



# **Governors' Advisors Energy Policy Institute**

**August 20 - 25, 2020  
Day 1**

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**National Governors Association  
Center for Best Practices**

# Virtual Meeting Housekeeping

► *For Technical Support:*

*Please chat or contact Tonya Smith ([tsmith@nga.org](mailto:tsmith@nga.org)) if you have any technical questions or call/text at (202) 834-0022.*

## Today's Virtual Meeting: Zoom Controls



The Zoom menu bar appears at the bottom of the Zoom window once the meeting begins.

*If you don't see the menu bar, move your mouse slightly and the bar will appear.*

Step 1: Mute/Unmute Your Audio



Unmute



Stop Video



Invite



Participants

7



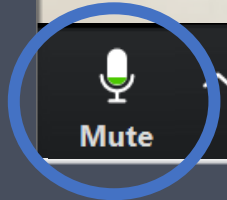
Share Screen



Chat

Leave Meeting

Step 1: Mute/Unmute Your Audio



Mute

Stop Video

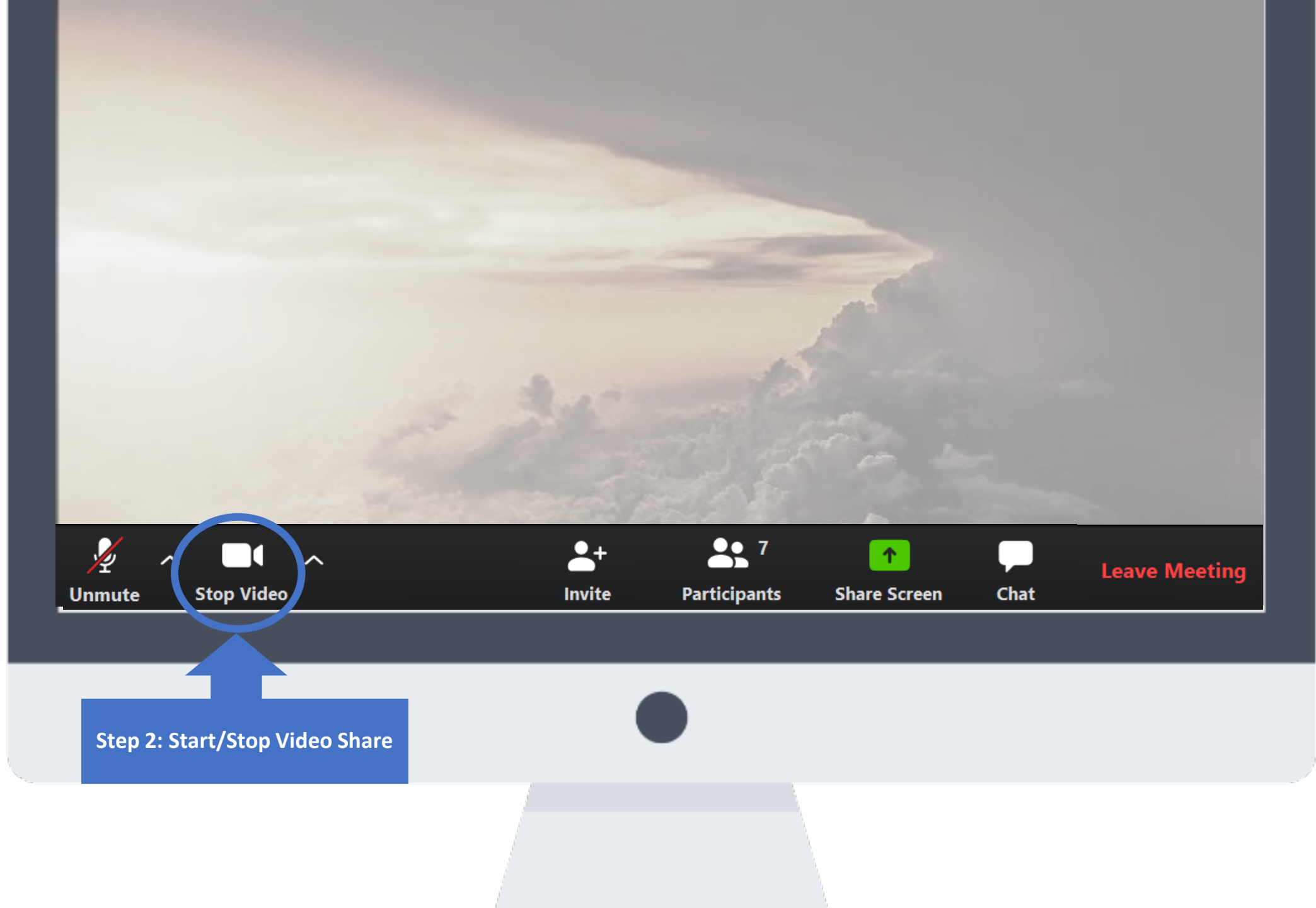
Invite

Participants 7

Share Screen

Chat

Leave Meeting



  
Unmute



Stop Video



Invite



7

Participants



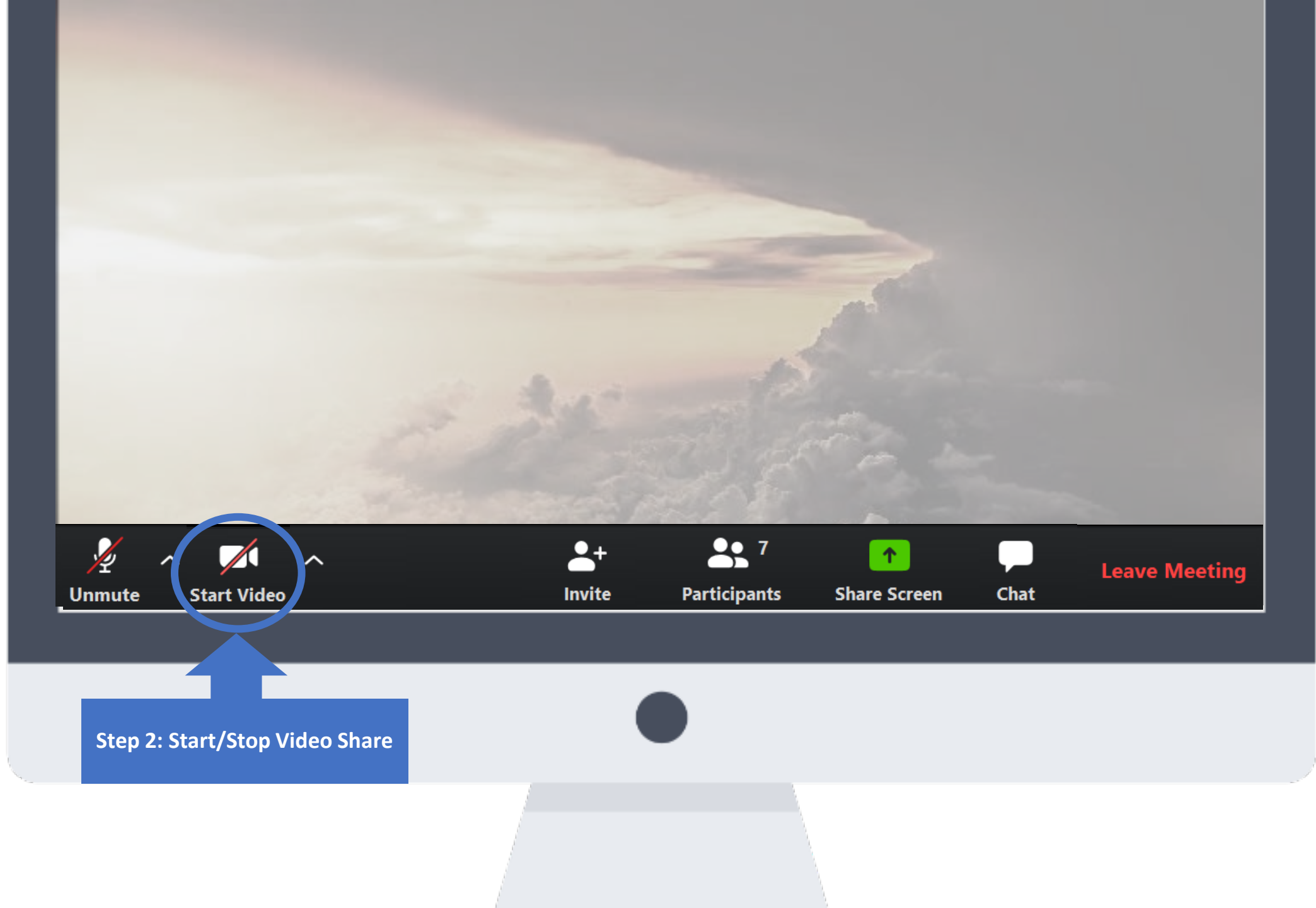
Share Screen




Chat

Leave Meeting

Step 2: Start/Stop Video Share



Step 2: Start/Stop Video Share



Unmute Stop Video Invite **Participants** 7 Share Screen Chat Leave Meeting

Participants (2)

Sarah Shadid (Me)

TB Tori Bahe (Host)

Raise Hand yes no go slower go faster more





Mute Me





Step 3: View List of Participants









Step 4: Raise Your Hand

Participants (2)

 Sarah Shadid (Me)   

 TB Tori Bahe (Host)   

 Raise Hand  yes  no  go slower  go faster  more


Mute Me


 Unmute

  Stop Video

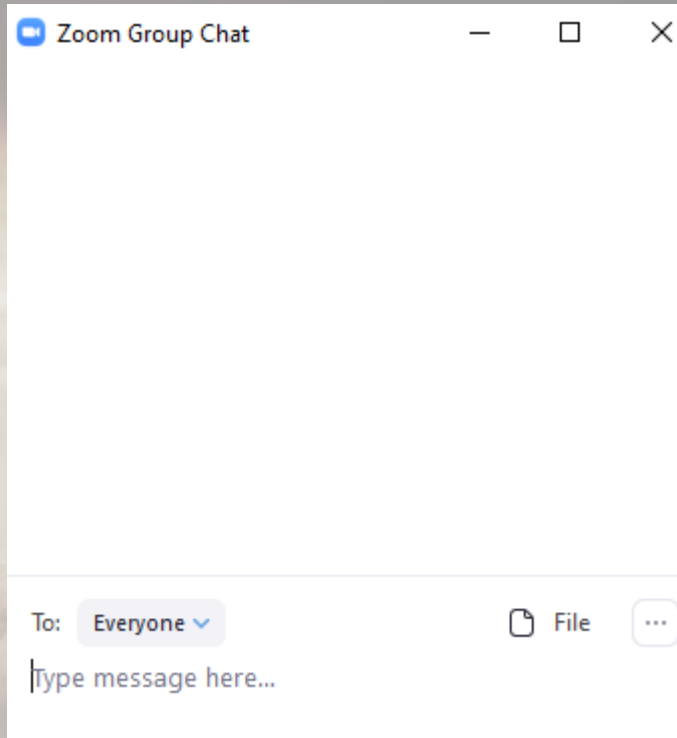
 Invite

 7  
Participants

 Share Screen

 Chat

Leave Meeting



Unmute

Stop Video

Invite

Participants 7

Share Screen

Chat

Leave Meeting

Step 5: Chat your questions



# Welcome & Opening Remarks

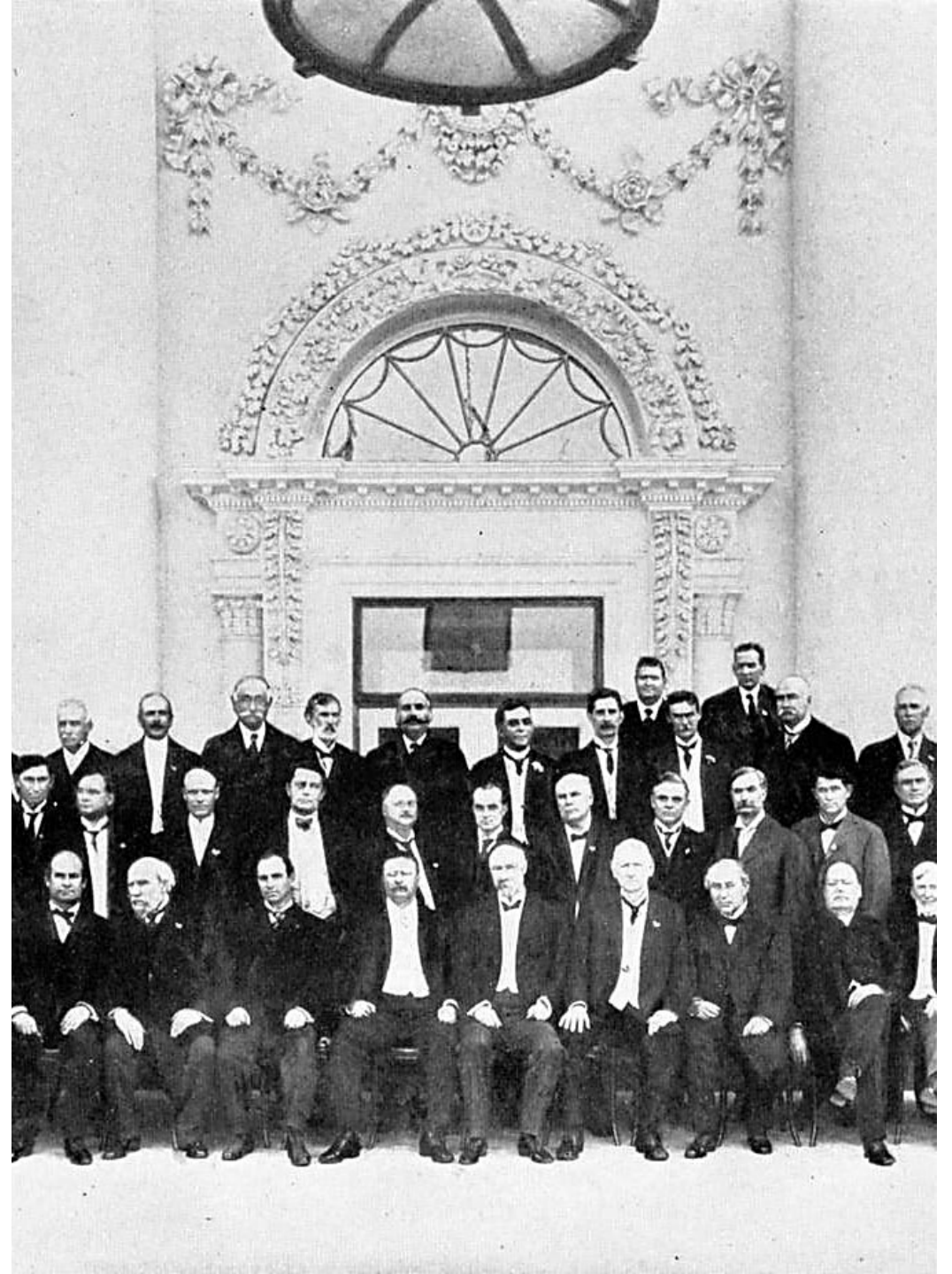
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Dan Lauf, Program Director, National Governors Association

Jessica Rackley, Program Director, National Governors  
Association

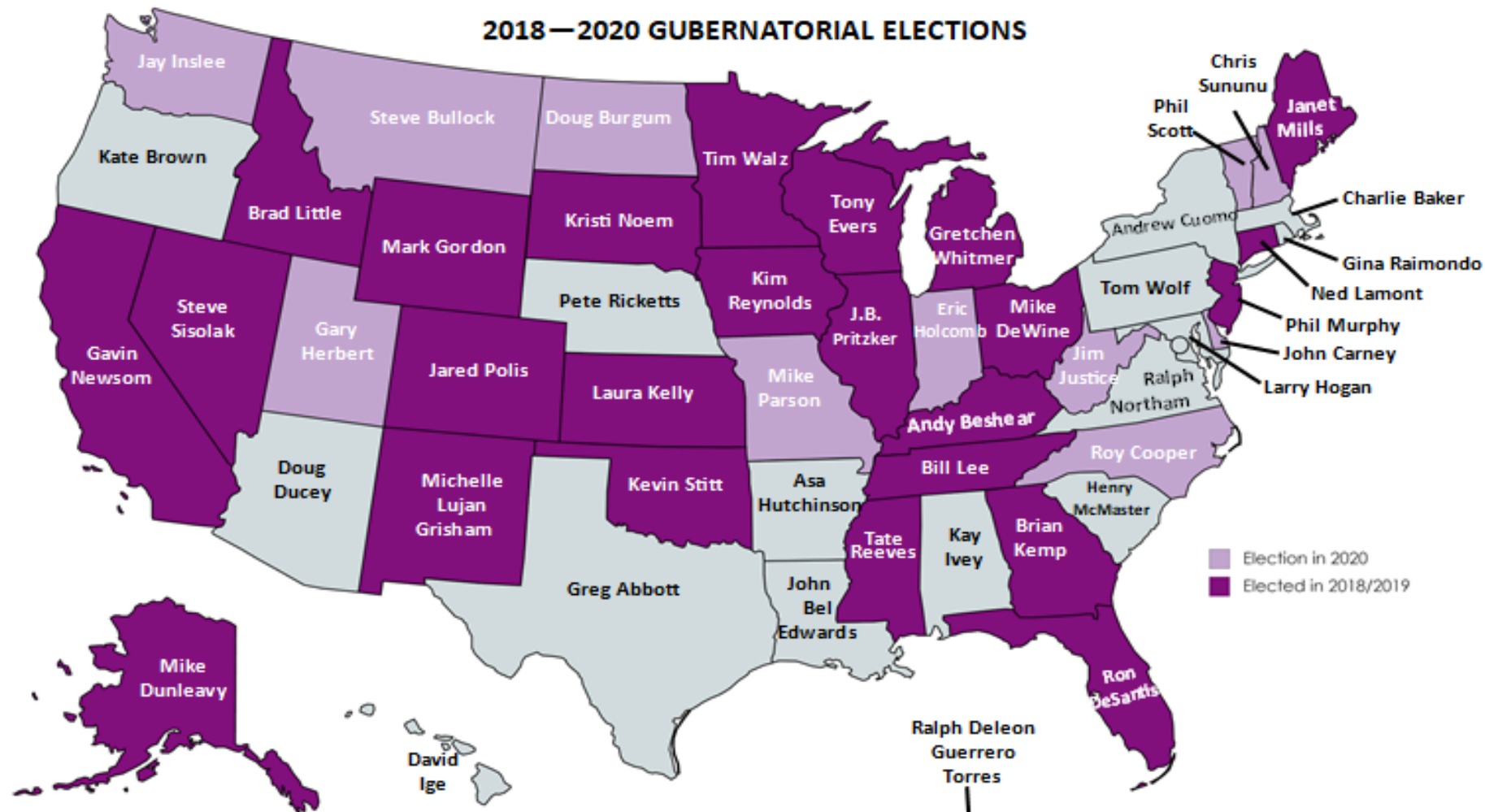
# What is NGA?

