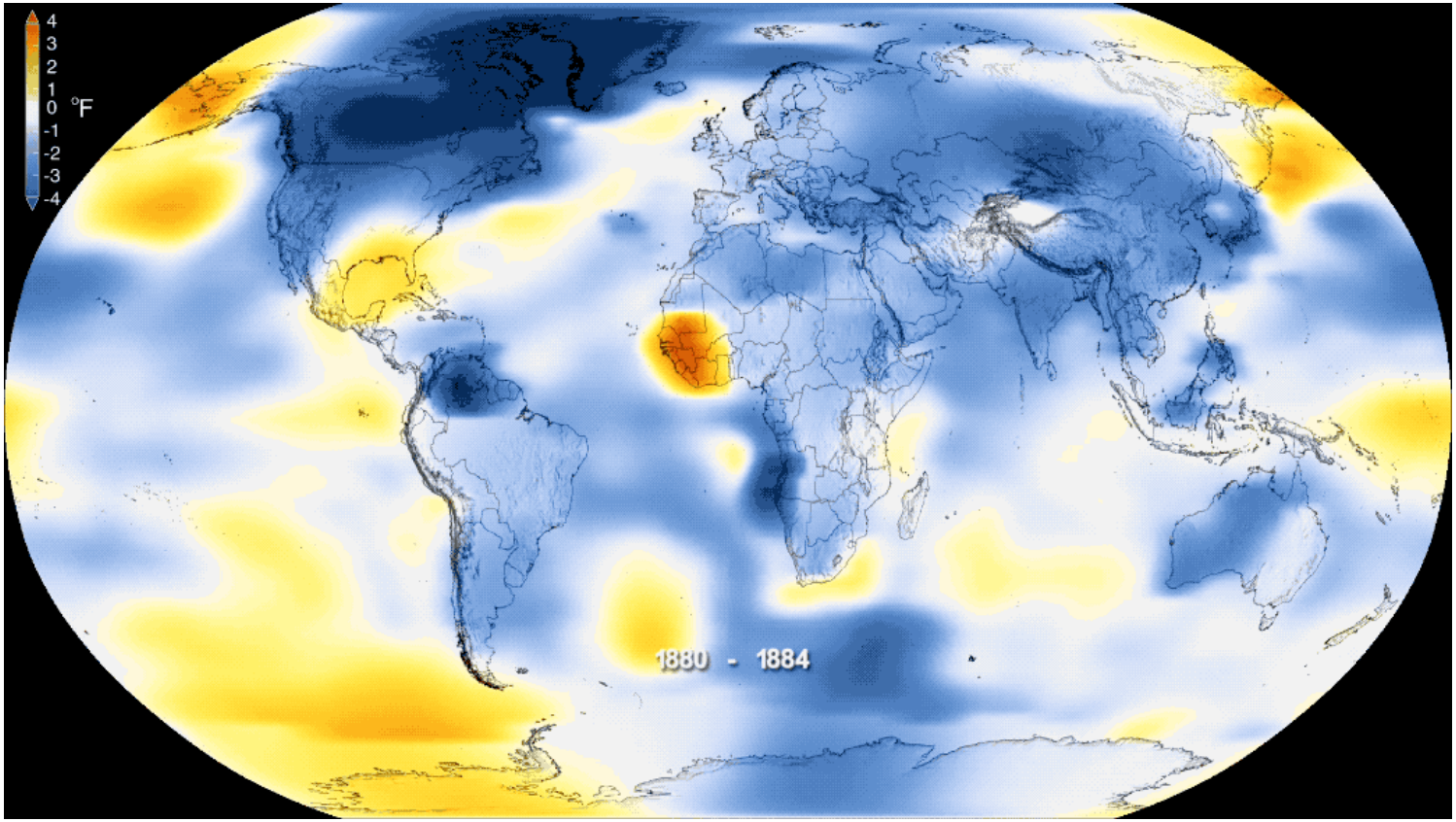
We've Got the Power

How Electrification Will Help Tackle the Climate Crisis

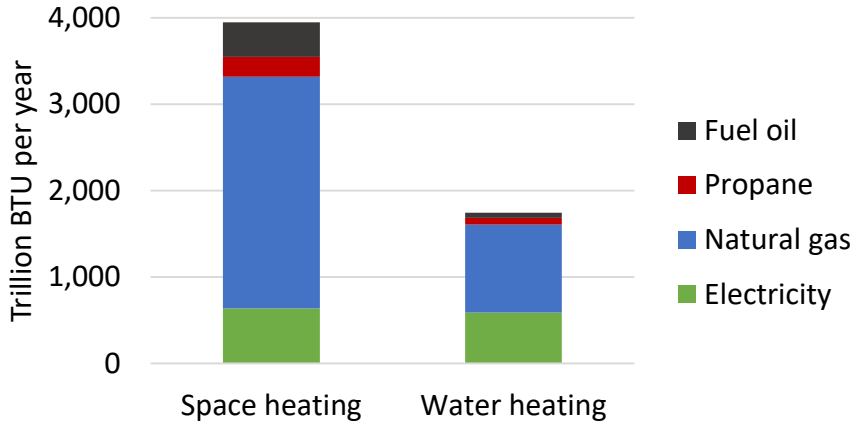
NRDC works to safeguard the earth – its