

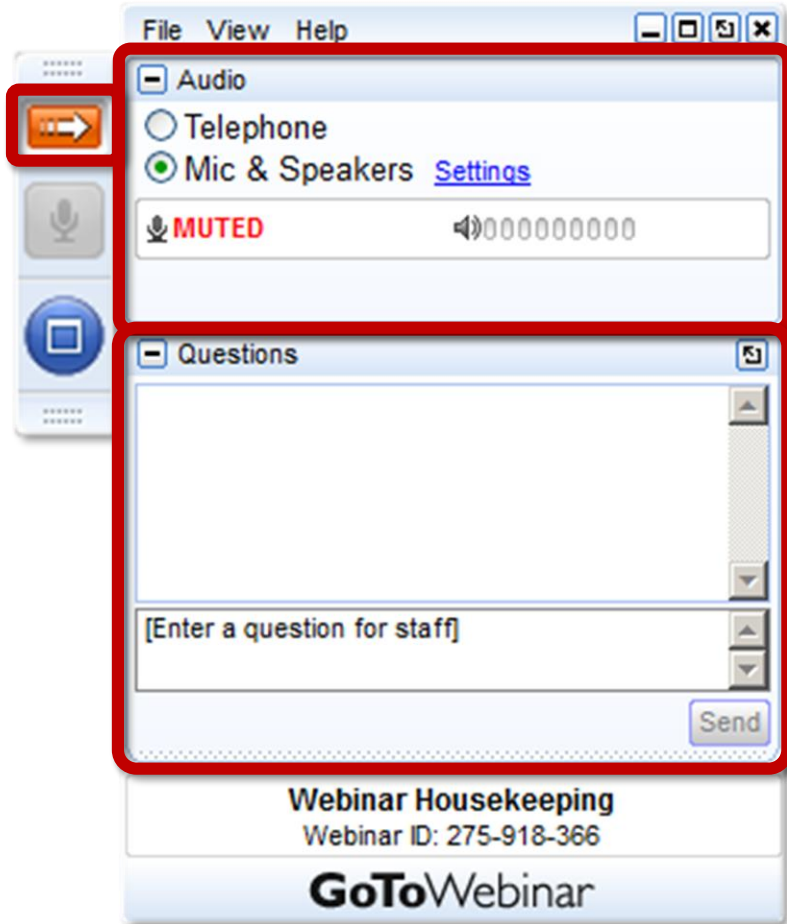
100% Clean Energy Collaborative Webinar

The 2035 Report: How Low Costs Can Accelerate Our Clean Energy Future

June 16, 2020



Housekeeping



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CleanEnergy States Alliance



Webinar Speakers



Ric O'Connell

Executive Director,
GridLab



Dr. Amol Phadke

Senior Scientist and
Affiliate, Goldman School
of Public Policy, UC
Berkeley



Mike O'Boyle

Director of Energy Policy,
Energy Innovation



Warren Leon

Executive Director,
Clean Energy States
Alliance (moderator)



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THE REPORT

PLUMMETING SOLAR, WIND,
AND BATTERY COSTS
CAN ACCELERATE OUR
CLEAN ELECTRICITY FUTURE





CORE PARTNERS

GOLDMAN SCHOOL
OF
PUBLIC POLICY
UNIVERSITY OF CALIFORNIA BERKELEY

GridLAB

climatenexus

ENERGY INNOVATION
POLICY & TECHNOLOGY LLC

WHY 90% CLEAN BY 2035?

- The electric sector is a major contributor to greenhouse gas emissions (GHG) –
 - cuts to climate pollution from electric power by 2035 is a critical step needed to cut economy-wide emissions
- Low-cost reductions in GHG emissions must be pursued soon to avoid worst climate change impacts
 - Renewables and storage are now less expensive than fossil power
- This is the first study to show that wind, solar and storage can deliver massive emission reductions w/o increasing consumer costs
- The build out of renewables and storage envisioned is aggressive but feasible
- Economic, health and climate benefits of a 90% clean generation sector are massive and could significantly contribute to COVID-19 economic recovery

