Date of Hearing: April 26, 2023

ASSEMBLY COMMITTEE ON UTILITIES AND ENERGY
Eduardo Garcia, Chair
AB 538 (Holden) – As Introduced February 8, 2023

SUBJECT: Multistate regional transmission system organization: membership

SUMMARY: Delegates to the California Energy Commission (CEC) the ability to authorize the transformation of the California Independent System Operator (CAISO) into a multistate regional transmission system, if specified requirements are satisfied. This bill would prohibit a California electrical transmission facility owner, a retail seller of electricity, or a local publicly owned electric utility (POU) from joining a multistate regional transmission system organization, if specified requirements are not met. Specifically, **this bill**:

1) Repeals various provisions of statute related to the existing process for CAISO to expand into a regional transmission operator. The existing process includes CAISO studies on the impacts of a regional market on ratepayers, jobs, and the environment; a public workshop where the studies' results are presented and discussed; submittal to the Governor of the studies and revised bylaws or other governance documents setting forth the proposed CAISO governance structure modifications; and finally the Governor transmitting to the Legislature—and the Legislature enacting by statute—the revised CAISO governance changes. Current law repeals this process on January 1, 2019 if a statute implementing the modifications has not become effective. This bill deletes this outdated code.

2) Authorizes the CAISO's Board of Governors to develop and submit to the CEC a governance proposal that complies with each of the requirements proposed in this bill, and provide notice to the Legislature and Governor when such a proposal is submitted to the CEC.

3) The proposal requirements include:
    a) Prohibitions for members of the governing board of the organization from any affiliation with a participant in any market overseen by the organization. Requires a two year cooling period prior to membership for any governing board member with employment with a market participant; prohibits any direct ownership in any interest in energy-related assets that are appreciably affected by the actions of the organization; and requires annual disclosures of significant financial interest by the board members.
    b) Maintaining a decisionmaking process that is independent of control by any market participant or class.
    c) Establishment of a western states' committee. Requires the committee to have an equal number of representatives from each state that has a transmission owner participating in the Independent System Operator (ISO). Requires the representatives from California to be appointed by the governor, subject to confirmation by the Senate. Requires the committee to provide guidance to the ISO on all matters of interest to more than one state.
    d) Providing for and maintaining open meeting standards and meeting notice requirements that are consistent with the general policies of the Bagley-Keene

Open Meeting Act, and afford the public the greatest possible access to meetings, consistent with current CAISO policy.

e) Authorizing interested members of the public and representative of customers to participate in person or through remote electronic means in meetings of the governing board or any advisory group of the governing board, subject to reasonable measures to limit the length of meetings or disruptions.
f) Providing public access to the records of the organization consistent with the general policies of the California Public Records Act.
g) Requiring the governing documents be posted and maintained on the organization's public website.
h) Protecting and preserving a state's authority over matters regulated by the state, including procurement policy, resource planning, and resource or transmission siting within the state.
i) Requiring retail sellers in each state to meet minimum resource adequacy standards and permit each state to establish resource adequacy (RA) standards for its retail sellers that exceed those required by federal law, in the state's discretion. Require a local POU in each state to meet minimum RA standards and permit the governing board of a participating local POU to establish resource adequacy standards that exceed those required by federal law, in the discretion of the governing body.
j) Prohibiting the multistate regional transmission organization from operating a centralized capacity market in California for the forward procurement of electrical generating capacity that requires capacity to clear at a market clearing price in order to count for resource adequacy purposes.
k) Ensuring that the dispatch of resources by the multistate regional transmission organization to serve load in California appropriately reflects the costs for resources to comply with California's climate policies, as implemented by the California Air Resources Board (CARB). Requires the multistate regional transmission system organization to maintain a transparent system for tracking emissions of greenhouse gases (GHG) resulting from dispatched resources.
l) Establishing and maintaining equitable transmission cost allocation rules through an open stakeholder process approved by the Federal Energy Regulatory Commission (FERC), which shall ensure that California participating transmission owners receive equitable use of, and just and reasonable compensation for, their past investments in the transmission system assets for which operational control is transferred to a multistate regional transmission operator (RTO).
m) Providing for and maintaining an independent market monitor.
n) Establishing a clear structure for state regulators within the region served by an RTO to collaborate and provide guidance to the organization on matters of interest to more than one state.
o) Enabling participation of demand response, storage, and other distributed energy resources in the organization's markets.
p) Providing and maintain a process for stakeholder input on policy initiatives requiring approval from FERC that is open to all members of the public and that does not require payment of a membership fee or other change to participate.
q) Ensuring the right of any participating transmission owner to unilaterally withdraw from the RTO, with or without cause, upon giving reasonable notice not to exceed two years.

4) Requires the CEC, in consultation with the California Public Utilities Commission (CPUC) and CARB, to review the governance proposal for compliance with the requirements established by this bill (listed in #3 above). Requires the review to include public review of, and written comment on, the proposal and at least one public workshop or hearing at which public comment is received.

5) Authorizes the CAISO to implement a governance structure, if the CEC determines the governance proposal meets the requirements of this bill and if a transmission owner from outside California that is not a participating transmission owner as of January 1, 2024, has entered into an agreement with the CAISO indicating its intent to become a participating transmission owner, and the FERC has approved any changes to the CAISO's tariff necessary for the new participating transmission owner to join. Requires the governance structure to not be implemented before January 1, 2021. Requires the CAISO or its successor to provide notice to the CEC, upon completing implementation of the governance structure.

6) Requires the CEC to verify that the CAISO has implemented a governance structure consistent with the requirements of this bill, and upon so verifying, requires promptly providing notice to the Secretary of State. Requires existing statute outlining the current structure and function of the CAISO to become inoperative upon receipt of notice by the Secretary of State. Requires the CEC to report to the Legislature its verification and notification to the Secretary of State.

7) Requires a California transmission owner, retail seller, or local POU to only participate in a multistate RTO that maintains, to the fullest extent possible, state authority over generation preference, transmission siting, resource portfolios, and resource planning—excluding a centralized capacity market in California; state rules or public policy requirements to provide reliable electrical service to encourage new generation; and state law and regulation over California utilities including those that may affect the rate for the same wholesale sale of electricity at a price different and distinct from the FERC-approved rate.

8) Prohibits a California transmission owner, retail seller, or local POU from joining an RTO unless the bylaws or other governing documents meet FERC requirements and all the principles outlined in this bill (listed in #3).

9) States that this bill does not require any California transmission owner, retail seller, or local POU to join or remain in a multistate regional transmission system organization.

10) Requires a California transmission owner, retail seller, or POU, before joining a multistate RTO, to submit the bylaws and other organizational documents that govern RTO to the CEC for review. Prohibits a California transmission owner, retail seller, or local POU from remaining in an RTO if the CEC determines that the organization's bylaws and organizational documents do not meet the requirements of this bill.

11) Prohibits the CAISO from being deemed a multistate RTO unless and until it has completed the governance change process requirements of this bill and the CEC has provided notice of this change to the Secretary of State.

12) Makes various findings and declarations regarding the need for California to work collaboratively with its neighbors to meet reliability and affordability goals.

EXISTING LAW:

1) Establishes that the U.S. FERC has exclusive jurisdiction over the transmission of electric energy in interstate commerce. Also establishes the process and procedures for establishing transmission of electric energy in interstate commerce by public utilities, i.e., the rates, terms, and conditions of interstate electric transmission by public utilities. (Federal Power Act §§§ 201, 205, 206 (16 USC 824, 824d, 824e))

2) Establishes that FERC has exclusive jurisdiction over sales of electric energy at wholesale in interstate commerce by public utilities, i.e., the rates, terms, and conditions of wholesale electric sales by public utilities (Federal Power Act §§§ 201, 205, 206 (16 USC 824, 824d, 824e))

3) Provides for the restructuring of the electricity industry and creates several entities: the Energy Oversight Board (defunct), the Power Exchange (defunct) and the CAISO. (Public Utilities Code § 334 et seq.)