people, its plants and animals, and the natural systems on which all life depends.

The Big Picture

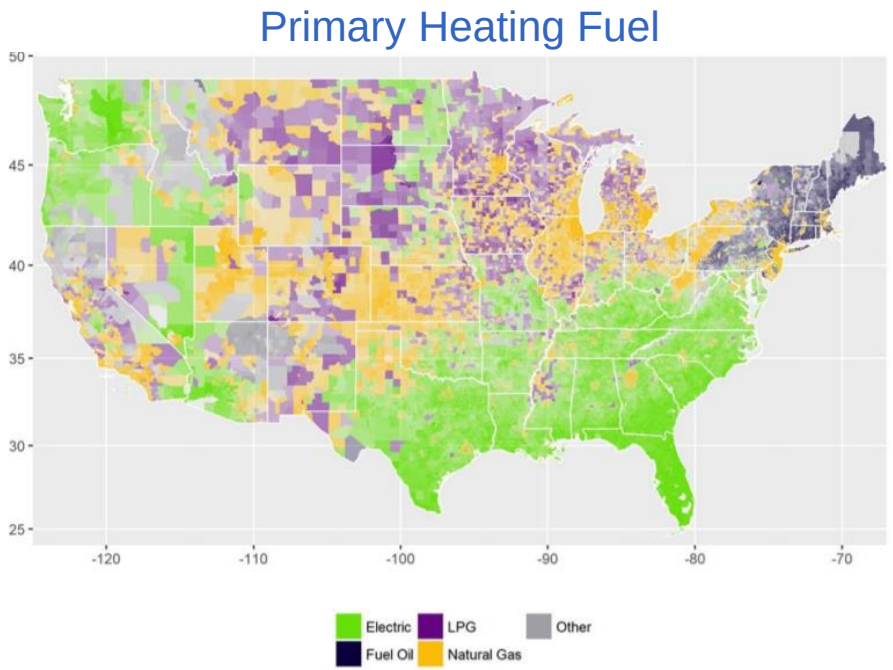


Buildings are responsible 40% of all carbon emissions.

