

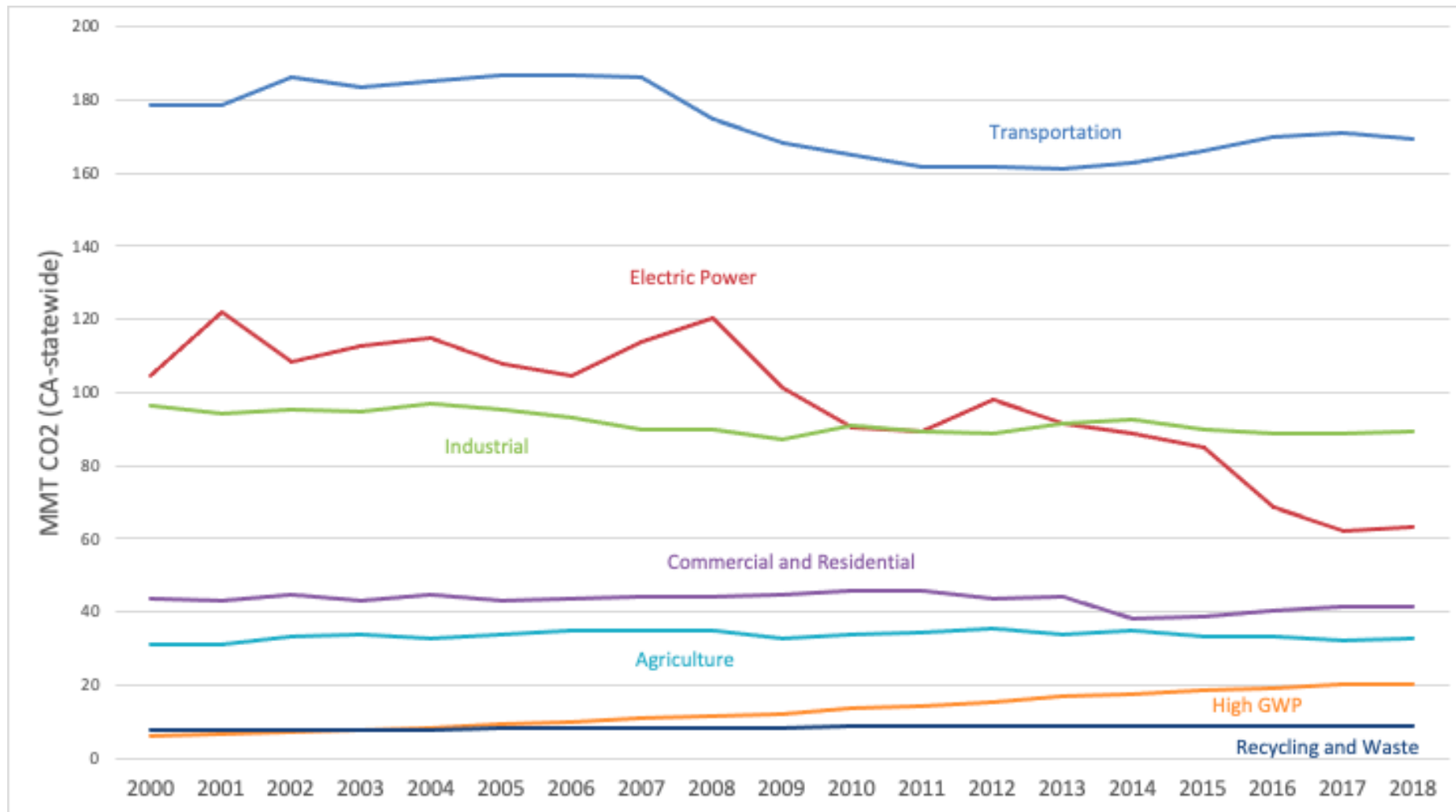
# CPUC Perspectives on Scoping Plan Update

Simon Baker – Director of Cost, Rates & Planning; CPUC – Energy Division  
June 8, 2021



