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Filer:	Raquel Kravitz
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2022

Integrated Energy Policy Report Update Highlights

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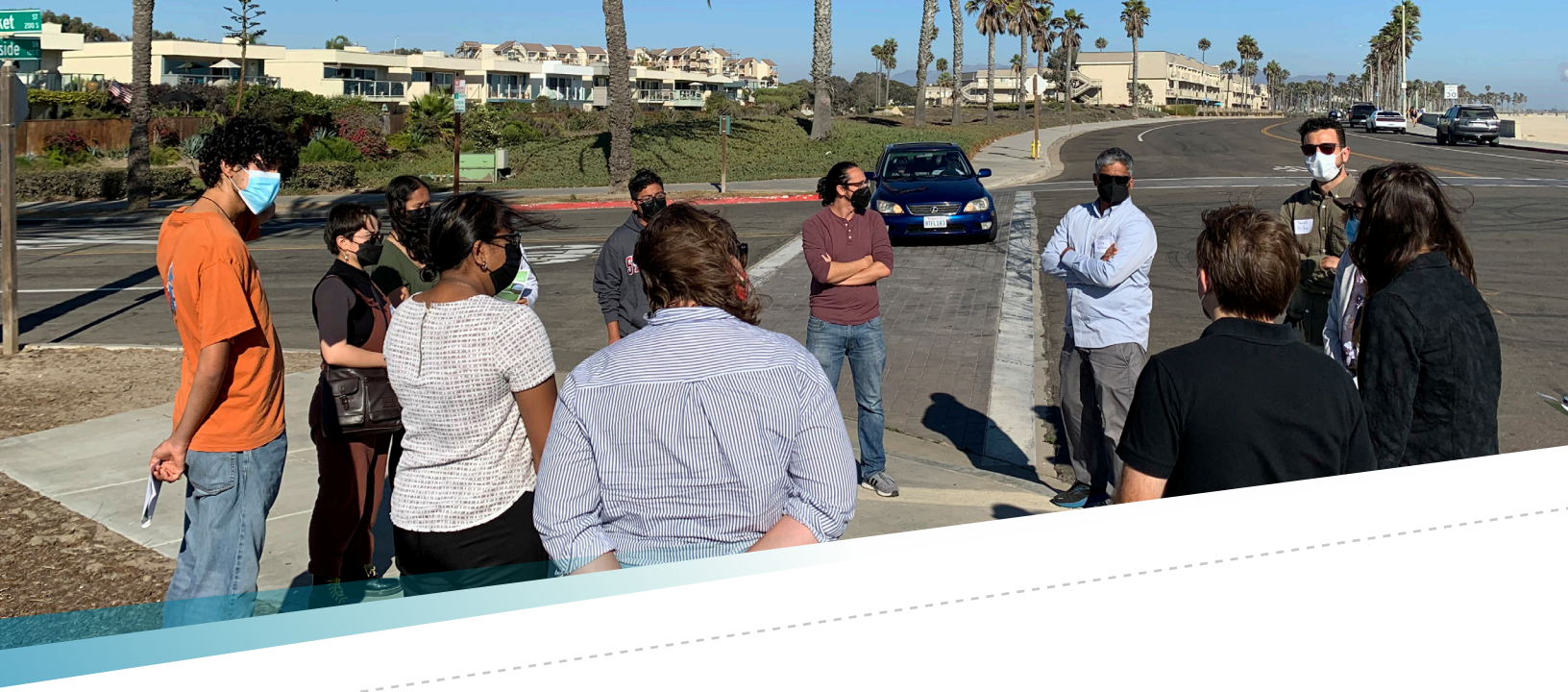
The California Energy Commission (CEC) is required to prepare a biennial report assessing energy issues facing the state. The report is crafted in collaboration with a range of stakeholders and results are delivered as the Integrated Energy Policy Report (IEPR).

Energy planning and forecasting presented in the IEPR informs the Integrated Resource Plan (IRP) process directing how much energy load serving entities, like the state's investor-owned utilities must procure to cover forecasted energy demand.