4) Establishes the CAISO governing board with five members appointed for three-year terms by the governor and subject to confirmation by the Senate. (Public Utilities Code § 337 et seq.)

5) 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)

6) Expresses the intent of the Legislature that CAISO transforms into a regional organization to promote the development of regional electricity transmission markets in the western states and to improve the access of consumers served by CAISO to those markets, only when such transformation is in the best interest of California ratepayers. Directs CAISO to prepare changes to its governance that would allow it to transform into a regional organization, but prevents such changes to CAISO governance from taking effect until several specified steps have occurred, including that the Legislature enact statute implementing the proposed governance changes. (Public Utilities Code § 359.5)

7) Establishes the policy that 100% of the state's retail electricity be supplied with a mix of Renewables Portfolio Standard (RPS)-eligible and zero-carbon resources by December 31, 2045 and 100% of electricity procured to serve all state agencies by December 31, 2035., for a total of 100% clean energy. Requires the CPUC, in consultation with the CEC, CARB, and all California balancing authorities (BAs), to issue a joint report to the Legislature by January 1, 2021, reviewing and evaluating the 100% clean energy policy. (Public Utilities Code § 454.53)

8) Requires the CPUC and CEC, in consultation with CARB, to take steps to ensure that a transition to a zero-carbon electric system for the state does not cause or contribute to greenhouse gas (GHG) emissions increases elsewhere in the western grid. Requires the

CPUC, CEC, CARB, and all other state agencies to incorporate that policy into all relevant planning, and to use programs authorized under existing statutes to achieve that policy. (Public Utilities Code § 454.53)

9) Defines "eligible renewable energy resource" as an electrical generating facility that uses biomass, solar thermal, photovoltaic, wind, geothermal, fuel cells using renewable fuels, small hydroelectric generation of 30 megawatts (MW) or less, digester gas, municipal solid waste conversion, landfill gas, ocean wave, ocean thermal, or tidal current, subject to multiple conditions. (Public Utilities Code § 399.12)

10) Requires retail sellers and publicly owned utilities (POUs) to increase purchases of renewable energy such that at least 60% of retail sales are procured from eligible renewable energy resources by December 31, 2030. This is known as the RPS. (Public Utilities Code § 399.11 et seq.)

11) Defines "load-serving entities" as investor-owned utilities (IOUs), electric service providers (ESPs), and community choice aggregators (CCAs). (Public Utilities Code § 380 (k))

FISCAL EFFECT: Unknown. This bill is keyed fiscal and will be referred to the Assembly Committee on Appropriations for its review. A similar version of this measure, AB 813 (Holden, 2018), was analyzed by the Senate Committee on Appropriations and found to have upwards of $740,000 in special fund costs associated with implementing the bill, and unknown costs to the state as an electricity ratepayer.

BACKGROUND:

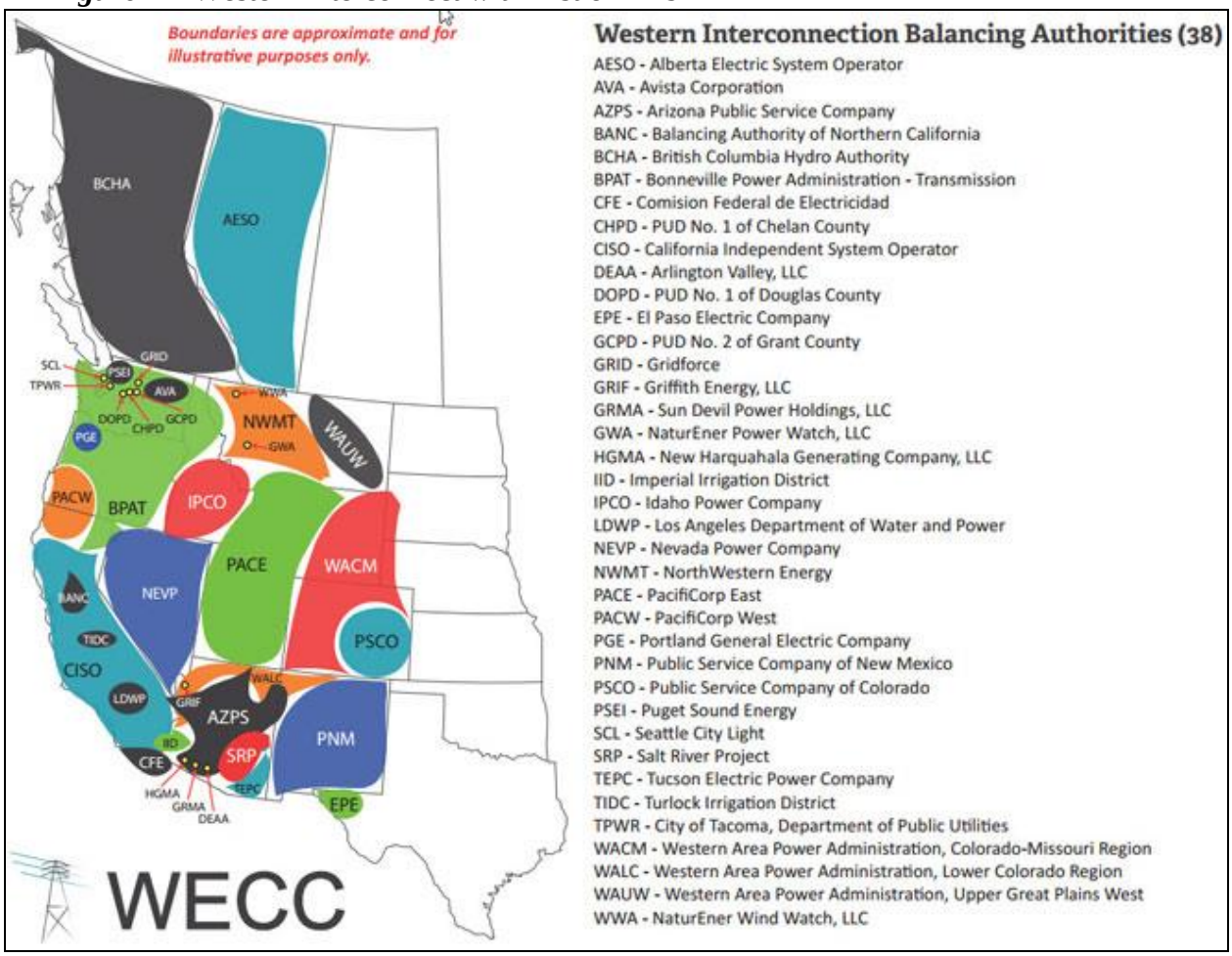
The U.S. power grid – Electricity supplied by power plants moves through a complex network of electricity substations, power lines, and distribution transformers before it reaches customers. Local electricity grids are interconnected to form larger networks for reliability and commercial purposes. The electric grid consists of the bulk power systems, high-voltage transmission equipment, and the lower-voltage distribution system. The United States electric power system in the Lower 48 states is made up of three main alternating current grids or "interconnections," which operate largely independently from each other:

- The Western Interconnect (Figure 1, below)– the area west of the Rocky Mountains, stretching north into Canada and south to Baja California in Mexico, consists of 38 BAs. All electric utilities in the Western Interconnect are electrically tied together during normal system conditions and operate at a synchronized frequency of 60 hertz (Hz). BAs within the Western Interconnect include the CAISO, the Balancing Authority of Northern California (BANC), Los Angeles Department of Water and Power, the Turlock Irrigation District, and the Imperial Irrigation District, as well as several outside California. Generation capacity of the Western Interconnect makes up approximately 20 percent of all capacity in the United States and Canada.
- The Eastern Interconnect – the area east of the Rockies and a portion of northern Texas, which consists of 36 BAs.
- The Electric Reliability Council of Texas (ERCOT) – covers most of Texas and consists of a single BA.

