

Calif. Climate Efforts Offer Starting Point For Biden Admin.

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The pace of regulatory and legislative developments addressing climate change and renewable energy over the past few years has been dizzying.

With a new U.S. presidential administration now focused on climate change and energy issues, and certain states pursuing aggressive goals while considering the lessons learned regarding the import of grid stability, the rate of change is likely to accelerate.

California's success over the past two decades in achieving renewable energy goals, while experiencing a growing population and GDP, could provide a blueprint for federal actions. California continues to pursue a more aggressive renewable energy agenda.

And the combination of that type of state-level action with a federal program aimed at achieving similar energy goals in the "new abnormal" being wrought by the extreme weather impacts of climate change will have far-reaching impacts across a variety of governmental and industrial sectors.

The Biden Administration's Goals

As a presidential candidate, Joe Biden made clear climate change would be one of his administration's top priorities. That has proven to be true since he took office earlier this year.

Between executive orders issued during his first week in office and the Earth Day climate change summit that brought together world leaders to share how they are working to combat climate change in their countries, the first 100 days of the Biden administration featured significant steps to create a comprehensive approach to reducing GHG emissions.

Building on this momentum, we are expecting more action on the regulatory side, and additional executive orders or other executive actions that can be implemented faster than new legislation.



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One of the first things that Biden announced he intended to do was to establish a national clean energy standard, which would be the first national standard requiring utilities to serve their customers with a specific amount of renewable energy. His announced goal: By 2035, the power sector will be carbon-free, and by 2050, the nation will achieve net-zero carbon emissions.

During the Leaders Summit on Climate, hosted by the Biden administration on April 22 and 23 in Washington, D.C., Biden set aggressive goals for reducing greenhouse gas emissions in the U.S. On the first day of the summit, the president announced that the U.S. will aim to reduce GHG emissions by 50%–52% of 2005 levels by 2030.

Biden's plan relies upon many of the components of the administration's infrastructure proposal, the American Jobs Plan, to achieve these reductions, including its previously announced goal of 100% carbon-free electricity in the U.S. by 2035. A large part of that goal rests on how the U.S. produces energy and delivers that energy to consumers.

Another major component of Biden's plan focuses on extending and expanding tax credits for renewable energy production and investments. Significant private investment will be required to achieve the targets that the administration has laid out and meet the demand for renewable energy nationwide.

The investment tax credits are designed to attract capital that will finance the development of renewable energy projects. A significant portion of the tax credits is aimed at funding the development of energy storage, which had previously only been allowed as part of a solar project.

Incentivizing the development of energy storage projects as standalone projects would be a big change — and a necessary one, if sufficient storage is to be built to backstop intermittent renewable generation, such as wind and solar projects that only supply electricity when there is wind or sun. Storage will play a critical role in replacing gas-fired and other carbon-emitting generation to meet customer energy demand that does not follow the availability of wind or sun.

Greenhouse Gas Emissions and the Clean Air Act

The regulation of GHGs under the federal Clean Air Act began to take shape in 2007, when carbon dioxide and other GHGs were confirmed by the U.S. Supreme Court to be air pollutants. Despite that, the U.S. Environmental Protection Agency under succeeding administrations has been flip-flopping on the interpretation of the CAA with respect to regulating GHG emissions — particularly from, such as power plants and oil and gas production facilities.

Following a protracted legal battle including rule revisions, court decisions and reconsideration of active litigation, the administration now appears to have a relatively clean slate to start rulemaking on GHG emissions for both new and existing power plants.

A key question is whether this means that the EPA will take a fundamentally different position from the Clean Power Plan developed during the Obama administration — particularly given the extent to which power plant GHG emissions are already on the decline, as a result not only of renewable energy portfolios in certain states, but also economic factors that are making coal-fired generation increasingly uncompetitive.

To date, Biden has issued two key executive orders on climate change which lay out a broad government approach to the reduction of GHG emissions. These orders make clear that the transportation, oil and

gas, and power sectors will all be the focus of emissions reductions efforts.

There will likely be more regulation of methane in the oil and gas sector — particularly with methane releases comprising 10% of U.S. GHG emissions. Almost half of that comes from the production of oil and natural gas.

One thing is clear: New regulatory actions will be measured against new metrics, based on new guidance from the Biden administration on the social cost of carbon, which is much higher than it was under the prior administration.

This guidance will significantly impact the valuation associated with currently pending legislation and future rules. And the administration has greatly increased the scope of what is to be included in the social cost of carbon, which will impact all future cost-benefit analyses.

California as Case Study

California has been a remarkable success story in reducing greenhouse gas emissions. Since 2000, California's GDP and population have risen dramatically, but GHG emissions have declined, both on a per capita and GDP basis.

California achieved this largely by focusing on the industrial and electric sectors, with a particularly dramatic decline on the electric generation side. Legislation enacted in 2002 and subsequently amended set aggressive renewable portfolio standards, or RPS.

California is ahead of schedule in meeting its RPS goals, having hit 36% renewable energy by 2019, well ahead of the 33% required for 2020 by the RPS legislation. Still, massive additional amounts of new renewable resources and storage capacity will be required to ultimately achieve the milestones in S.B. 100, the state's most recent legislation.

S.B. 100 moved the RPS goal up to 60% renewable energy by 2030. More still will be needed to achieve S.B. 100's goal of 100% renewable/carbon-free energy by 2045.

Challenges do lie ahead. In order to replace natural gas and nuclear plants that are scheduled to go offline, and achieve the state's goal of being powered entirely by renewable or other carbon-free generation, California is going to need to build one of the biggest new fleets of renewable energy generation anywhere.

It will require bringing new resources online at a rate that has never before been achieved. And intermittent renewable resources, such as solar power that can only generate during the day, will need to be backed up with batteries and pumped storage in order to fully displace gas and nuclear retirements. These storage projects will be critical to filling the gap to maintain grid reliability — again, on a scale never before constructed.

Our economy and society depends on steady and reliable electricity; without it, nothing works. The events of this past year provide stark reminders of that fact. Systemwide outages during last summer's Western heat wave and last winter's nationwide cold snap underscore the future threat of climate impacts, and the essential need for reliable energy service.

Last August, more than 800,000 homes and businesses lost power in California because of insufficient

energy supply. The system could not keep up. State regulators are now working deliberately and with speed to address the reliability issues that led to the loss of service last summer.

Over the past six months, the California Public Utilities Commission has issued a series of emergency procurement orders to bring new capacity online in the next few years. An interagency task force of energy agencies has recommended keeping operating antiquated gas-fired coastal power plants that use ocean water for cooling, which were to have been shut down.

The California Independent System Operator has made various changes to limit power exports from the state, and to increase the planning reserve margin to ensure sufficient resources are available during peak demand summer months.

These are all steps in the right direction to ensure reliable electric service. But the jury is out on whether California will be successful against the long-predicted adverse weather impacts of climate change.

Conclusion

While California and other states have been taking point on these issues in recent years, the Biden administration's ambitious climate change and emission reduction goals will require innovation beyond the existing patchwork of state laws to achieve the stated goals. Thus, the pace of climate action laid out in Biden's first 100 days is not likely to slow down.

Climate change, of course, involves emissions on a global scale, and will require the participation of other countries — a point the president emphasized at the recent summit. The U.S. cannot address climate change alone, and challenged international partners to do their part, emphasizing that "[given] more than 85% of emissions come from beyond U.S. borders, domestic action must go hand in hand with international leadership."

Without clear commitments from some of the world's largest emitting nations and detailed funding sources for many of the infrastructure initiatives, the administration will be challenged to achieve its goals.

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