



# Feasibility and Implications of Two Dozen States Achieving 100% Renewable Energy Goals Equitably

*June 30, 2022*

# Webinar Logistics



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# CleanEnergy States Alliance



GOVERNOR'S  
Energy Office



Maryland  
Energy  
Administration



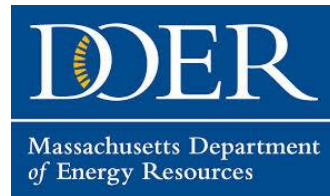
MICHIGAN DEPARTMENT OF  
ENVIRONMENT, GREAT LAKES, AND ENERGY



Powering forward.  
Together.



Washington State  
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Commerce





[CESA.org/100](https://CESA.org/100)

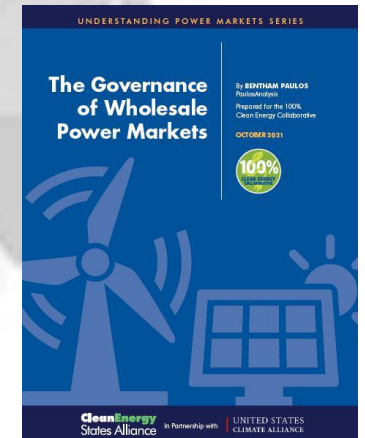
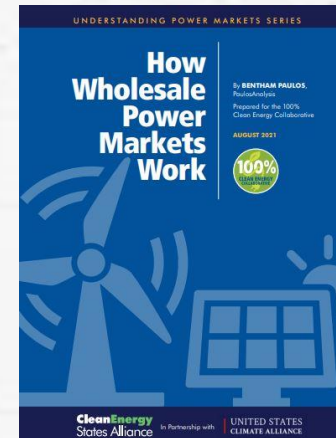
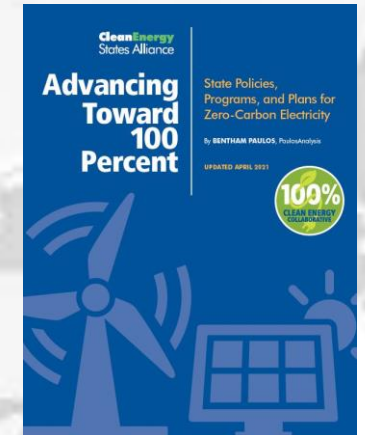
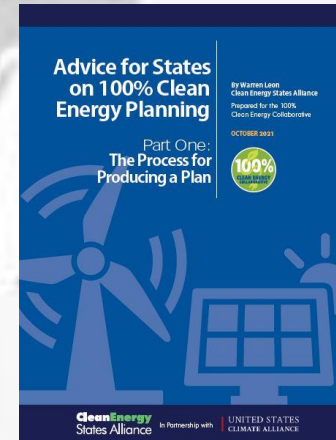


# 100% Clean Energy Collaborative Resources

The 100% Collaborative produces frequent webinars, a monthly newsletter, and periodic reports. We also host working group meetings for state representatives.

***CESA's Guide to 100% Clean Energy States*** includes:

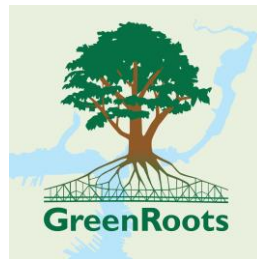
- Table of 100% Clean Energy States
- Map and Timelines of 100% Clean Energy States
- Summaries of State 100% Clean Energy Plans
- Visual Comparison of State 100% Clean Energy Plans
- State Legislation, Plans, Reports, and Other Documents
- State Monitoring, Reporting, and Verification (MRV) Procedures



# Webinar Speakers

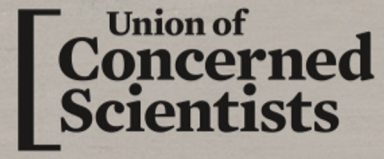


- **Paula García**, Senior Bilingual Energy Analyst, Union of Concerned Scientists
- **John Walkey**, Director of Waterfront and Climate Justice Initiatives, GreenRoots
- **Edyta Sitko**, Energy Organizing Manager, Union of Concerned Scientists
- **Bridget Vial**, Energy Democracy Organizer, Michigan Environmental Justice Coalition
- **Leslee Gutierrez**, Lead Environmental Justice Organizer, COPAL MN
- **Warren Leon**, Executive Director, Clean Energy States Alliance (moderator)



# On the Road to 100 Percent Renewables

*States can Lead an Equitable Energy Transition*



# AGENDA

- Introductions
- Overview and key findings
- Connection to local work
- Recommendations
- Q&A



**Leslee Gutierrez**

Environmental Justice Lead Organizer



# John Walkey

Director of Waterfront and Climate Justice Initiatives



Celebrating **25** Years  
of Fighting for Social and  
Environmental Justice!

