

BERKELEY CLIMATE MAP — ELECTRIC POWER GENERATION

bruceriodan@berkeley.edu

First	Last	Primary Affiliation	Summary	Selected Projects/Reports/Classes
Max	Auffhammer	RCNR - Agricultural & Resource Economics	Environmental and resource economics, energy economics and applied econometrics. CEEJ Affiliate	The visual effect of wind turbines on property values is small and diminishing in space and time Private and External Costs and Benefits of Replacing High-Emitting Peaker Plants with Batteries. Climate Adaptive Response Estimation: Short And Long Run Impacts Of Climate Change On Residential Electricity and Natural Gas Consumption.
Alex	Bayen	COE - Electrical Engineering and Computer Science	Director of CITRIS. Works on smart grid technologies and energy-efficient infrastructure The intersection of control, optimization, and machine learning.	Self-Driving Trucks
Severin	Borenstein	Haas - Energy Institute at Haas	Faculty Director, Energy Institute at Haas. Climate change, energy policy, electricity deregulation and more.	Current projects include the economics of renewable energy, economic policies for

First	Last	Primary Affiliation	Summary	Selected Projects/Reports/Classes
				reducing greenhouse gases, and alternative models of retail electricity pricing.
	California Institute for Energy & Environment		<p>Carl Blumstein, Executive Director. Part of the CITRIS Climate initiative.</p> <p>CIEE's projects span an ambitious scope of topics, with a common thread: to intelligently apply cutting-edge technologies in service to society.</p> <p>From managing extensive studies on California's climate vulnerability to developing smart energy solutions and deploying them in the field, CIEE brings together researchers, inventors and stakeholders to accomplish what none could do alone.</p>	<p>Oakland Eco-Block</p> <p>“Eight Key Challenges for California’s Energy Future.”</p> <p>Involve the Youth: CIEE Postdoctoral Scholar Dr. Miriam Aczel recently co-published a commentary in Elementa: Science of the Anthropocene that highlights the potential benefits of youth-oriented citizen science research in informing climate change research.</p>
Duncan	Callaway	RCNR - ERG, Energy Institute @Haas	<p>Chair, Energy Resources Group.</p> <p>His research group focuses on emerging energy technologies by quantifying their impacts on power system operations and developing control, optimization and data analysis tools to facilitate their integration into power systems technologies.</p> <p>CEEJ Affiliate</p>	Data Environment and Society ENERES 131 001 (Fall 2023)
	Center for Environmental Public Policy	Goldman	David Wooley , Executive Director. Synthesizing scientific, economic, technical, social, financial, and political understanding, CEPP collaborates to support the creation and implementation of sound public policies.	2035 and Beyond: Abundant, Affordable Offshore Wind Can Accelerate Our Clean Electricity Future.

First	Last	Primary Affiliation	Summary	Selected Projects/Reports/Classes
			CEPP's primary focus is on climate change, the key environmental challenge of our time.	<p>Overall 2035 Project – All 4 reports – Reconductoring, Offshore Wind, Transportation and Electricity</p> <p>California 100 Releases First Round of Policy and Scenario Reports Focused on State's Infrastructure Future</p> <p>Lead author: The Future of Energy, Environment and Natural Resources for the California 100 Project</p> <p>Berkeley Carbon Trading Project</p> <p>UCOP \$100M Climate Action LOI lead – January 2023 - Keeping California Climate Funding in California: Piloting Local Climate Action Funds -- Seed (Invite)</p>
Lucas	Davis	Haas	Davis's research focuses on energy and environmental markets, and, in particular, on electricity and natural gas regulation, pricing in competitive and non-competitive markets, and the economic and business impacts of environmental policy.	<p>How Effective is Energy Efficient Housing: Evidence from a Field Experiment in Mexico</p> <p>The Economic Determinants of Heat Pump Adoption</p> <p>What Matters for Electrification? Evidence from 70 Years of U.S. Home Heating Choices</p> <p>Transmission Impossible? Prospects for Decarbonizing the U.S. Grid</p> <p>Who Will Pay for Legacy Utility Costs?</p>

First	Last	Primary Affiliation	Summary	Selected Projects/Reports/Classes
				Air Conditioning and Global Inequality
	Energy and Resources Group (ERG)	RCNR	<p>Duncan Calloway, ERG Chair.</p> <p>ERG is a collaborative community of graduate students, core faculty, nearly 200 affiliated faculty and researchers across the campus, and over 600 alumni across the globe.</p> <p>Our students work across disciplines and departments to create potentially transformative knowledge for the planet. ERG is a world-renowned program with a 50-year history of outstanding research, education and outreach to government, industry, and civil society at the state, national and international levels.</p>	<p>Research at ERG</p> <p>9 labs and initiatives</p> <ul style="list-style-type: none"> • Critical Ruralities • Harte Lab • Water Group • Kueppers Lab • EMAC • Climate and Carbon Sciences Program • RAEL • Climate Futures Lab • ERG Economics Lab
	Energy Institute at Haas	Haas	<p>Andrew Campbell, Executive Director. Supports current and future energy sector leaders with training and research.</p> <p>Train the business and policy leaders of tomorrow on market, policy, and technology commercialization challenges in the energy industry.</p> <p>Produce research and analysis backed by rigorous empirical evidence and the frontiers of economic research so that energy and environmental policy and business decisions are based on sound economic and business principles.</p>	<p>Energy Institute Blog</p> <p>The Energy Institute Working Paper Series presents new research on energy and environmental topics authored by our faculty affiliates and graduate students.</p>

