



CALIFORNIA ENERGY COMMISSION

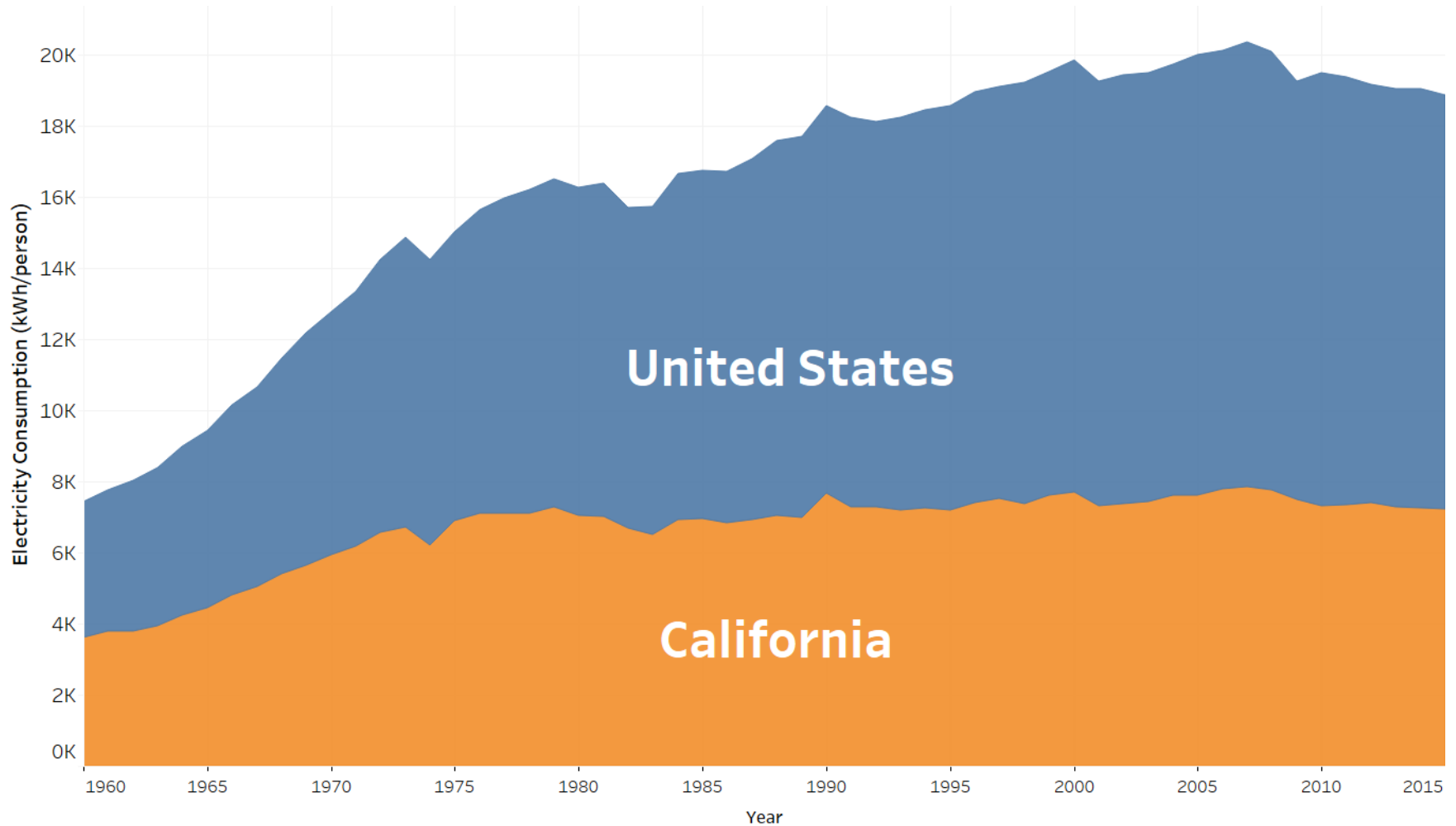
California Energy Savings Obligations

October 23, 2018

Michael Kenney
California Energy Commission



"The Rosenfeld Curve"





