DNV

UCLA California Center for Sustainable Communities

WHEN TRUST MATTERS

Welcome to our Community Workshop!

Mindful Gas Decommissioning:

A Data-Driven Tool for Equitable Exploration of Gas Distribution Pipeline Decommissioning

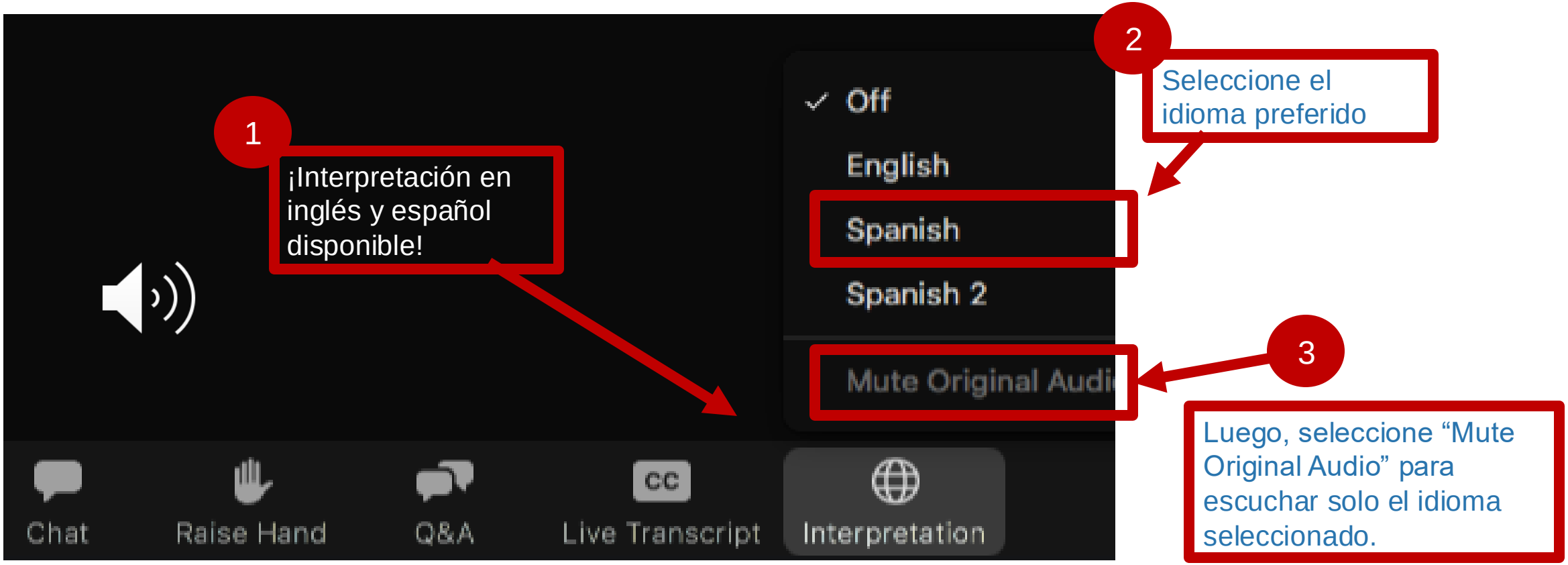
October 2, 2024

FUNDED BY

CALIFORNIA ENERGY COMMISSION

How to access Zoom interpretation?

¿Cómo utilizar la herramienta de interpretación Zoom?



Zoom Features Refresher

How to Use zoom Video Conferencing

Joining by phone?
- Press *9 on your phone keypad to raise or lower your hand.
- Press *6 to mute or unmute yourself.

Black menu bar at top or bottom of screen:

Audio
Please mute yourself when not speaking

Video

Participants
- See others
- Rename yourself (Name and Organization)
- Raise hand (remember to lower after)

Chat Feature
To provide questions and or comments

Reactions
Raise hand, give thumbs up or applaud

Welcoming Remarks

Martine Schmidt-Poolman
Sustainability and Health Unit
Energy Research and Development Division
California Energy Commission

Community Workshop Agenda

- Getting to Know You Poll
- Beta Tool Overview
- Project Team Introductions
- Self-care Break
- Project & Workshop 1 Reviews
- Beta Tool Application to a Case Study & Discussion

There is some dedicated time for Q&A after the Beta Tool Overview and at the end of the session.

Feel free to drop your questions in the chat at any time.

Tell us where you're joining from!

Scan the QR code with your phone to participate or go to Menti.com and enter code 7439 3502

Where are you joining us from?

Key Project Team Member Introductions

Hari Polaki

Senior Consultant, Energy Systems
DNV Energy Insights USA Inc.

Eric Fournier

Research Director
California Center for Sustainable Communities at UCLA

Cici Vu

Associate Director,
Energy & Climate Equity
DNV Energy Insights USA Inc.

Maya Ofek

Research Data Analyst
California Center for Sustainable Communities at UCLA

Participation Principles

Foster a collaborative and constructive atmosphere

Embrace new information, even when it feels challenging or technical

All perspectives and viewpoints are valuable

Questions are encouraged; use the chat between Q&A periods

Participate! Together, we know a lot

Mindful Gas Decommissioning Project Review

Cici Vu
Associate Director,
Energy & Climate Equity
DNV Energy Insights USA Inc.

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Today's Workshop Objectives

1. Report back on how community feedback has been incorporated into the beta tool and case studies development
2. Updates about project, beta tool and case studies development.
3. Receive input from workshop participants on the place-based case studies.

What might gas pipeline decommissioning mean for communities?

What is it?