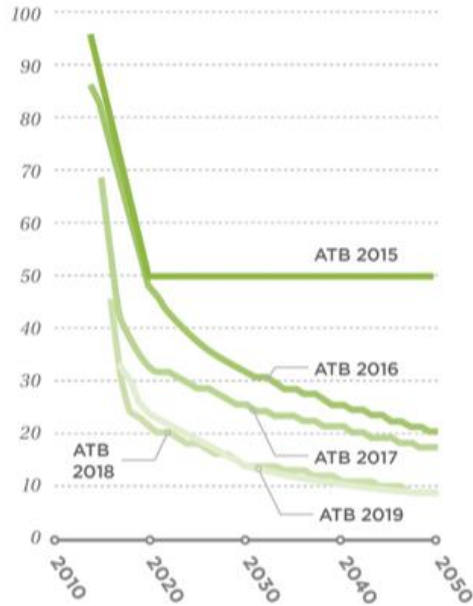


COST DECLINES ARE REVISED DOWNWARDS ANNUALLY

WIND LCOE, BEST CAPACITY FACTOR | ATB LOW CASE

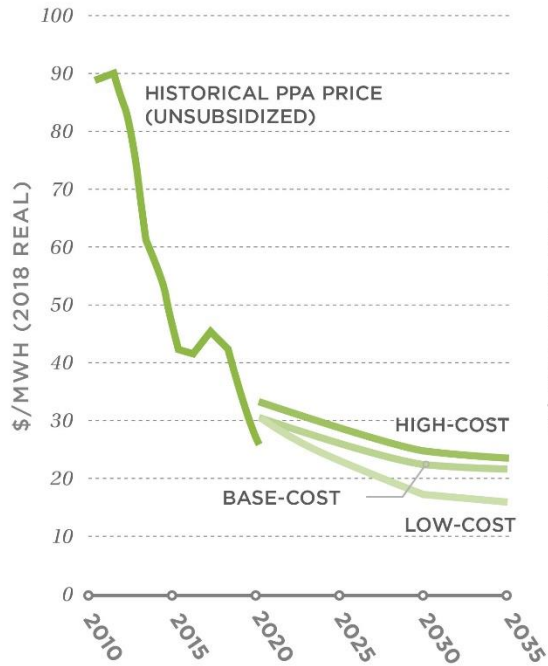