Many entities interface to ensure bulk power system reliability:

- The North American Electric Reliability Corporation (NERC) is a not-for-profit international regulatory authority whose mission is to assure the reliability and security of the bulk power system in North America.
- Regional Entities have responsibility delegated by NERC for ensuring bulk power system reliability in their respective footprints. The Western Electric Coordinating Council (WECC) is the Regional Entity responsible for the Western Interconnection.
- Reliability Coordinators (RC) monitor the grid in real-time and interact with individual operators and other RCs to maintain reliable operations.
- BAs are responsible for maintaining load-generation balance within their footprint.
- ISOs and RTOs (terms which are used synonymously throughout this analysis, except when specifically referring to California's ISO, or CAISO) coordinate, control, and monitor portions of the electric grid. ISOs and RTOs may also operate wholesale electricity markets. The Western Energy Imbalance Market (WEIM) is a real-time market operated by the CAISO.

Figure 1 – Western Interconnect with List of BAs



BAs – The actual operation of the electric system is managed by entities called BAs. A "balancing authority" is responsible for managing the transmission of high-voltage electricity across long-distance transmission lines. The BA ensures in real-time that power system demand and supply are finely balanced. If demand and supply fall out of balance, the result can be local or system-wide blackouts. BAs also must manage transfers of electricity with other BAs. The

NERC issues mandatory reliability standards for BAs which are approved by the FERC. Most BAs are electric utilities that have taken on the balancing responsibilities for a specific portion of the power system; however in some regions, utilities join RTOs/ISOs that function as BAs for their designated area.

RTOs/ISOs – Nine RTOs/ISOs operate bulk electric power systems across much of North America. RTOs/ISOs are independent, membership-based, nonprofit organizations that ensure reliability and optimize supply and demand bids for wholesale electric power. RTOs/ISOs first developed in the 1990s to accommodate FERC policy encouraging competitive generation and open access to transmission. RTOs/ISOs dispatch power by feeding both day-ahead and real-time bids into complex optimization software. These entities are often compared to air traffic controllers because they manage the electron traffic on a power grid they do not own. RTOs/ISOs have different types of members, including: independent generators, transmission companies, load-serving entities, integrated utilities that combine generation, transmission and distribution functions, and power marketers and energy traders. RTOs/ISOs operate a region's electricity grid, administer the region's wholesale electricity markets, and provide reliability planning for the region's bulk electricity system. The principal behind the RTO/ISO structure is that everyone interested in participating can do so in a nondiscriminatory fashion.

CAISO – The CAISO is a nonprofit public benefit corporation that was created by California statute as part of the effort to deregulate the electricity market in the late 1990s. The CAISO manages the flow of electricity across the high-voltage bulk power system that makes up 80% of California's and a small part of Nevada's electric grid. CAISO is registered as both a transmission operator and BA under the NERC reliability functional model. As with other BAs, the CAISO is FERC and NERC regulated. However, unique to the CAISO—as compared to other RTOs—is the appointment of the CAISO governing board members by California's governor with confirmation by the state Senate.

CASIO's WEIM – As part of its management of the wholesale electric market, the CAISO also operates a voluntary WEIM. The WEIM is a real-time bulk power trading market that trades the difference between the day-ahead forecast of power and the actual amount of energy needed to meet demand in each hour. It launched in 2014, and currently involves 19 participants across 10 western states. By 2023, when another three participants are slated to join the WEIM, it will serve approximately 79% of the WECC total load.[1] Energy trade in the WEIM is limited and intermittent. Currently, the WEIM handles generation that a participating utility considers surplus at the last minute. However, the CAISO is in the midst of active proposal to expand the WEIM functions, including potential inclusion of day-ahead transactions.

CAISO's Extended Day Ahead Market (EDAM). In addition to the WEIM, the CAISO released its EDAM straw proposal on April 28th, 2022, with the CAISO Board and WEIM Governing Body jointly approving the proposal in February 2023. Current plans call for implementation testing in 2023 and onboarding the first set of EDAM participants in early 2024.[2] These changes would aim to improve renewable integration and market efficiency through day-ahead

[1] California ISO, "Western Energy Imbalance Market FACT SHEET," April 2022, https://www.westerneim.com/Documents/WEIM-2-Billion-in-Benefits-Fact-Sheet.pdf
[2] CAISO EDAM factsheet; accessed April 20, 2023; http://www.caiso.com/Documents/extended-day-ahead-market-edam-fact-sheet.pdf

scheduling and unit commitment across a larger area for expanded regional activity in the extended day ahead market that may not require governance changes of the CAISO.

SB 100 Report – In 2018, the Legislature established the policy that all of the state's retail electricity be supplied with a mix of RPS-eligible and zero-carbon resources by December 31, 2045, for a total of 100% clean energy. It additionally required the CPUC, in consultation with the CEC, CARB, and all California balancing authorities, to issue a joint report to the Legislature by January 1, 2021, reviewing and evaluating the 100% clean energy policy. (Joint Agency SB 100 Report)[3]

While energy planning has historically focused on what energy mix is best suited to meet our GHG and reliability goals 10 years into the future, the Joint Agency SB 100 Report looks at a planning horizon 23 years out, to determine how best to implement the 100% clean energy policy enacted under SB 100 (De León, Chapter 312, Statutes of 2018).[4] The first SB 100 report was finalized in March 2021, and included analyses of many pathways to achieve the state's 2045 clean energy goal,[5] including acknowledgment that regional coordination would be "*a key component of California's strategy to realize its renewable energy and GHG emission reduction goals.*" The report notes the need for continued studies, in general, and the numerous approaches to western coordination, including WEIM, EDAM, WECC, and others, without explicit mention of a regionalized RTO. The SB 100 Report will next be issued in 2025, with future work focused on system reliability,[6] among other considerations.

COMMENTS:

1) *Author's Statement.* According to the author, "We have a looming energy crisis before us – not enough non-fossil fueled sources of electricity to keep the lights on and also meet our climate change goals. This crisis requires us to dig deep and explore and utilize every tool we have. AB 538 is one of those tools. The western states share a transmission grid. 80% of the electricity sold that runs through that grid comes from states or utilities with 100% goals just like California's with the same challenges we have including resource constraints, fires, and extreme weather events. AB 538 would facilitate the expansion of the CAISO to join forces with our neighboring states to meet our climate change goals. Same structure as it has had for more than 20 years but with a new governing board based on principles adopted by western regulators that call for an independent board selection process from disinterested parties, a western states' committee with a role in policy development and decision making, and transparency and access to information and performance data. Same nonprofit organization, same laws, same utilities and CCAs making decisions about electricity generation but a bigger pool of customers and fleet of power plants across the west using generation and transmission more efficiently and reducing costs for ratepayers. There are no studies, there is no research that that doesn't support the need to expand our grid. Under every scenario California benefits from CAISO expansion and, the bigger the footprint, the greater the benefits to electric customers, reliability, and achieving our climate goals."