California Public  
Utilities Commission

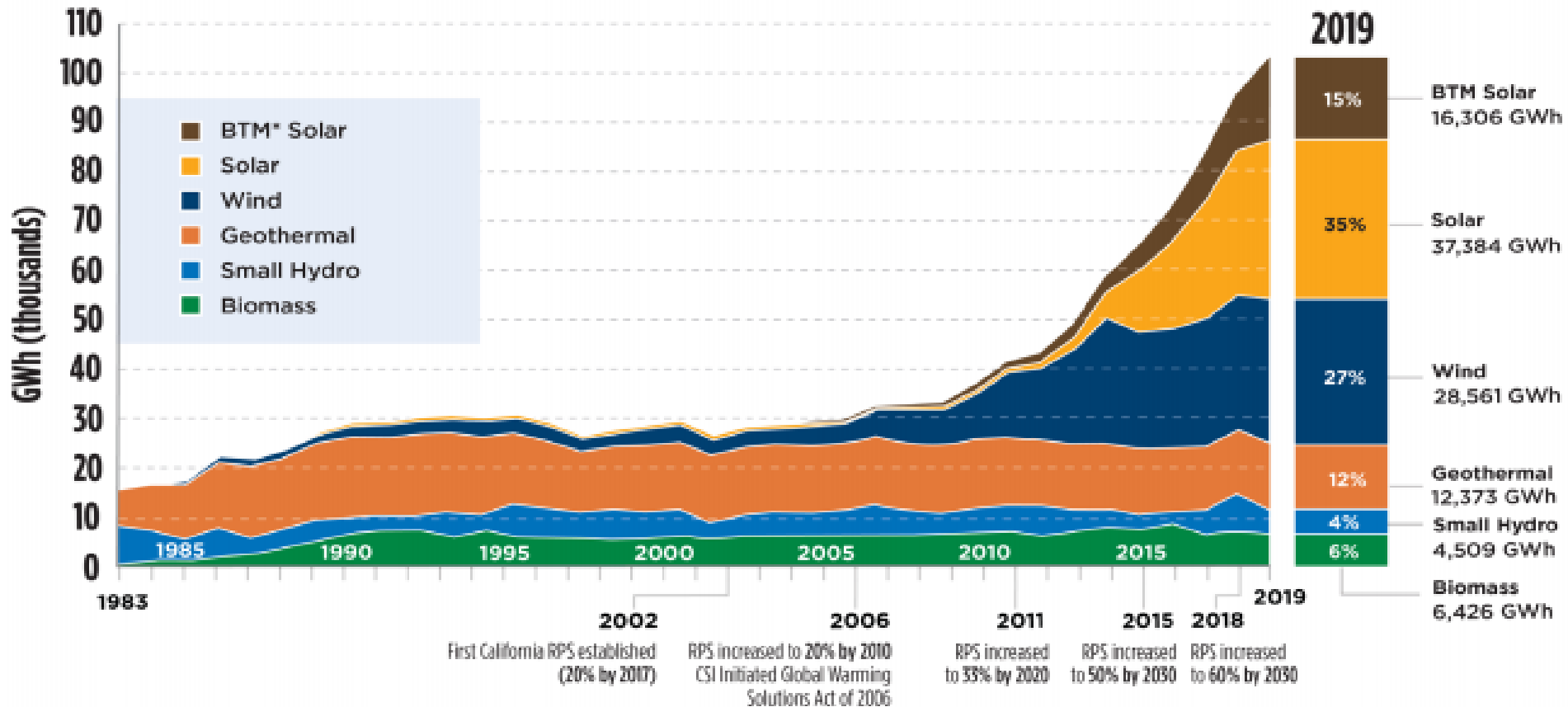
# Trends in California GHG Emissions



48% electric sector GHG decrease since 2008

# Where we are today: Clean Energy Build out So Far

**Figure 11: Total Renewable Generation Serving California Load by Resource Type**



- In 2019, **63%** of California's electricity retail sales came from non-fossil fuel resources
- On April 24, 2021, **94.5%** of CAISO Load was met by Renewables (nearly 100% carbon-free)
- CPUC-jurisdictional entities are **procured to exceed RPS targets through 2025**

Source: CEC Tracking Progress – Renewable Energy, February 18, 2020, [Link to CEC Tracking Progress – Renewable Energy, https://www.energy.ca.gov/sites/default/files/2019-12/renewable\\_ada.pdf](https://www.energy.ca.gov/sites/default/files/2019-12/renewable_ada.pdf).

# Where we are Today: Gas Plants

Between 2012 and 2021 California has seen a

**Net reduction of 5,400 MW of gas fired capacity**



Since 2001 the remaining gas fleet has run less often.