First	Last	Primary Affiliation	Summary	Selected Projects/Reports/Classes
Meredith	Fowlie	RCNR - Agricultural & Resource Economics, Energy Institute @Haas	<p>Faculty director, Energy Institute at Haas. Co-directs the National Bureau of Economic Research (NBER), Environmental and Energy Economics Program. Co-Chair Academic Senate Task Force on climate.</p> <p>Fowlie has worked extensively on the economics of energy markets and the environment. Her research investigates market-based environmental regulations, the economics of air pollution, electricity market regulation, and incomplete GHG regulations.</p>	<p>Negotiating the Clean Energy Transition: California's Experiment in Progress (video)</p> <p>Organized National Bureau of Economic Research conference “Measuring and Reporting Corporate Carbon Footprints and Climate Risk Exposure – Fall 2021”</p> <p>Climate Policy, Environmental Justice and Local Air Pollution(2020)</p> <p>2023 UCOP Proposal: Designing Climate Policy for an Equitable and Effective Clean Energy</p> <p>Teaching: ENVECON 147 Economics of the Clean Energy Transition (SPRING 2023)</p>
Marta	Gonzalez	CED - City and Regional Planning	<p>Statistical Physics of Complex Systems and Network Science. Spatial AI, digital traces, and Environmental data.</p> <p>Her recent research uses billions of mobile phone records to understand the appearance of traffic jams and the integration of electric vehicles into the grid, smart meter data records to compare the policy of solar energy adoption and card transactions to identify habits in spending behavior.</p>	<p>A Data Science Framework to Measure VMT by Mode and Purpose (report for CARB)</p> <p>Teaching: Data Science for Smart Cities; Fall: Human Mobility and Network Science.</p>
Zoe	Hamstead	CED - City and Regional Planning	Hamstead's work focuses on environmental planning, sustainability, urban governance, and	

First	Last	Primary Affiliation	Summary	Selected Projects/Reports/Classes
			<p>environmental justice, particularly in the context of climate change.</p> <p>Current and past research projects, practice, and service-learning courses include analysis of access to urban parks and ecological amenities, urban resilience scenario development, engaged community solar planning, and climate-exacerbated extreme heat management</p> <p>Climate Equity Environmental Justice Core Faculty</p>	<p>2023 UCOP Proposal: Enhancing Climate and Housing Security in the cities of Richmond and Stockton</p> <p>Her recent co-edited volume entitled Resilient Urban Futures describes the processes of developing long-range planning capacities for climate resilience in 9 cities across Latin America, the Caribbean, and North America through six years of coordinated participatory scenario workshops.</p> <p>Teaching: CYPLAN 290 - Topics in City and Metropolitan Planning: Climate Justice Seminar SPRING 2022</p>
Chris	Jones	RCNR - Energy and Resources Group	<p>Chris Jones is Director of the CoolClimate Network, a university-government-industry partnership, and part of team for UCOP Climate Action project supporting local communities' climate planning.</p> <p>Carbon footprint analysis, the design of behavior-based programs and regional climate policy. In 2005, Jones published the first comprehensive carbon footprint calculator, which accounts for the greenhouse gas emissions of all transportation, energy, food, goods and services purchased by U.S. households.</p>	<p>CoolClimate Calculator: California Local Government Policy Tool: https://coolclimate.org</p> <p>UCOP Climate Action Award: Climate Action Planning Tools: Empowering Equitable Transitions for CA Communities FUNDED</p> <p>Cool Campus Challenge and the CoolCalifornia Challenge</p> <p>MBA/EWMBA 292T.14 - Carbon Footprint Analysis for Innovation FALL 2022</p>

First	Last	Primary Affiliation	Summary	Selected Projects/Reports/Classes
			Faculty lecturer in the Haas School of Business, and Program Chair (13th year) of the Behavior, Energy and Climate Change	
Dan	Kammen	RCNR - Energy Resources Group, Goldman	<p>Director, Center for Environmental Public Policy (Goldman). Founding Director, Renewable and Appropriate Energy Laboratory (RAEL) CEEJ Advisory Council</p>	<p>Co-PI, Eco Block Project</p> <p>UCOP Proposal: Climate Action Planning Tools: Empowering Equitable Transitions for CA Communities FUNDED</p> <p>Accelerating the Timeline for Climate Action in California (2022)</p> <p>Driving Research Opportunities at RAEL – California’s electric grid and the move to all EVs</p>
Robert	Kostecki	LBNL - Energy Storage & Distributed Resources	<p>Director, Energy Storage and Distributed Resources Division at LBNL.</p> <p>ESDR enables and accelerates the development and adoption of new advanced technologies for sustainable transportation, renewable power and energy efficiency.</p> <p> Grid Integration Energy Storage Energy Conversion Laser Technologies Thermal Science Applied Energy Materials </p>	

