those for the irradiated fission reactor vessel. Nuclear fusion continues to be actively pursued, unlike nuclear fission, because there is less waste products, no risk of a nuclear melt down, and fusion power provides more energy for a given weight of fuel than any fuel-consuming energy source currently in use.

The aim of any controlled fusion process is to achieve "ignition," which occurs when enough fusion reactions take place for the process to become self-sustaining, with fresh fuel then being added to continue it. Once ignition is achieved, there is

net energy yield – about four times as much as with nuclear fission. According to the Massachusetts Institute of Technology, the amount of power produced increases with the square of the pressure, so doubling the pressure leads to a fourfold increase in energy production.

Technological "breakthrough." The world's most powerful laser fusion facility, the National Ignition Facility (NIF) at Lawrence Livermore National Laboratory, was completed in March 2009. Using its 192 laser beams, NIF is able to deliver more than 60 times the energy of any previous laser system to its target. In December 2022, a team at NIF conducted the first controlled fusion experiment in history to reach the ignition milestone, meaning it achieved a net energy gain, producing more energy from fusion than the laser energy used to drive it. Andrew Sowder, senior technical executive at the Electric Power Research Institute was quoted in *POWER Magazine describing the ignition milestone* as akin to getting the first man in orbit. "You're not to the moon yet, but you've shown you can get the person in space. This is kind of a first step." This breakthrough shows promise for nuclear fusion, but the technology as a commercially available energy generation resource is may still be light years away.

Comments

Fusion energy is nascent technology still in the research and development phase. Multiple reports have stated that commercially available nuclear fusion technology may be decades away, though some companies believe its commercial availability is imminent. Determining the potential of fusion energy as a meaningful source of electricity requires a leap ahead of the current stage of research and demonstration, to consider cost and scale. At this stage, cost is astronomical, and scale is tiny. AB 1172 (Calderon, 2023) required the CEC to include fusion energy and its potential role in California's clean energy future within the 2027 IEPR.

Fusion energy annual drumbeat. This bill continues the drumbeat of support for the development of fusion energy in California. In addition to AB 1172 (Calderon, 2023), previous bills and measures include SCR 25 (Blakespear, 2025) celebrating fusion energy, SB 80 (Calderon, 2025) required the CEC to establish a program for financial incentives for fusion research, and SB 86 (McNerney, 2025) authorized sales and use tax exemption to electrical generation facilities using nuclear fusion technology.

Like offshore wind? This bill is an effort to replicate the AB 525 (Chiu, Chapter 231, Statutes of 2021) strategic plan and framework for offshore wind development. The bill requires the CEC to build off the 2027 IEPR findings required by AB 1172 (Calderon) and expand to develop a strategic plan for fusion

energy development, including criteria for suitable locations for testing facilities and demonstrations, workforce development, regulatory framework and roadmap for licensing and permitting, and an assessment of the level at which fusion energy at scale would best support the state's long-term renewable energy and greenhouse gas emissions reduction goals.

Too soon! As noted above, there are varying perspectives about the timeline by when fusion energy may become commercially available (as well as viable at producing energy cost-effectively). The idea of a strategic plan for fusion energy may be premature. However, as this bill builds off the AB 1172 2027 IEPR findings, it will be informed by any findings by the CEC in that effort, including the time horizon the state should be considering for the resource. However, this bill also provides that these yet to be built (let alone developed and demonstrated as an energy resource) to be included in the CEC siting process. This is definitely premature given the need to better understand many of the pieces the strategic plan itself requires the CEC to consider. *In this regard, the author and committee may wish to delete line (8) of subdivision (b) of Public Resources Code Section 25545 as proposed by this bill.*

Dual Referral. Should this bill be approved by this committee, it will be re-referred to the Senate Environmental Quality Committee.

Prior/Related Legislation

SCR 25 (Blakespear, Chapter 161, Statutes of 2025) celebrated the contributions of public and private sector organizations advancing nuclear fusion energy research and supports developing the fusion energy ecosystem with the goal of siting a first-of-its-kind fusion pilot plant in California by the 2040s.

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

SB 86 (McNerney, Chapter 211, Statutes of 2025) authorized the California Alternative Energy and Advanced Transportation Financing Authority to provide financial assistance, in the form of exclusions from sales and use tax, to electrical generation facilities using nuclear fusion technology.

AB 1172 (Calderon, Chapter 360, Statutes of 2023) required the CEC as part of its 2027 IEPR to include an assessment of the potential for fusion energy to contribute to California's power supply.

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

SUPPORT:

General Atomics (Sponsor)
B3k Prosperity
Blue Laser Fusion
City of Livermore
Clean Air Task Force
Focused Energy
Fuse
Helicity Space
Inertia Enterprises
Innovation for Green Advanced Transportation Excellence Development Corporation (I-GATE)
Kyoto Fusioneering America
Longview Fusion Energy Systems
MIFTI Fusion
Openstar Technologies
Pacific Fusion
San Diego Regional Chamber of Commerce
San Diego Regional Economic Development Corporation
San Diego State University
TAE Technologies

OPPOSITION:

None received

ARGUMENTS IN SUPPORT: According to the coalition of supporters for the bill, including the fusion industry companies:

> SB 925 would require the California Energy Commission (CEC) to deliver a strategic plan to support and grow the state fusion ecosystem as it works to accelerate fusion energy. Building off the findings of AB 1172 [Calderon, Chapter 360 of the Statutes of 2023], this roadmap will deliver California's first actionable strategy to keep it at the cutting edge of fusion innovation.

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