Founded in 1908, the National Governors Association is the nonpartisan organization of the nation's 55 governors. Through NGA, governors share best practices, address issues of national and state interest and share innovative solutions that improve state government and support the principles of federalism.



## STATES AND TERRITORIES

### 2018—2020 GUBERNATORIAL ELECTIONS



Election in 2020  
 Elected in 2018/2019

**NGA**  
 NATIONAL GOVERNORS ASSOCIATION

Created with mapchart.net ©





# Our Mission.



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Provide governors state-based energy, environment and infrastructure solutions that enhance economic development, mobility, sustainability, reliability, resiliency, health and safety.

# NGA's Energy Team



**Dan Lauf**



**Emma Cimino**



**Matthew Rogotzke**



**Jessica Rackley**



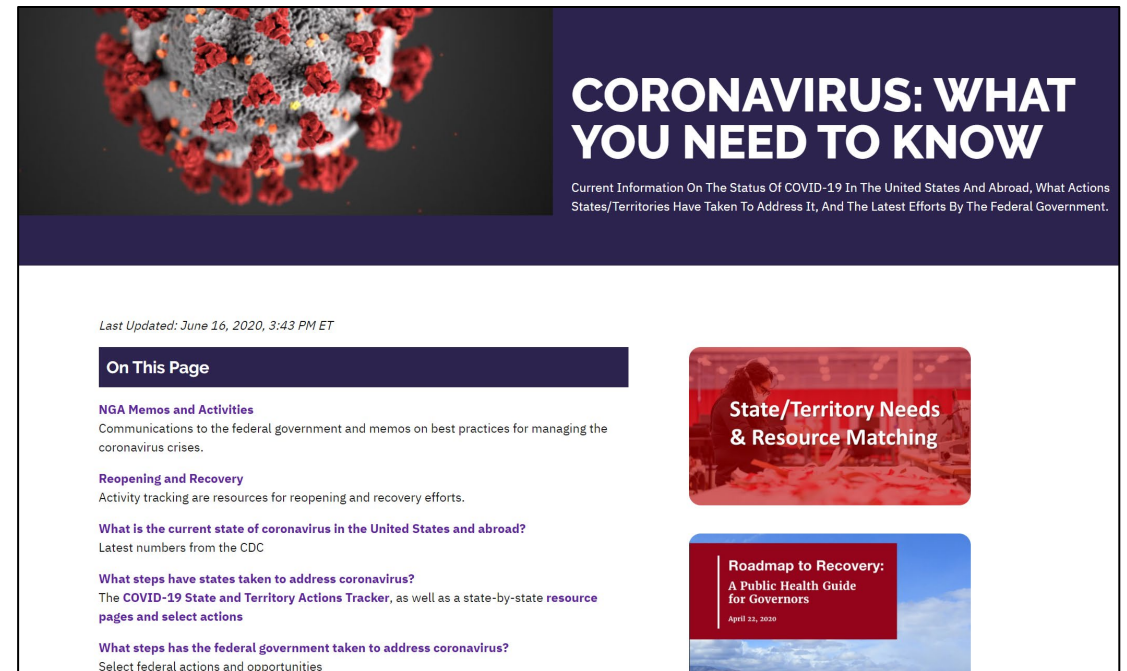
**Alyse Taylor-  
Anyikire**



**Timothy Schoonhoven**

# NGA Recent Energy Priority Areas

- COVID-19 Response and Recovery Efforts, <https://www.nga.org/coronavirus/>
- Clean Energy & Grid Modernization Strategies
- State Energy Resilience Planning and Cybersecurity Coordination
- Transportation Electrification
- Broadband Expansion
- [State Resource Center on Energy Security](#)



The screenshot shows the NGA Coronavirus page. At the top, there is a header with a 3D model of a coronavirus particle on the left and the title "CORONAVIRUS: WHAT YOU NEED TO KNOW" on the right. Below the title is a subtitle: "Current Information On The Status Of COVID-19 In The United States And Abroad, What Actions States/Territories Have Taken To Address It, And The Latest Efforts By The Federal Government." Below the header is a main content area. On the left, there is a section titled "On This Page" with a list of links: "NGA Memos and Activities", "Reopening and Recovery", "What is the current state of coronavirus in the United States and abroad?", "What steps have states taken to address coronavirus?", and "What steps has the federal government taken to address coronavirus?". On the right, there are two featured cards: "State/Territory Needs & Resource Matching" and "Roadmap to Recovery: A Public Health Guide for Governors".

**CORONAVIRUS: WHAT YOU NEED TO KNOW**  
Current Information On The Status Of COVID-19 In The United States And Abroad, What Actions States/Territories Have Taken To Address It, And The Latest Efforts By The Federal Government.

Last Updated: June 16, 2020, 3:43 PM ET

**On This Page**

- NGA Memos and Activities**  
Communications to the federal government and memos on best practices for managing the coronavirus crises.
- Reopening and Recovery**  
Activity tracking are resources for reopening and recovery efforts.
- What is the current state of coronavirus in the United States and abroad?**  
Latest numbers from the CDC
- What steps have states taken to address coronavirus?**  
The COVID-19 State and Territory Actions Tracker, as well as a state-by-state resource pages and select actions
- What steps has the federal government taken to address coronavirus?**  
Select federal actions and opportunities

**State/Territory Needs & Resource Matching**

**Roadmap to Recovery: A Public Health Guide for Governors**  
April 22, 2020



# COVID-19 Energy Resources

## Written Guidance:

- [NGA Guidance on Supporting the Energy Sector during COVID-19](#)
- [NGA Guidance on State Moratoriums on Utility Disconnections and Related Actions During the COVID-19 Pandemic](#)
- [Governors' COVID-19 Resource Library](#)
  - Memos on: Testing, PPE, Concurrent Disasters, Reopening, Recovery, Cybersecurity

## Webinar:

- [COVID-19 Impacts to Energy Security](#)



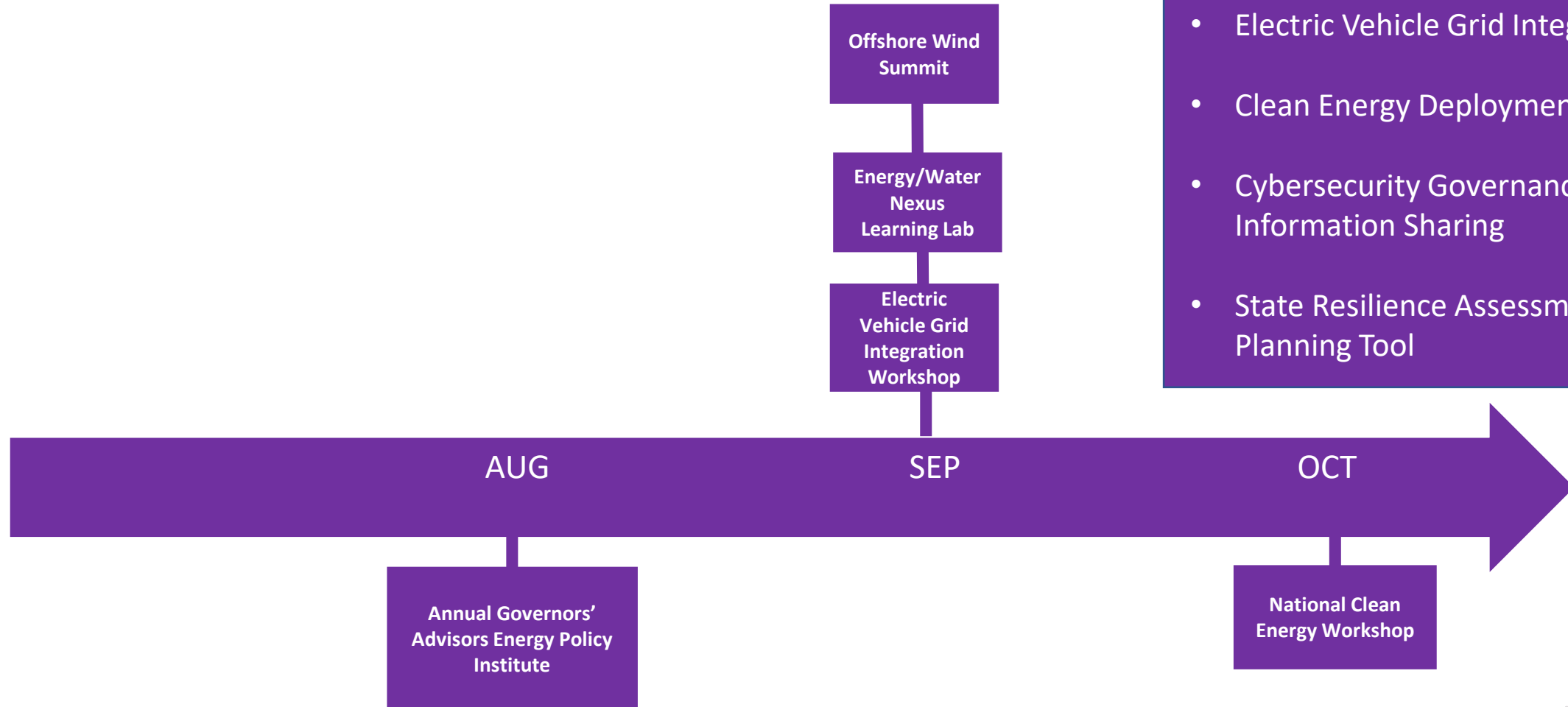
## Online Resources:

- [www.nga.org/coronavirus](http://www.nga.org/coronavirus)
- [State Resource Center on Energy Security](#)

# Upcoming Events and Technical Assistance

## Upcoming Publications

- Broadband Expansion
- Electric Vehicle Grid Integration
- Clean Energy Deployment
- Cybersecurity Governance and Information Sharing
- State Resilience Assessment and Planning Tool



# Energy Policy Institute Agenda

Day 1 - Thursday	
1:45 - 2:15 pm (ET)	Welcome and NGA Updates
2:15 - 3:00 pm	States Speak: Roundtable on Key Energy Priorities
3:00 - 3:45 pm	Energy Trends and Future Outlook
3:45 - 4:00 pm	Day 1 Wrap Up
4:00 - 4:30	Virtual Networking Happy Hour

Day 2 - Friday	
1:30 - 1:45 pm (ET)	Day 2 Opening
1:45 - 2:15 pm	Incorporating Equity in Energy Policy
2:15 - 3:00 pm	Energy Goals and Budget Holes
3:00 - 3:50 pm	State Strategies to Leverage Federal Dollars
3:50 - 4:00	Day 2 Wrap Up

Day 3 - Monday	
1:30 - 1:45 pm (ET)	Day 3 Opening
1:45 - 2:15 pm	The Future of U.S. Carbon Pricing
2:15 - 3:00 pm	The Future of the Energy Workforce
3:00 - 3:45 pm	Utility Disconnection Moratoriums
3:45 - 4:00	Day 3 Wrap Up

Day 4 - Tuesday	
1:30 - 1:45 pm (ET)	Day 4 Opening
1:45 - 2:15 pm	Energy System Planning for a Modern Electric Grid
2:15 - 3:00 pm	Improving Energy Cybersecurity in Your State
3:00 - 3:45 pm	The How and Why of Regional Agreements
3:45 - 4:15	Conference Wrap Up

# Interactive Polling & Testing Zoom Features



Source: The New Yorker



# **States Speak: Introductions & Key Energy Priorities**

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Jessica Rackley, Program Director, National Governors Association



1:09

# State Introductions

- For state attendees, in 1 minute or less, please introduce yourself, and briefly describe your governor's energy policy priorities.
- Guidance: Please remember to unmute yourself. I'll ask for introductions in alphabetical order by state based on the participant's list.



# What's Happening in Energy: Trends and Future Outlooks

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Daniel Raimi, Resources for the Future



# Energy 2020

## Recent trends and outlook

**Daniel Raimi**

Senior Research Associate, Resources for the Future  
Lecturer, UMich Ford School of Public Policy

[raimi@rff.org](mailto:raimi@rff.org)

August 20, 2020

Presentation for the National Governor's Association

Governors' Advisors Energy Policy Institute



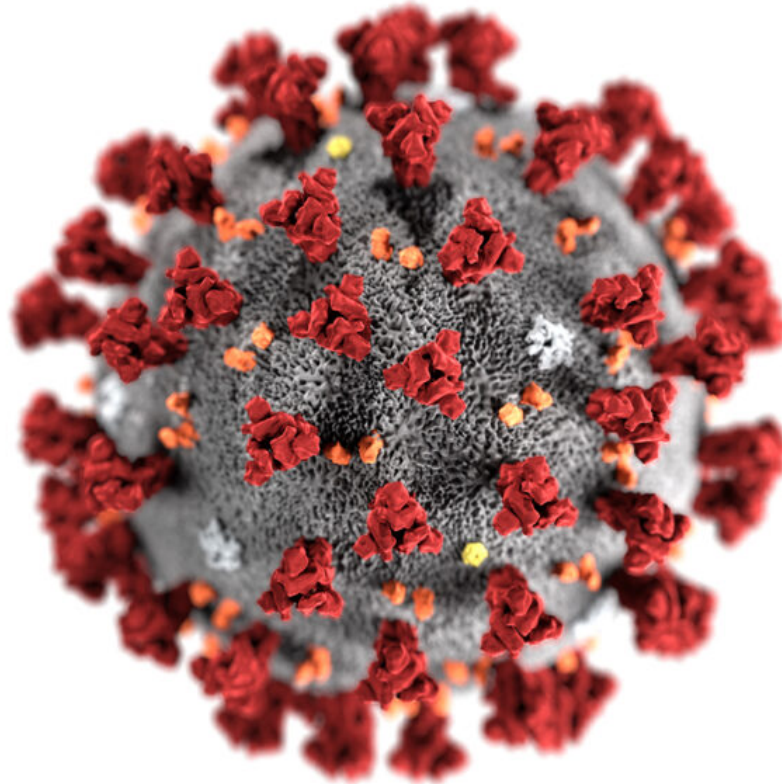


# Agenda

- COVID-19, global energy, and US energy jobs
- Oil and gas markets and employment
- Coal markets and employment
- Renewables markets and employment
- Electricity markets and employment
- Greenhouse gas emissions
- Looking ahead: federal policy outlook and key uncertainties



