California ISO releases first-ever 20-year Transmission Outlook
Draft outlines long-term infrastructure needs to meet clean energy goals

FOLSOM, Calif. – To help enable and accelerate the integration of new renewable electricity resources onto the grid, the California Independent System Operator (ISO) has published a draft of its first-ever 20-Year Transmission Outlook.

The long-range blueprint for the interconnected high-voltage system was developed at the same time as the ISO’s customary annual 10-year Transmission planning process.

“There is a critical need for more proactive, long-term transmission planning and coordination,” said Elliot Mainzer, ISO president and CEO. “In developing the 20-year Outlook, we have worked closely with the California Energy Commission (CEC), California Public Utilities Commission (CPUC) and a diverse group of stakeholders to begin delineating the long-term architecture of the California grid and better align power and transmission planning, resource procurement and interconnection queuing. This type of forward-looking planning and coordination is essential to meeting the state’s energy policy goals in a reliable and cost-effective fashion and strengthening interconnections with our partners across the West.”

Over the past year, the ISO collaborated with the CEC and CPUC to evaluate diverse generating resources, land-use patterns and transmission alternatives. Primary drivers of the 20-year roadmap are the state’s goals of getting all electricity from carbon-free resources by 2045, and further electrifying the transportation, industrial, and residential sectors.

The draft Outlook is based on the planning assumption that nearly 120 gigawatts (GW) will need to be added to the energy grid by 2040 to meet California’s rising demand for electricity, including utility scale solar, energy storage, geothermal, offshore wind plants and clean-energy resources from out-of-state. The 20-year Transmission Outlook will help expedite key decisions about optimal power and transmission development options and guide the interconnection of new resources to the grid.

With typical lead times of eight to 10 years for many of these transmission projects, it is critical to expand the planning horizon and bring together a wide cross-section of stakeholders to identify and set priorities for different possible solutions.
“California is working very diligently to ensure resource adequacy during this transition to a carbon-free system,” Mainzer added. “Last year, the state brought 79 clean-energy projects onto the grid, the most it has ever added in a single year. This improved transmission planning and coordination with regulatory agencies and other partners will help ensure that California can sustain and even exceed that pace and meet the challenge of achieving a reliable clean-energy grid.”

The 10-year plan provides for the approval of new transmission infrastructure over a shorter timeframe and triggers permitting and construction activities through a formal process required under its federal tariff. The 2021-2022 10-year plan recommends approval of $2.9 billion in projects to improve reliability and access to renewable generation in the next decade. Those projects may be initiated later this year, subject to approval by the ISO Board of Governors in March.

Drafts for both the 2021-2022 transmission planning process and the 20-year Transmission Outlook were posted yesterday on the ISO’s website. A stakeholder call on both documents is scheduled for Monday, Feb. 7. Comments on the two reports will be accepted through Feb. 21.

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The California Independent System Operator (ISO) is a nonprofit public benefit corporation dedicated, with its partners, to continuous improvement and secure operation of a reliable grid operated for the benefit of consumers. It provides comprehensive grid planning, open and nondiscriminatory access to one of the largest networks of high-voltage transmission power lines in the world, and operates a $9 billion competitive electricity market. Recognizing the importance of the global climate challenge, the ISO is at the forefront of integrating renewable power and advanced technologies that will help provide a sustainable energy future efficiently and cleanly.

The Western Energy Imbalance Market (EIM) is a real-time wholesale energy trading market that enables participants anywhere in the West to buy and sell energy when needed. The Western EIM Governing Body is the governing authority designed by regional stakeholders and has shared authority with the ISO Board of Governors to resolve rules specific to participation in the Western EIM.