- Broadly, the state investigates promising areas for gas energy services to be switched to alternative energy sources as part of its decarbonization goal (by 2045)
- Shutting down or retiring parts of the gas pipeline network based on investigation
  - *How to retire gas pipelines is yet to be determined by the state*

What does it mean for you?

- Switching gas-powered appliances (e.g. stoves, furnaces) to alternative energy powered appliances (e.g. induction stoves, heat pumps)
- Improve comfort and indoor air quality
- Potentially reduce energy bills (e.g., energy efficiency measures)
- Reduce dependency on fossil fuels
- Can help to avoid long-term increases in gas costs from reductions in demand (from those who can switch early)

Key Priorities and Challenges of our Project

State goal to decarbonize energy by 2045 requires strategic decommissioning of gas infrastructure

Address scale of gas distribution infrastructure – more than 100,000 miles throughout California

Decommissioning must be:

- Safe
- Intentional
- Environmentally just
- Cost effective

To achieve these goals our project team anticipates and face data-related challenges such as:

- Gaps in publicly available data
- Access to pipeline-level gas distribution data sources
- Processing and quantifying qualitative community feedback
- Engaging experts across multiple interests and domains
- Statewide scope, diversity, security, and processing of data

Mindful Gas Decommissioning: Research Focus

GAS ASSET INDEX

Safety benefits

GHG reductions

Regulatory drivers

Gas demand

Rate-payer costs

IOU contributed data

EQUITY INDEX

Socioeconomic vulnerability

Pollution burden

Climate risk

Environmental Risk

Energy Burden

Sensitive populations

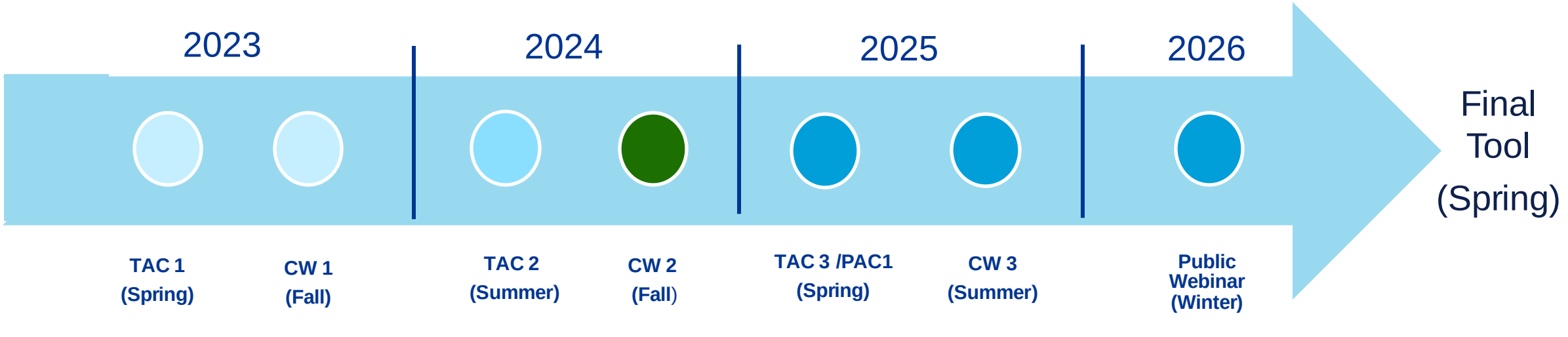
Access to Critical Services

DECOMM READINESS INDEX

Commercial: Business readiness to switch based on energy use.

Residential: Home readiness to switch based on building and gas usage (*under development*)

Community Engagement Schedule



TAC = Technical Advisory Committee

PAC = Policy Advisory Committee

CW = Community Workshop

Community Engagement and Feedback

1

Increase Community Understanding and Gather Feedback:

Through case study engagement, workshops and **Resource Hub.**

Receive feedback through *various means* and incorporate where feasible

2

Case study partnerships:

Co-develop place-based case studies with community partners to ground truth data with community knowledge and lived experience.

3

Engage Technical and Policy Experts:

Technical Advisory Committee to advise of types and sources of data and how to analyze

Policy Advisory Committee to advise on dashboard usefulness, how to present, weight, and interpret findings

Community Feedback Review

Cici Vu
Associate Director,
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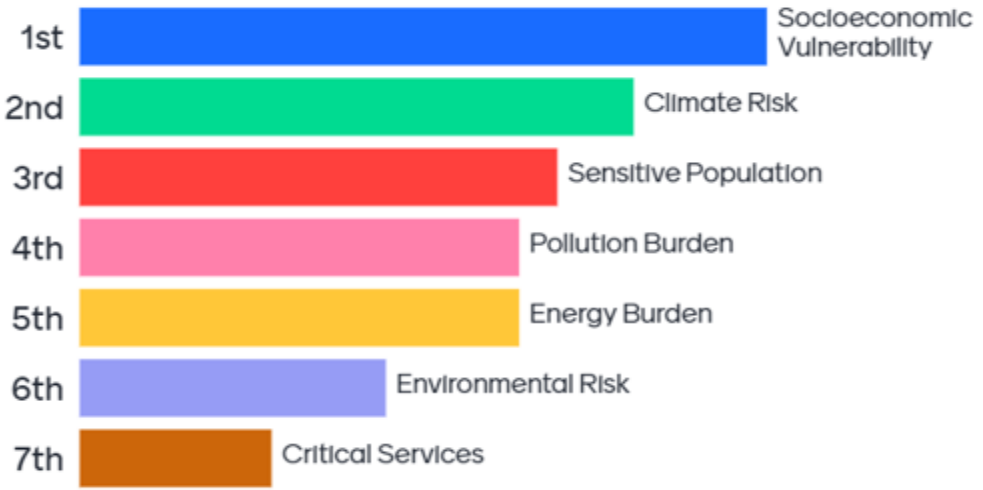
Community Workshop 1 (October 2023) Review

- Introduced the project scope, objectives, and expected outcomes.
- Gathered input to inform the metrics that will be used to identify candidate locations for equitable gas decommissioning.
- Discussed Community Impacts and Equity Data
- Introduced the development of a Data-Driven Tool that includes, but is not limited to, equity, safety considerations, electric grid readiness, and cost barriers.

