



POWERING FORWARD

*State of Play:
A Clean Energy-Powered Recovery
July 29, 2020 | 1:45-3:00 pm ET*

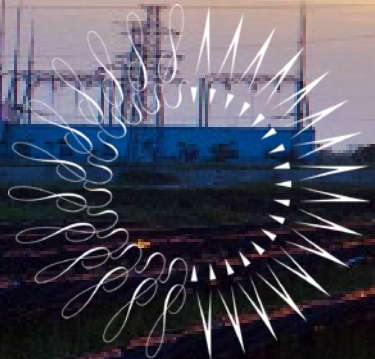




POWERING FORWARD

Examines the unique impacts facing clean energy industries during the COVID-19 epidemic, along with the vital role of our sectors in our future economic recovery

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SPEAKERS

Hosts



Lisa Jacobson
President
Business Council for
Sustainable Energy



Lynn Abramson
President
Clean Energy Business
Network



Andy Barnes
Program Manager
Clean Energy Business
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Panel: State Resilience & COVID-19 Response



Laura Lightbody
Project Director,
Flood-Prepared
Communities Initiative
The Pew Charitable Trusts



Mike Harryman
State Resilience Officer
Office of Oregon Governor
Kate Brown



Rebecca French
Director of the Office of
Climate Planning
Connecticut Department of
Energy and Environmental
Protection

Panel: Industry Response



Julian Dash
Principal/Founder,
Copacity



Natalie Joubert
Manager, Federal Affairs,
PG&E

The Business Council
for Sustainable
Energy®

BUSINESS COUNCIL FOR SUSTAINABLE ENERGY

a coalition of companies and trade associations



Energy Efficiency



Natural Gas



Renewable Energy

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CLEAN ENERGY BUSINESS NETWORK

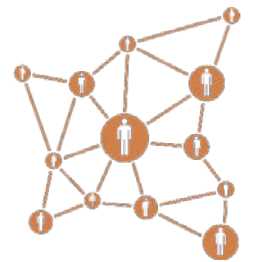
the small business voice for the clean energy economy



Policy
Support



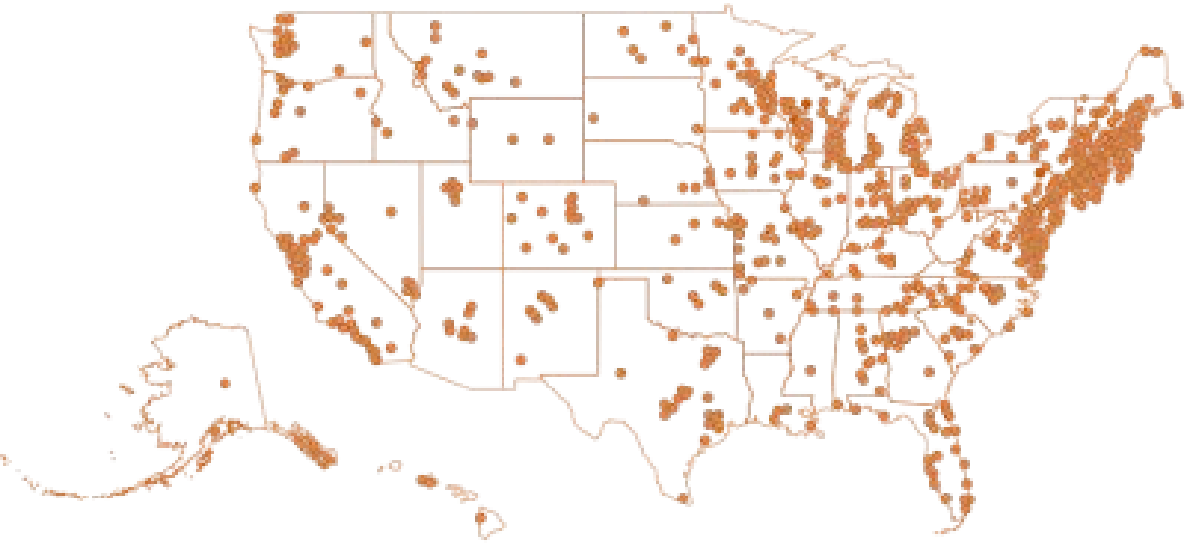
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4,000+ across all 50 U.S. states
representing diverse technologies



