

Western

LAMPAC

LABOR AND MANAGEMENT PUBLIC AFFAIRS COMMITTEE



IBEW and Utilities Leadership

The Future of the Electric Industry in the West



2022 FALL
CONFERENCE
PROGRAM

*LAS VEGAS, NV.
SEPT. 12 - 14, 2022*



B

Strategic



Western LAMPAC Meeting

September 13, 2022



Outline

- **What is B Strategic and Who are you?**
- **Key Topics in the Electricity Market Today**
- **Power Prices are High**
- **Deregulation Discussions Continue**
- **RTO Expansion in The States/Trouble in RTOs**

Hot Topics in Electricity Today

- **Power Prices are high because natural gas prices are high**
 - Don't forget about coal, and supply chain challenges
- **With power prices up everywhere, politicians and customers could revolt, what does that pushback look like?**
 - RTO Reform, Deregulation in Vertically Integrated States, more federal bailout money?
- **Putting Inflation Reduction Act money to work!**

Hot Topics in Electricity Today cont...

- **Resilience Investment needs are on the rise, how do we do it?**
 - **Permitting reform bill gives citing authority to DOE/FERC**
 - **We need more transmission across the board, and we need more power plants in RTOs, how do we do it?**
- **Electric Vehicles are coming fast, how do we prepare?**
- **Grab Bag**
 - **What will the high inflationary environment mean for utility investors?**
 - **Net Metering Reform is coming in California, and elsewhere?**
 - **The Collapse of the European Energy System, and pressure within the EU?**

Wholesale Power Prices are Up, So are Electric Rates!

- Wholesale power prices are sky high, but vary by region of the country, Texas is up 550% from last year!
- MA retail energy prices are as high as \$.30 kWh, up from \$.18 kWh last summer.
- Average electricity prices nationally are up 7.5 percent year over year and climbing. Many states still haven't filed their fuel adjustments. I expect this to rise, and the number on the year to look more like 15%

Deregulation Discussion in the States

○ Virginia 2020 HB 206/HB 1677

- The bill didn't proceed in February of 2021 at the end of session, then Winter Storm Uri happened and Power for Tomorrow engaged to ensure the plan didn't gain steam

○ Arizona HB 2101

- HB 2101 in Arizona was a piece of legislation repealing the deregulation statute from Arizona Code. This statute was a relic from the push for restructuring in 1998 and became a crutch state regulators would lean on to hold hearings about restructuring the state's electric market.

○ Massachusetts S 2842

- Broad omnibus climate bill, but it includes a provision eliminating retail competition after 2023. The retail competition language was inserted from a piece of legislation supported by MA Attorney General Maura Healey who has a long history opposing retail energy suppliers

○ Louisiana, Oklahoma, Wisconsin, Kansas, Missouri

RTO Expansion in the States – All 2021 Bills

- South Carolina Act 187

- Created the Electric Market Reform Study Committee Chaired by Senator Tom Davis

- Colorado Senate Bill 72

- Directs utilities to join an RTO by 2030

- NV SB 448

- Requires the state to join an RTO by 2030
 - Accelerates \$2b in transmission investment across the state

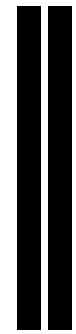
- With Concerns in MISO, ERCOT, CAISO, and ISO New England in 2022, how will the debate proceed in legislative session next year?

Trouble in RTOs?

- NERC Summer Reliability Report – Concerns in MISO – particularly in the North
- ERCOT spent much of June and part of July on alert
- CAISO spent last week on alert, but managed to avoid brownouts or blackouts

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Update: Reliability in the West and the Impact of EVs

Heather Rivard

Senior Vice President, Transmission & Distribution
Southern California Edison



SAFETY MOMENT: HOW YOU CAN STAY SAFE IN EXTREME HEAT

- Prolonged exposure to extreme heat and humidity can make you sick, whether you're outside in the heat of the day, or inside in a hot working environment. You and your peers can stay safe and prevent heat illness by following these prevention tips:
 - Hydrate
 - Find Shade
 - Wear Your PPE
 - Eat Light Meals
 - Monitor Your Peers



SCE SERVICE AREA & HIGH FIRE RISK AREAS



SOUTHERN CALIFORNIA
EDISON®

one of the
nation's largest
electric utilities



headquartered in
Rosemead, CA



more than 130
years of history



50,000 SQ. MI.
of SCE service area
across southern,
central and coastal
California



5M
customer accounts or
15M residents in SCE's
service area

14,000 SQ. MI.
of high fire risk areas



52,000 MI.
of SCE overhead
distribution and
transmission lines



1.4M
power poles

14,000 MI.
in high fire risk areas

300,000
in high fire risk areas



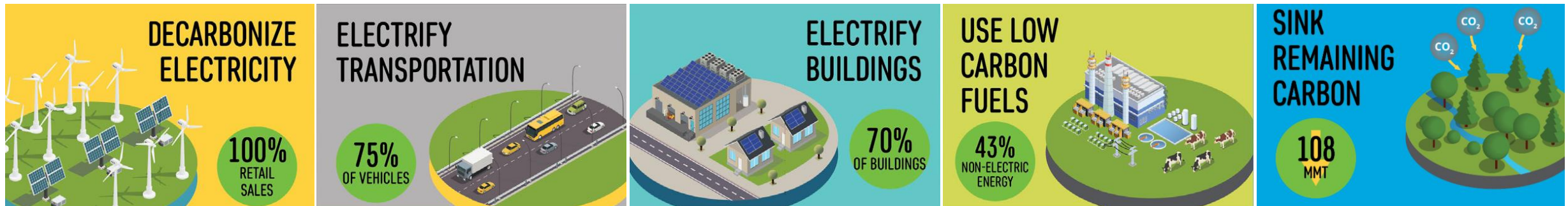
**27% of SCE's
service area is in
high fire risk areas**

