California Bioresources Economy Summit

January 29th & 30th, 2019

David Brower Center, Berkeley, California

BERKELEY LAB

Berkeley
UNIVERSITY OF CALIFORNIA

CALIFORNIA
AIR RESOURCES BOARD

"As the 'circular' approach to sustainability begins to gather ground, we humans are finding ourselves within the circle, not without."

Michiel Schwarz,
A Sustainist Lexicon

Welcome

On behalf of Lawrence Berkeley National Laboratory, University of California at Berkeley, and the California Air Resources Board, we warmly welcome you to the City of Berkeley and to the California Bioresources Economy Summit.

California is home to some of the nation's top academic and research institutions, and is well-known for its decades of environmental leadership. The state's support of strategies that provide societal benefits through efficient management, science, and technological innovation provide a foundation for opportunities to protect the environment and grow the economy at the same time. California has the potential to leverage its leadership, institutional, and technical expertise in the application and utilization of its bioresources from the forest, agricultural, and urban sectors to help meet our climate and air quality goals, create jobs, and achieve other co-benefits.

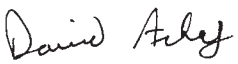
Efforts to date that promote utilization of California's bioresources have contributed to policies, programs, and projects that improve the state's environmental, economic, and social well-being. However, more can be done in furtherance of proven strategies, as well as cutting-edge research and demonstration projects, to create an integrated policy framework that will enable market forces to propel the state's bioeconomy to the next level.

We have an exciting summit program comprised of speakers representing state and local government, industry, academia, technology innovation hubs, and non-governmental organizations, as well as representatives with national and international perspectives and experience. One of the most important aspects of this summit is the opportunity for collaboration and engagement, with the goal being the development of actionable recommendations that will help advance California's successful bioeconomy future.

To convene a gathering of this scope and caliber is not a small task. We thank the members of the Summit Steering Committee for their time and thoughtfulness in identifying topics and speakers to shape a comprehensive and engaging agenda. We thank all of the sponsoring organizations for providing their generous financial support. Lastly, we thank all of the speakers for their contributions, which are the foundation of this summit.

Sincerely,

Blake Simmons
Lawrence Berkeley National Laboratory



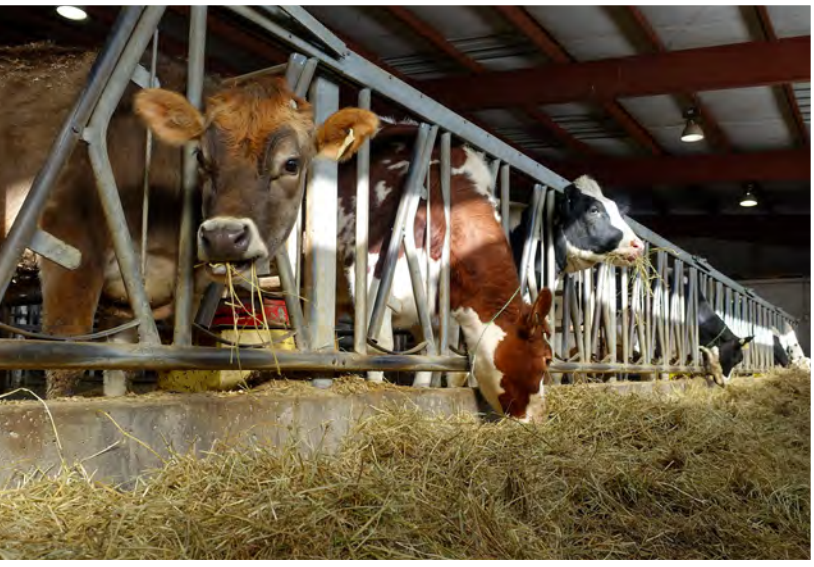
David Ackerly, Dean
University of California, Berkeley
College of Natural Resources University of California, Berkeley

Floyd Vergara
California Air Resources Board

Vision

The California Bioresources Economy Summit brings together policymakers, bioresource experts, technology innovators, community groups, and researchers to explore how the State's bioresources from the forest, agricultural, and urban sectors can help the State adapt to and mitigate climate change, improve air quality, create jobs, and achieve other significant co-benefits. This Summit will examine what is needed for an integrated policy framework that enables market forces to take California's bioeconomy to the next generation through substantive discussions of the overall knowledge base and information gaps, resource streams, emerging technology options, lessons learned from global experiences, and successful approaches to addressing facility siting, technical, supply chain, financing, and policy barriers. The goal of the Summit is to develop actionable recommendations that support California's successful bioeconomy future.