CALIFORNIA ELECTRICITY SAVINGS





Senate Bill 350

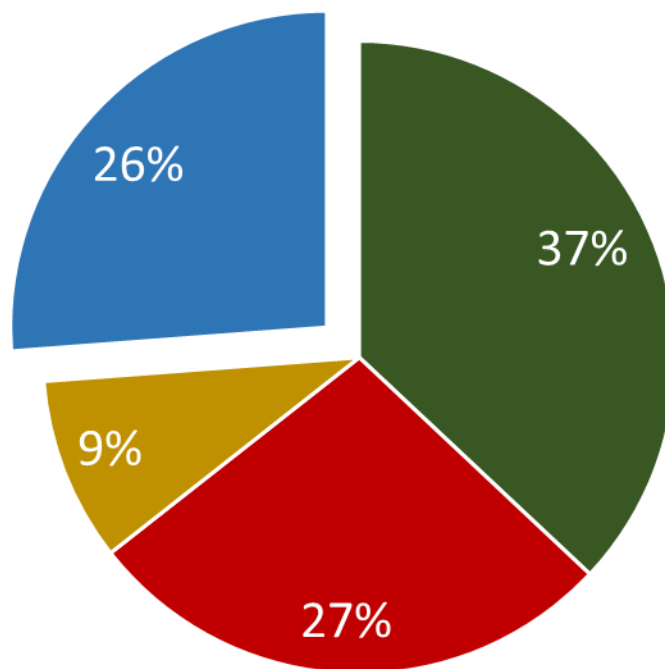
The Clean Energy and Pollution Reduction Act of 2015

- **EE: Double energy efficiency savings by 2030**
- Renewables: 50% renewable energy by 2030
- Equity: Address barriers for low-income residents & disadvantaged communities
- EVs: Encourage widespread transportation electrification
- IRPs: Integrated resource planning to reduce greenhouse gas emissions