EDISON PATHWAY 2045

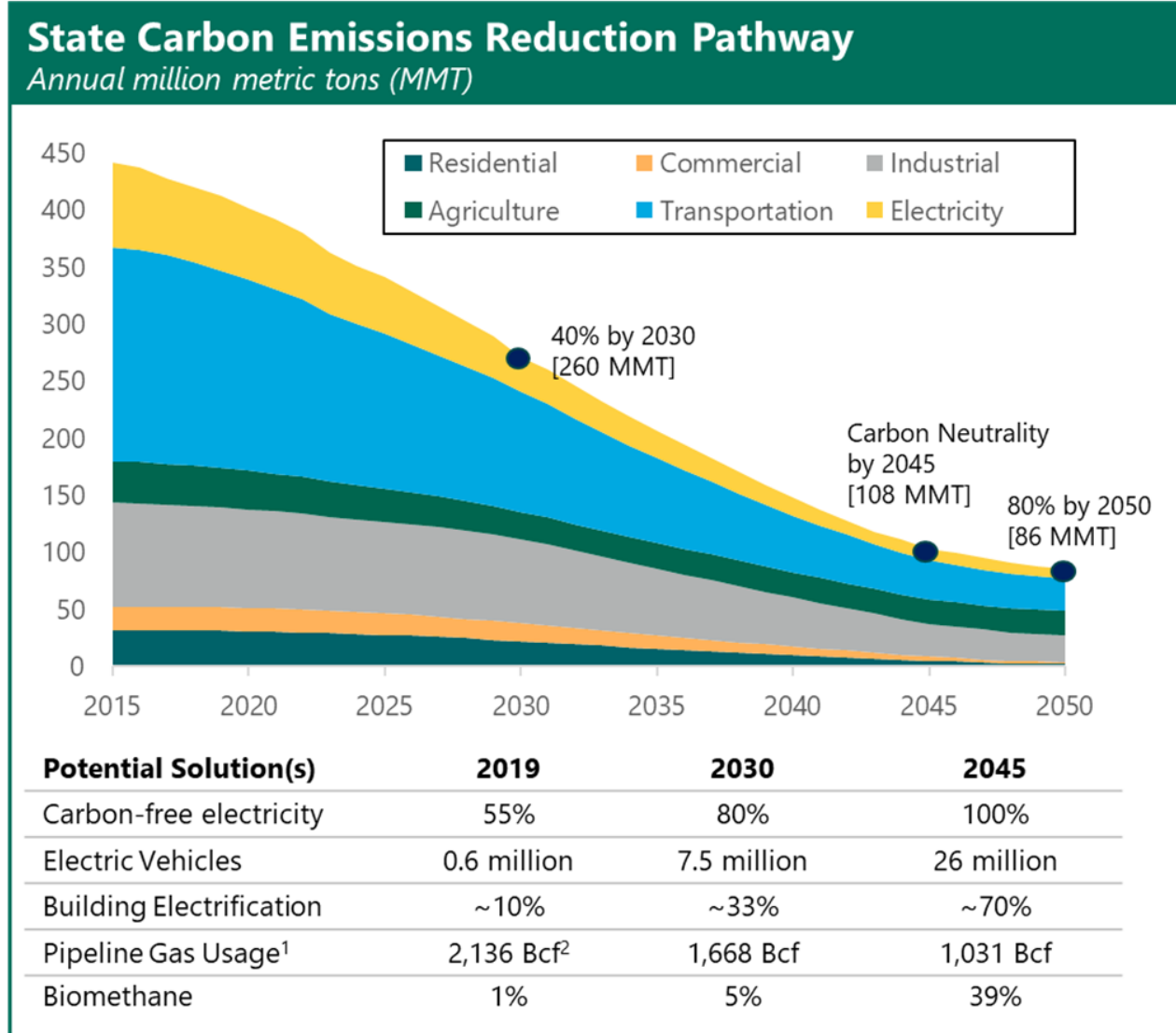


REACHING CALIFORNIA'S 2045 GHG GOALS REQUIRES A NEAR-COMPLETE TRANSFORMATION OF ENERGY USE ECONOMY WIDE

Pathway 2045: Key steps California must take to reach carbon neutrality



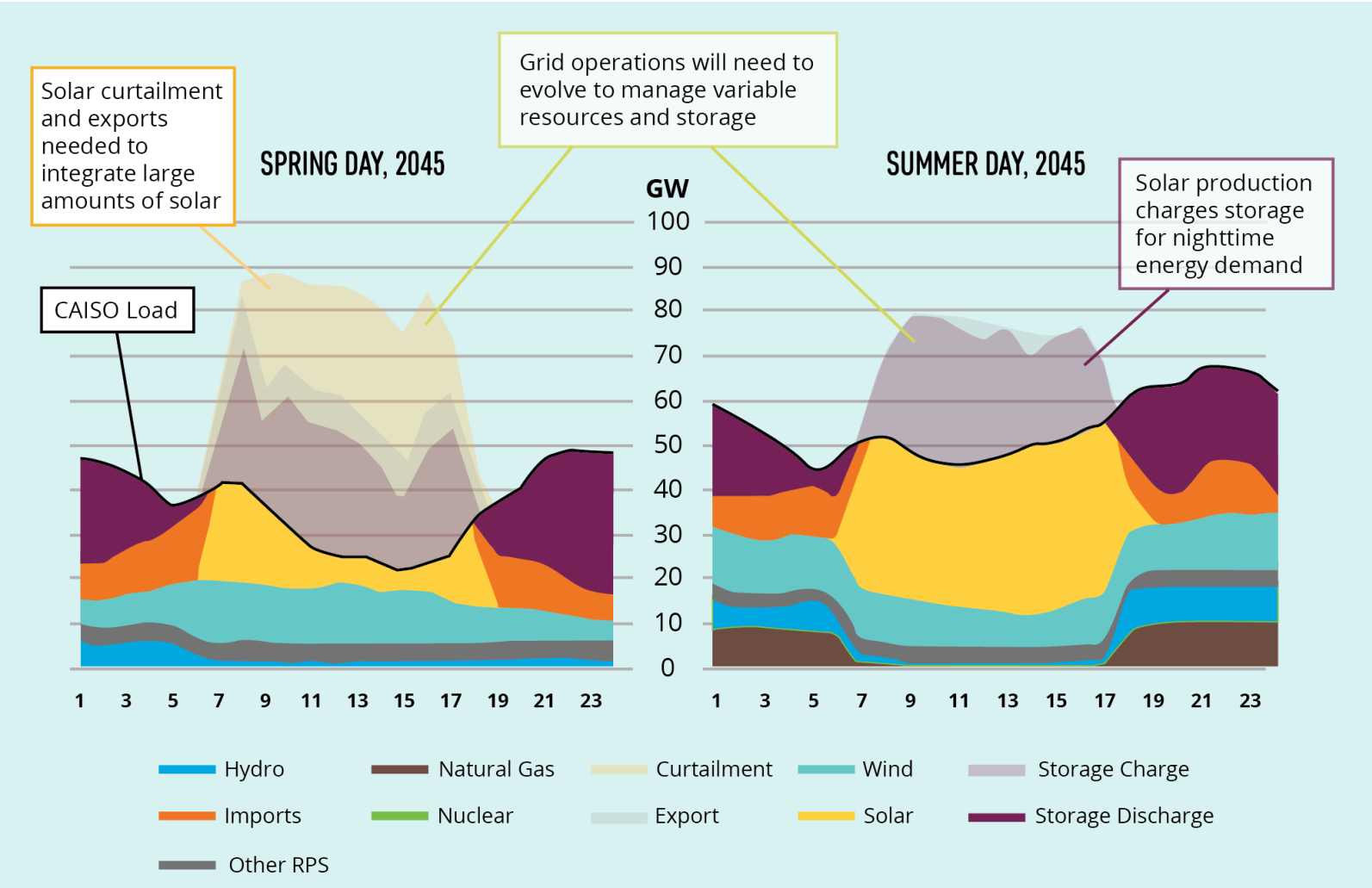
ELECTRIC SECTOR DECARBONIZATION AND ELECTRIFICATION OF CUSTOMER END USES SUPPORT ACHIEVEMENT OF CARBON NEUTRALITY IN 2045



¹ Includes fossil natural gas, biomethane and hydrogen

² BCF: billion cubic feet

GRID OPERATIONS ARE ALREADY EVOLVING TO ACCOMMODATE VARIABLE AND USE-LIMITED RESOURCES. THIS EVOLUTION WILL CONTINUE AS THE GRID MORE FULLY DECARBONIZES AND CLIMATE IMPACTS MATERIALIZE.



SCE'S LONG-TERM STRATEGY IS HIGHLY ALIGNED WITH CALIFORNIA'S PUBLIC POLICY GOALS

**Safe, Reliable, and Affordable
Electricity Service**

&

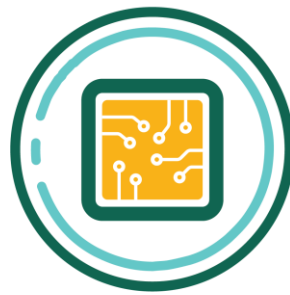
Decarbonization of California



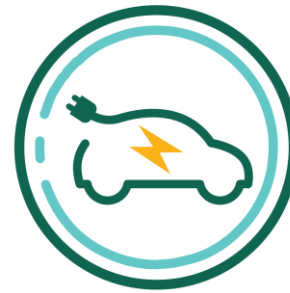
**Infrastructure
Replacement**



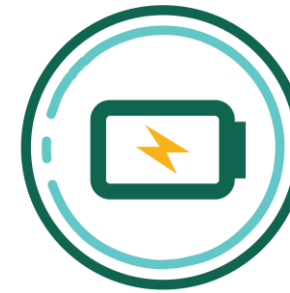
**Wildfire
Mitigation**



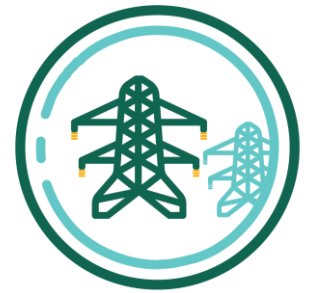
**Grid
Modernization**



Electrification



**Energy
Storage**



Transmission

CLIMATE ADAPTATION: 2050 CLIMATE EXPOSURE TRENDS AND IMPACTS ON THE ELECTRICAL SYSTEM



AVERAGE TEMPERATURE

5°F projected increase relative to historical averages

AVERAGE TEMPERATURE IMPACTS

- Existing infrastructure will become less efficient, especially inland, resulting in reduced capacity on lines and higher losses in transformers
- Useful life of assets will decrease due to increased exposure and usage



PRECIPITATION

40% projected decline in snowpack and more variable year-to-year precipitation with more intense drought and fewer, more intense precipitation events

PRECIPITATION IMPACTS

- Infrastructure will need to be designed to withstand more intense storm surges and flooding
- Hydroelectric generation could become less reliable if the current drought continues or in the event of future prolonged droughts



SEA LEVEL

2.6 feet projected sea level rise relative to the year 2000

SEA LEVEL IMPACTS

- Infrastructure and communities in some coastal areas will be at higher risk of flooding



EXTREME HEAT

7X more likely, on average, for SCE service area to experience temperatures as hot as or hotter than the historical 99th percentile temperature

EXTREME HEAT IMPACTS

- Worker safety standards will need to account for heat
- Peak load could increase significantly
- Equipment will not cool overnight during intense heat waves, reducing capacity and useful life of some equipment