Visit ww2.arb.ca.gov/bioresourcessummit for all summit related materials.



Agenda

Day 1

7:30 AM – 8:45 AM	Atrium Lobby	Registered attendee check-in
8:00 AM – 8:45 AM	Hazel Wolf Gallery	Continental Breakfast Sponsor: California Life Sciences Association
8:45 AM – 9:00 AM	Goldman Theater	Announcements
9:00 AM – 9:45 AM	Goldman Theater	Welcome & Keynote
9:45 AM – 11:00 AM	Goldman Theater	Session 1: Available Bioresources Information
11:00 AM – 11:10 AM	Hazel Wolf Gallery	Coffee Break
11:10 AM – 12:25 PM	Goldman Theater	Session 2: Current and Future Technologies and Strategies; Announcements
12:25 PM – 1:30 PM	Hazel Wolf Gallery	Networking Lunch
1:30 PM – 2:45 PM	Goldman Theater	Session 3: Learning from Global Experience
2:45 PM – 4:00 PM	Goldman Theater	Session 4: Learning from Biomass Supply Chains
4:00 PM – 4:15 PM	Hazel Wolf Gallery	Snack Break
4:15 PM – 5:30 PM	Goldman Theater	Session 5: Regulatory and Technical Challenges
5:30 PM – 5:45 PM	Goldman Theater	Announcements
5:45 PM – 7:30 PM	Hazel Wolf Gallery	Reception Sponsor: Almond Board of California

Additional seating in Tamalpais Room, 2nd Floor

Day 2

7:45 AM – 8:30 AM	Hazel Wolf Gallery	Hot Breakfast Sponsor: Low Carbon Fuels Coalition
8:30 AM – 8:45 AM	Goldman Theater	Announcements
8:45 AM – 9:00 AM	Goldman Theater	Welcome & Introductory Remarks
9:00 AM – 10:25 AM	Goldman Theater	Session 6: Financing, Incentives, & Market Development
10:25 AM – 10:40 AM	Hazel Wolf Gallery	Coffee Break
10:40 AM – 12:15 PM	Goldman Theater	Session 7: Effective Governance & Stewardship
12:15 PM – 12:45 PM	Goldman Theater	Summary & Call to Action
12:45 PM – 12:50 PM	Goldman Theater	Closing Remarks

Additional seating in Tamalpais Room, 2nd Floor

Day 1

Summit Facilitator

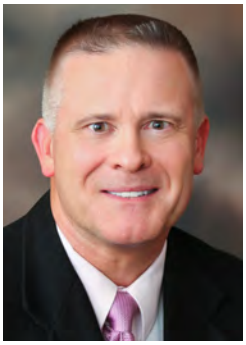
Floyd Vergara, Chief, Industrial Strategies Division, California Air Resources Board (CARB)

Mr. Vergara has worked at CARB for over 31 years developing a wide range of regulations and policies on mobile and stationary sources. Floyd currently oversees several of CARB's key climate change and air quality programs, including Cap-and-Trade; the Low Carbon Fuel Standard; the Short-Lived Climate Pollutant Reduction Strategy; and other programs to reduce emissions from organic waste streams, energy production, and oil and gas sectors.

Welcome

Glenda Humiston, Vice President, UC Division of Agriculture and Natural Resources

Dr. Humiston became Vice President of UC's Division of Agriculture and Natural Resources in 2015. She brings over 25 years of experience working on public policy development and program implementation supporting sustainability. Dr. Humiston earned her Ph.D. from UC Berkeley in Environmental Science, Policy and Management; a Master's in International Agricultural Development from UC Davis and a Bachelor's degree in Animal Science from Colorado State University.



Introduction & Framing

Richard Corey, Executive Officer, California Air Resources Board

Mr. Corey has over 30 years of professional experience in the air quality and climate change field. Prior to his appointment as Executive Officer, he served as Deputy Executive Officer, Chief of the Stationary Source Division, as well as various management positions throughout the organization. His team of engineers, scientists, technicians, and analysts, are responsible for a broad range of programs including emission standards for mobile sources and equipment, the low carbon fuel standard, Cap-and-Trade Program, and focused efforts to drive down emissions and exposure in impacted communities throughout the state.