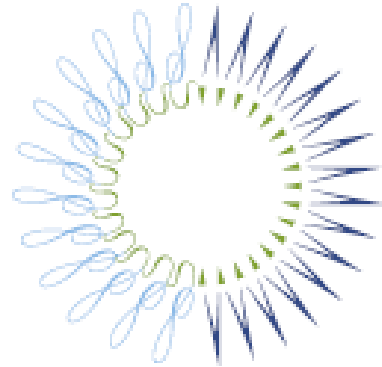
BCSE & CEBN EFFORTS ON RESILIENCE

- BCSE Resilience & Reliability Dialogue
- *Powering Forward* webinar series
- Hill briefings





A CLEAN ENERGY POWERED RECOVERY



THE
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Laura Lightbody, Project Director

Pew's flood-prepared communities initiative

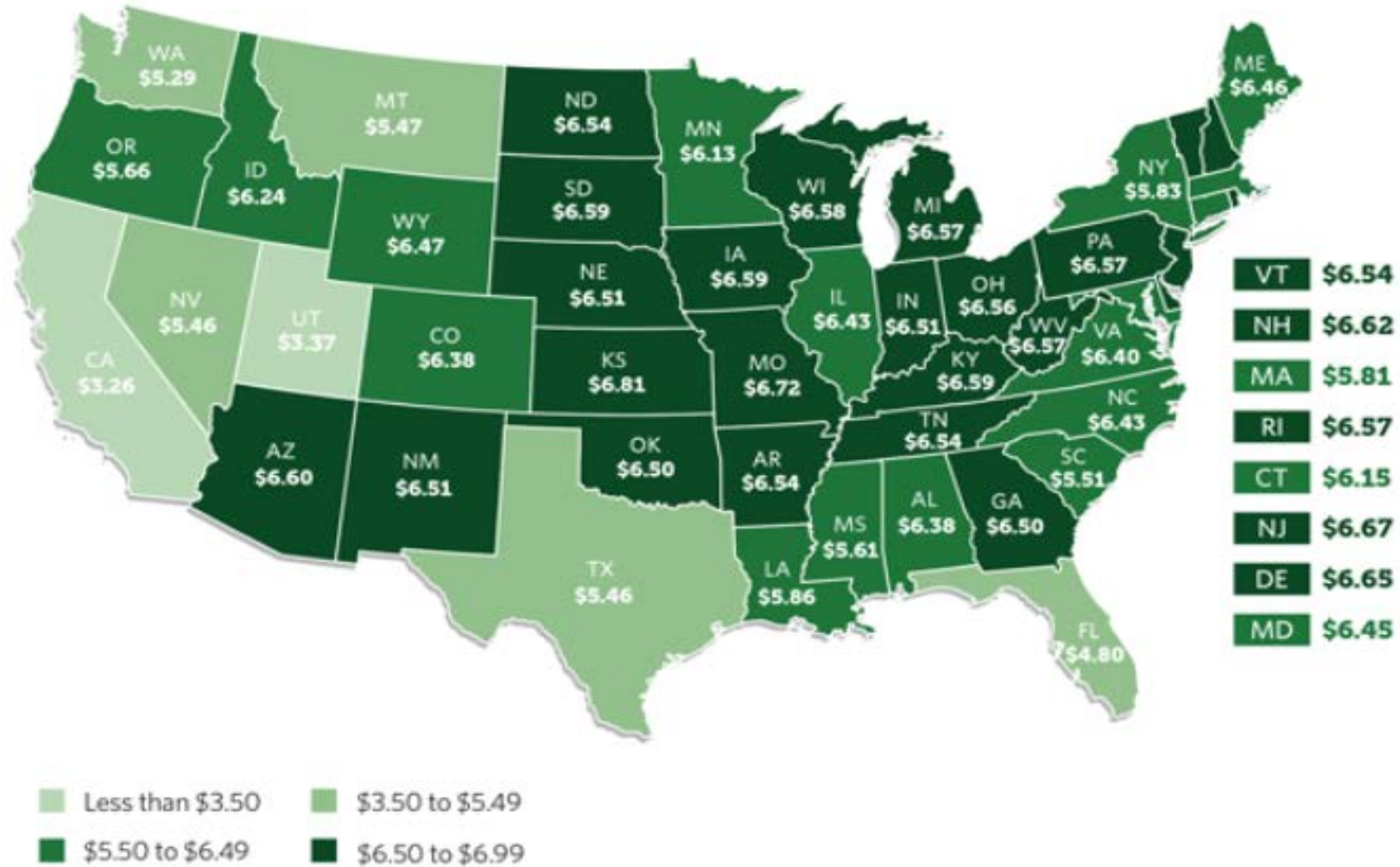
July 29, 2020

Reduce impact of flood-disasters on communities and environment



Return on Investment From Mitigation Activities Varies by State