**GreenRoots**



# Bridget Saunders Vial

Energy Democracy Organizer



**Paula García**

Senior bilingual energy analyst

[ Union of  
Concerned Scientists

Science for a  
and healthy planet  
safer world.





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# On the Road to 100 Percent Renewables

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# MODELING

## ReEDS



## Greenlink Analytics

- Energy data for the 24 states analyzed through NREL's power sector capacity planning model, Regional Energy Deployment System (ReEDS), optimizing for lowest overall system cost.
  - The ReEDS modeling projects changes in energy capacity and generation over time; changes in CO<sub>2</sub>, NO<sub>x</sub>, and SO<sub>x</sub> emissions, capital investment.
  - The analysis provides aggregated data for a group of 24 states, as well as specific state-level data for three states in particular: Massachusetts, Michigan, and Minnesota.
- Health Impacts
    - Reductions in seven common pollutants (NO<sub>x</sub>, CO<sub>2</sub>, SO<sub>2</sub>, PM<sub>2.5</sub>, PM<sub>10</sub>, VOCs, and NH<sub>3</sub>) and the monetary value of health savings.
    - Monetization of the epidemiological and CO<sub>2</sub> emissions reductions
  - Macroeconomic analysis
    - Net jobs impact in clean energy, using a model specified for the economy of the state to evaluate more than 500 economic sectors.
  - Changes in energy burden