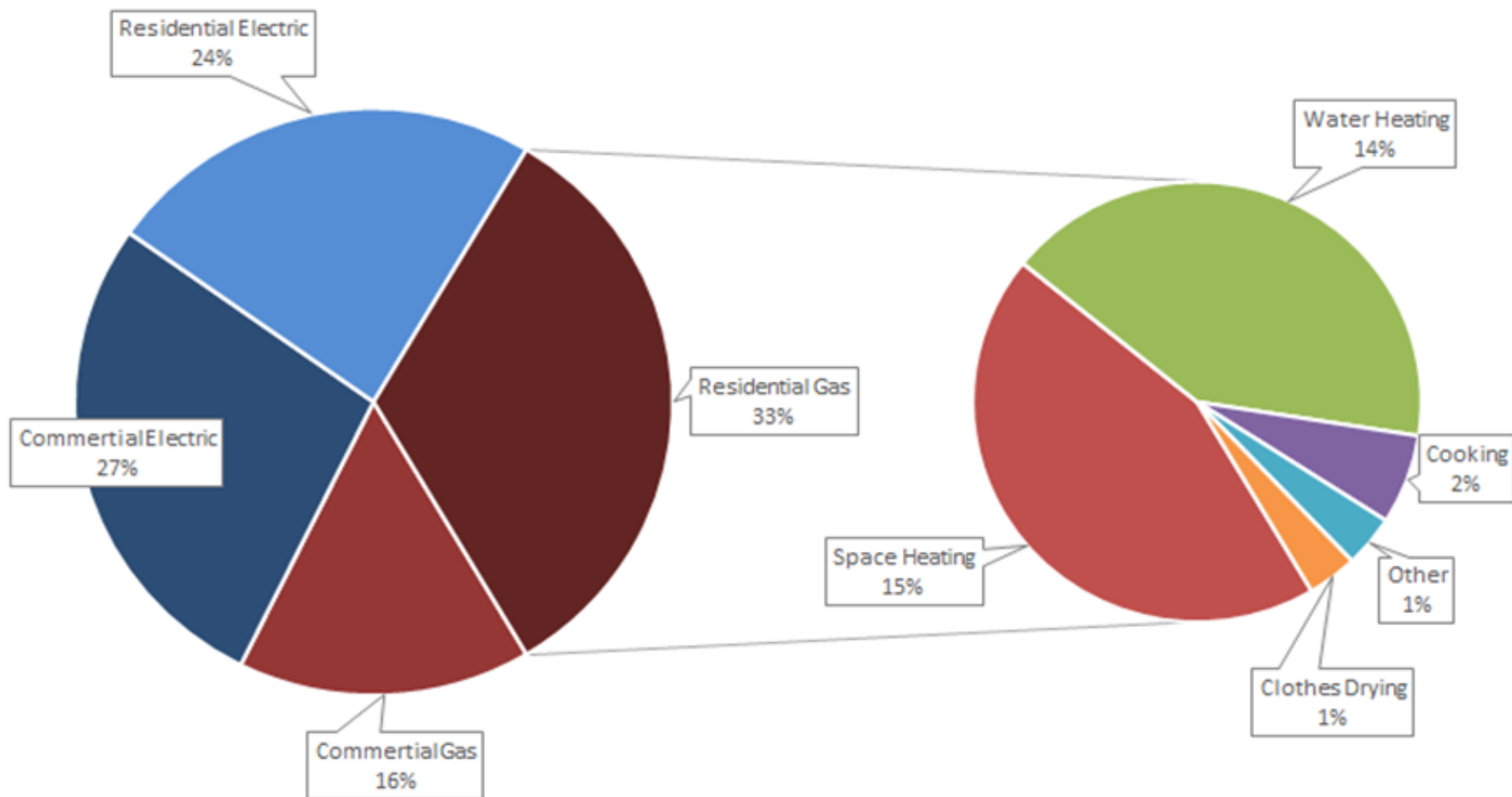
California GHG Emissions



■ transportation ■ industry ■ agriculture ■ buildings

