



# Joint Workshop on Industrial and Commercial Zero-Emission Technologies

December 11, 2024



# Technology Panel

9:15 AM – 10:15 AM PT



**9:15 AM – 10:15 AM PT**

# **Technology Panel**

**Dr. Ashwin Salvi**  
**AtmosZero**  
**Panelist**

**David Tearse**  
**Karman Industries**  
**Panelist**

**Dr. Jacob Brouwer**  
**UCI, NFCRC, APEP**  
**Panelist**

**Jeremy Keller**  
**Rondo Energy**  
**Panelist**

**David Allgood**  
**CARB**  
**Moderator**

**Michael Morris**  
**South Coast AQMD**  
**Moderator**

# David Allgood

**Climate Change Program Development Specialist  
California Air Resources Board**



**David Allgood is a Staff Air Pollution Specialist for the California Air Resources Board. He works on the California Cap-and-Trade Program focusing on industrial benchmarking and decarbonization of the manufacturing sector. David earned a masters degree in mechanical engineering and bachelors degree in physics from the University of California, Irvine.**

**Moderator – Technology Panel**

# Michael Morris

Planning & Rules Manager  
South Coast AQMD



Mike Morris is a Planning and Rules Manager for the South Coast AQMD. Mike's current responsibilities include developing rules to address NOx from combustion equipment and toxic air contaminants. He is leading the team transitioning RECLAIM into a command-and-control regulatory structure and addressing associated New Source Review issues. Mike has also worked on coatings, adhesives, paint and lacquer thinners, consumer products, and metalworking fluids regulations.

Moderator – Technology Panel

# Dr. Ashwin Salvi

**Co-Founder and Chief Commercial Officer  
AtmosZero**



Ashwin builds on his nearly 20 years of clean energy and climate background to advance meaningful technology development and drive commercialization. Before decarbonizing the industrial sector with AtmosZero, Ashwin completed his PhD in Mechanical Engineering at the University of Michigan. Ashwin then joined ARPA-E at the U.S. Department of Energy as a Fellow in 2013, where he worked on high-risk, high-reward energy concepts and helped create and manage over \$75M worth of federal programs to de-risk and advance novel energy technologies, and in doing so, fused his technical background with technology commercialization. He then joined Achates Power, where he led customer engagements, won more than \$40M in competitive federal contracts, and commercialized novel high-efficiency power generation technology.

**Panelist – Technology Panel**

# David Tearse

**Co-Founder and Chief Executive Officer  
Karman Industries**



David Tearse is the Co-Founder and CEO of Karman Industries, an industrial thermal energy company based in Los Angeles with the goal of reducing our global greenhouse gas emissions by 20%. He is passionate about how technology can solve some of the biggest problems in the world and he has spent his career working and investing in deep tech startups. He previously worked at Harpoon Ventures, a national security focused venture fund and Riot Ventures, an early-stage deep tech fund. He previously was the Chief of Staff at Skyrise, an aerospace startup where he spearheaded their fundraising efforts culminating in their \$225M Series B. He received a B.S. in Aerospace Engineering from the University of Southern California.

**Panelist – Technology Panel**

# Dr. Jacob Brouwer

**University of California, Irvine Professor of Mechanical and Aerospace Engineering and  
Director of the National Fuel Cell Research Center (NFCRC) and  
Advanced Power and Energy Program (APEP)**



Professor Brouwer is an energy system dynamics expert with research interests in renewable energy systems; dynamic simulation and control; energy system thermodynamics, design, and integration; electrochemical conversion devices and systems such as fuel cells, electrolyzers and batteries; hydrogen production, storage and conversion systems; hydrogen transmission, distribution, and dispensing; and electrochemical reactions with concurrent heat, mass and momentum transfer. Prior to joining UCI, Dr. Brouwer was on the faculty at the University of Utah, a senior engineer at Reaction Engineering International, and a staff scientist at Sandia National Laboratories.

**Panelist – Technology Panel**



# Jeremy Keller, P.E.

VP of Market Development  
Rondo Energy



Rondo is deploying Heat Batteries to cost effectively reduce the carbon intensity of industrial thermal processes using low cost intermittent renewable electricity. Prior to Rondo, Jeremy spent 10 years with Ameresco developing and delivering energy efficiency and renewable energy projects for commercial and industrial facilities, with a focus on water, wastewater, food processing and biogas projects. He is a licensed Mechanical Engineer in the State of Washington and has an MBA from Oregon State University.