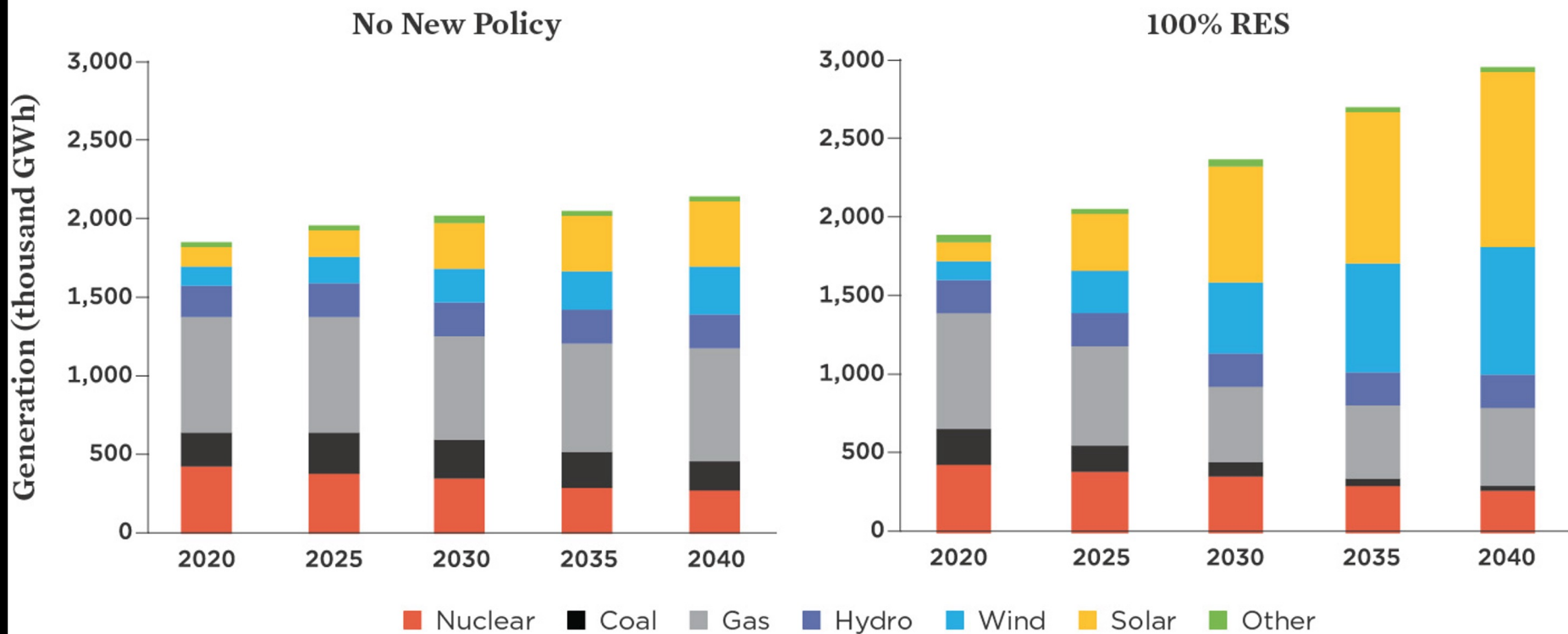
# MODELING

Scenario	Key Assumptions
No New Policy	Electricity-sector policies in place as of July 2021, including the state renewable electricity or clean electricity standards and federal tax credits
100% RES	Commitment by each USCA state to meeting 100% of its electricity needs with renewable energy by 2035  56% increase in electricity demand in USCA states by 2040, reflecting strong electrification of other sectors of the economy
Electrification Without Decarbonization	Electricity-sector policies in place as of July 2021  56% increase in electricity demand in USCA states by 2040
Restricted Fossil Fuel	Focus on three states: Massachusetts, Michigan, and Minnesota  Constraint on developing new gas-fueled power plants after 2025  Accelerated retirement of coal plants by 2030
Clean Electricity Standard	Inclusion of renewable energy, nuclear energy, and carbon capture and storage for meeting state 100-percent-by-2035 requirements

