

GLOBAL COMMERCE FORUM

THE 4TH ANNUAL INTERNATIONAL CONFERENCE ON ENERGY, LOGISTICS AND THE ENVIRONMENT

A SUSTAINABLE ENERGY FUTURE FOR EMERGING AND DEVELOPING ECONOMIES: FOCUS AFRICA









October 13-14, 2011
The Grand Hyatt Hotel, Denver Colorado, USA

www.GlobalCommerceForum.org



Welcome to Denver and Colorado. We are the home of some of the nation's most forward looking clean energy policies, multiple renewable energy implementation and research organizations and, for all practical purposes, the capital of the unconventional natural gas industry. Renewables and Natural Gas are complementary and bedrock components of a practical and sustainable clean energy strategy. Colorado is leading the dissemination of sustainable energy practices around the world. As former Colorado governor, Bill Ritter, Jr., our keynote speaker who has spent 3 years in Africa, declares "Africa can emerge only when it secures energy."

Our deep thanks to governor Ritter for making time in his busy schedule as Director of the Center for New Energy Economy at Colorado State University, to champion this event and be its principle keynote speaker. This conference will be a step in a long journey to help Africa achieve a sustainable energy future on a continent-wide basis. Building on four years of hard work by Dr. Luka Powanga of Regis University and Don McClure of Encana, the dedicated program committee has focused the fourth year of the Global Commerce Forum on thought leading to actions that will help Africa achieve its sustainable energy goals. I want to give a special thanks to Rebecca Kersting President of CAP Worldwide for the imagination, drive, competence and tremendous resources she has brought to this conference. I also want to thank Senator Michael Bennett and his office's energy policy guru, Sean Babington, and particularly his Constituent Advocate Eva Serenil, who worked quickly and diligently to help secure a visa for John Maina so he could travel from Kenya to attend our conference.

We have learned many lessons about energy and the environment in Colorado, some the hard way. Through this process we have developed the vision and resources to disseminate sustainable energy policies, practices and infrastructure globally. We are grateful for this opportunity so important in the history of the evolution of our species. We need and welcome all of you attending to help achieve a sustainable energy future for Africa and the world. That means energy that is clean, addresses climate change effectively and affordable to keep economies emerging as well as growing.

Fred Julander Conference Program Chair



Whether you are asked to sponsor or speak or attend, I urge you to join with me and the organizers of this event to help establish this conference as an event that will look at how to provide affordable, scalable and sustainable energy options for Africa and other parts of the world.

Thank you for your support and I look forward to seeing you in October at the conference.

Sincerel

Bill Rotte, Jr.

Bill Ritter, Jr.
Director
Center for the New Energy Economy
Colorado State University
And Former Governor of Colorado

Fossil-fuel energy has fostered industrialization, economic growth and prosperity in the developed world. In fact, developed nations exist largely because fossil fuels have allowed for affordable and reliable energy. But today, environmental concerns are driving developed nations to invest large sums of money to change their energy sources and infrastructure to support a clean environment. The question is, "Should emerging and developing nations develop their energy infrastructure from these same traditional energy sources, or are there now other, better options available to them?"

This conference brings together scholars, scientists, researchers and business executives from the renewable energy and natural gas industries, representatives from non-governmental and governmental organizations, and officials from developed, developing and emerging countries, especially African countries. Together we will explore ways to implement a new paradigm for sustainably supplying the energy needed for economic growth in economies—particularly in Africa—where the energy infrastructure has not been fully developed.

This new paradigm is driven by advances in renewable energy technologies, combined with technological improvements that are now making available vast unconventional natural gas supplies in shale formations ubiquitously dispersed throughout the world. This paradigm is taking hold in the developed world today as natural gas, complemented by wind and solar power, gains traction as the preferred approach to economically competitive, cleaner and safer central electric power generation.

Employing this new paradigm, emerging and developing economies can gain access to affordable energy so essential for improved standards of living and sustainable economic growth. This innovative approach can meet the world's energy thirst in a much more environmentally sustainable and affordable fashion.

Combining renewables and natural gas offers tremendous potential for rural areas where a centralized electrical grid power system does not currently exist and may, now, never need to be developed. In these areas, renewable energy sources can be used for light industrial and residential needs, such as lighting, cooking, heating and communications, thus providing lower-cost and cleaner energy than wood, charcoal and kerosene. In urban areas, natural gas can complement industrial-scale renewable energy supplies by affordably and cleanly fuelling centralized power systems for industrial and commercial use.

In the United States, unconventional natural gas, led by gas in onshore shale formations, is dramatically transforming the natural gas supply situation and making it possible to cost-effectively replace coal power plants with much cleaner natural gas. In some areas, natural gas is also fueling vehicles with cleaner and cheaper fuel than imported oil.

