

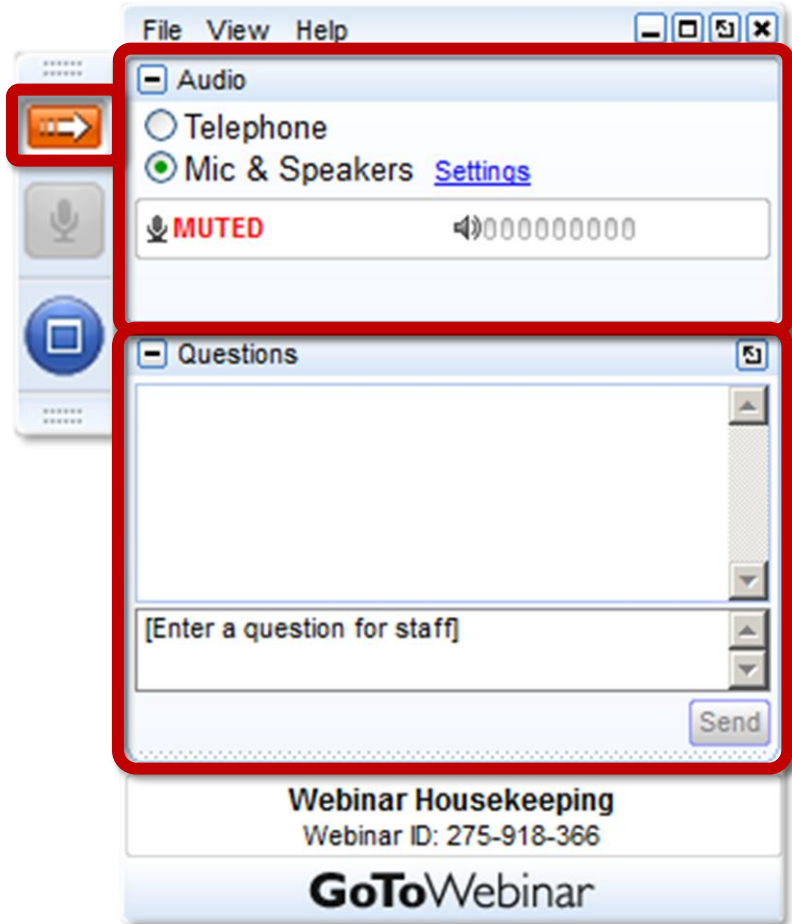
CESA Webinar

100% Clean Energy States and the 100% Clean Energy Collaborative

May 11, 2020



Housekeeping



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CleanEnergy States Alliance



Webinar Speakers



David Hochschild
Chair, California Energy
Commission



Alicia Barton
President and CEO,
NYSERDA



Warren Leon
Executive Director, Clean
Energy States Alliance
(moderator)