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[3] Public Utilities Code § 454.53
[4] CEC, CPUC, & CARB; *2021 SB 100 Joint Agency Report: Achieving 100 Percent Clean Electricity in California: An Initial Assessment*;" March 2021.
[5] Pg. 12, *2021 SB 100 Report.*
[6] Pg. 1, *2021 SB 100 Report.*

2) *Evaluating the Benefits of a Western RTO: SB 350 and ACR 188 Studies*. In passing SB 350 (De León, Chapter 547, Statutes of 2015), the Legislature expressed its intent that CAISO expand into a regional body that would manage high-voltage electricity transmission for entities throughout the Western Interconnect, a process colloquially known as regionalization. SB 350 directed CAISO to modify its governance structure to accommodate regionalization. The bill, however, conditioned implementation of the proposed governance changes upon several actions. Among those actions was the completion of studies (SB 350 Studies) on the effects of regionalization on ratepayers, the environment, disadvantaged communities, safety, and reliability.[7]

   CAISO completed the SB 350 Studies in 2016, finding, among other things that by 2030 regionalization could provide $1 billion to $1.5 billion in annual benefits to California ratepayers.[8] Additionally, the Studies found that regionalization would result in:

   - Approximately 3-4 million metric tons of CO_2 reduction;
   - Creation of 9,900 to 19,300 additional California jobs;
   - Increased efficiency in renewable energy development, and a subsequent reduction in land use, biological resources, and water use impacts;
   - Improved integration of renewables, leading to maintaining reliability at reduced cost and reducing the need for curtailment of resources.

   The SB 350 Studies acknowledged these findings are impacted significantly if the size of the regional market studied changes, and the benefits would increase significantly if the state's renewable generation mandates were accelerated.[9] Since the SB 350 Studies were published, the Legislature adopted SB 100 (De León, Chapter 312, Statutes of 2018) which increased the statewide RPS requirement from 50% by 2030 to 60% and created 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 electricity.

   In 2022, the Legislature passed ACR 188 (Holden, Chapter 138, Statutes of 2022) which requested CAISO to conduct a report synthesizing the studies, policies, and papers on the potential benefits of expanded regional cooperation in California, with a focus on key issues that will most effectively advance the state's energy and environmental goals. The National Renewable Energy Lab (NREL)-authored report was finalized in February 2023 and provides a comprehensive review of the work that has been conducted since the SB 350 Studies 7 years ago.[10] The NREL report outlined a number of benefits of a regional

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[7] Public Utilities Code § 359.5(e)(1) – "*The Independent System Operator conducts one or more studies of the impacts of a regional market enabled by the proposed governance modifications, including overall benefits to ratepayers, including the creation or retention of jobs and other benefits to the California economy, environmental impacts in California and elsewhere, impacts in disadvantaged communities, emissions of greenhouse gases and other air pollutants, and reliability and integration of renewable energy resources. The modeling, including all assumptions underlying the modeling, shall be made available for public review."*

[8] Pg. I-viii; CAISO, "Senate Bill 350 Study: The Impacts of a Regional ISO-Operated Power Market on California, Executive Summary," July 8, 2016, https://www.caiso.com/informed/Pages/RegionalSolutions.aspx

[9] Pg. I-xiv; CAISO, "Senate Bill 350 Study: The Impacts of a Regional ISO-Operated Power Market on California, Executive Summary," July 8, 2016, https://www.caiso.com/informed/Pages/RegionalSolutions.aspx

[10] Hulbut, D., Greenfogel, M., and Speetles, B., "The Impacts on California of Expanded Regional Cooperation to Operate the Western Grid (Final Report)" NREL; February 2023.

RTO in the west, including greater cooperation and production cost savings; reliability; and greater resource and load diversity.

These multiple benefits are expressed by the author and supporters of this measure as reasons to further expand CAISO's footprint. They point to the success of the WEIM, and the greater regional collaboration, ratepayer savings, and reliability benefits that have been generated since its creation as evidence of what further benefits might be realized under an expanded CAISO. However, the ACR 188 Report also noted that "larger and more comprehensive [RTO] structures expand the types of issues that need to be addressed, such as governance and principles for allocating the cost of new transmission."[11] These issues remain some of the core concerns within this bill.

3) *Developments out West: Clean Energy Acceleration and Concerns over Competing Markets.* In the seven years since the SB 350 Studies were released, there has been a flurry of activity in the Western Interconnect related to clean energy mandates and engagement on enhanced regional coordination.[12] As demonstrated in Table 1 below, many western states have moved toward cleaner energy policies, creating opportunities for increased coordination and market development that might take advantage of the geographic diversity of loads and resources.

***Table 1*:** Clean energy, RPS, and goals across the Western U.S.[13]

State	**Target** (% of annual energy) by date
Arizona	15% x 2025
California	60% RPS x 2030; 100% Clean x 2045
Colorado	30% Clean x 2020; 100% x 2050
Idaho	None cited
Montana	15% x 2015 RPS
Nevada	50% RPS x 2030 100% Clean x 2050
New Mexico	80% x 2040 100% Clean x 2045
Oregon	50% RPS x 2040
Utah	20% RPS x 2025 (includes non-renewable alternatives)
Washington	15% RPS x 2020 100% Clean x 2045
Wyoming	None cited

Additionally, at the time of the SB 350 Report, interest outside of California for more regional collaboration was unclear. The CAISO's WEIM was only two years old with

[11] Pg. vi; *ACR 188 Report.*
[12] 100% Clean Energy Collaborative – Table of 100% Clean Energy States, https://www.cesa.org/projects/100-clean-energy-collaborative/guide/table-of-100-clean-energy-states/, accessed last on 05.14.2022.
[13] Pg. 106, *ACR 188 Report.*

just a few utilities participating or interested.[14] Today, the WEIM has 19 participants across 10 western states and Canada. By end of 2023, when another three participants are slated to join the WEIM, it will serve approximately 79% of the WECC total load.[15]

In 2021, Colorado and Nevada independently adopted legislation mandating their utilities join regional transmission operators, with specified principles.[16] The federal Department of Energy also funded a study, led by the State of Utah, to evaluate market expansion options while enhancing regional dialog.[17]

Concurrent with the development of CAISO-led market efforts of WEIM and EDAM is the Markets+ initiative led by Arkansas-based RTO Southwest Power Pool (SPP).[18] Markets+, which is pending FERC approval, will be a real-time and day-ahead market in the WECC, similar to CAISO's WEIM and EDAM. SPP has been promoting Markets+ as having "fully independent governance from day one;"[19] presumably in contrast to CAISO's market offerings which are developed by a California-appointed board. SPP recently announced a list of entities that have committed financial obligations to help develop and launch Markets+; although the commitment is not binding that these entities must join the final market.[20] Concerningly, many WEIM participants have made such commitments to Markets+, including Arizona Public Service, Bonneville Power Administration, NV Energy, Puget Sound Energy, and the Salt River Project, to name a few. Should these entities leave the WEIM for Markets+, it is estimated that roughly 50% of WEIM managed load would be departing. The loss in benefits to the WEIM—whose value increases relative to the increase in the number and size of participants in the market—could be significant, greatly reducing the cost savings the WEIM provides to California's ratepayers. Supporters of this bill cite the growing development of Markets+ as evidence of the need to accelerate changes to CAISO's governance structure. They note other western energy entities are attracted to SPP's market offerings because full participation in the RTO is already possible with SPP. However, full participation to new entrants is also already possible with the CAISO under FERC rules which stipulate that any entity that wishes to join an ISO/RTO shall be granted nondiscriminatory access.

What is known is the potential (pending FERC approval) for two day-ahead markets to operate in the WECC: CAISO's EDAM and SPP's Markets+. The governance structures for both market governing bodies vary slightly, but the governing boards of the ISO/RTO hosting the day-ahead market vary significantly – CAISO's is Governor-appointed, Senate-confirmed; whereas SPP's is elected by participating members. What the supporters of this bill likely mean regarding the governance structure of SPP being more attractive to full participation, is likely in reference to SPP's "independence" from appointments by elected officials. Yet this characterization is speculative. Much remains

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[14] Chiefly Pacificorp, headquartered in Portland, Oregon.
[15] California ISO, "Western Energy Imbalance Market FACT SHEET," April 2022, https://www.westerneim.com/Documents/WEIM-2-Billion-in-Benefits-Fact-Sheet.pdf
[16] Colorado Senate Bill 72, Statutes of 2021 and Nevada Senate Bill 448, Statutes of 2021.
[17] Pg. 2, Energy Strategies, Project Contractor; "The State-Led Market Study; Technical Report; ROADMAP," July 30, 2021.
[18] Kleckner, Tom, "SPP Unveils Markets+ Governance Structure," *RTO Insider,* March 20, 2023.
[19] *Ibid.*
[20] SPP Press release, "SPP's development of Markets+ underway with funding and participation from diverse western stakeholders;" April 4, 2023.

unclear regarding how western energy entities will weigh costs versus benefits in determining their participation in either market, or what the WECC will look like in the coming years.