**California's gas plant fleet generated 30% fewer terawatt/hours (TWh) today than they did in 2001 and produces 40% less GHG emissions.**

These factors mean that natural gas generation GHG emissions have dropped by 20 MMT of GHG today since 2001.

# Where we are today: Building New Clean Energy

Over the next two years there will be **more than 8,000 MWs (nameplate)** of new clean energy resources coming on-line. That includes:



Close to 2,200 MWs  
of battery storage



Over 3,000 MWs  
of new wind and solar, and

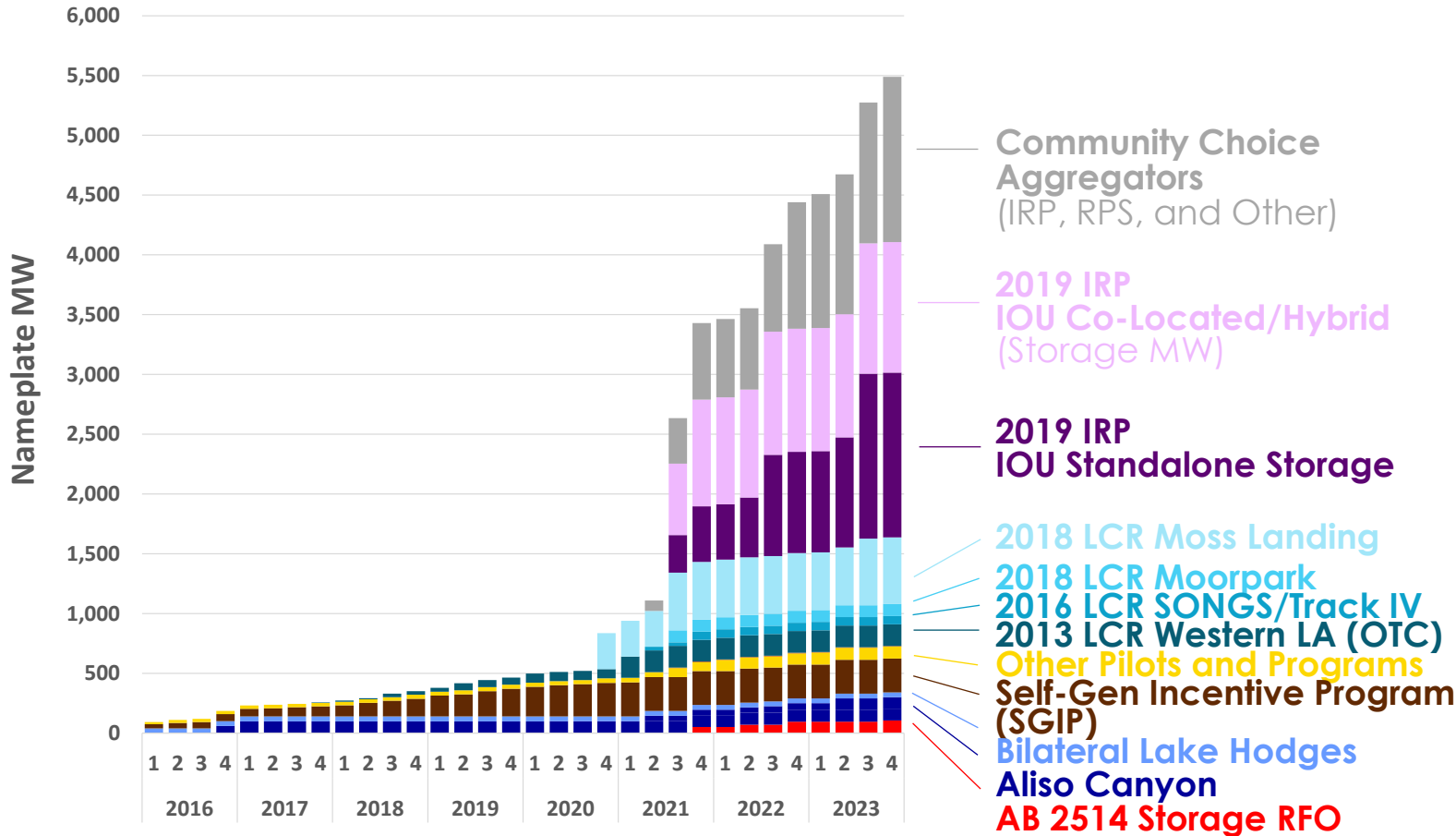


Close to 2,800 MWs  
of solar coupled with storage

By the summery of 2021  
storage will have the ability to meet  
**7.2% of net peak load**

