



20 35

THE REPORT

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

Amol Phadke, Senior Scientist, UC Berkeley, ESIG 2020



CORE PARTNERS

GOLDMAN SCHOOL
OF
PUBLIC POLICY
UNIVERSITY OF CALIFORNIA BERKELEY

GridLAB

climatenexus

ENERGY INNOVATION
POLICY & TECHNOLOGY LLC

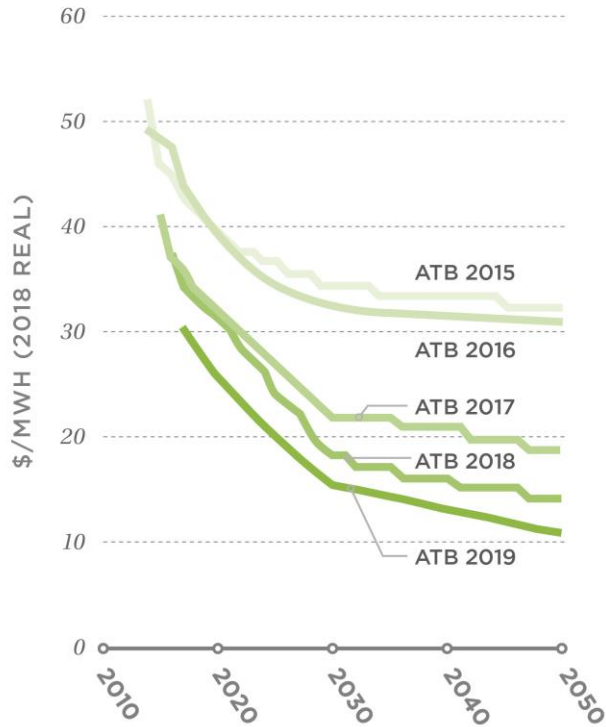
WHY 90% CLEAN BY 2035?