4) *West-wide Reliability and the Need for Better Coordination.* California has ambitious clean energy policies, such as the RPS, with procurement goals that ramp quickly in the coming decades. For instance, in 2020 utilities needed to have 33% of their energy portfolio arise from renewable resources.[21] By 2030, that percentage nearly doubles to 60%. By the end of 2045, all retail electricity must be supplied with a mix of RPS-eligible and zero-carbon resources, for a total of 100% clean energy.[22] These enormous supply-side changes run parallel to anticipated changes in demand from electrifying the transportation and building sectors. Collectively, these changes represent a transition period for the energy sector (the clean energy transition) over the coming two decades; a transition where our infrastructure must evolve to meet new supply and increasing demand otherwise there is real risk to maintaining system reliability.

   As indicated above in Table 1, California's clean energy transition is not happening in isolation. Rather, many other states in the west are also undergoing their own transitions, with associated impacts to reliability. For instance, over the last 20 years, over 20 gigawatts (GWs) of aging natural gas plants have retired in the state.[23] This statewide trend has been mirrored throughout the west, where aging, inefficient powerplants have been retired due to market and regulatory pressure, leading to capacity tightness across the western U.S. This market tightness has led to increased potential for high energy prices during scarcity conditions, as utilities are no longer adequately hedged, and the potential for energy suppliers to exert market power over buyers desperate for any megawatt to meet RA compliance and ensure reliability. This committee has been made aware of circumstances in the 2023 RA showings where utility buyers offered astronomical prices for resources, and still received no bids from suppliers.

   Moreover, large climate events are occurring alongside our ambitious renewable energy integration. For the past three summers, California's electric grid has faced tight supply conditions, leading to rotating outages in August of 2020 and near misses in July of 2021 and early September of 2022. These tight supply conditions were largely a consequence of climate events, such as western-wide heat waves or wildfires, and represent periods where energy supply is most desperately needed to ensure the health and safety of many Californians. For instance, the record heat wave this past September sickened or killed many, although data on the scope of the health impacts are chronically underestimated.[24] These climate events likewise represent a huge transition period for the energy sector (the climate transition), one where our infrastructure must adapt to reliably operate during periods of extreme strain.

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[21] The CEC is still undergoing verification of the 2017-2020 RPS compliance period to determine if the utilities met this target.
[22] SB 100, De Leon, Chapter 312, Statutes of 2018.
[23] Pg. 5; McGarry, 2023; *Ibid*
[24] Hayley Smith, "Despite promises, California doesn't know how many people died in record summer heat wave," *LA Times, October 10, 2022.*

While the events of the last three summers have resulted in an urgent response within the state to ensure outages do not happen again, many of the preferred solutions take long-term planning and development. The proponents of this bill have raised the issue of better coordination across the west, in the form of a regional RTO that has visibility into the many west-wide generation and transmission resources operating during constraints, as a solution to both the west-wide energy and climate transitions. The ACR 188 Report affirmed this by concluding one of the benefits of regionalization is better grid resilience and greater reliability for customers.[25]

The solution for better coordination to ensure needed resources flow to regions under strain is desirable; however it is unclear how this may or may not be realized for California under a regional RTO. For instance, after the August 2020 blackouts, CAISO requested FERC authorization to allow the CAISO to prioritize energy delivery to California, seemingly to the detriment of neighboring states that rely on the CAISO transmission network to meet the delivery commitments of their power.[26] CAISO proposed this change in order to better manage the energy imports, exports, and transfers throughout their BA, but it led to utilities and utility commissions in Arizona, Nevada, New Mexico, and Oregon filing protests at FERC citing unfairness. FERC disagreed, and approved CAISO's request, holding that CAISO's changes were not discriminatory and consistent with open access principles. While FERC's ruling suggests this CAISO tariff change was fair and nondiscriminatory, the change certainly gave the perception to our neighbors of being biased in favor of California's reliability. Under a regional RTO, utilities across the west would be seeking a partnership for grid management. It is unclear under such a scenario with a multi-state governing board whether similar tariff changes would be likely to occur.

5) *Impact to In-State Development and Jobs, and the Future of the RPS.* One of the major points of opposition against this measure is the potential impact a regional RTO might have on in-state construction of energy infrastructure and associated workforce impacts. By 2035, the CPUC is projecting in its most recent IRP analysis that almost 86 GWs of new resources are needed,[27] arising from a mix of geothermal, land-based wind, offshore wind, solar, battery storage, pumped storage, and demand response.[28] This portfolio represents a more than doubling within 12 years of the current nameplate capacity on the system; an enormous goal. The CAISO, in its most recent draft transmission plan released on April 3, 2023, identified 46 projects – at an estimated $9.3 billion – needed for reliability and to meet state policy goals over the next decade.[29] This is an enormous amount of development, and will take an enormous workforce to achieve. Most of these projects are forecast to be developed in California; however such locational decisions are largely left up to the utilities to determine on a least-cost basis in their resource

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[25] Pg. viii; *ACR 188 Report.*
[26] Troutman, Elizabeth; "Arizona official says California's electrical power grab could lead to outages;" *The Center Square*; July 2, 2021; https://www.thecentersquare.com/arizona/arizona-official-says-californias-electrical-power-grab-could-lead-to-outages/article_51278106-db82-11eb-8cc9-2f4e9c5e60e2.html
[27] Pg. 47; 30 MMT scenario resource stack; CPUC, *Decision Ordering Supplemental Mid-term Reliability Procurement (2026-2027) and Transmitting Electric Resource Portfolios to CAIS for 2023-2024 TPP;* D. 23-02-040; February 23, 2023. https://docs.cpuc.ca.gov/SearchRes.aspx?DocFormat=ALL&DocID=502956567
[28] Pg. 48; CPUC, D. 23-02-040; *Ibid.*
[29] CAISO *2022-2023 Draft Transmission Plan*.

procurement solicitations. That is, with the exception of the statutory requirement of the RPS.

Existing law establishes the RPS that requires all retail sellers to procure a minimum quantity of electricity products from eligible renewable energy resources. The RPS currently calls for 50% of total retail electricity sales in California to be met from eligible renewables by December 31, 2026, and 60% by December 31, 2030.[30] The RPS statute likewise dictates a percentage of those targets that must be met with specific categories of products, colloquially known as the "buckets." There are three categories of RPS buckets, distinguished from each other by the timing of the renewable generation:

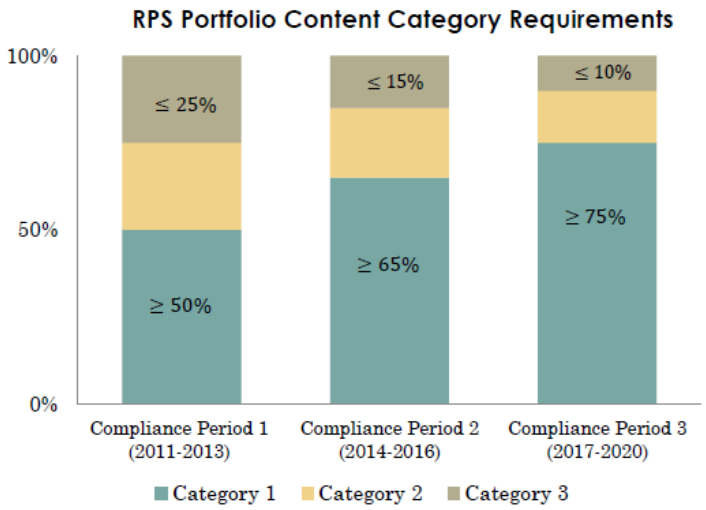
- Category 1: Renewable energy and renewable energy credits (RECs) from the facilities with a first point of interconnection with a California BA, or facilities that schedule electricity into a CA BA on *an hourly or sub-hourly basis*.

