



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

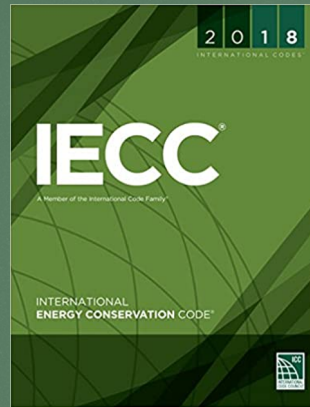
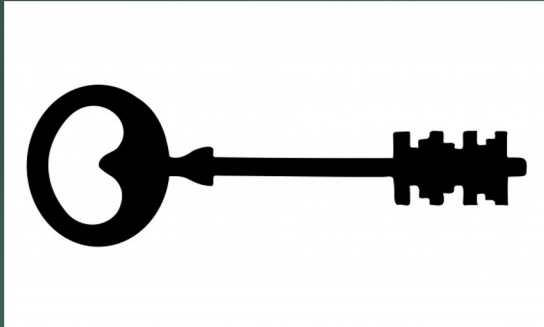
Subcommittees

- ▶ 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



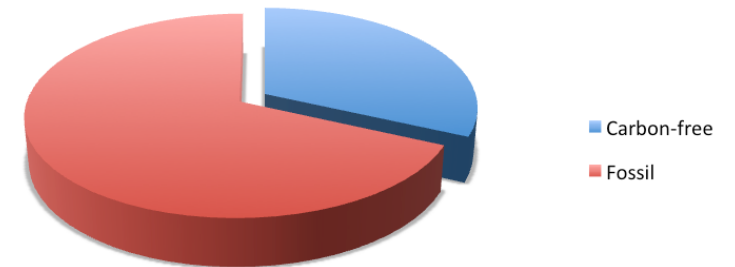
Electricity Supply & Demand

- ▶ 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 3rd 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

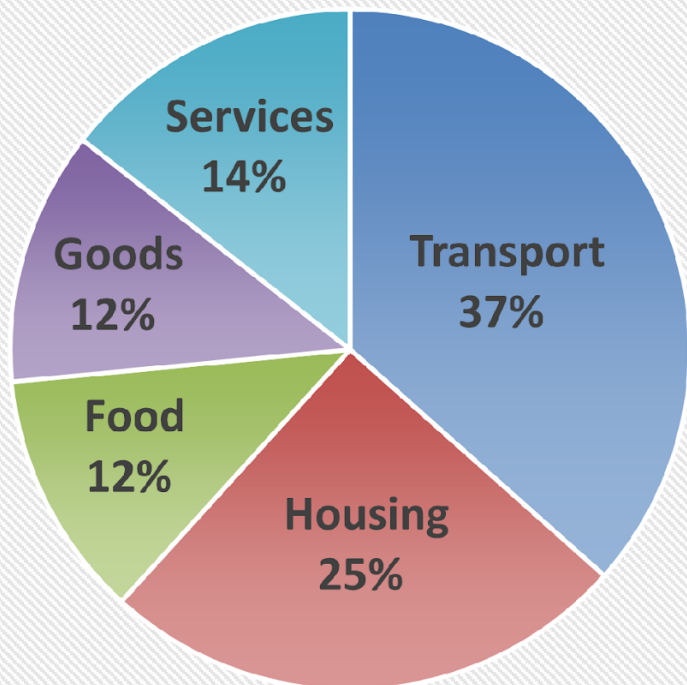
▶ **Secondary uses**

- ▶ 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?