



SYMPOSIUM

Colorado Energy Research Collaboratory

AGENDA

Title: 21st Century Energy Transition (8th annual)
Theme: Driving Innovations
Location: Grand Hyatt, 1750 Welton Street, Denver, Colorado
Co-Hosts: Collaboratory organizations (Colorado School of Mines, University of Colorado Boulder, Colorado State University, National Renewable Energy Laboratory)

Monday, April 1, 2019 -- Day one

7:30am-7:00pm	Registration and Information Desk	Registration Desk
7:30-8:30am	Continental Breakfast and Networking	Foyer
8:30-8:45am	Welcome by Maury Dobbie, Executive Director, Colorado Energy Research Collaboratory, Symposium Chair	Aspen Ballroom
8:45-9:15am	General Session Keynote “ Integrative Design for Radical Energy Efficiency ” -- Amory Lovins, Co-Founder & Chief Scientist, , Rocky Mountain Institute	Aspen Ballroom
9:15-9:45am	General Session Keynote “ How the Federal Government is Working to Solve National Challenges ” -- Conner Prochaska, Chief Commercialization Officer, Dir. Office of Technology Transition, U.S. Department of Energy	Aspen Ballroom
9:45-10:15am	General Session Keynote “ Bridging the Gap: Discovery, Research & World-Changing Solutions Impacting at a Global Scale ” -- Eric Toone, Exec. Managing Director & Science Lead, Breakthrough Energy Ventures	Aspen Ballroom
10:15-10:45am	Moderated Q&A session with the previous three keynote speakers. Moderator: Honorary Symposium Chair, Former Colorado Governor Bill Ritter, Director, Center for the New Energy Economy, CSU	Aspen Ballroom
10:45-11:10am	General Session Panel “ Collaboratory: Addressing Grand Challenges Through Collaboration ” Hear how the four Collaboratory entities have created economic impact in Colorado while building an innovation ecosystem since 2008. Collaborative teams have taken energy-related research from ideas to innovative deployment. Presenter: Terri Fiez, Vice Chancellor for Research & Innovation, CU Boulder, and Chair of Collaboratory Executive Board Presenter: Peter Green, Deputy Lab Director, Science & Technology, NREL and Member of Collaboratory Executive Board	Aspen Ballroom
11:10-noon	BREAK FOR LUNCH	
Noon-12:10pm	General Session Keynote “ Government’s Role in Driving Innovation ” -- Colorado Governor Jared Polis	Aspen Ballroom
12:10-1:15pm	General Session Panel “ Driving Innovation Through Policy & Economic Development ” Moderator: Bill Ritter, Director, Center for the New Energy Economy, CSU	Aspen Ballroom