Senate Bill 100: Charting a Path to a 100% Clean Energy Future

Clean Energy States Alliance Webinar

May 11, 2020

Chair David Hochschild

California Energy Commission





SB 100 Review

Expands RPS

60% by Dec 31, 2030



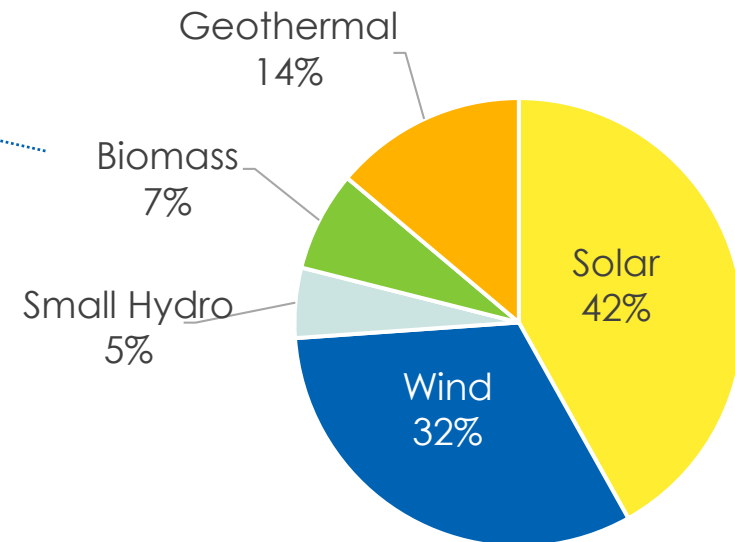
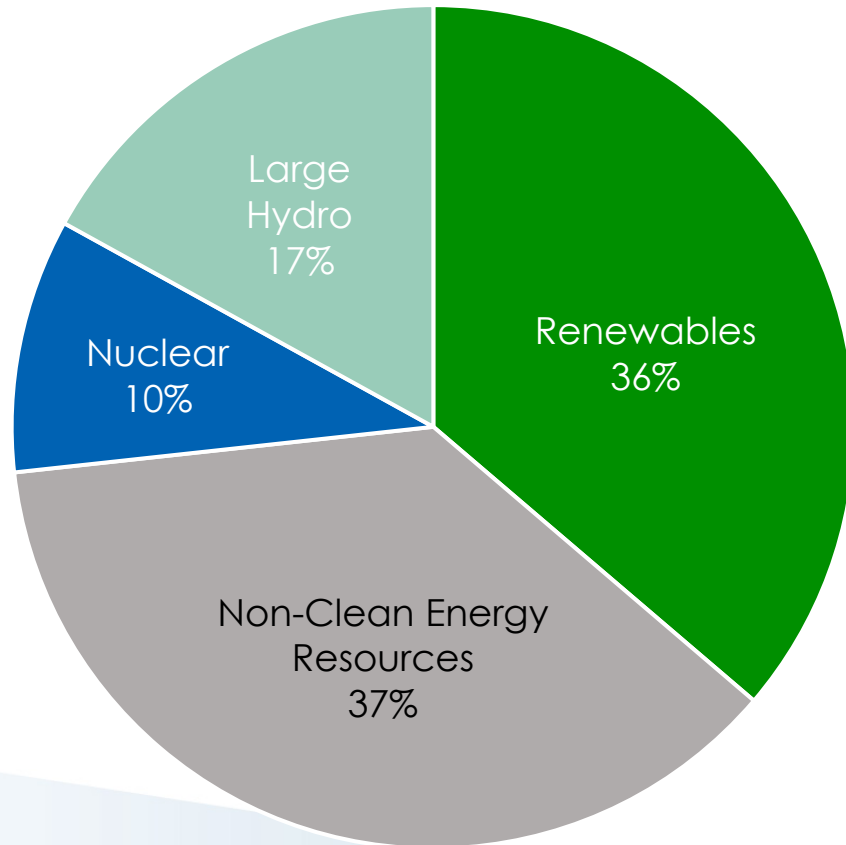
PUC 399.11 (a)

Establishes 100% Policy

It is the policy of the state that **eligible renewable energy resources and zero-carbon resources supply 100 percent of all retail sales** of electricity to California end-use customers by December 31, 2045 and 100 percent of electricity procured to serve all state agencies by December 31, 2045.