U.S. Space and Water Heating Site Energy Use by Fuel

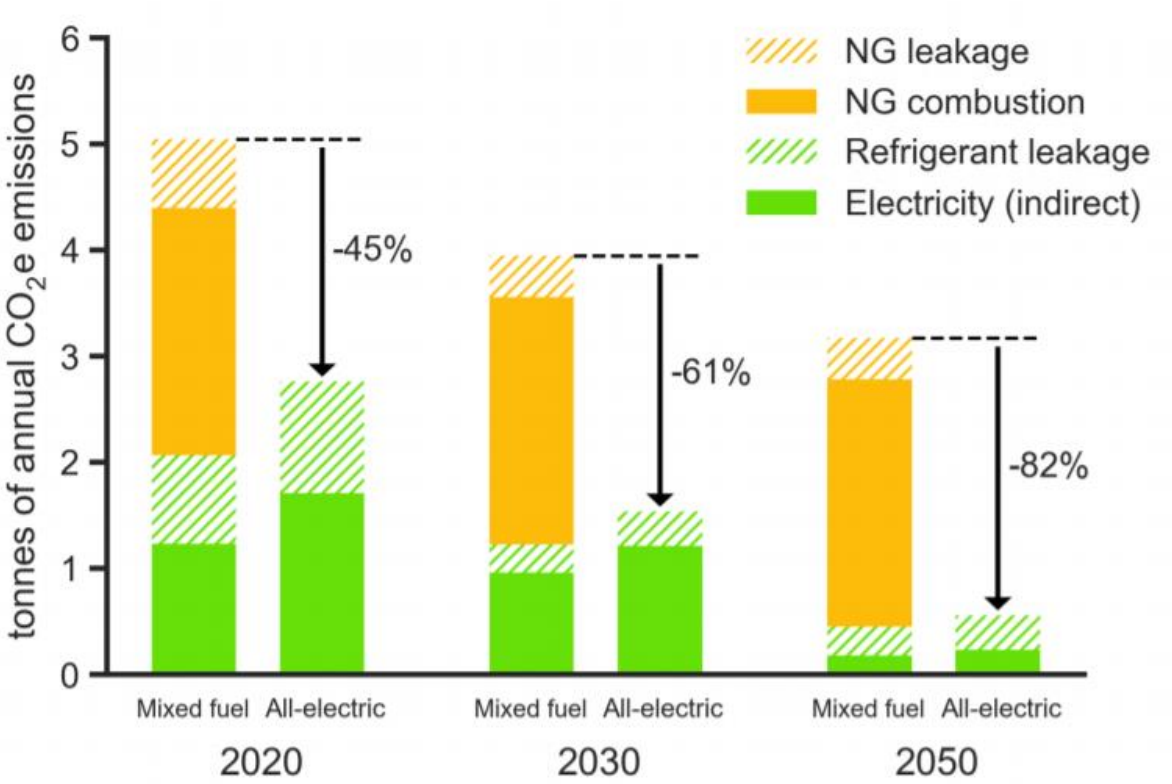


- Natural gas is used for 65% of space and water heating energy use, electricity 22%, propane and fuel oil 13%



Data from the American Community Survey (2016).

