Transmission Data Dashboard Data Sources – 2025

Transmission Data Dashboard Metrics

The Public Advocates Office's Transmission Data Dashboard (Dashboard) is an accessible resource to learn about the status of California's electric transmission infrastructure. The Dashboard provides visualizations, facts, and quick analytics on the historical, current, and forecasted state of transmission projects in California. Our office plans to update the transmission metrics on a regular basis.

The data behind the Dashboard comes from the California Independent System Operator (CAISO) Transmission Development Forum (TDF), the CAISO Transmission Planning Process (TPP), the CAISO Generation Interconnection Queue Reports, the California Public Utilities Commission (CPUC)-managed Transmission Project Review (TPR) process and the California Energy Commission (CEC) Integrated Energy Policy Report (IEPR). These data sources are publicly available, but each offers a partial perspective on the status of transmission development. By bringing these disparate data sources together, we are able to provide a more comprehensive picture of the development and cost of transmission in California.

Key metrics available on the Transmission Data Dashboard include:

- status of CAISO-approved transmission projects;
- timelines for transmission project development with CPUC permits;
- historical and forecast peak and average loads of IOUs;
- historical Transmission Access Charge rates;
- long-term projections of transmission cost impacts for planned CAISO-approved transmission projects;
- status of energy resource generation interconnection requests in CAISO's queue;
- actual and forecast transmission capital expenditures; and
- average duration of delays for CAISO-approved transmission projects.

Data Sources

- CAISO 20-Year Transmission Outlook: The CAISO 20-Year Outlook is a long-term conceptual transmission plan to build out the electric grid, within and outside California, to reliably meet California's 2045 climate and energy goals. The 20-Year Transmission Outlook identifies approximately 25 projects at an estimated total cost of $45.8B to $63.2B.

- CAISO 2023-2024 Transmission Access Chart Forecast Model with New Capital (with Cal Advocates' modification): The 2023–2024 Transmission Access Charge (TAC) Forecast Model is a financial tool to project the TAC impact of the capital program in each year's transmission plan. The model incorporates high-voltage capital cost estimates and forecasts the effects of new transmission infrastructure on the TAC. It is updated annually to reflect changes in capital expenditure and informs stakeholders about potential rate adjustments resulting from planned transmission investments. Cal Advocates updated the model to include capital cost estimates for investments approved in the 2024-2025 transmission plan, as well as updated load growth assumptions.

- CAISO Access Charge Reports: The TAC is a two-part rate for each megawatt-hour (MWh) of internal load and exports and is used to recover transmission revenue requirements approved by the Federal Energy Regulatory Commission (FERC). The transmission revenue

requirement reflects costs related to the construction, maintenance, and operation of the CAISO-controlled transmission grid. These reports are updated semi-annually to reflect FERC approvals of new or revised transmission dates, and the report archive dates back over 10 years. For historical data analysis, these reports serve as standardized inputs that enable tracking the evolution of transmission costs over time.

- CAISO Generation Interconnection Queue: For a generator to interconnect to the transmission system, an interconnection request must be filed and approved by CAISO. The types of generation requesting to interconnect to the transmission grid are solar, geothermal, wind, and battery energy storage. CAISO manages a queue of resource interconnection requests through its annual study process and reports on the status of interconnection requests (active, complete, or withdrawn) listed by study process, along with other relevant details.

- CAISO Transmission Development Forum (TDF): Transmission owners provide stakeholders with updates on transmission projects, including in-service dates, projects costs, delays, recently completed projects, and interconnection-related network upgrades. The TDF reports only include CAISO-approved projects being developed by California's investor-owned utilities (IOUs) and third-party transmission owners, excluding projects initiated by the IOUs themselves.

- CAISO Transmission Planning Process (TPP): The annual CAISO transmission plan serves as the roadmap for infrastructure requirements for the CAISO balancing authority. The CAISO approves transmission projects needed to meet reliability standards, achieve policy goals, and support economic objectives. In the 2024-2025 CAISO Transmission Plan, CAISO approved 31 projects at an estimated cost of $4.8 billion. These include 28 reliability projects and 3 policy projects.

- CEC Integrated Energy Policy Report (IEPR): Senate Bill 1389 (Bowen, Chapter 568, Statutes of 2002) requires the Energy Commission to prepare a biennial integrated energy report. The report contains an integrated assessment of major energy trends and issues facing California's electricity, natural gas, and transportation fuel sectors. It also includes a California Energy Demand Forecast, which projects energy consumption and peak loads into the future.

- Utility Transmission Project Review (TPR): The Transmission Project Review monitors the progress of projects approved in the CAISO transmission plans and those encompassed in the Transmission Owner (TO) Tariffs approved by the FERC. It tracks CAISO-approved projects for California IOUs and IOU-initiated projects but does not include information on projects by third-party transmission owners. The TPR provides details such as project description, status, costs and transmission rate base, cost-benefit analysis, and CPUC permitting status (if applicable).

Below is a table of the data sources used to develop the Transmission Data Dashboard:

Dashboard Topic	Data Source
Transmission Project Status	TPP, TDF, and TPR
Transmission Development Timelines	TPP, TDF, CPUC Decisions, Quarterly Reports and Applications
IOUs Peak and Average Loads	IEPR
Transmission Access Charge	TAC Forecast Model, Access Charge Reports
CAISO Generation Interconnection Queue	CAISO Generation Queue Report (click the "Reporting" tab) , and Cluster 15 Results
Transmission Capital Expenditures	TPR
Delay Times of Transmission Projects	TPP, TDF, CPUC Decisions, Quarterly Reports and Applications

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For any questions about the Transmission Data Dashboard, please reach out to Mary Flannelly at mary.flannelly@cpuc.ca.gov.