COMMENTARY

California’s electric grid is not ready to meet climate goals

BY GUEST COMMENTARY
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IN SUMMARY

We must start now to develop the grid of the future that will bring clean energy produced remotely to consumers in urban centers.

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Marty Walicki is a long-time utility executive and transmission developer/principal with Three Rivers Energy Development, which is currently developing an offshore subsea cable system in Central California.

As the UN conference on climate change has made clear, we must all accelerate our efforts to address this existential threat.

Fortunately, California is on a strong foundation to do its share. The state has excellent solar and wind resource potential. We have targets in place to reach a zero-carbon future by 2045 as codified in SB 100. And Gov. Gavin Newsom has issued proclamations and executive orders to urge our energy agencies to accelerate our path to zero-carbon.

However, in March 2021 California’s energy agencies responsible for implementation of SB 100 issued a sobering report that stated: “California will need to sustain its expansion of clean electricity generation capacity at a record-breaking rate for the next 25 years. On average, the state will need to build 6 (gigawatts) of new solar, wind and battery storage resources annually.”

As Danielle Osborn Mills observed in CalMatters commentary: “While the utility-scale clean-energy industry currently provides roughly one-third of California’s power supply, shifting to 100% clean power will require the state to triple its current rate of solar and wind development over the next decade – and accelerate energy storage deployment by a factor of eight.”

Development of new clean resources is not the only challenge we face.

The lion’s share of new renewable generation will be produced in areas of California where land is available to accommodate large wind and solar farms or in the ocean where vast untapped wind energy potential exists. However, the clean energy that is produced must be delivered to consumers.

We must start now to develop the electric grid of the future that will make clean energy possible. A grid that is wildfire resistant and – to the extent possible – buried underground or in the ocean.

California’s electric grid was largely developed in the last century. It was designed around a simple concept. Natural gas fired electric generation located in urban centers met most of the local energy needs which was supplemented by remote hydro, nuclear and geothermal energy. Our grid was never designed to accommodate phasing out urban gas-fire generation and tripling the amount of energy delivered from remote wind and solar energy.

Planning, permitting and constructing new transmission lines can take 10 years or more. California has not begun that process to update the grid to deliver clean energy into urban areas like the

L.A. Basin. Instead, the California Public Utilities Commission, the state agency most responsible for achieving our energy climate goals, is kicking the can down the road year after year.

Every year the Public Utilities Commission develops a preferred 10-year electric resource portfolio plan that identifies when and where new clean resources must be added each year on the path to 2045. That 10-year plan provides the basis for identifying and planning electric grid requirements.

It may come as a surprise to know that the most recent 10-year plan does not envision shutting down gas power plants in California from now to 2031. As a result, we are not even starting to envision the grid that will be needed in the next decade, and yet it takes 10 years or more to plan, permit and build that transmission.

The Legislature has enacted zero carbon legislation and the governor has issued proclamations and executive orders aimed at accelerating the path to zero carbon, but the agency largely responsible to implement those orders is focused on getting new renewable energy connected to the grid, but not upgrading the grid so that energy can get to consumers.

As a result, gas-fired generation continues to run in

the urban areas while the amount of renewable power that is being curtailed or sold out of state at a loss has grown by leaps and bounds. In the last five years, the California Independent System Operator curtailment of wind and solar energy has increased by 800%**.** The problem is about to get worse. The Public Utilities Commission is planning for the connection of 42,000 megawatts of new renewables by 2031, but no transmission upgrades to get that power to the urban areas where it is needed.

Newsom must get California’s agencies and the Independent System Operator focused on new transmission to urban centers. Acting now will keep California energy policy on track and avoid wasteful curtailment of renewable energy that only undermine our climate goals.

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