- 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

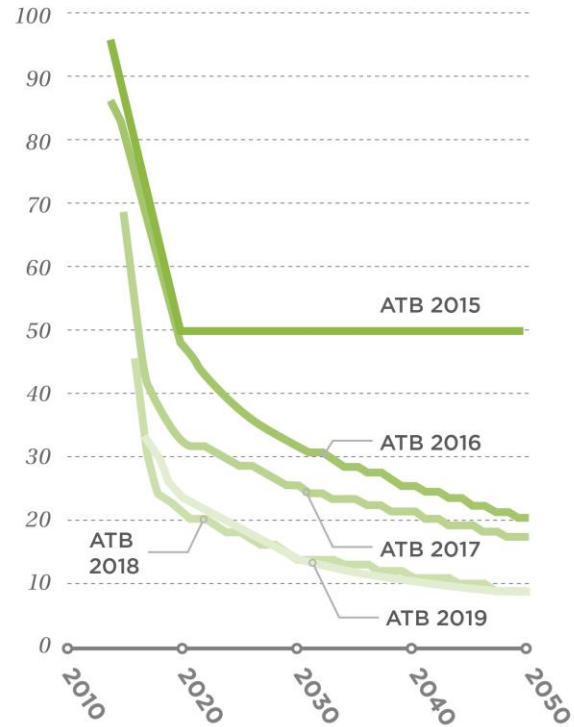


COST DECLINES ARE REVISED DOWNWARDS ANNUALLY

WIND LCOE, BEST CAPACITY FACTOR | ATB LOW CASE