WILDFIRE

23% more land projected to burn during summer fuel-driven wildfires and wildfire season is expected to become longer

WILDFIRE IMPACTS

- Conditions will be more conducive to wildfire ignition and spread
- Impacted service centers may not be able to operate or perform key functions during wildfires or droughts



CASCADING EVENTS

A range of high-impact, low-probability events can occur from the interaction between exposure variables such as post-fire mudslides (debris flow) and rain-on-snow events

CASCADING EVENTS IMPACTS

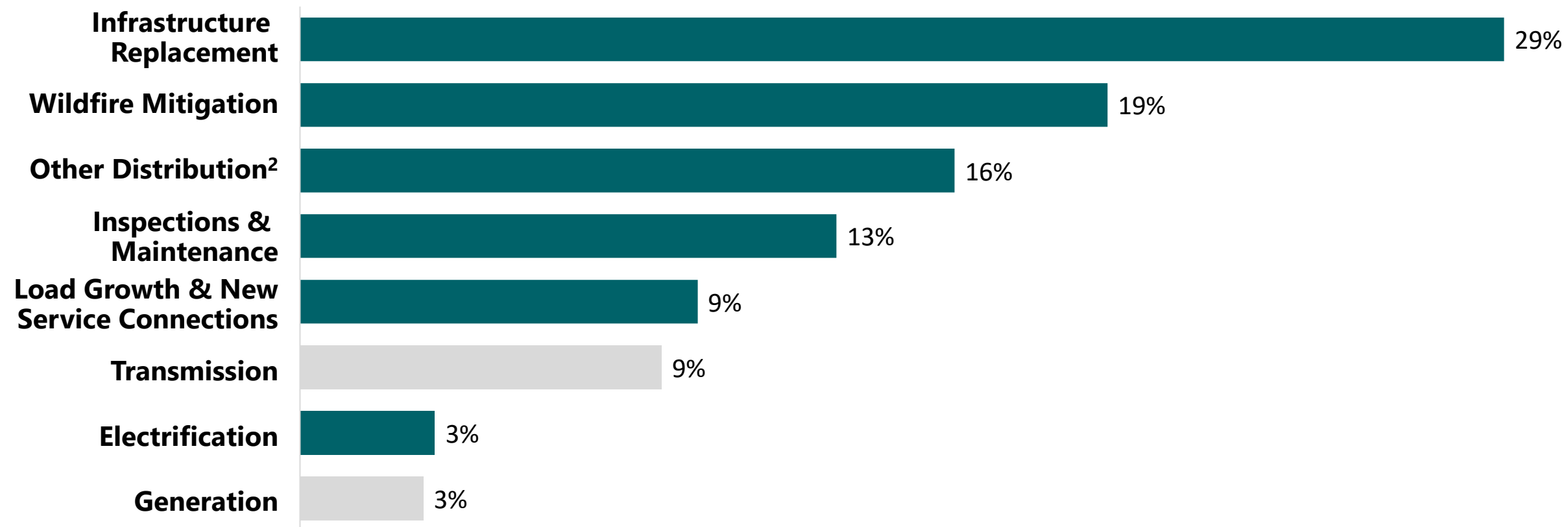
- Communities in or near high fire risk areas could be exposed to increased landslide risk
- Hydroelectric planners need to account for early snowmelt and extreme runoff

Note: All exposure projections reflect climate change under a "high emissions" scenario, or Representative Concentration Pathway (RCP), commonly referred to as RCP 8.5.

OVER 80% OF SCE'S CAPITAL INVESTMENTS ARE IN ITS DISTRIBUTION GRID, CONSISTENT WITH WIRES-FOCUSED STRATEGY

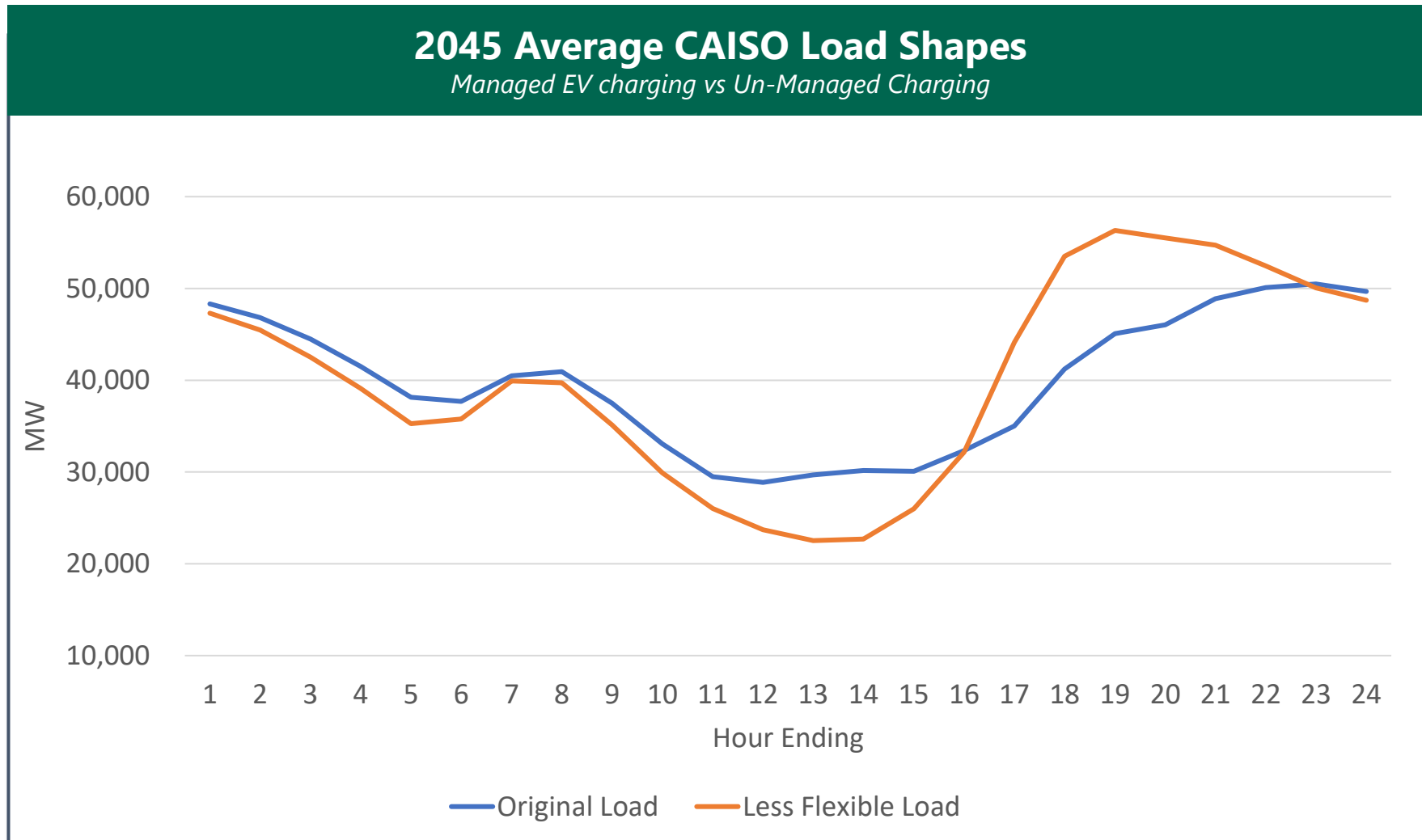
SCE forecasts investing \$27–30 billion from 2021 to 2025 to support SCE's wildfire mitigation strategy and clean energy transformation in California