Participant Ranking of Equity Indicators



Additional Feedback Incorporated

General

- ✓Provided more context for what decommissioning might mean to communities.
- ✓Prioritizing socioeconomic vulnerability in case study identification

Incorporated in Beta tool

- ✓Federally recognized tribal lands context layer
- ✓California building climate zones context layer
- ✓Additional climate risk primary metrics, including wildfire risks

Incorporated in case studies

- ✓Unique community characteristics (e.g., agricultural economy, locations of power plants)
- ✓Building characteristics (multi-family vs single-family, historic neighborhoods, new construction)
- ✓Climate and environmental history and context
- ✓Community concerns about what scores mean for gas decommissioning in communities

Feedback under Consideration or in Progress

- **Updating FAQs and resources**

- **Case Studies**
  - Comparative analysis of local data sources
  - Inclusion of broader community members in process

- **Beta Tool: General**
  - Federally non-recognized tribes
  - Weighting of specific primary metrics within pollution burden, environmental risk and socioeconomic vulnerability

Beta Tool: Additional primary metrics

- Soil contamination
- Lead contamination
- Superfund sites
- More granular flood data
- Updated EPA block group-level data
- Pipeline location data

Poll: What does “Gas Decommissioning” mean to you?

Scan the QR code with your phone to participate or go to Menti.com and enter code 7439 3502

In your own words, tell us what ”gas decommissioning” means to you!

Do you view gas decommissioning as an opportunity?

Beta Tool Overview

Eric Fournier
Research Director
California Center for Sustainable Communities at UCLA

Hari Polaki
Senior Consultant
Energy Systems
DNV

How can we effectively explore candidate locations throughout the state as potential sites for gas decommissioning, ensuring a data-driven and equity-focused approach?