Keynote

Mary Maxon, Associate Laboratory Director for Biosciences, Lawrence Berkeley National Laboratory

Dr. Mary Maxon oversees three scientific research divisions – Molecular Biophysics and Integrated Bioimaging (MBIB), Environmental Genomics and Systems Biology (EGSB), and Biological Systems and Engineering (BSE), as well as the Department of Energy Joint Genome Institute. Dr. Maxon received her Ph.D. from the University of California, Berkeley in Molecular Cell Biology, and did postdoctoral research in biochemistry and genetics at the University of California, San Francisco.

Session 1: Available Bioresources Information

Moderator: Corinne Scown, Vice President and founder of the Life-cycle, Economics, and Agronomy Division at the Joint BioEnergy Institute

Dr. Scown is also the Deputy Director for Research of the Energy Analysis and Environmental Impacts (EAEI) Division at Lawrence Berkeley National Lab, and Head of Sustainability at the Energy and Biosciences Institute (EBI). her expertise includes life-cycle assessment, technoeconomic analysis, biofuels and bioproducts, and co-management of energy and water. She holds a B.S. in civil engineering, a B.S. in engineering and public policy from Carnegie Mellon University, and her Ph.D. and M.S. in civil and environmental engineering from UC Berkeley.

Kevin Fingerman, Assistant Professor,
Humboldt State University Department of Energy and Climate

Dr. Fingerman's research employs life cycle assessment, geospatial analysis, and simulation modeling tools to evaluate the broad-based impacts of bioenergy and bioproducts. He has also worked extensively on the water/energy nexus and on bioenergy policy. Prior to his current position, Dr. Fingerman worked in Rome for the United Nations Food and Agriculture Organization. He also serves on the Board of Directors of the Roundtable on Sustainable Biomaterials (RSB). Dr. Fingerman holds M.S. and Ph.D. degrees from UC Berkeley's Energy & Resources Group.

Rachelle Hedges, Project and Policy Analyst,
Department of Environmental Science, Policy, & Management, UC Berkeley

Rachelle Hedges is the Project and Policy Analyst for Berkeley Forests - University of California, Berkeley's center for forestry and fire research and outreach. Prior to joining the UC, Rachelle spent nearly a decade working for a wide variety of land management agencies - most recently as a Resource Conservationist with the Alameda County Resource Conservation District. Rachelle holds a Master of Forestry from UC Berkeley, and a B.A. in Business Administration from Loyola Marymount University.

Kyle Pogue, Environmental Program Manager, CalRecycle

Kyle Pogue is with CalRecycle's team focused on reducing organic materials disposed in California. One current focus area is the development of regulations in support of recent legislation establishing targets to achieve a 50 percent reduction in the level of the statewide disposal of organic waste by 2020 and a 75 percent reduction by 2025. This law also establishes an additional target that not less than 20 percent of currently disposed edible food be recovered for human consumption by 2025. His team is also working with the Pacific Coast Collaborative to cut food waste in half by 2030.

Angela Lottes, Assistant Deputy Director for Climate & Energy, CAL FIRE

Angela works in Resource Management at CAL FIRE where she is responsible for delivering the Forest Health program and represents the Department on Natural and Working Lands efforts. Her past work included the Watershed Research and Training Center, the Redwood Coast Energy Authority, the Idaho Air National Guard, and The Nature Conservancy. Angela holds a Master of Science degree in Environmental Systems from Humboldt State University, where she completed a Life Cycle Assessment of biomass power systems.

Session 2: Current and Future Technologies and Strategies

Moderator: Blake Simmons, Director of the Biological Systems and Engineering Division, Lawrence Berkeley National Laboratory

Dr. Simmons also serves as the Chief Science and Technology Officer and Vice-President of the Deconstruction Division at the Joint BioEnergy Institute, a Department of Energy (DOE) Office of Science funded project tasked with the development and realization of next-generation "drop-in" biofuels and bioproducts produced from sustainable, non-food lignocellulosic biomass. He is also the Management Task Lead of the DOE AgileBioFoundry.

Eric McAfee, Chairman and CEO, Aemetis, Inc.

Mr. McAfee is Founder, Chairman and CEO of Aemetis, Inc., a Cupertino-based low carbon biofuels company with $150 million in revenues and plants in California and India. Mr. McAfee is a Silicon Valley entrepreneur and venture capitalist with a lifelong commitment to agriculture, technology and renewable energy. He has been listed in the "Top 50 People in the Bioeconomy" for five years by Biofuels Digest. His 2018 TEDx talk in Chandigarh, India describes his motivation to build the Aemetis projects.