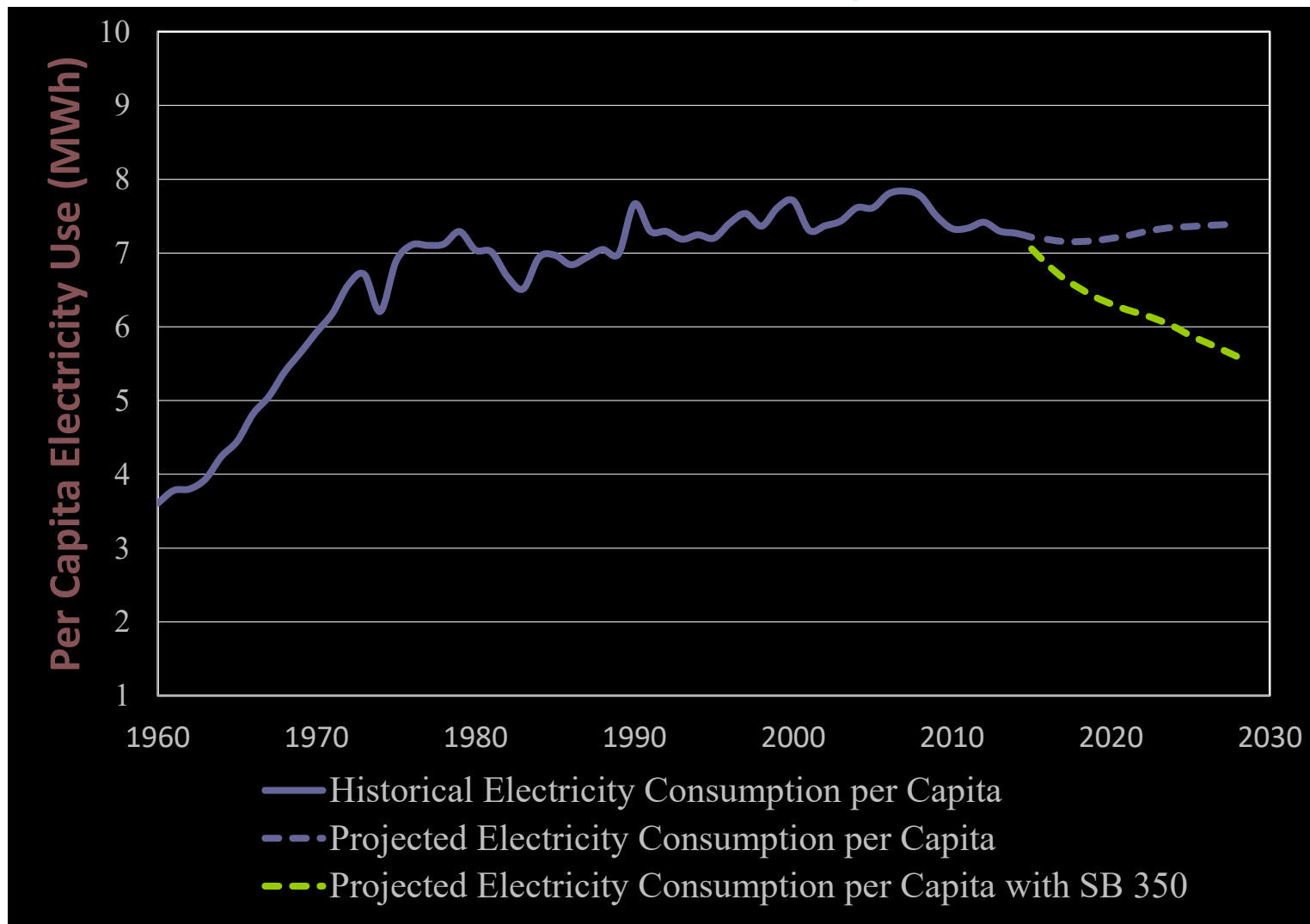


2016 Energy Use in California Buildings (MMBtu)



