



Center for Law, Energy & the Environment at Berkeley Law

ANNUAL REPORT 2013

Year in Review 2013

This annual report provides a snapshot of the Center for Law, Energy & the Environment's recent initiatives. A few highlights from in the past year:

- We released a comprehensive report recommending policies to better regulate hydraulic fracturing in California in order to protect our water supply. [See page 2.](#)
- Berkeley Law alumnus Samuel Cole '63 established a new planned endowment for environmental law & policy work and student programming at CLEE. [See page 3.](#)
- Our Climate Change and Business Research Initiative completed its fifth successful year, releasing reports on California's renewable portfolio standard (RPS) and high speed rail. [See page 4.](#)
- We expanded our policy work on electric vehicles and released a report on multi-jurisdictional climate change adaptation. [See page 5](#)
- We co-sponsored a conference with the State Bar at Berkeley Law on California's climate change and renewable energy policies, with leaders from the Air Resources Board, Governor's Office, and California Energy Commission. [See page 6.](#)

Leading Curriculum

Our preeminent faculty members ([see page 7](#)) are dedicated to leading scholarship and student-focused teaching, while also finding time to author insightful posts on *Legal Planet*, our award-winning environmental law and policy blog. CLEE's core faculty is augmented by an adjunct faculty of seasoned practitioners who together offer over a dozen courses annually on environmental, energy, and land use issues.

Student Activities

CLEE supports many student group events and activities. Berkeley Law students manage and publish *Ecology Law Quarterly* (ELQ), the first environmental law journal in the nation. Students also participate in the Berkeley Energy & Resources Collaborative (BERC), Environmental Law Society (ELS), and Students for Environmental & Economic Justice (SEEJ). [See page 6.](#)

Looking Forward

We are working to solve the most urgent environmental and energy challenges of our time. We could not do this work without your support. We look forward to another year of innovation, collaboration, and progress.

— Jayni Foley Hein '08, Executive Director

Regulating Hydraulic Fracturing in California

The Wheeler Institute for Water Law & Policy at CLEE recently released a comprehensive report recommending policies to better regulate hydraulic fracturing, or “fracking,” in California. Jayni Hein and Michael Kiparsky co-authored the report, entitled *Regulation of Hydraulic Fracturing in California: A Wastewater and Water Quality Perspective*.

Hydraulic fracturing is the production technique of injecting fluids under high pressure to crack underground rocks and release tightly held oil or gas. Hydraulic fracturing, along with the other aspects of unconventional oil and gas production, presents risks to environmental quality and public health. California possesses an estimated 15 billion barrels of oil reserves in the Monterey formation, yet residents are concerned that this technique could lead to the contamination of groundwater and induced seismicity, among other potential environmental and human health impacts. The hydraulic fracturing process also yields byproducts, including wastewater, which must be properly managed in order to reduce risks to human health and the environment.

Our report provides recommendations for better oversight and regulation of hydraulic fracturing in California. The report co-authors testified at State Assembly hearings, attended agency workshops, and conducted media interviews to explain the report’s key findings. Senate Bill 4, adopted in September 2013, incorporates many of the report’s recommendations, including:

- Requiring 30 days advance notice to all property owners and residents in the vicinity of planned fracking sites;
- Conducting mandatory groundwater testing and monitoring before and after every fracking event;

- Requiring full disclosure of all chemicals used in fracking, with reporting to a publicly accessible, searchable website;
- Mandatory reporting on the volume of water used and ultimate disposition of fracking wastewater;
- Requiring seismic testing and mapping of all fault zones prior to any fracturing event;
- Greater coordination among agencies to ensure information sharing and accountability; and
- Requiring an independent, peer-reviewed scientific study that evaluates the risks of fracking.

These measures are an important step for California. Prior to SB 4, state regulators came under fire for failing to comprehensively track and monitor—let alone adequately regulate—fracking in California.

While this report focused on potential water impacts, more research is needed to assess fracking’s other affects, including climate, land use, and habitat impacts. As the vast majority of fracking in California is in pursuit of oil, an increase in fracking here may also influence the State’s ambitious climate and clean energy goals as memorialized in legislation



such as AB 32, SB 375, and programs including the Low Carbon Fuels Standard and renewable portfolio standard. We continue to track developments and will pursue additional research on this important topic.