Money saved on average per dollar spent for select federal mitigation programs, 1993-2016



A city skyline at sunset with a park in the foreground. The sky is a mix of orange, yellow, and grey. The city buildings are silhouetted against the bright sky. In the foreground, there is a park with green grass, trees, and a winding path. The overall scene is a blend of urban and natural environments.

When it comes to mitigation, there's
no one-size-fits-all solution.

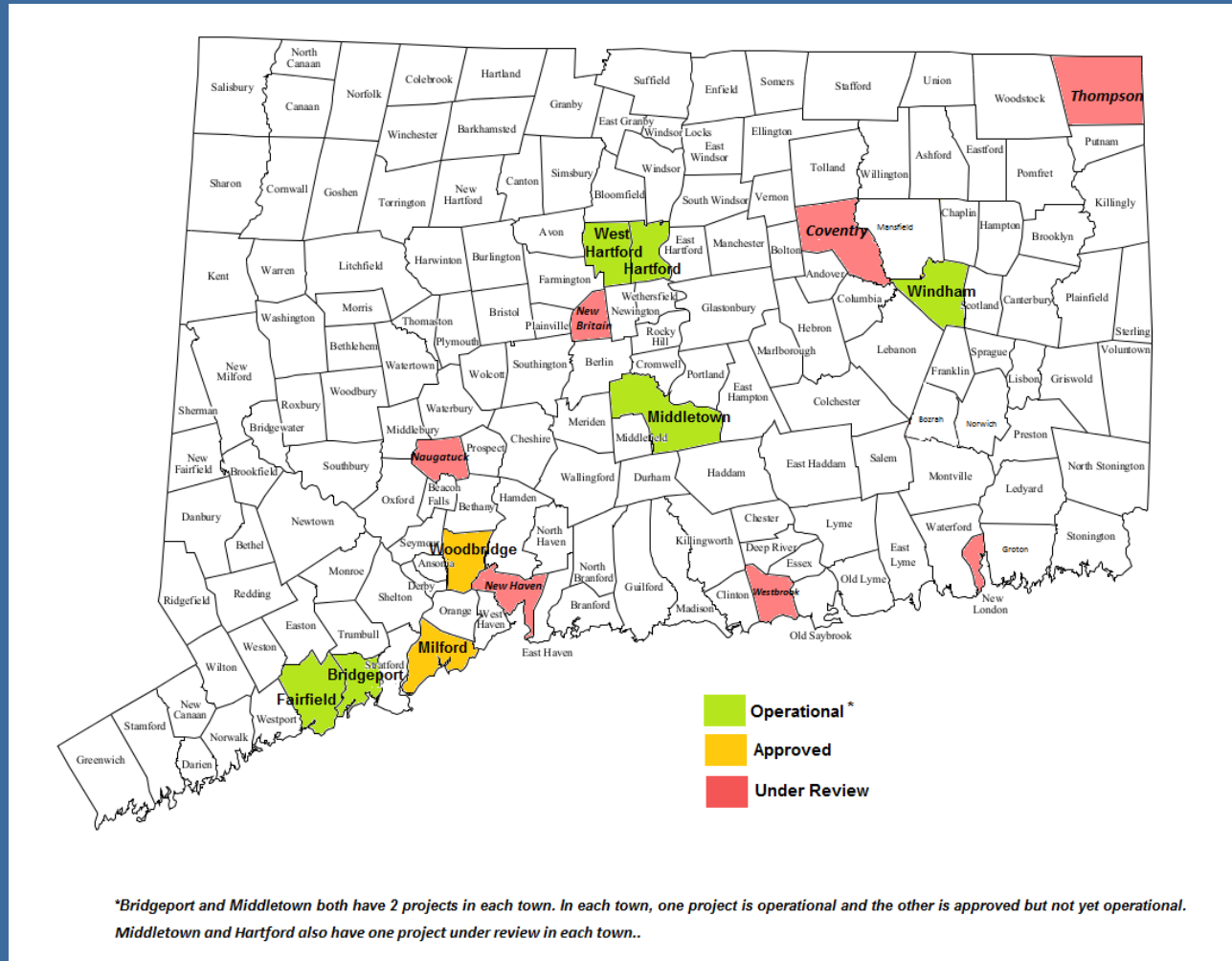
**Mitigation Matters provides 13
state and local examples of
policy spurring flood mitigation
activities**