	<p>Panelist #1: Betsy Markey, Exec. Dir., Office of Econ Development & International Trade, State of Colorado</p> <p>Panelist #2: Colorado State Representative Chris Hansen</p>	
1:15-2:15pm	<p>General Session Panel “Powering Women in Energy—Our Journey”</p> <p>Moderator: Jill Cooper, Senior Principal, Geosyntec Consultants</p> <p>Panelist #1: Alice Jackson, President Xcel Energy-Colorado</p> <p>Panelist #2: Maggie Fox, past Pres/CEO of the Climate Reality Project & Climate Action Fund, former lead Sierra Club Legal Def Fund</p> <p>Panelist #3: Dena Lund, Executive VP of Operations & Engineering, Sterling Energy</p> <p>Panelist #4: Jennifer Guidry, VP, Global Health, Safety & Environment, Precision Drilling</p> <p>Panelist #5: Barbara Bergersen, Senior Vice President, Permian EOR, Occidental Oil & Gas Corporation</p>	Aspen Ballroom
2:15-2:20pm	Colorado C3E announcement by Judy Dorsey, President/Principal, Brendle Group	Aspen Ballroom
2:20-2:35pm	BREAK	Foyer
2:35-3:35pm	<p>Breakout #1: Track A – “Food/Energy/Water Innovative Systems Strategies”</p> <p>Introduction of Secretary Vilsack: Peter Green, Deputy Lab Dir., Science & Tech, NREL</p> <p>Moderator: Former United States Secretary Tom Vilsack, Strategic Advisor of Food & Water Initiatives, National Western Center, Colorado State University System</p> <p>Panelist #1: Ramsay Huntley, VP Clean Technology & Innovation Philanthropy Program Officer, IN2 at National Renewable Energy Lab.</p> <p>Panelist #2: Jocelyn Hittle, Director of Denver Program Dev., CSU</p> <p>Panelist #3: John Pellegrino, Prof Research, Mech. Eng. Dept, University of Colorado</p>	Aspen Ballroom
	<p>Breakout #1: Track B – “Innovations in Power System Transformation”</p> <p>Moderator: Dave Mooney, Exec. Dir. Institutional. Planning/Integration/Dev, NREL</p> <p>Panelist #1: Julie Lundquist, Assoc Prof, Dept. of Atmospheric & Oceanic Sciences, Univ of Colorado/Fellow, Renewable and Sustainable Energy Institute NREL</p> <p>Panelist #2: Joe Berry, Senior Scientist, Perovskite & Hybrid Solar Cells Team Lead, NREL</p> <p>Panelist #3: Dan LeFevers, State & Consumer Programs, Gas Technology Institute</p> <p>Panelist #4: Yun Lee, Director of U.S. Solar, Panasonic</p>	Colorado A
	<p>Breakout #1: Track C -- “Innovations & Trends in Oil & Gas”</p> <p>Introduction of Mike Farina: Stefanie Tompkins, VP Research & Technology Transfer, Colorado School of Mines</p> <p>Moderator: Michael Farina, Strategy & Growth Leader, Fullstream Gas & Power, Baker Hughes, a GE company</p> <p>Panelist #1: Dan Zimmerle, Senior Research Associate, CSU</p> <p>Panelist #2: Shaun Higgins, Air Permitting Supervisor, Noble Energy</p> <p>Panelist #3: Sha-Chelle Manning, VP Technology & Innovation, Cimarex Energy Co.</p> <p>Panelist #4: Michael Teague, Strategic Advisor & Systems Integrator, Adamantine Energy</p>	Colorado B
3:35-3:50pm	BREAK	
3:50-5:20pm	<p>General Session Panel “Decarbonization Solutions” Five minute lightning rounds by researchers on a variety of topic areas focused on solutions. (2 groups switch out on stage)</p> <p>Group A Moderator: Bryan Willson, Director, Energy Institute, Colorado State University</p> <p>Panelists:</p> <ol style="list-style-type: none"> 1. Kurt Barth, Director, Next Generation Photovoltaics Center, Colorado State University [Solar's ascendancy to an economic energy solution, our Center's contributions and what's next?] 2. Sybil Sharvelle, Assoc. Prof, Civil & Environmental Engineering, Colorado State 	Aspen Ballroom

	<p>University [Generation of fuel products from organic waste material is an attractive way to reduce carbon footprint]</p> <ol style="list-style-type: none"> 3. Greg Rieker, Director, Precision Laser Diagnostics Lab, University of Colorado Boulder [Leveraging lasers to realize the full potential of natural gas as a transition fuel] 4. James Cale, Associate Prof, Mechanical Engineering/Systems Engineering, Colorado State University [Hybrid microgrid technology: transitioning from fossil fuels to sustainable energy sources while reducing harmful emissions] 5. Jill Engel-Cox, JISEA Director, NREL [Advancements in clean energy technologies and their integration across multiple sectors (industry, commercial, transportation, residential)] 6. Dan Steinberg, Senior Researcher, Manager of Economics & Forecasting Group, NREL [Energy policy and regulatory analysis, econometric analysis, modeling of interactions between climate change and energy sector] 7. Kathleen Staks, Director of External Affairs, Guzman Energy [Guzman Energy has used market conditions to help a community transition to cheaper, clean energy] 8. Mark Northam, Executive Director, School of Energy Resources, University of Wyoming [Carbon Capture, Utilization and Storage: Still a viable pathway to low emissions energy?] <p>Group B Moderator: Ryan Richards, Prof. of Chemistry, Director Renewable Energy & Materials Science & Engineering Center (REMRSEC), Colorado School of Mines</p> <p>Panelists:</p> <ol style="list-style-type: none"> 9. Matthew Posewitz, Professor, Dept. of Chemistry, Colorado School of Mines, [Algal conversion of Co2 to fuel and other products] 10. Brent Buck, CEO, Ajax Analytics [Using continuous monitoring with advanced software and analytics to understand air emissions from oil & gas development] 11. Alexis Sitchler, Assoc Prof, Geochemistry, Assoc Dir, Hydrologic Science & Engineering Graduate Program, Colorado School of Mines, [Geochemistry of geologic carbon sequestration] 12. Gregor Henze, Department of Civil, Environmental & Architectural Engineering, University of Colorado [Human presence detection, occupancy-aware operation, and reinforcement learning control for grid-interactive efficient buildings] 13. Wangda Zuo, Associate Professor, Lewis-Worcester Faculty Fellow, Dept of Civil, Environmental & Architectural Engineering [Smart, Sustainable, and Connected Communities via Integrated Modeling of Energy, Transportation and Communication systems] 14. Manika Prasad, Prof, Petroleum Engineering, Colorado School of Mines, Co2 storage (Sequestration) 15. Adam Bratis, Associate Lab Director, Bioenergy Science and Technology, NREL [BioEnergy related contributions to global decarbonization strategies] 16. Matt Lucas, Assoc Dir for Carbontech [Carbontech Labs: the startup accelerator and investment fund for innovators converted carbon waste to value] 	
5:20-6:15pm	Public Reception (appetizers served, cash bar)	Foyer
6:15-7:00pm	General Session Keynote Alice Jackson, President, Xcel Energy-Colorado	Aspen Ballroom
7:00pm	Adjourn Day 1	