Samuel Cole '63 Endowment for Environmental Law and Policy

Alumnus Samuel D. Cole '63 recently established a generous \$1 million planned gift to endow environmental research and programming at the Center for Law, Energy & the Environment.

Sam's devotion to environmental causes dates back to his childhood. Growing up near the Appalachian Trail, he encountered the beauty of the wilderness and witnessed many improvements made by the Civilian Conservation Corps as part of the New Deal.

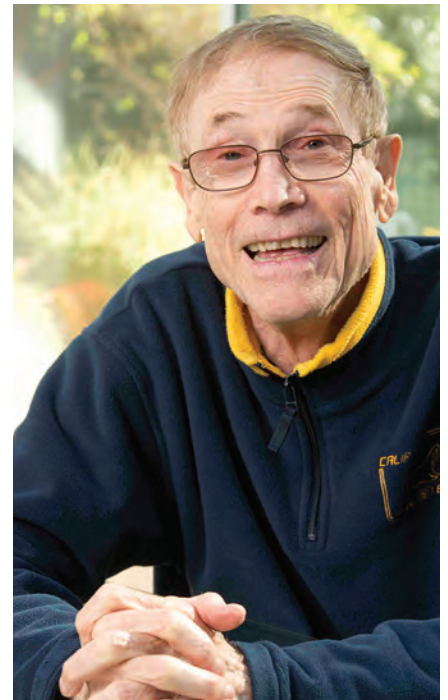
Sam graduated from the College of William and Mary in 1956, and later joined the Navy as an officer. Moving west in the late 1950s, he observed the pollution-choked air of Southern California and environmental battles erupting in Northern California over plans to fill the San Francisco Bay for new development. "That's when the environmental movement started," says Sam, "because things were getting so bad."

When his military service came to an end, Sam headed to Boalt Hall (Berkeley Law) to study law.

After graduating, Sam spent 26 years performing legal work at Lawrence Berkeley National Laboratory and Lawrence Livermore Lab. In 1986, he shifted his focus to the real estate business he had started in the 1960s with the purchase of a Channing Way rooming house. "I was in the perfect place at the right time," he says of his investments.

Displaying his enduring commitment to environmental protection and his admiration for Berkeley Law's pioneering leadership, Sam established a generous planned gift supporting the law school's work in environmental law and the Center for Law, Energy & the Environment. "Having seen all that's happened to our land over the years," he says, "supporting institutions that pursue environmental solutions is important to me."

The Center plans to use the funding from this endowed gift to support environmental law and policy research, including student research and experiential learning. We are grateful to Sam for his leadership and vision.



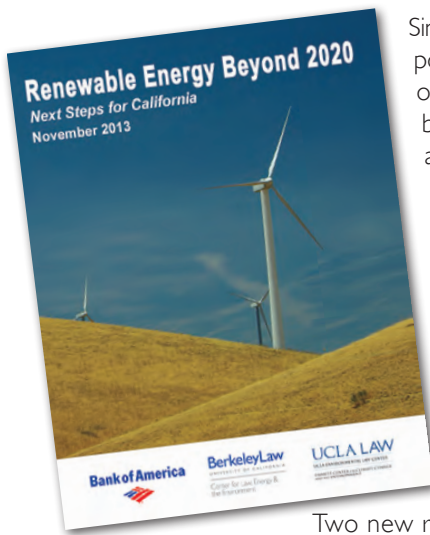
"Having seen all that's happened to our land over the years, supporting institutions that pursue environmental solutions is important to me"

— Samuel D. Cole '63

CLEE'S COLLABORATORS INCLUDE:

- Berkeley Institute for the Environment
- Berkeley School of Information
- California Air Resources Board
- California Governor's Office
- California Institute for Energy and Environment
- California Office of the Attorney General
- College of Environmental Design
- Department of Environmental Science, Policy and Management
- Environmental Law Institute
- Environmental Protection Agency
- Goldman School of Public Policy
- Haas School of Business
- Lawrence Berkeley National Laboratory
- Swiss Federal Institute of Aquatic Science and Technology
- UC Berkeley and Stanford's ReNUWIt Engineering Research Center
- UC Berkeley Energy and Resources Group
- UCLA's Environmental Law Center and Emmett Center on Climate Change and the Environment

Climate Change and Business Research Initiative



Since 2009, CLEE has worked with business executives, policymakers, and non-profit leaders to discuss the opportunities that climate change creates for the business community and how policymakers, attorneys, and industry can facilitate those opportunities. This successful collaboration between CLEE at Berkeley Law and UCLA Law's environmental law centers is sponsored by Bank of America.