Percentage of 2021–2025 capital plan¹



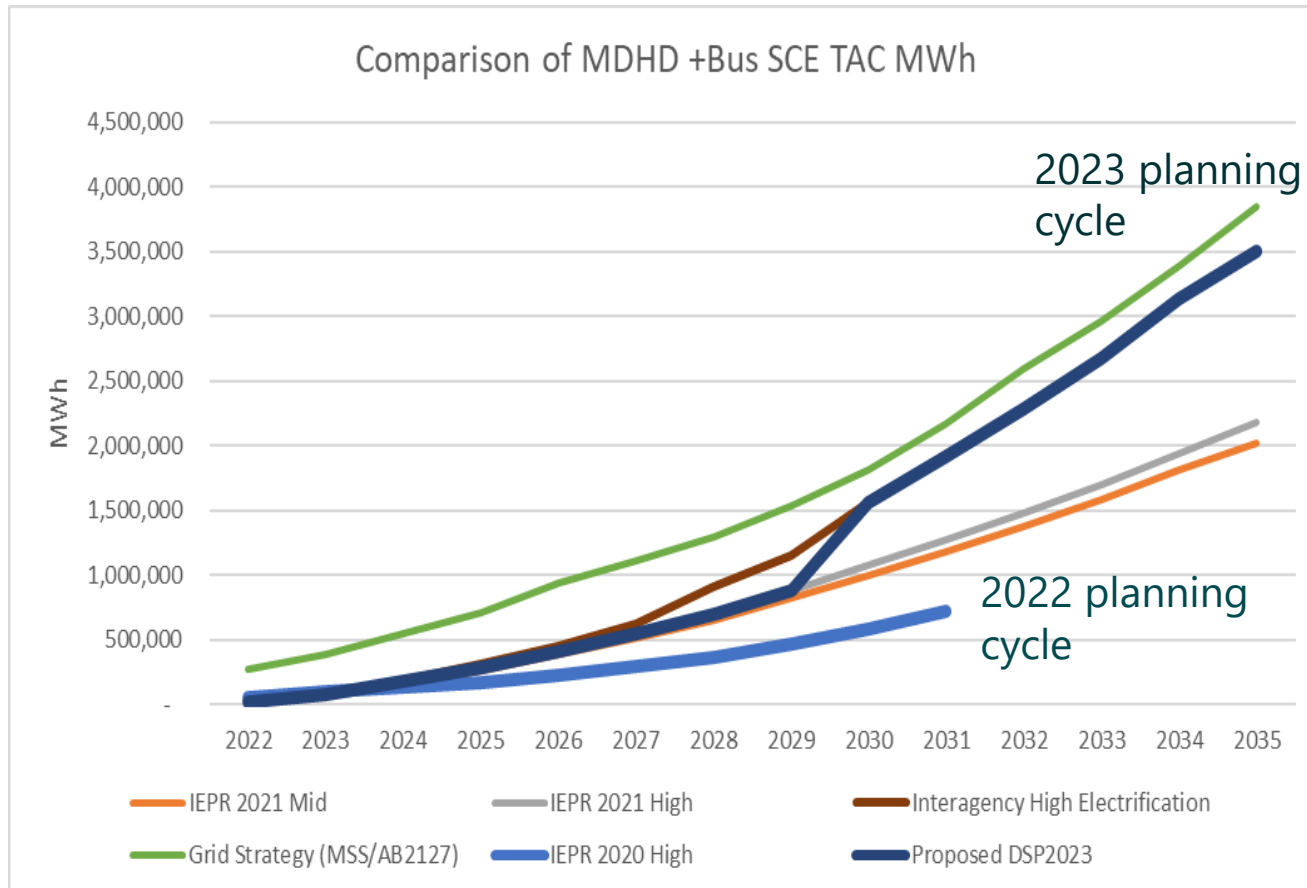
1. Subject to change depending on 2025 GRC testimony
2. Includes utility-owned storage and other

MANAGEMENT OF FLEXIBLE CUSTOMER LOADS, SUCH AS ELECTRIC VEHICLES, CAN REDUCE GRID CAPACITY NEEDS AND COSTS THROUGH 2045



SCE, IN PARTNERSHIP WITH IBEW LOCAL 47, HAS BEEN PROACTIVELY PREPARING THE GRID FOR A HIGH ELECTRIFICATION FUTURE

MD/HD forecast for distribution system planning

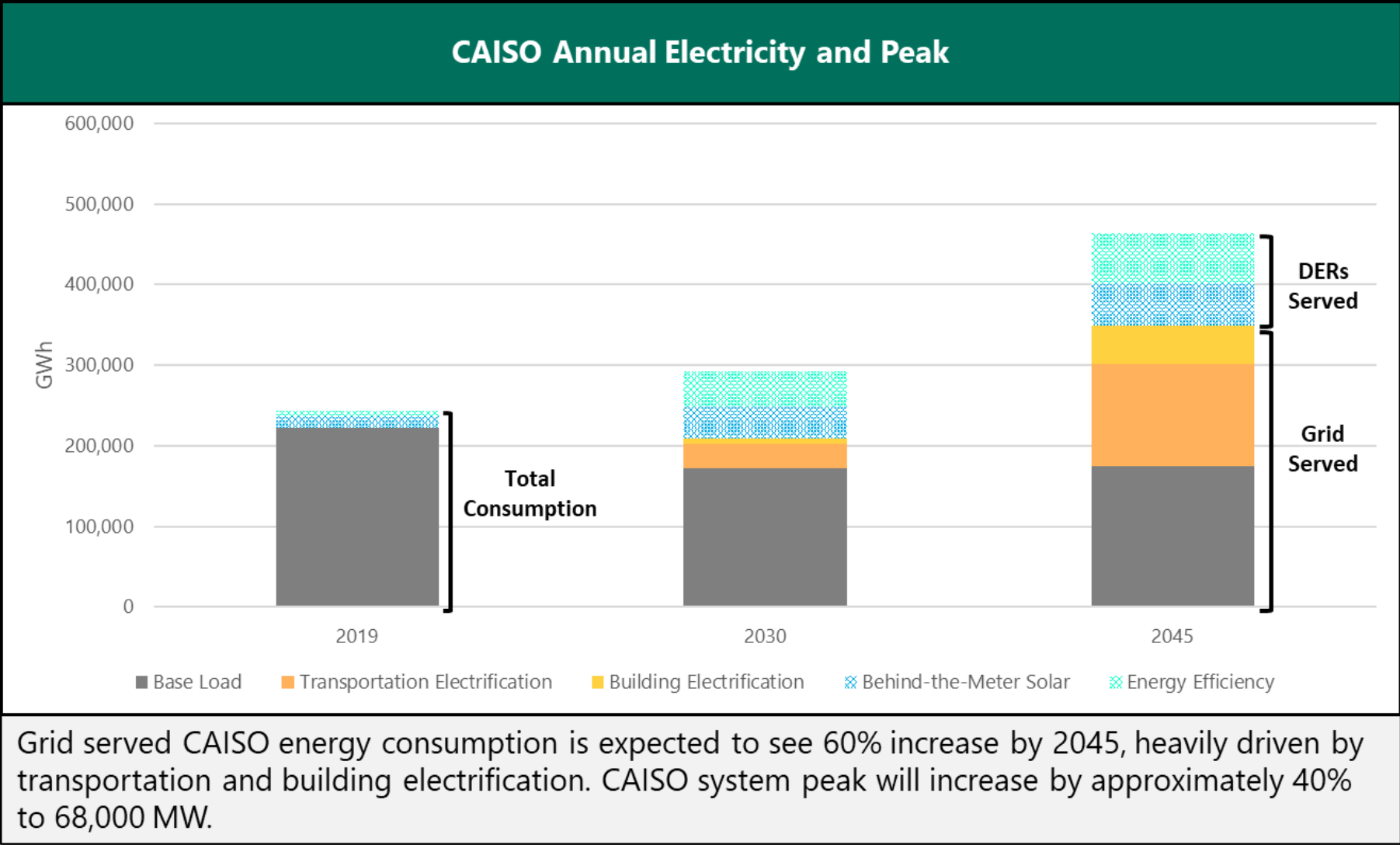


MD/HD = Medium- and heavy-duty Vehicles

Fleet targeting and scenario analysis



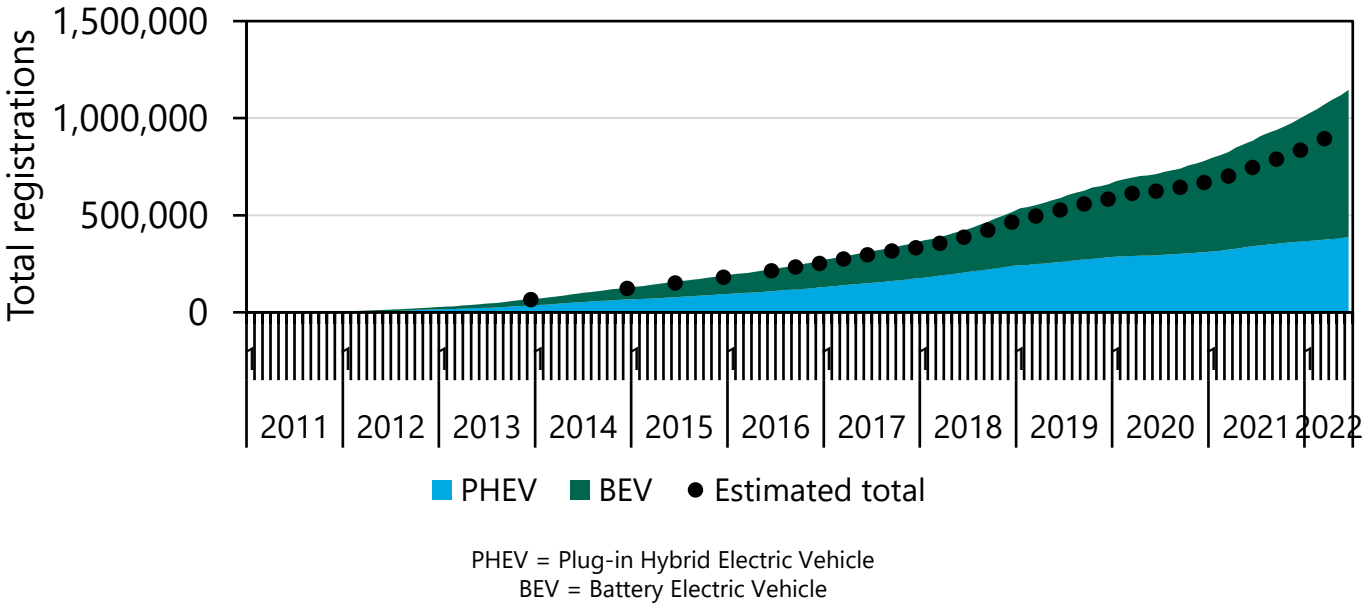
DECARBONIZATION THROUGH ELECTRIFICATION SIGNIFICANTLY INCREASES ANNUAL ELECTRICITY DEMAND AND PEAK LOAD BY 2045