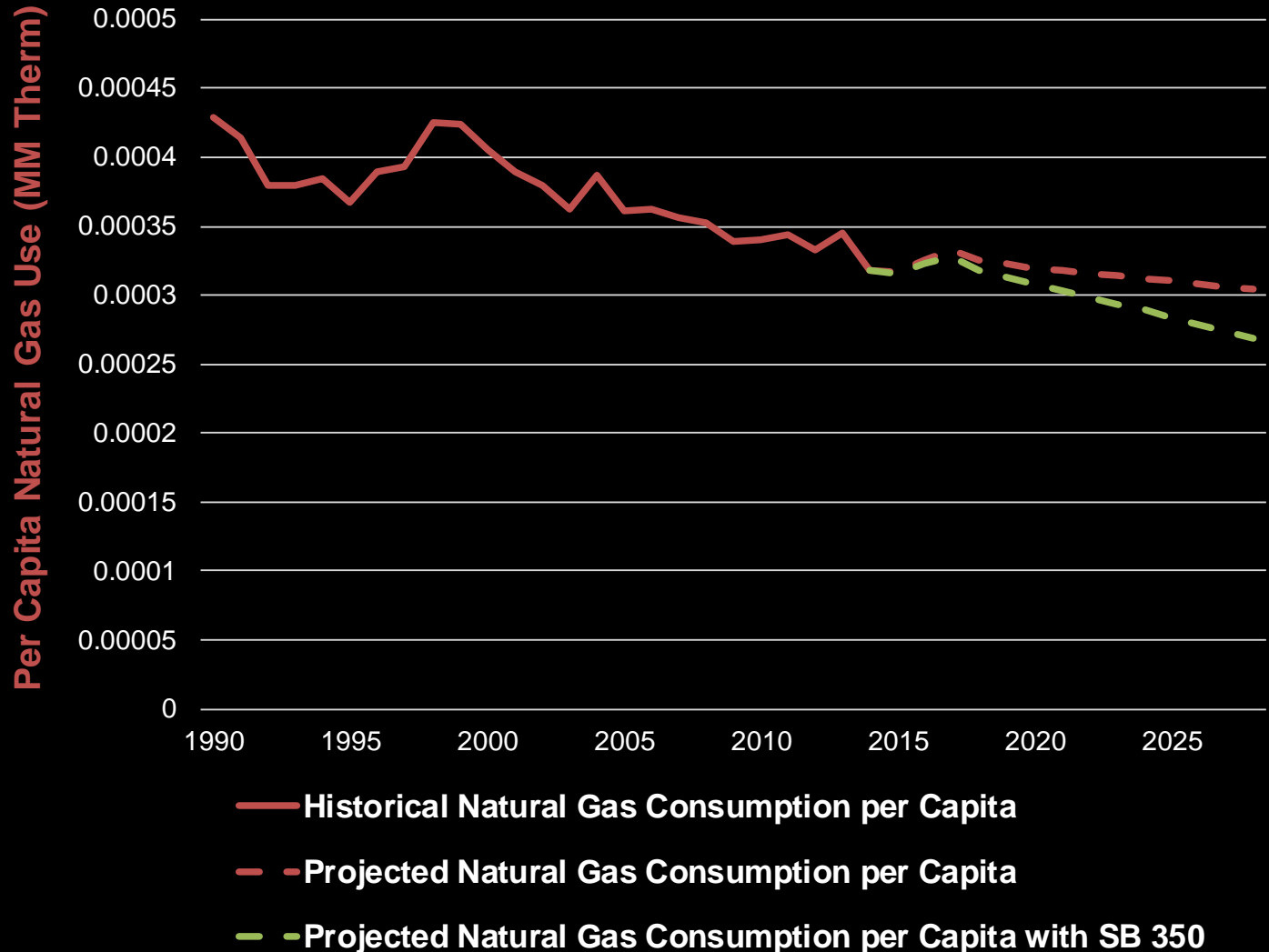


Electricity Savings Goals



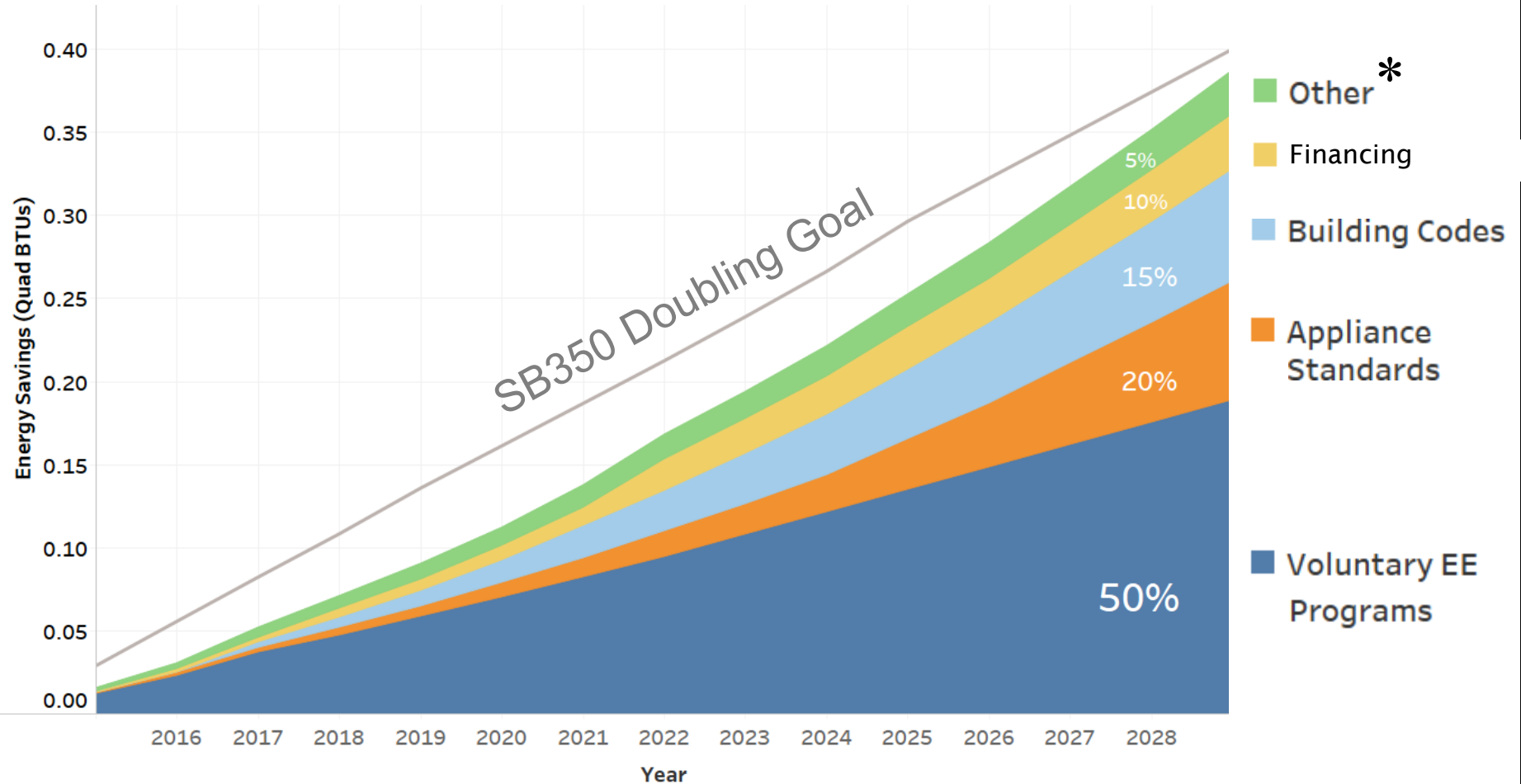