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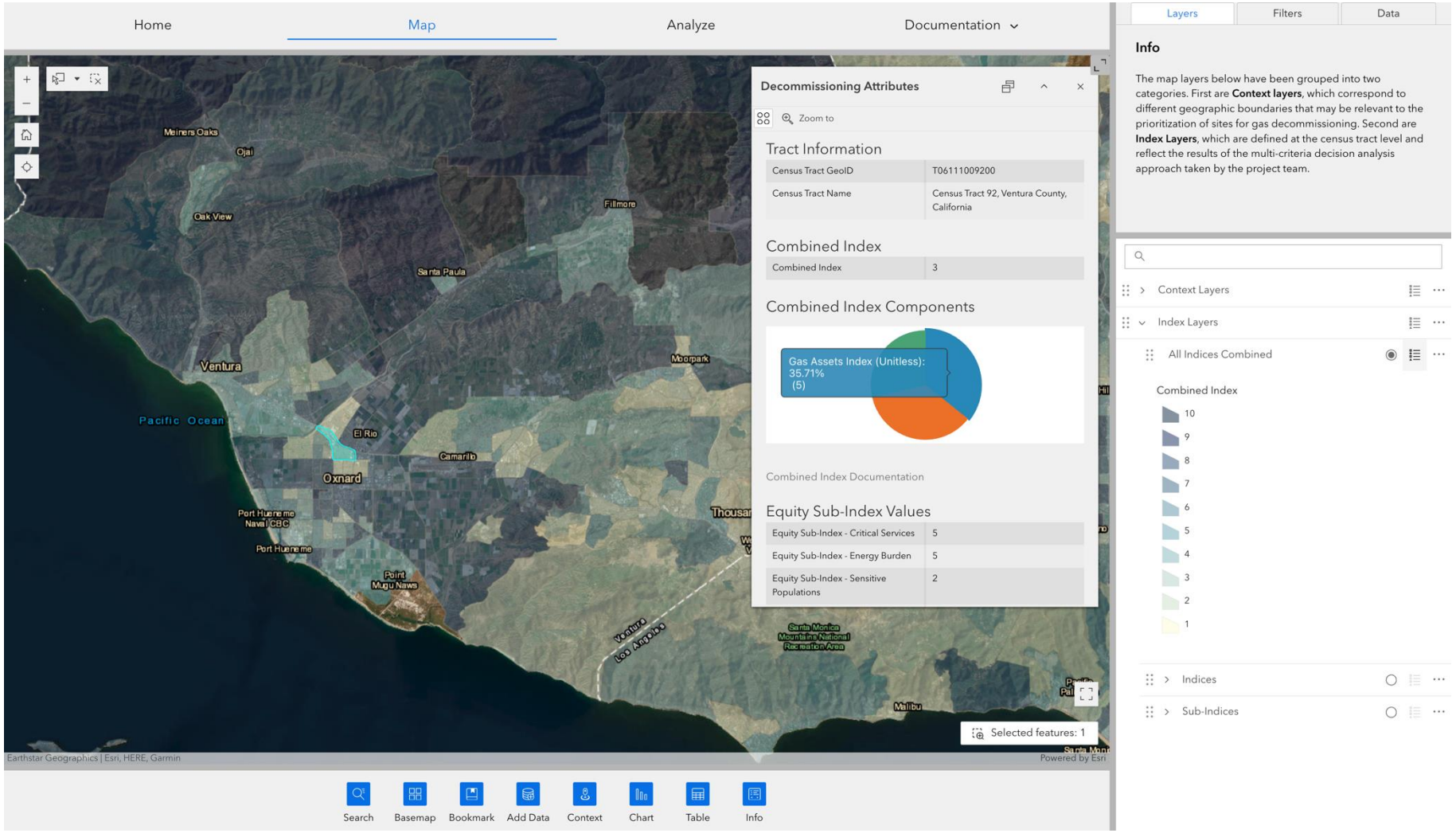
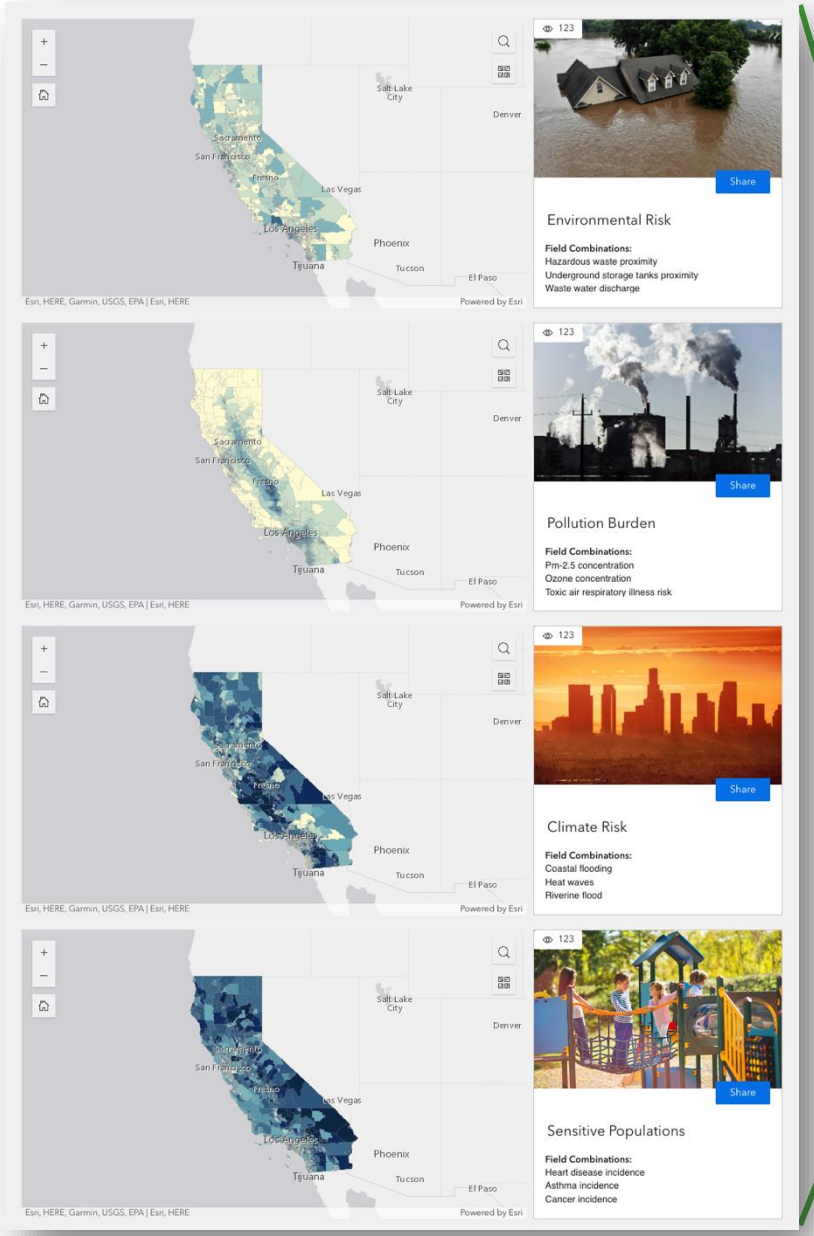
What is the Beta Tool?

It is an interactive website with a "map first" interface that supports dynamic interactions with spatial data resources



How was the Beta Tool built?

- With data for multiple variables that each quantify different issues of concern.
- Variables that reflect common themes are combined into index layers.
- Index layers merged into a single composite index
- Numerical score representing the different dimensions assigned



