
SENATE COMMITTEE ON ENVIRONMENTAL QUALITY

Senator Blakespear, Chair

2025 - 2026 Regular

Bill No: SB 654

Author: Stern

Version: 2/20/2025

Hearing Date: 4/2/2025

Urgency: No

Fiscal: Yes

Consultant: Eric Walters

SUBJECT: California Environmental Protection Agency: contract: registry: greenhouse gas emissions that result from the water-energy nexus

DIGEST: This bill updates the requirements of the California Environmental Protection Agency's registry for greenhouse gas emissions that result from the water-energy nexus to increase outreach to participants and limit contract budgets to two million dollars per three-year contract.

ANALYSIS:

Existing law:

- 1) Under SB 1425 (Pavley, Chapter 596, Statutes of 2016):
 - a) Requires the California Environmental Protection Agency (CalEPA) to oversee the development of a registry for greenhouse gas (GHG) emissions that result from the water-energy nexus using the best available data;
 - b) States that participation in the registry is voluntary and open to any entity conducting business in the state;
 - c) Authorizes a participating entity to register its emissions, including emissions generated outside the state, or on an entity-wide basis, and to use the services of the Registry;
 - d) Permits CalEPA to enter into a contract with a qualified nonprofit organization to develop the Registry, and limits such contracts to three-year terms.

This bill:

- 1) Shifts CalEPA's role from developing a water-energy nexus registry to administering the existing one.
- 2) Encourages CalEPA to recruit participants through means including but not limited to workshops, training, technical support, and planning assistance.
- 3) Imposes a \$2,000,000 budget limit on each three-year contract authorized.

Background

- 1) *California's water-energy nexus.* The term “water-energy nexus” refers to the energy-intensiveness of the state’s water system, as well as the water-intensiveness of the state’s energy system.

The water system uses approximately 20% of the state’s electricity and 30% of its natural gas for business and home use, according to data from 2001—accounting for more than 5% of California’s greenhouse gas emissions. Heating and other energy-intensive water uses in homes and businesses makeup almost 90% of water-related energy use; a quarter of total residential energy is used to heat water. Water treatment, pumping, and conveyance of water and wastewater also require energy and have associated emissions.¹

California’s energy sector uses significant amounts of water, although it is becoming less water-intensive. Hydropower averages 15% of California’s electricity generation, from 7% in dry years to over 20% in wet years. However, increased precipitation variability due to climate change may reduce hydropower potential. Thermoelectric plants may face shortages during droughts, but many California plants have been increasing water efficiency and switching to recycled water for cooling. Some use ocean water, which is drought-proof. The growth of solar and wind power can boost the electricity sector’s drought resilience by minimizing water use. Approaches like installing solar panels over canals can produce power while reducing evaporation.

- 2) *Water-Energy Nexus Registry.* The Water-Energy Nexus (WEN) Registry is administered by The Climate Registry in collaboration with CalEPA. According to The Climate Registry’s website: “The WEN Registry is a voluntary statewide GHG and water reporting program that provides participants with standardized accounting guidance enabling them to measure, track, and mitigate their GHG emissions associated with California’s water and energy systems. Participants can measure, track, and report their carbon footprints and report volumes of water associated with the annual extraction, consumption, delivery, storage, and/or treatment of water.”²

Participants can measure, track, and report their carbon footprints, as well as report volumes of water associated with the annual extraction, consumption, delivery, storage, and/or treatment of water. By reporting to the WEN Registry,

¹ Water and Energy in California, Escriva-Bou, Alvar *et al.* PPIC Fact Sheet, Dec. 2022
<https://www.ppic.org/publication/water-and-energy-in-california/>

² Water-Energy Nexus, <https://theclimateregistry.org/registries-resources/water-energy-nexus/> Accessed 3/15/25

participants can generate water-related performance metrics (e.g., metric tons GHG per acre-foot (AF) of water), help identify opportunities for GHG emission reductions, and track the impact of those actions over time.

Participants report their data in the Climate Registry Information System (CRIS), The Climate Registry's proprietary GHG calculation and reporting software.

Comments

- 1) *Purpose of Bill.* According to the author, “As California faces many climate challenges, we must address the critical connection between our water and energy systems. The Water-Energy Nexus (WEN) represents the fundamental interconnection between these essential resources, where each stage of water management – from purification to delivery—consumes energy and produces greenhouse gas emissions that often go unnoticed. SB 654 strengthens the state’s commitment to addressing this nexus by transforming an existing voluntary registry from development to active administration. By offering technical support, training, and climate action planning assistance, we’re creating a practical framework that empowers water and wastewater agencies to measure, track, and mitigate their emissions while improving efficiency. This registry is an important step in ensuring California’s water resources are managed sustainability for future generations.”
- 2) *Allocation versus limit.* In background information provided to the committee, the author claims that this bill “[allocates] \$2 million for a new three-year contract to expand participation and provide crucial technical support.” The language of the bill in fact imposes a \$2 million limit on the budget associated with each three-year contract, where existing law had no such budget limit.

Allocations made to CalEPA and/or The Climate Registry for the purposes of administering the WEN Registry are more appropriately the purview of the budget and fiscal committees. It is not entirely clear from readily available information what ongoing activities are conducted by The Climate Registry and how a \$2 million per 3-year contract limit would change or fund specifically.

As California strives to hit its GHG emission reduction goals—including economy-wide carbon neutrality—high-quality information about all sectors is essential. While the WEN Registry is strictly voluntary, the program does boast dozens of participants and provides standardized practices and analysis that will help improve understanding of GHG emissions from the water-energy nexus.

Related/Prior Legislation

SB 1425 (Pavley, Chapter 596, Statutes of 2016) requires CalEPA to develop and administer a registry of GHG emissions resulting from the water-energy nexus using the best available data.

SOURCE: Author

SUPPORT:

Helix Water District
Las Virgenes Municipal Water District
Sonoma Water
The Climate Registry
The Energy Coalition
Usc Schwarzenegger Institute
Waternow Alliance

OPPOSITION:

None received

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