# COVID-19, global energy, and US energy jobs



# The short-term effects of COVID-19 on the energy sector are unprecedented in modern times

Percent change in global annual energy demand, 1900-2020

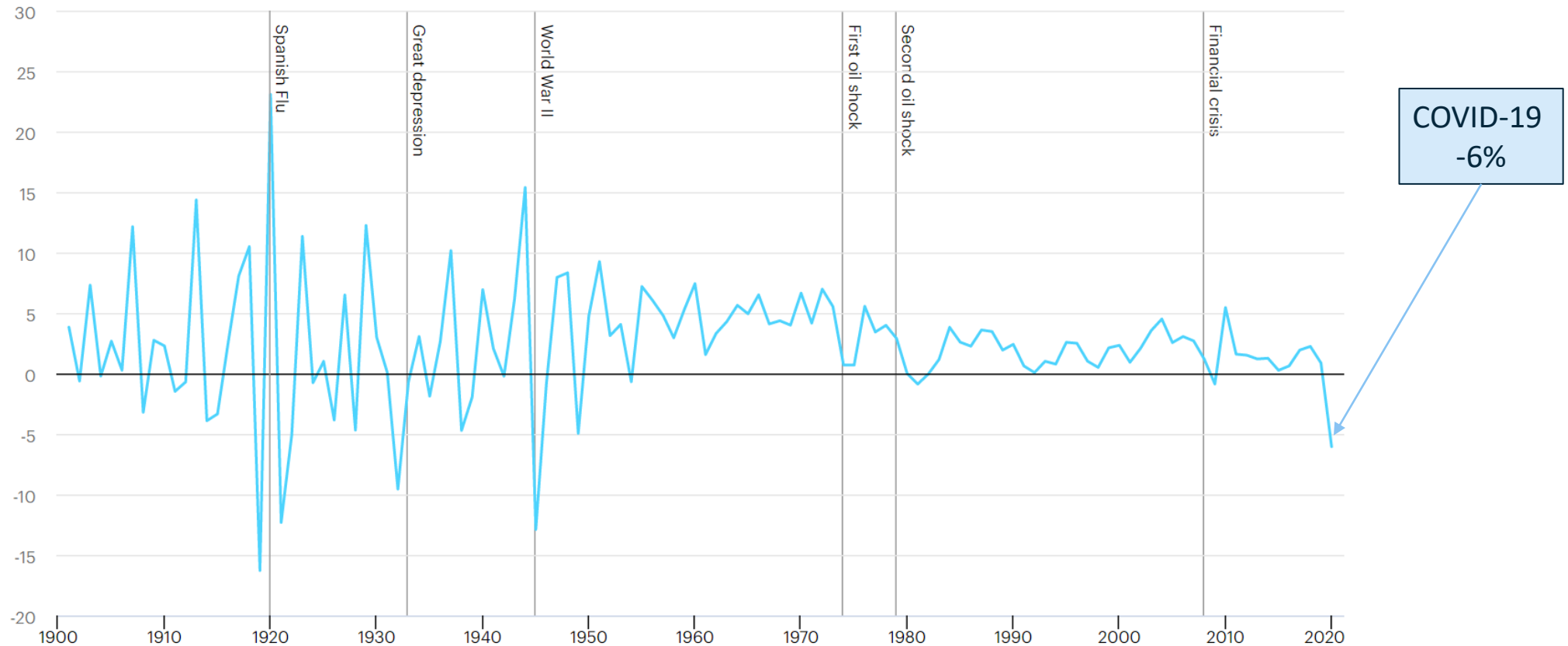
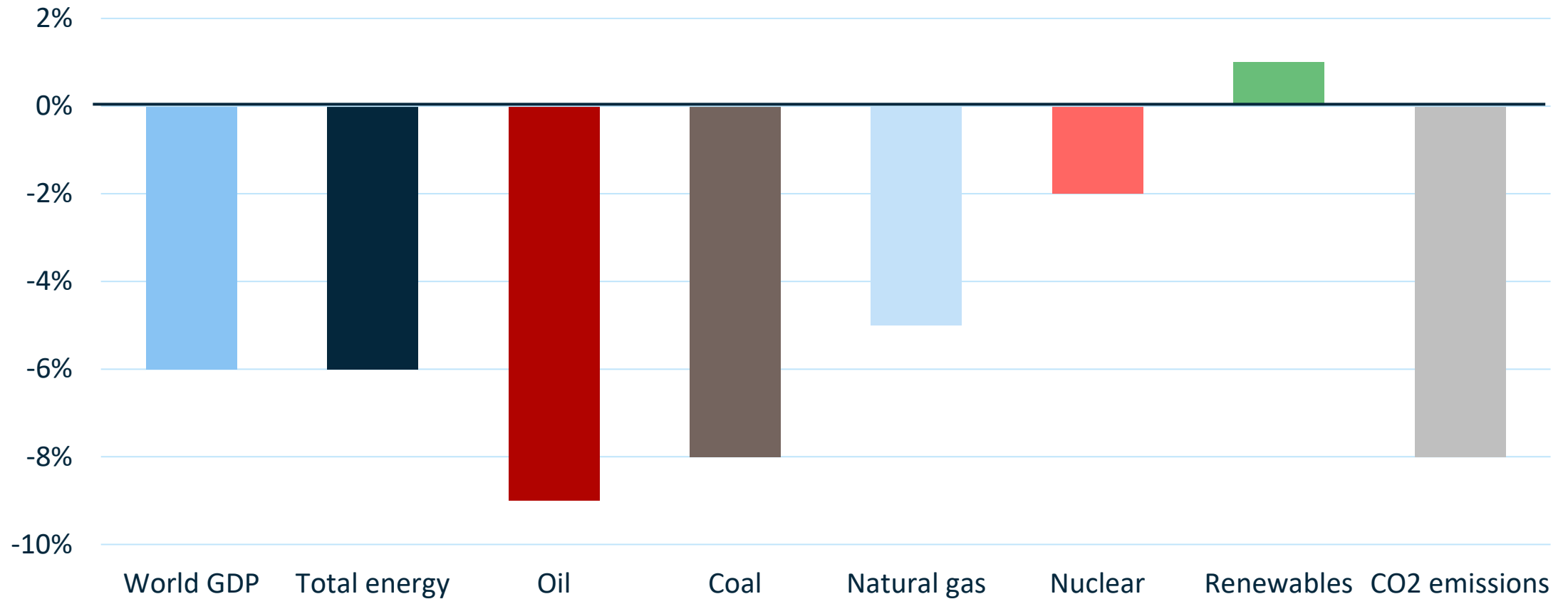


Figure source: International Energy Agency, 2020



# Fossil energy consumption and CO<sub>2</sub> emissions will fall dramatically this year

Estimated change in global GDP and energy consumption, 2019 - 2020

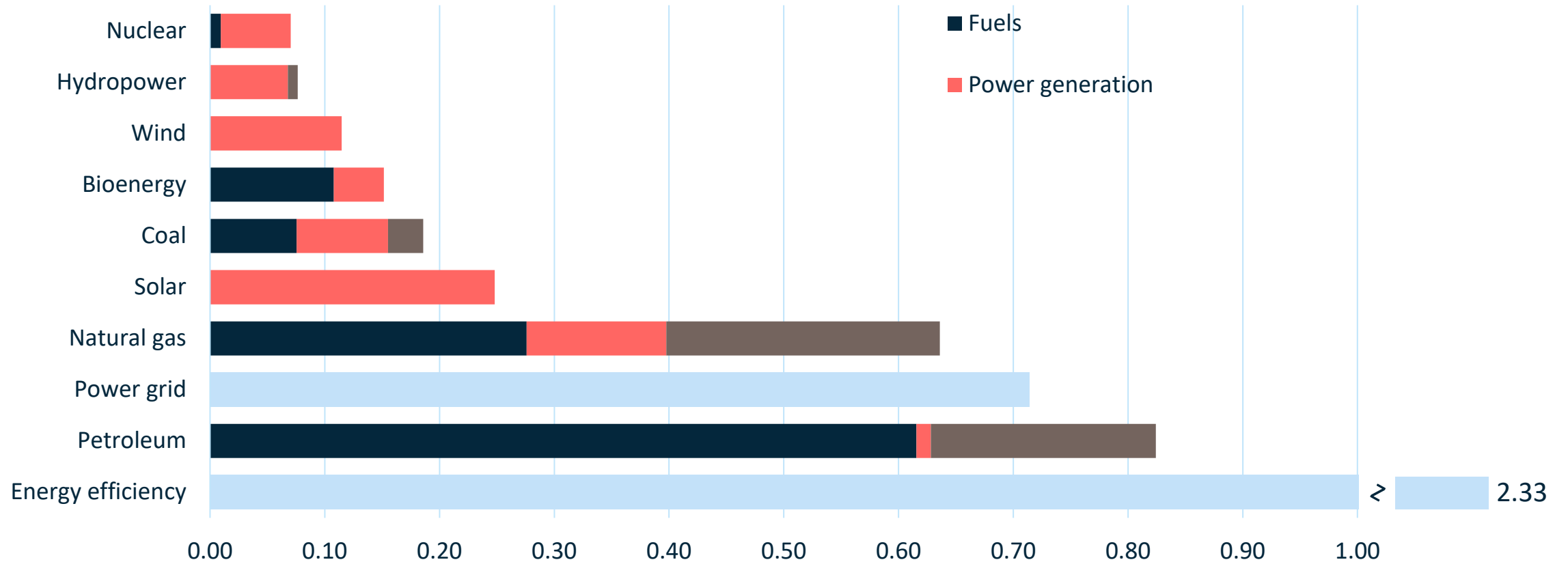


Data source: International Energy Agency, 2020



# US energy jobs: an overview

2019 US energy jobs by type (millions)



Data source: Energy Futures Initiative / National Association of State Energy Officials



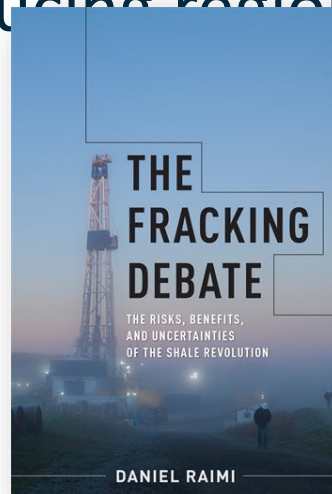


# Oil and gas markets and employment

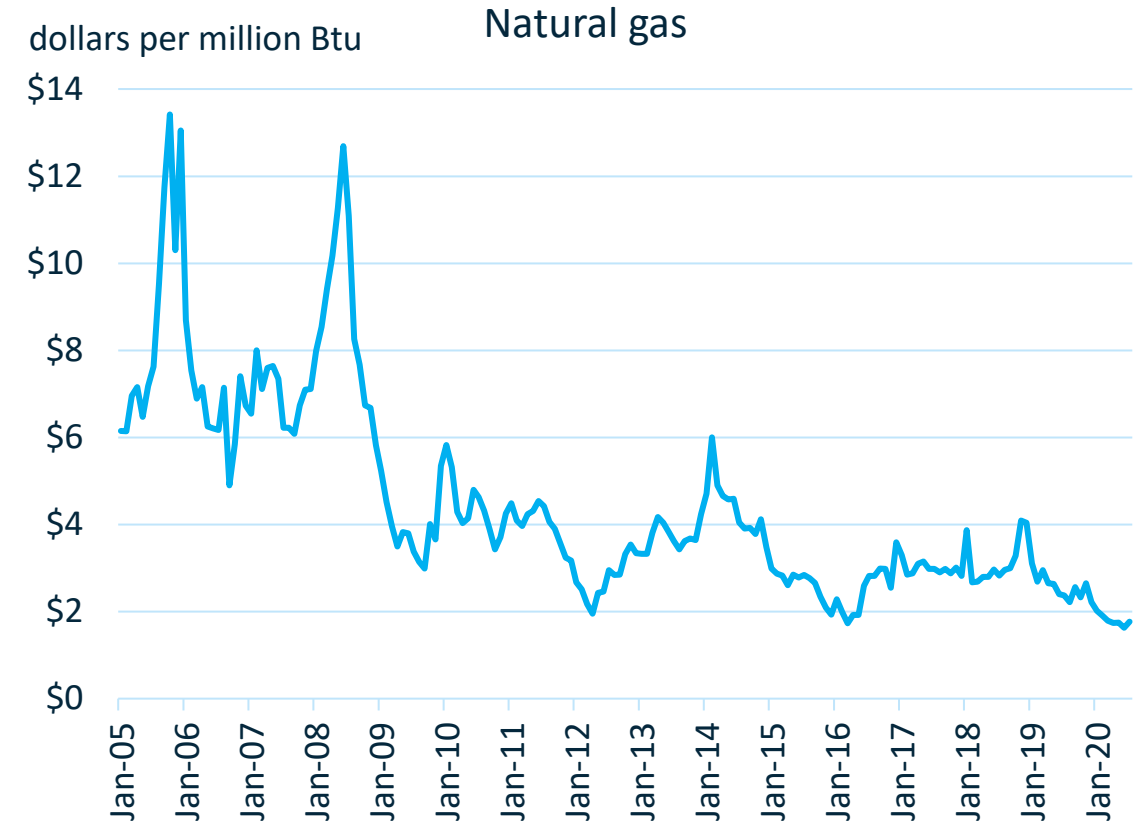
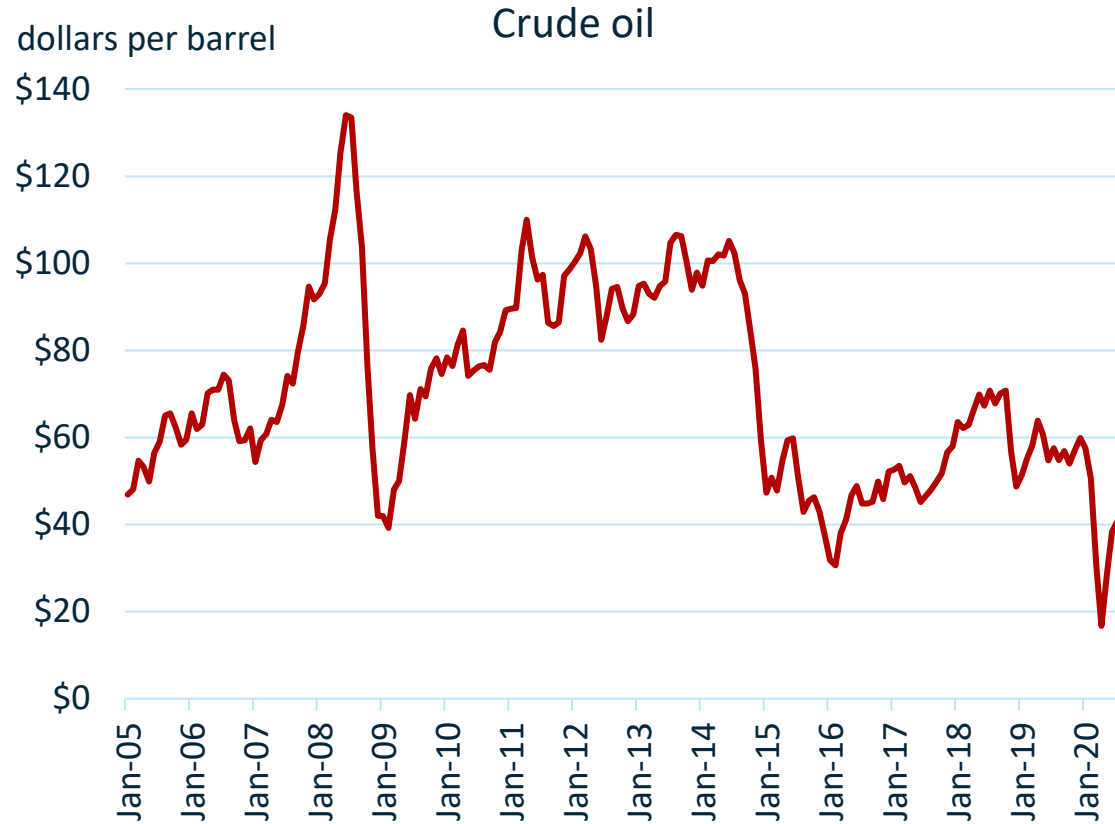


# The US oil and gas industry has experienced a “revolution” in the last 10-15 years

- Improvements in horizontal drilling and hydraulic fracturing (“fracking”) have led to unprecedented growth in natural gas and oil output
- The US had become the world’s largest producer of natural gas and oil
- Major impacts for producing regions, US (and global) consumers, and the environment
- Shameless book plug:



# Benchmark oil and gas prices have fallen to decadal lows

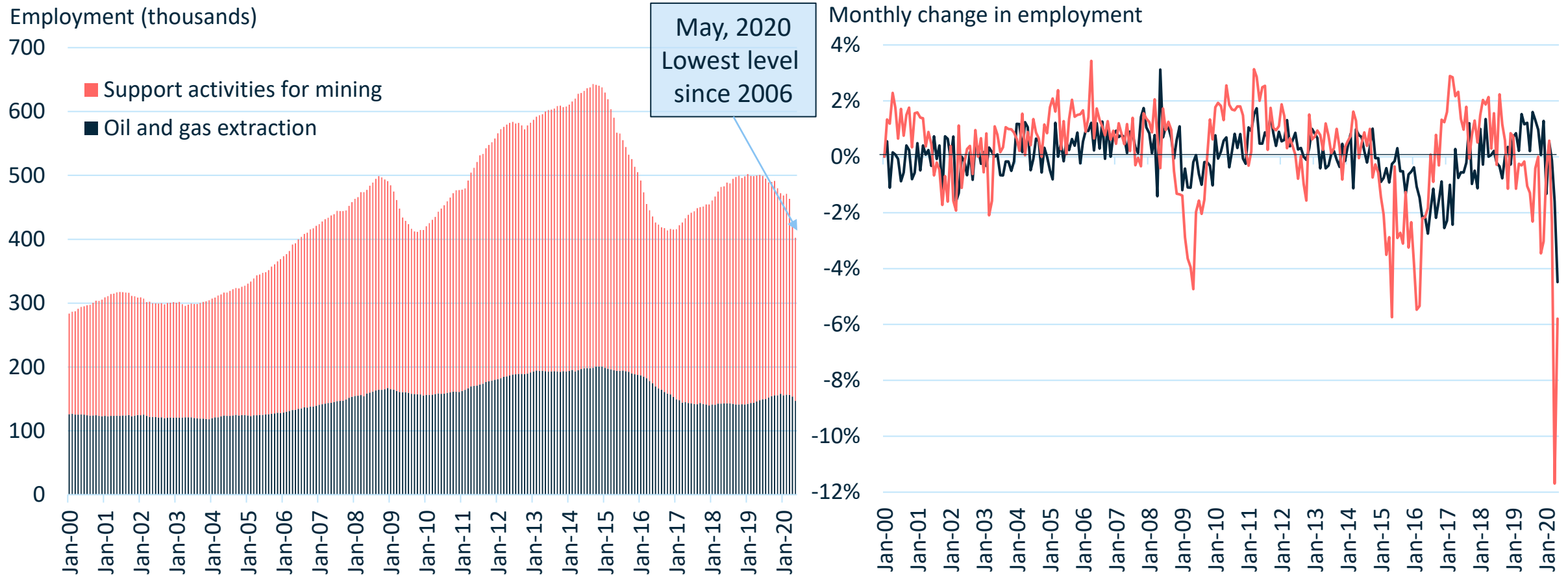


Data source: US Energy Information Administration. Crude oil price is West Texas Intermediate. Natural gas price is Henry Hub.