Gas Asset Index

+

Decommissioning Readiness Index

+

Equity Index

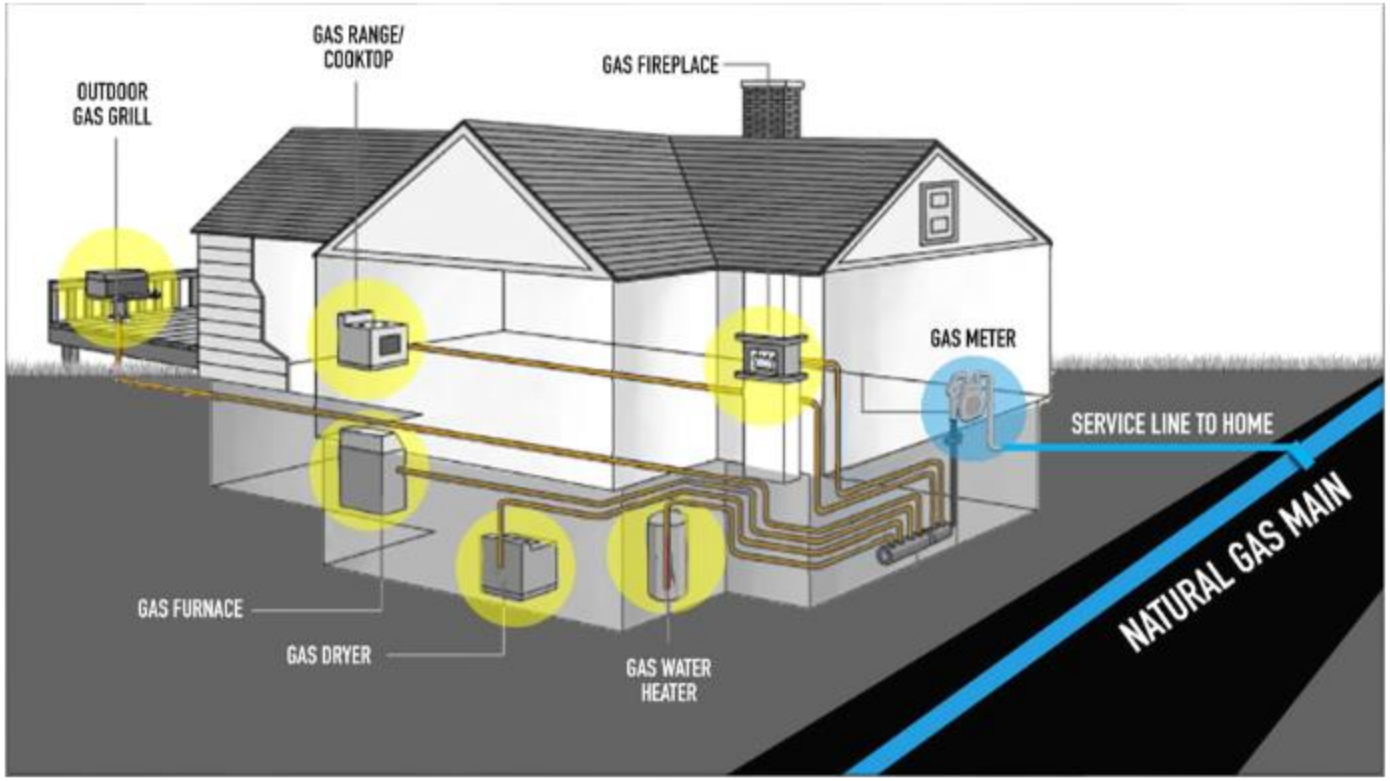
=

Combined Index Layer

How will the Beta Tool be used?

The tool has been designed to help the state identify promising locations for the pursuit of gas system decommissioning efforts.

- The development of this tool has been undertaken as a research project to help the state determine what factors should be included in the evaluation of promising decommissioning sites.
- One example use-case for a tool such as this could be to assess the relative merits of proposals for gas decommissioning pilot projects.



How are the data synthesized?

Each individual index's metrics are scored from 1 to 10, by census tract, relative to the entire state.

Gas Assets Index: Gas assets in this area beneficial for decommissioning

10 = most beneficial — least beneficial = 1

Decommissioning Readiness Index: Users can switch away from gas

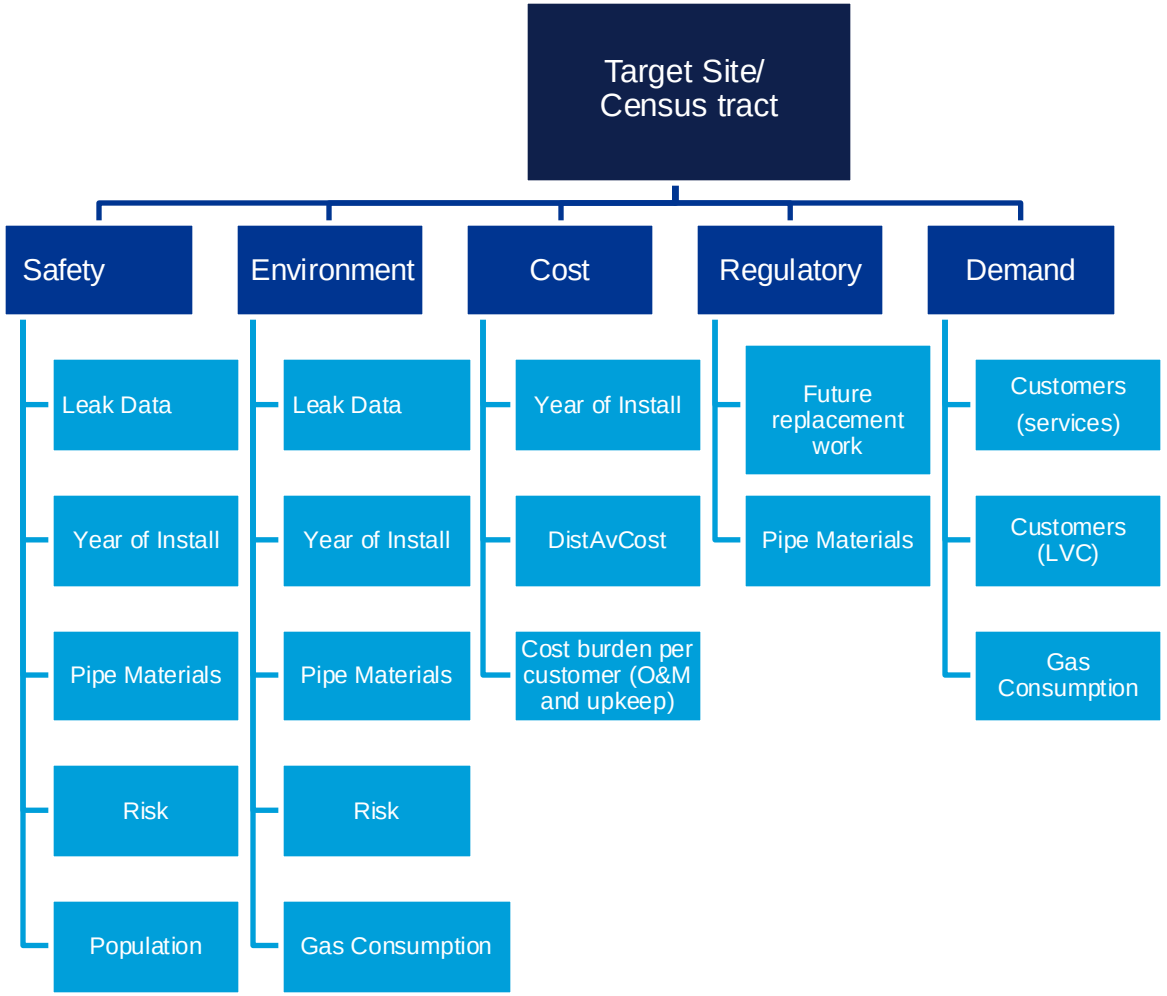
10 = can most readily switch — can least readily switch = 1