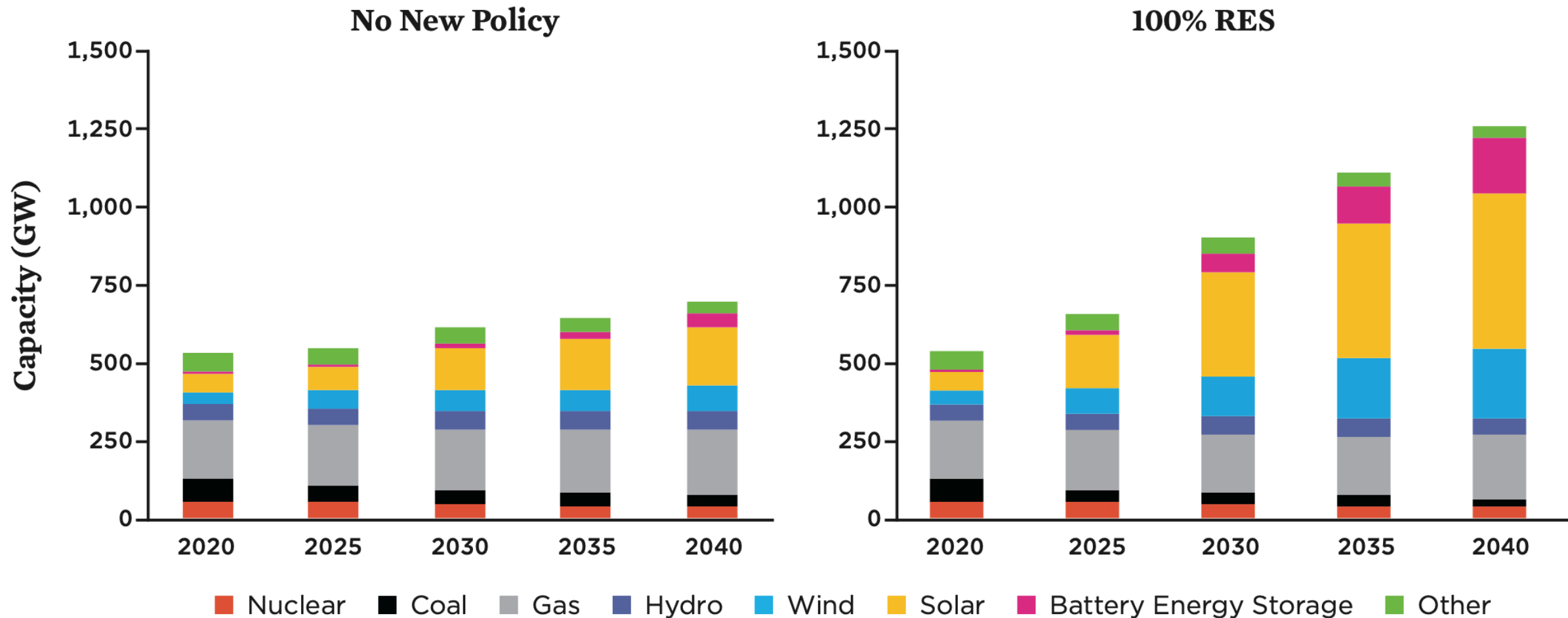


## 100 by 2035 is feasible

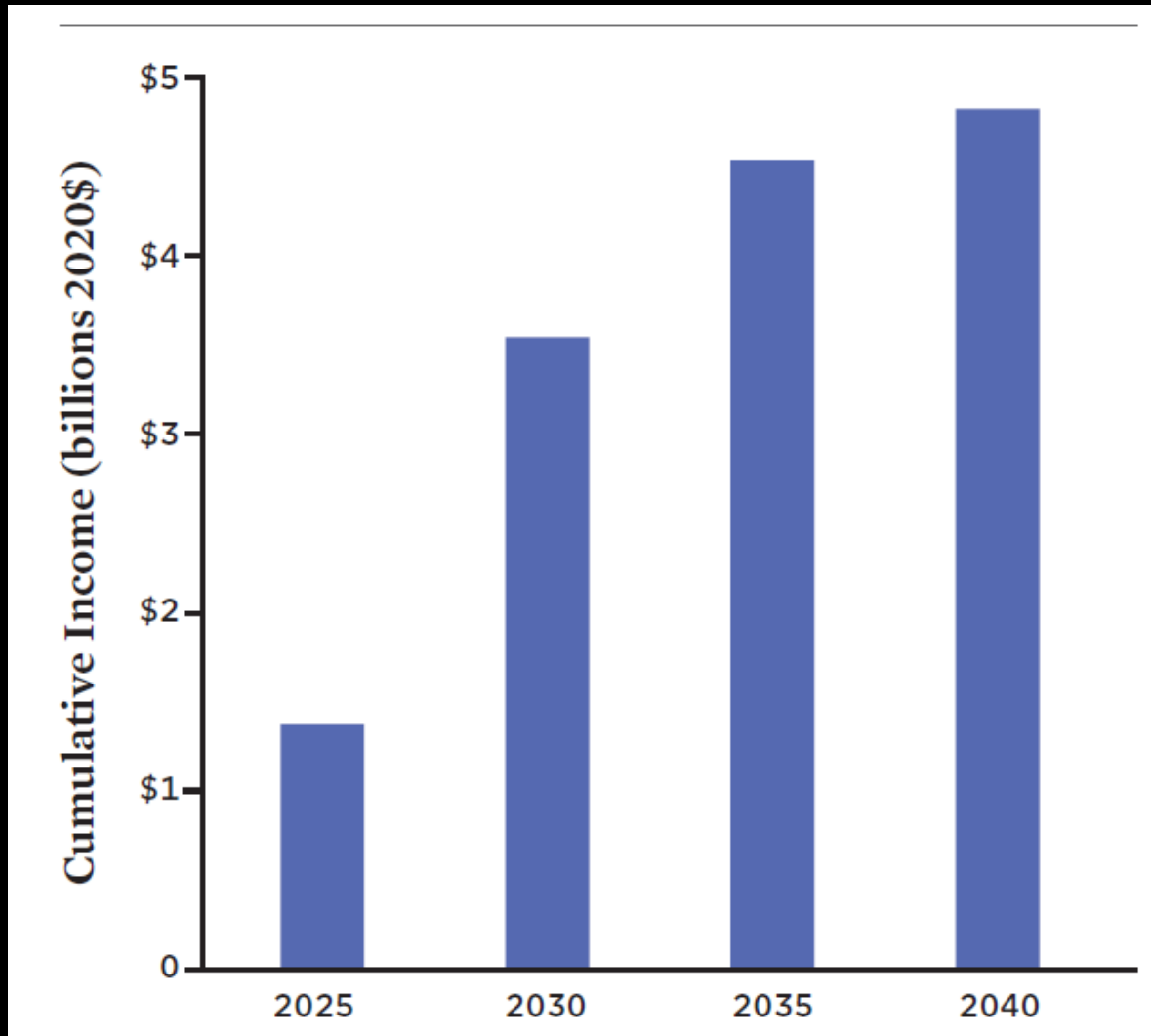
### Electricity Generation in USCA States in Two Scenarios, 2020-2040