- Category 2: Renewable energy and RECs with incremental electricity, and/or substitute energy, from outside a CA BA. Generally, Category 2 RECs are generated from out-of-state renewable facilities and require a Substitute Energy Agreement that details the simultaneous purchase of energy and RECs from a RPS eligible facility. The accounting for the Bucket 2 renewable product needed to be delivered to an LSE within the same calendar year. They were generally *tracked monthly,* accounting only for the renewable generation delivered.

- Category 3: RECs that do not include the physical delivery of the energy that generated the REC. Generally, Category 3 RECs are associated with the sale and purchase of the RECs themselves, not the energy. RECs prove the generation of renewable energy *at some point in time*, and purchase of a REC by an LSE provides the LSE with credit for that renewable generation. One REC is credited to one megawatt-hour of generation. RECs could be purchased and "retired" by an LSE for RPS compliance. The use of RECs is a common product in the renewable market worldwide. As shown in Figure 2, their use in the California RPS was reduced over time, such that today they only make up a small percent of procurement.

[30] PUC § 399.11

Figure 2 – RPS Portfolio Buckets[31]



The RPS "bucket" system has worked with most LSEs meeting or exceeding their compliance targets over the years, and has spurred much renewable energy development in the state thanks to the Category 1 requirements. (It should be noted Category 1 resources are not exclusively in-state development, as resources that can schedule directly into a CA BA on an hourly basis also qualify. This has led to out-of-state renewables, such as recently proposed NM and WY wind projects, counting as Category 1 due to their ability to schedule into the California market.) Under an expanded RTO, the boundaries of Bucket 1 would likely expand, encompassing whatever new footprint the CAISO absorbs.

In a 2015 analysis of the RPS, the Labor Center at U.C. Berkeley reported about 52,000 direct jobs were created in California from 2003-2014, due to the construction of new renewable energy facilities. When indirect and induced jobs are included, that total grew to about 130,000 during that first decade of the RPS.[32] As part of the 2016 SB 350 Studies, job impacts of a regional RTO were examined. The Studies found a regional market would "create between 9,900-19,300 additional jobs in California;" however these were largely indirect due to a "reduced cost of electricity" in the state.[33] When direct jobs were evaluated, the regional scenarios studied led to a decrease by 2030 of 7,400-23,800 jobs lost to new construction elsewhere.[34]

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[31] Image from CPUC website on RPS; accessed 04.20.2023; https://www.cpuc.ca.gov/industries-and-topics/electrical-energy/electric-power-procurement/rps/rps-compliance-rules-and-process/60-percent-rps-procurement-rules

[32] Jones, B., Philips, P, and Zabin, C. "Job Impacts of California's Existing and Proposed Renewables Portfolio Standard," *UC Berkeley Policy Brief*; August 28, 2015; https://laborcenter.berkeley.edu/pdf/2015/job-impacts-ca-rps.pdf

[33] Pg. I-xii, CAISO, "Senate Bill 350 Study: The Impacts of a Regional ISO-Operated Power Market on California, " July 8, 2016, https://www.caiso.com/documents/sb350study_aggregatedreport.pdf

[34] I-53-I-54, *Ibid.*

Since these studies were conducted, SB 100 (De León, Chapter 312, Statutes of 2018) was chaptered, adopting more accelerated and greater RPS targets. In response to this bill's introduction, the Coalition of California Utility Employees (CCUE), an opponent of the measure, recalculated out to 2040 the potential job loss under a regional RTO scenario given California's new RPS and clean energy policies. Their evaluation concluded as much of the new solar needed to meet statewide policy would be constructed in other states rather than California, resulting in job loss of approximately 1.1 million jobs through 2040.[35] The report cites the "evisceration of the bucket system" as the main factor in leading to this

Supporters of this measure issued a fact sheet to rebut the conclusions of the CCUE paper. The major points from the supporters included that the labor calculations did not properly weigh the clean energy development occurring west-wide which will drive project development and jobs in those states (i.e. Californian utilities will not be the only ones looking to build new projects; there will be a market rush everywhere); that the most recent IRP calls for 86 GWs of new clean energy by 2035, most of which will be in the development pipeline in California prior to any expansion of CAISO being formalized; and that California will need a large influx of workers to not only meet the clean energy demand but also other decarbonization goals like EV deployment.[36]

Much remains uncertain. The impact of in-state construction and associated jobs will be dependent on a number of dynamic factors including which utilities in which states would decide to join an expanded CAISO; the clean energy, workforce, and land-use policies in those regions; transmission availability both in California and elsewhere; and the timing of any proposed CAISO expansion (i.e. if it takes the decade or more it took WEIM to have the regional footprint currently being exercised, our RPS targets—and their associated buckets—will have already been met). Despite the uncertainty, it may be worth this committee considering potential solutions to preserve the RPS buckets under a regional RTO in order to add as many protections to in-state development as possible.

6) *Little Comfort in the Law – Potential Risks to State Clean Energy Policy.* This bill, in expanding the footprint of CAISO into a regional RTO, has been categorized by the author and supporters as being an energy reliability solution. Certainly, as described above, it has the potential to provide needed relief to California. Despite the stated benefits, there may be dangers in moving forward with the reorganization of the CAISO, largely surrounding federal case law and preemption; topics, admittedly, outside the jurisdiction of this committee. Nevertheless, much discussion has commenced in recent weeks on the various decisions a court might make regarding the robustness of California's clean energy policies under an expanded RTO that it is worthwhile to explore those points here.

   As raised by the opponents to this bill, California is currently able to exert a certain amount of influence over the direction of the CAISO with a board appointed by the Governor and subject to approval by the California State Senate. Under this bill,

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[35] Earle, Robert; "Solar Industry Job Loss Due to AB 538;" evaluation to the Coalition of California Utility Employees, February 28, 2023.
[36] Supporters of AB 538 (unlisted); "Fact Check on Jobs Impacts of a west wide RTO;" shared with the committee on March 24, 2023.

California would lose this control. After California utilities ceded control of their balancing authority to FERC in the 1990s, it took effort to return to California the amount of control currently maintained. This oversight was established by statute and a challenge several years later by Duke Energy and FERC was narrowly defeated. (*See Cal. Indep. Sys. Operator Corp. v. FERC* (2004) 372 F.3d 395.) The concern raised by the opponents to this measure is that once California gives up this degree of control, it will be gone forever, and in its place will be the uncertainty of increased federal intervention.

In the regionalization context, the concern is that should California open up the operation of CAISO, it may expose state policies and programs to federal preemption claims or Dormant Commerce Clause challenges. Simply put, if California attempts to regulate the type or amount of energy being produced while part of a regional market, there could be a challenge made that such laws either conflict with FERC jurisdiction and are preempted or otherwise unduly interfere with the interstate flow of energy. For instance, as discussed in the previous section, the RPS bucket requirements are often raised as the first to be rendered meaningless under an expanded RTO. (Because Category 1 RPS resource eligibility would expand alongside the CAISO footprint, leading to more out-of-state development being preferred Category 1 RPS resources for California's utilities.)

That said, the committee is unaware of any past challenges to the RPS buckets to test its legality. The author and supporters of this bill cites the lack of legal challenge over the decades as evidence of the robustness of the RPS structure, and its compliance with the federal Commerce Clause. However a lack of a challenge is not the same as withstanding a challenge.