# This has translated into rapid and deep job losses in oil and gas production



Data source: US Bureau of Labor Statistics, 2020



# What's next for oil and gas

- The global outlook for oil is highly uncertain, and is dependent on two key factors:
  - Short term: The pace and scale of *global* economic recovery
  - Long term: The shape of *global* efforts to address climate change
- The outlook for natural gas is less dependent on global factors
  - Short term: The pace and scale of *domestic* economic recovery
  - Short term: The winter weather
  - Long term: The shape of *domestic* efforts to address climate change





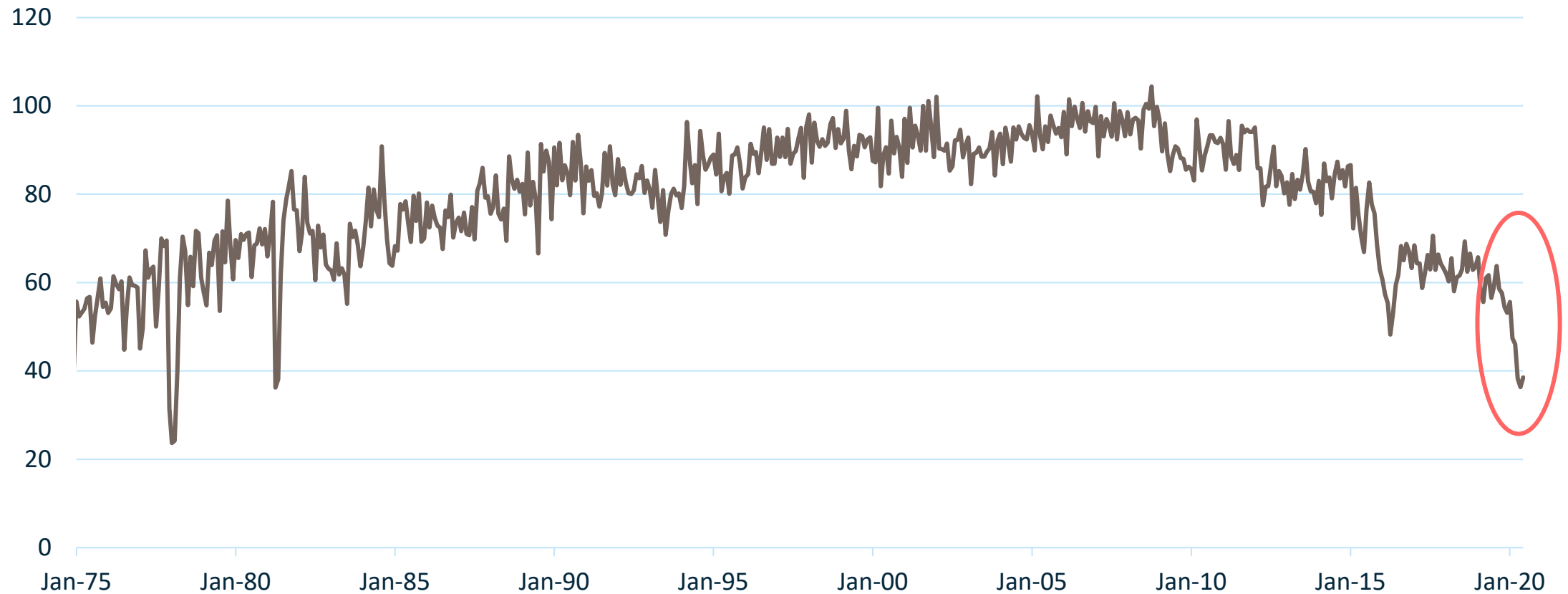
An aerial photograph of a coal processing facility. In the center, a large conveyor system with multiple chutes and structural supports is visible, set against a backdrop of dark, excavated earth. Below the conveyor, a long, single-file train of yellow and black coal cars stretches across the frame. The surrounding landscape is rugged and dark, with visible tire tracks and shadows from the machinery.

# Coal markets and employment



# US coal production has been falling, and COVID has accelerated the decline

US coal production, million short tons

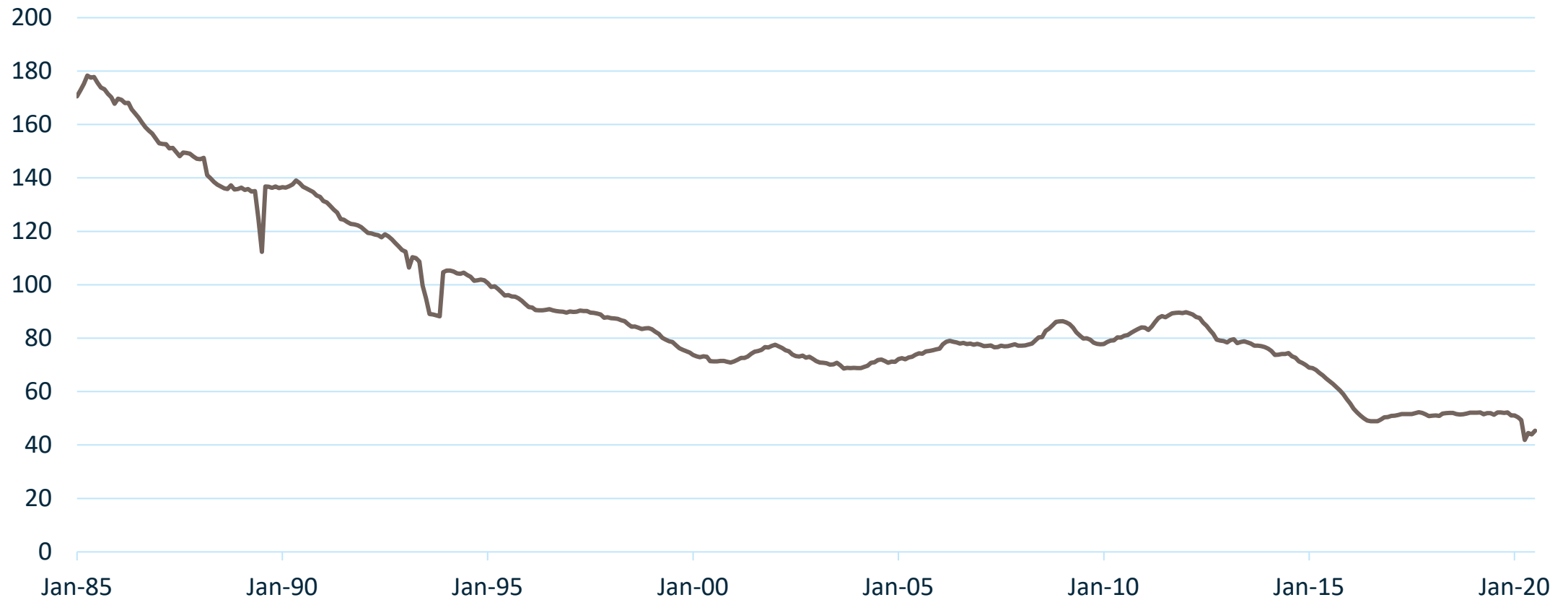


Data source: US EIA, 2020



# Coal mining employment is at its lowest level since the 1800s

US coal mining employment, thousands



Data source: US Bureau of Labor Statistics, 2020



# The outlook for coal is bleak in the US

- Utilities continue to retire coal-fired power plants
- This is driven by several factors
  - Low-cost competition from natural gas and renewables
  - State government commitments to reduce emissions
  - Utility commitments to reduce emissions



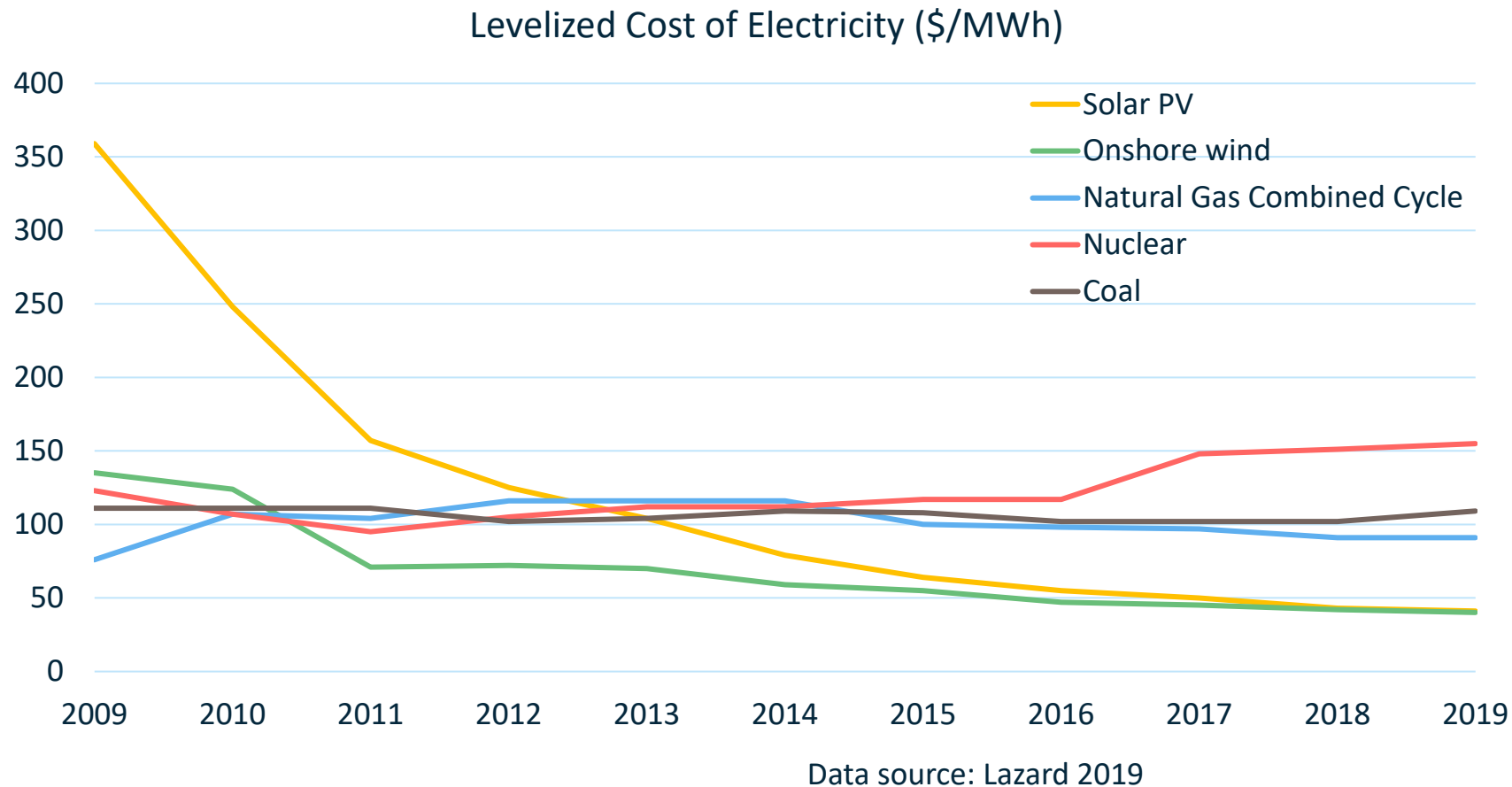


A photograph of a wind farm at sunset. The sky is filled with vibrant orange and red clouds, with a bright glow on the horizon. Several wind turbines are silhouetted against the sky, standing in a field of tall, golden-brown grain. The foreground is a dense field of grain, likely corn, with the stalks clearly visible.

# Renewables markets and employment



# Renewables have grown dramatically in recent years, driven by cost declines

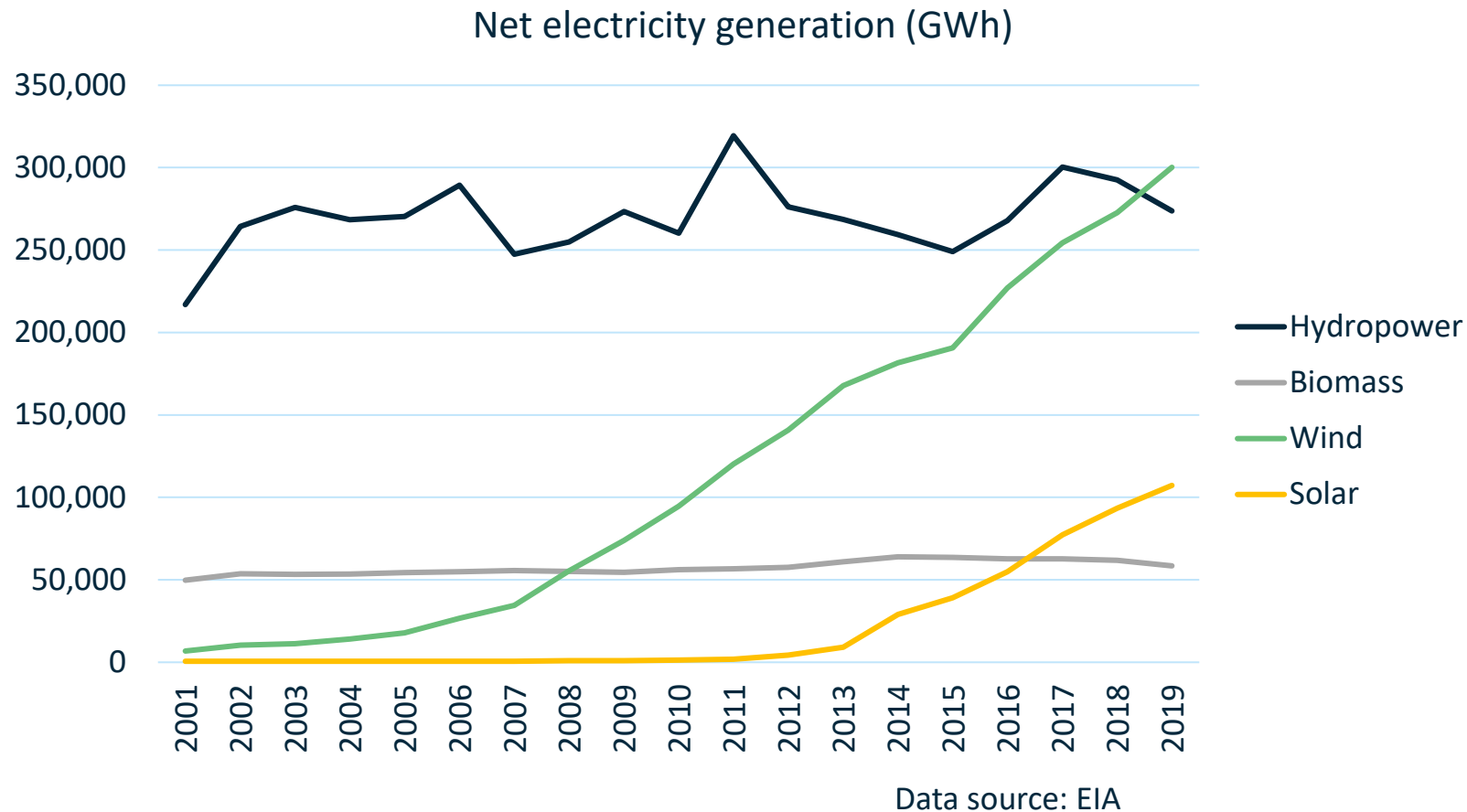


Energy source	Change, 2009-2019
Solar PV	-90%
Wind	-70%
Natural gas	+20%
Nuclear	+26%
Coal	-2%





# As a result, renewable power has surged across the US



Energy source	Share of power mix, 2019
Hydro	7%
Biomass	1%
Wind	7%
Solar	3%



# Renewable energy jobs have also grown, with major upside potential despite COVID impacts

- Recent estimates show that renewable power production has lost 82,000 jobs in the last 5 months
- Jobs in renewable energy are projected to grow in the years and decades ahead
- The speed of that growth will depend on technological change and public policies around climate change
- In some—but not all—cases, these jobs are of similar quality to fossil energy jobs