pewtrusts.org/mitigationmatters

Dr. Rebecca French
Director of the Office of Climate Planning
Connecticut Department of Energy and Environmental Protection



Connecticut Microgrid Program



Source: 2018 Comprehensive Energy Strategy

Connecticut Department of Energy and Environmental Protection



National Disaster Resilience Program



Connecticut Department of Energy and Environmental Protection

23 Members of the Governor's Council on Climate Change

100
Contributing Organizations



0 Carbon Target for electricity sector by **2040**



120+

Collaborative public meetings in 2020

7 Critical Work Group Focus Areas



Progress on Mitigation Strategies

Working and Natural Lands

Science and Technology

Equity and Environmental Justice

Infrastructure and Land Use Adaptation

Public Health and Safety

Financing Adaptation & Resilience

162

Individual Work Group Members



Progress towards implementing a

45% reduction in CO₂ levels by **2030**

1 Statewide Adaptation & Resilience Plan



PURA Docket on Resilience & Reliability

DOCKET NO. 17-12-03RE08 – Issues July 22, 2020

- PURA INVESTIGATION INTO DISTRIBUTION SYSTEM PLANNING OF THE ELECTRIC DISTRIBUTION COMPANIES – RESILIENCE AND RELIABILITY STANDARDS AND PROGRAMS
- Path 1: An investigation into which current reliability and resilience programs and measures provide the greatest marginal returns to ratepayers;
- Path 2: An investigation into new reliability and system resilience programs and measures the EDCs may wish to deploy and the marginal returns to ratepayers of those programs or measures; and
- Path 3: An investigation into reliability and system resilience metrics and targets, and associated incentives for the EDCs to meet and exceed those targets.

<i>Paths</i>	1st Solutions Day / Technical Meeting	2nd Meeting Date / Alternate Date
Path 1	September 10 th	September 22 nd
Path 2	October 5 th	October 13 th



Mike Harryman

State Resilience Officer

Office of Oregon Governor Kate Brown

Oregon's Energy Resilience Effort Pre-COVID-19

State has focused on the Cascadia Subduction Zone

- 2013 – Oregon Resilience Plan
 - Chapter 6 - Energy
- 2015 – State Resilience Officer position created
- 2016 – SRO confirmed by State Senate
- 2016 – Oregon started the 2-Week Ready Campaign
- 2019 – Governor introduced two major legislative bills: 1) resilience and 2) climate (cap-n-trade)
 - Resilience 2025 Vision
 - Featuring ShakeAlert (EQ early warning system)
- 2019 – IOUs briefed Gov. Brown on PSPS
- 2020 – Governor introduced two major legislative bills: 1) resilience and 2) climate (cap-n-trade)