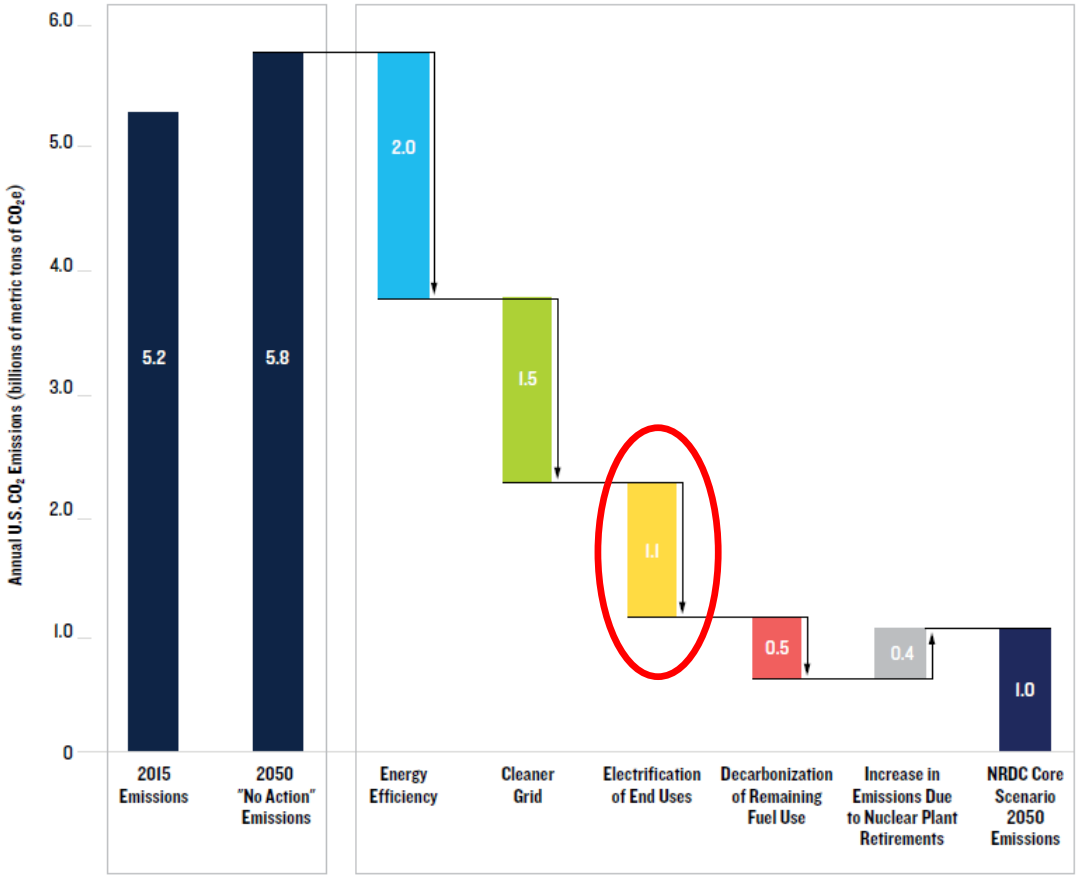
Why is direct fossil fuel use a problem for the climate?

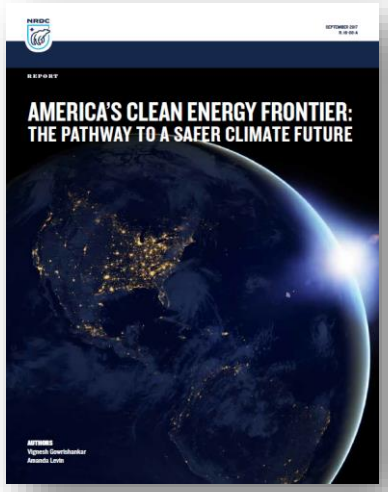


Annual emissions from a mixed-fuel and all-electric 1990s vintage home in Sacramento

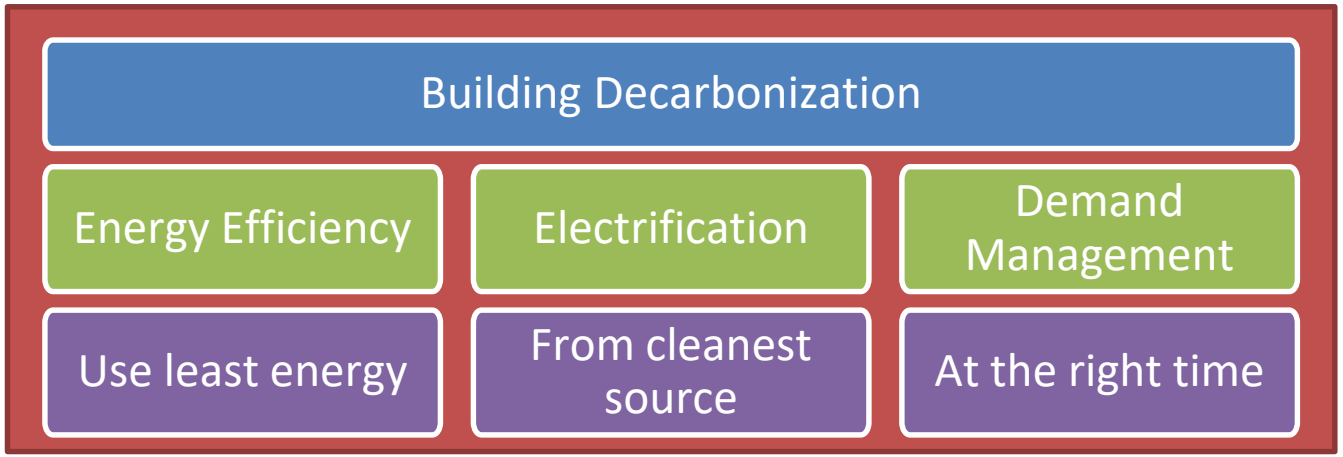
Source: E3 report, "Residential Building Electrification in California"