The initiative has released 12 subject-specific policy reports, and project leader Ethan Elkind has shared the results and recommendations from this series through media coverage including op-eds, news articles, television and radio news, and blog posts.

Two new reports were released in this series in 2013:

Renewable Energy Beyond 2020: Next Steps for California (November 2013) recommends policies to sustain California's renewable energy momentum that incorporate the state's long-term climate change goals.

A High Speed Foundation: How to Build a Better California Around High Speed Rail (August 2013) describes policies to help channel future growth in the San Joaquin Valley around the planned high speed rail network.

CLEE also co-hosted a large conference with UCLA on public transit policies: "Saving Public Transit: Strategies for an Era of Shrinking Budgets." Speakers included Los Angeles Metropolitan Transportation Authority CEO Arthur Leahy and leaders from local government, non-profits, and industry.

The Business and Climate Change Research Initiative is paving the way for positive outcomes for the environment and business community. The California Legislature recently followed through on recommendations included in our *Electric Drive by '25* report, released in 2012, such as:

- Extending High-Occupancy Vehicle (HOV) lane access for low-emission and zero-emission vehicles until 2019;
- Dedicating more funding for the state's rebate program for electric vehicle purchases;
- Creating an open system for electric car charging payments; and
- Developing new building standards for charging infrastructure in multi-family housing and non-residential developments.

The Legislature also addressed the lack of a market signal for more renewable energy beyond 2020 that was described in our 2013 report, *Renewable Energy Beyond 2020*, through AB 327 (2013, Perea). In addition, San Joaquin Valley leaders and the California High Speed Rail Authority are responding to our call in *A High Speed Foundation* for a coordinated land use process to steer growth from the rail system into revitalizing Valley downtowns.

The initiative continues to build bridges between diverse stakeholders and draw upon our strengths as an academic research center with skilled environmental lawyers, policy experts, and faculty.

CLEE Out and About

- *Unplugged: The Renewable Energy Speaker Series*: CLEE, Farella Braun + Martel LLP, and the Environmental Law Institute collaborated in 2012 and 2013 to produce a series of panels on renewable energy law and policy.
- Energy Director Steve Weissman spent the fall of 2013 in Tarragona, Spain on a Fulbright scholarship to teach energy law and conduct research on renewable energy policy in Spain. He also participated in two Mediterranean regional conferences on energy efficiency and met with the European Union Commission energy policy team.
- CLEE hosted a special session for California legislators to discuss our policy research on renewable energy, fracking, and climate change and business.
- Michael Kiparsky co-authored an article in *Environmental Engineering Science* on "The innovation deficit in urban water: the need for an integrated perspective on institutions, organizations, and technology", and presented on the topic at several venues.
- Jayni Hein and Michael Kiparsky co-authored an op-ed in the *San Francisco Chronicle* on hydraulic fracturing regulations and presented at several conferences and events in Los Angeles and San Francisco.
- Ethan Elkind organized and moderated a panel at the Yosemite Environmental Law Conference on the legal status of California's high speed rail system.
- Jayni Hein presented on legal issues surrounding Drakes Bay Oyster Company's lease on federal land designated as "potential wilderness" on NPR and in presentations on and off campus.
- Steve Weissman presented the results of net metering research at the Inter-solar Conference in San Francisco and the Solar Exchange West Conference in San Jose.

New Report Tackles Climate Change Adaptation Governance

Many San Francisco Bay Area organizations are working to develop and implement plans to prepare the Bay Area for a changing climate. The challenges posed by climate change cut across traditional city and county boundaries: sea level rise, extreme storms, heat waves, and energy/water supply, to name a few. Successful solutions will require coordinated action by government agencies, as well as private and non-profit sector actors.

