OUR FIRST DECADE
AND FUTURE
IMPACT

ENVIRONMENTAL POLICY RESEARCH FOR
HEALTHY COMMUNITIES AND A SUSTAINABLE WORLD
This year, the Luskin Center for Innovation celebrates 10 years of environmental policy research for healthy communities and a sustainable world.

In just a decade, collaborators and supporters like you have enabled us to shape dozens of landmark environmental policies and other sustainability solutions to be innovative, equitable, and effective. We’ve had a particular focus in California, the world’s fifth largest economy, in order to support a model of environmental leadership and sustainability innovation that inspires others across the nation and world.

Now, as the pandemic lays bare inequality in our society and underscores how racial injustice, poverty, pollution and health are linked, we have a generational opportunity to rebuild better than before. The urgency is hard to overstate. Climate change is hitting us hard already, and scientists warn that we have only about a decade to rapidly reduce carbon emissions if we are to avert worst-case climate catastrophes. Decisions being made now will help determine the fate of our economy and our environment. We need research to inform policies that decarbonize our economy and center climate solutions from the frontline communities most damaged by interconnected inequities, so that everyone can share in the benefits of a cleaner economy.

This report is a snapshot of our past, present, and future as we advance audacious but achievable sustainability goals. We look forward to our next decade of engaging with you on rigorous research and timely outreach for the health of people and the planet.

Sincerely,

J.R. DeShazo
Director, UCLA Luskin Center for Innovation
OUR MISSION:
Unite UCLA scholars with forward-looking civic leaders to solve environmental challenges confronting our community, nation, and world.
OUR FIRST DECADE
BY THE NUMBERS

$16 million in contracts, grants, and gifts from and with 100+ partners and civic collaborators.

60+ faculty and staff researchers and nearly 300 students conducted action-oriented research.

100 public events hosted and 125 research reports published that inform sustainability solutions.

Dozens of innovative environmental policies advancing the health of people and the planet.
Here are 10 examples:

**Sparked clean energy policy**
Our research helped design the nation’s largest renewable energy feed-in-tariff program, in which the Los Angeles Department of Water and Power compensates property owners in the city who produce renewable energy. Conducted in partnership with the Los Angeles Business Council, our studies caught the eye of state leaders, such as then-Governor Jerry Brown. We hosted his 2011 Renewable Energy Conference, helping accelerate California’s rapid transition to clean energy.

**Mapped climate action opportunities for President Obama’s initiative**
Through our Los Angeles Solar Energy and Efficiency Report (LASER), we identified communities with elevated climate action need and potential. Our report was supported by the Environmental Defense Fund and recognized by President Barack Obama as part of his Climate Data Initiative.

**Designed a framework to advance environmental justice nationwide**
In 2011, we created the first-ever evaluation framework for environmental equity programs, in collaboration with the U.S. Environmental Protection Agency and environmental justice leaders from across the nation. These guidelines offer holistic methods to ensure the effective design and implementation of policies and programs to reduce environmental inequities.

**Supported dynamic public spaces with award-winning toolkits**
Across the nation, we have helped communities transform and increase access to vibrant public spaces. Our landmark toolkits – including the Living Streets Manual, Parklet Toolkit, Green Alleys Case Studies, Los Angeles River Greenway Guide, and SMART Parks Toolkit – have been used by thousands of city planners and others interested in parks and other public spaces. These guides earned three national awards from the American Planning Association (APA) and four California-level APA honors.

**Advanced the human right to water**
Our research informed the California State Water Resources Control Board’s development of a new water rate assistance program for low-income residents. This is one piece of our research portfolio that supports the implementation of California’s Human Right to Water law to ensure safe, clean, and affordable water for all.

**Developed roadmaps for transportation electrification**
Our researchers guided the strategic siting of electric vehicle charging stations in California, supporting the transition to clean transportation. For example, we collaborated with government agencies to create the Southern California Plug-in Electric Vehicle Plan and Atlas, along with other research that identified charging opportunities for workplaces, apartments, and other important destinations.