SOLAR PV LCOE, BEST CAPACITY FACTOR | ATB LOW CASE



DRAMATIC COST DECLINES ARRIVED SOONER THAN ANTICIPATED

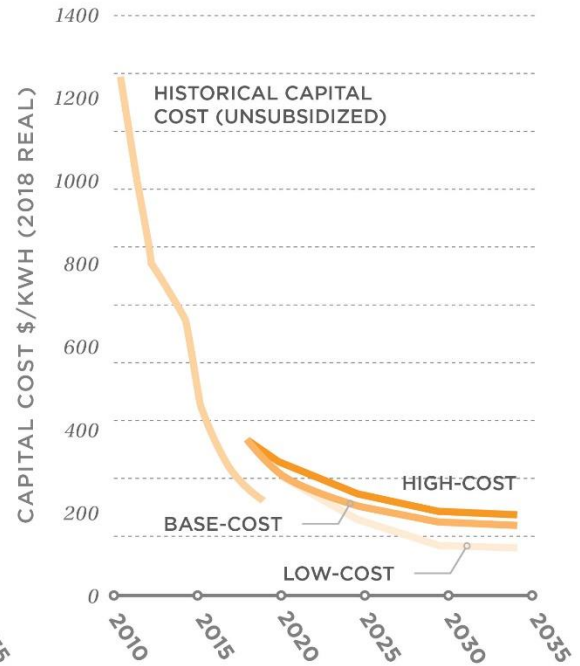
WIND LCOE



SOLAR LCOE