Natural Gas Savings Goals





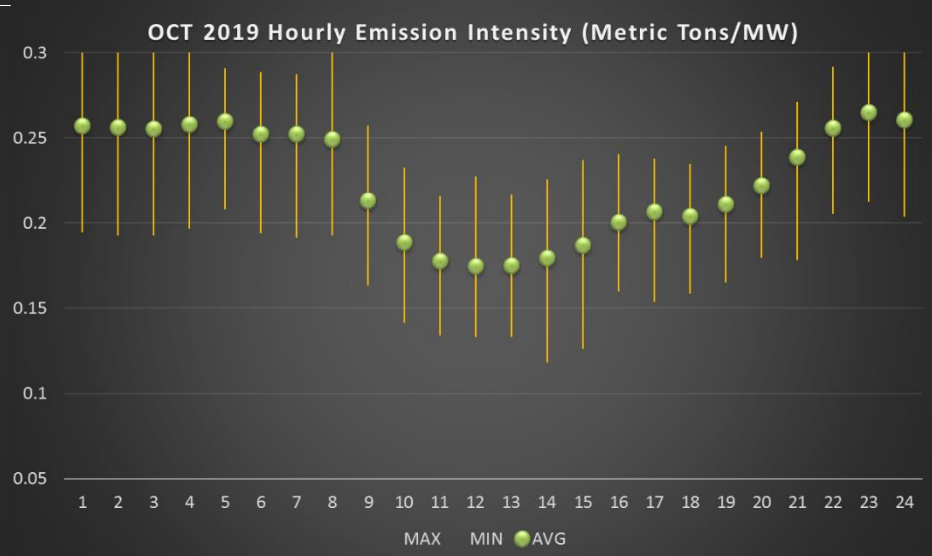
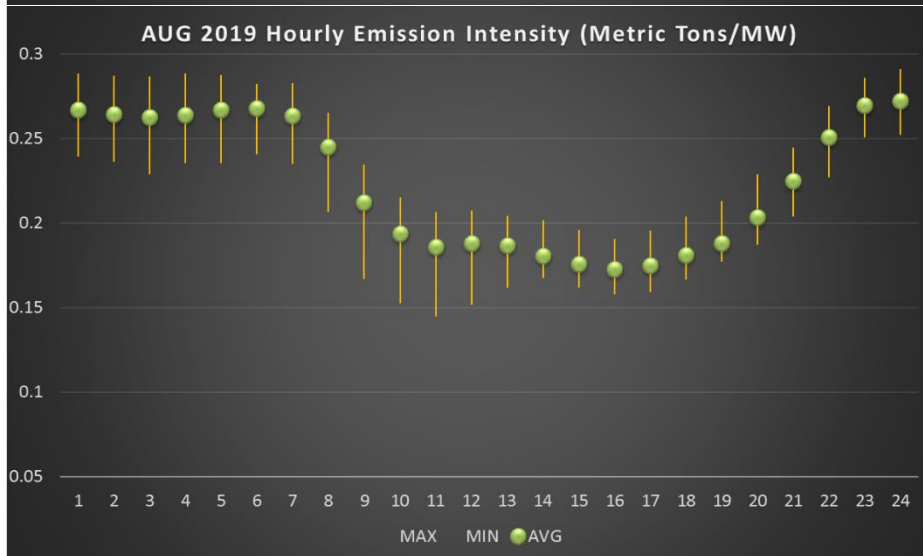