2020: CA reaches 63% carbon-free electricity

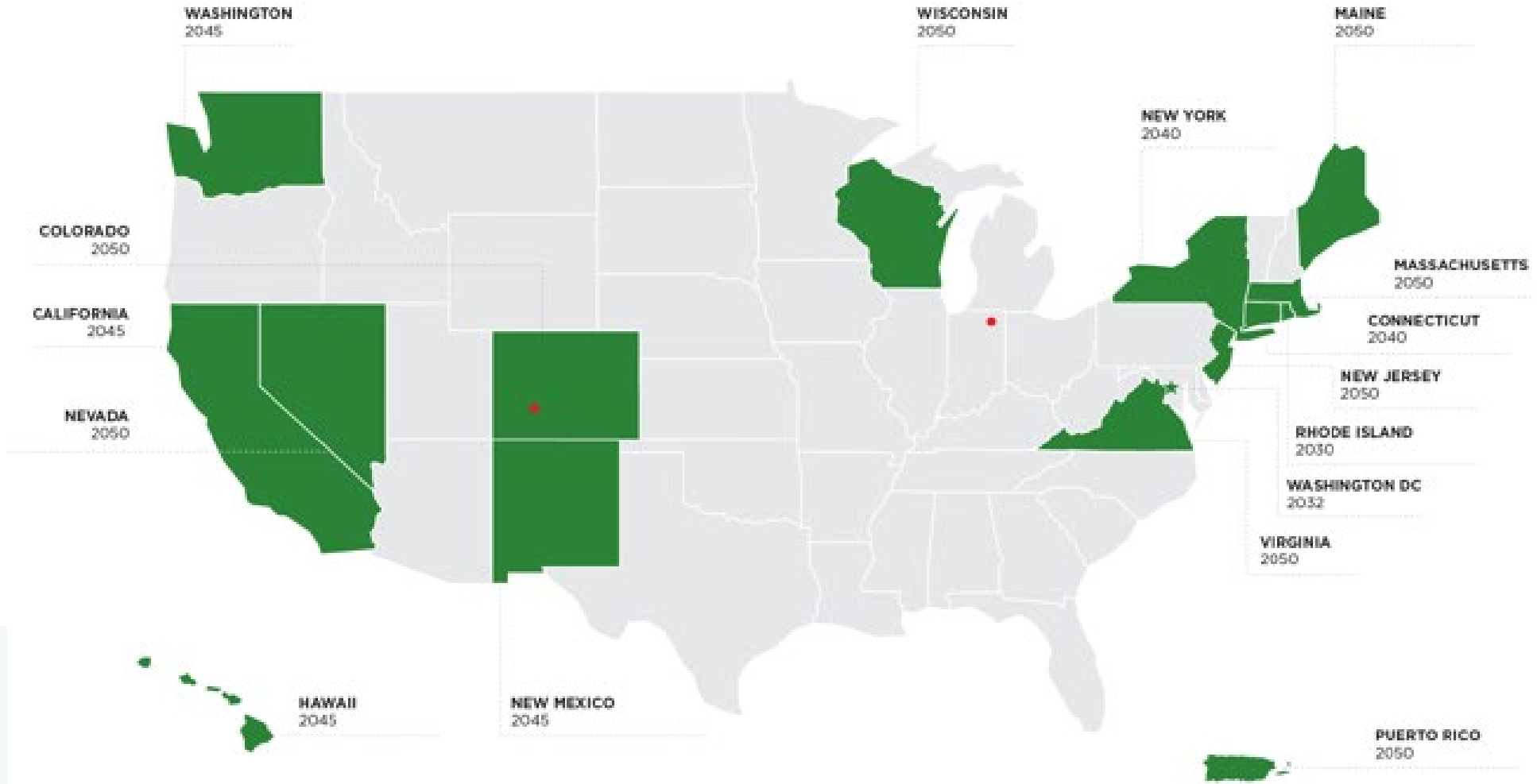


RPS Retail Sales

246 TWh Total



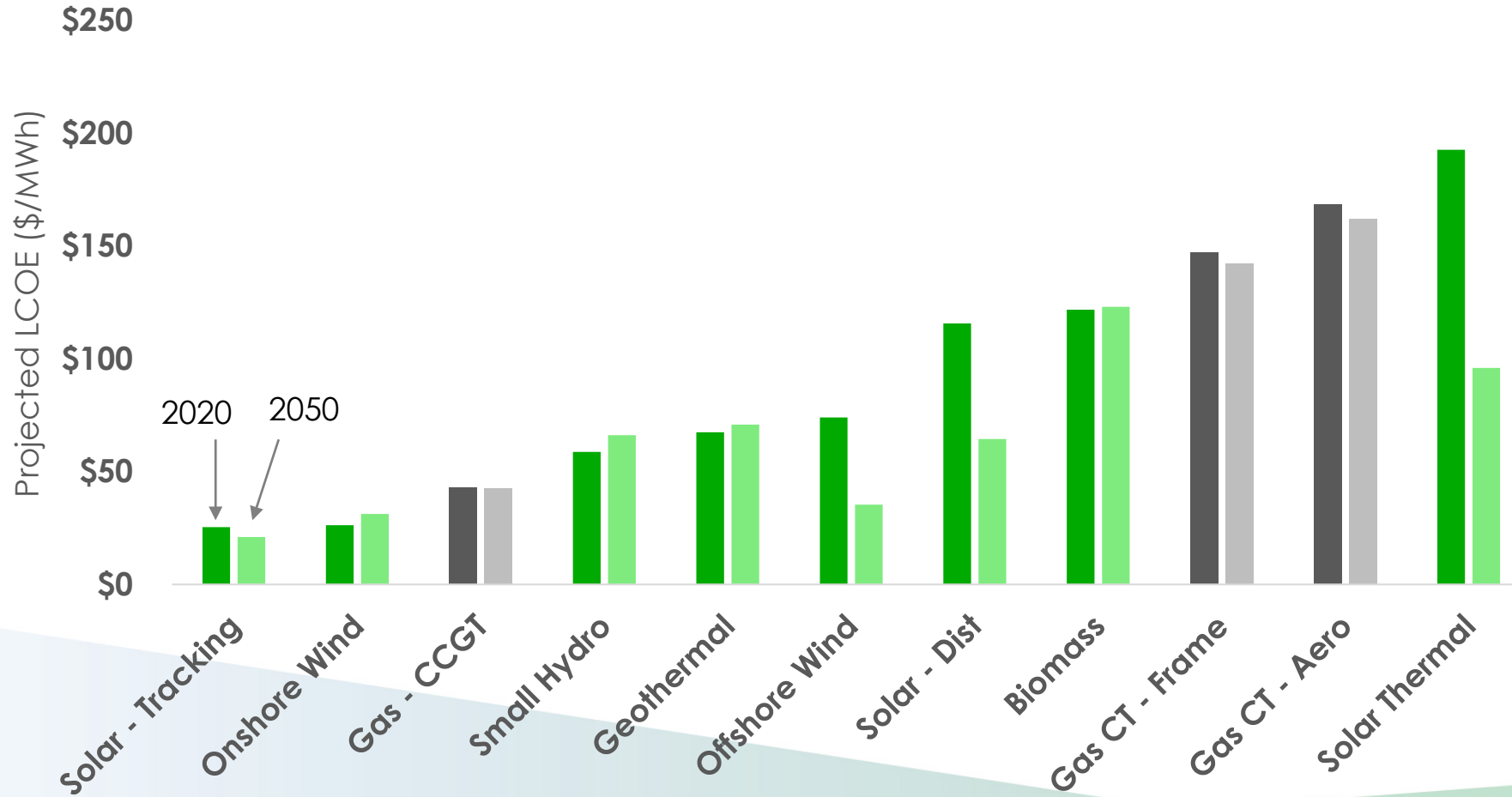
States with 100% Clean Energy Standards



Source: EG Research Policy Vista™ Legislative Tracking Database as of March 15, 2019, California Energy States Alliance.



Solar and Wind Least-Cost Resources



Source: E3



Interagency Coordination



CPUC

Principal: Commissioner Randolph



CEC

Principal: Chair Hochschild



CARB

Principal: Chair Nichols

Workshops and Stakeholder Input

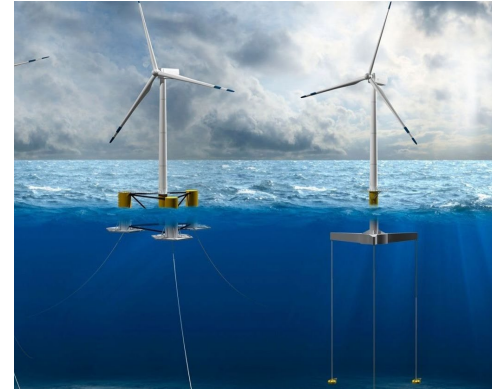
SB 100 Report



Assessing Pathways for 100%

100% Scenarios

- **Example factors/sensitivities:**
 - High electrification
 - Up to 10GW offshore wind
 - Inclusion of advanced nuclear imports
- Results intended to provide **directional** insight and **relative** comparison between pathways