Tuesday, April 2, 2019 -- Day two

7:30am-noon	Registration and Information Desk	Reg Desk
7:30-8:30am	Continental Breakfast and Networking	Foyer
8:30-8:45am	Welcome – Maury Dobbie, Executive Director, Collaboratory, Symposium Chair	Aspen Ballroom
8:45-9:45am	General Session Panel “Global Trends, Innovation & Emerging Markets in Energy” Moderator: Morgan Bazilian, Director, Payne Institute and Professor of Public Policy, Colorado School of Mines Panelist #1: Atul Arya, Sr. VP & Chief Energy Strategist, IHS Markit Panelist #2: Antoine Halff, Chief Analyst, Kayrros & Director, Global Oil Markets Program, Columbia University Center on Global Energy Policy Panelist #3: Barbara Silva, CEO, ATAMOSTEC Solar from Chile Panelist #4: Daniel Kammen, Professor of Energy, University of Calif, Berkeley	Aspen Ballroom
9:45-10:00am	BREAK	
10:00-11:00am	Breakout #2: Track A – “Digitization of Energy” Moderator: Alan Rudolph, VP of Research, Colorado State University Panelist #1: Juan Torres, Associate Lab Director, Energy Systems Integration, NREL Panelist #2: Antonio Trujillo, Technology Manager, Eaton Corporation Panelist #3: Clifton Black, Principal Research Engineer, Southern Company	Aspen Ballroom
	Breakout #2: Track B – “Innovations in Produced Water Treatment and Reuse” Introduction of Ken Carlson: Bryan Willson, Director, Energy Institute at CSU Moderator: Ken Carlson, Assoc Prof, Dept. of Civil & Environmental Engineering, Colorado State University Panelist #1: Tzahi Cath, Prof, Civil and Environmental Engineering Colorado School of Mines Panelist #2: Todd Bandhauer, Asst Prof, Dept. Mechanical Engineering, Colorado State University Panelist #3: Taylor Rowley, Senior Environmental Rep., Anadarko Panelist #4: Peter Gintautas, Environmental Protection Specialist, Colorado Oil & Gas Conservation Commission	Colorado A
	Breakout #2: Track C – “Innovations in Clean Transportation” (Mobility) Moderator: Bob McGrath, Executive Director, RASEI, CU Boulder Panelist #1: Will Toor, Director, Colorado Governor’s Energy Office Panelist #2: Michael Salisbury, Trans. Energy Lead, City & County of Denver Panelist #3: Noah Long, Director, Interior West & Northwest, Climate & Clean Energy Program, Nat. Resources Def. Council Panelist #4: Dean Klingner, Deputy Director, Planning, Development & Transportation, City of Fort Collins	Colorado B
11:00-11:15am	BREAK	
11:15am-12:15pm	General Session Panel “Utilities Driving Innovation” (Commitments in reducing carbon) Moderator: David Eves, Exec. VP, Group Pres.-Utilities, Xcel Energy Panelist #1: Jerry Marizza, New Business Director, United Power Cooperative Panelist #2: Sharon Tomkins, VP of Customer Solutions & Strategy, SoCalGas Panelist #3: Andy Butcher, COO, Platte River Power Authority	Aspen Ballroom
12:15pm	Wrap up by Bill Ritter, Honorary Chair -- Adjourn Day 2	