To assist this complex process, CLEE developed recommendations for effective multi-jurisdictional, multi-sector decision-making and governance structures for climate change adaptation. CLEE's Energy Director, Steve Weissman, working with law student researchers, released *Effective Governance for Multi-Jurisdictional, Multi-Sector Climate Adaptation*. The report is part of the Kresge Foundation-funded regional adaptation needs assessment by the Joint Policy Committee. The report includes:

- A literature review of information related to multi-jurisdictional, multi-sector adaptation planning;
- A review of governance in six selected adaptation-related initiatives—New York City, Southeast Florida, Chicago, Sonoma County, Kings County, and the Bay Area Integrated Regional Water Management Plan;
- An inventory of the key players that will be involved in Bay Area climate adaptation planning and implementation;
- Findings from a workshop discussion on regional/local decision-making among selected Bay Area adaptation leaders; and
- Identification of governance questions that require more in-depth discussion and a proposed roadmap for Bay Area leaders to address these questions.

This report built on recent work conducted by the Bay Area Conservation and Development Commission (BCDC), the Association of Bay Area Governments (ABAG), and other regional and local agencies.

CLEE Examines Policies to Promote Electric Vehicles and Reduce Transportation Emissions

CLEE continues to advance electric vehicle policy research. As an outgrowth of our 2012 report *Electric Drive by '25*, we partnered with the University of Hawaii, Maui College to produce a policy report entitled *Electric Vehicle Paradise: How Hawaii Can Lead the World in Deployment*. With high fossil fuel prices and abundant renewable energy resources, Hawaii is a natural fit for electric vehicles and a great showcase for the 8 million visitors who can rent them for an extended test drive and may return home to purchase an EV as their next car. Co-author Ethan Elkind shared findings from this report at the 2013 Asia Pacific Clean Energy Summit and Expo in Honolulu in September 2013.

In addition, CLEE team members organized and spoke at conferences on electric vehicle policies, including the Central Coast Bioneers Conference in San Luis Obispo in October 2013 and the Farella Braun + Martel renewable energy series "The Smart Grid: Electric Vehicles on the Energy Highway." CLEE also helped organize a lunch panel on Capitol Hill in Washington, DC to discuss electric vehicle policy needs, co-sponsored by U.S. Congressman Henry Waxman (D-Cal.).

CLEE'S ADVISORY BOARD

The Center for Law, Energy & the Environment's Advisory Board provides guidance, connections, and energy to our research and programming.

Special thanks to Advisory Board members Ken Alex and Nancy Skinner for their policy guidance; Fran Layton, Len Weiss, Miyoko Sakashita, and Mason Willrich for their strategic counsel; and to the entire Board for their support.

Thanks to outgoing Advisory Board chair Robert Infelise '80 for his commitment to CLEE's environmental law program and students. Congratulations to new Advisory Board chair Lenard Weiss '63.

2013 Advisory Board

Ken Alex, Jennifer Barnette,
Bill Chamberlain, Robert Falk,
Hayley Goodson, Honorable Greg Hobbs,
Robert Infelise, Jill Jaffe, Jennifer Jeffers,
Fran Layton, Jim Moose, Roger Peters,
Neil Popovic, Deanna Ruth Rutter,
Miyoko Sakashita, Assemblymember
Nancy Skinner, Edward Strohbehn,
Lenard Weiss, Mason Willrich,
Nicholas Yost, Scott Zimmerman,
Mike Zischke

CLEE'S AFFILIATED FACULTY

Kenneth Bamberger: Administrative law

Laurel Fletcher: International human rights law

Jennifer Granholm: Energy law and policy

Peter Menell: Economic incentives, alternative energy

Anne Joseph O'Connell: Administrative law

Andrea Peterson: Land-use planning

Harry Scheiber: Fisheries, law of the sea

Rachel Stern: International environmental law.

CLEE'S ADJUNCT FACULTY

Robert Infelise: Environmental law, remedies

R. Clark Morrison: Land-use law

Neil Popovic: International environmental law

Antonio Rossmann: Water law

E. Clement Shute: Environmental litigation

Conference at Berkeley Law Details California's Efforts to Reduce Greenhouse Gas Emissions Through Renewables, Fuels, and Markets

In November 2013, CLEE co-sponsored a conference at Berkeley Law with the State Bar, Environmental Law Section on California's climate change and renewable energy policies. Leaders from the California Air Resources Board, Governor's Office, California Energy Commission, California Attorney General's Office, and renewable energy industry spoke at the event.

The panels addressed the progress that California has already made towards reducing emissions and transitioning to renewable energy, as well as the significant hurdles remaining. California is currently on track to meet its ambitious cap-and-trade and renewable portfolio standard goals by 2020. California Air



Resources Board Chairman Mary Nichols also noted that California is on track to cut emissions from the light-duty transportation sector in half by 2030, and that California's energy efficiency

regulations have been very effective at reducing energy consumption.