Oregon's Energy Resilience Effort During COVID-19

- State establish an Incident Management Teams
 - Critical Infrastructure Branch
 - Focus was working with the IOUs and COUs
 - Safety of their employees
 - PPE on hand
 - Enacted their BCP – Pandemic Plans
 - Worked with federal partners – BPA
 - Smaller utilities – Affirmed Mutual Aid Support in place
 - Oregon did not ID essential workers
 - Set up weekly calls:
 - Operational Status Reports
 - Utility provider Personal Protective Equipment (PPE) needs (resulting from supply-chain issues/shortages)
 - Needs for COVID-19 Guidance
 - Sharing of COVID-19 Best Practices and Operational Protocols
 - Sharing information about PPE resources
 - Coordination of distribution of PPE to energy providers, made available by FEMA (i.e. reusable cloth face masks, and handheld infrared thermometers)
 - Reporting positive COVID-19 cases of energy provider employees, if any, and any impacts to operational status (employees identities are not shared, just case numbers and impacts, if any)
 - Discussions about COVID-19 testing needs versus availability
- Possible Support for both private sector and legislative –**
- Customer focus: low income/energy assistance programs
 - Mitigation efforts that focus on FEMA's new grant, Building Resilience Infrastructure in Communities (BRIC)
 - Possible identification system for essential worker (state-to-state)
 - Continue to building on Mutual Aid
 - Clarify role of energy sector as critical with protections on mobility and prioritization for supplies/testing for energy sector workers
 - More funding for energy assistance for low income and vulnerable communities.

DISCUSSION

Panel: State Resilience & COVID-19 Response



Laura Lightbody

Project Director,
Flood-Prepared
Communities Initiative
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Director of the Office of
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Connecticut Department of
Energy and Environmental
Protection

Julian Dash
Principal/Founder, Copacity



We're not
scientists,
but we totally
got space.

Manhattan
and storage

About Copacity

Copacity provides the professional and technical expertise needed to procure, manage and implement distributed renewable energy projects that best meet our clients' needs. Expertise spans across both private and public sectors, with specific representation at all three levels of government:

- **Local:** City/Town, Urban/Suburban municipal clients. Served on local boards, including as Board member for City of Providence (RI) School Board and the City's Environment, Energy and Economic Development Committee.
- **State:** Served as former director of State of Rhode Island's renewable energy office; currently represent multiple state and quasi-public clients.
- **Federal:** Administered federal stimulus funds, DOE loan guarantee program and currently represent multiple Federal Public Housing Authorities in procuring 100% renewable energy.



Public Agencies: Response to COVID

Viewpoint from multiple public agency clients and partners, including:

- State energy offices
- Infrastructure/Green Banks
- Incentive/program managers
- Legislative leaders
- Local municipalities
- School districts
- Water/sewer districts
- Transit agencies
- Current energy providers

Consensus around COVID-19 responses and actions:*

1. Staying the course (in a good way!).
2. Preparing buildings for full occupancy and operation.
3. Transit.
4. Finance/Access to capital.

* Note: All agencies have addressed broad-based COVID responses, such as WFH, virtual meetings, etc.



Public Agencies: Response to COVID Actions/Activities



Staying the course (in a good way!)

- Focus on implementing current legislation/programs, rather than looking to immediately design/implement new.
- Some will enhance existing; others will grow naturally (particularly with increased electrification).



Preparing buildings for full occupancy and operation

- Increased social distancing – requires more space (and as well as associated costs for upgrades, etc.).
- Need to enhance building systems (HVAC, air circulation/recycling, filtration, etc.). Will likely be electrified options.



Transit

- Transit options will become a major increased need (public transit; school busses).
- WFH employees: With less commute and building EV infrastructure, residential EV interest will increase.