Opponents of this measure draw this distinction, and raise fear that the RPS—and potentially other California clean energy policies—would be open to more scrutiny and potential legal challenge should CAISO expand its boundary. For instance, a 2017 decision out of the 2nd Circuit examined Connecticut's RPS program.[37] That case upheld the RPS scheme in Connecticut, but specifically on the grounds that it applied across the wholesale electricity market the state operated within:

Significantly, we note that Connecticut's RPS program makes geographic distinctions between RECs only insofar as it piggybacks on top of geographic lines drawn by [the New England ISO] and the [New England Power Pool Generation Information System], both of which are supervised by FERC—not the state of Connecticut. It is FERC that has created the geographic distinctions on which Connecticut's program is predicated by organizing owners of transmission lines into "independent system operators" (ISOs), such as ISO-NE, and "regional transmission organizations" (RTOs) in order "to help manage the grid, ensure system reliability, and guard against discrimination and the exercise of market power in the provision of transmission services."

While the decision supports the existing system applying to the CAISO market boundaries, the language in the Connecticut case calls the continued viability of California's RPS program into doubt. And there is no guarantee that the expanded CAISO would maintain a market structure like NE-ISO created in the Connecticut case to ensure the longevity of our RPS policy. A system that appears to provide an in-state

[37] *Allco Fin., Ltd. v. Klee* (2d Cir. 2017) 861 F.3d 82, 107.

preference leaves the program susceptible to a challenge. In fact, according to a Senate Judiciary analysis on an earlier version of this measure,[38] no court has upheld delivery requirements to a single state within an RTO.

The author argues that such concerns are without foundation, saying that California is at no greater risk of FERC interference under this bill than it already is. However, there is a volume of case law that supports potential risks.

In *North Dakota v. Heydinger* (8th Cir. 2016) 825 F.3d 912, the Eighth Circuit Court of Appeals was presented with a challenge to a Minnesota statute governing carbon dioxide emissions. The statute intended to reduce "statewide power sector carbon dioxide emissions" by prohibiting utilities from meeting Minnesota demand with electricity generated by a "new large energy facility" in a transaction that will contribute to carbon dioxide emissions.[39] The statute regulated "the total annual emissions of carbon dioxide from the generation of electricity within the state and all emissions of carbon dioxide from the generation of electricity imported from outside of the state and consumed in Minnesota." Minnesota is part of an ISO, the Midcontinent Independent Transmission System Operator (MISO). The court found that in the regional grid, "a person who imports electricity does not know the origin of the electrons it receives, whether or not the transaction is pursuant to a long-term purchase agreement with an out-of-state generator."[40] The court found that Minnesota's statute therefore ran afoul of the Dormant Commerce Clause because it sought to impose carbon dioxide emissions standards that would necessarily implicate other participants in the regional grid where generation and transmission was occurring wholly out of state.

Similarly in *Hughes v. Talen Energy Mktg., LLC* (2016) ___U.S.___ [136 S.Ct. 1288, 1297], an east coast RTO, PJM Interconnection, operated a capacity auction for the exchange of power through long-term bilateral contracts. Maryland, a participant in the PJM, became concerned that the capacity auction was not adequately incentivizing the development of sufficient new electricity generation in-state. In response, Maryland enacted its own regulatory program, providing subsidies to a new generator that would sell that capacity into the auction. The United States Supreme Court struck down the Maryland program, finding it intruded upon FERC's exclusive jurisdiction.[41] The Court held that the fact Maryland was only attempting to encourage construction of new in-state generation did not save its program, concluding that "States may not seek to achieve ends, however legitimate, through regulatory means that intrude on FERC's authority." This bill specifically prohibits Californian utilities from joining an RTO that operates a capacity market specifically to address concerns raised under *Talen.*

Conversations around these court cases have been swirling for weeks since the introduction of this measure. Supporters of this measure have argued that these decisions are limited to the particular circumstances of those cases and would not serve to undermine California law should California enter into a larger regional market. Opponents of this measure strongly disagree, and cite these cases as evidence that

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[38] AB 813 (Holden, 2018)
[39] pg 915-916; *North Dakota v. Heydinger* (8th Cir. 2016) 825 F.3d 912
[40] Pg. 921, *Id.*
[41] pg 1297-1299, *Talen.*

California clean energy policies would be at risk should California enter into a larger regional market. Unfortunately, this bill is not receiving a hearing in the Assembly Judiciary Committee to be able to appropriately weigh these conflicting perspectives.

What is clear is the lack of clarity. Regionalization could lead to greater resource development west-wide and help California meet its clean energy goals more rapidly and reliably, at lower costs. Or it might make the bounds of California's energy policy blurrier, potentially adding risk to our clean energy goals.

7) *The Role of the Legislature.* At its core, the notion of a multistate entity implies many of the principles one might associate with establishing a trade deal. Parties representing different interests and state jurisdictions would engage to hopefully reach mutually beneficial agreements. In California, a similar framework exists for negotiating tribal compacts which are negotiated by the executive branch but often require approval by the Legislature. This bill attempts to provide some clarity on what would be part of any "deal" to regionalize the CAISO by strictly conditioning the restructuring of the CAISO on various prerequisite principles. The CAISO must then present their expansion plan to the CEC and the CEC must confirm the principles are met. The bill also prohibits any California LSE or POU from joining a regional RTO that does not adhere to the principles.

   However, these upfront assurances provide only marginal comfort, as this bill is proposing a path to allow CAISO to expand without any expansion plan, tariff, or governance proposal on the table. As is the case with tribal compacts (or federally, with trade deals where they're negotiated with the executive branch and ratified by Congress) it may be prudent to have this bill condition CAISO's expansion plan upon the ability of the Legislature to weigh in once the specifics of the proposal have been developed. Interestingly, this was the case under SB 350 (De León, Chapter 547, Statutes of 2015), where CAISO was authorized to go out and negotiate a deal to expand; to submit the plan to the Governor; and then the Legislature must enact a statute to implement the revised governance changes.

   The author has characterized any such requirement for legislative "ratification" as having the real potential to dissuade other states, which might otherwise be interested, from joining the expanded CAISO. It is unclear whether such a chilling effect occurred during the first round of CAISO development of their expanded governance in 2016 in response to SB 350's ratification requirement; and if not, what would be different today. If anything, the uncertainty of how other states might respond or what other states would even be looking for should CAISO expand suggests additional Legislative consideration following a proposal's development may be warranted.

8) *Need for Amendments.* Given the delicate balancing act of structuring a proposal for an expanded CAISO that appropriately weighs California's interest and benefits against ensuring negotiations with other states can occur at all, the members of the committee may consider proceeding cautiously. The author has committed, in conversations with the committee, to ongoing dialogue on many of the concerns raised to the measure; some of which are captured in this analysis, some of which deserve more discussion. *For the purposes of this hearing, the author and committee may wish to consider adopting amendments that address some points raised herein including preserving Bucket 1*

eligibility to in-state development, adding language affirming California's ability to meet its clean energy policies under an expanded RTO, and changes to the CAISO governance proposal submission process to include ensuring bylaws, organizational documents, and tariffs are included; that the CEC must conduct a public proceeding to review the CAISO proposal with a minimum of five noticed hearings throughout the state; and that the CEC must vote on the final CAISO proposal during a public business meeting.

9) *Prior Legislation.*

ACR 188 (Holden) requests, by February 28, 2023, CAISO, in consultation with the other California balancing authorities, to produce a report that summarizes recent relevant studies on the impacts of expanded regional cooperation on California and identifies key issues that will advance the state's energy and environmental goals. Status: Chapter 138, filed with the Secretary of State on August 19, 2022.

