

Update for Los Alamos Resiliency, Energy, and Sustainability Task Force (LARES)

on Net-Zero Emission and Vulnerability and Resilience Planning
by the Sustainability and Pollution Prevention Programs

January 2022

LA-UR-22-20041

Executive Order Guidance, Goals and Timelines

- **EO 13990, *Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis***
 - Biden's initial EO focused on commitment to science, health and the environment
- **EO 14008, *Tackling the Climate Crisis at Home and Abroad***
 - Initial set of guidance and timelines, but were updated with 14057
 - Guidance to begin the Vulnerability Assessment and Resilience Plan (VARP)
- **EO 14057, *Catalyzing Clean Energy Industries and Jobs Through Federal Sustainability***
 - Updated goals and timelines from EO 14008
 - Carbon Pollution-Free Electricity on a net annual basis by 2030
 - Net-Zero Emissions Operations, 65% by 2030, 100% by 2050
 - Zero Emissions Vehicles Acquisition, 100% light-duty by 2027 and heavy-duty by 2035
 - Reduction in Buildings Emissions, 50% by 2032 and 100% by 2045



Net-Zero Carbon Emission Planning

What?

- LANL's Net-Zero Carbon Emission Plan will identify possible pathways to eliminate carbon emissions for an EO goal of 2050
 - Identify ways to reduce scopes 1, 2 & 3 carbon emissions
 - Identify near-term funding opportunities to complete projects

Why?

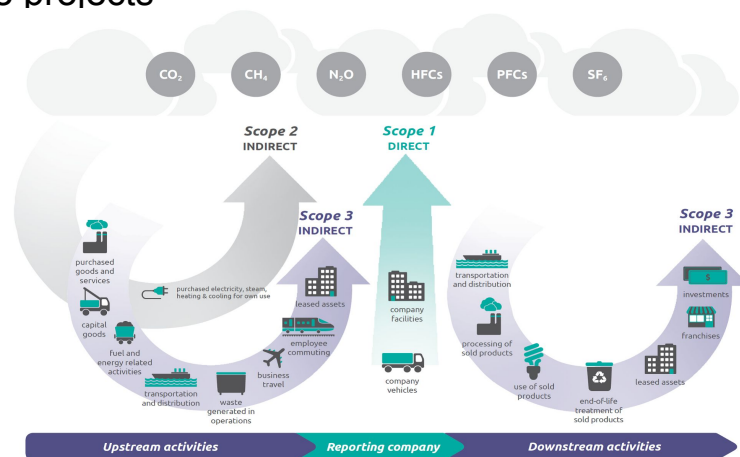
- EO 14008 and EO 14057

When?

- Draft Net-Zero Carbon Emission plan is due by the end of September 2022

How?

- In collaboration with our subcontractor, AECOM, other National Laboratories, DOE NNSA and Los Alamos County



[From EPA, WRI GHG Protocol.](#)

Net-Zero Carbon Emissions Plan: 4 Key Focus Areas

1. Replace:

- Decarbonize electrical supply, even with increased electrical needs
- PV Site Proposal
- Fugitive Emission, especially SF6

