

# Shifting Energy Use: Electrification and Efficiency Impacts

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## Panel Agenda

- General Topic Introduction  
Larry Goldenhersh, President, Center for Sustainable Energy
- Impact from Light Duty Vehicle Electrification  
Larry Goldenhersh, President, Center for Sustainable Energy
- Impact from Building Electrification  
Ram Narayanamurthy, Program Manager, Advanced Buildings, EPRI
- Strategies for Optimizing Impact from Fleet Electrification  
Yann Kulp, Co-Founder & Head of Business Development, eIQ Mobility, a NextEra Energy Resources Company
- Electrification of Supply Chain, Manufacturing and Logistics  
Carlos Lozano, Senior Director Supply Chain & Manufacturing, FritoLay/PepsiCo
- Building a Decarbonized Grid  
Cheryl LaFleur, Former Chairman and Commissioner, Federal Energy Regulatory Commission
- Discussion



# About CSE

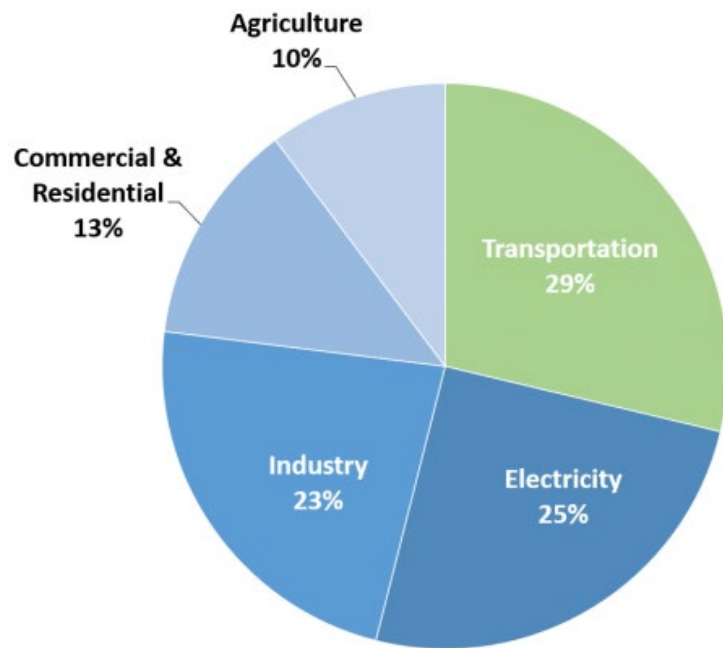
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- 501(c)(3) Non-Profit
- \$250 million annual revenue
- Expertise: data-driven design/administration of incentive programs for transportation and built environment
  - \$1 billion in EV and EV Infrastructure incentive programs (6 state-wide programs)
  - \$1 billion in incentive programs for solar and storage
-  **Caret™**
  - Software platform for EV/EV charging incentive program design and administration
  - Behavioral economics algorithms used to forecast EV Fleet size and charging requirements
  - Used by federal leadership in planning upcoming programs



# EVs Reduce GHGs, But How Far, How Fast?

Transportation is #1 source of U.S. GHGs. Tailpipe pollution contributes to heart attacks, strokes and cancer.