Panelist – Technology Panel



# Five-Minute Break



# End-User Perspective Panel

10:20 AM – 11:20 AM PT



**10:20 AM – 11:20 AM PT**

# **End-User Perspective Panel**

**Joe Brothman**  
**UCI Health**  
**Panelist**

**Kenny (Kenergy) Seeton**  
**CSUDH**  
**Panelist**

**Dean Moreton**  
**Hydrogen Technologies**  
**Panelist**

**Lisa Hannaman**  
**SCE**  
**Panelist**

**Mark Sippola**  
**CARB**  
**Moderator**

**Heather Farr**  
**South Coast AQMD**  
**Moderator**

# Heather Farr

Planning & Rules Manager  
South Coast AQMD



Heather Farr is a Planning and Rules Manager for the South Coast AQMD. Heather's current responsibilities include developing rules to reduce NOx emissions from commercial and residential building appliances and toxic solvents used in coatings and solvents. Heather has also worked on reducing NOx emissions from petroleum refineries, refinery flares, non-refinery flares, and commercial bakery ovens; reducing VOC emissions from coatings and solvents; controlling particulate emissions from metal recycling operations; and fence-line monitoring requirements for refineries and related operations.

**Moderator – End-User Perspective Panel**

# Mark Sippola

**Climate Change Program Evaluation Branch Chief  
California Air Resources Board**



**Mark Sippola is the Chief of the Cap-and-Trade Program at CARB, where here he oversees the teams that design and implement the economy-wide carbon market in California. He also oversees the team charged with developing California's net-zero cement strategy under Senate Bill 596. He started his career working at an auto plant, and prior to working at CARB, he conducted research on airflow and pollutant exposure at two Department of Energy labs. Mark has a doctoral degree in Environmental Engineering, and he is a licensed chemical engineer.**

**Moderator – End-User Perspective Panel**

# Joe Brothman

Director of General Services  
UCI Health



Joe Brothman, Director of General Services, joined UCI Health in 2015. Joe oversees a team of over 200 professionals who manage the organizations portfolio of properties including all aspects of building maintenance, management, and compliance, coworker safety & emergency management programs, as well as parking and transportation services. He serves as president of the California Society for Healthcare Engineers Orange County chapter and a member of the California Hospital Association's Emergency Management Advisory Committee.

Panelist – End-User Perspective Panel

# Kenny (Kenergy) Seeton

**Director of Central Plant Operations and Strategic Energy Projects  
California State University, Dominguez Hills**



Kenny Seeton is the Director of Central Plant Operations and Strategic Energy Projects for Cal State Dominguez Hills, and has occupied that position since Feb 2011. He currently manages a team of eleven employees responsible for the heating, cooling and maintenance of approximately 1.5 million square feet of classroom and office space on campus, as well as Central Plant equipment. As the campus energy manager, he also oversees lighting retrofits, MBCx on buildings, and HVAC optimization and controls for the campus. Prior to joining CSUDH, he had 26 years of experience working at Hostess Brand Bakeries. As the Assistant Chief Engineer, he oversaw a team of 25-40 mechanics in total at any given time, repairing, fabricating, and building customized commercial mechanical equipment for the bakery. He enjoys working with students and his crew to come up with innovative ways to increase comfort and reduce energy. Since 2019 he has achieved a 50% reduction in GHG.

**Panelist – End-User Perspective Panel**



# Dean Moretton

Chief Commercial Officer  
Hydrogen Technologies

Mr. Moretton oversees HT's commercial activities and expansion to capitalize on the ever-growing global demand for its breakthrough, zero-emission hydrogen DCC™ boiler solution as a steam or hot water solution in commercial and industrial applications, a clean district heat solution or carbon-free Combined Heat & Power (CHP) enabler. Dean brings 30+ years of successful experience in global energy markets, developing, selling, and marketing innovative products. Prior to joining HT, he led Digital Solutions sales and partnerships for utilities on behalf of Larsen & Toubro (L&T), one of India's largest multi-national conglomerates. Dean previously served as President of ArcIT, Product Director at Alstom, and Manager at Arthur Andersen Consulting. He currently serves on the Board at Kankakee Valley Electric Cooperative. Dean holds an MBA from Indiana University's Kelley School of Business and a B.S. in Electrical Engineering from Rose-Hulman.

**Panelist – End-User Perspective Panel**

# Lisa Hannaman

Senior Account Manager  
Southern California Edison



Lisa Hannaman is a Senior Account Manager with Southern California Edison's Business Customer Division. She has lead oversight and partnership with the State of California Portfolio for SCE which includes UC/CSU, California Community Colleges, California Department of Corrections and Rehabilitation, and the State of California. During her time with SCE, she has been responsible for overseeing a portfolio of Strategic and Energy Intensive customers spread throughout SCE's 50,000 sq. mile territory. She is the Business Customer lead for all Building Electrification initiatives and GHG based pilot efforts. She has had significant success with assisting customers with their goals in the areas of energy efficiency, energy resiliency and emission reductions. She is an active member of several key customer groups and committees in the State of California. She has her Bachelor of Science Degree from California Polytechnic University, Pomona.