Key strategies: Cut energy use, clean up the grid, electrify



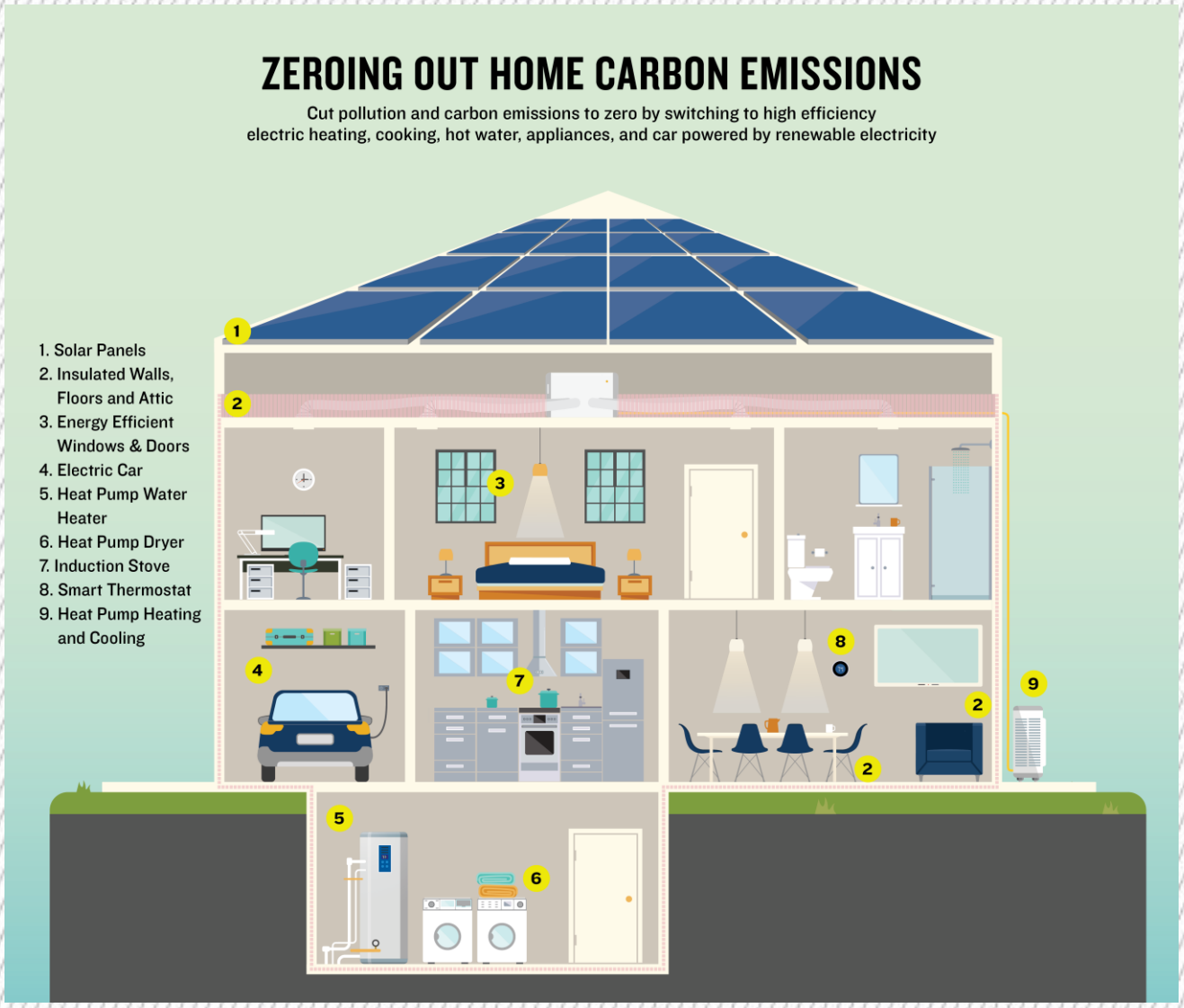


What is Building Decarbonization?



