

ENERGY AND ENVIRONMENTAL ECONOMICS, INC.

New York, NY

Senior Managing Consultant

Mr. Loken focuses on electrification and economy-wide decarbonization pathways analysis. His recent E3 projects include an industrial decarbonization project for the Center for Applied Environmental Law and Policy, national net-zero scenarios for the United States Climate Alliance, and state level net-zero analyses for New York, Colorado, and New Mexico. Within E3, Rawley oversees development of the economy-wide Pathway model, the associated Biofuels Optimization Tool, and E3's industrial analysis toolkit. He joined E3 after earning an M.S. in energy systems management from the University of San Francisco, where his master's project involved developing an integrated resource plan (IRP) for a Colorado utility that examined the future electricity system under a range of policy scenarios. Prior to his graduate program, Mr. Loken worked as a GIS analyst for an LED street lighting firm and the City of Santa Clara. In addition to his M.S., Mr. Loken earned a B.S. in Environmental Science from Santa Clara University.

Select E3 projects include:

- **Decarbonizing Industrial Heat: Measuring Economic Potential and Policy Mechanisms, CAELP (2024).** Mr. Loken helped develop a new tool to estimate the cost and emissions impacts of electrifying low-temperature industrial boilers across the United States based on publicly available data from the EPA Greenhouse Gas Reporting program.
- **Hawaii Pathways to Decarbonization, Hawaii State Energy Office (2023).** Mr. Loken supported the pathways analysis work for the Hawaii State Energy Office to understand how the state can meet its aggressive net zero by 2045 target. This included examining the impact of electrification for on-road vehicles and the potential pathways for decarbonizing off-road transportation like aviation and marine fuel use.
- **Illinois Decarbonization Study, Commonwealth Edison (2022).** Mr. Loken led the economy-wide pathways analysis that examined the required electrification and energy demand changes needed to reach Illinois' aggressive emissions targets and policies from Climate and Equitable Jobs Act (CEJA), and how these changes would impact the grid operations and investment required in Commonwealth Edison's service territory.
- **Getting to Net-Zero: U.S. Report, University of California Berkeley California-China Climate Institute (2021).** Mr. Loken led a review of deep decarbonization literature for the United States and individual states to identify common mitigation measures that should be near-term priorities for achieving carbon neutrality in the United States.
- **Building Blocks for a Low-Carbon Economy, World Resources Institute (2021).** Mr. Loken led development of economy-wide pathways scenarios for the United States that evaluated the impact of specific policies like tax credits for existing and new low-carbon technologies, performance standards and technology mandates, and the level of transformation required by sector to achieve the Biden administration's GHG targets.

- **Decarbonization Pathways Analysis, United States Climate Alliance (2021).** Mr. Loken led development of economy-wide pathways scenarios for member states of the United States Climate Alliance to understand the impact on national emissions of these states pursuing a suite of decarbonization policies.
- **New York Integration Analysis for Climate Action Council Draft Scoping Plan, NYSDERDA (2021-2022).** Mr. Loken supported the pathways analysis work to inform the Climate Action Council's scoping plan. This includes a detailed analysis of buildings, transportation, industry, electricity generation, non-combustion, low-carbon fuels, and negative emissions using E3's suite of modeling tools and incorporating parallel modeling efforts at NYSDERDA.
- **GHG Pollution Reduction Roadmap, Colorado Energy Office (2019-2020).** Mr. Loken led the decarbonization pathways modeling for the state of Colorado to evaluate the economy-wide emissions impact of recently passed state policies and understand the actions required to achieve emissions reductions in line with the state's long-term GHG targets.
- **New Mexico GHG Emissions Inventory and Forecast, Center for a New Energy Economy (2020).** Mr. Loken led development of an updated GHG emissions inventory for New Mexico that improved upon previous iterations by including a highly-detailed accounting of both fuel combustion and fugitive emissions from the oil and gas sector. He also led development of decarbonization scenarios that examined measures required to achieve the state's long-term GHG targets and the impact of fugitive emissions policies in the oil and gas sector.
- **Achieving Carbon Neutrality in California, California Air Resources Board (2020).** Mr. Loken supported E3's analysis of pathways to achieving carbon neutrality in California by 2045 and built a tool that allows users to compare the abatement cost of various mitigation measures.

UNIVERSITY OF SAN FRANCISCO

Research Associate

San Francisco, CA

November 2018 – May 2019

- Researched historical technology deployments and economic transformations occurring at quantifiable rates similar to those necessary for transition to a low-carbon United States energy system
- Evaluated the role of federal government policy intervention in driving rapid technological and economic changes in the energy sector
- Analyzed large datasets to gain insights into relevant trends, designed figures and tables, and prepared research briefs and presentations

TANKO STREETLIGHTING, INC.

Data Analyst

Project Design Manager

Project Associate

San Francisco, CA

January 2018 – October 2018

November 2016 – January 2018

February 2016 – November 2016

- Translated both field and utility data into a variety of high-quality, user-driven map products, including client-facing reports and maps to guide field staff
- Performed data reconciliation, spatial analysis, and geoprocessing of large datasets; reviewed and processed field data for accuracy, quality and completeness

- Managed large, dynamic GIS datasets in ArcMap to drive accurate, streamlined project implementation
- Performed quantitative analyses on electricity and energy cost savings for municipalities and make recommendations to clients based on the results

CITY OF SANTA CLARA

GIS Intern

Santa Clara, CA

June 2015 – October 2015

- Contributed to a large-scale project to identify and map every utility easement in the city of Santa Clara in ArcGIS using easement documents, parcels maps, land surveys, and land deeds
- Assisted GIS staff with field data collection, data entry, and quality assurance of utility easement records

SANTA CLARA UNIVERSITY

Research Assistant

Santa Clara, CA

September 2014 – June 2015

- Studied the distribution of particulate matter pollution from highways in Santa Clara County and its effects on vulnerable populations, most notably schoolchildren

Education

University of San Francisco
M.S., Energy Systems Management

San Francisco, CA
2019

Santa Clara University
B.S., Environmental Science (Cum Laude)

Santa Clara, CA
2015