But challenges remain. The conference detailed steps that California should take to reduce emissions and boost the renewable energy economy, including stronger policies to spur greater investment in clean technologies, driving more certainty for the clean tech and renewable energy sector; larger reductions in emissions from the transportation sector, including by trucking, freight transport, and aviation; upgrading electricity transmission and providing more incentives for biomass and biofuels; and smart land-use planning to reduce vehicles miles traveled (VMT) and promote higher density infill development.

STUDENT GROUP ACTIVITIES

This year was an active one for the many environmental and energy student groups at Berkeley Law. Highlights include:

- CLEE and the Berkeley Law student groups organized the *Spring 2013 Environmental and Energy Speaker Series*, sponsored by Wilson Sonsini Goodrich & Rosati LLP. Panels included: Environmental Journalism (with reporters from *National Geographic*, the *San Francisco Chronicle*, and *Mother Jones*), Environmental Citizen Suits (with speakers from Earthjustice), the Technology of Clean Tech – Batteries and Fuel Cells, and Environmental and Energy Law Careers, among others.
- The Environmental Law Society (ELS) drafted a comment letter analyzing the environmental impacts of the Carmelita mining project in Fresno

County under the California Environmental Quality Act (CEQA). The advocacy team also drafted a report on CEQA reform legislation proposals for the Planning and Conservation League.

- Students for Environmental and Economic Justice (SEEJ) convened the eighth annual Environmental Justice Symposium, which focused on grassroots and justice-based strategies for community economic development.
- Berkeley Energy Resources Collaborative (BERC) hosted its annual symposium and innovation expo in October, with this year's event dedicated to the role of universities in meeting today's energy challenges.
- *Ecology Law Quarterly's* annual banquet featured a keynote by Environmental Leadership Award winner Richard Heinberg.

- In Fall 2013, Berkeley Law students launched a Student-Initiated Legal Services Project in cooperation with Earthjustice.
- CLEE, ELS, and BERC organized a panel on the Keystone XL pipeline, with speakers including the Canadian Consul-General of San Francisco, non-profit attorneys, and a UC Berkeley Professor of Earth Science.
- SEEJ participated in an Environmental Justice Tour sponsored by the Center on Race, Poverty, and the Environment. Students traveled to the Central Valley to meet with community members fighting for environmental justice in the area. After the tour, SEEJ held an annual retreat.

HOLLY DOREMUS

Environmental law, law and science



Professor of Law Holly Doremus is a leading scholar and teacher in the areas of environmental law, natural resources law, and law and science. She is Faculty Co-Director of the Center for Law, Energy & the Environment, the James H. House and Hiram H. Hurd Professor of Environmental Regulation, Director of the Environmental Law Program, and Associate Director of the Law of the Sea Institute.

Professor Doremus brings a strong background in life sciences and a commitment to interdisciplinary teaching and scholarship to her work at Berkeley Law. She has been a principal investigator on two major NSF IGERT interdisciplinary training grants and a multidisciplinary grant dealing with hydropower relicensing in California. She has co-authored papers with economists and ecologists, and has been a member of two National Research Council review committees.

Recent Publications:

Doremus and Tarlock, Can the Clean Water Act Succeed as an Ecosystem Protection Law?, 4(2) G.W.J. ENERGY & ENVTL. L. 46-66 (2013)

Doremus, Why International Catch Shares Won't Save Ocean Biodiversity, 2 MICHIGAN JOURNAL OF ENVIRONMENTAL AND ADMINISTRATIVE LAW 385-428 (2013), also to be web-published through UC Berkeley as part of the proceedings of a Law of the Sea Institute

Haines et al., A Framework for Quantitative Assessment of Impacts Related to Energy and Mineral Resource Development, ___ NATURAL RESOURCES RESEARCH ___ (2013)

MICHELLE WILDE ANDERSON

Land use, local government law



Assistant Professor of Law Michelle Anderson is a scholar of land use and local government law. Her current research focuses on county governments and their subdivisions, including the governance of high poverty, unincorporated urban neighborhoods, and the dissolution, bankruptcy, and restructuring of struggling municipalities.

Prior to joining the Berkeley Law faculty in 2008, Anderson worked as an Environmental Law Fellow for Shute, Mihaly & Weinberger LLP, a law firm that represents citizen groups and public agencies in land-use and environmental law matters. She earned a master's degree in Regional and Urban Planning at the London School of Economics and Political Science.