**Shaped billions of dollars in climate investments**
Our equity-focused research has helped inform how California spends its Climate Investments, now totaling about $10 billion, via revenue from the state’s carbon Cap-and-Trade Program. Our work has centered on local benefits for communities particularly affected by pollution and poverty. We have shared lessons learned with other states seeking to invest in local climate action.

**Drove landmark clean vehicle programs**
California leads the nation in setting policy to reduce emissions from cars and other light-duty vehicles. Our research has shaped many of these initiatives, including the redesign of the state’s Clean Vehicle Rebate to increase efficiency and equity, along with the expansion of a program in which low-income residents can exchange old, inefficient vehicles for cleaner options.

**Supported improved governance of community water systems**
Through our innovative atlas and policy guide, we analyzed Los Angeles County’s more than 200 community water systems, identified vulnerabilities, and made recommendations for improvement. This work laid the foundation for our current assessment of all of California’s vulnerable drinking water systems, and the goal to provide a sustainable water system for every community.

**Sparked clean energy policy**
During our first 10 years, we have shaped dozens of local, state, and national policies, and other innovations for healthier communities and a more sustainable world. Here are 10 examples:
CELEBRATING A DECADE OF DISTINCTIONS

In our first 10 years, the Luskin Center for Innovation has earned a variety of honors, including:

American Planning Association Achievement Awards

Carbon XPRIZE Finalist Award | NRG COSIA
As part of the UCLA Carbon Upcycling team, we are competing in the last round of a multi-million dollar XPRIZE challenge that involves demonstrating sustainable concrete technology at an industrial scale.

Sustainable Impact Award
Los Angeles Business Council
Recognized for effecting change in the local community and supporting sustainable policy, economic, and technological initiatives.

EXAMPLES OF OUR GROUNDBREAKING WORK

In the L.A. Region:
The first Rooftop Solar Atlas for L.A. County
The first Plug-in Electric Vehicle Atlas for Southern California

In California:
The first comprehensive assessment of statewide drinking water needs to identify risks and solutions for hundreds of water systems throughout the state.
The first California Governor’s Working Conference on Achieving 12 Megawatts of Local Renewable Energy

Nationally:
The first national summit and report on State and Local Progress Toward 100% Clean Energy
The first national study by academic and federal researchers on community choice energy

Our work has been highlighted in hundreds of media features, including:

Jisung Park: “Air conditioned schools would narrow the racial achievement gap.”
J.R. DeShazo and Colleen Callahan: “The push for clean energy is powering up” and “California’s next climate step: pushing for equitable choices in transportation and housing.”
Gregory Pierce: “Ratepayers deserve more information on desalination costs.”

A density map of existing charging stations in Downtown Los Angeles from our Plug-in Electric Vehicle Atlas.

A path that glows after dark: one of the technologies highlighted in our SMART Parks Toolkit that won a National Planning Achievement Award.

A CO2CONCRETE cylinder created as part of the UCLA Carbon Upcycling Team.

Jisung Park: “Air conditioned schools would narrow the racial achievement gap.”
J.R. DeShazo and Colleen Callahan: “The push for clean energy is powering up” and “California’s next climate step: pushing for equitable choices in transportation and housing.”
Gregory Pierce: “Ratepayers deserve more information on desalination costs.”

DAILY BREEZE
Gregory Pierce: “Ratepayers deserve more information on desalination costs.”

CAPITOL WEEKLY
J.R. DeShazo and Colleen Callahan: “The push for clean energy is powering up” and “California’s next climate step: pushing for equitable choices in transportation and housing.”

