

ICF's energy + climate footprint

We design robust futurefocused solutions in response to industry, policy, and environmental changes

^ૠ ClimateSight CO₂Sight[™]

50+ years of energy work

+200

energy efficiency

+2K **Energy and** environment experts

All major All major

federal agencies

energy NGOs

Top 50

utilities in North

America

40+

programs

years of climate science, impacts, & adaptation

+100 dedicated climate change experts

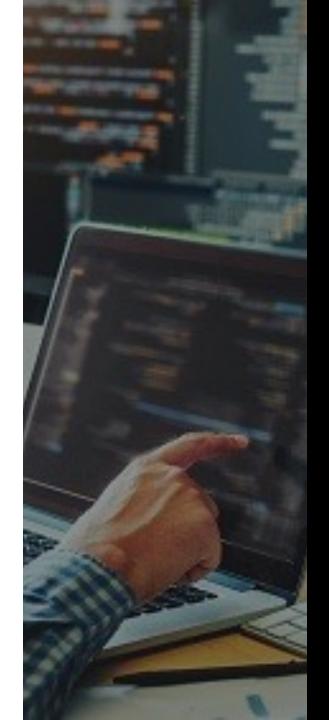
500+
grant and financial
management experts

\$100+
billion federal grant

funds managed

20+

years of experience supporting grant management and related technical assistance requests



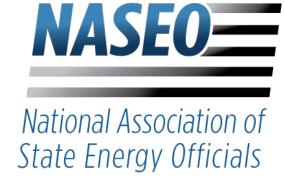
ICF Supports the Grants
Management needs of Federal,
State, and Local Governments

- Program planning, launch, and operation
- Strategic communications
- Data analytics/visualization
- Workforce development



- With ICF support, NASEO will be releasing a FEMA Building Resilient Infrastructure and Communities (BRIC) Action Guide in fall 2022
 - Written for State Energy Offices, State Emergency Management Agencies, and local entities (utilities, municipalities)
- Energy resilience focus:
 - Mitigation of power loss to end users and critical facilities/infrastructure (e.g., microgrids, generators, etc.)
 - Mitigation to energy systems themselves (e.g., underground of utility lines, transmission line redundancy, etc.).
- Intended to be a living document updated annually based BRIC program guidance







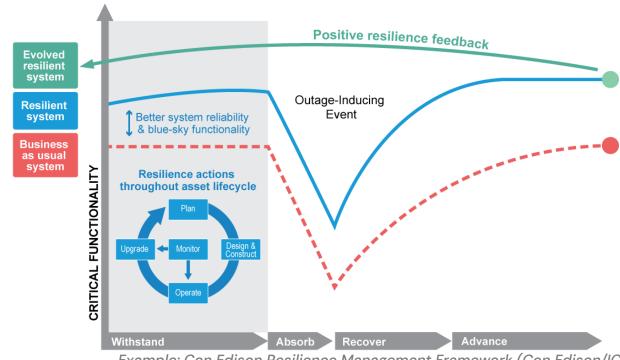
Know the vulnerabilities, risks, criticalities, and consequences for your infrastructure leverage Energy Security Plan process where possible and identify data needs and sharing protocols

✓ Draw in diverse skill sets: climate change science, resilience planning and metrics, grid hardening, T&D planning, emergency response, stakeholder management, and

communications

✓ Co-create the future with stakeholders—form partnerships on a continual basis to incorporate equityrelated and other perspectives, as well as to pursue funding

✓ Support creativity and look to benefit the most vulnerable—think beyond reliability



Example: Con Edison Resilience Management Framework (Con Edison/ICF)

Lessons from Utility Resilience Planning

- To support HMGP Advance Assistance grant application for energy resilience, ICF helped SDG&E to investigate the convergence of climate risks and vulnerable communities
- Considered a variety of metrics to inform vulnerability:
 - San Diego Climate Equity Index (CEI)
 - CPUC defined Disadvantaged Vulnerable Communities
 - CDC's Social Vulnerability Index
- Examined current and future climate risks:
 - Wildfire
 - Extreme heat
 - Sea level rise

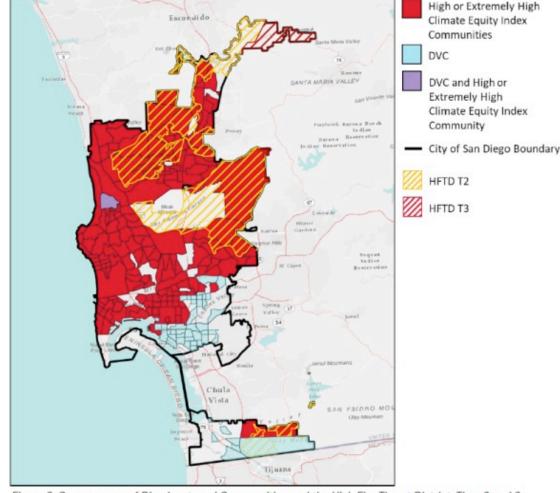


Figure 9. Convergence of Disadvantaged Communities and the High Fire Threat District, Tiers 2 and 3

Prioritizing Vulnerable Communities for Resilience Projects—SDG&E

ICF is supporting the Hawai'i State Energy
Office with funding from a FEMA Advance
Assistance grant (HMGP), building on the
O'ahu multi-hazard mitigation plan with
focus on energy resilience

Approach:

- Inventory Critical Energy Infrastructure and map dependencies
- Conduct risk assessment
- Bring results into a geospatial decision support system
- Identify risk mitigation solutions and make Implementation Plan—Federal funding priorities
- Timeline: First phase covering O'ahu through Q1 2023

Develop Inventory of Critical Energy Infrastructure (CEI) and Collect Data

Power plants, transmission lines, substations, refinery, SNG Plant, terminals, pipeline pumping stations, piping, etc. Develop Inventory of Critical Lifeline and Key Customers (CLKC) and Collect Data

Emergency operation centers, fire stations, police stations, shelters, hospitals and other medical centers, communication assets, water and wastewater systems

Characterize Interdependencies

How is CEI dependent on other Energy Infrastructure? How are critical facilities dependent on CEI?

O'ahu Energy System & Critical Infrastructure Vulnerability & Resiliency Assessment



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