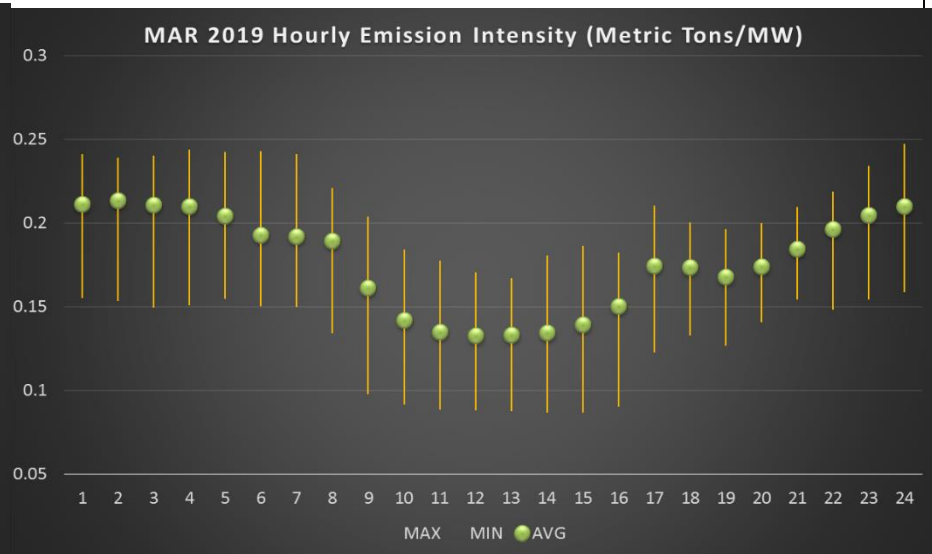
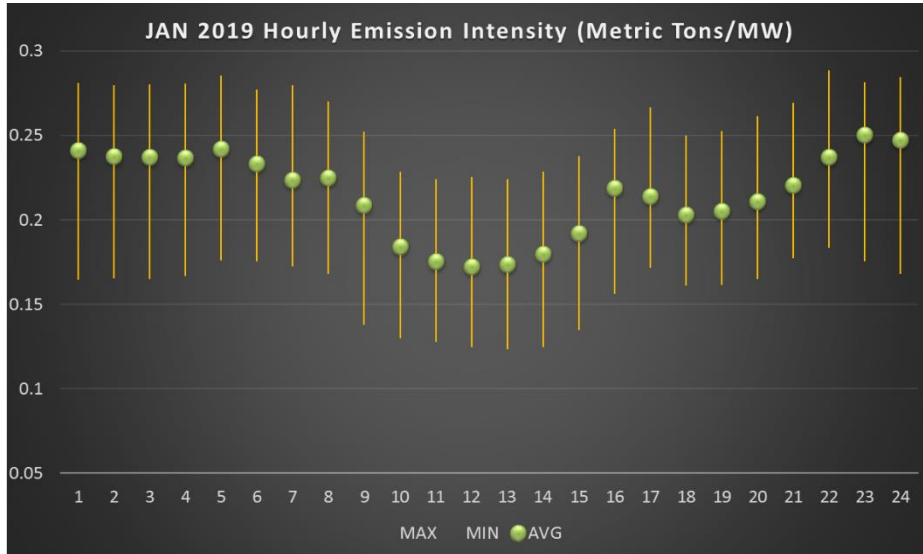
Energy Savings (Quad BTUs)