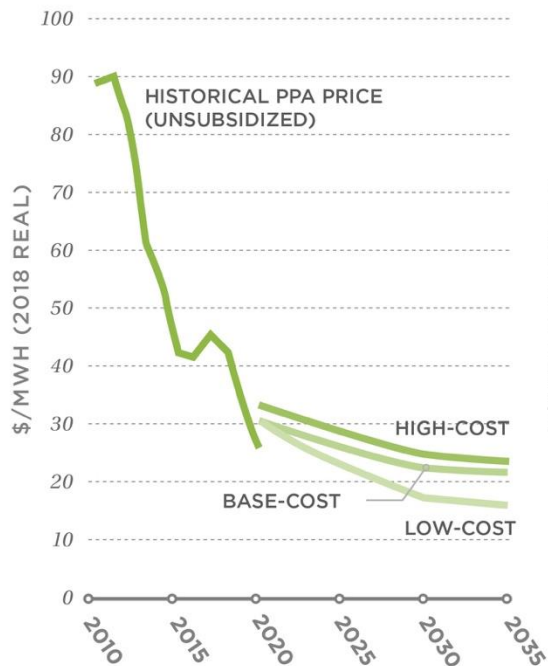


SOLAR PV LCOE, BEST CAPACITY FACTOR | ATB LOW CASE



DRAMATIC COST DECLINES ARRIVED SOONER THAN ANTICIPATED

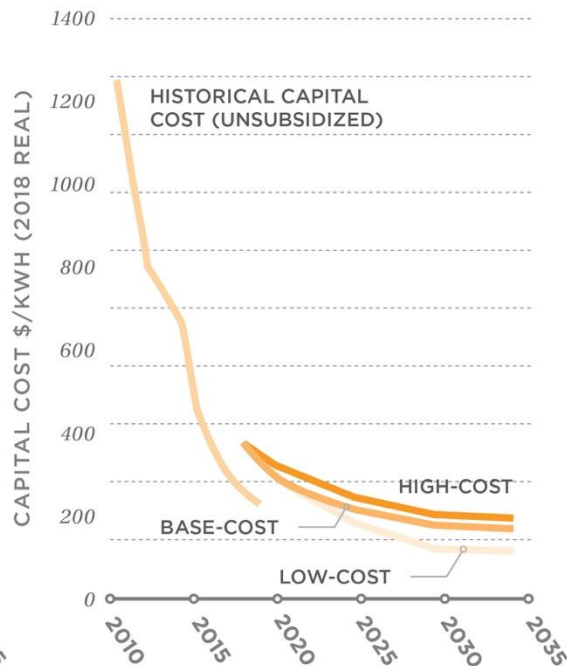