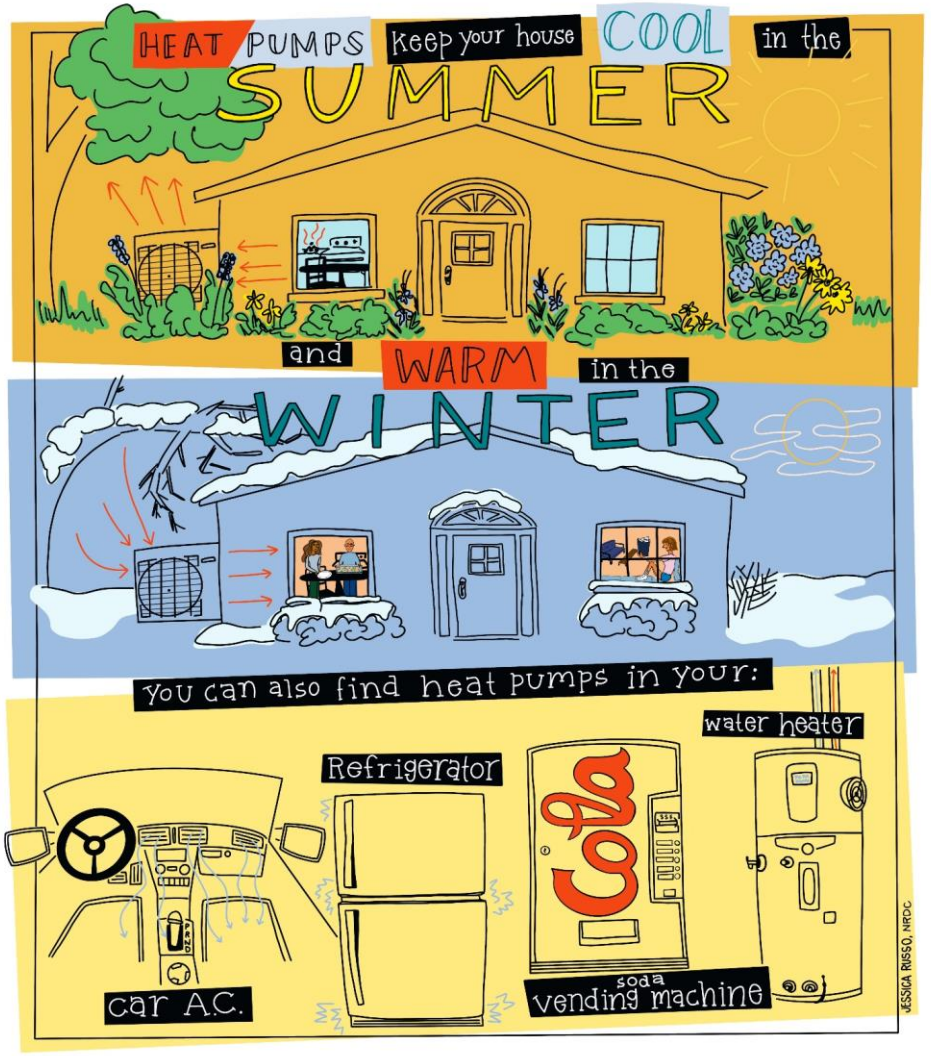
NRDC

Use the least energy



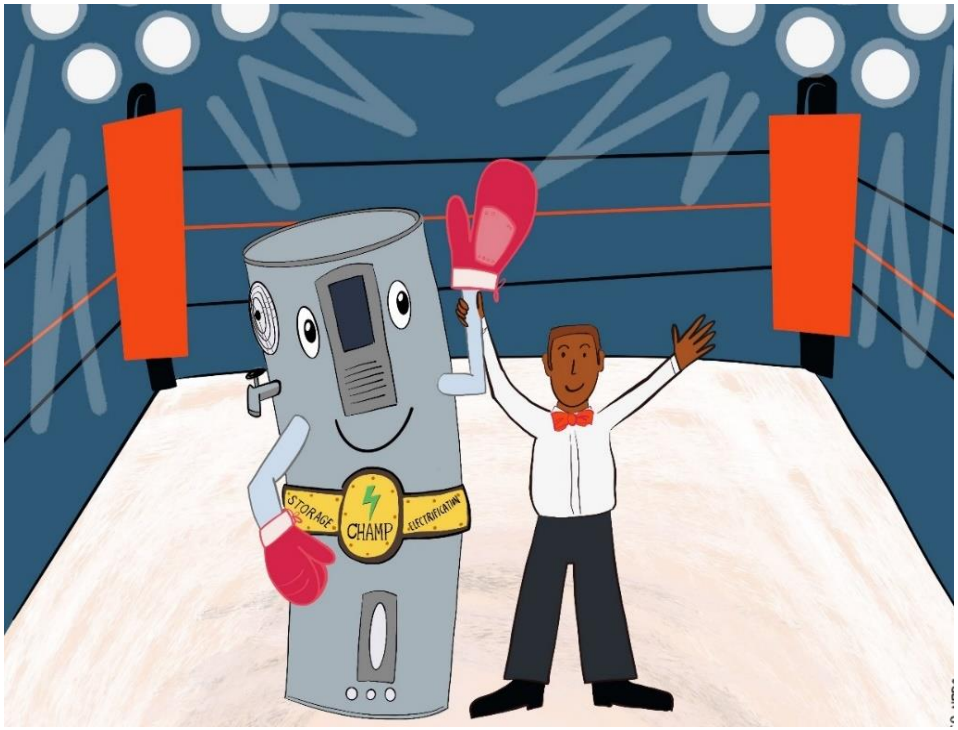
From the cleanest source

- Efficient building electrification
- Not your grandma's baseboard heaters!
- Heat pump technology is key



At the right time

- Demand response is important but undertapped in most places
- Connected electric water heaters enable thermal storage
- Electric vehicle charging can help balance times of excess demand on the grid



Beyond Climate

Health

Children living in a home with a gas cookstove have a 42% increased risk of asthma.

60% of homes that use a gas cookstove incur air pollution levels that would be illegal outdoors.

Safety

Every 4 days on average, there is a gas pipeline incident in the U.S. that kills or injures someone, and/or caused a fire or explosion.

Source: PHMSA

Economics

All-electric homes are cheaper to build and operate.*

* Depending on local rates

Sources: RMI, E3, Synapse

Jobs

Upcoming CA electrification jobs report (UCLA, Sierra Club)

E2 clean energy job reports

What's this got to do with energy codes?