USA TODAY

PBS NEWSHOUR

Los Angeles Times

The Washington Post

Forbes

npr
Maximizing the Benefits of California’s Climate Measures

To achieve its ambitious climate goals, California has enacted approximately 50 policies and programs, ranging from carbon cap-and-trade to renewable energy mandates. More than a decade has passed since the state’s bedrock climate legislation became law (Assembly Bill 32). To assess progress, the California Air Resources Board commissioned us for a landmark study. We are quantifying how the state’s climate policies have reduced greenhouse gas emissions and local air pollution, and the associated public health and financial benefits.

Protecting Vulnerable Communities from Rising Temperatures

From extreme heat to flooding, the negative impacts of climate change tend to harm low-income people and other vulnerable populations the most. With the support of a nearly $1.5 million grant from the Strategic Growth Council, we are measuring the impacts of extreme heat on understudied vulnerable communities and populations, including environmentally exposed workers and low-income electricity ratepayers. We are also assessing opportunities to build community resilience to climate change, including how state programs can best reach the most vulnerable.

Learning from Transformative Climate Communities

The Transformative Climate Communities (TCC) program may be the most innovative, comprehensive, and equitable experiment in community-scale climate action, ever. It supports community-led development and infrastructure projects in clean transportation, affordable housing, clean energy, urban greening, and more. The program invests in and empowers communities most impacted by poverty and pollution to spark their own transformational change – all with data-driven milestones and measurable outcomes.

To ensure these bold changes come to fruition, we developed a plan to assess and support progress of TCC grantees awarded by the Strategic Growth Council. Now, we serve as the evaluator for TCC initiatives in Fresno, Ontario, Watts, and the Northeast Valley in Los Angeles, which collectively are receiving TCC grants of about $170 million to achieve community-defined goals. Goals include reducing pollution, bolstering local resiliency to climate change, and strengthening public health and economic well-being.
Designing Effective Demand Response Strategies

The time of day that we use electricity matters. Electricity used is likely to be clearer at noon when the sun is shining on solar panels than in the early evening when the grid may rely more on fossil fuel generators. Demand response programs can help customers conserve electricity at key times to maximize household savings and better support the environment and the grid.

With a $2 million grant from the California Energy Commission, we identified which demand response incentives, messages, and strategies will result in the greatest action from residential electricity customers. Our results will be released in 2020 to inform policymakers, utilities, and demand response providers on the most effective designs for demand response programs.

Advancing 100% Clean Energy in Cities & States Across the U.S.

The transition to 100% clean energy is well underway in states and cities across the country. In 2019, we launched a new national initiative to support this momentum. Our research documents rapid progress across the U.S., finding that one in three Americans lives in a city or state that is committed to, or has already achieved, 100% clean energy.

Our initiative kicked off with the first national summit and report on state and local progress toward 100% clean energy. In November 2019, leaders from 30 states convened at UCLA to share insights and inspiration to advance the renewable energy transition.

Identifying the Impacts of Community Choice Aggregation on Renewable Energy Markets

Of the 70 U.S. localities already powered by 100% clean electricity, the vast majority are part of a community choice aggregator (CCA). CCAs allow cities and counties to buy electricity on behalf of their residents. Currently, eight states allow for CCAs.

To analyze the transformational growth of CCAs and their impact on renewable energy markets, we partnered with the National Renewable Energy Laboratory on a first-of-its-kind study. We found that most of the 750 CCAs across the nation formed with the goal of reducing electricity costs for ratepayers, while others focus on realizing their customers’ preferences for clean energy. We outlined opportunities for CCA to be a tool used more broadly to advance renewable energy goals.

"Our Clean Energy Summit offered a chance for state and local leaders across the political spectrum to learn from each other’s experiences and accelerate momentum toward 100% clean energy, so we can all breathe free."

