

**“Electricity 2030: Trends and Tasks for the Coming Years”  
CAISO Vision Discussion Paper (October 2017)**

**Comments of the Independent Energy Producers Association (IEP)  
November 20, 2017**

The Independent Energy Producers Association (IEP) is pleased to provide these Comments in response to the CAISO’s Vision Discussion Paper: “Electricity 2030-Trends and Tasks for the Coming Years” (Vision Paper, October 2017). The CAISO’s Vision Paper is broad in scope, focusing on large state and national trends. While delineating eight broad trends and suggesting a range of tasks to be accomplished in light of these trends, the Vision Paper correctly notes that “many of the actions suggested ... are not within the purview of the ISO.” IEP concurs with this assessment.

Overall, we find the Vision Paper not particularly helpful in illuminating what, if anything, the CAISO management will be “tasked” to accomplish over the near term, e.g. 1-5 years, related to the CAISO’s primary function to maintain 60 Hz on the electric transmission grid and administer wholesale markets in a just, reasonable and non-discriminatory manner in light of a dynamically evolving energy sector. We ask that the CAISO Board revisit the Vision Paper to address more fully issues identified in these comments, because policymakers, planners and certainly market participants would be best served if the CAISO’s Vision Paper addressed issues for which it has primary responsibility, particularly those issues that are front and center today.

In this regard, IEP offers the following comments within which we pose a number of important questions that we believe should inform the CAISO’s Vision Paper.

**I. What is the Role and Responsibility of the ISO?**

*“The specific purpose of this Corporation is  
to ensure the efficient use and reliable operation of the electric transmission grid  
pursuant to the Statute”.<sup>1</sup>*

As prescribed by its Articles of Incorporation, the CAISO’s primary purpose is to ensure a reliable electric grid. The CAISO must ensure a reliable electric grid in spite of and because of an ever-changing policy environment. To achieve this purpose, the CAISO manages the transmission grid and, equally

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<sup>1</sup> CAISO Articles of Incorporation, 5 May 1997

important, the CAISO administers wholesale markets in a just, reasonable and non-discriminatory manner.

Yet, as noted above, the CAISO's Vision Paper veers into areas and issues residing outside its purpose and, arguably, outside the CAISO's core competency. As a result, scarce CAISO (and stakeholder) resources are diverted from critical issues that deserve greater attention. The Vision Paper, for example, focuses extensively on trends related to distributed energy resources (DER) primarily interconnected to the distribution system. In this context, the Vision Paper implies that it is the role of the CAISO to pick-and-choose wholesale market winners (e.g. actively work to phase out gas generation) while significantly favoring a distribution-based model not under its domain.

On the other hand, the Vision Paper barely mentions transmission, transmission planning or wholesale market reforms. For example, the Vision Paper does not discuss what, if anything, the CAISO plans to do over the next 1-5 years to facilitate access to low-cost, GHG-free transmission-interconnected renewables needed to help de-carbonize the electric and transportation sectors. Typically, the cost of these utility-scale renewable resources is less than distributed resources (\$/kWh) and these resources are positioned well to serve load located throughout California. As a practical matter, the primary impediment to expanding access to these low-cost resources is the availability of transmission.

In the context of discussing a CAISO Vision, it would be helpful for the CAISO to address the following:

- *What is the CAISO Plan for accessing low-cost, transmission-interconnected renewable resources over the next 1-5 years? Where are the market signals to these resources that, if they develop the resource, they will have a transmission path to load?*
- *What is the transmission plan if distributed resources don't emerge in a timely and cost-effective manner to support the grid and/or serve load?*

**II. What is the "vision" on for sustaining existing resources determined to be needed to achieve the de-carbonized world of 2030?**

The primary role of the CAISO is to ensure a reliable grid. In this regard, the CAISO administers wholesale markets in a just, reasonable and non-discriminatory manner; thereby, enabling greater

competition among all available resources to provide needed services. In this context, IEP couldn't help but note that one of the major trends identified in the Vision Paper is "Gas-fired generation declines significantly as the grid is modernized."<sup>2</sup> While it is true that the gas-fired generation fleet may decline over the next decade, the Preliminary Reference Plan in the CPUC Integrated Resource Plan (IRP) proceeding indicates under the baseline resource assumption scenario that all thermal plants (17,635 MWs CCGT and 12,376 MWs Peaker) not scheduled for OTC retirement remain available and on-line in 2030.<sup>3</sup> The evidence clearly recognizes a need for this type of generation (flexible capacity), yet the market provides little if any means to ensure that competitive resources that can provide these necessary services are available to the CAISO when and where needed. Importantly, the Vision Paper is silent on what, if anything, the CAISO intends to do to address this matter.

It is important to note that California has worked to develop a mixed portfolio of resources to ensure grid reliability and help de-carbonization the electric sector over the past 17 years. This portfolio includes renewables, expanded energy efficiency, as well as clean natural, along with increasing amounts of storage and advanced inverters as they become increasingly competitive. Indeed, California has been heavily invested in modernizing. California's aged thermal fleet has been replaced or repowered with relatively clean, natural gas electric generation wherever and whenever possible. For example, 9,400 MWs of aging gas facilities retired and shut-down between the years 2001-2014.<sup>4</sup> Many of these plant retirements have occurred in disadvantaged communities such as Hunters Point, Potrero, and South Bay. By 2025, an estimated 15,479 MWs of generation will have retired [e.g. once-through cooling (OTC) units and the Diablo Canyon Nuclear Generating Facility].<sup>5</sup> By 2030, an additional 1,615 MWs of older, OTC units owned by the Los Angeles Department of Water and Power (LA DWP) are planned to repower or be replaced.<sup>6</sup> As a result of the fleet make-over, air quality analyses show that Natural Gas Generation is not a major source of criteria air pollution (NOx, PM2.5 and SOX). Indeed, the CAISO SB 350 Study notes that "Electricity production by natural gas represents ~1% of the entire California inventory."<sup>7</sup> Moreover, the California Energy Commission (CEC) has concluded that "motor

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<sup>2</sup> CAISO Vision Discussion Paper, p. 10

<sup>3</sup> CPUC Preliminary Resource Plan, November 2, 2017, Slide 33.