**Panelist – End-User Perspective Panel**



# Five-Minute Break



# Regulatory and Incentives Overview

11:25 AM – 12:25 PM PT



**11:25 AM – 12:25 PM PT**

# **Regulatory & Incentives Overview**

**Sridhar Seetharaman**  
**ASU, EPIXC**  
**Panelist**

**Kareem Hammoud**  
**U.S. Climate Alliance**  
**Panelist**

**David Allgood**  
**CARB**  
**Panelist**

**Cody Taylor**  
**CEC**  
**Panelist**

**Michael Krause**  
**South Coast AQMD**  
**Panelist**

**Sylvia Vanderspek**  
**CARB**  
**Moderator**

# Sylvia Vanderspek

**Air Quality Planning Branch Chief  
California Air Resources Board**



**Sylvia Vanderspek has over 20 years of air quality planning experience at the California Air Resources Board. She oversees a team who works with local air agencies to develop strategies for meeting air quality standards across California. As part of this work, she also oversees the development of the California mobile source strategy which outlines the controls needed to provide healthy air for all Californians.**

**Moderator – Regulatory/Incentives Panel**

# Sridhar Seetharaman

Chief Executive Officer

Arizona State University Electrified Processes for Industry Without Carbon (EPIXC)



Sridhar Seetharaman received his undergraduate degree from the Royal Institute of Technology in Sweden and his PhD from MIT. He spent most of his faculty career at Carnegie Mellon as the POSCO Chair of Steelmaking with a joint appointment at National Energy Technology Laboratory (NETL), followed by a period in the UK as the TATA-Royal Academy Chair of Low Carbon Technologies. Sridhar then served at DOE as a Senior Technology Advisor at EERE. He is a member of Secretary Granholm's Industrial Technology Innovation Advisory Committee (ITIAC). Currently Sridhar is with Arizona State University, holds a joint affiliate appointment at National Renewable Energy Laboratory (NREL) and is the CEO of EPIXC, Electrified Processes for Industry Without Carbon, DOE's 7th Clean Energy Manufacturing Innovation Institute.

Panelist – Regulatory/Incentives Panel

# Kareem Hammoud

**Policy Advisor  
U.S. Climate Alliance**



**Kareem Hammoud is a Policy Advisor with the U.S. Climate Alliance, where he leads the Alliance’s industrial decarbonization and short-lived climate pollutants work and manages the Alliance Policy Database. Before joining the Alliance, Hammoud completed a Master of Environmental Management at the Yale School of Environment, where he specialized in environmental policy analysis, clean energy systems, and industrial ecology. While at Yale, he worked on multiple projects that identified and quantified top decarbonization policies for implementation by U.S. actors, including the 2019 America’s Pledge report. Hammoud previously performed ESG research for a San Francisco mutual fund and obtained a B.S. in Environmental Science from U.C. Berkeley.**

**Panelist – Regulatory/Incentives Panel**



# David Allgood

**Climate Change Program Development Specialist  
California Air Resources Board**



**David Allgood is a Staff Air Pollution Specialist for the California Air Resources Board. He works on the California Cap-and-Trade Program focusing on industrial benchmarking and decarbonization of the manufacturing sector. David earned a masters degree in mechanical engineering and bachelors degree in physics from the University of California, Irvine.**

**Panelist – Regulatory/Incentives Panel**

# Cody Taylor

**Branch Manager, Industry & Carbon Management  
California Energy Commission (CEC) Energy Research and Development Division**



**Cody Taylor is Manager of the Industry and Carbon Management Branch in the R&D Division of the California Energy Commission. CEC funds research, development, and demonstration projects to meet the state's energy and climate goals. Prior to the Energy Commission, Cody worked on energy policy at Southern California Edison and on technology deployment and policy at the U.S. Department of Energy.**

**Panelist – Regulatory/Incentives Panel**

# Michael Krause

## Assistant Deputy Executive Officer South Coast AQMD



Michael Krause is Assistant Deputy Executive Officer in Planning, Rule Development and Implementation. In this role he oversees stationary source rule development for toxics, and criteria pollutant rules, CEQA, and AB617 efforts. Michael started his career at the South Coast AQMD in 1991 as an Assistant Air Quality Engineer in permitting working on a variety of air polluting sources, then progressively promoted to his current position. Over his 33 years he oversaw a number of rule projects, including regulation of refinery equipment, continuous emissions monitoring systems (CEMS), flares, fenceline monitoring, combustion equipment, toxics, coatings, and adhesives, and upgrades to the Flare Event Notification System (FENS). Michael as the lead for area source control measures for the 2022 AQMP and was instrumental in the development of the 2012 and 2016 AQMPs. Earlier in Michael's career, he wrote dozens of CEQA environmental assessments, as well as leading the effort to create the California Emission Estimator Model used statewide.

**Panelist – Regulatory/Incentives Panel**



# Closing Comments