Jay Keasling, CEO, Joint Bioenergy Institute (JBEI)

Dr. Keasling is also the Philomathia Professor of Alternative Energy at UC Berkeley in the Departments of Bioengineering and Chemical and Biomolecular Engineering, and senior faculty scientist at Lawrence Berkeley National Laboratory. Dr. Keasling's research focuses on the metabolic engineering of microorganisms for degradation of environmental contaminants or for environmentally friendly synthesis of drugs, chemicals, and fuels. He received M.S. and Ph.D. degrees in Chemical Engineering from the University of Michigan.

Mark Philbrick, Waste-to-Energy Coordinator, Bioenergy Technologies Office, U.S. Department of Energy (DOE)

Dr. Philbrick's work at the DOE focuses on targeting the production of drop-in biofuels from food waste, municipal sludges, and similar feedstocks. He was the lead author of the technological portions of the DOE's 2014 Water-Energy Nexus report, and led the development of a 2017 document on Biofuels and Bioproducts from Wet and Gaseous Waste Streams. Dr. Philbrick received his graduate degree from UC Berkeley in Environmental Science, Policy, and Management.

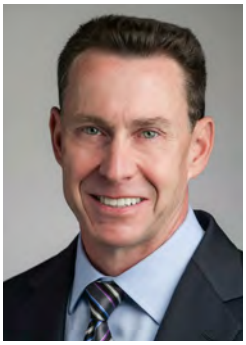
Eric Steen, Founder and CEO, Lygos

Dr. Steen is an expert in optimizing sugar to product conversion efficiency, and prior to co-founding Lygos he led efforts to engineer yeast for the conversion of sugars into fuels and chemicals at the DOE's Joint BioEnergy Institute. He earned a B.S. in Biomedical Engineering from Brown University and a Ph.D. in Bioengineering from UC Berkeley and UC San Francisco. While in graduate school, Dr. Steen completed a program in Management of Technology at UC Berkeley's Haas School of Business.

Session 3: Learning from Global Experience

Moderator: Jack Saddler, Professor, University of British Columbia, Canada, Department of Wood Science

Dr. John (Jack) Saddler is the endowed Professor of Forest Products Biotechnology / Bioenergy (originally an NSERC Industry Chair) and Dean Emeritus, Faculty of Forestry at the University of British Columbia. Outside of the research setting he has advised policy-makers at national and international levels. He is the Co-Task Leader of the Liquid Biofuels network of IEA Bioenergy and was recently on sabbatical at the International Energy Agency (IEA) in Paris where he was based in the Renewable Energy Division.



James Spaeth, Program Manager, U.S. Department of Bioenergy Technologies Office, Advanced Development and Optimization

Mr. Spaeth's current portfolio includes DOE investment in integrated biorefinery projects focused on the development of advanced biofuels and bioproducts including renewable hydrocarbons and cellulosic ethanol. He is also the current Chairperson of the Executive Committee of the Bioenergy Technology Collaboration Program under the International Energy Agency. Previously he had worked over 10 years in the aerospace industry in engineering and business development positions with McDonnell Douglas and Boeing.

Glaucia Mendes Souza, Full Professor, University of São Paolo, Brazil

Dr. Glaucia Souza is a Full Professor at the Institute of Chemistry, University of São Paulo and the President of FAPESP Bioenergy Research Program (BIOEN). She is engaged in several initiatives that promote sustainable development through the use of bioenergy and biomass. She coordinated a global assessment of bioenergy sustainability that yielded science-based solutions and recommendations for the sustainable expansion of bioenergy in the world.

Johanna Buchert, President/CEO, Luke Natural Resources Institute, Finland

Dr. Buchert's research focuses on forest based bioeconomy, agrifood value-chain, blue bioeconomy, wildlife research, as well as research on socio-economical aspects of the bioeconomy. She carries out statutory government work such as national forest inventory, production of data on greenhouse gases, as well as production of Finland's official food and natural resource statistics. Before moving to Luke, Johanna Buchert worked at Technical Research Centre Finland Ltd./ VTT as Vice President, Research, with responsibility for bioeconomy research.

Sarah Teter, R&D Manager, Technology Assessment & Scouting, Novozymes

Dr. Teter is a research and development leader at Novozymes, a leading industrial biotechnology provider. She brings nearly two decades of experience in application of enzymes and microbes in biorefining. Her work has enabled breakthrough processes for reducing cellulosic biomass to sugars for production of biobased products. Her current role places her at the forefront of Novozymes' "Connect to Create" strategy: by forming partnerships, Novozymes works with innovative customers around the world, helping them produce more from less, make their products stand out, and reduce costs.