Indications are that similar unconventional gas formations are prolific throughout the world's continents. The possibility of an indigenous natural gas supply and the vibrant industrial activity that it can support on a large scale in the not-too-distant future can transform developing and emerging economies. Already, conventional natural gas supplies are under intense development in some parts of Africa. Now a foundation is being laid for the environmentally responsible exploration and production of unconventional natural gas, principally from shales, which will vastly augment the potential reserves in Africa.

In future global commerce, creating a sustainable energy infrastructure for the African continent and other emerging and developing economies represents an unprecedented opportunity for the bold and the smart! Companies that develop, implement and utilize new energy technologies and innovative financing methods will recast the future of the emerging world and profoundly improve the lives of hundreds of millions of people. At the same time, these companies will create new revenue streams in global commerce for developed and developing nations. In sum, the world will benefit from more efficient use of new, cleaner and environmentally friendly energy.

THURSDAY OCTOBER 13, 2011

	HORODAL GOTOBER 13, 2011
7.00 AM-5.00 PM	Registration
7.15 AM-8.15 AM	Breakfast/Networking Coffee
8.15 AM-8.30 AM	Welcoming Remarks: Luka Powanga, Professor School of Management, Regis University; Fred Julander, President, Julander Energy; Don McClure, Vice President, Government and Stakeholder Relations and Legal, Encana Oil & Gas USA Introduction and Overview: Why Denver, Africa, Natural Gas and Renewables- All Together Now
8.30 AM-9.15 AM	Key Note Speaker Bill Ritter, Former Governor of Colorado, Director, Center for the New Energy Economy, Colorado State University The Importance of Energy For Africa's Economic Development: In Search of a Sustainable and Affordable Energy Paradigm
9.15 AM-10.30 AM	Session I: Africa's Natural Gas Resources This panel will present an overview of the natural gas resource base in Africa, trends in natural gas exploration, and technologies, basic geology and production, trade volumes, and how natural gas is a sound foundation for sustainable economic development and growth. Discussions will cover centralized systems including the advantages of natural gas over other fossil fuels. Michael Brownfield, Regional Coordinator of Sub-Saharan Africa and Antarctica, US Geological Survey Peter Stark, Vice President Industry Relations, IHS CERA Azra Tutuncu, Director, Unconventional Natural Gas Institute, Colorado School of Mines Dag Nummedal, Director Colorado Energy Research Institute, Colorado School of Mines Moderator: Fred Julander, President, Julander Energy
10.30 AM- 10.45 AM	Networking Break
10.45 AM-12.15 PM	Session II: Africa's Renewable Resources This session will focus on renewable in emerging and developing nations including solar, wind, biofuels, hydro, geothermal, and energy efficiency. Decentralized energy systems including applications to rural lighting and power, cooking technologies, communication, utility/industrial scale renewable implementation and marketing challenges will also be discussed. Heidi VanGenderen, Director, National and Regional Outreach, American Council on Renewable Energy Michael Callahan, Senior Project Leader in the Deployment and Market Transformation Group, Strategic Energy Analysis Center, National Renewable Energy Laboratory Doug Vilsack, Elephant Energy, Attorney Davis Graham & Stubbs David Hendricks, Professor of Civil and Environmental Engineering-Emeritus, Colorado State University Moderator- Ron Benioff, International Program Manager, National Renewable Energy Laboratory
	Luncheon
12.15 PM — 1.15 PM	Key Note Speaker John Coors, Chairman of the Board, President and Chief Executive Officer of CoorsTek, Inc The Challenge of 500 Million People Living in the Dark

THURSDAY OCTOBER 13, 2011

1.30 PM-3.00 PM	Session Ill: Natural Gas and Renewable Resources as Complementary Energy Systems and their Integration into Existing Systems This panel will discuss how energy from natural gas and renewable sources can complement each other to form the basis for economic development. A combination of the two sources of energy can provide access to energy in urban and rural areas. The panel will also review how natural gas and renewable based energy systems can be integrated into existing energy infrastructures. Paula Gant, Vice President of Regulatory Affairs, American Gas Association Bryan Willson, Director of the Clean Energy Super Cluster, Professor of Mechanical Engineering, Colorado State University Heidi VanGenderen, Director, National and Regional Outreach, American Council on Renewable Energy Robert Stoner, Associate Director of the MIT Energy Initiative/Executive Director of the MIT-Tsinghua-Cambridge Low Carbon Energy University Alliance Porter Bennett, President & CEO, BENTEK Energy, LLC Moderator: David Posner, President, EnVent Energy
3.00 PM-3.15 PM	Networking Break
3.15 PM-3.45 PM	Keynote Speaker Bryan Willson, Director Clean Energy Super Cluster, Professor of Mechanical Engineering at Colorado State University The Challenges of Implementing Energy Projects in Africa
3.45 PM-5.00 PM	Session IV: Challenges of Implementing Natural Gas and Renewable Energy Projects. The panel will present the challenges pertaining to implementing energy projects in developing and emerging regions, particularly Africa. The varying energy policies, existing institutions, human capital development and other issues that impede implementing projects in Africa and how to navigate through them will be discussed including the business opportunities that these challenges bring. Robert Stoner, Associate Director Energy Initiative/Executive Director of the MIT-Tsinghua-Cambridge Low Carbon Energy University Alliance Ron Miller, P.E. Energy Solutions Manager — Africa Region — Newmont Mining Corporation Roderick Eggert, Director School of Economics and Business Colorado School of Mines David Cox, Assistant Dean for full time MBA Programs, University of Denver Robert L. Poley, CPA Moderator: Luka Powanga, Professor School of Management, Regis University
5.00 PM-7.00 PM	Networking Reception: This unique networking opportunity complements the conference and encourages you to have

