Energy, Equity, and Health in California

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CCSC’s Approach to Studying These Issues

**Public Tools**
- SoCal Energy Atlas
- BayREN Energy Atlas
- LA County Solar Prioritization Tool

**Academic Work**
- Journal Articles
  - Books
  - Courses
  - Lectures
  - Posters

**Account Level Consumption DATA**
- Energy & Water IOUs & POUs

**Regulatory Proceedings**
- Energy Data Access Rules and Procedures
- DER Planning Initiatives
- Energy Efficiency Programs Design and Evaluation
- Equity and Disadvantaged Community Engagement Efforts

**Research Projects**
- (CEC) Grid Vulnerabilities to High Heat
- (CEC) Advanced Energy Communities Planning and Implementation
- (CEC) Air Quality Benefits from Residential Appliance Electrification and other Energy Transitions in Disadvantaged Communities
- (SGC) Prioritizing Sites for Community Solar Generation Facilities

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UCLA Energy Atlas

This project is developed by the UCLA California Center for Sustainable Communities (CCSC) at UCLA, in the Institute of the Environment and Sustainability (IOES).
Bay Area Energy Atlas

This project is funded by the Bay Area Regional Energy Network (BayREN), a collaboration of the nine counties that make up the San Francisco Bay Area, in partnership with the California Center for Sustainable Communities at UCLA.
On energy sufficiency and the need for new policies to combat growing inequities in the residential energy sector

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One idea which we believe is crucially important when considering issues of equity in these transitions is that of “Sufficiency.” How much energy and material resource consumption is enough to live a decent and productive life. Are there levels can such consumption which should considered as excessive? How should these be addressed through policy?
Using Big Data to Holistically Assess Benefits from Building Energy System Transition Pathways in Disadvantaged Communities

We know that natural gas combustion generates both criteria air pollutants ($\text{SO}_x$, $\text{NO}_x$, CO, PM-x) as well as GHGs.

These emissions are released into the ambient air by grid generator stations during the production and distribution of electricity.
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These emissions are released into the ambient air by grid generator stations during the production and distribution of electricity.

However, gas combustion emissions can also be released into indoor environments by appliances which are not completely ventilated to the outdoors.
Using Big Data to Holistically Assess Benefits from Building Energy System Transition Pathways in Disadvantaged Communities

The quantity of air pollutant emissions which are released from the grid’s generation fleet depends strongly upon the timing of electricity consumption.

This is because of the variable contribution of zero emissions renewable generator outputs to the grid’s supply portfolio.

These complexities create uncertainty about the net air quality impacts associated with electrification and other types of energy transitions.
Energy Data Access Committee (EDAC)

We have previously participated in CPUC rulemaking proceedings around the development of energy data access and privacy preserving consumption data aggregation procedures.

The decisions which have been taken as a result of these of proceedings have profound implications for our ability to first, become aware that certain energy inequities exist and then later, to attempt to remedy them through the development of new policies and programs.

“DECISION ADOPTING RULES TO PROVIDE ACCESS TO ENERGY USAGE AND USAGE-RELATED DATA WHILE PROTECTING PRIVACY OF PERSONAL DATA –

Order Instituting Rulemaking to Consider Smart Grid Technologies Pursuant to Federal Legislation and on the Commission’s own Motion to Actively Guide Policy in California’s Development of a Smart Grid System.”
More recently we have submitted comments on the CEC’s proposed Distributed Energy Resource (DER) Roadmap. This roadmap will help to determine funding priorities and opportunities for DER related research within the state.

We view DER as a critical leverage point for improving energy equity and public health outcomes throughout the state’s disadvantaged communities.
Thank You!

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