Finance and Budgeting

- Agencies are facing reduced revenues/budgets with increased costs.
- Access to capital programs will be critical (seeking to borrow vs. utilize reserves):
 - Must support both public/private activities, especially for 3rd party deal structures.

Copacity

Powering Forward
State of play: A clean energy powered recovery

Public Agencies: Response to COVID Resiliency



Building improvements, Solar + Storage

- Solar + storage has demonstrated clear interest across all sectors (public/private).
 - Sought after as both long-term energy cost hedge/reduction and overall grid resiliency.



Transit

- There will be increased fleet need (ex: public transit; school busses, etc.)
- The WFH market creates renewed opportunity for EV's with shorter commutes and newly build EV infrastructure.



Low-Income/Affordable Housing

- There is a significant increase in, and efforts to support, renewables + low-income/affordable housing.
- Opportunity to build more than just low-income renewables – transit, education and other opportunities abound.



Environmental Justice

- Broader opportunities to include education, training and business development/entrepreneurship.
- Will require a “ground up” approach.

Public Agencies: Response to COVID

Federal Support:

Financing/Access to Capital (also tied to policy below)

- National green/climate bank and/or Loan guarantee program(s):
 - Should be made available to states to provide funding where they best see fit.
 - Administrative and bureaucratic restrictions would have to be reduced/eliminated.
 - Need to be made available to both public and private entities/projects.
- Incentive programs:
 - Made simpler and more direct (ex: tax credit direct pay/grant).
 - Must include incentives for new markets/business and innovation (ex: storage).

Policy (also tied to financing/access to capital above)

- Needs to "get ahead" of state policy, so states can introduce/implement complimentary policies.
- Needs to be "all-inclusive" to cover all aspects, while letting states cater to unique needs.
- Should incorporate "adders" or "bonus" measures to support multiple interests and benefits:
 - ex: American manufacturing (and similar) bonus.
 - ex: "Environmental Justice" bonus (to be defined).



Opportunities for Federal Policy on Climate Resilience

July 2020

Natalie Joubert, PG&E Federal Affairs





The Challenge Part 1

We are committed to building climate resilience to help protect our assets, operations, infrastructure, employees, and the communities in which we serve.



24,000
employees

5.3 million
electric customers

~80%
GHG-free energy

126k
Circuit miles of
lines

70,000
square mile
service area

4.4 million
gas distribution
customers

7,700
MW of owned electric
generation capacity

49k
Miles of gas
pipeline

Our Mission

To safely and reliably deliver affordable and clean energy to our customers and communities every single day, while building the energy network of tomorrow.

Our Vision

With a sustainable energy future as our North Star, we will meet the challenge of climate change while providing affordable energy for all customers.