- Kevin de León
author of California Senate Bill 100 during his tenure as California Senator pro Tempore, and now Policymaker-in-Residence at the Luskin Center for Innovation
Connecting Communities of Color with Clean Energy Programs

Clean energy programs can help lower-income residents save money while protecting their local environment. In collaboration with the Liberty Hill Foundation, we evaluated emPOWER, a holistic outreach project in which grassroots community organizations connect low-income and working-class households of color with a suite of energy efficiency, solar energy, low-carbon transportation, and financial assistance programs. Our researchers found emPOWER to be a replicable model that is highly successful in reaching people of color on the frontlines of industrial pollution who are disproportionately affected by systemic racism, poverty, pollution, and the COVID-19 pandemic.

Improving the Accessibility and Affordability of Clean Transportation

In partnership with the California Air Resources Board, we researched the barriers that low- and moderate-income households face in obtaining electric vehicles and retiring cars with poor fuel efficiency. By surveying more than 1,600 households, we examined vehicle purchasing decisions and the effectiveness of current policies. Our study found that vehicle rebates significantly increase the adoption of new and used clean cars. Through this research, we are informing future strategies to ensure that clean transportation is attainable for all.

Designing a Low-Income Water Rate Assistance Program in California

California is the only state to legally recognize a human right to safe, clean, affordable, and accessible water. However, this is not yet a reality for many residents, in part because water rates continue to rise. In 2015, the state passed Assembly Bill 401, which directed the California Water Resources Control Board to develop options for a water rate assistance program for low-income Californians. Since then, we have provided analysis to support the design, financing, and administration of this program. This work will help guarantee that all residents have access to affordable drinking water.

Identifying Workforce Needs and Recommendations for Building Decarbonization

Transitioning to a low-carbon economy will create job opportunities for workers in a wide variety of industries. Understanding where in the economy these jobs will occur is important for designing workforce development policies that create career ladder opportunities and target workers from low-income communities. To support this effort, we conduct research that explores the workforce impacts of climate policies. Most recently we published the first study to estimate employment impacts of building decarbonization in California, a strategy identified by state agencies as important to achieving the state’s long-term climate goals. Building decarbonization requires both energy efficiency improvements and reducing the use of fossil fuels in residential and commercial buildings. Our study found that California’s transition to all-electric buildings could support more than 100,000 net jobs annually for 25 years, after accounting for losses in the fossil fuel industry.
Supporting the Electrification of Buses, Trucks, and Cars

We conduct analysis to help regions and cities facilitate zero-emission transportation through plug-in electric vehicles (PEVs). This includes contributing to the recent Transportation Electrification Blueprint for Los Angeles County. The Blueprint is focused on infrastructure planning, including for the electrical grid, to support the charging of electric vehicles. We found that in the near term, electric vehicles are not likely to cause significant stress on the electrical grid. By addressing the potential longer-term concerns that we identified, grid operators can plan ahead to ensure a smooth transition.

Informing Incentives for Zero-Emission Trucks

Heavy-duty trucks, like 18-wheelers, are the main source of diesel particulate matter, a toxic air pollutant, in California. Zero-emission trucks hold great potential to reduce air pollution across the state and are especially important for reducing impacts on communities located near ports and along freight corridors. With support from a collaborative of environmental justice organizations and the California Strategic Growth Council, we analyzed opportunities and challenges for deploying zero-emission trucks, with a focus on the goal of zero emissions for drayage trucks serving the Ports of Los Angeles and Long Beach by 2035. We conclude that a significant transition to zero-emission trucks could be feasible and advantageous over the next 10 years.

Planning for Electric Vehicle Charging Investments

Accelerating the adoption of electric vehicles requires expanding opportunities for charging such vehicles. Adding to a large body of work in which we have informed investments in PEV charging infrastructure, we recently partnered with the Mobile Source Air Pollution Reduction Review Committee to identify locations in Southern California where we expect high latent demand for chargers. We focused our analysis on two types of locations: workplaces and multi-unit dwellings such as apartments and condos. These two types of locations have higher than usual hurdles for installing charging equipment and thus targeting investments at these locations could maximize the number of zero-emission miles supported by clean transportation funding. Our research results will be public through a PEV planning tool hosted by the Southern California Association of Governments.