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. Requires the CPUC, in consultation with the CEC, CARB, and all California balancing authorities, to issue a joint report to the Legislature by January 1, 2021, reviewing and evaluating the 100% clean energy policy. Status: Chapter 312, Statutes of 2018.

AB 813 (Holden, 2018) would have established a pathway for the CAISO to transform its governance structure to operate as a multistate regional transmission system organization should certain requirements be met. Status: Died – Senate Committee on Rules.

AB 726 (Holden, 2017) includes three distinct, largely unrelated components, one of which establishes a process to authorize transformation of the CAISO into a regional organization. Status: Died – Senate Committee on Rules.

SB 350 (De León) among other provisions, states the intent of the Legislature to provide for the regionalization of CAISO, requires statutory authorization of such regionalization, and makes regionalization contingent upon—among other things—the CAISO conducting one or more studies on the impacts of a regional market. Status: Chapter 547, Statutes of 2015.

REGISTERED SUPPORT / OPPOSITION:

Support

Advanced Energy United
American Clean Power- California
Apex Clean Energy
Calchamber
California Community Economic Development Association (CCEDA)
California Distributors Association
California Energy Storage Alliance
California Environmental Voters (formerly Clcv)
California Manufacturers & Technology Association

California Retailers Association
Ceres
Ceres, INC.
Clean Energy Buyers Association
Clean Power Campaign
E2
Edf Renewable Energy
Edison International and Affiliates, Including Southern California Edison
Edp Renewables North America LLC
Enel North America
Engie North America
Environmental Defense Fund
Environmental Entrepreneurs
Independent Energy Producers Association
Interwest Energy Alliance
Marin Clean Energy (MCE)
Michael Wara
Microsoft Corporation
Montana Environmental Information Center
Natural Resources Defense Council
Northwest Requirements Utilities and Public Generating Pool
Nrdc
NW Energy Coalition
Pattern Energy
Portland General Electric
Renewable Northwest
Rev Renewables
San Jose Chamber of Commerce
Silicon Valley Leadership Group
Solar Energy Industries Association
Western Freedom Energy Action
Western Power Trading Forum
Western Resource Advocates

Support If Amended

California Wind Energy Association

Oppose

350 Bay Area Action
350 Conejo / San Fernando Valley
350 Contra Costa Action
350 South Bay LA
350 Southland Legislative Alliance
350 Ventura County Climate Hub
52nd District
Accountable
All Rise Alameda

Ballona Wetlands Institute
Ban Sup (single Use Plastic)
Bricklayers & Allied Craftworkers Local 4
Bricklayers and Allied Crafts Local 3
Building and Construction Trades Council of Alameda County, Afl-cio
Building the Base Face to Face
California Alliance for Community Energy
California Climate Voters
California Labor Federation, Afl-cio
California State Association of Electrical Workers
California State Council of Laborers
California State Pipe Trades Council
Californians for Energy Choice
Center for Biological Diversity
Change Begins With Me (INDIVISIBLE)
Chino Valley Democratic Cub
Clean Coalition
Climate First Replacing Oil & Gas
Climate Reality Project, Ventura County
Cloverdale Indivisible
Coalition of California Utility Employees
Coastal Lands Action Network (CLAN)
Consumer Watchdog
Contra Costa Building and Construction Trades Council
Contra Costa Moveon
Courageous Resistance of The Desert
Defend Ballona Wetlands
Defending Our Future: Indivisible in Ca
East Valley Indivisibles
El Cerrito Progressives
Electric Vehicle Association
Extinction Rebellion San Francisco Bay Area
Feminists in Action (formerly Indivisible CA 34 Womens)
Feminists in Action Los Angeles
Food & Water Watch
Food and Water Watch
Fresnans Against Fracking
Glendale Environmental Coalition
Green Party of California
Habitable Designs
Haight Ashbury Neighborhood Council
Hammond Climate Solutions Foundation
Hang Out Do Good
Hillcrest Indivisible
IBEW Local 302
IBEW Local 595
IBEW Local Union 180
IBEW Local Union 569
Indi Squared

Indian Valley Indivisibles
Indivisible 30/keep Sherman Accountable
Indivisible 36
Indivisible 41
Indivisible Auburn CA
Indivisible Beach Cities
Indivisible CA Statestrong
Indivisible Ca-25 Simi Valley Porter Ranch
Indivisible Ca-25 Simi Valley-porter Ranch
Indivisible Ca-29
Indivisible Ca-3
Indivisible Ca-37
Indivisible Ca-39
Indivisible Ca-43
Indivisible Ca-7
Indivisible California Green Team
Indivisible Claremont / Inland Valley
Indivisible Claremont/inland Valley
Indivisible Colusa County
Indivisible East Bay
Indivisible El Dorado Hills
Indivisible Elmwood
Indivisible Euclid
Indivisible Lorin
Indivisible Los Angeles
Indivisible Manteca
Indivisible Marin
Indivisible Media City Burbank
Indivisible Mendocino
Indivisible Normal Heights
Indivisible North Oakland Resistance
Indivisible North San Diego County
Indivisible Oc 46
Indivisible Oc 48
Indivisible Petaluma
Indivisible Sacramento
Indivisible San Bernardino
Indivisible San Diego Centra
Indivisible San Jose
Indivisible San Pedro
Indivisible Santa Barbara
Indivisible Santa Cruz County
Indivisible Sausalito
Indivisible Sebastopol
Indivisible Sf
Indivisible Sf Peninsula and Ca-14
Indivisible Sonoma County
Indivisible South Bay LA
Indivisible Stanislaus

Indivisible Suffragists
Indivisible Ventura
Indivisible Westside L.a.
Indivisible Windsor
Indivisible Yolo
Indivisible: San Diego Central
Indivisibles of Sherman Oaks
International Union of Elevator Constructors, Local 8
Iron Workers Local 118
Iron Workers Local 378
Iron Workers Local 433
Iupat Local 1399
Livermore Indivisible
Local Clean Energy Alliance
Long Beach 350
Mill Valley Community Action Network
Mountain Progressives
North Bay Building and Construction Trades Council
Northern California Sheet Metal Workers' Local 104
Nothing Rhymes With Orange
Orchard City Indivisible
Orinda Progressive Action Alliance
Our Revolution Long Beach
Pda-ca
Progressive Democrats of Santa Monica Mountains
Protect Our Communities Foundation
Queers 4 Climate
Ranch
Recolte Energy
Riseup
Rooted in Resistance
Ross Valley Indivisible
Sacramento-sierra Building and Construction Trades Council
San Diego Indivisible Downtown
San Joaquin Building Trades Council
San Joaquin Valley Democratic Club
San Jose Community Energy Advocates
Sequoia Forestkeeper
Sfv Indivisible
Sierra Club
Smart, Sheet Metal Workers' Local Union No. 104
Socal 350
Socal Americans for Democratic Action
Southern California Pipe Trades District Council No. 16
Sprinkler Fitters Local 709
State Building and Construction Trades Council of Ca
Sunflower Alliance
Tehama Indivisible
The Climate Center

The Resistance Northridge-indivisible
Together We Will Contra Costa
Tww/indivisible - Los Gatos
Ua Local 582
United Association Local 159
United Association Local 230
United Association Local 250
United Association Local 343
United Association Local 38
United Association Local 442
United Association Local 447
United Association Local 467
United Association Local 483
United Association Local 484
United Association Local 761
United Association Local 78
Vallejo-benicia Indivisible
Valley Women's Club of San Lorenzo Valley
Venice Resistance
Western States Council Sheet Metal, Air, Rail and Transportation
Womeen's Energy Matters
Women's Alliance Los Angeles
Yalla Indivisible

Oppose Unless Amended

California Municipal Utilities Association
The Utility Reform Network (TURN)

Other

Better World Group Advisors
Bonneville Power Administration; U.S. Department of Energy
California Farm Bureau Federation
Environmental Working Group

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