The Challenge Part 2

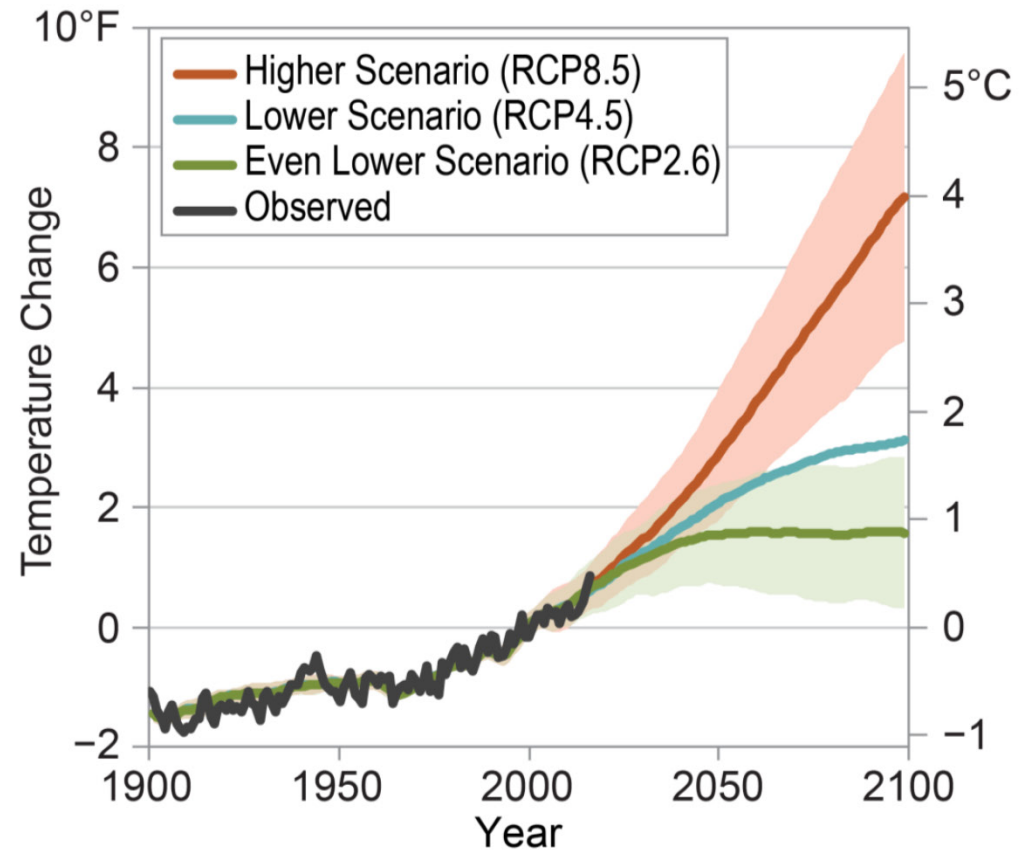
The past is not a guide to the future

The rate of climate change will double in the next 20 years.

BAU trajectory = by 2080–2099, global average temperature is projected to increase by 4.2–8.5 F (2.4–4.7C) relative to the 1986–2015 average.

Increased temperatures will affect frequency and severity of storms, precipitation, drought, sea level rise, subsidence, and wildfire.

Global Average Temperature Change

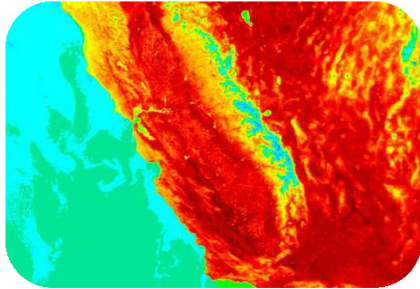


Source: 2018 National Climate Assessment



What does “working” mean in this context?

We are able to safely, reliably, and affordably provide energy to our customers and manage impacts to our communities during:



10 five-day heat waves in Fresno in a year



Flooding during an extreme storm in Sacramento



Sea level rise in San Mateo



Wildfire in the Sierra Foothills

Our goal is to plan for and adapt to conditions *before* they change.

How federal policy can complement efforts?



Convening experts across governments, industries, academia, etc. to share best practices and collaborate on solutions



Climate science research and modeling;
Technology research, development and deployment



Infrastructure investment, incentives and standards;
Community resilience investment and capacity building



Andy Barnes
Program Manager
Clean Energy Business Network



FEDERAL POLICY DEVELOPMENTS

1. Next COVID-19 aid package is in the works
 - [7 Senate Republicans](#) sent letter urging McConnell to support clean energy in future packages
2. Transportation/infrastructure bills
 - House passed \$1.5T infrastructure plan
 - Senate infrastructure and energy packages
3. Climate plans
 - House Republicans unveiled a Climate Plan in February
 - House Select Committee Climate Crisis Action Plan
 - Biden-Sanders Unity Task Force recommendations
 - Biden Campaign \$2T infrastructure plan
4. Other
 - FY2021 Appropriations
 - National Defense Authorization Act (NDAA)

LOOKING AHEAD

- [Sign-on letter](#) (initial deadline 8/4):
Support clean energy in economic recovery
- [Business survey](#) (deadline 7/31):
COVID-19 impacts on clean energy
& priorities for recovery



Questions or ideas:

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Lisa Jacobson: ljacobson@bcse.org