## Electricity Capacity in USCA States in Two Scenarios, 2020-2040



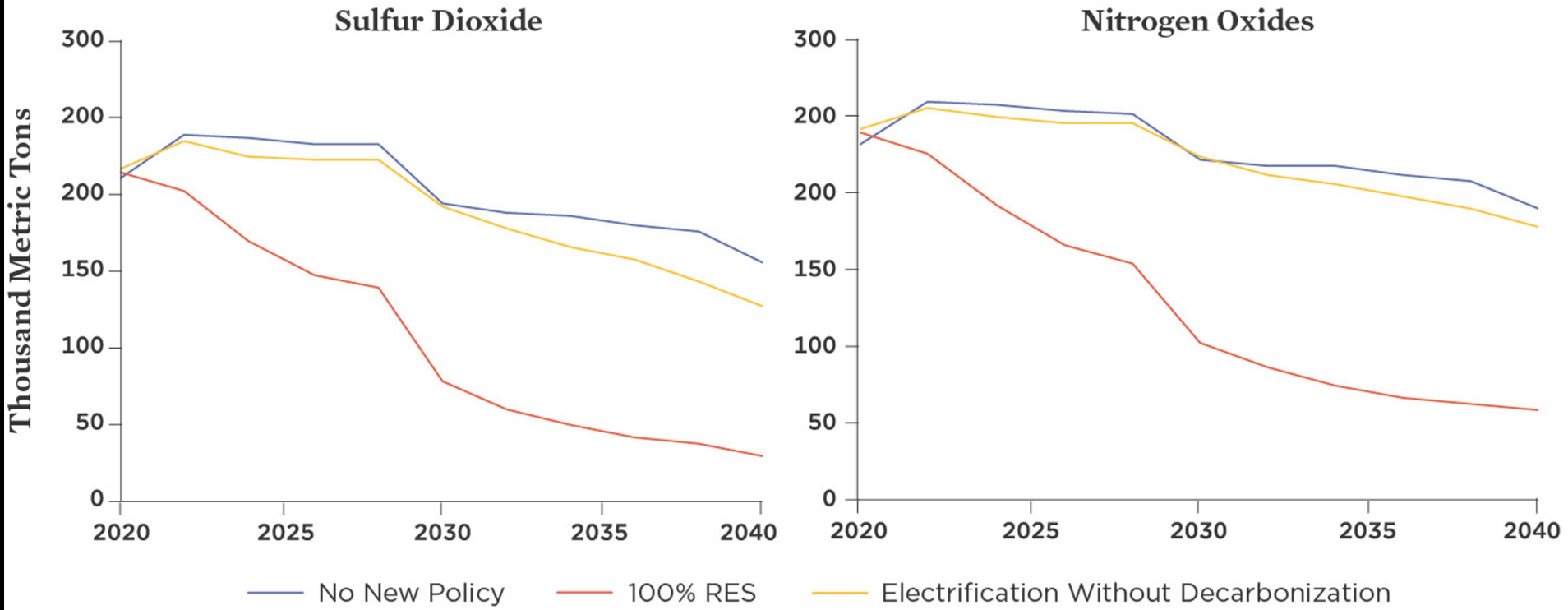
Additional Labor Income in Minnesota, 2022-2040