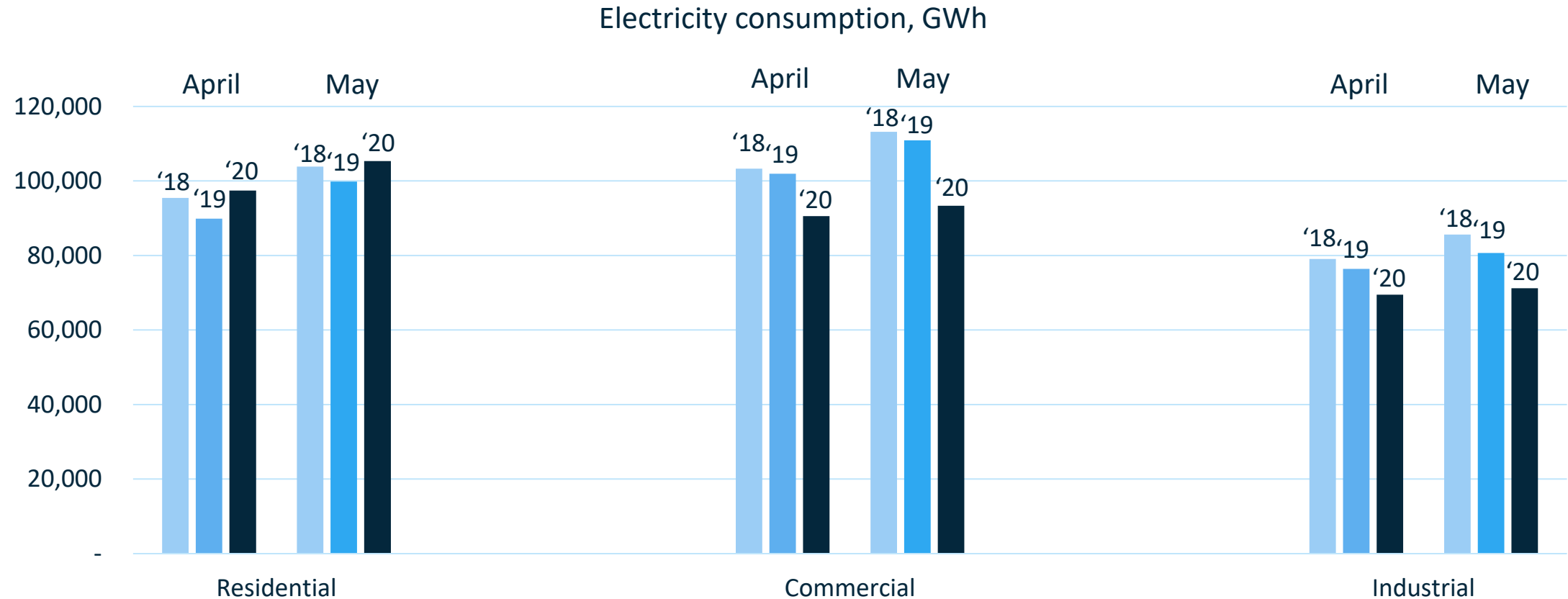




# Electric power markets and employment



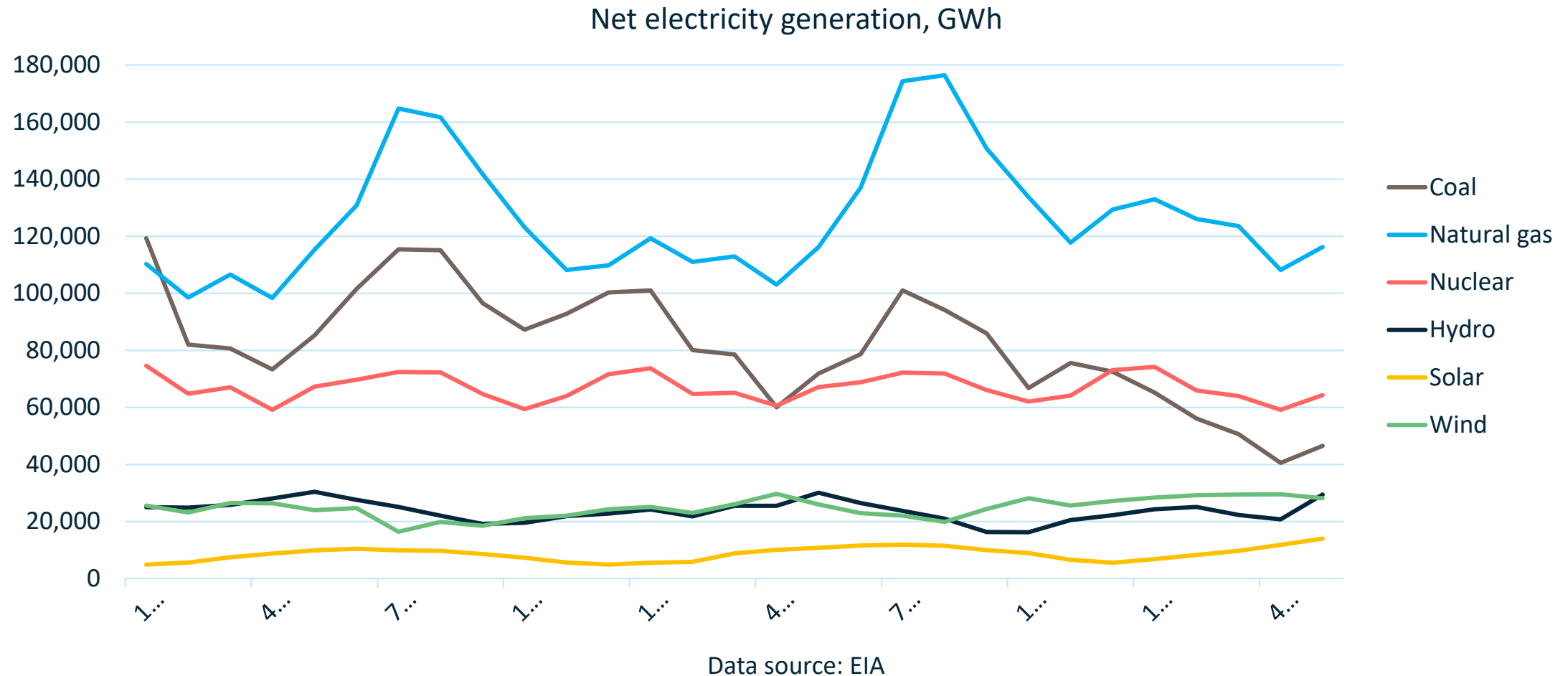
# Electricity consumption has dropped for the commercial and industrial sectors in 2020



Data source: EIA



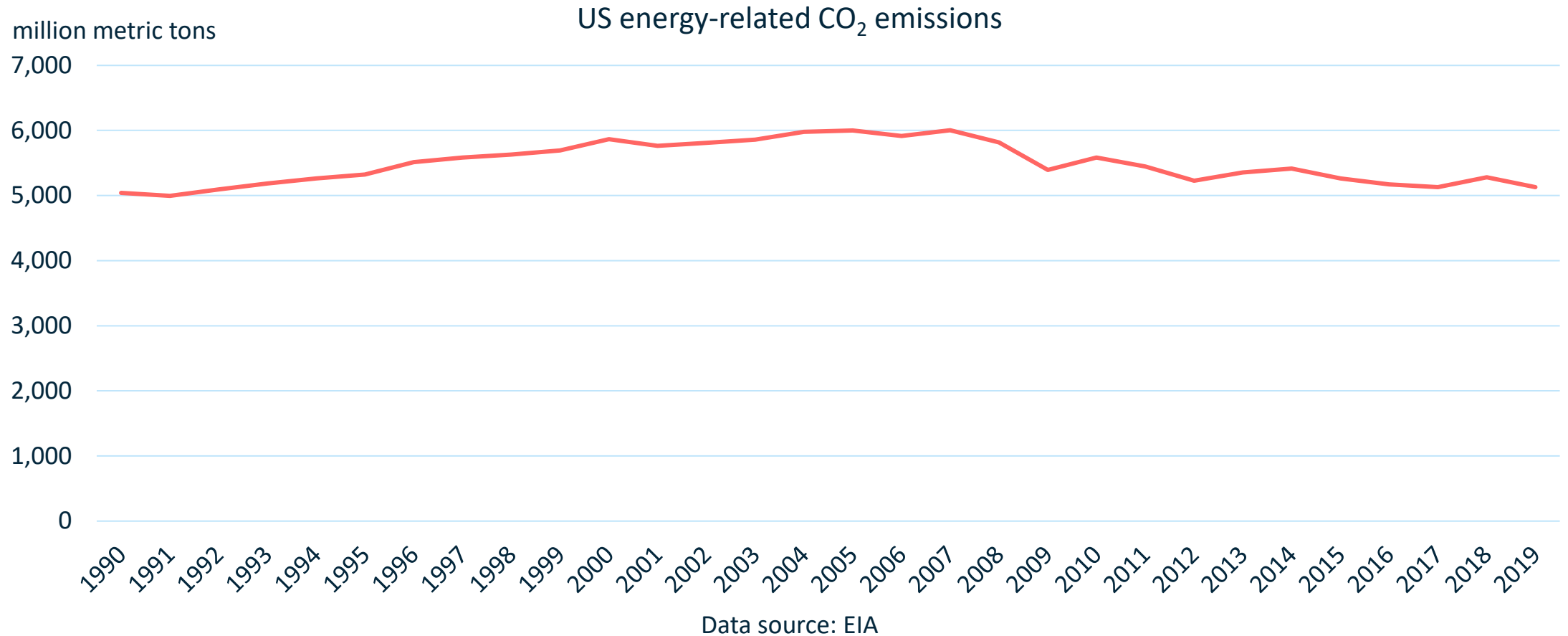
# Coal has been hit particularly hard by the COVID downturn



# Greenhouse gas emissions

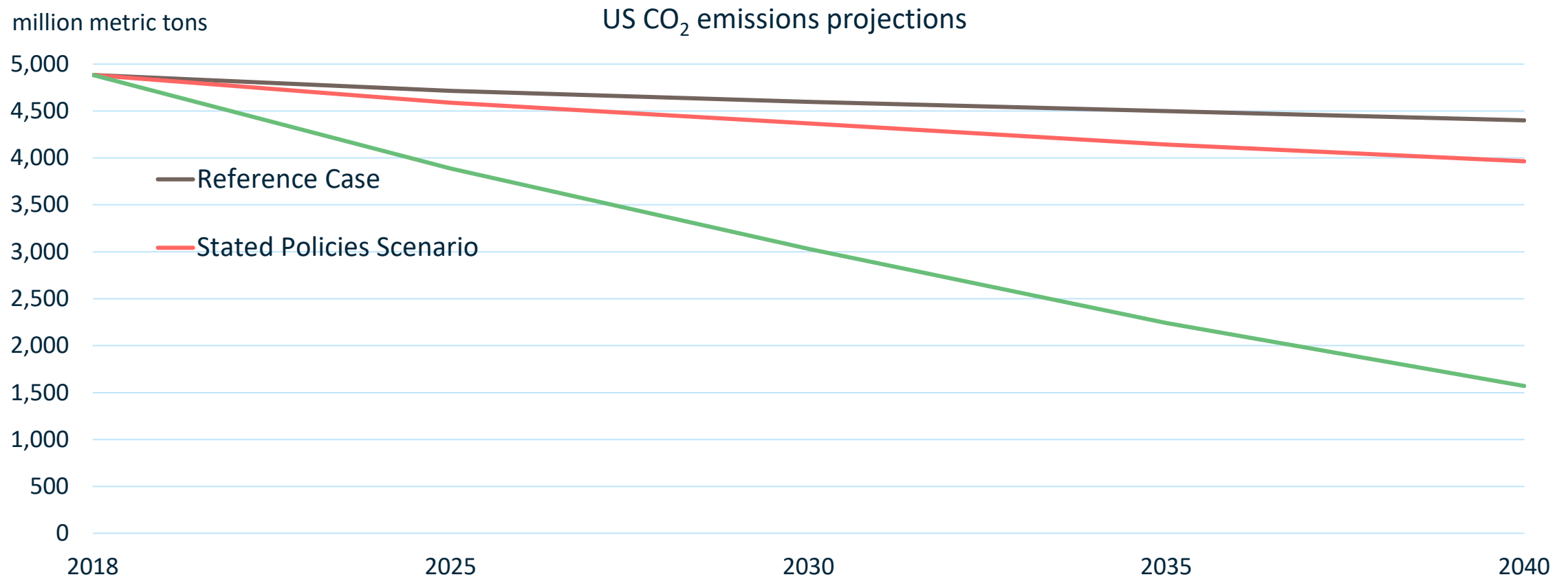


# CO<sub>2</sub> emissions have fallen to their early-1990s levels, driven by power sector declines





# Major changes in public policies will be needed to reduce emissions towards long-term goals



Data source: International Energy Agency



# Federal policy outlook and key uncertainties



# There are big questions about what comes next

- The pace and scale of the economic recovery will dictate the fortunes of the energy sector in the years ahead
- Government investments in “green” stimulus could have an effect on the future energy mix and greenhouse gas emissions
  - But these effects are likely to be modest, at least in the short term
- Behavioral responses will also affect the energy sector’s recovery
  - For example, will public transit use decline long-term?
  - If so, energy demand and emissions would increase
- Businesses may prioritize resilience over efficiency
  - This could also increase energy use and emissions





# The 2020 election will be very consequential for energy and climate policy

- There are major policy differences between President Trump and Vice President Biden on energy and the environment
  - Clean Power Plan
  - Paris Agreement
  - Oil and gas methane emissions
  - And much more...
- Different policy approaches will have major implications for states
  - Effects for fossil energy workers and communities
  - Effects for renewable and energy efficiency workers
  - And much more...





# Thank you very much!

## Daniel Raimi

Senior Research Associate, Resources for the Future

Lecturer, UMich Ford School of Public Policy

[raimi@rff.org](mailto:raimi@rff.org)

- RFF: [www.rff.org](http://www.rff.org)
- Follow us on Twitter: [@rff](https://twitter.com/rff); [@danielraimi](https://twitter.com/danielraimi)

# Day 1 Recap of Key Ideas and Insights

1. What did you hear today that resonated?
2. What remaining questions do you have?
3. How can NGA provide assistance on these topics?



# Virtual Happy (Half) Hour and Networking

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# **Tell Us About Your New Puppy/Sourdough Starter/Tik Tok Dances**

What new hobbies have you picked up or talents have you discovered during quarantine?

# Remember Traveling?

What is the first place you're planning on visiting once travel becomes an option again?



# **Governors' Advisors Energy Policy Institute**

**August 20 - 25, 2020  
Day 2**

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**National Governors Association  
Center for Best Practices**

# Virtual Meeting Housekeeping

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 TB Tori Bahe (Host)   

 Raise Hand  yes  no  go slower  go faster  more


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# Welcome & Day 1 Recap

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Jessica Rackley, Program Director, National Governors  
Association

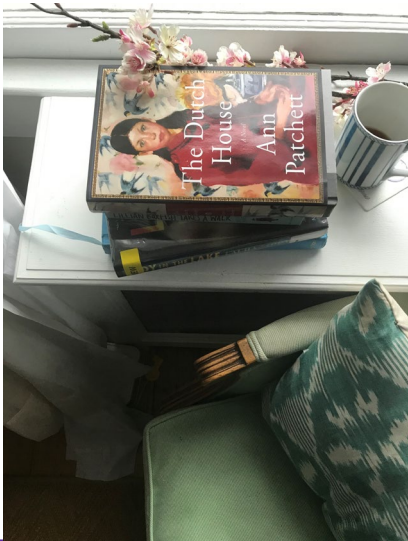
# NGA's Energy Team



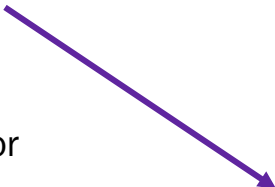
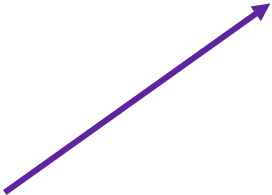
Emma Cimino  
Senior Policy Analyst



Jessica Rackley  
Program Director



Dan Lauf  
Program Director



# NGA's Energy Team



Matt Rogotzke  
Policy Analyst



Timothy Schoonhoven  
Policy Analyst



Alyse Taylor-Anyikire  
Senior Policy Analyst



# Upcoming Opportunity: Electric Vehicle Grid Integration

- NGA will be hosting a virtual national workshop on EVs and grid integration issues on Sept. 16-18, 2020
- This workshop and a forthcoming policy paper will focus on state strategies to advance EV adoption and prepare the electric grid
- Topics covered during this workshop include:
  - Vehicle-grid-integration
  - Siting charging infrastructure
  - Regulatory considerations
- Please contact Matt, [mrogotzke@nga.org](mailto:mrogotzke@nga.org)





# Opening Questions & Polling

Question (please use the hand raising or the chat feature via zoom)

- What is the most interesting new talent/skill/interest that you've gained during the pandemic? Or
- Where would you like to travel to/take your next vacation once you feel comfortable traveling again?