New York Climate Leadership and Community Protection Act

New York's Path to 100 Percent Clean Electricity



NYSERDA

May 11, 2020

Clean Energy States Alliance (CESA)

Webinar

Alicia Barton, President and CEO,

NYSERDA

CLCPA by the Numbers, Targets Codified into Law

**Carbon neutral economy, mandating at least an
85% reduction in emissions below 1990 levels**

40% reduction in emissions by 2030

100% zero-carbon electricity by 2040

70% renewable electricity by 2030

9,000 MW of offshore wind by 2035

6,000 MW of distributed solar by 2025

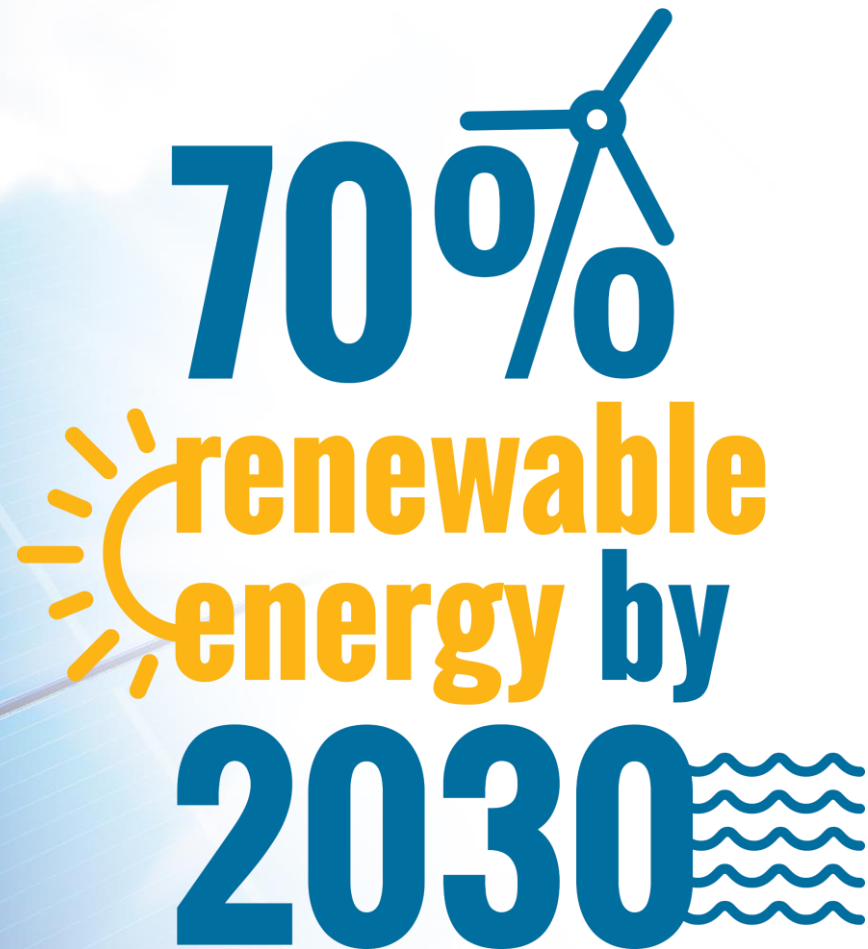
3,000 MW of energy storage by 2030

185 TBtu on-site energy savings by 2025



Accelerated Renewable Energy Growth and Community Benefit Act

70%
renewable
energy by
2030



As Part of 2020-2021 Enacted State Budget, New York State Announced Passage of the Act Will:

- advance renewable energy, drive statewide economic growth, and create jobs
- streamline the process for environmentally responsible and cost-effective siting of large-scale renewable energy projects across the State
- establish tools for achieving the State mandate to obtain 70 percent of the State's electricity from renewable sources by 2030 and other nation-leading goals of the Climate Leadership and Community Protection Act