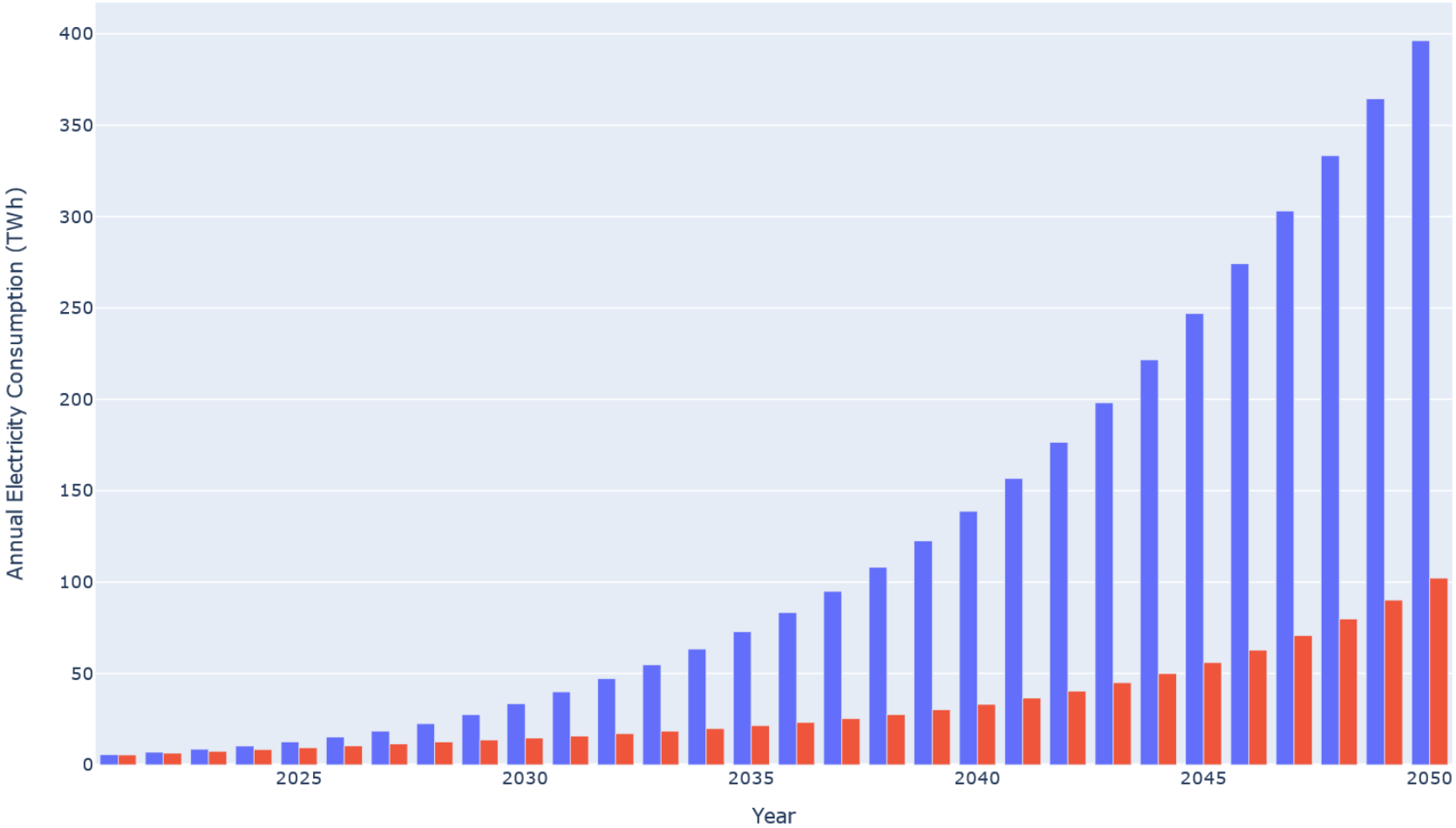
Source: US EPA, 2019

EVs are far cleaner than gas-powered cars but electrifying vehicles will require major grid investments – how much?

- McKinsey (2018): 18 M EVs → 53 TWh of additional demand by 2030
- Brattle Group (2020): 20 M EVs → 60–95 TWh of additional power demand by 2030
- We need better estimates of EV adoption → Caret

Source: [Reuters, 2021](#)