2022 Integrated Energy Policy Report Topics

- Embedding Equity and Environmental Justice at the CEC
- California Energy Planning Library
- California Energy Demand Forecast
- Energy Reliability
- Western Electricity Integration
- Gasoline Cost Factors and Price Spikes
- Role of Hydrogen in California's Clean Energy Future
- Fossil Gas Transition
- Distributed Energy Resources

Many of the issues in the IEPR require action if the state is to meet its climate, energy, air quality, and other environmental goals while maintaining reliability and controlling costs.



Embedding Equity and Environmental Justice at the CEC

Over its history, the CEC has endeavored to prioritize equity in its activities. Through the 2022 IEPR Update, the CEC piloted a regional engagement process and drafted a first-of-its-kind framework to more thoroughly embed equity and environmental justice in programs agency-wide. The CEC also explored updates to the Energy Equity Indicators tool to help guide investments and analysis.

RECOMMENDATIONS

- Open an informational proceeding on equity and environmental justice to continue formal dialogue with the public.
- Check CEC progress through future IEPR proceedings on embedding equity and environmental justice.
- Hold an annual equity and environmental justice summit.
- Provide more customized support to tribes and communities.
- Secure more workforce development expertise.
- Continue a regional approach and work more consistently with local government.
- Consider a supplier diversity program.

California Energy Planning Library

CEC has launched an effort to make its energy data and analytics more easily available to all, in a user-friendly format. This will help peer agencies, stakeholder groups, communities, and new clean energy companies access data that could unlock new efficiencies and innovation to help California meet its 2045 climate goals.

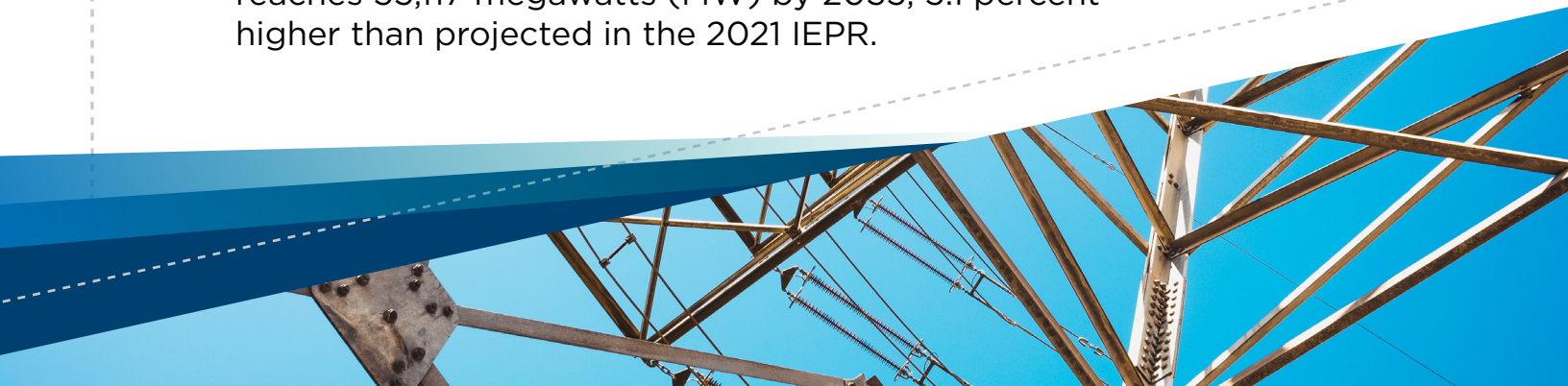
RECOMMENDATIONS

- Launch the California Energy Planning Library to ensure that key data and analysis developed by the CEC are timely, transparent, and readily accessible.
- Solicit stakeholder engagement and feedback on how to continue to improve the new platform.
- Provide adequate and consistent state funding to support further development and ongoing data updates for the California Energy Planning Library.

California Energy Demand Forecast

This year the CEC further refined its 2021 energy forecast to include updates to historical data, economic and demographic projections, and electricity rates, as well as an update to the hourly forecast to consider the September 2022 heat event. It also incorporates a new approach to assessing the transportation sector, given the rapid advancements in transportation electrification.