By the summer of 2022  
storage will have the ability to meet  
**8.5% of net peak load**

# Where we are today: Storage Procurement

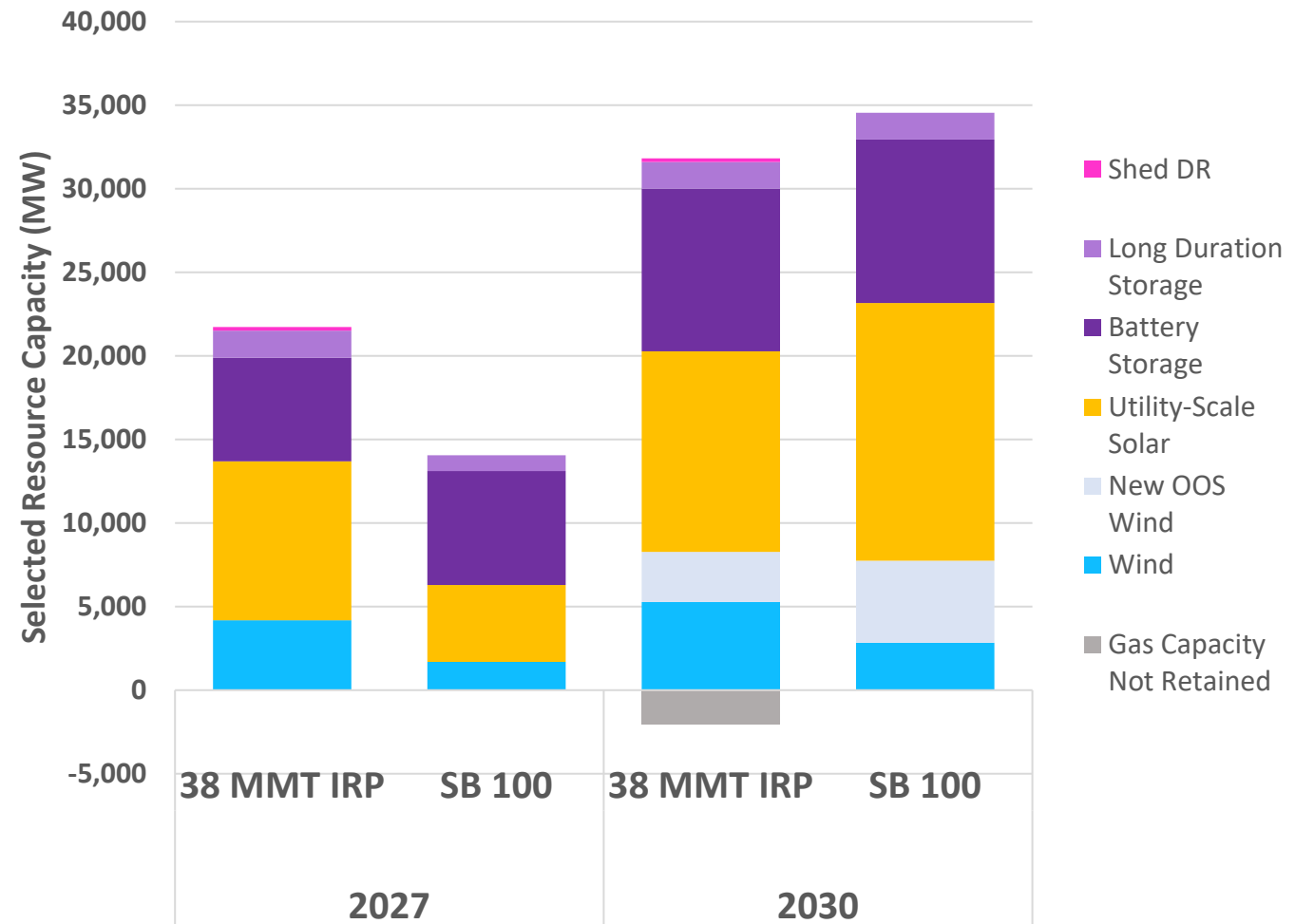


- Significant growth in energy storage capacity driven by various procurement tracks
- Current capacity surpassed 1,000 MW, which is >2x relative to last year
- With the upcoming projects, there will be over 3,000 MW online by the end of this year; more than 5,500 MW in 2023

Source: Lumen research based on utility applications and CPUC decisions on various resource procurement tracks, and other public information on project status. (IRP = Integrated Resource Plan; RPS = Renewable Portfolio Standard; LCR = Local Capacity Requirement; OTC = Once-Through Cooling (retirements); RFO = Request for Offers.)