Recent Publications:

Shrinking Governance From Below: The Local Public Sector in America's New Minimal Cities (working paper)

Sprawl's Shepherd: The Rural County, 99 CAL. L. REV. 365 (2012)

Democratic Dissolution: Radical Experimentation in State Takeovers of Local Governments (2011-2012 Cooper Walsh Colloquium), 39 FORDHAM URBAN L.J. 577 (2012)

DANIEL FARBER

Environmental law, constitutional law, energy



Professor of Law Daniel Farber is Faculty Co-Director of the Center for Law, Energy & the Environment.

Professor Farber's recent work has focused on climate change, including methods for reducing emissions and strategies for adapting to changes that we are unable to avoid. He has become increasingly interested in efforts by states like California to begin emission reductions without waiting for federal legislation. These efforts involve important choices about energy policy as well as significant federalism issues. Professor Farber has also been drawn increasingly into debates about global climate policy and the responsibilities of developed countries like the United States and emerging economies like China.

Recent Publications:

Sustainable Consumption, Energy Policy, and Individual Well-Being, 65 VANDERBILT LAW REVIEW 1479 (2012)

Carbon Leakage Versus Policy Diffusion: The Perils and Promise of Subglobal Climate Action, 13 CHICAGO JOURNAL OF INTERNATIONAL LAW 360 (2013)

Beyond the North-South Dichotomy in International Climate Law, 42 REVIEW OF EUROPEAN COMMUNITY AND INTERNATIONAL LAW 42 (2013)

ERIC BIBER

Environmental law, natural resources



Professor of Law Eric Biber's work focuses on how environmental and natural resources law and management depends on the production, analysis, and use of information, and on the interaction of environmental legal systems with the political support or resistance to environmental law. Current projects explore what legal and institutional structures are most likely to encourage the development of high-quality information about the state of the environment, how California's history of environmental and energy policy created political support for climate change action, whether climate change will require more flexibility from environmental law, and how different kinds of permit options might allow for more flexible and politically sustainable regulatory systems.

Professor Biber teaches courses on Biodiversity Law and Public Lands and Natural Resources Law, as well as the introductory first-year Property class. His research and teaching draw on his prior practice experience as a litigator for an environmental non-profit in Colorado.

Recent Publications:

Citizen Involvement in the U.S. Endangered Species Act, 337 SCIENCE 802 (2012) (with Berry Brosi)

Cultivating a Green Political Landscape: Lessons for Climate Change Policy from the Defeat of California's Proposition 23, 66 VAND. L. REV. 399 (2013)

Adaptive Management and the Future of Environmental Law, 46 AKRON L. REV. (forthcoming 2013)

ADDITIONAL CLEE FACULTY & STAFF

Ethan Elkind, Director of the Climate Change and Business Program

Jayni Foley Hein, Executive Director

Michael Kiparsky, Associate Director, Wheeler Institute for Water Law & Policy

Deborah Lambe, Senior Policy Associate

Nell Green Nylen, Research Fellow, Wheeler Institute for Water Law & Policy

Steven Weissman, Director of the Energy Program and Lecturer in Residence

Support and Engage with our Law and Policy Work

- Visit our website (www.clee.berkeley.edu) to view our latest research, reports, events, and programs.
- Donate to CLEE to advance our climate change, water, renewable energy, and land use research and programming.
- Collaborate with us on high-impact environmental and energy initiatives.
- Sign-up on our website for our quarterly newsletter to hear our most recent updates.
- Follow *Legal Planet* (<http://legal-planet.org/>), our environmental law and policy blog.
- Contact us directly about how to become more substantively and strategically engaged with the Center's initiatives.

Support and Engage with our Student and Alumni Programs

- Visit our website to view our latest research, reports, events, and programs.
- Sponsor a CLEE student event, such as our annual Environmental Speaker Series, networking dinners, or panels for students and alumni.
- Donate to CLEE to support our student events, graduate student researchers, experiential opportunities, and student-led conferences.
- Sign-up for our quarterly newsletter to hear our most recent updates.
- Contact us directly about becoming involved in our alumni and student programs.

For more information please contact Executive Director Jayni Foley Hein. Email: jhein@law.berkeley.edu Phone: 510-642-8803

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