Evaluating a Smog Repair Program for Low-Income Californians

Smog checks can lead to big impacts in air quality and environmental health, especially in communities like the San Joaquin Valley. Low-income residents in this region tend to own older cars, many of which cannot be registered because they do not meet state emissions standards. That is why Tune In & Tune Up, a vehicle repair program run by Valley Clean Air Now, began offering free smog tests and vehicle repairs to community members. Our 2018 evaluation found that this program model could be adapted in other regions to efficiently reduce emissions from vehicles while addressing the mobility needs of low-income households. The program is currently informing a grassroots outreach pilot, led by the Liberty Hill Foundation and supported by us, which aims to bring clean vehicle and energy programs to low-income households.

"The Luskin Center for Innovation is an important partner informing key strategies that connect households with clean mobility options and enable cleaner fleets for moving goods."

- Anthony Eggert
Transportation Program Director, ClimateWorks Foundation
Supporting Heat-Resilient Communities

We recently helped launch the LindA (Los Angeles Integrative Nature and Design) Collaborative, led by Kelly Turner, the new Associate Director of Urban Environment Research at UCL. LindA is an interdisciplinary group of researchers investigating urban design interventions in streetscapes and other public places. A key goal of LindA Collaborative studies is to identify local interventions that can help cities address the impacts of climate change.

In one project, Dr. Turner’s team is assessing the temperature impacts of cool pavement treatments applied by the City of Los Angeles. In another study we are investigating the heat ameliorating benefits of urban greening in three communities—Watts, Ontario, and Fresno—selected to receive state funding via the Transformative Climate Communities Program. Another study features the first ever cool mural, which uses solar reflective paint to raise awareness about rising temperatures in cities.

Fighting Drought with Stormwater and Green Infrastructure

Water-scarce urban areas in California miss out on billions of gallons of fresh water each year, as rain washes into storm drains and out to sea. A nearly $2 million grant-funded project seeks to transform University of California (UC) campuses into living laboratories that demonstrate how urban stormwater can safely augment water supplies and minimize flood risk. The work includes a comparative analysis of how various cities and college campuses are approaching stormwater capture and management. The project informs best practices at both the city and campus level.

Serving the Needs of Diverse Park Users

How can public stewards of parks better serve the needs of diverse communities? To address this question, the National Park Service partnered with us to survey more than 4,000 users of the world’s largest urban national park, the Santa Monica Mountains National Recreation Area. It is also the largest natural resource in the economically, culturally, and socially diverse Los Angeles region. Our analysis can inform policymakers on how to meet the needs of a diverse array of park users in the Santa Monica Mountains, and has broader implications that can inform park planning elsewhere.
Assessing California’s Vulnerable Drinking Water Systems for Risks and Solutions

Community water systems — the foundation of California’s water supply network — are responsible for providing customers with a reliable supply of clean, affordable water. But the systems differ widely in their capacities and performance, with disparities increasing due to climate change. Through a $3 million contract with the California State Water Resources Control Board, we are conducting a comprehensive needs analysis to identify risks and solutions for water systems and private wells throughout the state. This includes analyzing the technical, managerial, and financial capacity of hundreds of systems that provide drinking water to Californians, which has never been done comprehensively before. We will systematically assess risks and evaluate solutions for those risks. Our recommendations will be tailored for each at-risk water system and private well, to inform action and to help ensure the human right to water for all Californians.

Valuing the Resiliency Benefits of Water Reuse

We are supporting what is expected to be one of the largest water projects of the 21st century for Southern California. Los Angeles Mayor Eric Garcetti has pledged that the city will recycle all of its wastewater by 2035 and use it to reduce the need for imported water supplies. Following this groundbreaking announcement in 2019, the Los Angeles Department of Water and Power (LADWP) plans to recycle all of the wastewater that it manages at the Hyperion Water Reclamation Plant, the largest wastewater facility on the West Coast. In partnership with LADWP, we are assessing the proposed Hyperion reuse and groundwater development project and estimating the value of benefits for ratepayers. These benefits include avoided future costs in the event of droughts and seismic activity.