CEC's demand forecasting shows that peak demand for the California Independent System Operator (California ISO) reaches 55,117 megawatts (MW) by 2035, 5.1 percent higher than projected in the 2021 IEPR.



Energy Reliability

Climate change variability continues to challenge grid reliability. On September 6, 2022, the California ISO reached an all-time high peak load of 52,061 MW during a record-breaking 10-day heat event. The state maintained grid reliability throughout because of the combined efforts of Californians and coordination at the state level, relying on battery storage, energy efficiency, and electricity imports to meet the unprecedented demand.

2022 Actions To Support Reliability

- Enacted Strategic Electricity Reliability Reserve to make additional generation and load reduction available during extreme events, including through the Demand Side Grid Support program (DSGS) and the Distributed Energy Backup Assets program (DEBA). Components of the Strategic Reliability were implemented quickly enough to support summer 2022.
- Preserved the option to extend Diablo Canyon Power Plant for reliability needs.
- Initiated efforts to analyze opportunities for additional reliability investments and develop a Clean Energy Reliability Investment Plan.

Western Electricity Integration

The West is in a period of rapid change that increases risks to reliability across utilities, states, and energy balancing authorities. One way to mitigate these risks at potentially lower cost to ratepayers is to allow western states to share reliability resources by pursuing initiatives to integrate electricity system operation and planning across the West.

The 2022 IEPR Update includes a summary of a workshop CEC hosted on western electricity market integration. The event engaged energy leaders of western states and initiatives in a discussion that explored the three pillars of electricity system integration:

1. Markets
2. Resource adequacy
3. Transmission

Role of Hydrogen in California's Clean Energy Future

The state's climate plan envisions a scenario in which low-carbon hydrogen is needed to achieve its goals. In this scenario, the supply of low-carbon hydrogen would need to increase by 1,700-fold and almost double what is produced today using fossil fuels.

RECOMMENDATIONS

- Develop an agreed-upon and standardized method to measure the climate benefits of hydrogen while accounting for varying feedstocks and production processes.
- Set targets for reducing GHG emissions from hydrogen production.
- Expand analysis of hydrogen supply adequacy and hydrogen demand for electricity.
- Fully engage in the federal Hydrogen Hub initiative.

Gasoline Cost Factors and Price Spikes

In October 2022, gasoline prices in California diverged from national prices by a record $2.61 per gallon — nearly a dollar per gallon higher than the previous record set in March 2022 — placing an undue burden on California business and families while oil refineries realized exceedingly high profits.

In December 2022, a special session called by the Governor introduced proposed legislation to protect consumers from fuel price gouging and shed greater transparency on refiner maintenance schedules, supply contracts, and inventory.

RECOMMENDATIONS

- Additional data is necessary to better understand the impact of planned and unplanned refinery outages and inventory levels on gasoline prices.
- CEC is developing a Transportation Fuels Transition Study to plan for and track progress on the state's transition away from petroleum fuels and toward a reliable, safe, equitable, and affordable transportation fuels future.

Fossil Gas Transition

Fossil gas is the most consumed fuel in the state, making up about 31 percent of total energy consumption in California in 2020. The state faces challenges with finding strategies that reduce emissions while keeping the gas system safe and reliable, minimizing rate impacts to gas customers, and achieving equity.

The CEC, California Public Utilities Commission, and CARB each have initiatives to address these complex challenges and are coordinating their efforts to better align the gas system with the state's climate targets.

Distributed Energy Resources

Distributed energy resources (DER) refer to a diverse category of devices and technologies that interface with the electricity system at the distribution level, either directly connected to a utility's wires or on a customer's premises, behind the utility meter. Examples of distributed energy resources include:

- Distributed generation and storage such as solar homes.
- Electric vehicles and charging stations.
- Grid-interactive buildings and microgrids.
- Demand response or load flexibility resources.
- Energy efficiency strategies.

RECOMMENDATIONS

- Examine how to balance the roles of DER and grid assets in making the energy transition away from fossil fuels.
- Examine the role of interconnection and how utility process reform can increase the pace of DER deployment.

STATE OF CALIFORNIA
ENERGY COMMISSION

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