# Incorporating Equity into Energy Policy

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Speakers:

Carmelita Miller, Energy Equity Legal Counsel, Greenlining Institute

Chandra Farley, Just Energy Director, Partnership for Southern Equity

Moderated by:

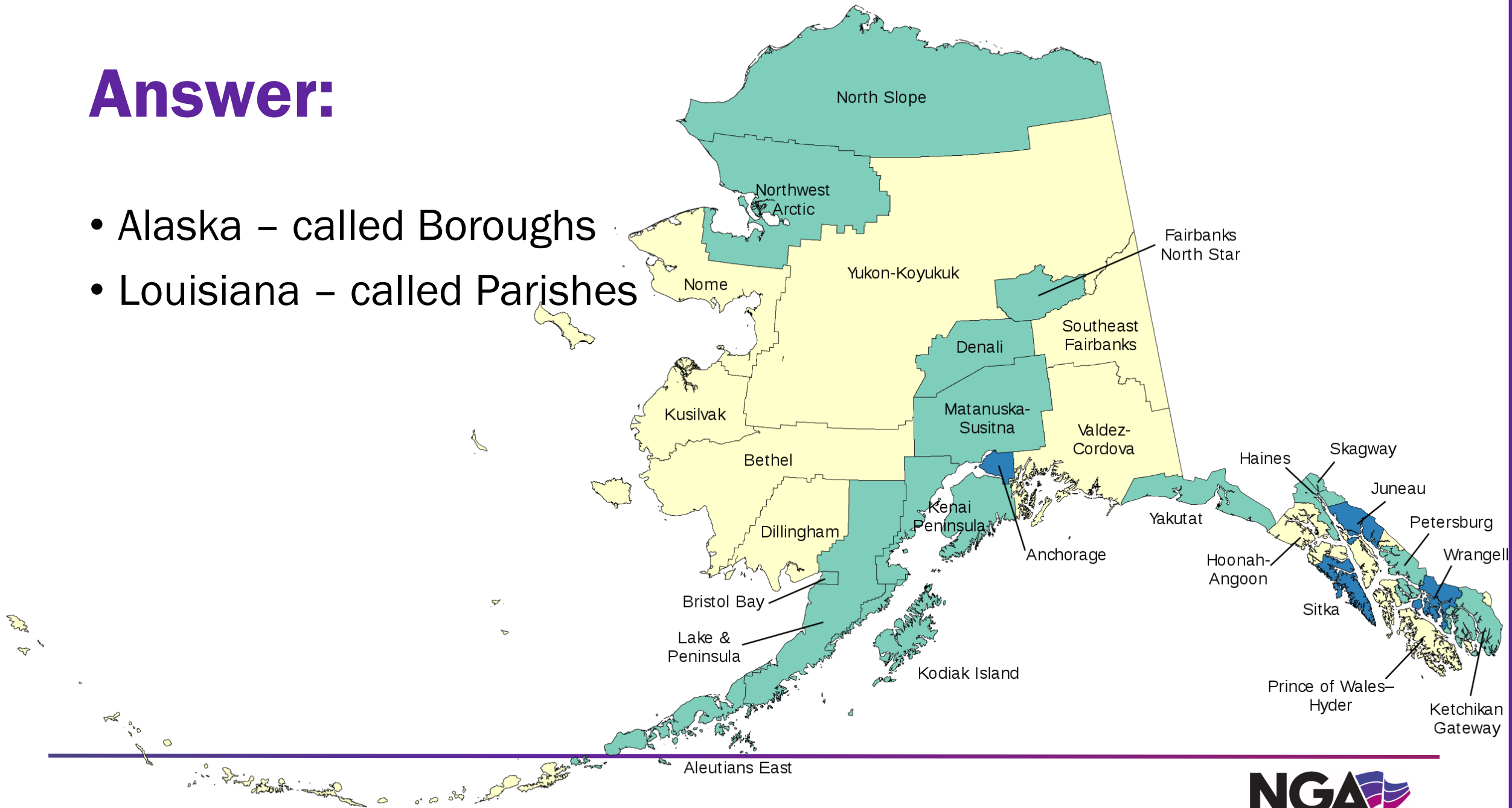
Matt Rogotzke , Policy Analyst, National Governors Association

# Trivia!

- Name one of the two states that does not have counties.

# Answer:

- Alaska – called Boroughs
- Louisiana – called Parishes





# Energy Goals and Budget Holes

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Speakers:

Kathryn White, National Association of State Budget Officers

Commissioner Katie Dykes, Connecticut Department of Energy and  
Environmental Protection

Moderated by:

Emma Cimino, Senior Policy Analyst, National Governors Association



August 21, 2020

# Energy Goals and Budget Holes: Current State Fiscal Conditions

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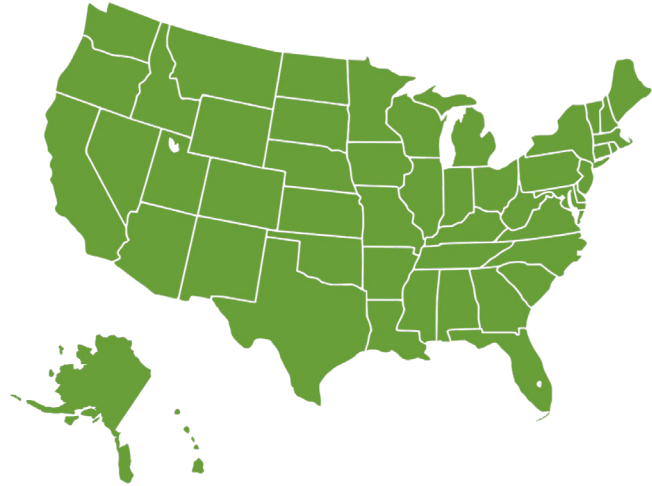
National Governors Association  
Energy Policy Institute (EPI)



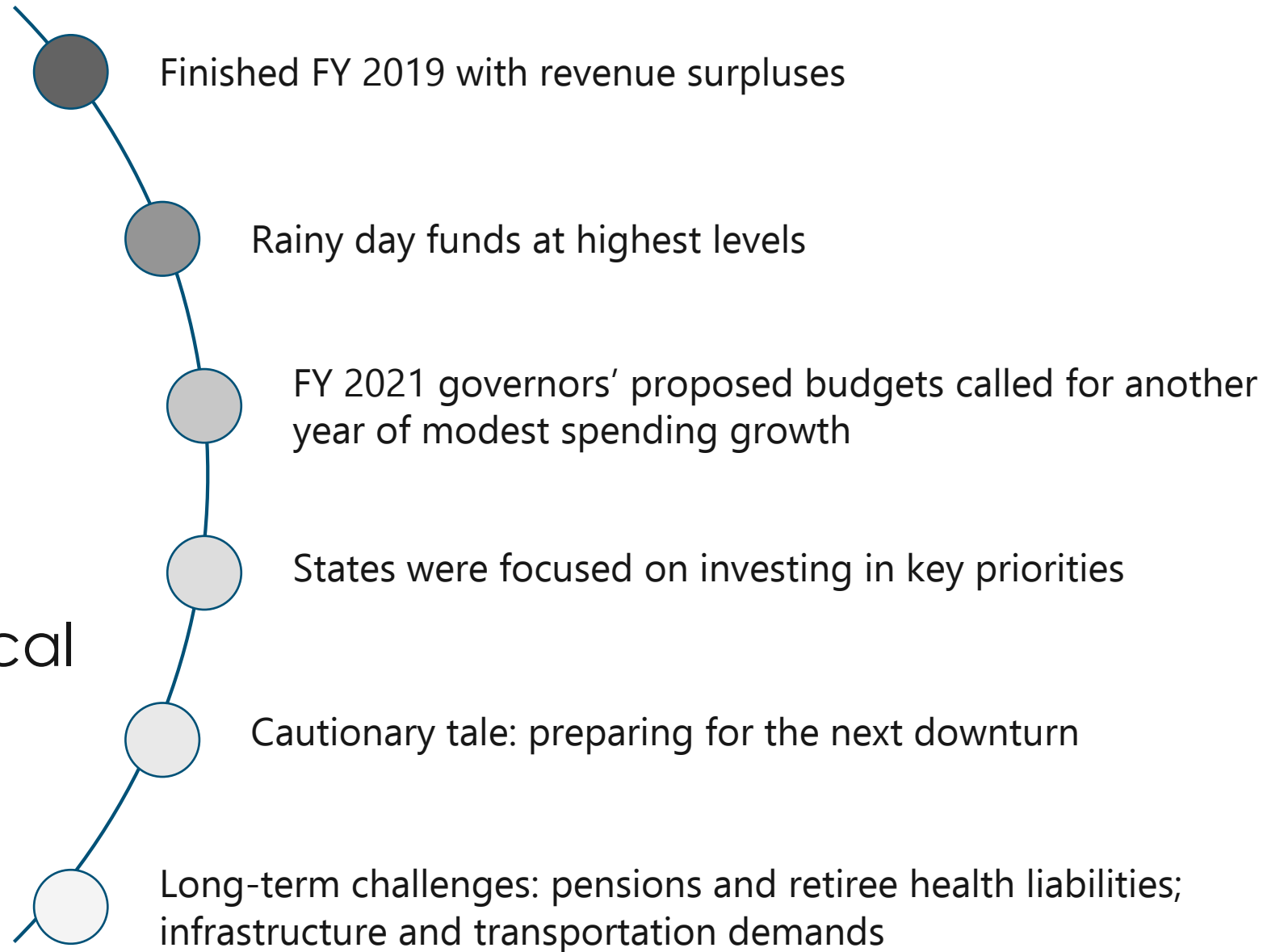


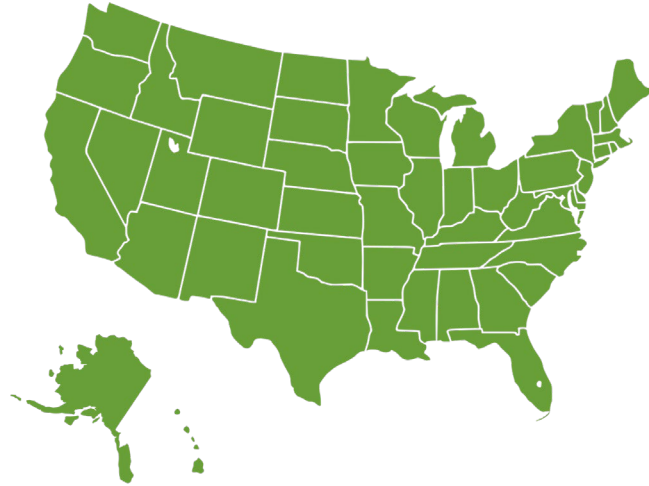
# Economic and Fiscal Outlook – Before & After COVID-19





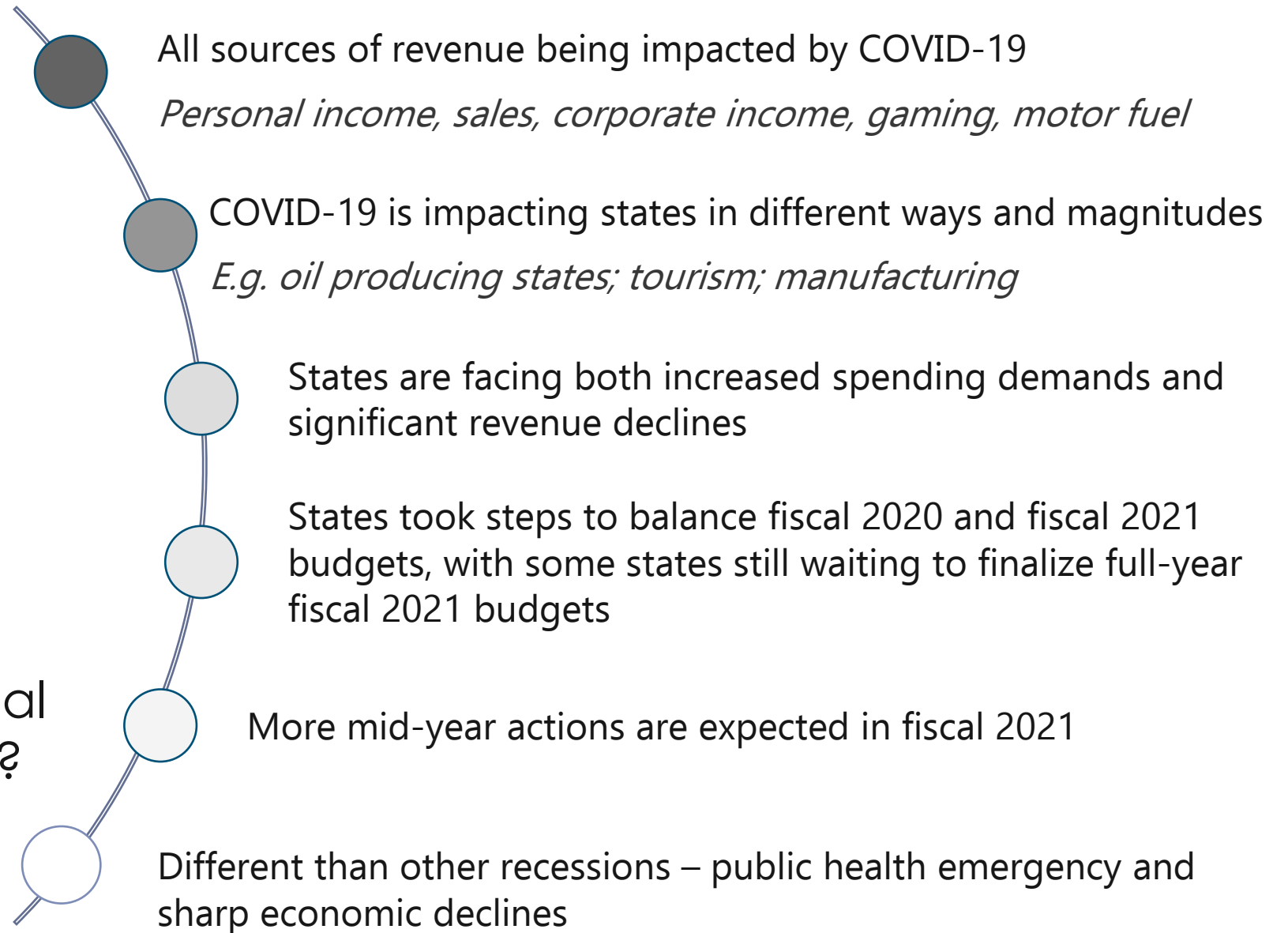
## Pre-COVID State Fiscal Environment (February 2020)





What is the current fiscal environment for states?