Equity Index: Communities in this area would benefit from decommissioning

10 = most readily benefit — have least benefit * = 1

** Generalized inference but additional details may sometimes contradict findings based on specific factors*

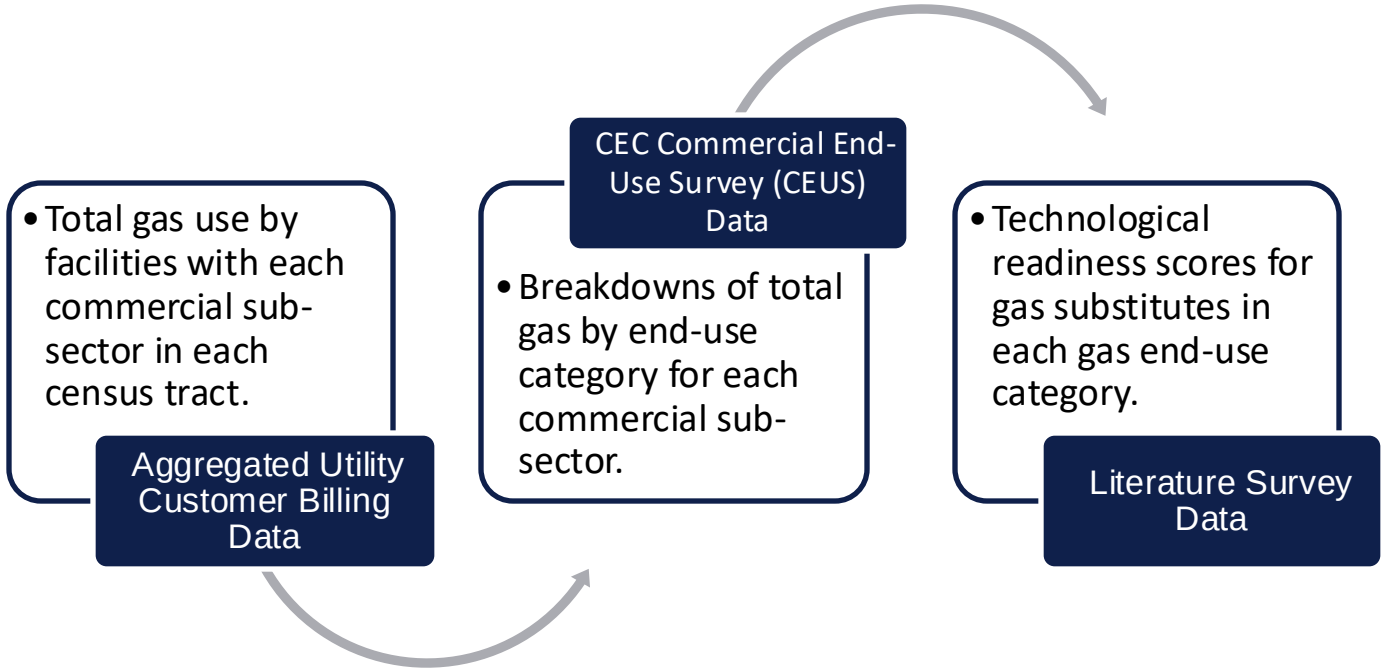
Gas Assets Assessment Factors



Gas Assets: What is the landscape of the existing gas distribution infrastructure and potential opportunities?

The Gas Assets index assesses which areas have older, higher risk gas lines that would likely result in customer cost savings and environmental benefits if they were to be strategically decommissioned.

Commercial Decommissioning Readiness Assessment Factors



Non-residential customers tend to be much larger than their residential counterparts and use gas for a wider variety of purposes

The commercial readiness index is meant to capture the geographic distribution of these high-volume non-residential gas customers and consider the challenges that they are likely to face with a potential move away from using gas given:

- The different end-uses of gas among these customers
- The availability of viable substitutes for gas relative to each of these end-uses

Commercial Decommissioning Readiness Scores (Sub-Indices)