Session 4: Learning from Biomass Supply Chains

Moderator: Stephen Kaffka, Director, California Biomass Collaborative, UC Davis College of Agricultural & Environmental Sciences, Dept. of Plant Sciences

Dr. Stephen Kaffka is an extension agronomist and specialist in the Department of Plant Sciences at UC Davis, and director of the California Biomass Collaborative. He advises several state agencies on biomass energy and sustainability issues in California, including California Energy Commission and CARB, and has served as an ex officio member of the state's Bioenergy Interagency Work Group. He has also participated on several national and international bioenergy studies, including a National Academy of Science's report: The Renewable Fuel Standard, Potential Economic and Environmental Effects of US Fuel Policy.

Karen Lapsley, DSc, Chief Science Officer, Almond Board of California

Karen has managed the nutrition and food research programs and established the scientific rational and the research network that has made science based global messaging standard practice at the Almond Board of California. As California produces 80 percent of the almonds globally and exports over 70 percent of the crop and its products, she has also focused on more international research collaborations to explore the almonds/health/sustainability links. Her degrees include: D.Sc. ETH (Swiss Institute of Technology), Zurich; and M.Sc. University of British Columbia, Vancouver.

Jeff Welch, Vice President of Strategic Projects, Aemetis, Inc.

Mr. Welch is a renewable fuels developer with a passion for commercializing low carbon, high margin technologies to combat climate change and improve energy security globally, focusing on developing projects with lowest possible financial risk through contractual and innovative financing structures. He holds degrees from Santa Clara University in Biology with emphasis in Molecular Biology and Business and a Master's Degree from Keck Graduate Institute with emphasis in Bioprocessing and Business of Bioscience.

Steve Brink, Vice President of Public Resources, California Forestry Association

Mr. Brink's work experience includes 37 years with the USDA Forest Service, and 13 years with the California Forestry Association. His current emphasis is on wood supply from California's National Forests, forest-related national statutes, regulations, and Interior Appropriations, California diesel engine rules, and carbon accounting for cap-and-trade and offsets programs. Steve has a Bachelor's of Science in Civil Engineering from UC Davis and had post graduate Forest Engineering classes at Oregon State University.

Paul Relis, Senior Vice President, CR&R, Inc.

In 2000, Paul Relis joined CR&R Inc., a waste and environmental services company based in Orange County, California, and led its effort to find and develop a waste management system that would move the company towards a non-landfill future. This privately held company has been an innovator in the waste industry for many years, and has developed one of the largest and most technologically sophisticated anaerobic digestion facilities in the world, located in the City of Perris, California. Paul is also the author of *Out of the Wasteland: Stories from the Environmental Frontier.*

Session 5: Regulatory and Technical Challenges

Moderator: Graham Noyes, Executive Director, Low Carbon Fuels Coalition

Graham Noyes has worked in the low carbon fuels industry for almost 20 years. Graham is the Executive Director of the Low Carbon Fuels Coalition (LCFC), a technology-neutral non-profit dedicated to the support and expansion of low carbon fuel policies. The LCFC is coordinating a national campaign to establish clean fuels programs in multiple states. As part of this campaign, Graham recently developed a Model Clean Fuels Statute for the Governors' Biofuels Coalition.

Julia Levin, Executive Director, Bioenergy Association of California (BAC)

Ms. Levin's work at the Bioenergy Association of California represents more than 70 public agencies, private companies and utilities promoting sustainable bioenergy. Prior to BAC, Julia was the Deputy Secretary for Climate Change and Energy at the California Resources Agency where she chaired the inter-agency Bioenergy Working Group. Julia has also served as a Commissioner with the California Energy Commission, and worked in policy positions for non-governmental organizations. Julia has a B.A. from Brown University and a law degree from the University of California, Hastings College of Law.

Lyle Schlyer, President, Calgren Renewable Fuels

Lyle Schlyer holds degrees in chemical engineering and law to complement his 45 years of experience in various aspects of the chemical and fuels industries. He has served as President of Calgren Renewable Fuels since 2006. Calgren produces low-carbon fuel ethanol at its renewable fuels complex in Pixley, California and is building a state-of-the-art biodiesel production facility capable of processing brown grease in combination with oil produced during ethanol processing. Calgren has teamed with eleven local dairies on a biogas cluster project that will include fueling vehicles with renewable compressed natural gas.