WIND LCOE



SOLAR LCOE

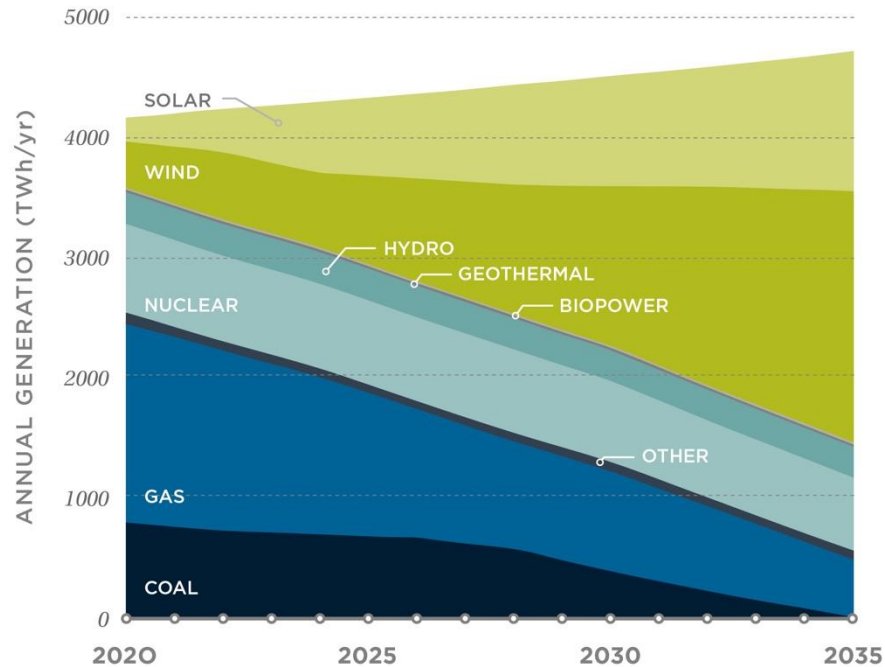


BATTERY STORAGE CAPITAL COST

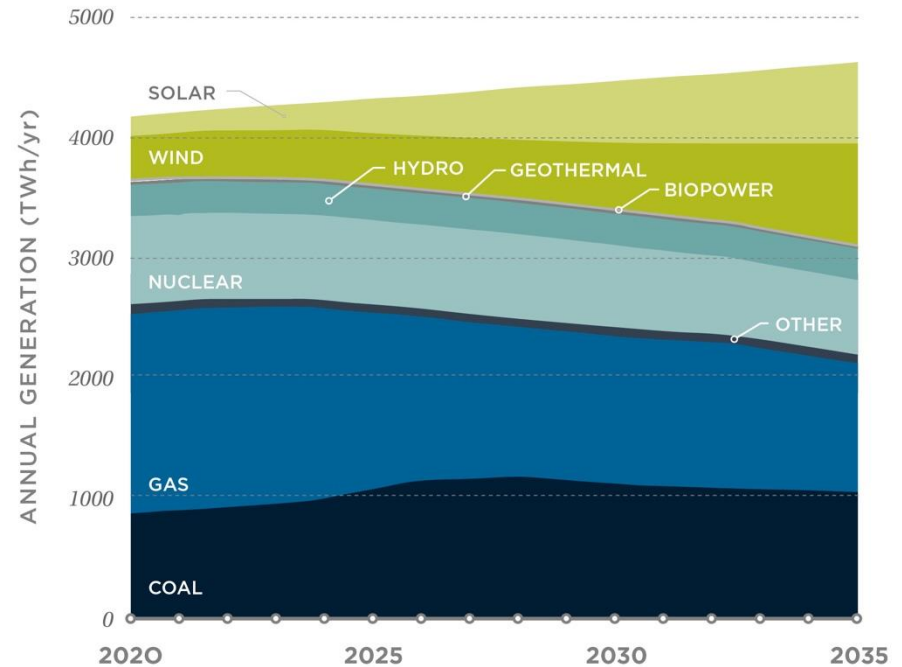


STRONG POLICIES REQUIRED FOR A 90% CLEAN GRID BY 2035