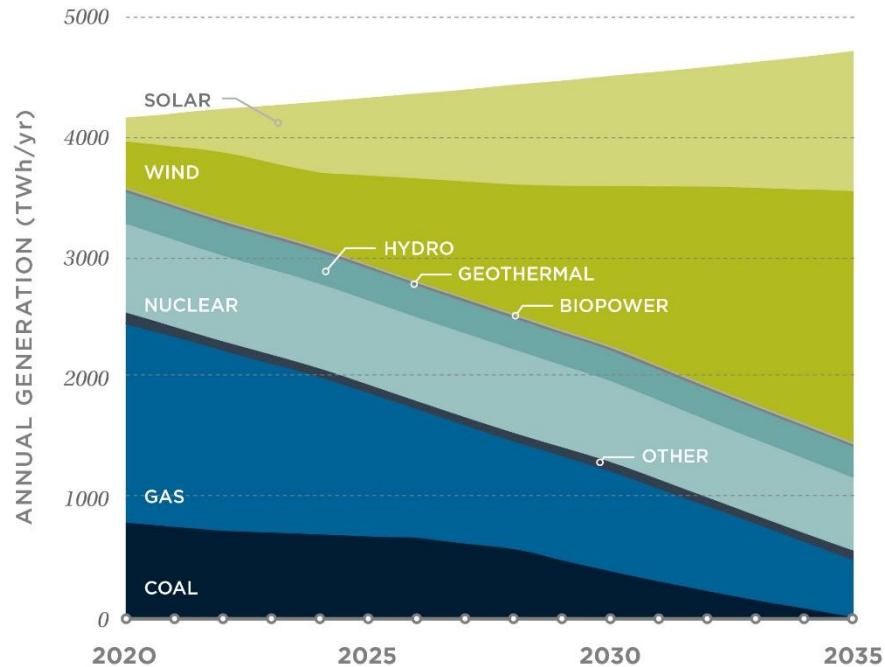


BATTERY STORAGE CAPITAL COST

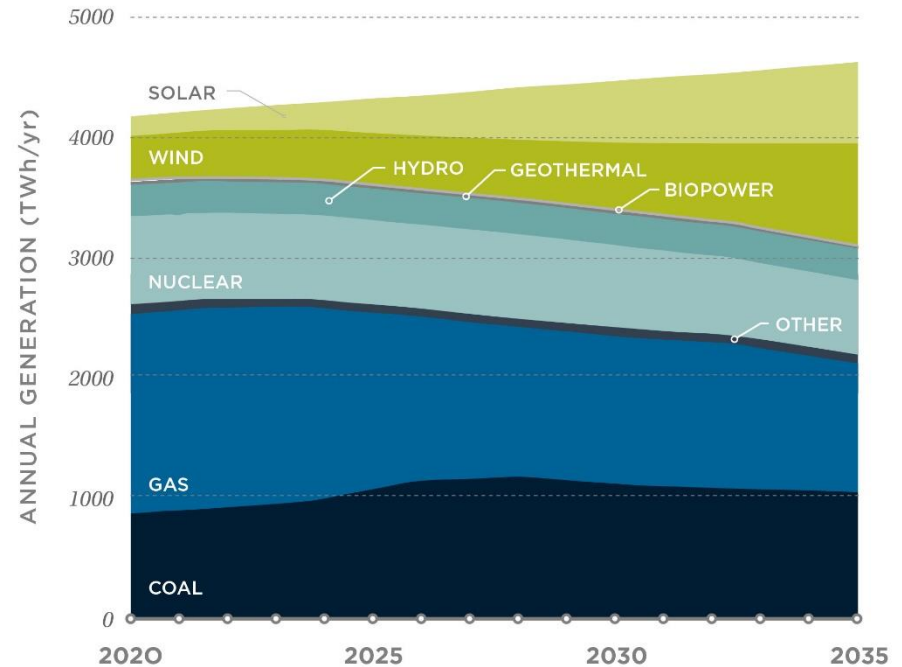


STRONG POLICIES REQUIRED FOR A 90% CLEAN GRID BY 2035