Howard Levenson, Deputy Director, Materials Management and Local Assistance, CalRecycle

Prior to his current position, Dr. Howard Levenson was the assistant director of the former California Integrated Waste Management Boards. He was the primary author of the U.S. Congress Office of Technology Assessment's 1989 assessment, "Facing America's Trash: What Next for Municipal Solid Waste?" Dr. Levenson has Bachelor of Science and master's degrees in natural resources management from Humboldt State University and a Ph.D. in biology from the University of Kansas.

Shailesh Sahay, Senior Regulatory Counsel, POET

Mr. Sahay serves as the lead regulatory and policy attorney for the largest biofuels producers in the world, developing regulatory and legislative positions on federal and state laws and proposals. He interfaces with federal and state agencies, including the U.S. Environmental Protection Agency, White House Office of Management and Budget, and California Air Resources Board. His responsibilities include climate and fuels regulations, environmental compliance, and international trade. Shai is passionate about POET's mission to to be good stewards of the Earth by converting renewable resources to energy and other valuable goods as effectively as humanly possible.

Day 2

Welcome & Introductions

David Ackerly, Dean, College of Natural Resources, UC Berkeley

Professor Ackerly was appointed dean of the College of Natural Resources (CNR) at UC Berkeley by Chancellor Carol Christ and began his term July 1, 2018. His research interests include integration of phylogenetics and ecology, biodiversity impacts, and conservation biology, in relation to 21st century climate change. In the past decade, as a senior fellow at the Berkeley Institute for Data Science and member of the Berkeley Initiative in Global Change Biology steering committee, he has been increasingly involved in data-intensive projects.

Session 6: Financing, Incentives, and Market Development

Moderator: Chris Hessler, Founder, AJW, Inc.

In 2003, Christopher Hessler founded AJW, Inc. Mr. Hessler is known for his successful, innovative strategies to enhance market opportunities for clean-technology clients. His work has enabled AJW clients to increase market demand, attract investment, and penetrate markets dominated by incumbent technologies that often benefit from entrenched government policies.

Laurie ten Hope, Deputy Director, Research and Development Division, California Energy Commission (CEC)

At CEC, Ms. ten Hope leads the State's public interest R&D to stimulate clean energy technology development and deployment. Program investments are approximately $200 million annually and are a catalyst for innovation, transforming California to a renewable, efficient, low-carbon energy future. Laurie previously served as Advisor for three Energy Commissioners with policy focus on stimulating growth in energy efficiency, encouraging distributed energy, public interest R&D, and tactical transmission access for renewables.

Rohit Shukla, Founder and CEO, Larta Institute

At Larta Institute, Mr. Shukla leads an internationally-recognized technology accelerator focused on transforming ideas into sustainable enterprises that feed, fuel and heal the world. He has helped over 10,000 companies commercialize innovations in energy, agriculture, and biosciences. Mr. Shukla has a B.A. from the University of Bombay, and M.A. degrees from Cambridge University and Loyola Marymount University.

Ted Kniesche, Vice President of Business Development, Fulcrum Bioenergy

Since joining Fulcrum at its time of inception, Ted has played a critical role in the formation of the company, the development of its first waste-to-biofuels plant, Sierra BioFuels, and the building of a significant North American development portfolio. Ted has a B.A. in economics from the University of California, Berkeley and a general course certificate from the London School of Economics and Political Science.

Jeff Passmore, CEO, Passmore Group, Inc.

Jeff Passmore has worked in the renewable energy, renewable chemicals, and bio-economy sectors for more than 40 years. His expertise includes strategic investor relations and project capital attraction. Passmore Group Inc. provides clients with the necessary tools to lead to more rapid commercialization, and deployment of technologies in the bioeconomy sector. Mr. Passmore has also served on the CleanTech Advisory Board of the Department of Foreign Affairs and International Trade Canada.

Session 7: Effective Governance and Stewardship

Co-Moderator: Dean Florez, President and CEO, Balance Public Relations, Former California State Senator

Sen. Florez is currently President and CEO of Balance Public Relations which specializes in education and technology. Florez is a proven leader in the air quality arena having served as the past Chairman of the California Senate Select Committee on Air Quality. While in the Senate, he authored a series of groundbreaking anti-pollution laws focused on the San Joaquin Valley's dirty air and repealed the agriculture industry's historic exemption from air operating permits that had lasted for 63 years. A former investment banker, Sen. Florez received his MBA from Harvard, and his Bachelor of Arts degree in Political Science from UCLA.