ANNUAL GENERATION | **90% CLEAN**

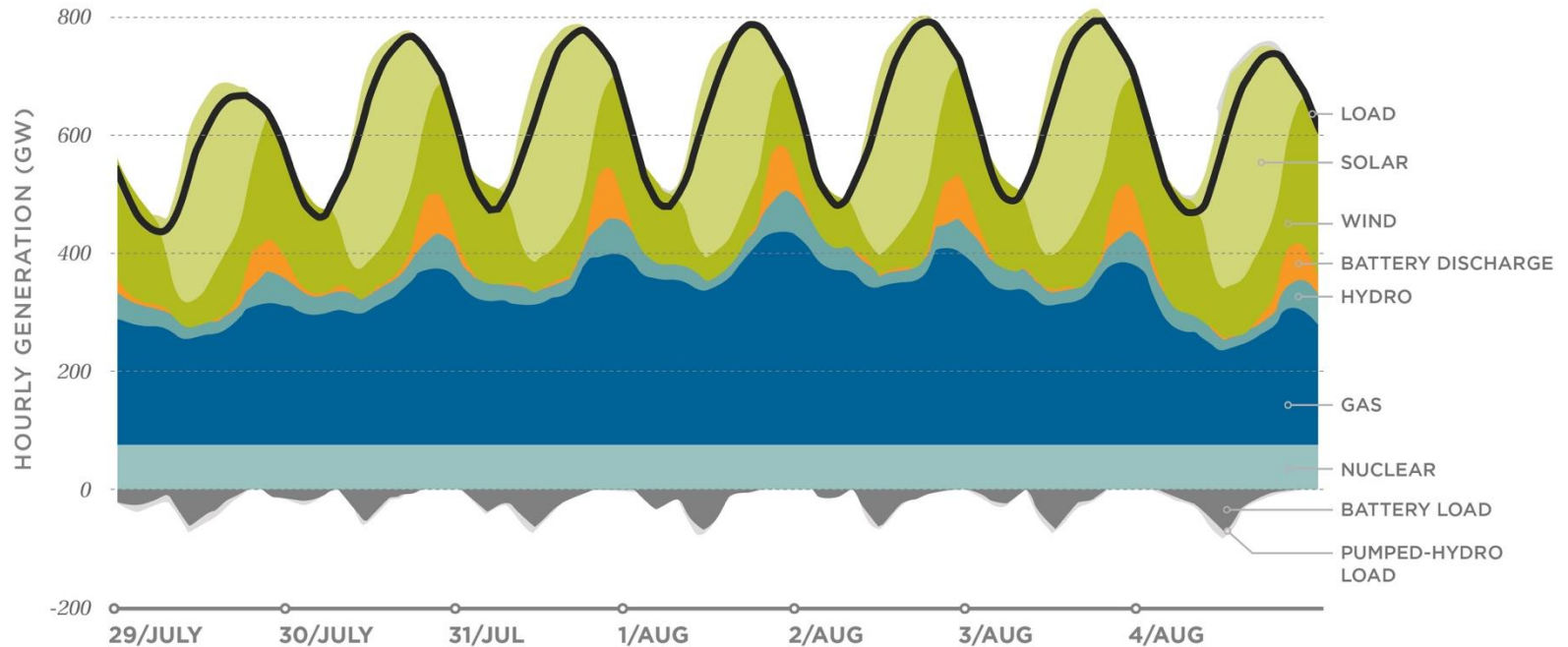


ANNUAL GENERATION | **NO NEW POLICY**

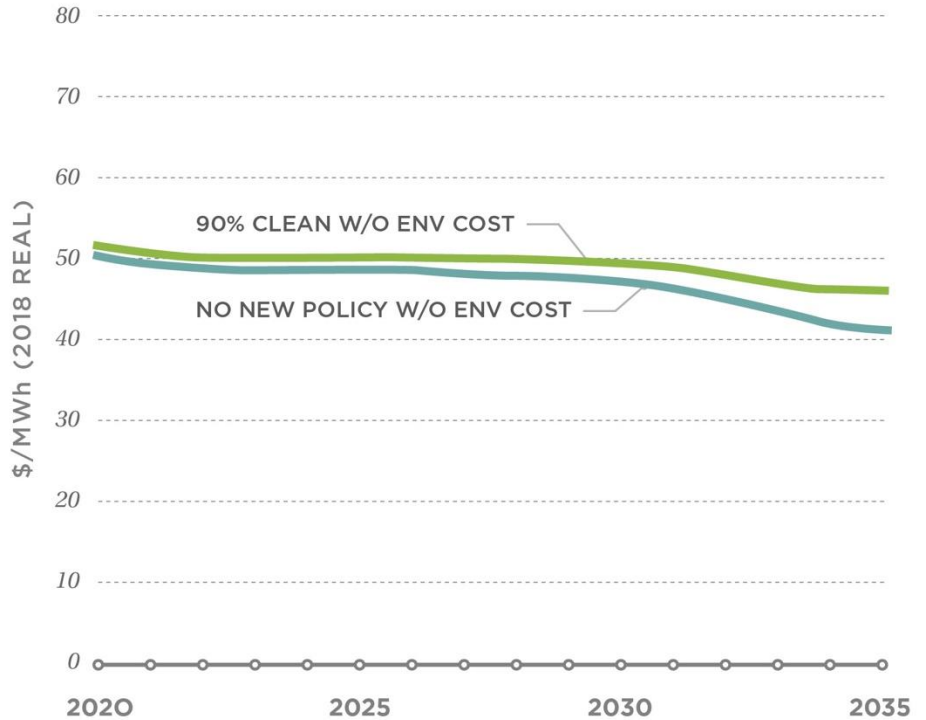
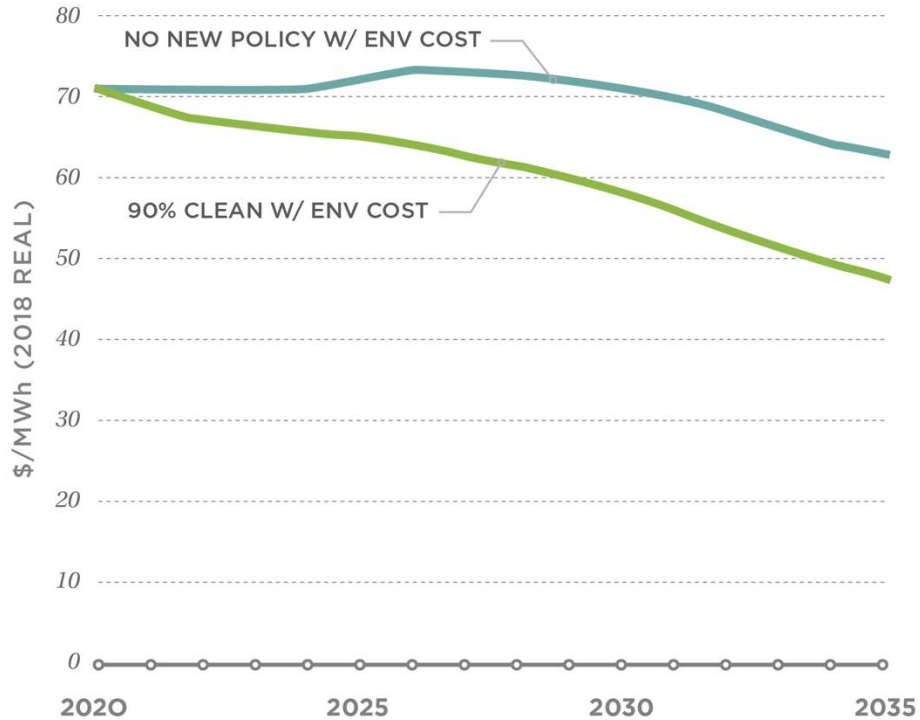