SCE IS SUPPORTING THE ELECTRIFICATION OF MORE THAN 550,000 VEHICLES OVER THE NEXT 5 YEARS



Electric Vehicle Registrations in California



EV adoption is increasing in multiple sectors and there are load and grid infrastructure impacts with supporting from pilot to scale, especially Medium/Heavy Duty fleets

Key Takeaways

- It is imperative in California and around the world to have a grid that adapts and responds to climate change
- The EV revolution is at a tipping point
- California has been at the forefront of the EV revolution, and while progress is being made, we need to increase the pace of EV adoption and supportive infrastructure

Q&A



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Edison Electric
INSTITUTE

Western LAMPAC – Working Together to Deliver

Shawn Cooper
External Affairs
Director of Labor Relations



Our Industry is Critical to the American Economy



Contribute

5%

annually to U.S. GDP



Support

7 million+

jobs across the
United States

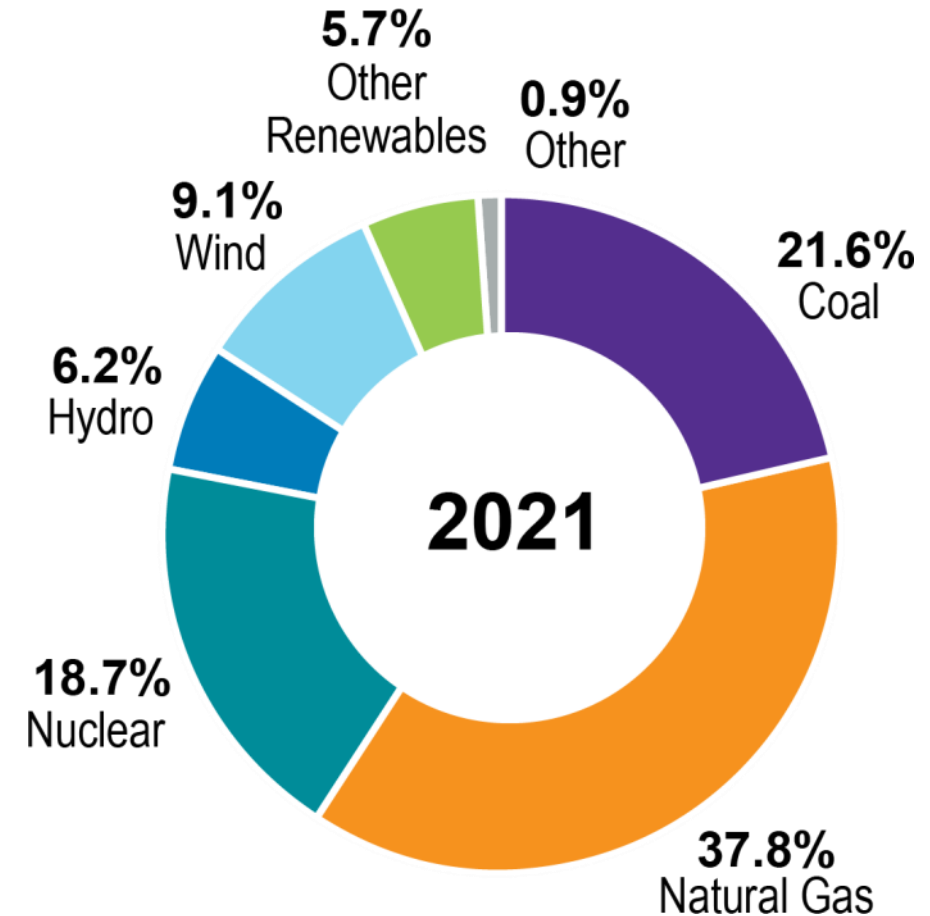
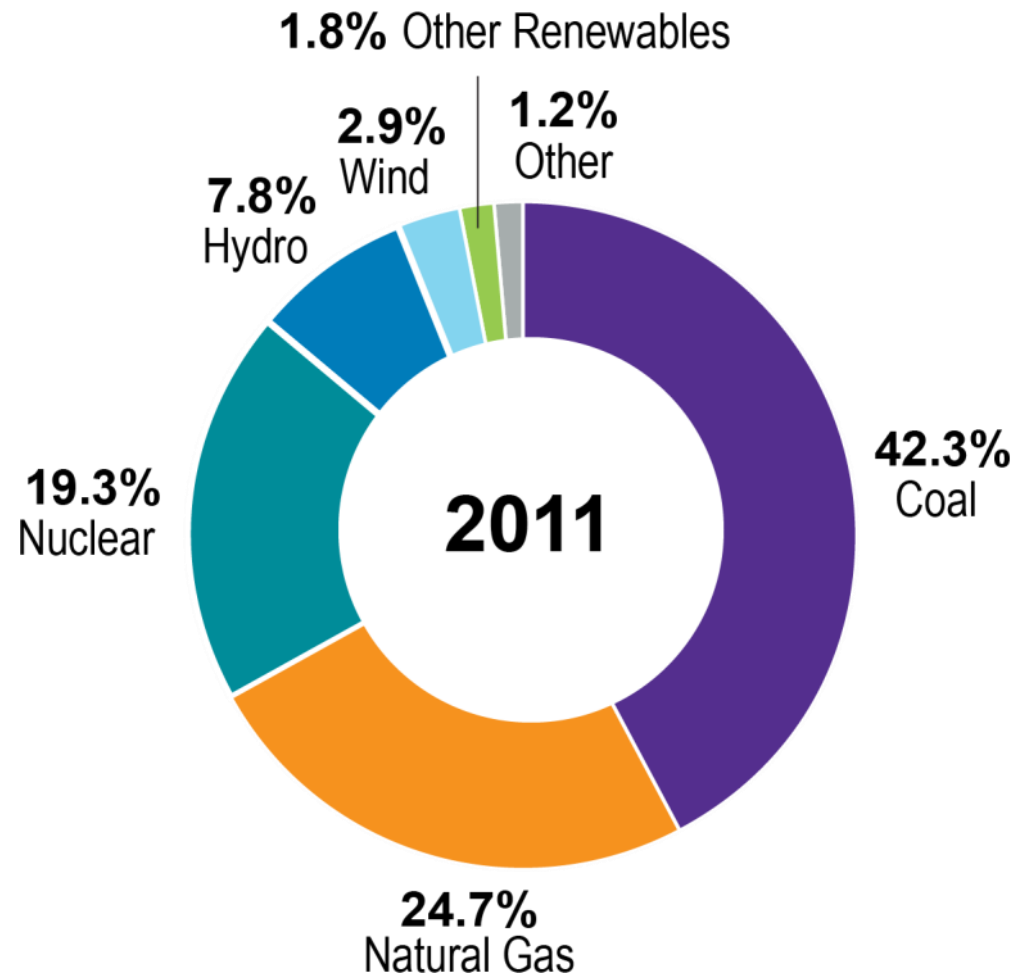