2. Reduce:

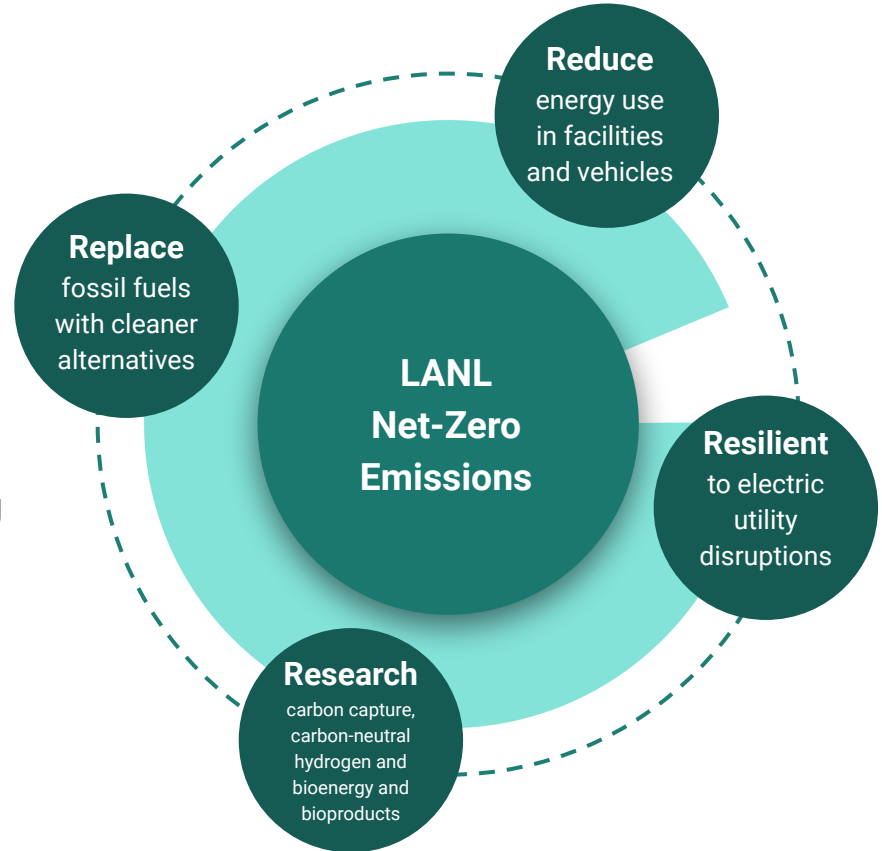
- Electrify building heating and increase building efficiency
 - Very hard in TA-3, laboratories with high ventilation
- Fleet and Commuter Transportation
 - Transit Plan with offsite busing
 - Electrification (hydrogen, battery)

3. Resilient:

- Vulnerability Assessment and Resilience Plan (VARP)

4. Research:

- Carbon Capture
- Hydrogen



Vulnerability Assessment and Resilience Plan (VARP)

What?

- The climate change vulnerability assessment and resilience plan (VARP) will enable LANL to identify, prepare for, and meet the challenges posed by climate change
 1. Identify Critical Assets
 2. Identify climate change hazards relevant to the site
 3. Propose resilience actions for assets with High vulnerability to climate change hazards