DEPENDABLE WITHOUT COAL OR NEW GAS

HOURLY DISPATCH DURING THE MAX GAS GENERATION WEEK

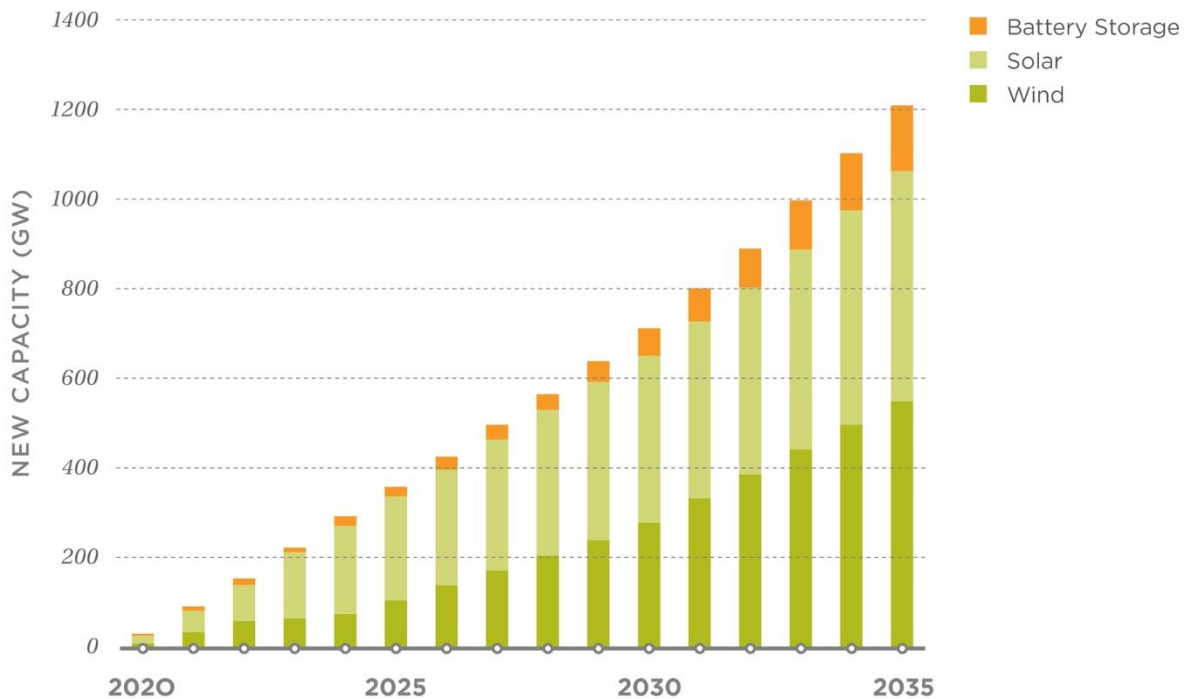


ELECTRICITY COSTS LOWER THAN TODAY



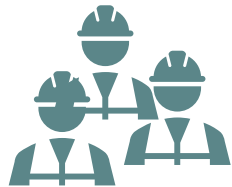
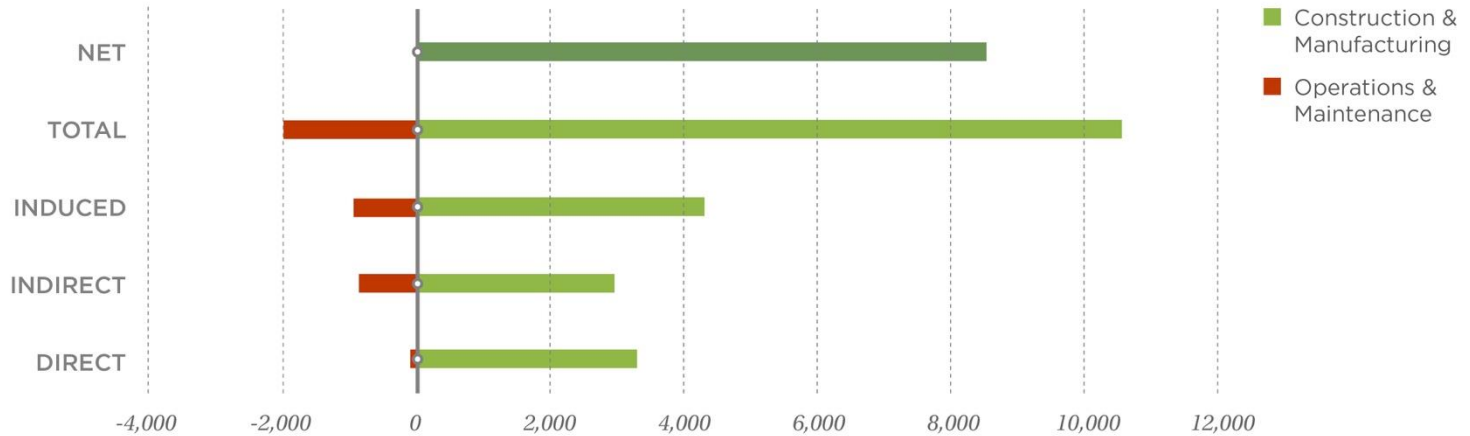
SCALING UP RENEWABLES IS FEASIBLE

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



20
35

THE REPORT

QUESTIONS?