<sup>4</sup> *Thermal Efficiency of Gas-Fired Generation in California: 2015 Update*, California Energy Commission Staff Paper, page 7.

<sup>5</sup> *2017 Draft Integrated Energy Policy Report (IEPR)*, California Energy Commission, page 103

<sup>6</sup> *Tracking Progress: Once Through Cooling*, California Energy Commission, March 8, 2017, p. 7

<sup>7</sup> *Clean Energy and Pollution Reduction Act Senate Bill 350 Study: Preliminary Results*, [CAISO Presentation], May 24, 2016, Aspen Environmental Group, slide 118

vehicles represent the largest source of air pollution that harms human health, accounting for nearly 80% of the nitrogen oxide emissions and 90% of diesel particulate matter emissions in the state.”<sup>8</sup>

With regards to that gas-fired generation fleet that is expected to be available to the CAISO throughout the transition to the 2030 de-carbonized environment, the wholesale markets administered by the CAISO provide only short-term pricing signals to these resources.<sup>9</sup> Yet, within this context, the trend is to undermine revenue sufficiency for needed resources, because CAISO mid-day energy prices, which historically supported these needed resources with critical revenue(s), are increasingly suppressed and often are negative due to 10,000 MWs of utility-scale solar, 5,000 MWs of distributed solar, etc. As a result, CAISO wholesale markets currently undermine critical signals for capital investment and, thus, are inadequate for ensuring the availability of needed generation.

It is noteworthy that the lack of a long-term capacity procurement structure affects not just gas-fired generation. Other resources, such as Demand Response and Storage face the same economic challenges as gas-fired generation. For example, studies have concluded that “By far the number one barrier to entry for direct participation of demand response in the ISO, after completion of Electric Rule 24, is the lack of revenues available to resource owners from the wholesale market.”<sup>10</sup>

In response to this economic reality, many parties including CAISO management have raised concerns about the viability of the existing resource adequacy (RA) framework serving California. In the context of proposing solutions for a known problem, some parties believe a multi-year forward RA Framework ought to be implemented. Other parties have suggested the need for centralized capacity market. Whatever the ultimate solution is adopted, the evidence clearly indicates that different capacity framework is needed to compliment the energy-only markets that prevail today.

Yet, the Vision Paper is silent on this critical issue even though this issue falls squarely within the CAISO’s domain. In order to address this matter, IEP recommends that the Vision Paper be revised to address the following critical issues:

- *What is the CAISO’s Vision for addressing revenue insufficiency faced by resources that studies show will be needed over the next decade? What is the “bridging” mechanism to ensure that the*

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<sup>8</sup> 2017 Draft Integrated Energy Policy Report, California Energy Commission, page 3

<sup>9</sup> Short-term pricing signals derive from CAISO Day-Ahead and Real-Time energy markets. Short-term pricing signals also derive from one year resource adequacy (RA) contracts; one-year Reliability-Must-Run (RMR) contracts; and/or CAISO real-time ancillary service (AS) markets.

<sup>10</sup> Olivine, “Distributed Energy Resources Integration: Summarizing the Challenges and Barriers,” January 24, 2014.

*resources identified as available, online, and needed have a reasonable means to a revenue stream to ensure this planned outcome?*

- *Is the perceived “surplus” of capacity in the CAISO service area real and persistent (i.e. if real, will it persist through 2030);*
- *What is the risk that market corrections (e.g. plant closures) occur over a short period of time impacting the availability of system, local and /or flexible RA?*
  - *Is system reliability undermined by the current Resource Adequacy Framework? If so, what new framework should be considered?*
  - *Is the re-emergence of Reliability –Must –Run (RMR) contracts and/or increasing use by the CAISO of the backstop, Capacity Procurement Mechanism (CPM) clear evidence of the failure in addressing the capacity needs of the system?*

The CAISO should focus on making wholesale market changes that facilitate the 2030 “vision” but the CAISO must not assume that the 2030 world is here yet. Reliability and affordability are foundational elements in meeting California’s de-Carbonization Goals. In the context of de-carbonizing the electric and transportation sectors, multiple agencies and entities such as the CAISO are chartered under the laws of California (and FERC) to perform certain essential functions. The CAISO should focus on those near-term and mid-term wholesale market reforms that help maintain the reliable and efficient use of the transmission grid in an ever-changing competitive market, including how best to provide resources competing in the CAISO’s wholesale markets a reasonable assurance of revenue sufficiency for needed resources to plan necessary investment needed over a short- to mid-term time horizon (e.g. 3-5 years). In addition, the CAISO Vision Paper should address what the CAISO management will be tasked to accomplish over the next 5 years related to needed transmission infrastructure to realize the 2030 de-carbonization goals which I maintaining overall grid reliability. In summary, the CAISO should explain in the Vision Paper what, if anything, it will be doing in the near-term (e.g. 1-5 years) to address these critical matters.

We look forward to working with the CAISO on these critical issues.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'JSJ', with a long horizontal stroke extending to the left.

Jan Smutny-Jones, Chief Executive Officer  
Independent Energy Producers Association  
[Former Chair, CAISO Board, 1997-2001]