



# LA RES Task Force

LOS ALAMOS RESILIENCY, ENERGY AND SUSTAINABILITY TASK FORCE

PRESENTATION BY KATIE LEONARD

# Task Force Members

- ▶ Katie Leonard, Chair
- ▶ Robert Gibson, Vice Chair
- ▶ Sue Barns
- ▶ Elizabeth Daly
- ▶ Chick Keller
- ▶ Roy Michelotti
- ▶ Heidi Rogers
- ▶ Steve Tobin



# Subcommittee Members

- ▶ Lia Brodnax
- ▶ Skip Dunn
- ▶ Ben Hill
- ▶ Jack Kennison
- ▶ Dan Leonard
- ▶ Dina Pesenson
- ▶ Oral Saulters
- ▶ Greg White



# County Staff



- ▶ Angelica Gurule, Environmental Services Manager
- ▶ Anne Laurent, Public Works Director
- ▶ Randall Ryti, Chair, County Council
- ▶ Amy Danforth, Senior Office Specialist

# Subcommittees

- ▶ Community Planning & Zoning
- ▶ Electricity Supply & Demand
- ▶ Natural Gas (NG) Reduction
- ▶ Transportation & Mobility
- ▶ Waste, Consumption & Natural Resources (WCNR)



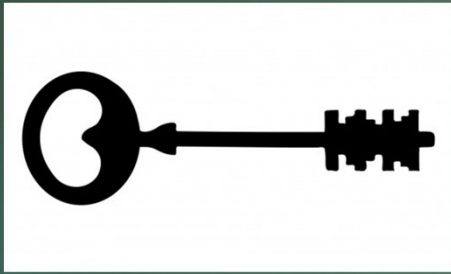
# General Recommendations



- ▶ **Recommendation "Zero:"** Establish "Net Zero" GHG emissions as a long-term goal for County government and the community.
- ▶ **Recommendation 1:** Perform a baseline GHG emissions study.
- ▶ **Recommendation 2:** Create a Climate Change Action Plan, to be updated every 5 years or as needed.
- ▶ **Recommendation 3:** Produce an annual Climate Change Action Report.
- ▶ **Recommendation 4:** Create an on-going citizen body tasked to advise Council on reducing GHG emissions.
- ▶ **Recommendation 5:** Integrate the goal of net zero GHG emissions, practices to achieve net zero, and other sustainability practices into all County government operations. Appropriate staffing additions or redirection may be necessary.



# Community Planning & Zoning



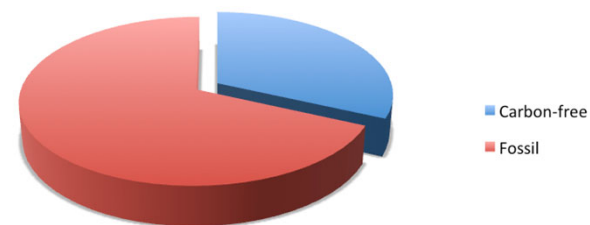
# Electricity Supply & Demand

- ▶ Net carbon free electricity is **a core starting point** for reducing the carbon impact of sectors such as transportation & heating
  - ▶ Electricity needs to lead aggressively in reducing carbon
  - ▶ Fortunately, prices of wind and solar have come down ~70% in past decade, making them the **cheapest way to produce a kWhr in NM**
- ▶ With the Uniper Contract in 2022, LAC will increase carbon free power from ~10% to ~30% of total usage
  - ▶ We can choose more contracts like Uniper and buy less from the free market, which is mostly gas



NM ranked 3<sup>rd</sup> in US for wind power  
- Alb. Journal, Aug. 2019

**Estimated Electricity Purchases 2022**





# Electricity Supply & Demand

- ▶ Recommend acquisition of wind and solar in the **short term**; while looking for nuclear options, such as CFPP, in the **long term**
- ▶ Recommend rapid action on **managing the intermittency** inherent in wind, solar and LAC's run-of-the-river hydro dams.
  - ▶ Storage
  - ▶ Demand response - variable rates during the day to move the load around
  - ▶ Recommend hiring a consultant to advise our path forward with intermittency



CFPP in Idaho



Utility scale storage



In home storage – increase reliability

# NG Replacement Challenge



- ▶ **Virtually entire community is heated with NG**
  - ▶ 7700 NG meters – each will have unique replacement needs
  - ▶ >75% of NG use is residential
  - ▶ ~75% of NG use is space heating
  - ▶ Balance is water heating, cooking, pilot lights
- ▶ **Conversion to electric resistance heating is not practical**
  - ▶ Peak NG use 5000 therms/hr (cold early a.m.) – equiv. to 150 MW electric
  - ▶ Normal electric use 8-20 MW
  - ▶ Electric heating cost 6 X NG heating cost (at current rates)

# NG Replacement Strategy

## ▶ **In new construction**

- ▶ Compact architectures - Multi-family/business & 2-3 story buildings
- ▶ Solar heating - Solar access & heat pump back-up required