ANNUAL GENERATION | 90% CLEAN

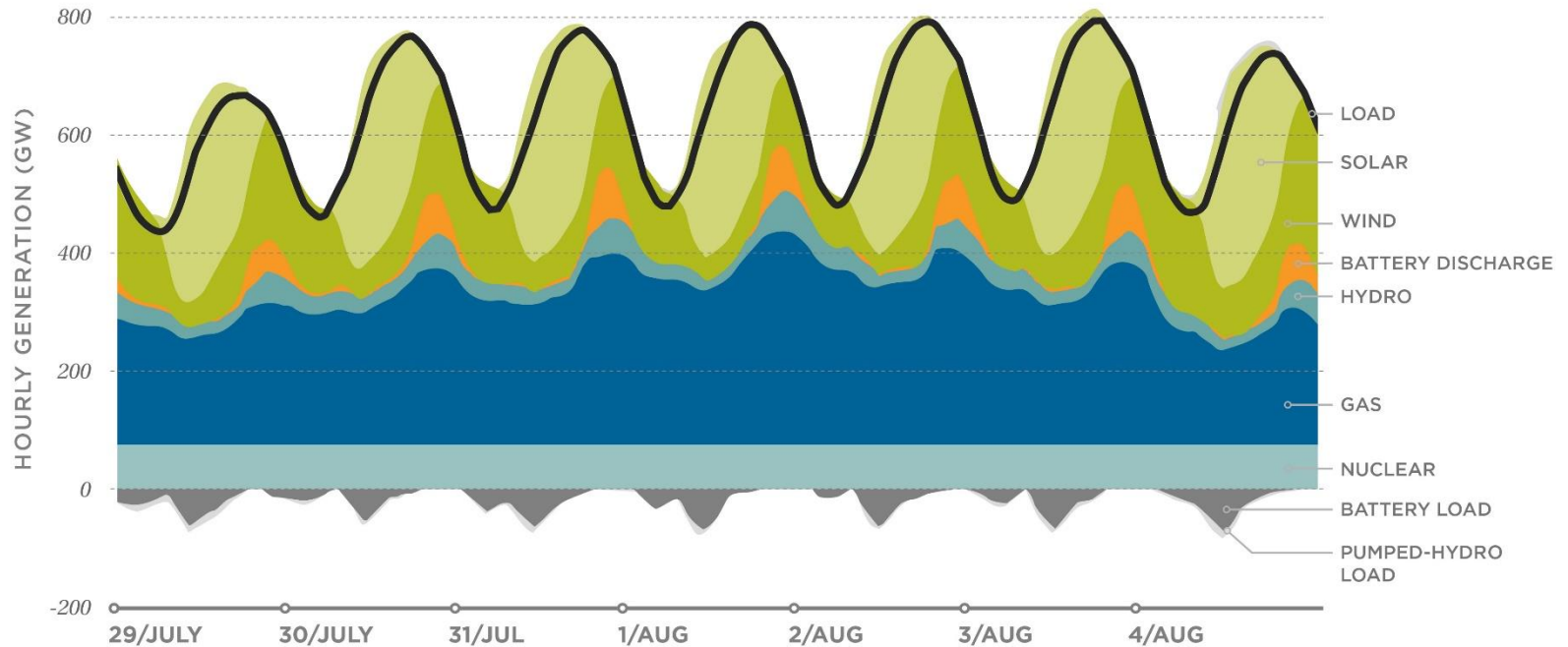


ANNUAL GENERATION | NO NEW POLICY

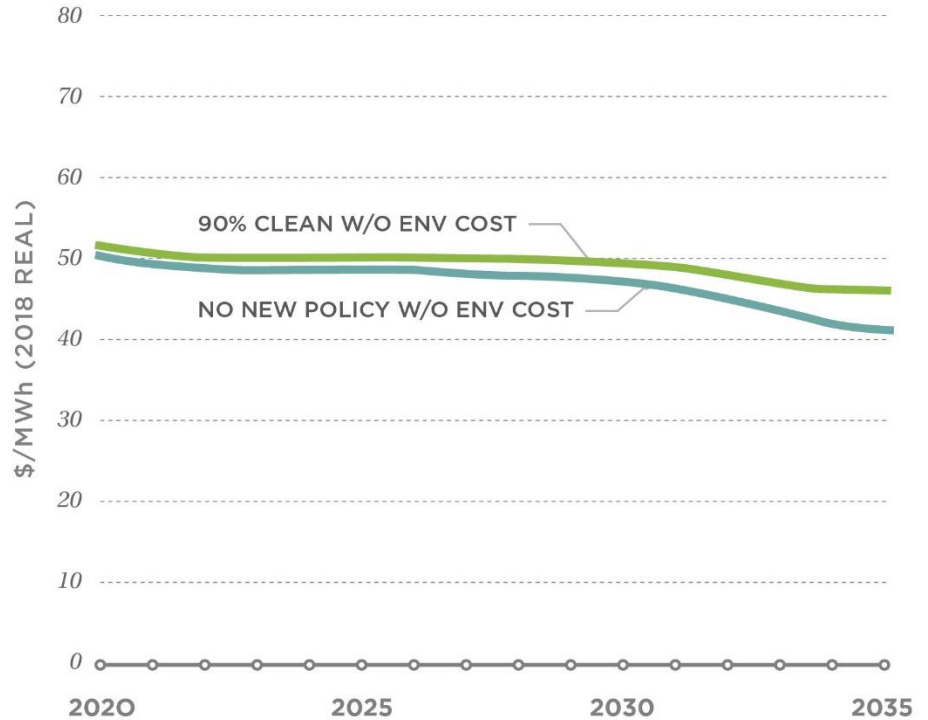
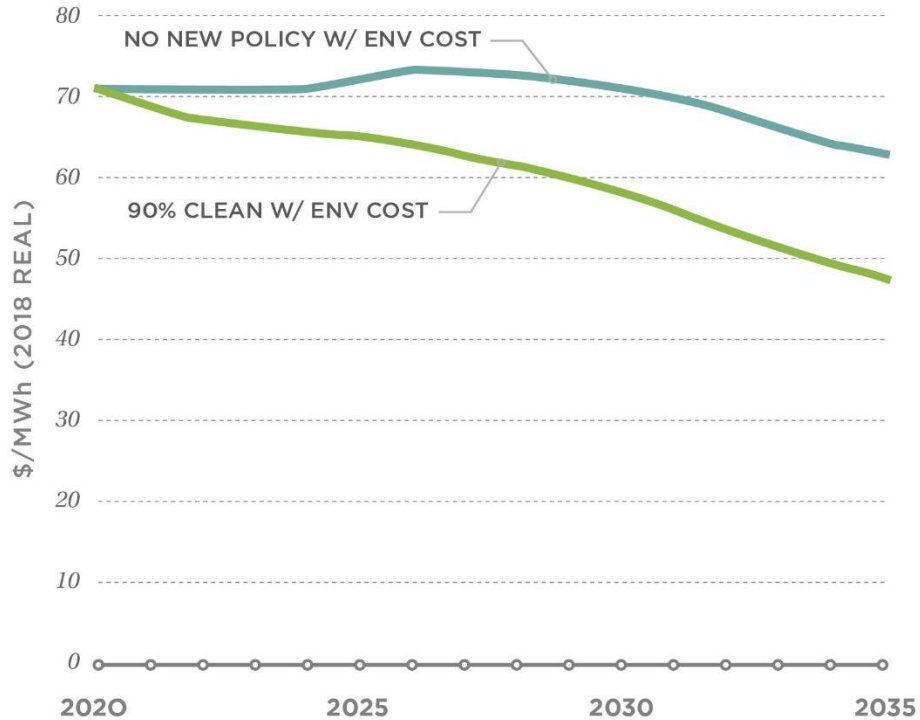