Working together for
a better energy future

Q&A and Discussion



100% Clean Energy Collaborative Webinar

May 11, 2020

100% Clean Energy States and The 100% Clean Energy Collaborative

Warren Leon
CESA Executive Director



A Presentation in Two Parts

PART ONE

- The promise and perils of state 100% clean energy goals

PART TWO

- The 100% Clean Energy Collaborative as a strategy for avoiding the perils

The Underlying Premise

- States' adoption of 100% clean energy goals has likely been the most important positive policy development related to climate change in the past few years.
- It is essential that the states succeed in achieving their goals.

States with 100% Clean Energy Goals

- 14 states plus the District of Columbia have established goals for 100% clean energy in their electricity sector
- Cover 26% of US power demand as measured by electricity sales
- 10 states' goals were established through legislation
- In five states, the Governor issued an executive order
- The definition of “clean energy” varies
 - In some cases, restricted to renewable energy
 - In other cases, includes nuclear power and/or carbon capture and storage

- California
- Colorado
- Connecticut
- District of Columbia
- Hawaii
- Maine
- Massachusetts
- Nevada
- New Jersey
- New Mexico
- New York
- Rhode Island
- Virginia
- Washington
- Wisconsin

100% States through Legislation

State	The Goal	Comments
California	100% carbon-free electricity by 2045	2018 legislation. State agencies are required to submit plans by January 1, 2021 for achieving the goal.
Colorado	100% carbon-free electricity by 2050 for Xcel Energy	A 2019 law codified in law a pledge previously made by Xcel, whose service territory covers approximately 60% of the state's load.
District of Columbia	100% renewable energy by 2032 through the RPS	2018 legislation
Hawaii	100% renewable energy by 2045 through the RPS	2016 legislation
Maine	100% renewable energy by 2050	2019 legislation
Nevada	100% carbon-free electricity by 2050	2019 legislation. Policy mechanisms for achieving this aspirational goal were not included in the legislation.
New Mexico	100% carbon-free electricity by 2045	2019 legislation
New York	100% carbon-free electricity by 2040	2019 legislation. A Climate Action Council will be empaneled to develop a scoping plan of recommendations to achieve greenhouse gas reduction targets and carbon neutrality economy-wide.
Virginia	100% carbon-free electricity by 2045 for Dominion Energy and 2050 for Appalachian Power Company	2020 legislation. Governor's executive order in 2019 requires Department of Mines, Minerals and Energy, in consultation with other state agencies, to produce a plan by July 1, 2020.
Washington	100% zero-emissions electricity by 2045	2019 legislation. Applies to all utilities, which are required to submit plans explaining how they will meet the goal.

100% States from Executive Orders

State	The Goal	Comments
Connecticut	100% carbon-free electricity by 2040	Governor's executive order in 2019. It asks the Department of Energy and Environmental Protection to develop a plan.
Massachusetts	Net-zero greenhouse gas emissions by 2050	Governor's goal in 2020 State of the State address
New Jersey	100% carbon-free electricity by 2050	Governor's executive order in 2018. In January 2020, the state issued a detailed Energy Master Plan for achieving the 100% goal.
Rhode Island	100% renewable energy electricity by 2030	Governor's executive order in 2020 required the Office of Energy Resources to "conduct economic and energy market analysis and develop viable policy and programmatic pathways to meet" the proposed goal.
Wisconsin	100% carbon-free electricity by 2050	Governor's executive order in 2019

The Risk of State 100% Goals

- The states were bold and brave to adopt the goals
- But it is easier to adopt a goal than to achieve it
 - The states are working diligently
 - Success is not guaranteed
- There are many challenges
 - Technical, economic, policy, political, and educational
- Failure would be deflating
- 14 states plus DC are not enough
 - It will be harder to get other states to adopt similar goals if the early adopters seem to be stalling out or losing focus
- If the early adopters show that meaningful progress is possible, it will build momentum and create hope at a time when optimism is in short supply