## ▶ **For both new construction & retrofits**

- ▶ Insulation (including windows & doors) is “most bang for the buck”
- ▶ Electric heat pumps
  - ▶ Also cool (air condition)
  - ▶ 3-4 X more efficient than electric resistance heating

## ▶ **Secondary uses**

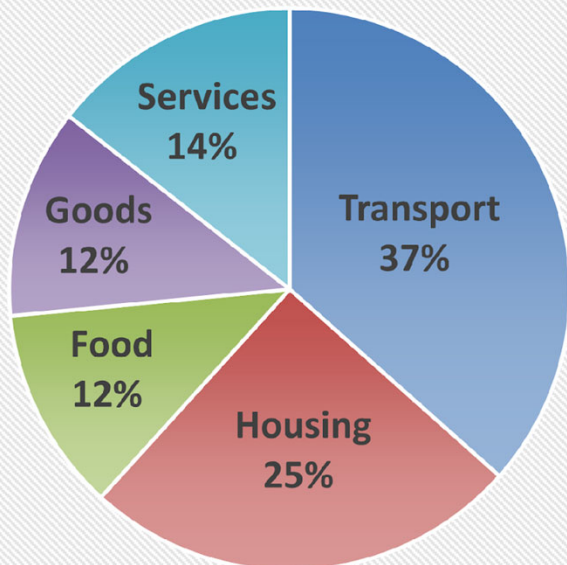
- ▶ Hot water - utilize solar thermal, heat pumps, or tankless POS electric
- ▶ Substitute electric induction for conventional cookstove when replacing

## ▶ **Electric supply, distribution, and service may require upgrading (TBD)**



# Transportation & Mobility

Los Alamos County Households GHG footprint  
(percentage contribution of sources)



# Transportation & Mobility

- ▶ Increase & Incentivize Public Transportation Ridership
- ▶ Improve Bicycle and Walking Infrastructure Including More Crosswalks
- ▶ Increase Publicly Accessible Electric Vehicle Charging Infrastructure
- ▶ Increase the Number of Electric Vehicles (EV) in LAC Fleet & ACT, Eventually Making LAC 100% EV
- ▶ Implement Shaded Parking and a County-Wide No Idling Policy
- ▶ Launch Municipal Bike Share Program
- ▶ Encourage Private Electric Vehicle Purchase and Charging During Low Peak Hours
- ▶ Convert Municipal Small Engines, Such as Lawn and Garden Equipment, to be Fossil Fuel-Free



# Waste, Consumption & Natural Resources

To comprehensively address LAC's GHG emissions, we need to fully consider the activities and resources of the community.

- Reduction of greenhouse gases generated by resident, business and County activities **other than** natural gas use, electrical generation, transportation and buildings.
- Ensuring community & environmental resiliency through climate-informed stewardship of water and natural spaces.



# WCNR

## Achieving significant GHG reduction requires us to:

- ▶ Analyze and understand our *total* carbon footprint at County and personal levels
- ▶ Address significant GHG sources through:
  - Zero Waste initiatives (waste reduction, composting, recycling)
  - Reduced consumption of high-carbon goods, food, and services (which account for **more than 1/3** of a household's carbon footprint); refrigerants; and construction materials

## Ensuring future community & environmental resiliency under climate change requires us to:

- ▶ Proactively address stewardship of our water supply
  - Conservation and stormwater runoff management
- ▶ Manage our outdoor spaces: wildfire prevention, carbon sequestration, soil & water retention, habitat preservation, human health & wellbeing, and recreation
- ▶ Effectively engage with broader state/regional/national initiatives

Addressing these areas reduces GHGs and provides economic benefits as well as improvements to health, equity, environment, and quality of life.



# Community Outreach & Education

- ▶ Necessary in all areas and for all goals/recommendations
- ▶ Clear, consistent message with up-to-date & accurate information
  - LAC Website
  - Communications from County
    - Mail
    - Utility Bills
    - Annual Update\*
    - Other
  - Newspaper Articles
  - Farmer's Market Booth
  - Surveys/Polls
  - Banners on Overpass
  - Educational Events
    - PEEC
    - Library
  - Friday Night Concerts
  - Local Groups (Scouts, service, other)
  - Ads in and on ACT Buses
  - School Outreach
    - Staff & Students
    - Parents
    - Presentations
    - Assemblies
    - Student Shadowing Opportunities
    - Youth Sustainability Ambassador
  - Neighborhood Sustainability Leaders
  - Sustainability Fairs
  - Other Community Events
  - Community Engagement
  - Young People = Renewable Resource!

# Timeline Moving Forward

- ▶ RES Final Report due in February 2022
- ▶ Community Outreach
  - ▶ Poll/survey
  - ▶ Farmer's Market
  - ▶ Public Lectures/Other Outreach



Thank You!

► Questions?