Invest

\$120 billion+

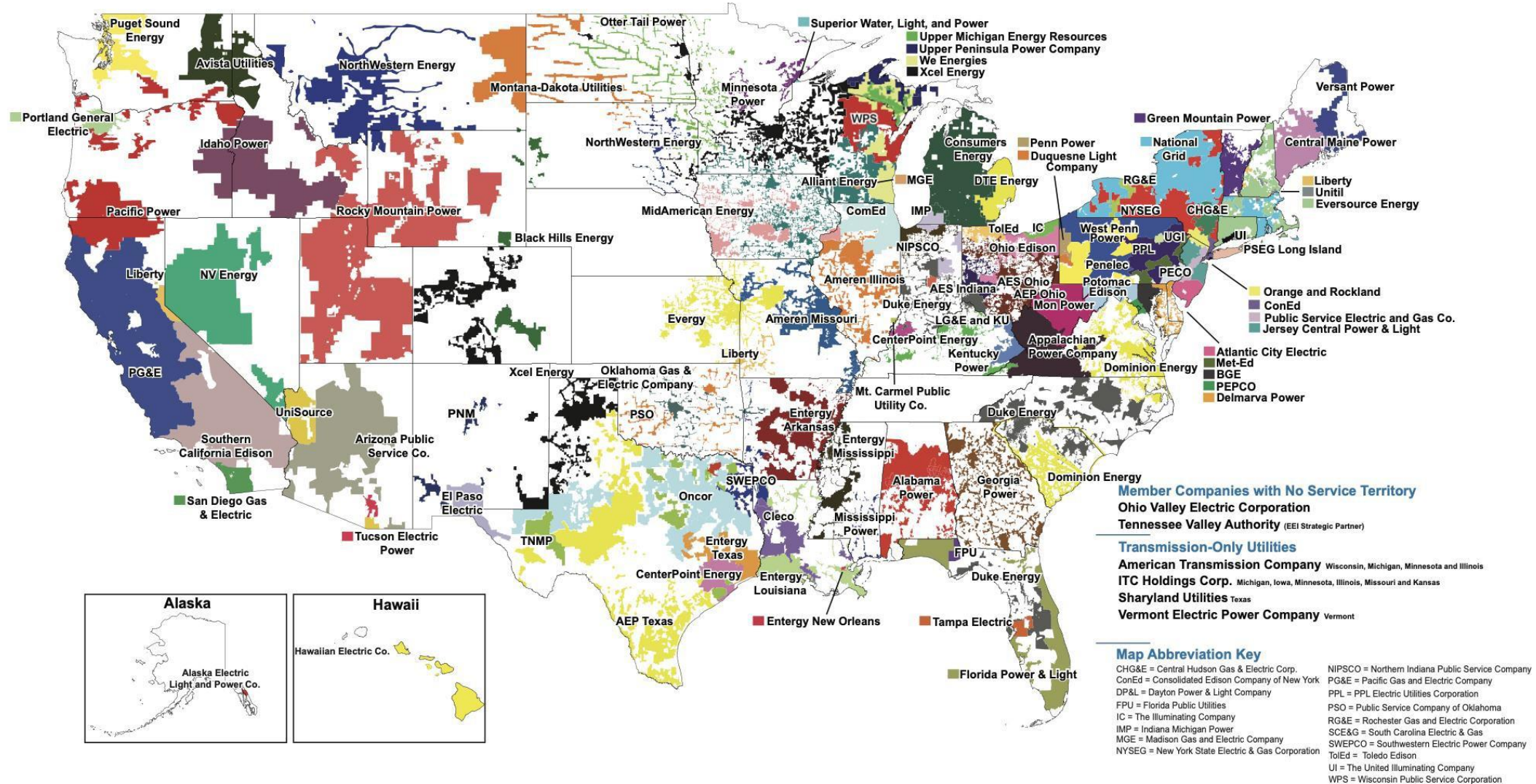
per year to build
smarter, cleaner, stronger,
and more secure
energy infrastructure

Transforming the Energy Mix



Note: "Other Renewables" includes universal (or large-scale) solar, private (or rooftop) solar, geothermal, and generation from biomass sources (agricultural waste, landfill gas recovery, municipal solid waste, wood, non-wood waste). Source: U.S. Department of Energy, Energy Information Administration (EIA).

EEI U.S. Member Company Service Territories



"EEI Member Made – IBEW Built "

The IIJA presents a once in a lifetime opportunity to partner on major infrastructure projects.

The Biden Administration

Never has there been a more pro-labor President

- ✓ **A skilled workforce**
- ✓ **Prevailing Wage**
- ✓ **Apprenticeship Program**
- ✓ **Made in the USA**
- ✓ **Environmental Justice**
- ✓ **Bargaining Rights**
- ✓ **Careers – not jobs**

\$\$\$\$ IIJA Opportunities

- **\$21 bill** in Clean Energy Development
- **\$43.4 bill** Broadband & Infrastructure
- **\$8.9 bill** in EV infrastructure
- **\$6.7 bill** to maintain existing generation fleet
- **\$16.5 bill** Grid Resilience

IJA Funding Opportunities



\$5.05B

Expanding Access
to Energy Efficiency
& Clean Energy



\$16.5B

Grid Resilience &
Improvements



\$6.7B

Maintaining our
Existing Clean
Generation Fleet



\$21.5B

Clean Energy
Demonstration &
Research Hubs



\$43.4B

Broadband
Development &
Infrastructure



\$8.9B

Electric Vehicle
Infrastructure

Strategy for Obtaining IIJA Funding

- **Feds Will Allocate Funds to States and Cities** – The majority of IIJA grants will be allocated to states and cities for distribution to qualified recipients. Include your State and local representatives in on your planning process and solicit their help.
- **Partner With Labor on Your Grant Proposals** – IIJA language encourages organized labor participation. If you can demonstrate the partnership – it will go a long way with the decision makers.
- **Consider a Joint Management and Labor Team** – When engaging with your State and Local leaders, or your regulatory decision makers.

IRA Funding Opportunities

- **\$260 billion in clean energy tax credits**
- **\$ 80 billion in new rebates for electric vehicles**
- **\$ 1.5 billion in incentives to cut methane emissions**

2022 Industry Focus & Priorities



Clean
Energy



Resilience &
Grid Security



Storm Response
& Wildfire
Mitigation



Infrastructure
Investment &
Jobs Act
Implementation



Electric
Transportation



Diversity,
Equity &
Inclusion

Next On the Agenda

Positioned to Act – Making sure our member companies and labor partners are well positioned to take advantage of the IIJA funding and grants over the next 5 years.

Siting and Permitting Reform – While billions of dollars are available to build back better, current siting and permitting regulations and restrictions could prevent projects from moving forward with major delays or even stopping projects from moving forward.

Climate Change – Address Climate Change while re-enforcing our grid reliability, resilience and affordability.

Work With and Prepare Communities for the challenges ahead (wildfires, extreme heat waves, stress on the grid, land use planning, forest and tree management).

Invest in research, development, and deployment of technologies that mitigate wildfire risks, build a stronger grid, create good paying jobs for our union employees, and always look for affordability.

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Western LAMPAC Fall Conference September 13, 2022 New Energy Legislation and Policies