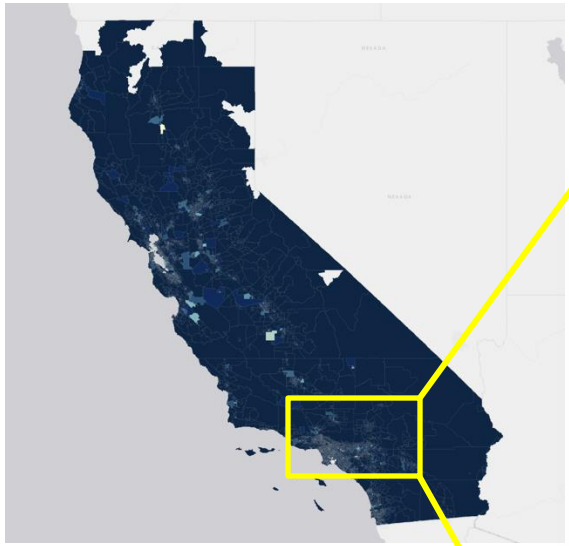
Commercial Sub-Sectors

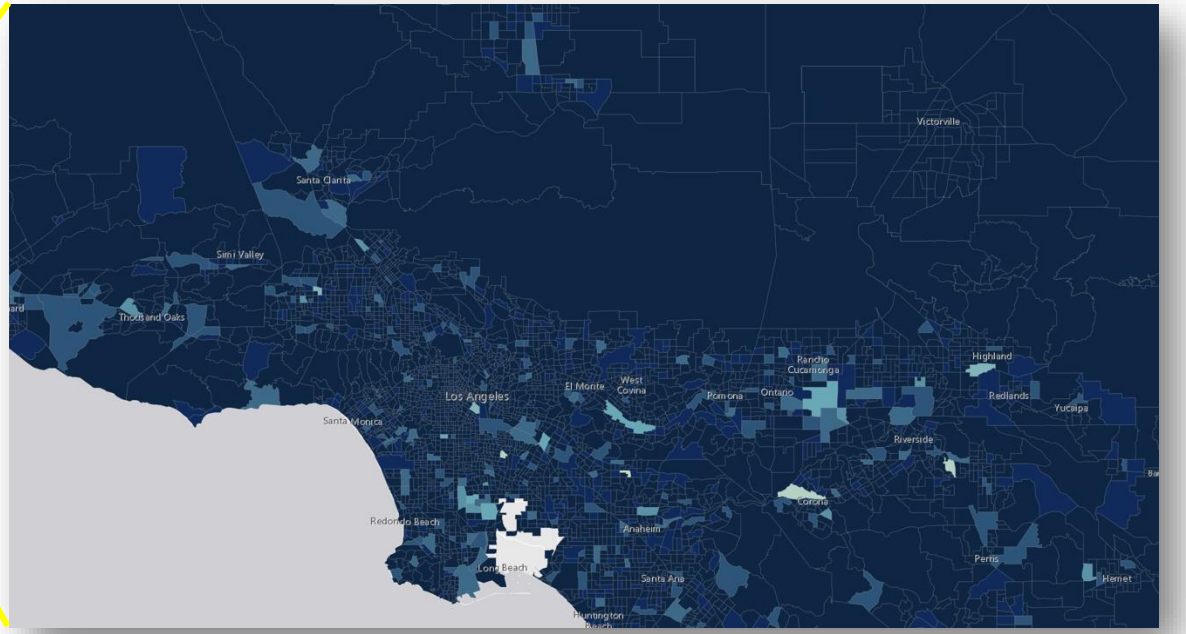
- Colleges
- Food Stores
- Healthcare
- Hotels
- Mining
- Miscellaneous
- Offices
- Refrigerated Warehouses
- Restaurants
- Retail
- Schools
- **Warehouses**

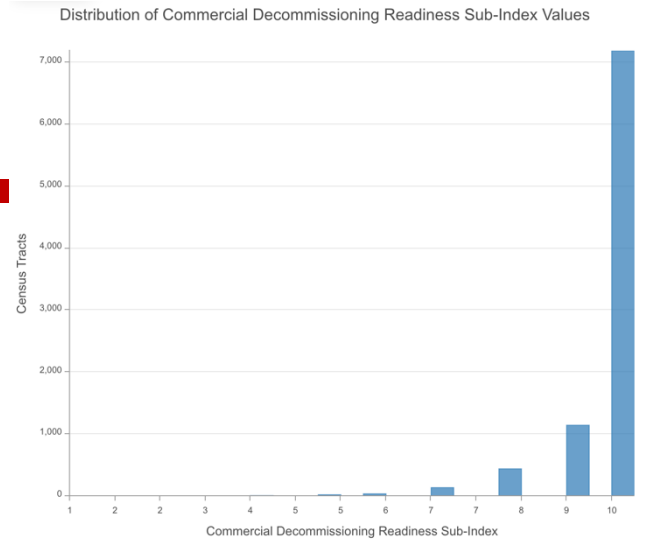
Industrial Sub-Sectors

- Durable Goods Manufacturing
- Non-durable Goods Manufacturing

Warehouse Sub-Index Example Illustration







Residential Decommissioning Readiness (*in development)*

Commercially available substitutes already exist for all existing residential gas end-uses. Given this, our focus has been trying to capture other limitations in the residential sector within our readiness score.

These could include:

- What are households' tastes and preferences?
- Can a household afford to replace their existing gas equipment?
- How dependent are households on the use of gas?
- How ready is the grid to support new electricity demand?

These factors are still in development as we continue to research the availability of data to support them.

We encourage you to share feedback about data sources or methods used to develop this index.

Equity Index:

Metrics that potentially represent community impacts related to gas decommissioning

Sub-Index	Primary Metrics Included	Data Source
Socioeconomic Vulnerability	Poverty line, disability, age, education, language, housing, rent burden, unemployment, mobile home, people of color, single parent, renter status	1
Energy Burden	% heated with non-grid fuels, energy burden ratio, number and duration of grid outages	1 & 2
Pollution Burden	Pm 2.5 and ozone concentrations, particulate matters, air toxic respiratory and cancer risks, RMP proximity, diesel particulate matter	3
Environmental Risk	Hazardous waste and underground storage tanks proximity, wastewater discharge, lead paint risk	3
Sensitive Populations	Heart disease incidence, asthma incidence, cancer incidence, % low life expectancy, % babies low birth weight	3 & 4
Access to Critical Services	Access to health insurance and broadband service	3
Climate Risk	Coastal flood, earthquake, heat wave, riverine flood, wildfire, winter weather risk	5

1. 2021 5 Year ACS 2. DOE LEAD Tool 3. EPA EJ Screen 4. Cal Enviro Screen 4.0 5. FEMA National Risk Index

Beta Tool Demo

Beta Tool Q&A

What questions do you have about the Beta Tool for the Gas Assets, Equity, or Decommissioning Readiness?