# New Resource Build-out Trajectory

- A “**38 MMT**” electric sector target by 2030 is broadly consistent with the build-out trajectory of SB 100 and **90% zero carbon electricity by 2035**
- Two CPUC **proposed decisions** would additionally order the procurement of **11,500 MW** of “net qualifying capacity” (NQC) (roughly 17,000 MW “nameplate”) for 2023-2026, including:
  - **2,500 MW** (NQC) of **firm, zero-emitting resources** by 2024 to fully replace capacity from Diablo Canyon
  - **1,000 MW** (NQC) of **long duration storage** resources
  - **1,000 MW** (NQC) of **firm or dispatchable zero-emitting** resources
  - Investment signals for **up to 300 MW** (NQC) of **green hydrogen**



# Long-Term Gas Planning Rulemaking (R.20-01-007)

Examines how to manage California's energy transition while still providing safe, reliable service at just and reasonable rates.

## 1A

System Reliability Standards

Establish minimum reliability standards and ensure gas utilities meet those standards

## 1B

Market Structure and Regulations

Mitigate the risk that gas supply shortages pose to gas and electric reliability and prices

## 2

Long-Term Natural Gas Planning

Ensure safe, reliable, and affordable energy in a time of declining fossil gas throughput



# Climate Adaptation Rulemaking (R.18-04-019)

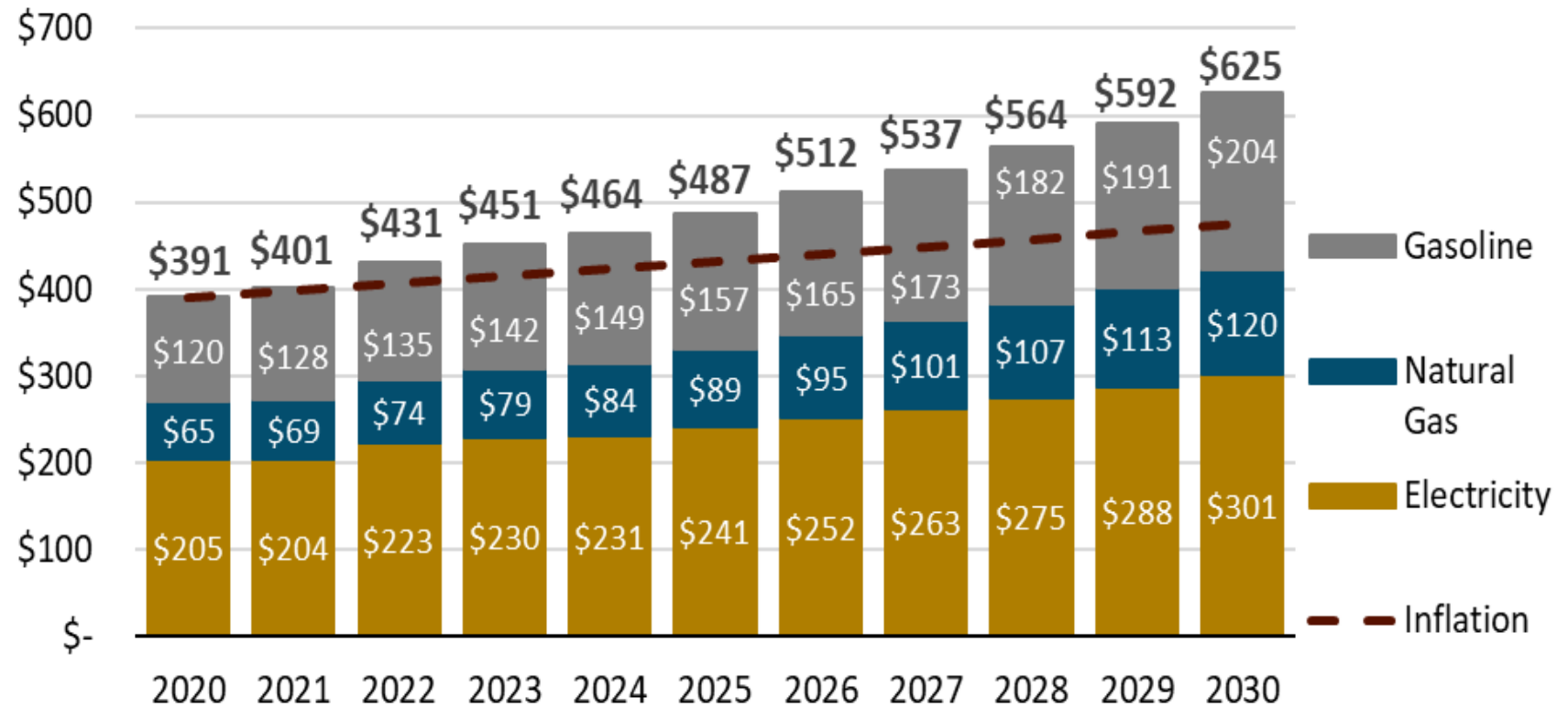
- Guidance/planning standards for utilities to plan for climate change impacts and provide a pathway for impacted communities to influence utility investments
- **2019 Decision:** Adopted a working definition of climate change adaptation and requires the use of California's Fourth Climate Change Assessment (or subsequent reports) in utility planning activities
- **2020 Decision:** Requires utilities to assess the vulnerability of their systems to climate change impacts, with a focus on the most vulnerable and disadvantaged communities