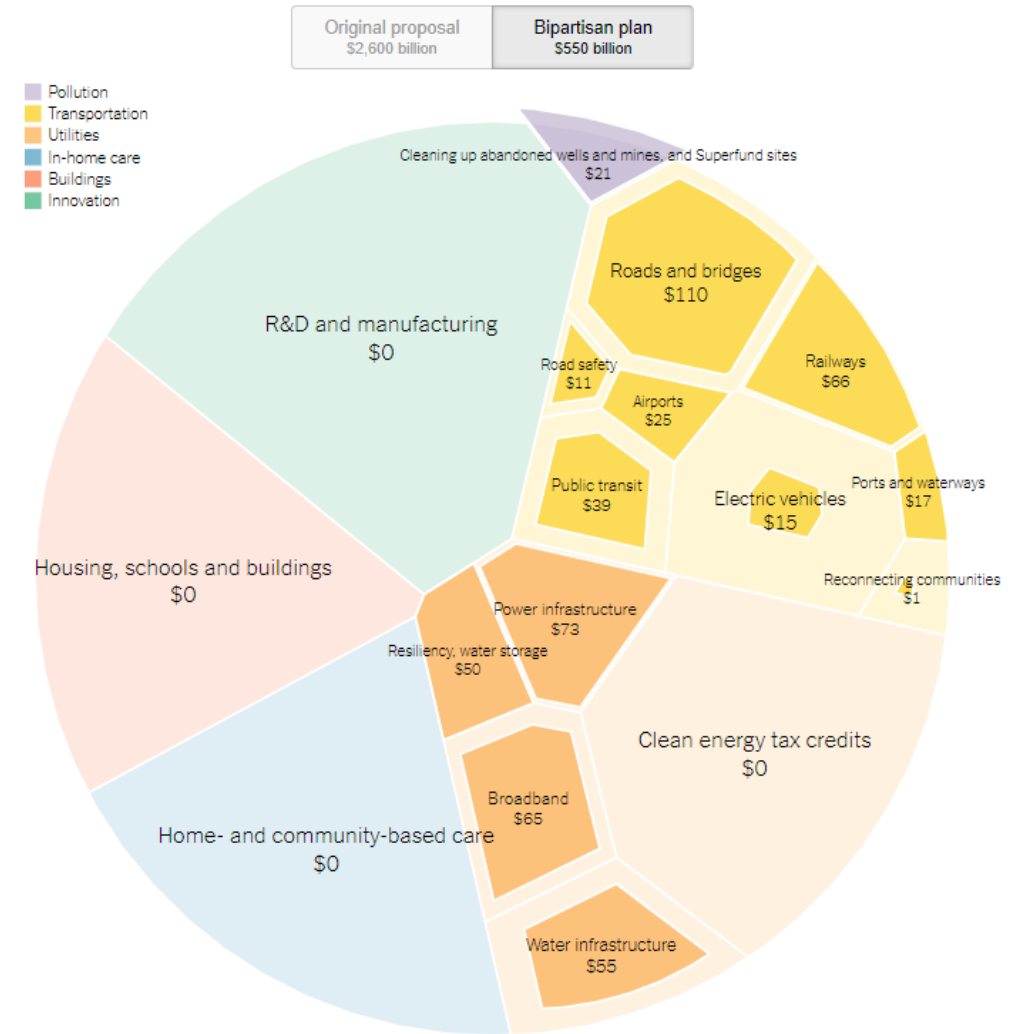
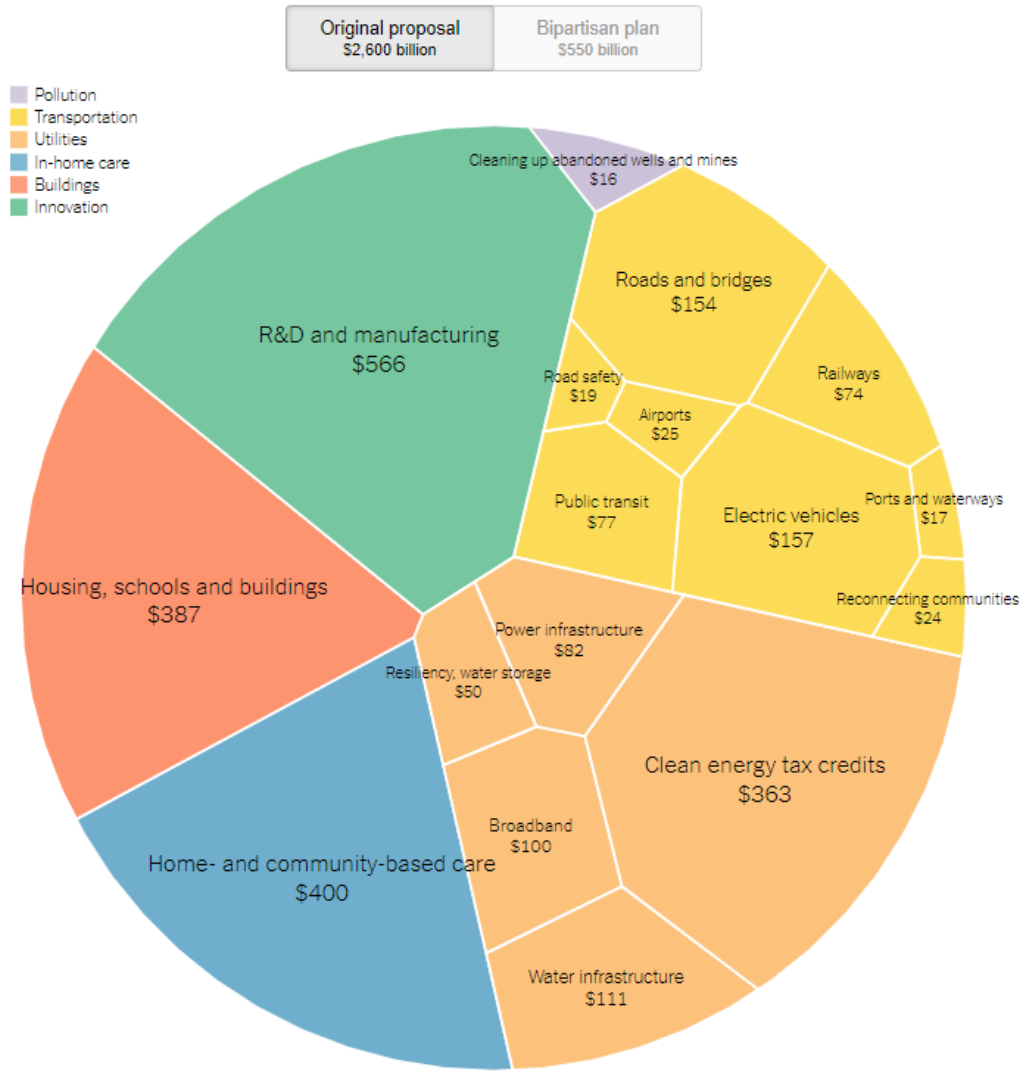
Jonathan M. Weisgall

Vice President, Government Relations
Berkshire Hathaway Energy

Summary of key bills since 2021

- **\$1.9 trillion pandemic American Rescue Plan (March 2021)**
- **\$550 billion Infrastructure Investment and Jobs Act (November 2021)**
- **Bipartisan Safer Communities Act - gun control (June 2022)**
- **\$280 billion CHIPS and Science Act (August 9, 2022)**
- **Promise to Address Comprehensive Toxics Act (PACT) (August 10, 2022)**
- **\$437 billion Inflation Reduction Act (August 16, 2022)**

August 2021: Infrastructure Proposal



Infrastructure Investment and Jobs Act

- **\$550 billion over 5 years; “Building a Better America” (465 pages)**
- **Roads, bridges, ports, airports, broadband, EVs, buses, ferries, rail, water, power**
- **Obsolete natural gas pipelines and distribution systems**
- **FERC approval of transmission line in NIETC**
- **Federal government as anchor tenant in transmission lines**
- **\$7.5 billion for EVchargers (Biden asked for \$174 billion)**
- **Boost carbon capture, hydrogen, hydro production**
- **Reduce CO₂ from natural gas plants**
- **Plug abandoned oil wells and clean up abandoned mines**
- **Energy efficiency**

Saga of the reconciliation bill

- **American Families Plan, Build Back Better, reconciliation bill, Inflation Reduction Act**
- **Passed by House November 2021; Senate does not take it up**
- **December 2021: Sen. Joe Manchin (D-WV) pulls support**
- **February 2022: Russia invades of Ukraine. Manchin is back**
- **July 14, 2022: Manchin says no deal**
- **July 18-27: Talks between Machin and Sen. Schumer (D-NY)**
- **July 28: Deal announced; bill passes on party-line votes**
- **The play is no longer policy. It's implementation**

Inflation Reduction Act overview

- **Expenditures: \$437 billion over 10 years**
 - Energy security and climate change \$369 billion
 - Affordable Care Act Extension \$64 billion
 - Western drought resiliency \$4 billion
- **Revenue raised: \$737 billion over 10 years**
 - 15% corporate minimum tax on book income for companies earning more than \$1 billion per year
 - Prescription drug pricing reform
 - Revenue from increased IRS tax enforcement
 - 1% excise tax fee on corporate stock buybacks
- **Total deficit reduction: \$300 billion**

Inflation Reduction Act overview– what's in

- **Autos: EV credits up to \$7,500 for new; used EVs up to \$4,000**
- **Health care**
 - Medicare to negotiate for lower drug prices on 100 prescription medicines
 - Health care subsidies extended for three years
 - Annual out-of-pocket drug costs for Medicare recipients capped at \$2,000
- **\$60 billion in support of low-income communities disproportionately burdened by climate change**
- **Fossil fuel industry**
 - Federal government to auction off more public areas for oil drilling
 - Tax credits for coal and gas plants that rely on carbon capture technology
 - Needed to gain the support of Sen. Manchin

Inflation Reduction Act – electric vehicles

- **Two goals: Make EVs more affordable and freeze China out of supply chain**
- **Credit of \$7,500 for new cars through 2032, but . . .**
- **Income limit: <\$150,000 for individuals or <\$300,000 for joint returns**
- **Price cap: \$80,000 for SUVs, pickup trucks and vans; \$55,000 for sedans**
- **By 2024, >50% of battery components from US, Canada, Mexico; 100% by 2028**
- **40% of critical minerals in battery from US, free-trade country or North American recycling facility; 80% by 2026**
- **Lifts cap of 200,000 cars per company**
- **Vehicles must be assembled in the US**
- **\$4,000 for sales of used EVs (income limits)**
- **Free market? Adam Smith? No. Pure industrial policy**