**= More jobs**

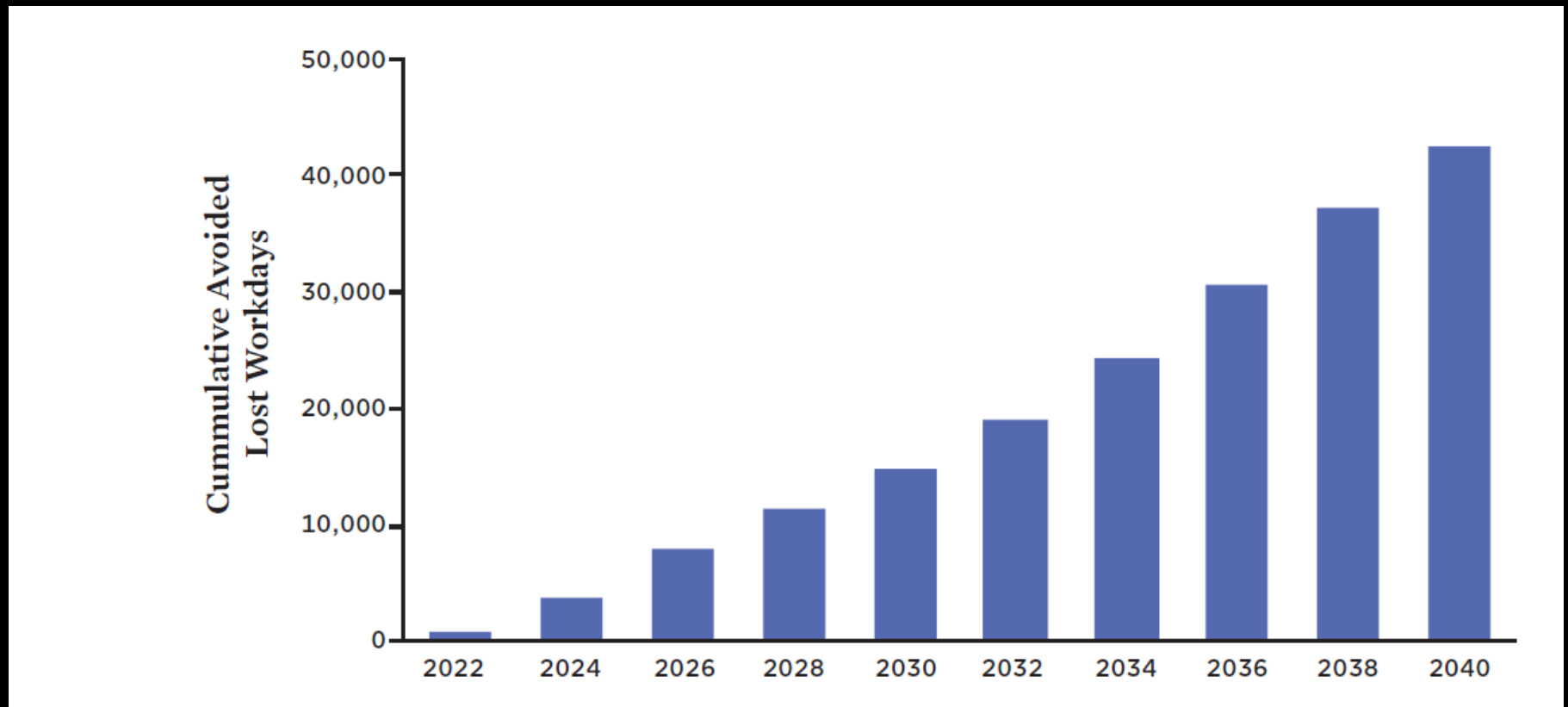
100 by 2035 is needed

## SO<sub>2</sub> and NO<sub>x</sub> Emissions in USCA States in Three Scenarios, 2020-2040



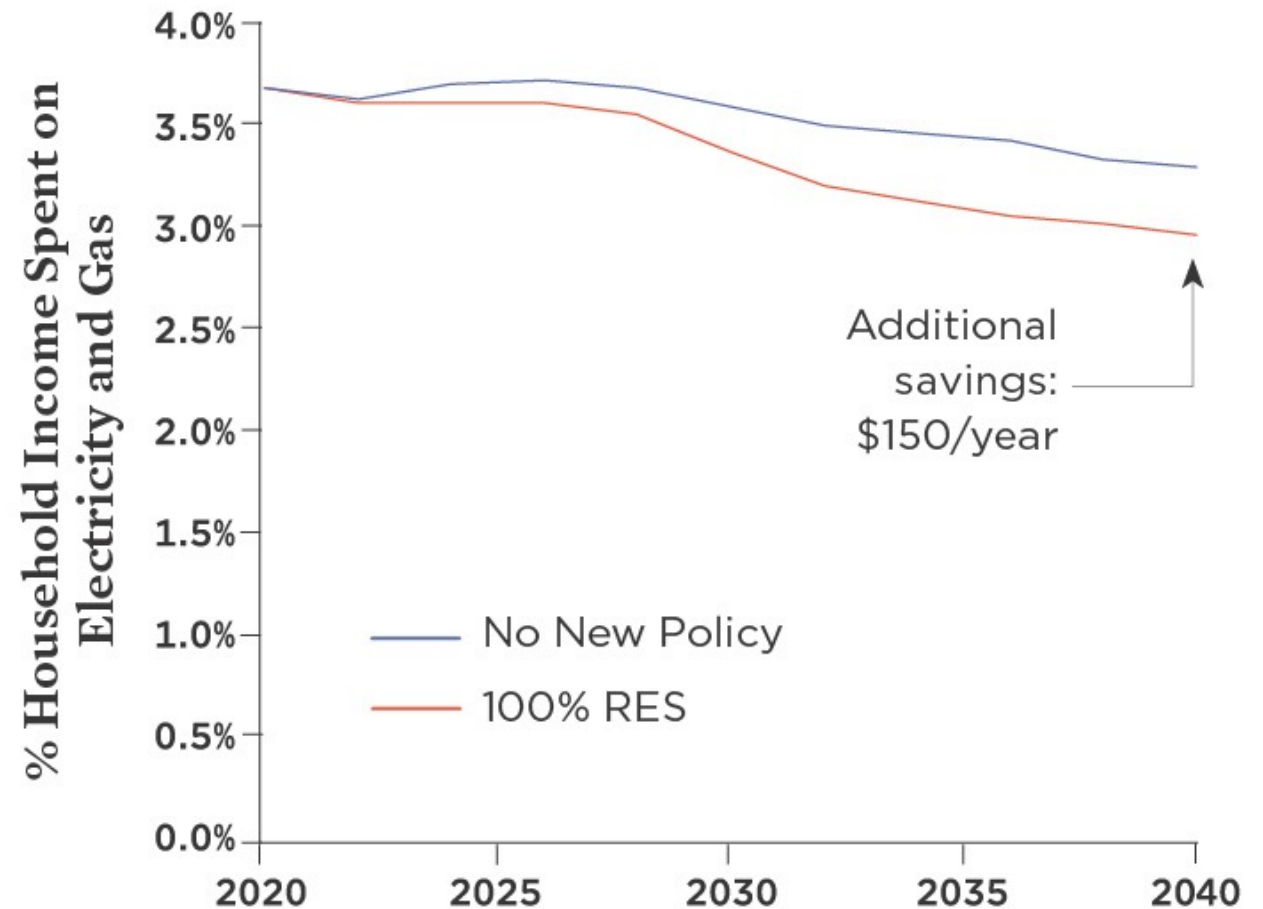
= **Less impact  
on people's  
health**