Increasing Trust in Tap Water

Mistrust of tap water by residents is greater in Los Angeles County than in most of the U.S. Well-documented accounts of discolored and poor-tasting tap water in some communities—largely low-income communities of color—contribute to this wariness. How individuals perceive the safety of public drinking water influences whether they reach for the tap to quench their thirst, or an alternative, such as bottled water or a sugary drink that has welfare, health, and environmental consequences.

To address both real and perceived risks, we brought together community leaders, foundations, academics, and other stakeholders. The landmark event laid out actionable ways to monitor, improve, and increase trust in tap water quality. Our subsequent research with First 5 LA and other partners is identifying policies and other strategies to improve water quality and build trust for tap water. This includes a focus on leaders in early education facilities as well as another project focused more generally on plumbing that is the responsibility of property owners and where a lot of water quality problems arise.
Introducing the Newest Members of Our Executive Team

R. JISUNG PARK, PH.D.
Dr. Park is a renowned environmental and labor economist whose research informs public policy. He joined the Luskin Center for Innovation (LCI) in 2019 as associate director of economic research. He is our lead on our environmental economic work, especially related to labor economics and public finance. By studying how climate change will impact workers, students, and other vulnerable populations, he provides important recommendations for successful climate adaptation strategies.

In addition to his role at the LCI, Dr. Park is an Assistant Professor of Public Policy at UCLA, and holds a Ph.D. in economics from Harvard University.

V. KELLY TURNER, PH.D.
Dr. Turner’s research informs how urban design and green infrastructure can create benefits such as heat mitigation and ecosystem services. She joined LCI in 2019 as associate director of urban environment research. She leads the LindA (Los Angeles Integrative Nature and Design) Collaborative, an interdisciplinary group of researchers investigating urban design interventions in streetscapes and other local places to identify how cities can address the impacts of climate change.

In addition to her role at the LCI, Dr. Turner is an Assistant Professor of Urban Planning at UCLA, and holds a Ph.D. in geography from Arizona State University.

EXECUTIVE LEADERSHIP

J.R. DeShazo
Director

R. Jisung Park
Associate Director of Economic Research

Jisung Park
Associate Director of Urban Environment Research

Colleen Callahan
Deputy Director

Kelly Turner
Associate Director of Urban Environment Research

Gregory Pierce
Associate Director

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Evelyn Blumenberg
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Yoram Cohen
Professor of Chemical Engineering

Jon Christensen
Adjunct Asst. Professor, Institute of the Environment and Sustainability

Kevin de León
Distinguished Policy Maker-in-Residence, Luskin School and LCI

C.J. Gabbe
Asst. Professor of Environmental Studies (Santa Clara University)

Kian Goh
Asst. Professor of Urban Planning

Veronica Herrera
Asst. Professor of Urban Planning

Richard Kaner
Distinguished Professor of Chemistry

Liz Koslov
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Laurent Pilon
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Gaurav Sant
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Tamara Sheldon
Asst. Professor of Economics (University of South Carolina)

Brian Taylor
Professor of Urban Planning

John Villasenor
Professor of Public Policy and Electrical Engineering

Yifang Zhu
Professor of Environmental Health Sciences
The Luskin Center for Innovation continues to grow our ambitious research and public outreach portfolio because of the generous support of our institutional and philanthropic partners and individual donors. We are grateful to all of our partners that enable us to shape environmental solutions for the health of people and the planet.
Renee and Meyer Luskin founded the Luskin Center for Innovation, which became part of the Luskin School of Public Affairs in 2009.

“A sustainable, healthy environment is the greatest inheritance one can leave to children, and the most enduring gift to the community and nation.”

– Meyer Luskin