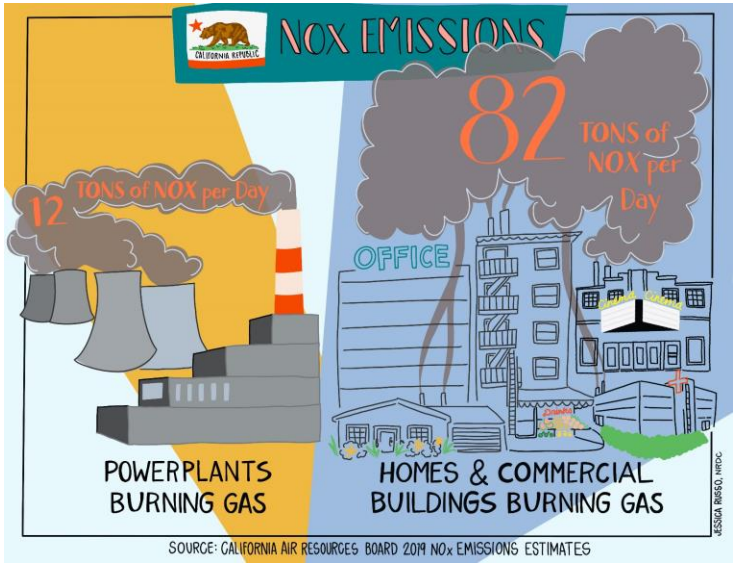
Berkeley, CA

New York City

IECC, hopefully

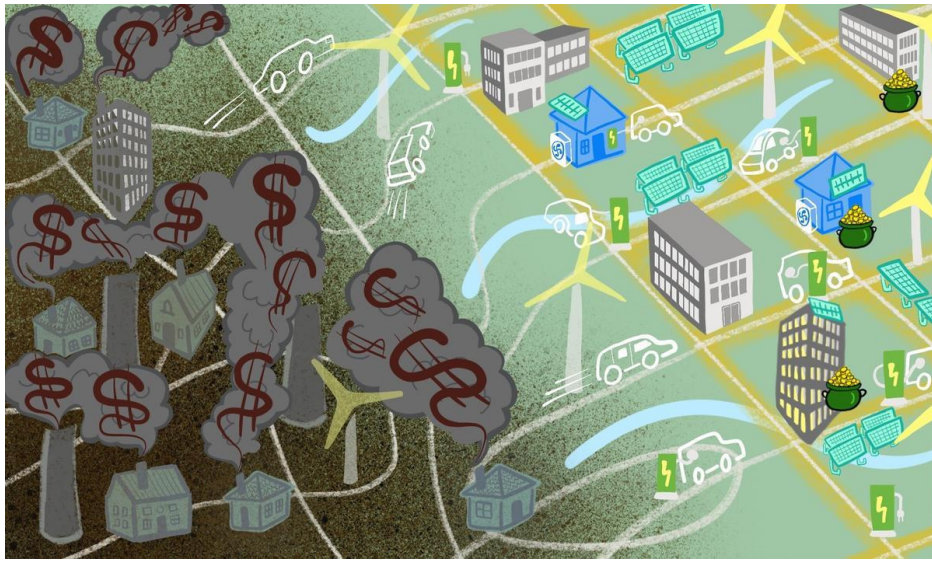
Berkeley, CA

- First in the nation: Local building code requires all new buildings will be all-electric beginning January 1, 2020
- Public support of Pacific Gas and Electric
- More than 50 other California cities are exploring using local building codes/ordinances to encourage or require all-electric buildings
- But…new construction is only about 1%-3% of buildings



New York City

- Buildings are 67% of NYC's greenhouse gas emissions
- Climate Mobilization Act sets annual carbon intensity limits on buildings over 25,000 SF
  - 50,000 biggest buildings in the city
  - Account for 5% of building stock but nearly 60% of energy use



  - Must cut emissions 40% by 2030 and 80% by 2050

2021 IECC Proposals

- Home Electrification Readiness (RE147)
- Electric Vehicle Readiness (CE217 Parts 1 and II)
- Zero Energy Homes Appendix (RE223)
- And more!
  - Renewable energy
  - Insulation, windows, lighting
  - Flexible code compliance

Questions? Follow-up? Voting help?

Lauren Urbanek

Senior Energy Policy Advocate

LUrbanek@nrdc.org