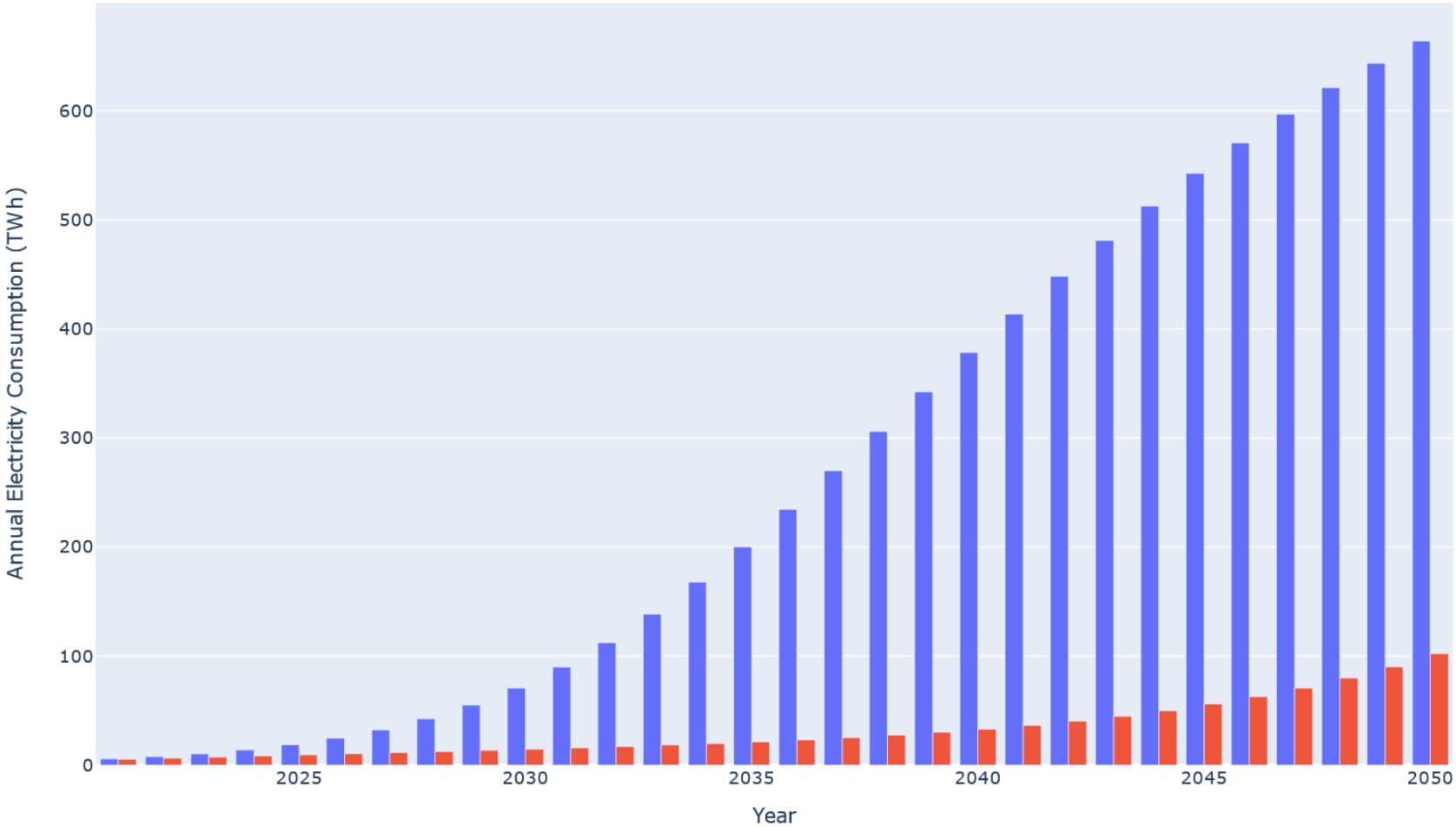
# \$7500 Tax Credit Will Drive Increase in Energy Consumption



← Energy consumption from \$7,500 tax credit  $\approx$  400 TWh in 2050 vs. 100 TWh under BAU

Additional energy 2.7 PWh

# \$10,000 Tax Credit and Other Incentives Increase Energy Consumption



← Energy consumption from \$10,000 tax credit and other incentives ≈ 660 TWh in 2050 vs. 100 TWh under BAU

Additional energy 7.1 PWh