# Household Energy Costs Are Projected to Increasingly Exceed Inflation Over the Next Decade

- An accelerating trend for all three major IOUs.
- SDG&E bundled residential rates and bills are expected to rise more quickly than PG&E / SCE.
- kWh sales decline.
  - Impacts of behind-the-meter resources
- Wildfire mitigation, transmission & distribution costs
- Affordability + equity concerns

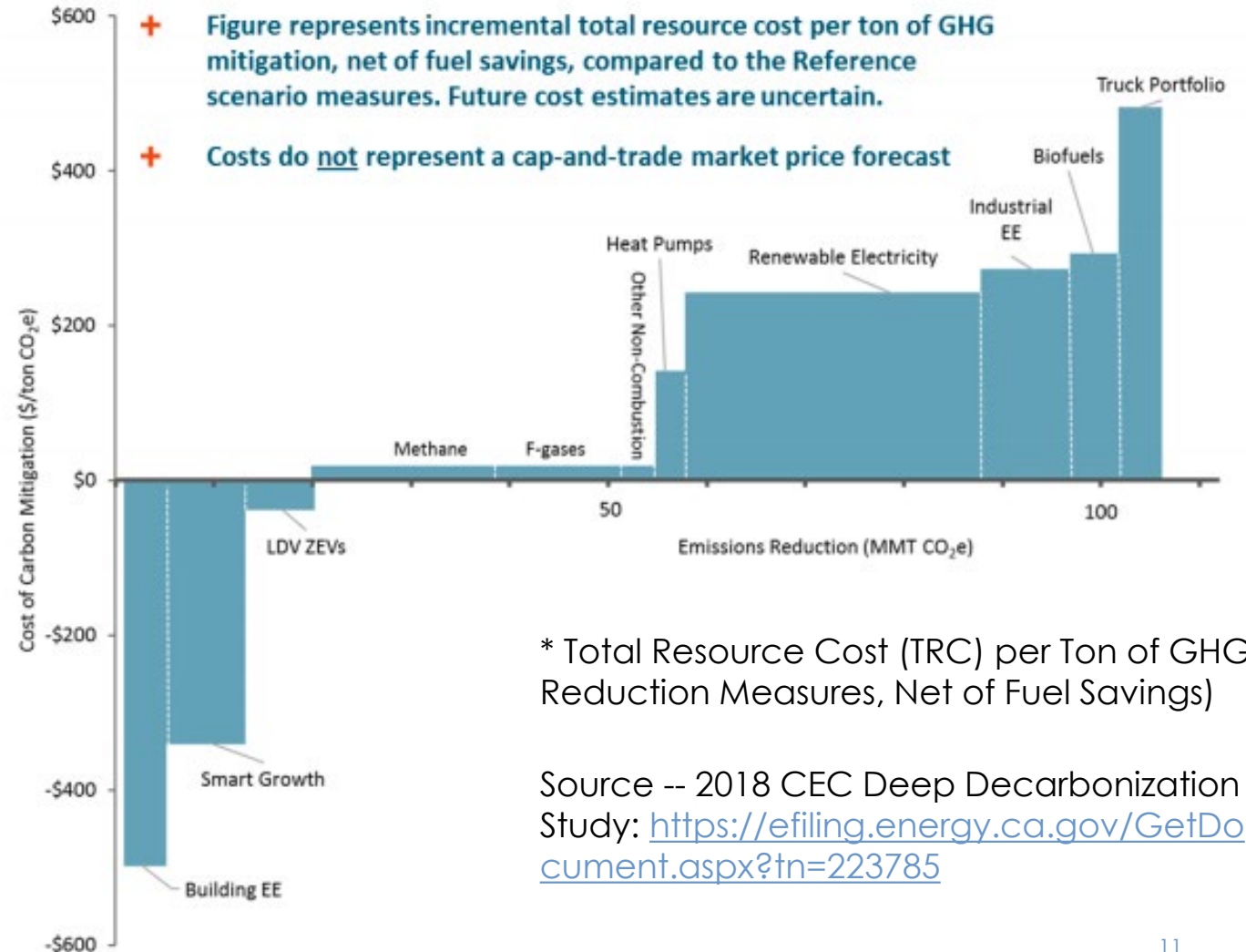
**SDG&E – Household Energy Costs, 2020-2030**