Co-Moderator: Kevin Hamilton, CEO, Central Valley Asthma Coalition

Kevin is focused on reducing the burden of chronic respiratory disease and environmental health impacts valley-wide. Kevin serves on numerous boards and committees associated with grassroots community capacity building and local, state and regional policy development. He has worked extensively on different aspects of health care access and redesign around primary care, disease management, childhood and adult immunizations and behavioral health for over 35-years, and is a well- known advocate for social and environmental justice. His education includes an A.S. in Respiratory Care, BS in Geology, and extended course work in social work, mathematics, business and management training.

Louise Bedsworth, Executive Director, California Strategic Growth Council

Dr. Bedsworth leads the Strategic Growth Council (SGC), a state agency that brings together multiple agencies and departments to support sustainable communities emphasizing strong economies, social equity and environmental stewardship. Prior to joining SGC, Louise was the Deputy Director of the Office of Planning and Research in Governor Jerry Brown's office where she led work on a number of collaborative research initiatives on climate change adaptation and resilience, including development of the Integrated Climate Adaptation and Resiliency Program.

Michael Boccadoro, President, West Coast Advisors

Mr. Boccadoro has worked extensively for more than 35 years in public affairs and government relations. As President, Mr. Boccadoro is responsible for overseeing the firm's public affairs, regulatory affairs and governmental relations practices. With expertise in agriculture, energy, water, finance, resource planning, and environmental issues, Michael has extensive working relationships with legislators and other public officials involved in these areas. He has also been instrumental in the development of California's distributed-renewable energy programs related to bioenergy.

Jana Ganion, Sustainability and Government Affairs Director, Blue Lake Rancheria

At Blue Lake Rancheria, Jana has established the Tribe's strategy for zero-carbon resilience. Her development experience includes low-carbon community-scale and facility-scale microgrids, electric vehicle (EV) infrastructure, strategic planning in sustainability, climate action and adaptation, emergency preparedness, and economic enterprise development. She is an appointee to the U.S. Department of Energy's Indian Country Energy and Infrastructure Working Group, the U.S. Bureau of Ocean Energy Management California Task Force, and several state advisory committees representing disadvantaged communities.

Nayamin Martinez, Director, Central California Environmental Justice Network

Nayamin Martinez has vast experience working with residents of disadvantaged communities across the San Joaquin Valley managing public health programs in a variety of environmental topics including pesticides and air pollution. Nayamin serves in various advisory groups including the "Pests, Pesticides and IPM Project"; the "Environmental Justice Advisory Group of the San Joaquin Valley Air Pollution Control District"; the "Community Stakeholders Advisory Committee"; and the "Children's Health & Air Pollution Study"; among others. Nayamin holds a Master's Degree in both Public Health and Sociology.

Samir Sheikh, Air Pollution Control Officer, San Joaquin Valley Unified Air Pollution Control District

Mr. Sheikh has nearly 20 years of experience in directing, developing, applying and administering air quality improvement programs. Mr. Sheikh leads the largest air district in the state of California with some of the toughest air quality challenges in the nation. Serving a region facing a variety of economic and public health challenges, Mr. Sheikh has led the development and implementation of some of the toughest and most innovative air pollution control strategies in the nation while working cooperatively with the regulated community to reduce administrative costs and achieve environmental and economic balance.

Summary & Call to Action

Ashley Conrad-Saydah, Deputy Secretary for Climate Policy, California Environmental Protection Agency

Ashley Conrad-Saydah was appointed by Governor Edmund G. Brown Jr. in April 2012 to serve as Deputy Secretary for Climate Policy at the California Environmental Protection Agency (CalEPA). Prior to joining CalEPA, Ashley served as California's Renewable Energy Program Manager for the United States Department of Interior, Bureau of Land Management (BLM). Ashley received her bachelor's degree in Ecology and Evolutionary Biology from Princeton University and her master's degree in Environmental Science and Management from the Donald Bren School of Environmental Science and Management at the University of California, Santa Barbara, where she was a Doris Duke Conservation Fellow.

"The earth does not belong to man; man belongs to the earth. This we know. All things are connected, like the blood which unites one family, All things are connected. Whatever befalls the earth, befalls the sons of the earth. Man did not weave the web of life; he is merely a strand in it. Whatever he does to the web, he does to himself."