Inflation Reduction Act overview – energy

- **\$369 billion of the total of \$437 billion in spending**
- **Extends wind, geothermal, and solar ITCs and PTCs through 2032**
- **Solar projects newly eligible for PTC**
- **Bonus credits for (1) projects in communities with retired coal operations or disadvantaged community/tribal land; (2) domestic content requirements; (3) prevailing wages; and (4) apprenticeships**
- **New energy storage ITC – utility opt-out of normalization**
- **New credits for clean hydrogen, microgrids, existing nuclear**
- **Some credits are refundable or transferable**
- **Tax credits for “green” home upgrades: windows, doors, water heaters, furnaces, air conditioners, heat pumps**
- **Rebates for energy-efficient appliances**

Inflation Reduction Act overview – energy (cont'd)

- **Increased credits for carbon capture**
- **Extension of clean fuels credits**
- **New technology-neutral “clean electricity credit” starting 2025, supplanting technology-specific credits**
- **\$60 billion for domestic clean energy manufacturing**
- **New energy storage technologies ITC**
- **Sustainable farming and environmental justice efforts**
- **Penalties up to \$1,500/ton on methane leaks**
- **\$350 billion to DOE’s Loan Programs Office**
- **Not in bill: ITC for transmission or upgrades for existing hydro**

Inflation Reduction Act – state level funding

- **\$8.6 billion for state energy offices to help consumers make energy-efficiency upgrades to their homes**
- **\$27 billion for a national green bank to provide low-cost financing for clean energy infrastructure projects**
- **\$5 billion to curb emissions through Climate Pollution Reduction Grants**
- **\$2.2 billion for forestry conservation programs**
- **\$1 billion to adopt building energy codes**

Inflation Reduction Act – what's out

- **Expansion of Medicare to include dental, health and vision benefits**
- **Free pre-K**
- **Free community college**
- **Child tax credit extension**
- **Higher marginal income tax rates for high earners**
- **Carried interest loophole**

Inflation Reduction Act – permitting reform

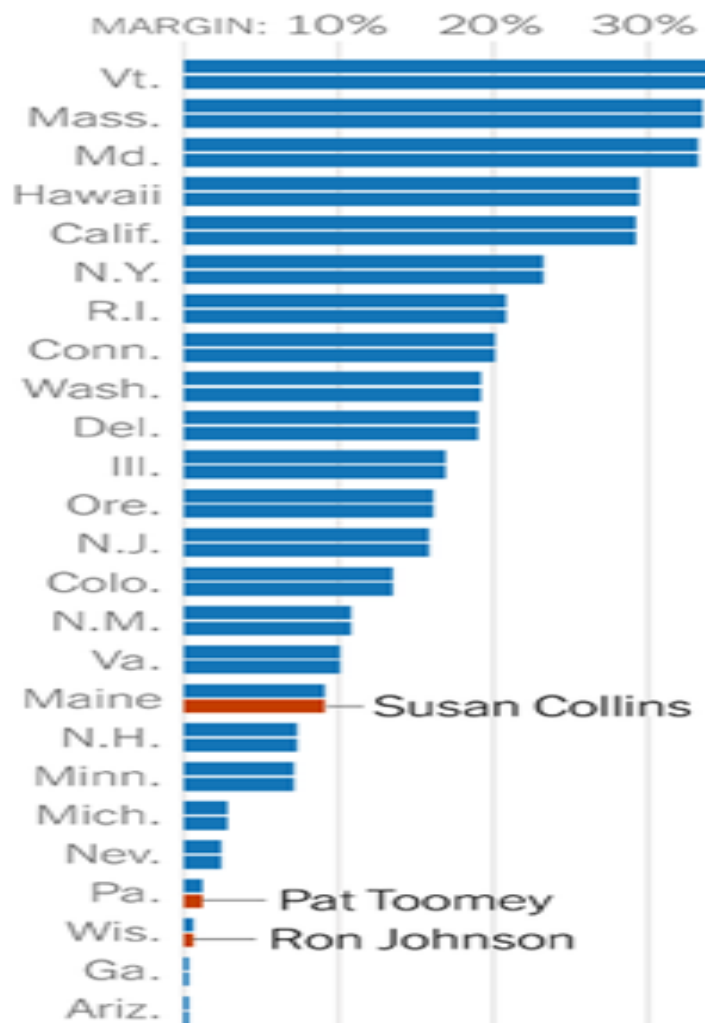
- **Not in bill; price for Sen. Manchin's vote**
- **Goal: Attach the bill to stopgap government funding bill**
- **Outline:**
 - **Two-year deadline for NEPA reviews**
 - **Limits to judicial challenges**
 - **Limits to Clear Water Act state authority**
 - **Approval of Mountain Valley Pipeline**
 - **Priority list of projects**
- **Could advance clean energy and transmission projects**
- **Tricky politics: tailor-made for Republicans, but little support so far**
- **Stay tuned**

Manchin factor

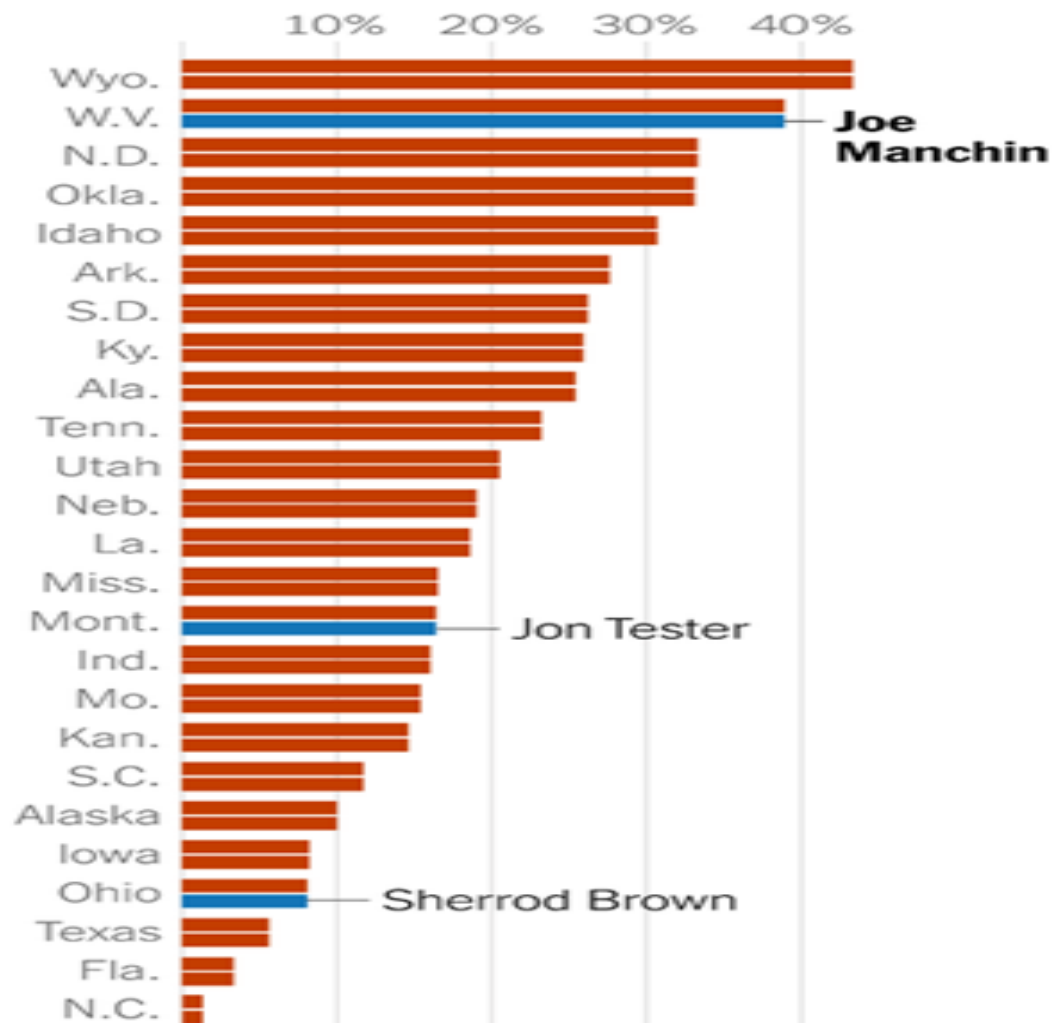
Senator party affiliations

■ Democratic ■ Republican

States where Biden won



States where Trump won



State of the republic

- **One area of agreement between Democrats and Republicans**
- **69% of registered voters in each party agree on one issue. What is it?**