Reductions in Lost Workdays in Michigan, 2022-2040

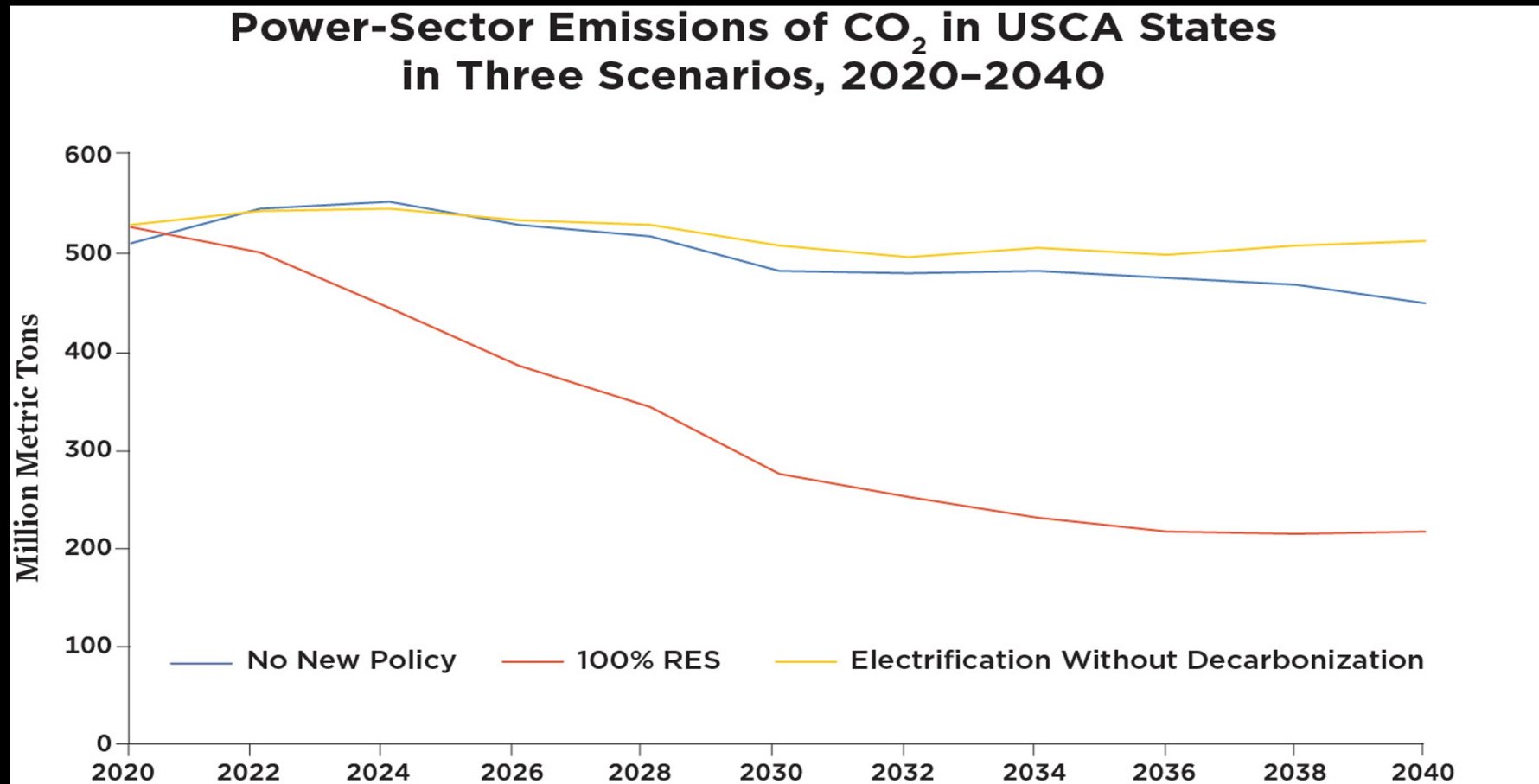


**= More  
affordable  
energy  
(generally)**

## Household Energy Burdens in USCA States in Two Scenarios, 2020-2040



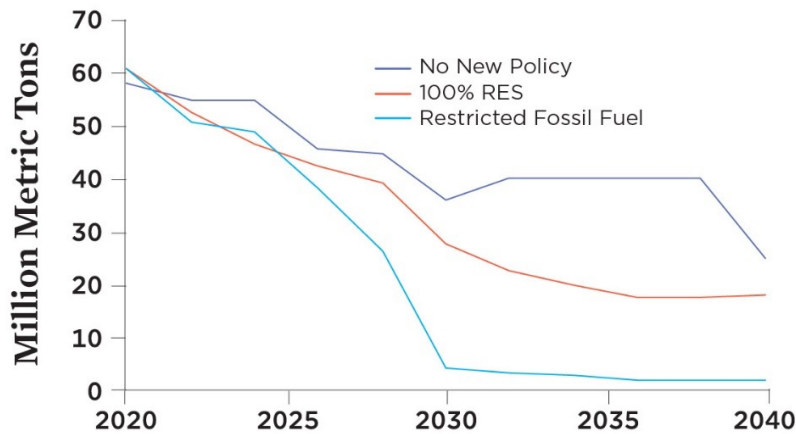
= Decisive  
action on  
climate



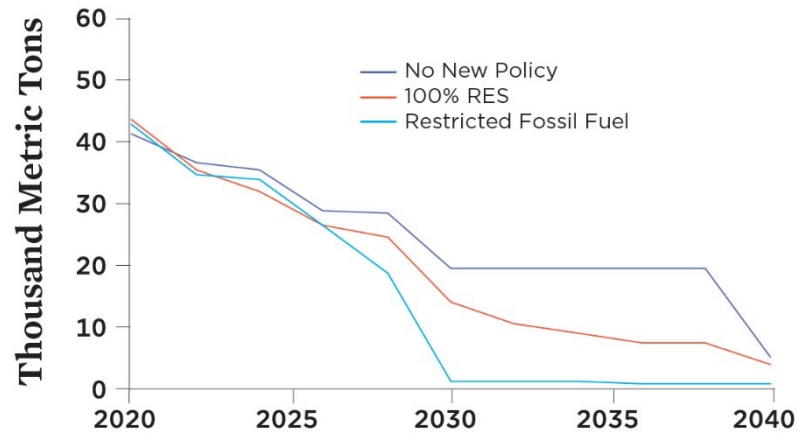
= Faster cuts in emissions

Emission Reductions in Three Scenarios for Michigan, 2022-2040

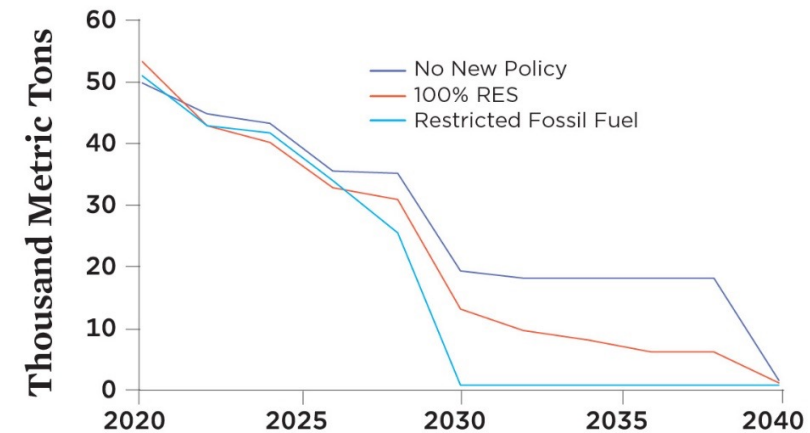
Carbon Dioxide Emissions in Three Scenarios, 2020-2040



Nitrogen Oxides Emissions in Three Scenarios, 2020-2040



Sulfur Dioxide Emissions in Three Scenarios, 2020-2040





Connection to local work

# Recommendations

# Thank you

“ Vulnerable communities in Minnesota are only vulnerable because we have historically allowed them to be targeted. Now is the time to change the awful narrative of concentrated pollution in frontline communities and put people over pollution for once! ”

**Leslee Gutiérrez Carrillo**  
Environmental Justice Lead Organizer  
COPAL MN

Union of  
**Concerned  
Scientists**



Photo: COPAL MN  
© Union of Concerned Scientists 2022

# Thank you for attending our webinar

**Warren Leon**

Executive Director

Clean Energy States Alliance

[wleon@cleanegroup.org](mailto:wleon@cleanegroup.org)



Learn more about the **100% Clean Energy Collaborative** at

[www.cesa.org/100](http://www.cesa.org/100)

# Upcoming Webinar

## Scaling Up Solar – The Montgomery County Green Bank and Sunnova’s Low-and Moderate-Income Solar Pilot Program

*Thursday, July 7, 2022*

Earlier this year, the Montgomery County Green Bank launched a new \$600K LMI solar pilot program to test a different approach to solar access in LMI communities. The pilot includes a dual track (ownership and third party-owned) and an innovative third party owned pricing structure with solar company Sunnova. Panelists will discuss the initial results of the pilot program.

Read more and register at [www.cesa.org/webinars](http://www.cesa.org/webinars)