Self-care Break

Let’s reconvene in 5 minutes.

Case Study Overview

Mindful Gas Decommissioning Case Studies

'What' they are?

- Co-developed narratives with community partner
- Ground truth equity indicators through community knowledge and lived experiences
- Incorporate and document community feedback

'Why' develop them?

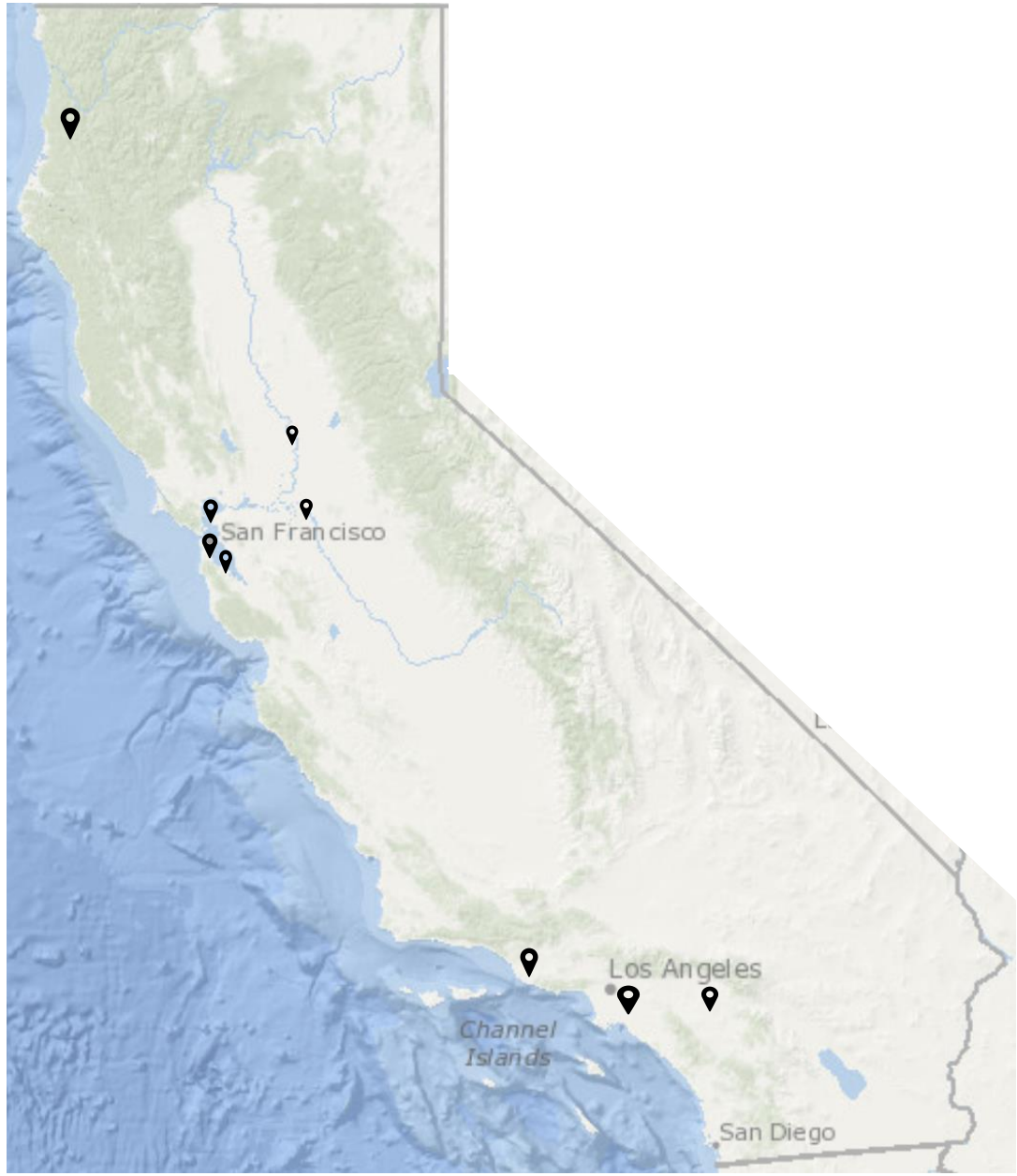
- Ensure community impacts data reflect place-based community challenges, needs and interests
- Uplift community feedback
- Inform the state of potential unintended consequences or secondary impacts

'Who' and 'Where' are the Focus?

- Areas with top-scoring equity metrics applying our Beta Tool
- Project team lived experience and community knowledge of California
- Diverse regions and landscapes across California (e.g., urban, rural, tribal, coastal)
- Interested community partners

Case Study Engagement in Progress

- Blue Lake Rancheria
  Indian Tribe of California
- Sacramento
- Richmond
- South San Francisco
- North Fair Oaks
- Stockton
- Oxnard
- Wilmington
- La Jolla Band of Luiseno Indians



Guided Examination of Case Study Framework and Location Applying Beta Tool

1. Review Reference Questions
2. Discuss Case Study Framework for Oxnard
3. Examine Equity Index
4. Apply Beta Tool to Explore Oxnard

Let’s Answer Your Questions

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UCLA Institute of the Environment and Sustainability

Next Steps

- *Provide your feedback (when ready) and engage with us using the input and feedback forms.*
- *Check out the Resource Hub for reference materials.*
- *Stay tuned for updates!*

Closing & Thank you.