Chief Seattle

Acknowledgments

The California Bioresources Economy Summit would not be possible without the dynamic support and contributions from the following:

Sponsors:

Aemetis, Inc.
Almond Board of California
California Air Resources Board
California Life Sciences Association
College of Natural Resources, University of California, Berkeley
Lawrence Berkeley National Laboratory
Low Carbon Fuels Coalition
University of California, Office of the President

Academic and multi-state agency Steering Committee members:

California Environmental Protection Agency (CalEPA)
California Air Resources Board (CARB)
California Department of Resources Recycling and Recovery (CalRecycle)
California State Water Resources Control Board (Waterboards)
California Natural Resources Agency (CNRA)
California Department of Food and Agriculture (CDFA)
California Department of Forestry and Fire Protection (CAL FIRE)
California Energy Commission (CEC)
California High Speed Rail Authority
California Public Utilities Commission (CPUC)
California State University, Sacramento (Sac State)
California Strategic Growth Council (SGC)
California Workforce Development Board
Governor's Office of Business and Economic Development (GO Biz)
Joint Bioenergy Institute (JBEI) at Berkeley Lab
Lawrence Berkeley National Laboratory (LBNL)
University of California, Berkeley (UC Berkeley)
University of California, Davis (UC Davis)
University of California, Merced (UC Merced)

Support services and personnel:

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California Air Resources Board
David Brower Center
Lawrence Berkeley National Laboratory
Office of Continuing Education, Conference and Training Services, Sac State
The Mixing Bowl Catering Services

Lastly, thank you for attending the California Bioresources Economy Summit! Your participation moves California one step closer to a more sustainable bioeconomy. We welcome your feedback. Please send any comments or suggestions regarding the Summit to CALBRES@arb.ca.gov.

BERKELEY LAB

Bringing Science Solutions to the World

BioSciences

Lawrence Berkeley National Laboratory addresses the world's most urgent scientific challenges by advancing sustainable energy, protecting human health, creating new materials, and revealing the origin and fate of the universe. Founded in 1931, Berkeley Lab's scientific expertise has been recognized with 13 Nobel Prizes. The University of California manages Berkeley Lab for the U.S. Department of Energy's Office of Science.

For more, visit http://www.lbl.gov.

150 Berkeley College of Natural Resources

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Since 1914 UC Cooperative Extension has been "California's first incubator;" the bridge between local issues and innovative answers through the power of UC research.

Our advisors, specialists, and faculty bring practical, science-based answers to Californians. We work hand in hand with industry to enhance agricultural markets, help the balance of trade, address environmental concerns, protect plant health, and provide farmers with scientifically tested production techniques and Californians with increased food safety.

UNIVERSITY OF CALIFORNIA
Agriculture and Natural Resources

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In addition to growing a healthy food that people love, the California almond community is dedicated to producing an economically, environmentally and socially responsible crop for California.

The Almond Orchard 2025 Goals are the latest way the California almond community is committed to continuous improvement.

BY 2025, THE CALIFORNIA ALMOND COMMUNITY COMMITS TO:

REDUCE THE AMOUNT OF **WATER** USED TO GROW A POUND OF ALMONDS BY **20%**

INCREASE ADOPTION OF **ENVIRONMENTALLY FRIENDLY PEST MANAGEMENT** TOOLS BY **25%**

ACHIEVE **ZERO WASTE** IN OUR ORCHARDS BY PUTTING **EVERYTHING WE GROW TO OPTIMAL USE**

REDUCE **DUST** DURING ALMOND HARVEST BY **50%**

california almonds
Almond Board of California

WHO IS CLSA?

California Life Sciences Association (CLSA) is the state's most influential life sciences advocacy leadership organization in California. We serve every sector, including bioenergy, biotech, pharmaceutical, medical device, research universities and institutions, and diagnostic companies throughout California.

CLSA
California Life Sciences Association

ADVOCATE.

CLSA is viewed by policymakers as a respected and trusted voice of the sector in California. Last year, CLSA partnered with the Lawrence Berkeley National Labs and the Council on Competitiveness to provide a briefing to members of the California State Legislature on the status of the bio based economy.

Several members of the California State Assembly Select Committee on Biotechnology and the Technology and Innovation caucus attended, including both chairpersons, Assemblymebers Kevin Mullin (D- South San Francisco) and Evan Low (D-Campbell). They were joined by interested staff and other key stakeholders from around the capitol community.

Contact Us

ADVOCACY & POLICY

Oliver Rocroi, *Senior Director, State Government Relations*
916.318.7935 | orocroi@califesciences.org

MEMBERSHIP

Samuel Assmann, *Director, Business Development*
619.319.8191 | sam@califesciences.org

LOW CARBON FUELS COALITION

The Low Carbon Fuels Coalition is a technology neutral trade association dedicated to the support and expansion of market-based low carbon fuel policies.

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