DEPENDABLE WITHOUT COAL OR NEW GAS

HOURLY DISPATCH DURING THE MAX GAS GENERATION WEEK

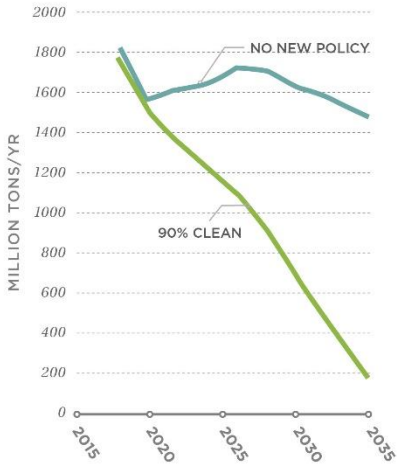


ELECTRICITY COSTS LOWER THAN TODAY

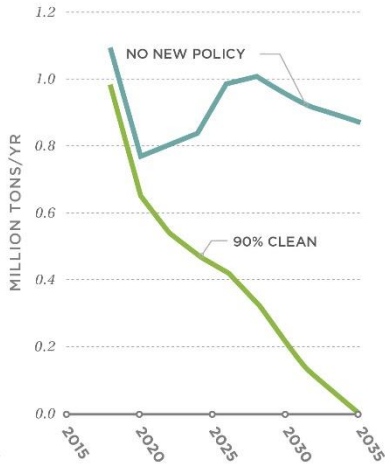


AVOIDS \$1.2T IN HEALTH AND ENVIRONMENTAL DAMAGES

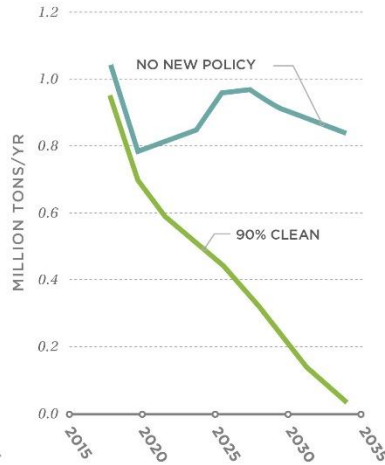
CO₂ EMISSIONS (MILLION TONS/YR)



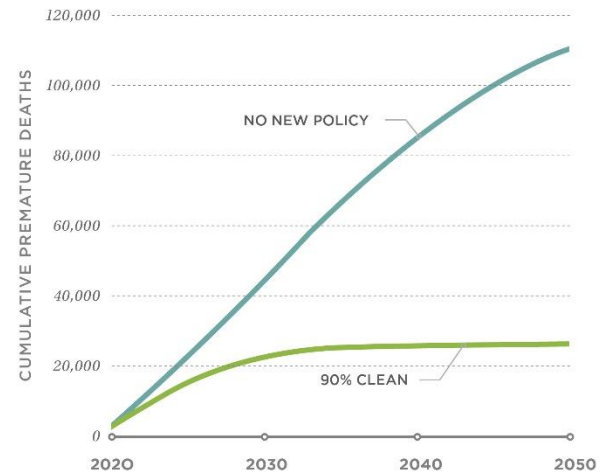
SO₂ EMISSIONS (MILLION TONS/YR)



NO_x EMISSIONS (MILLION TONS/YR)