“Other” includes federal appliance standards; local government ordinances; air quality districts; Proposition 39; industrial and agricultural sectors; Behavioral, Retrocommissioning, Operational Energy Efficiency (BROs); benchmarking; energy asset rating; smart meter and controls; & electrification.



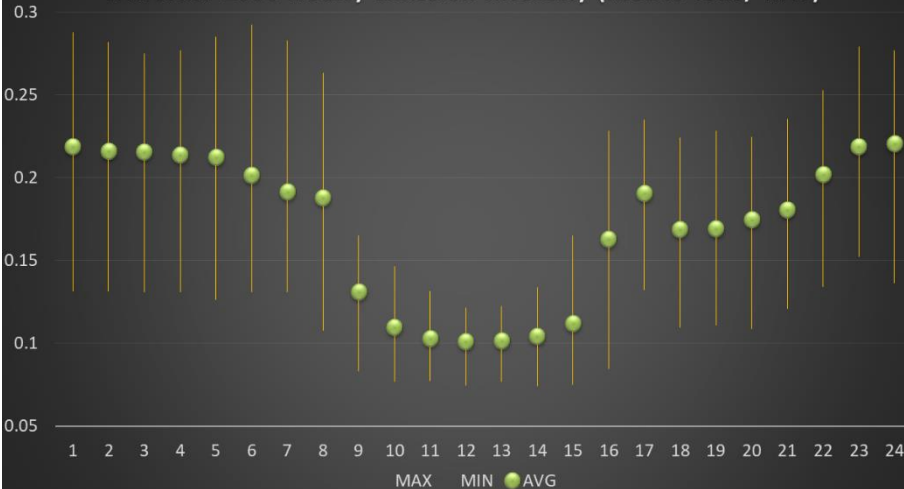
Need for Hourly Emission Metric - 2019



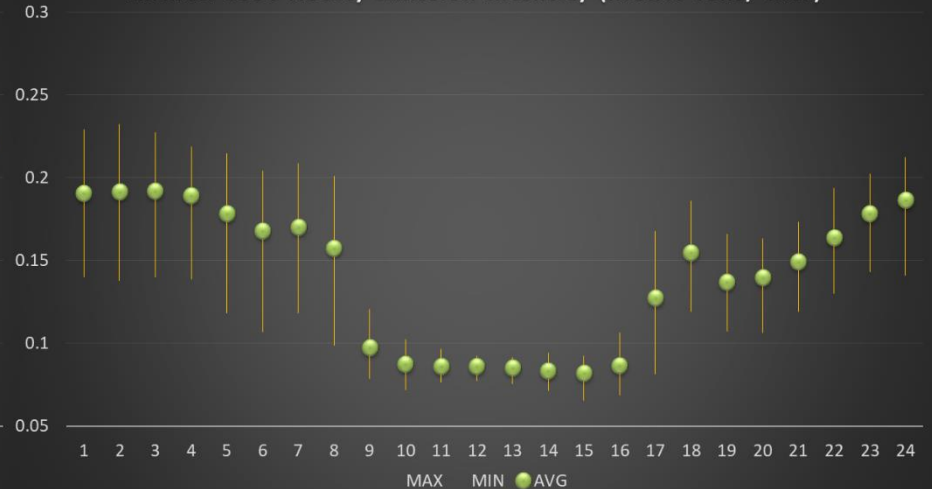


Need for Hourly Emission Metric: 2030

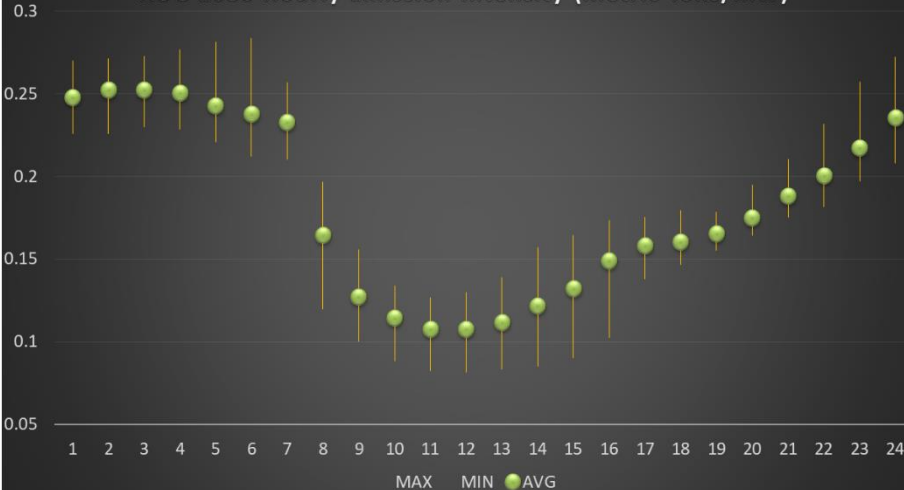
JANUARY 2030 Hourly Emission Intensity (Metric Tons/ MW)



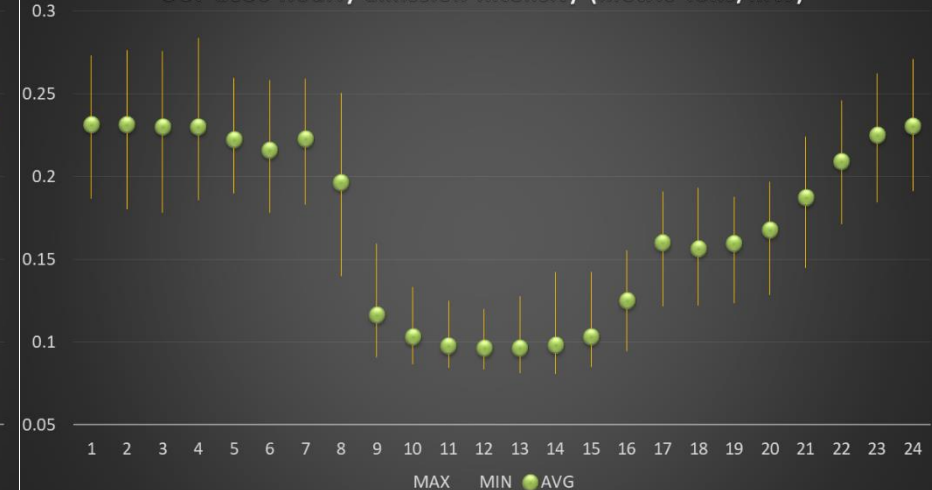
MARCH 2030 Hourly Emission Intensity (Metric Tons/ MW)



AUG 2030 Hourly Emission Intensity (Metric Tons/MW)



OCT 2030 Hourly Emission Intensity (Metric Tons/MW)





Lessons Learned

- Successful energy efficiency programs should be maintained or expanded
- Private or third-party funding is necessary
- Aggressive building and appliance standards, update regularly
- Need to raise consumer awareness and develop enforcement of standards
- Must have collaboration between agencies, utilities, and public
- Success requires granular data: energy, weather, and GHGs





Michael Kenney

Michael.kenney@energy.ca.gov
+1 (916) 653-8906