Ad Hoc Climate Action Committee Report

Lessons Learned

September 27, 2022

cityofpaloalto.org/ClimateAction

Acting Now for A Resilient Future
Ad hoc Report and Recommendations

• Lessons Learned
• Additional Questions
• Future Prospective Actions
• Recommendations for Council Direction
Lessons Learned

• Utility infrastructure and renewable capacity
• Healthy, rightsized, smart electric appliances
• EV charging - the transportation/building nexus
• Commercial building electrification
• Next goals – carbon neutrality
Lessons Learned – Utility System

• State Grid Capacity
  • State investments in infrastructure and storage
  • High methane GHG impacts from generation and transmission – 85X worse than CO2 over 20 years

• City Grid
  • Renewables are now cheap, getting cheaper, and available to meet growing demands.
  • Significant current equipment supply issues
  • Workforce shortages
    • PA needs to be competitive
    • Aggressive statewide workforce development is critical
LA Times Op-Ed:

California’s giant new batteries kept the lights on during the heat wave.
Costs of Renewables

Solar is now the cheapest form of energy in California and its cost is declining

SunShot Progress and Goals

https://www.energy.gov/eere/solar/sunshot-2030#:~:text=2030%20Goals%20Detailed,contributing%20to%20greater%20energy%20affordability
Healthy, Smart, Rightsized Appliances

• Low-watt appliances
  • Reduce grid upgrade stresses
  • Reduce electrification costs to residents
• Healthier and more comfortable homes

Meta-analysis of the effects of indoor nitrogen dioxide and gas cooking:

“children living in a home with gas cooking have a 42% increased risk of having current asthma, a 24% increased risk of lifetime asthma and an overall 32% increased risk of having current and lifetime asthma.”

The transportation/building connection

- “Oversized” home EV chargers are stressing our utility in residential areas
  - Most homes are installing bigger chargers than are needed, driving panel and transformer upgrades.

- Future EVs will be a backbone of “distributed storage”
  - Reduce the scale of grid upgrades needed
  - Save consumers costs by charging when electricity is cheapest and greenest, and supplying power when electricity is most in demand and expensive
Commercial Building Electrification

• Replacing methane-based rooftop “Gas Packs” upon End-of-Life (EOL) is efficient and provides healthier buildings for workers
Additional Actions

- Commercial End-of-Life HVAC electrification
  - Develop a plan over the next year

- Carbon-Neutrality Goal
  - Leading cities and governments have adopted these goals as a key climate metric
  - CARB defines Carbon-Neutrality as carbon-reductions and offsets or sequestration
  - Palo Alto is already on a strong path to 2030 Carbon-Neutrality
Next Goals

• EV Strategic Plan
  • Strategy to provide for commercial and residential charging to meet demand growth.
  • Plan to take advantage of time of day charging and 2-way charging

• Council Role Going Forward