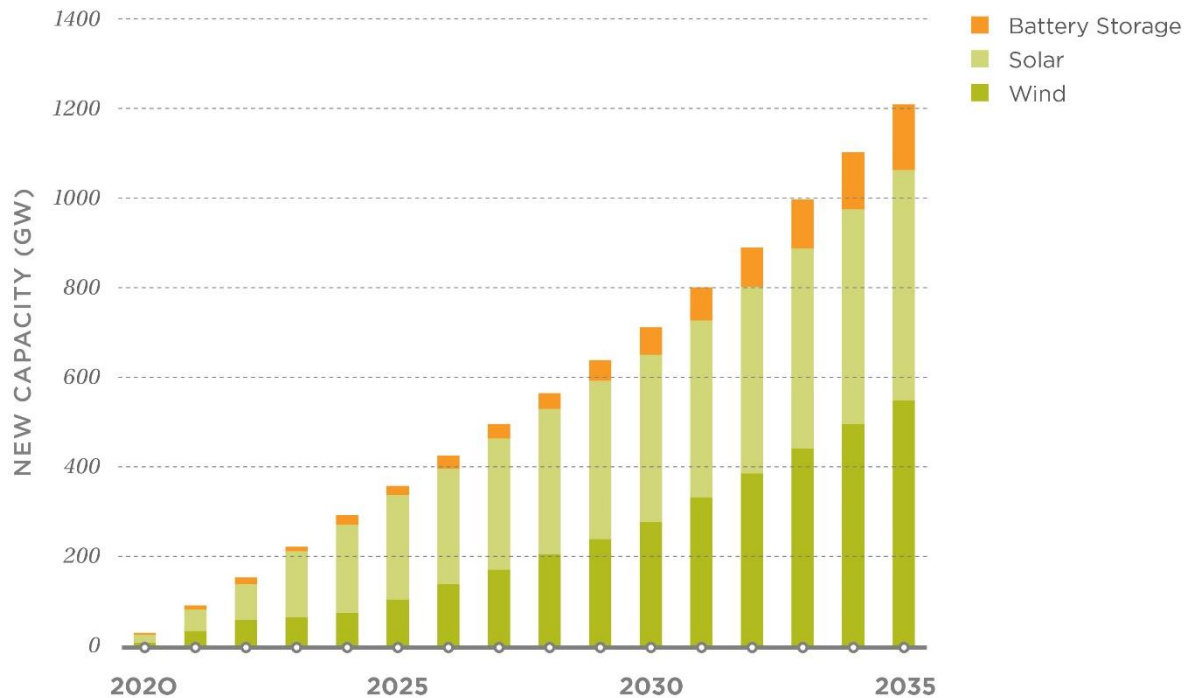


CUMULATIVE PREMATURE DEATHS



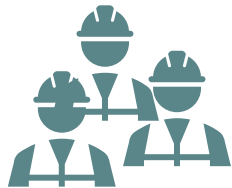
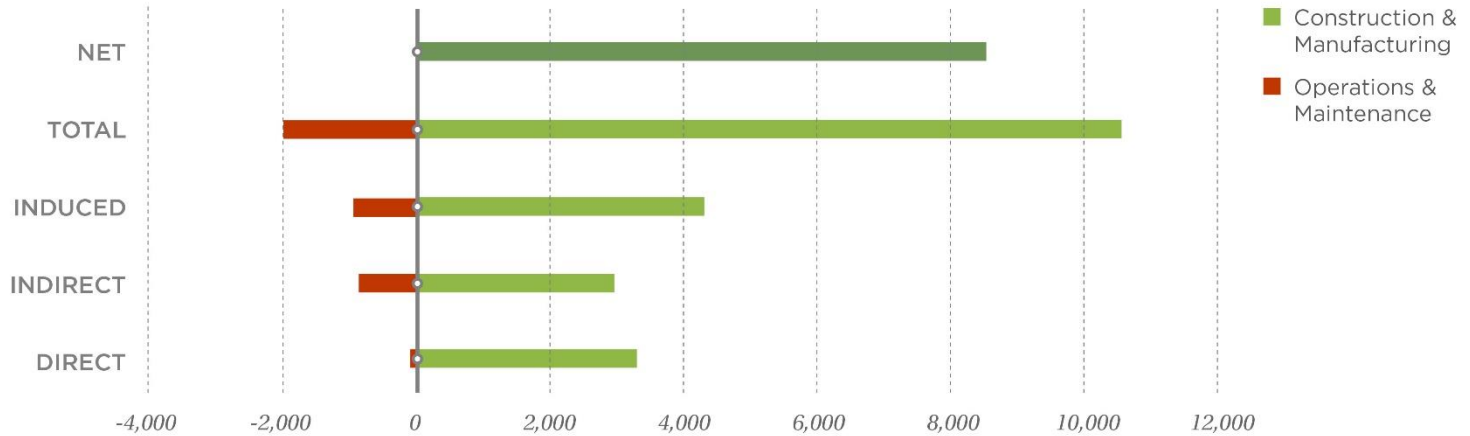
SCALING UP RENEWABLES IS FEASIBLE

CUMULATIVE NEW CAPACITY ADDITIONS



SIGNIFICANTLY INCREASES ENERGY SECTOR EMPLOYMENT

CUMULATIVE JOB YEARS ('000), 90% CLEAN COMPARED TO NO NEW POLICY



***Supports 500,000 more jobs
each year through 2035 than business as usual***

CLEAN ELECTRICITY IS THE ROAD TO RECOVERY



Economic
recovery opportunity



Jobs and infrastructure



No increased costs for
customers

INVESTMENT AND TAX CREDITS ALONE WILL NOT GET THERE

Adopt a national clean energy standard of:

- 55% by 2025
- 75% by 2030
- 90% by 2035
- 100% by 2045



ADDITIONAL POLICY LEVERS NEEDED



Reinstate the advanced manufacturing tax credit from the American Recovery and Reinvestment Act to support domestic manufacturing.



Offer federal debt financing for utilities.



Shore up worker pension and healthcare funding and support communities through the coal transition.



Work with DOE, DOI, FERC, and states to expand and improve supporting programs.





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THE REPORT

QUESTIONS?

Thank you for attending our webinar

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Learn more about the 100% Clean Energy Collaborative at:
<https://www.cesa.org/projects/100-clean-energy-collaborative/>

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**State Leadership in Low-and-Moderate-Income Solar Energy, Featuring
Massachusetts, Michigan and Oregon**

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NYSERDA's Offshore Wind Program

Tuesday, August 4, 2-3pm ET

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