Source – 2021 SB 695 Legislative Report / En Banc White paper  
 : [https://www.cpuc.ca.gov/uploadedFiles/CPUC\\_Public\\_Website/Content/Utilities\\_and\\_Industries/Energy\\_-\\_Electricity\\_and\\_Natural\\_Gas/Senate%20Bill%20695%20Report%202021\\_En%20Banc%20White%20Paper.pdf](https://www.cpuc.ca.gov/uploadedFiles/CPUC_Public_Website/Content/Utilities_and_Industries/Energy_-_Electricity_and_Natural_Gas/Senate%20Bill%20695%20Report%202021_En%20Banc%20White%20Paper.pdf).

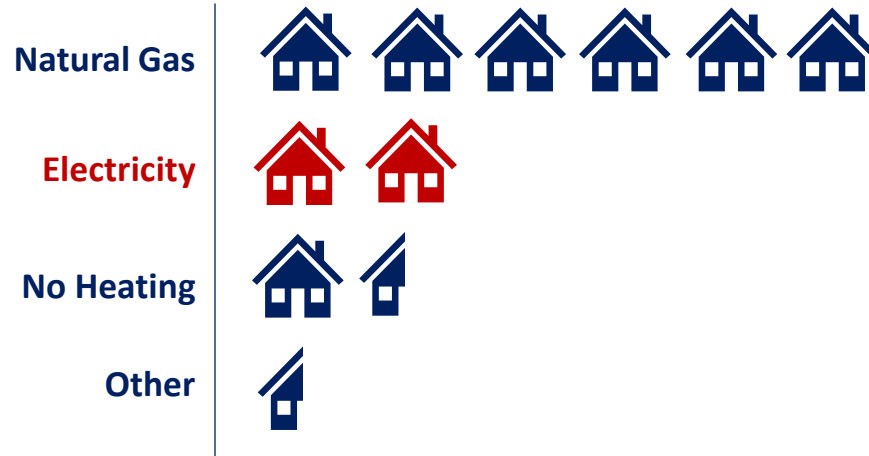
# 2030 Incremental Carbon Abatement Cost Curve\* in the High Electrification Scenario

- Cost of aggressive electric sector decarbonization must be compared to other sectors
- Broader implementation of economy-wide decarbonization measures will rely in large part on maintaining electric cost affordability