**(August 2020)**





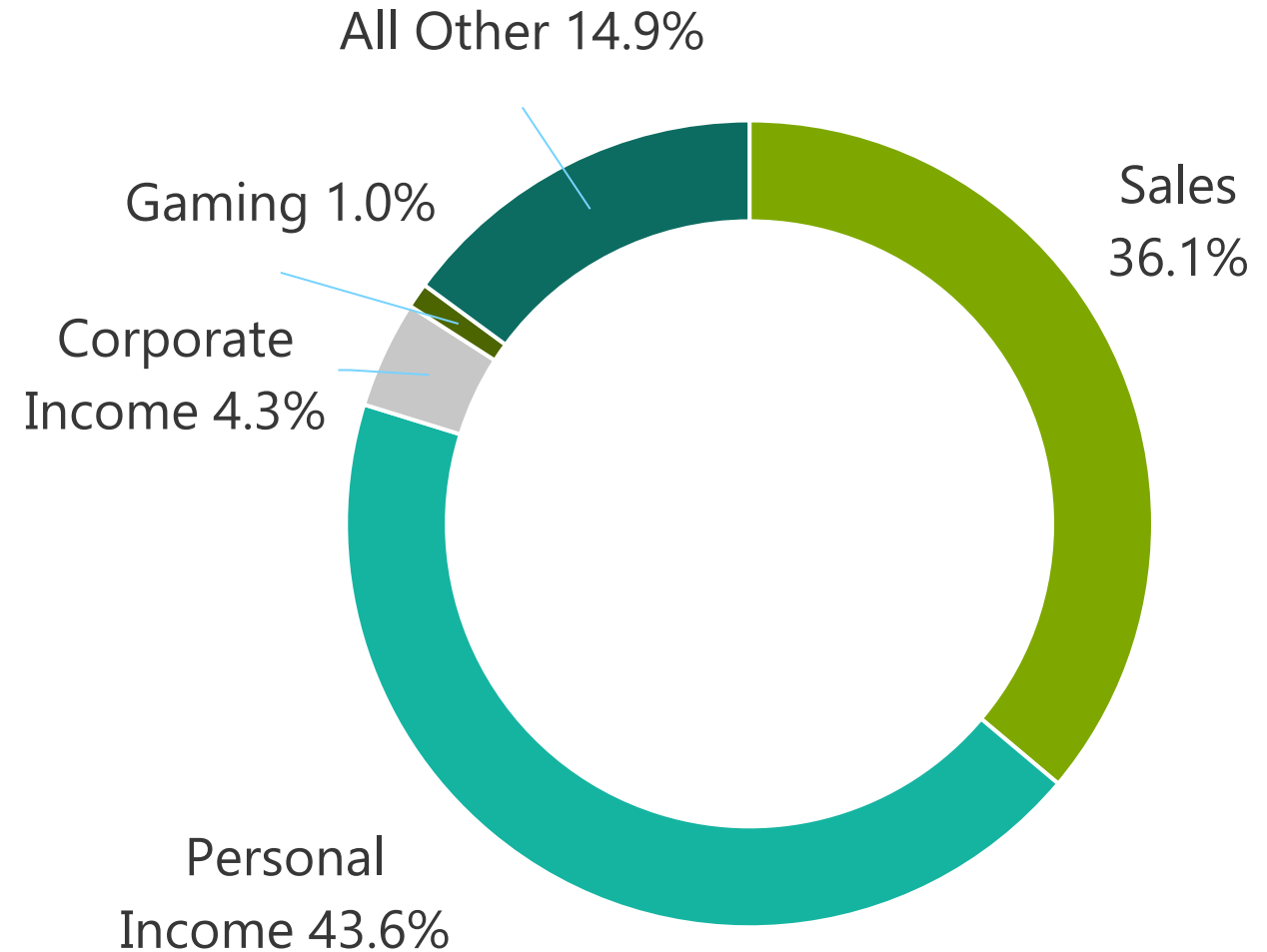
# Revenue Outlook for States



# Revenue Sources in the General Fund

Percentage

Fiscal 2019



Source: NASBO Fiscal Survey of States





## Revenue declines during Great Recession (From fiscal 2008 to fiscal 2010)

**-11.6%**

Total general  
fund revenue



**-6.8%**

Sales Tax



**-14.7%**

Personal  
Income Tax



**-24.1%**

Corporate  
Income Tax



**-7.8%**

Gaming Tax

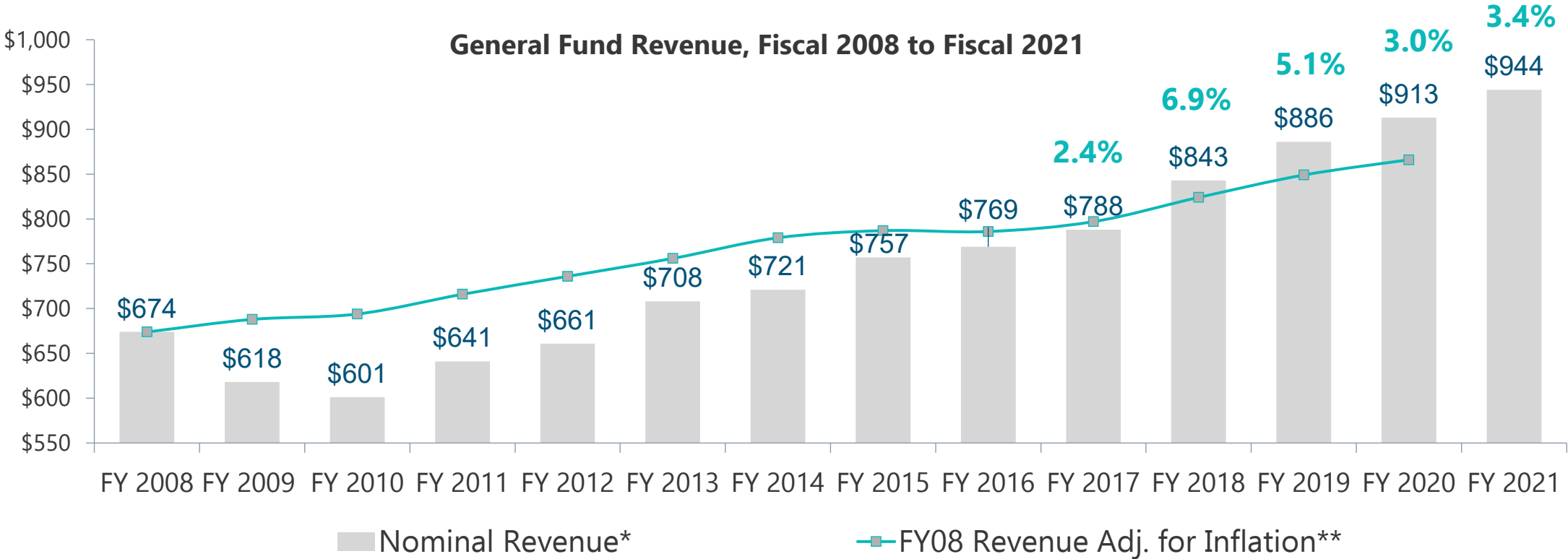


**-8.2%**

All Other  
Revenue



# Steep Declines During the Great Recession and a Sluggish Recovery Led Revenues to Lag Behind Real Fiscal 2008 Levels for a Decade

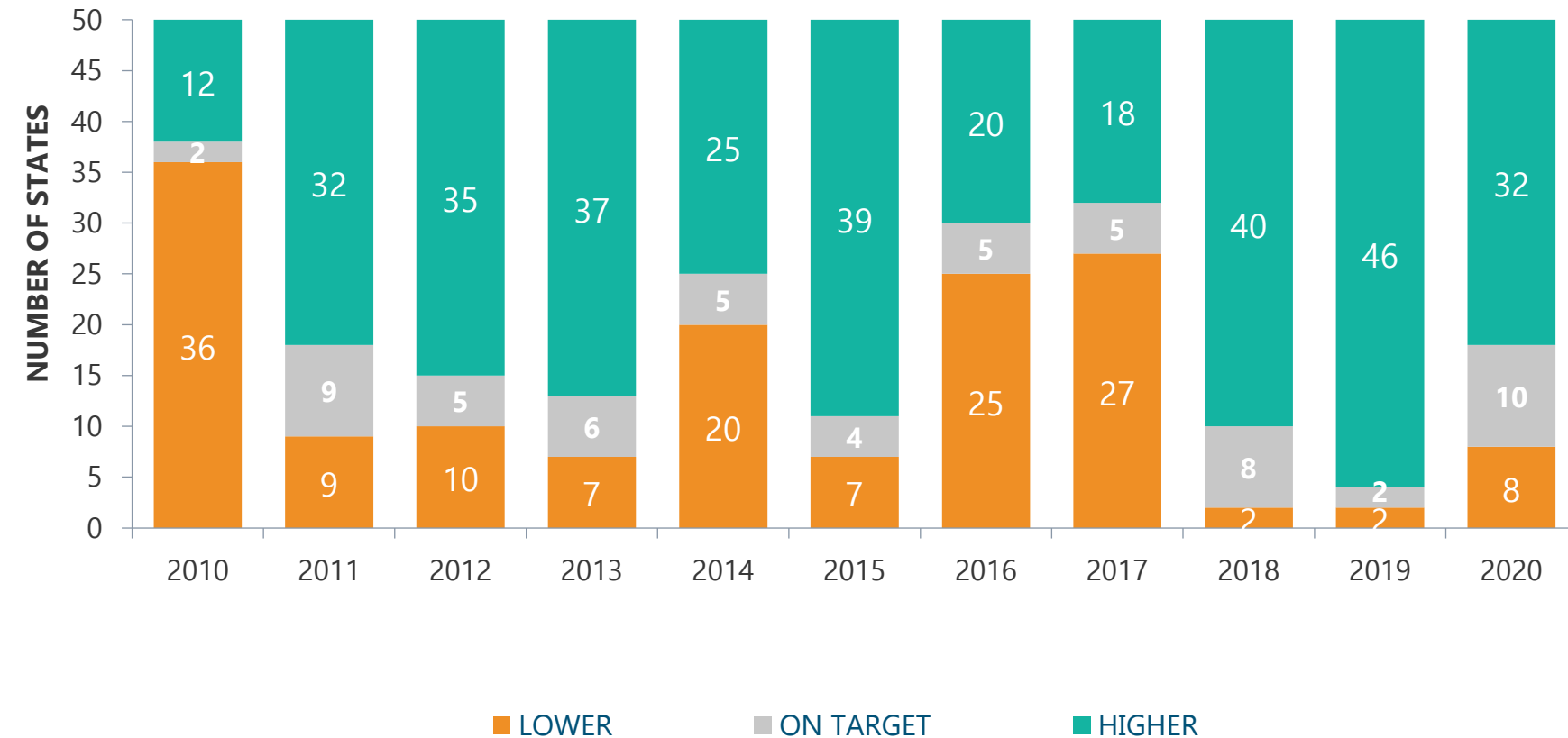


Fiscal 2020 figure is estimated (pre-COVID-19). Fiscal 2021 figure is based on governors' recommended budgets (pre-COVID-19).

Percentages shown represent total annual general fund spending growth.

\*Beginning with the Fall 2019 Fiscal Survey edition, Massachusetts now excludes federal reimbursements in its general fund spending and revenue totals. NASBO has adjusted prior 50-state totals from the Fiscal Survey to remove Massachusetts' federal reimbursement amounts (as reported in the state's Comprehensive Annual Financial Report, or CAFR) for comparison purposes.

General Fund Revenue Collections Compared to Budget Projections  
by Fiscal Year\*



42 States Saw  
Revenue Collections  
Meeting or  
Exceeding Fiscal  
2020 Budget  
Projections Prior to  
the COVID-19 Crisis

A few states reporting  
collections below projections  
incorporated early impacts of  
COVID-19 on their tax  
collections

\*Fiscal 2020 figures were estimated based predominantly on pre-COVID-19 data. A few states that reported collections coming in lower than projections incorporated some early COVID-19 impacts on their tax collections.

Source: Spring 2020 Fiscal Survey of States



# Impact of COVID-19 on State Revenues

**States have been releasing updated revenue forecasts – many projecting multi-billion-dollar revenue declines over the next few years**

- » This is not expected to be just a one- or two-year problem for state revenues.

**These projections are a moving target, surrounded by a lot of uncertainty**

- » Huge and uncertain variables in forecasts related to the virus, and when a treatment or vaccine will be available.
- » Tax deadline shift also complicates the forecasting process.

**The worst is likely still to come for state tax revenues, as the full economic impacts of the pandemic are felt**

- » Federal stimulus measures (checks to individuals, enhanced UI benefits, PPP, etc.) have been propping up the economy and state revenues, but only temporarily.
- » Most states were seeing revenues coming in ahead of projections for fiscal 2020 before the pandemic, which provided some immediate cushion
- » 2020 tax returns mostly based on 2019 economy, which was strong

# How States Address Budget Shortfalls







# Ways to address budget shortfalls

1

## Budget cuts

- Can include targeted cuts, across the board, personnel, etc.



2

## Rainy day funds and reserves

- Size of shortfalls greater than amount in rainy day funds
- Try not to drain immediately



3

## Increased taxes

- Typically not first option and amount less than budget cuts



4

## Federal aid

- Was very helpful during Great Recession
- This time: question of how flexible and how much





## Strategies Used to Manage Budgets, Fiscal 2010

35 states  
**TARGETED  
CUTS**

25 states  
**ACROSS THE  
BOARD CUTS**

24 states  
**LAYOFFS**

16 states  
**FURLOUGHS**

9 states  
**SALARY  
REDUCTIONS**

13 states  
**CUTS TO  
STATE  
EMPLOYEE  
BENEFITS**

19 states  
**REDUCE  
LOCAL AID**

14 states  
**REORGANIZE  
AGENCIES**

13 states  
**RAINY DAY  
FUND**

19 states  
**USER FEES**



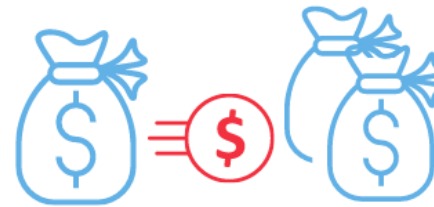
# What are states doing so far to manage fiscal 2020 and 2021 budgets?



Across the Board  
or Targeted Cuts



Personnel  
Actions



One-time  
Measures



Rainy Day Fund  
Transfers

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RESOURCES / [CORONAVIRUS RESOURCES](#) / STATE BUDGET ACTIONS

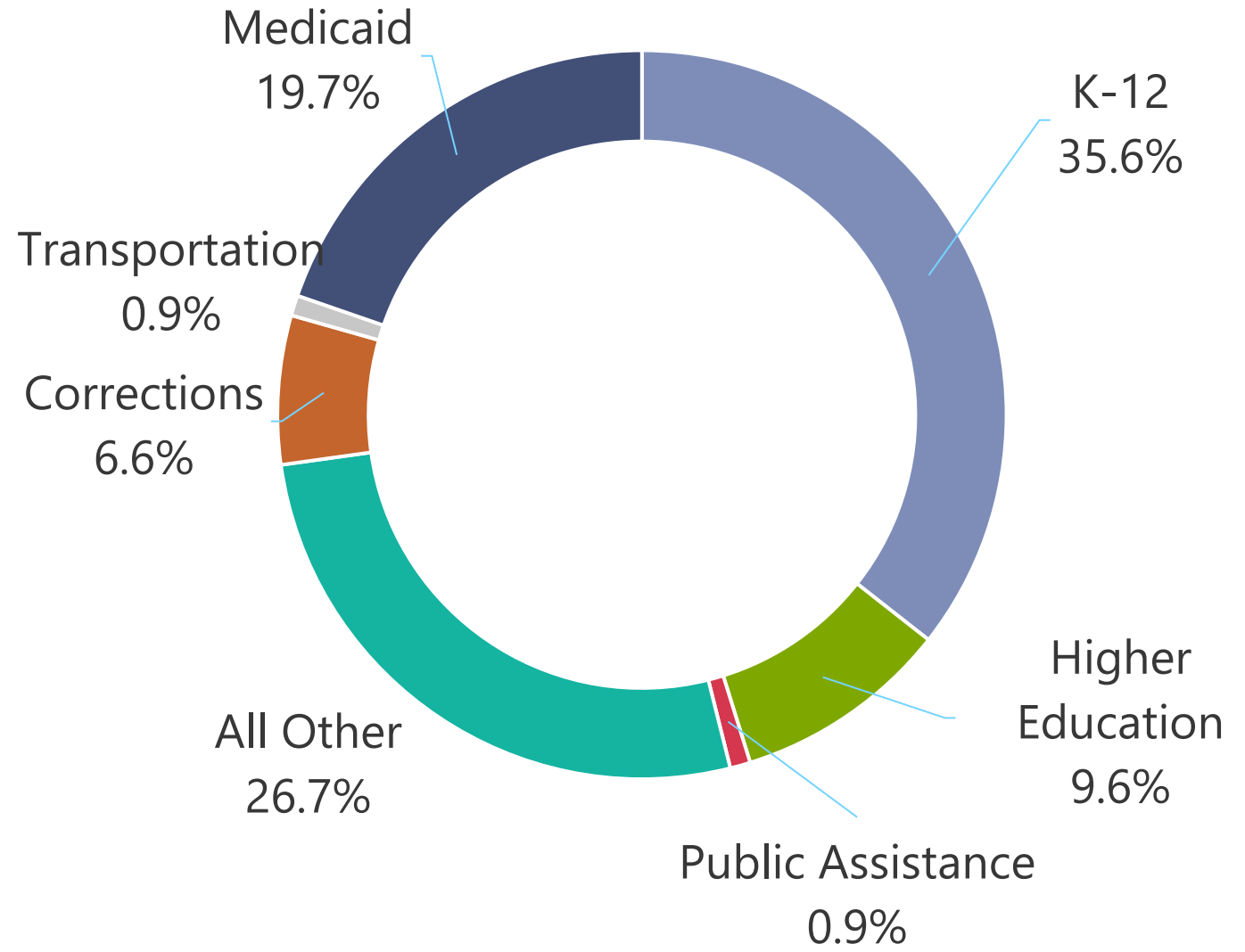
## State Budget Actions in Response to COVID-19 Pandemic and Economic Crisis

NASBO Resource: [State Budget Actions in Response to COVID-19](#) (Last Updated: July 1, 2020)

# General Funds Expenditures

By Function

Estimated  
Fiscal 2019



Source: NASBO State Expenditure Report



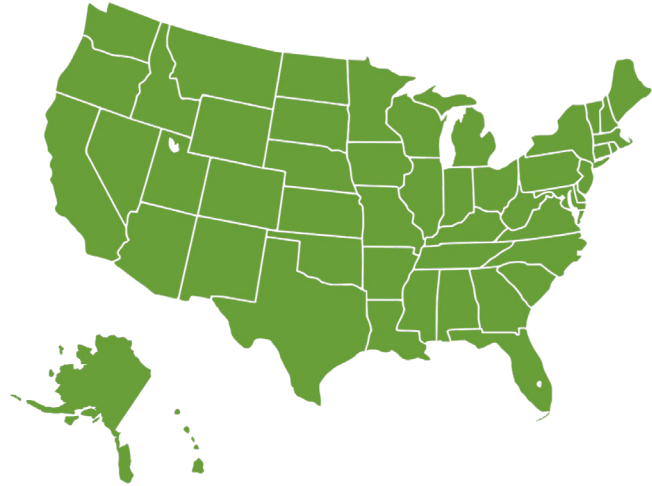
## What makes this downturn different?