Purposes of the 100% Clean Energy Collaborative

- Make it easier for the states to work cooperatively rather than in isolation
- There needs to be a forum for the states that is focused exclusively on the 100% challenge
- The Collaborative was launched at the urging of some of the states
- The agenda and the activities will be shaped by the participating states

It one of many strategies for making significant progress

Collaborative Advisory Committee



Anthony Artuso
University of Virginia



Maria Redmond
Wisconsin Office of Sustainability
& Clean Energy



Sarah Vorpahl
Washington State Energy
Office



Corinne DiDomenico
NYSERDA



Lauren Savidge
Connecticut Department of
Energy & Environmental
Protection



Terra Weeks
California Energy
Commission



Siva Gunda
California Energy
Commission



Hannah Thonet
New Jersey Board of Public
Utilities



Laura Wickham
Nevada Governor's Office of
Energy



Bentham Paulos
PaulosAnalysis



Nicholas S. Ucci
Rhode Island Office of Energy
Resources



Gwen S. Yamamoto Lau
Hawaii Green Infrastructure
Authority

Other Organizations that Track 100% Clean Energy Activities

- [US Climate Alliance](#) was started by and works with Governors who seek to advance “policies that advance the goals of the Paris Agreement.” It tracks the policies across sectors in the participating states and has a working group focused on the power sector.
- **UCLA Luskin Center for Innovation** tracks 100% clean energy policies and held a conference that led to a November 2019 publication on [Progress towards 100% Clean Energy in Cities and States Across the U.S.](#)
- **Environment America** has an [advocacy campaign](#) to encourage states to adopt 100% renewable energy goals. As part of this, it monitors state legislation relate to 100% clean energy and issues a periodic newsletter.
- [American Cities Climate Challenge](#) is an initiative funded by Bloomberg Philanthropies that involves many NGOs in providing analysis and services. It works with cities that seek to make deep carbon reductions. The **Sierra Club** also tracks cities with 100% clean energy commitments as part of its [Mayors for 100% Clean Energy](#) campaign.
- [EPA’s Green Power Partnership](#) lists those companies that purchase green power equivalent to 100% of their total electricity usage. [Ceres](#) and the [Renewable Energy Buyers Alliance \(REBA\)](#) track businesses’ commitments to climate action, including commitments to securing 100% of their electricity from clean sources.

Roles of the Collaborative

- Facilitate meetings and discussions among the states
- Keep the states (and other stakeholders) informed about what is going on across the country related to states' 100% clean energy goals
- Package information in ways that make it easy for state officials (and others) to get useful information
- Surface the states' analytical needs
- Present the state of debates in the analytical community
- Identify best practices.
- Provide technical assistance to states

Initial Topics for State Discussions

1. Impacts of the COVID-19 pandemic on state 100% clean energy efforts and how clean energy initiatives can aid in the economic recovery from the pandemic
2. Equity: how can state initiatives for 100% clean energy reduce inequality rather than exacerbate it
3. How to move towards 100% clean energy most cost-effectively

Activities for Wider Audiences

- Newsletter
- Publications
 - Case studies of specific state strategies for moving towards 100% clean energy
 - Summary of different states' deep decarbonization planning with identification of common themes
 - Annual report summarizing the progress and status of states' 100% clean energy efforts
- Webinars
 - Presentations from states that have produced plans
 - Summer: “New Jersey Energy Master Plan: Pathway to 2050”
 - Presentations from leading researchers/experts on their research
 - May 15: “Decarbonizing Electricity: The Critical Role of Firm Low-Carbon Resources”

We welcome your input

Warren Leon

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Thank you for attending our webinar

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Find us online:

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Upcoming Webinars

Decarbonizing Electricity: The Critical Role of Firm Low-Carbon Resources

Friday, May 15, 2-3pm ET

Solar for All: The District of Columbia's Innovative Strategy for Low-to Moderate-Income Solar

Wednesday, May 27, 2-3pm ET

Replacing New York City's Dirty Peaker Power Plants with Renewables and Battery Storage

Thursday, May 28, 1-2:30pm ET

Read more and register at: www.cesa.org/webinars