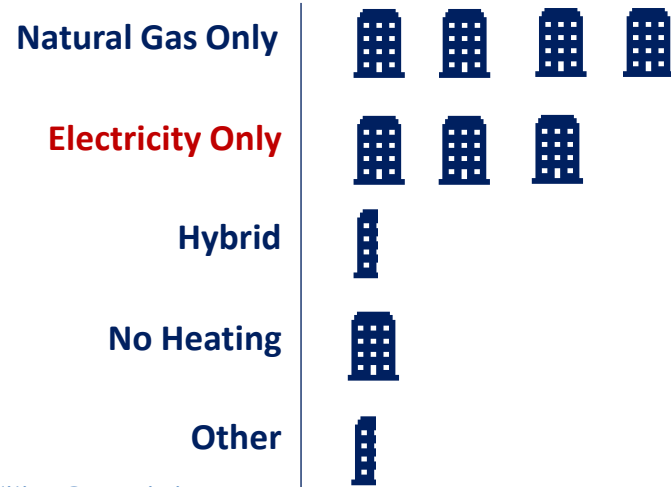


# Building Decarbonization (R.19-01-011)

## Residential heating fuel type in California

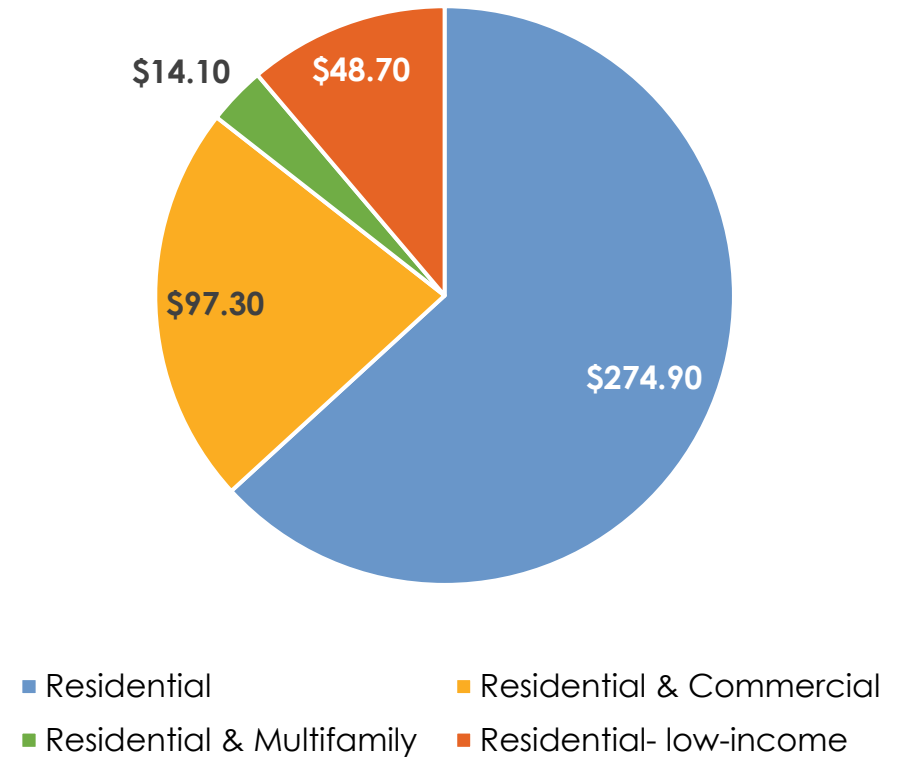


## Commercial heating fuel type in California



## CPUC Spending on Building Decarbonization 2020-2023

**\$435 million**



# Final Thoughts

- **Common planning assumptions** across Scoping Plan and infrastructure planning processes to ensure reliability and policy alignment. **“TE, BE, and EE”**
  - Build on success of the Joint Agency Steering Committee for electric demand forecast assumptions
- **Transportation Electrification** (R.18-12-006)
  - **CPUC’s Transportation Electrification Framework** provides a strategic & streamlined process for utility investment in EV infrastructure.
  - Coordination with CEC’s **AB 2127** infrastructure study
- **Building Decarbonization** (R.19-01-011) and **Renewable Natural Gas** (R.13-02-008)
  - Reviewing gas line extension policy
  - Whether to adopt a renewable gas procurement mandate for utilities (SB 1440)
- **Energy efficiency** (R.13-11-005)
  - New EE goals framework: Total system benefits, including GHG reductions
- **Microgrid proliferation** and grid defection has implications for GHG accounting.