- States knew the economic consequences of closing down nonessential businesses, but the public health crisis left few good options.
- Ripple effect through all areas of government, from reduced transportation revenues to the closing of courts and effect on fee/fine/forfeiture revenues.
- Added expenses from addressing the COVID-19 pandemic.
  - » Budgetary pressures from increased Medicaid caseloads, increased unemployment insurance filings.
- Many more pressing demands on governors in a very short timespan

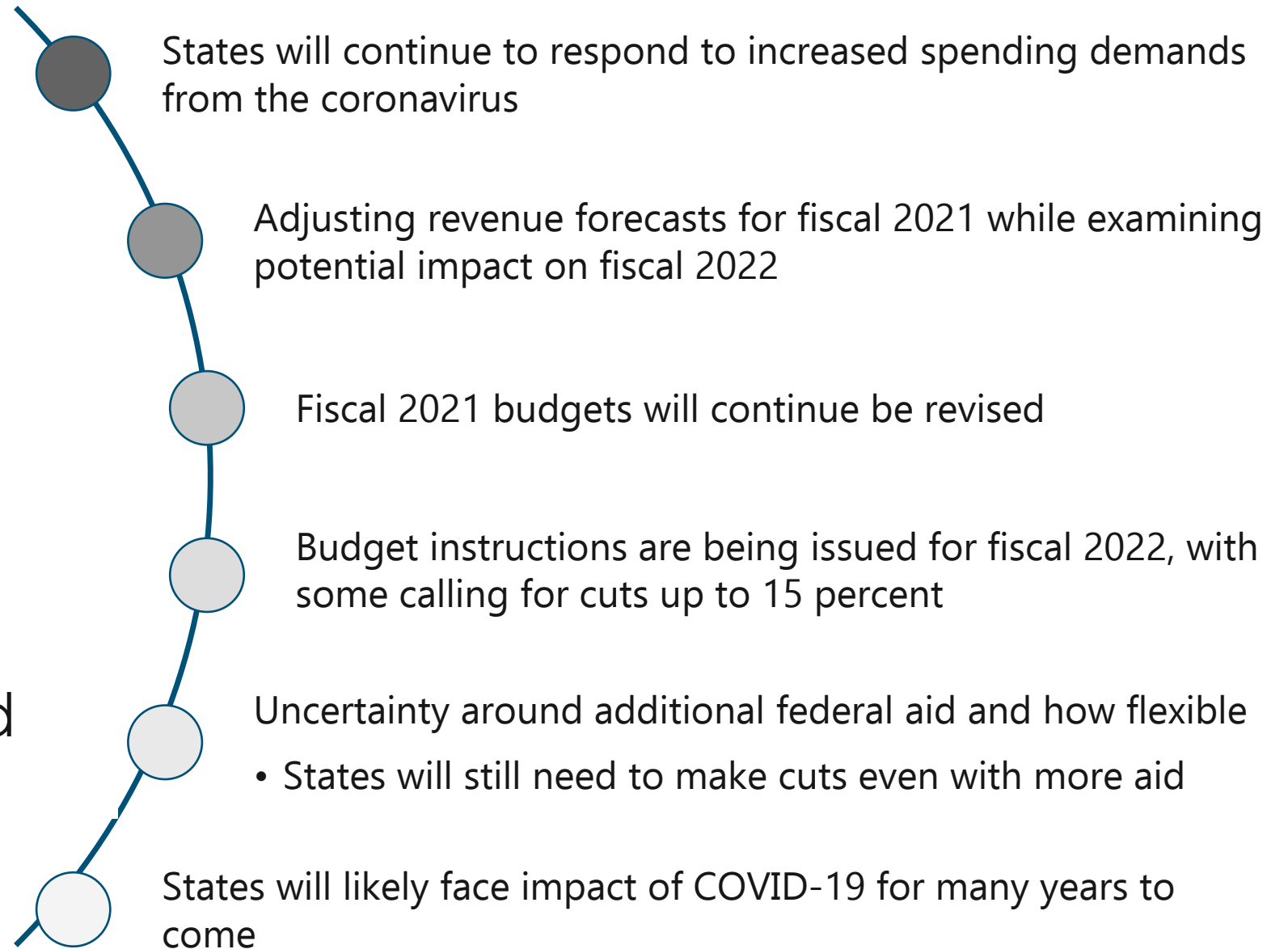


# Outlook for States





## Outlook for states FY 2021 and beyond





[www.nasbo.org](http://www.nasbo.org)

**Kathryn Vesey White**

Director of Budget Process Studies  
[kwhite@nasbo.org](mailto:kwhite@nasbo.org)

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National Association of State Budget Officers | **NASBO**





# Energy Goals and Budget Holes

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Commissioner Katie Dykes, Connecticut Department  
of Energy and Environmental Protection



# Trivia!

- Which state lays claim to the most consecutive days above 120 °F?



# Answer:

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California; 43 days in  
Death Valley, from July  
6 through August 17,  
1917.





# State Strategies to Leverage Federal Dollars

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Speakers:

Joseph Aldy, Harvard Kennedy School of Government

Jennifer DeCesaro, Senior Advisor, U.S. Department of Energy

Moderator:

Jessica Rackley, Program Director, National Governors Association

# Lessons from the 2009 Recovery Act Clean Energy Package

Joseph E. Aldy  
Harvard Kennedy School

NGA Energy Policy Institute  
August 21, 2020

# Lessons from ARRA 2009

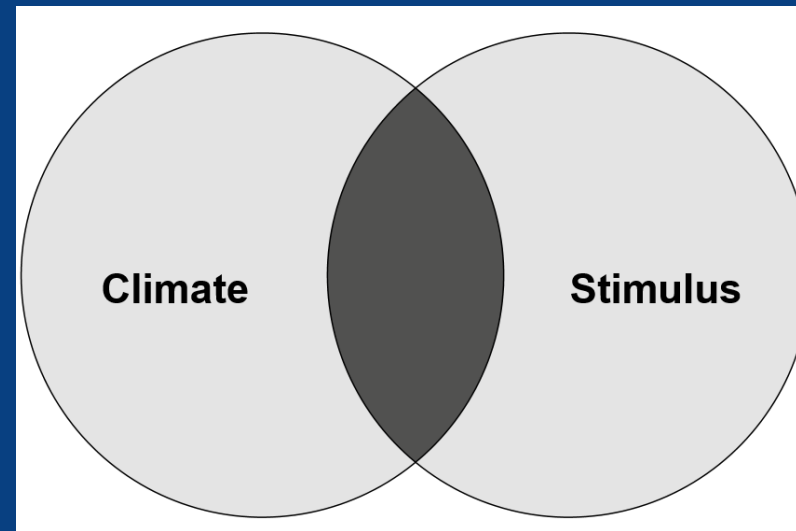
- Topline Design Considerations
- Impacts of Clean Energy Package
- Lessons from ARRA 2009
- State Government Considerations

# Topline Design Considerations



# Two Policy Objectives: 2009 ARRA

- Economic Stimulus
  - Timely: when output gap is large
  - Targeted: maximize bang for the buck
  - Temporary: ?
- Clean Energy / Climate
  - Target investments that reduce CO2 emissions



# Instrument Choice

- Automatic policy tools
  - Tax credits
  - Formula-based grant programs
  - Move fast, targeting uncertain
- Discretionary policy tools
  - Loan guarantees, grant programs
  - Move slower, could tailor to marginal investment
  - Role of politics

# Statutory Authorities

- Use of existing statutory authorities
  - Legislation focused on appropriations, not authorities
  - Existing programs well understood → move faster
- Create new authorities
  - In 2009, two major energy bills (2005, 2007) provided a number of new authorities to use
  - No major energy legislation since 2009!

# ARRA Clean Energy Package Design

# Array of Policy Tools to Spend \$90+ Billion on Clean Energy

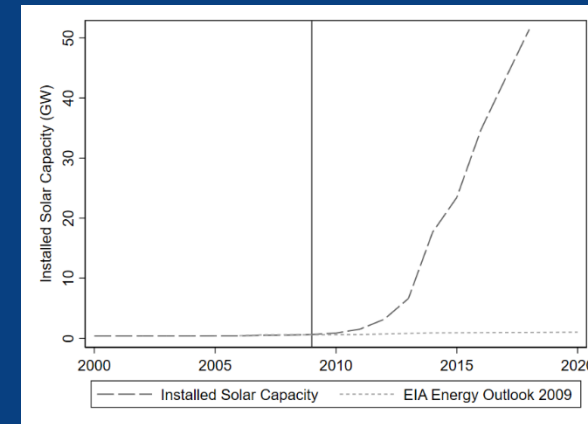
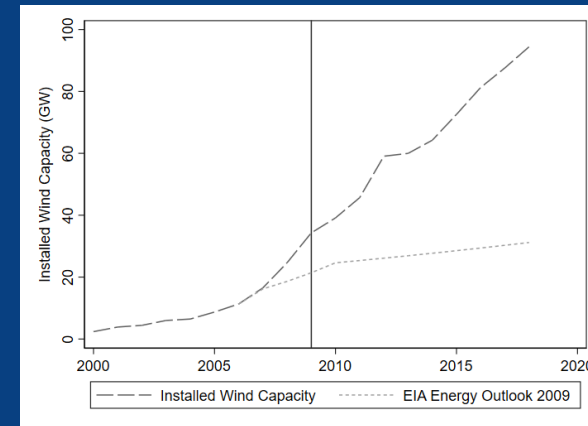
Instrument	Example	Score (billions)
Cost-shared grants	Smart grid grants	\$3.4
State block grants	Energy Efficiency and Conservation Block Grants: state, local, and tribal programs	\$2.8
Tax credits	Tax filers could claim 30% of the cost of energy efficiency investments up to a maximum of \$1500	\$2.0
Subsidized bonds	Clean Renewable Energy Bonds provide bondholders with a tax credit in lieu of interest	\$1.6
Loan guarantees	DOE Section 1705 program	\$2.5*
R&D	Advanced Research Projects Agency – Energy (ARPA-E)	\$400
Federal infrastructure	GSA financed Federal facilities retrofits	\$4.5



# Successes

- Created 900,000 job-years
- Leveraged private sector spending
- Renewable power capacity growth
  - 2020 wind 4X 2008 level
  - 2020 solar 100X 2008 level

U.S. Wind (top) and Solar Capacity, 2000-2018 (utility sector)



# Shortcomings

## Poor Targeting

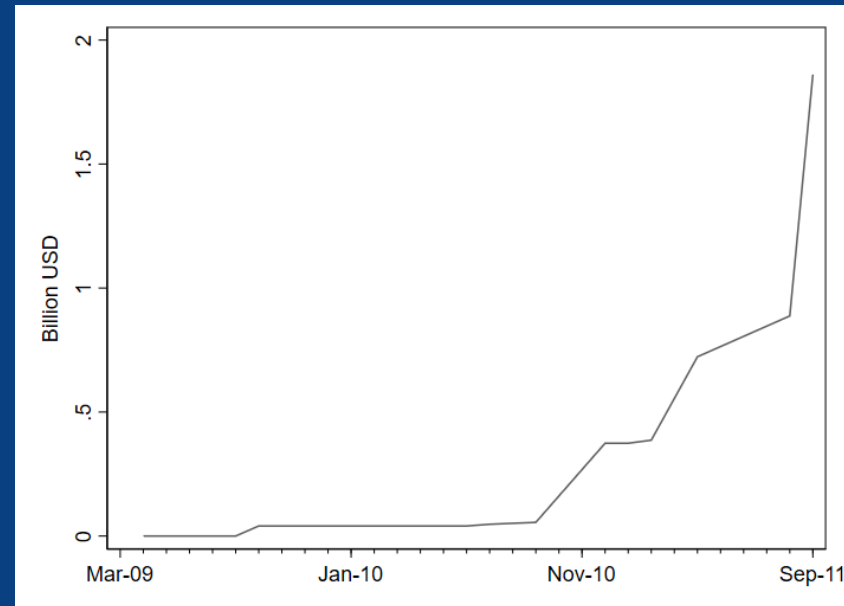
- “Cash 4 Appliances”: 90% of subsidy claimants would have purchased an EnergyStar refrigerator without subsidy

## Non-Federal Partners Withdrew from Projects

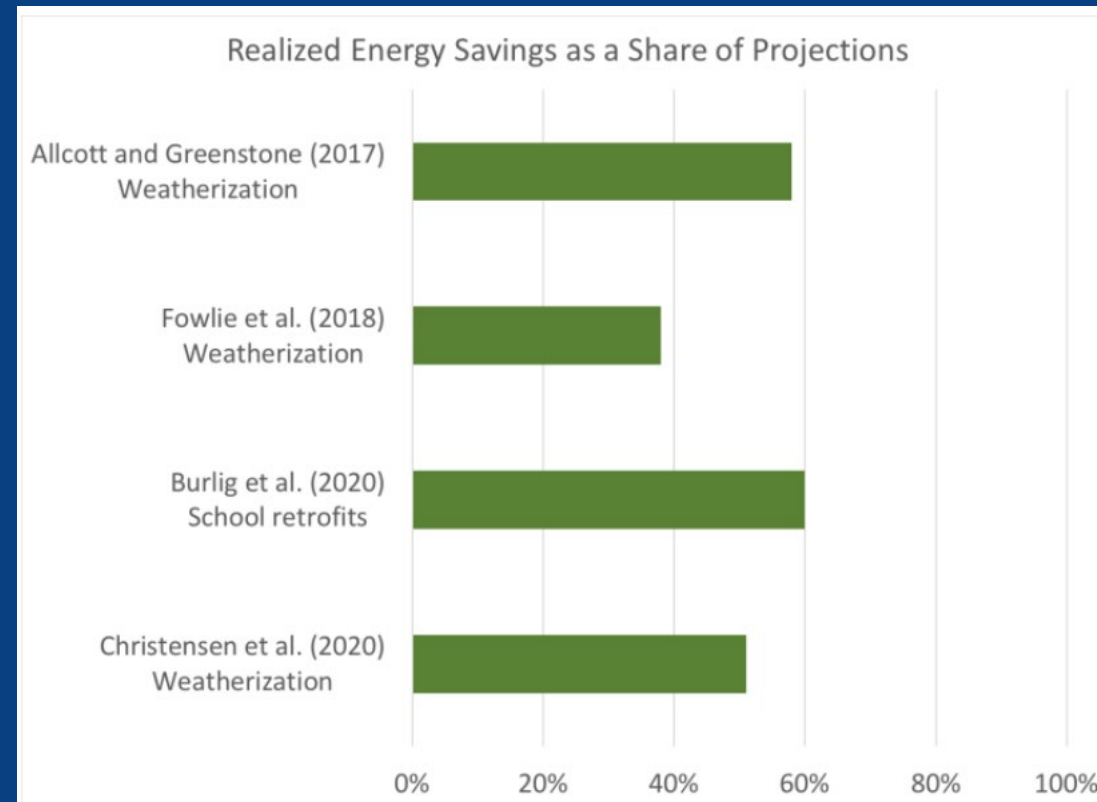
- Carbon capture and storage
- High-speed rail

## Slow Roll-Out

- DOE Loan Guarantee Program



# Weatherization Assistance Program: Realized Energy Gains Fall Short of Engineering Potential



Source: Meredith Fowlie, UC EI Blog, “The Search for Good Green Stimulus”, June 2020.

# Lessons from ARRA 2009

# Lessons from ARRA 2009

- Be opportunistic
- Target! Target! Target!
- Keep it simple
- Act, learn, act
- Stimulus in context of long-term policies, goals

# State Government Considerations



# State Energy Programs

- Existing programs – WAP, State Energy Program – could be increased in future recovery package
- Challenge of ramping up energy programs as states manage major budget shortfalls
- Working with federal government to manage reporting and compliance burdens
- Seek out private sector partners to amplify state government efforts

# Federal Spending and State Policy

- States with ambitious goals could benefit from federal subsidies for clean energy
  - Federal renewable power tax credits could lower costs of state RPS goals
  - Federal energy efficiency tax credits could lower costs of state EERS goals
  - Federal EV tax credits could lower costs of state Zero Emission Vehicle goals
- Federal recovery efforts could enable more ambitious state policies

# Thank You!

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# State Strategies to Leverage Federal Dollars

Jennifer DeCesaro  
Department of Energy, Office of Electricity

**August 21, 2020**

# WIP Programs: State Energy Program (SEP) and Weatherization Assistance Program (WAP)



Find information about SEP and WAP funding for your state:  
<https://www.energy.gov/eere/wipo/weatherization-and-intergovernmental-program-office-project-map>





# FEMA Building Resilient Infrastructure and Communities (BRIC)

## Guiding Principles

Support community capability and capacity building



Enable large infrastructure projects



Encourage and enable innovation



Maintain flexibility



Promote partnerships



Provide consistency

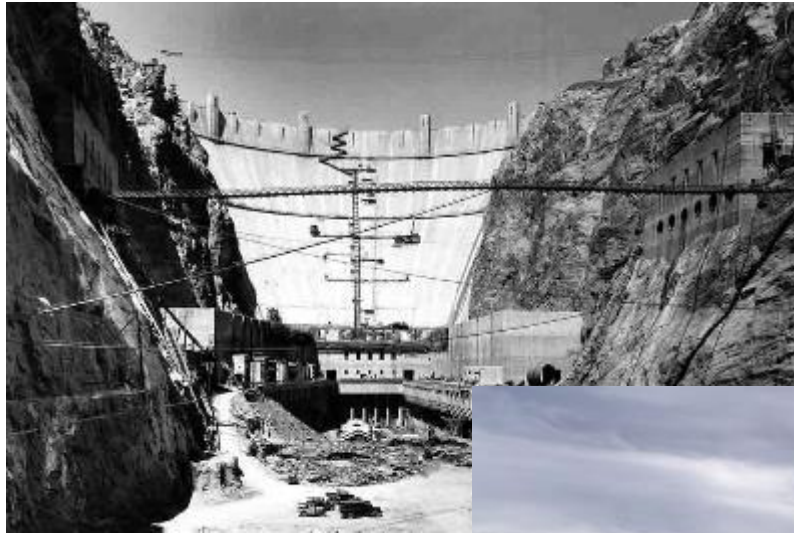


Total Available BRIC FUNDING \$500 Million			
Uses of Assistance	\$33.6M State/Territory Allocations	\$20M Tribal Set-Aside	\$446.4M National Competition for Mitigation Projects
Management Costs	✓	✓	✓
Capability and Capacity Building Activities	✓	✓	
Mitigation Projects	✓	✓	✓

*Notice of Funding Opportunity:* [https://www.fema.gov/sites/default/files/2020-08/fema\\_fy20-bric-notice-of-funding-opportunity\\_federal-register\\_August-2020.pdf](https://www.fema.gov/sites/default/files/2020-08/fema_fy20-bric-notice-of-funding-opportunity_federal-register_August-2020.pdf)



# Energy Development for Economic Recovery





# Day 2 Recap and Discussion

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