First	Last	Primary Affiliation	Summary	Selected Projects/Reports/Classes
Jiang	Lin	LBNL - Energy Technologies Area	<p>Energy and climate policy, energy and emissions pathways with a focus on non-CO2 GHGs (methane, F-gas, etc.), electricity market and planning, low-carbon economic transition, and appliance efficiency issues in China.</p> <p>Formerly co-Director of the Berkeley-Tsinghua Joint Research Center on Energy and Climate Change.</p> <p>Formerly, Lin was the Director of the Energy Foundation's China Sustainable Energy Program (2007-2013) and Senior Vice President for Strategy and Analysis (2014-2016) where he managed the growth of Energy Foundation China into one of the largest international NGOs devoted to promoting clean energy and climate solutions in China.</p>	
Philip	Marcus	COE - Mechanical Engineering	Water desalination, strongly rotating and/or stratified flows, vortices and vortex dynamics and their applications in engineering, atmospheres, oceans, and astrophysics.	UCOP \$100M Climate Action Proposal lead – A Comprehensive Climate Solution: Microgrids with Wind & Solar Power & Pumped Water Energy Storage -- Matching
Scott	Moura	COE - Civil and Environmental Engineering	<p>Advanced batteries, vehicle electrification, distributed energy resources. PI for the ecal Lab.</p> <p>Urban electrified transportation, increased energy demand and new storage opportunities.</p>	

First	Last	Primary Affiliation	Summary	Selected Projects/Reports/Classes
			CEEJ Core Faculty	
	Office of Sustainability and Carbon Solutions	Administration	<p>Serves as a leader for sustainability initiatives on campus.</p> <p>Berkeley is committed to surpassing the carbon reduction mandates set by California state regulations by achieving at least a 90% reduction in total emissions (scopes 1,2, and 3), relative to a 2019 baseline, by 2045.</p> <p>Berkeley Clean Energy Campus</p> <p>With target dates of 2028 for phase one and 2030 for phase two, Berkeley will replace their natural gas powered cogeneration plant with a new clean and green resilient energy system. This initiative will phase out fossil fuel use for powering, heating, and cooling campus. The new reproducible, scalable Berkeley Clean Energy Campus system will demonstrate state-of-the-art technologies and exemplify creative financing such that other campuses and public institutions can replicate .</p>	Berkeley's model. For decades, Berkeley has led the world in climate solution technology and policy research. Now, the campus will begin transitioning to an energy system that sets the standard in sustainable, resilient infrastructure.
	Renewable and Appropriate Energy Lab (RAEL)	RCNR - Energy and Resources Group, Goldman	<p>Daniel Kammen, Director Unique research, development, project implementation, and community outreach facility based at the Energy and Resources Group.</p> <p>RAEL focuses on designing, testing, and disseminating renewable and appropriate energy systems.</p>	

First	Last	Primary Affiliation	Summary	Selected Projects/Reports/Classes
Jim	Sallee	RCNR - Agricultural & Resource Economics, Energy Institute @Haas	Public economist specializing in environmental and energy economics. His research analyzes policy design and market behavior in transportation and electricity.	Retiring Old Capital to Foster Decarbonization Designing Electricity Rates for an Equitable Energy Transition (link) The Potential of and Problems with Carbon Markets in US Agriculture Retiring Heavy-Duty Trucks Price Regulation, Incidence, and the Clean Energy Transition
Evan	Variano	COE - Civil and Environmental Engineering	Environmental fluid dynamics	2023 UCOP Proposal: Empowering California to Access Water Savings from Floating Solar Environmental Fluid Mechanics CE200B Spring 2024
Steven	Weissman	Goldman	Energy and climate policy Former Administrative Law Judge at the CPUC.	Why Doesn't PG&E Bury the Power Lines to Prevent Wildfires? (KQED 2020) California Must Prepare Its Electric Grid for Complex Climate Risks (SF Chronicle, 2020) California Needs Clean, Healthy and Safe Local Energy Systems – Microgrids (Cal Matters)

First	Last	Primary Affiliation	Summary	Selected Projects/Reports/Classes
Peidong	Yang	Chemistry	<p>The Yang research group is developing materials and systems for the purpose of fixing CO₂ using sunlight.</p> <ul style="list-style-type: none"> • <i>Solar-driven CO₂ fixation</i> • <i>Artificial photosynthesis</i> • <u>Nanowires for Solar to Fuel Conversion</u> 	Liquid Sunlight: The Evolution of Photosynthetic Biohybrids