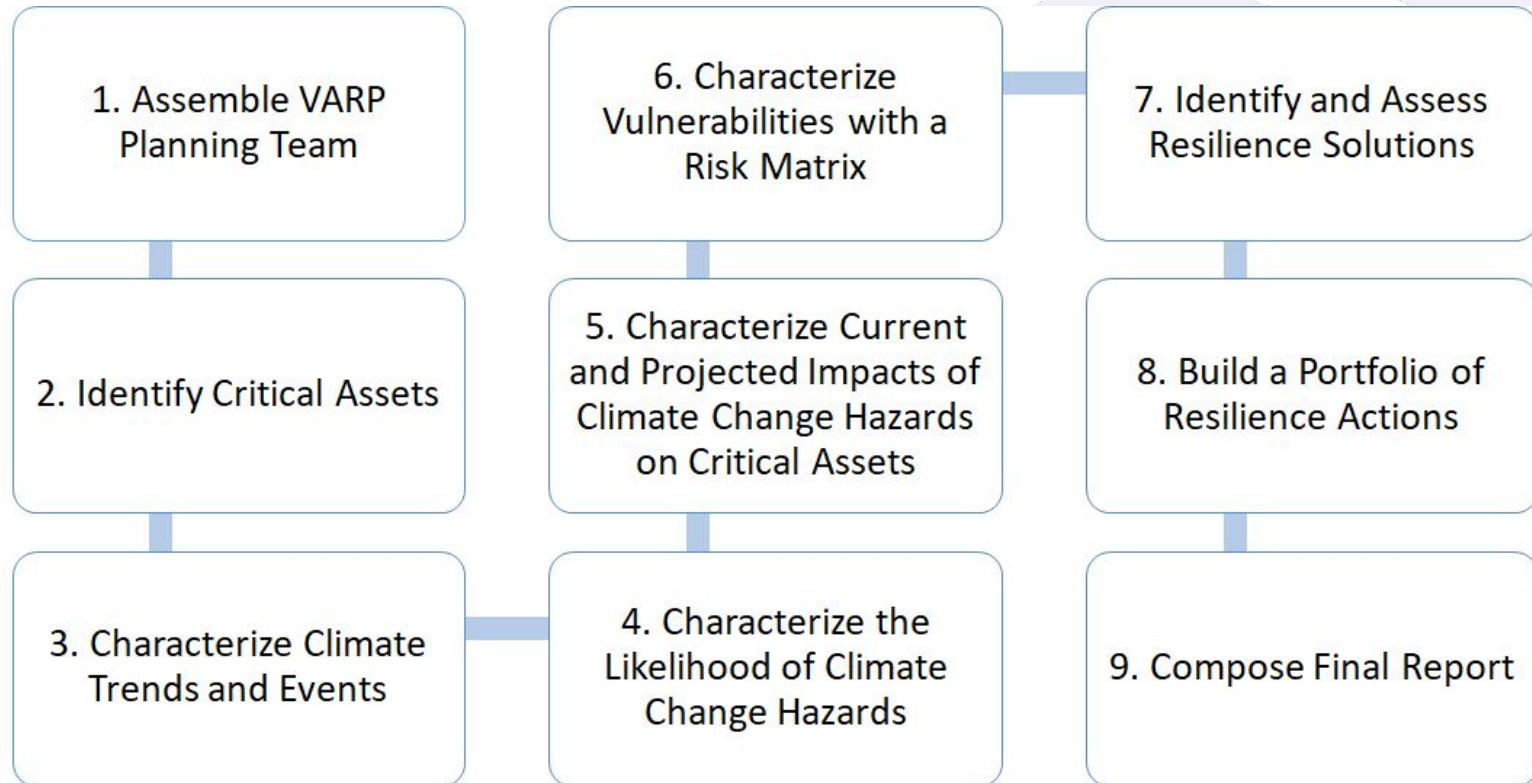
Why?

- EO 14008 → DOE Climate Adaptation and Resilience Plan (CARP) → DOE VARP

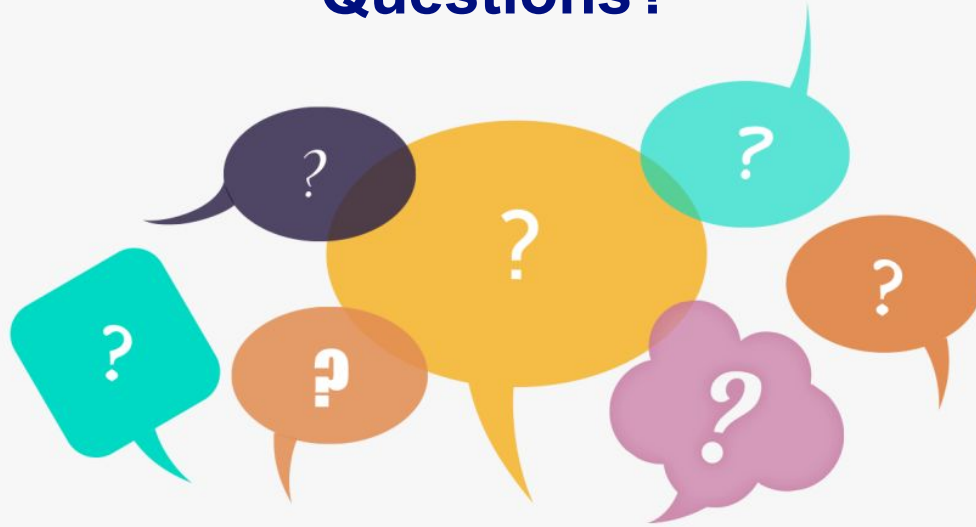
How?

- DOE VARP Guidance
- Site-wide effort from a VARP Planning Team
 - LANL's VARP Planning Team includes Stakeholders, internal (Tribal Relations & Environmental Justice, climate data analysts, etc.) and external (Los Alamos County)

VARP Planning Process



Questions?



Thank You!

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