FRIDAY OCTOBER 14, 2011

7.30 AM-5.00 PM	Registration
7.30 AM-8.30 AM	Breakfast/Networking Coffee
8.30 AM-9.15 AM	Special Keynote John Maina, Executive Coordinator, Sustainable Community Development Services, Kenya
	Renewable Energy Projects On the Ground in Kenya
9.15 AM-9.45 AM	Key Note Speaker Ron Bills, CEO and Chairman, EnviroFit
	Energy as a Development Tool for Africa
9.45 AM-10.00 AM	Networking Break
10.00 AM — 12.00 PM	Session V Case Studies in Natural Gas and Renewable Energy
	In this session actual projects in the clean energy space and the impact they have on the population in a developing country will be discussed. Case studies will be presented by experts who are currently engaged in actual projects in developing countries. Social entrepreneurs working on social enterprises and Non-Government Organizations executing projects are the presenters in this session. Ron Eller, President and Chief Executive Office, Ascent Solar Technologies, Inc.
	Jeff Loving , Vice President, Axxess Energy LLC Stephen Katsaros, Inventor and Founder, Nokero Ron Bills, CEO and Chairman, EnviroFit John Maina, Executive Coordinator, Sustainable Community
	Moderator: Ravi Malhotra, Founder and Chairman, iCAST
12.00 PM-1.00 PM	Luncheon Key Note Speaker Robert Stoner, Associate Director Energy Initiative/Executive Director of the MIT-Tsinghua-Cambridge Low Carbon Energy University Alliance Developing Clean Energy in Africa
1.15 PM-2.30 PM	Session VI: Sustainable Energy Policy in Africa
	This panel will examine the energy policy challenges in Africa including how the United States and other countries interface with Africa.
	Robyn McGukin, Director Clean Energy and Sustainability, MWH Bill Ritter, Former Governor of Colorado Tanuj Dearo, Director, Governor's Energy Office, Colorado Matt Baker, Commissioner, Public Utilities Commission, Colorado
	Moderator - Bruce Hutton, Dean Emeritus, Denver University
2.30 PM-2.45 PM	Networking Break

FRIDAY OCTOBER 14, 2011

2.45 PM-3.45 PM	Session VII Wrap up: Putting it Together and Next Steps
	This panel will discuss the lessons learned from the conference discussions including the challenges of implementing the projects, marketing natural gas and renewable energy products and how to engage investors and governments. The next steps will be discussed.
	Session to draw on number of participants from previous sessions including John Maina, Fred Julander, Ron Bills, Bryan Wilson, David Posner, Luka Powanga, Robert Stoner and others; very short informal presentations from participants summarizing lessons and action items from the conference and then discussion
	Moderator: Bill Ritter, Former Governor of Colorado, Director, Center for the New Energy Economy, Colorado State University
3.45PM-4.00 PM	Closing Remarks Fred Julander, Luka Powanga and Don McClure

CHAIRS

Conference Chairman; Don McClure
Conference Program Chairman; Fred Julander
Conference Co-Vice Chairmen; Luka Powanga, David Posner, Ravi Malhotra

PROGRAM COMMITTEE MEMBERS

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Matt Baker, Commissioner, Colorado Public Utilities Commission

Matt Baker was appointed as a Commissioner of the Colorado Public Utilities Commission on January 15, 2008 by Gov. Bill Ritter, Jr., and was confirmed

January 28, 2008. Prior to joining the Commission, Matt served as the Executive Director of Environment Colorado, where he was the architect of Colorado's Renewable Energy ballot initiative, Amendment 37.

Matt was a leader in efforts to double Colorado's renewable energy goals, implement policies to greatly expand utility energy efficiency programs and promote state goals to reduce carbon dioxide emissions. In addition, he was a leader on state transportation policy initiatives, including the successful build out of the Denver metroarea's light rail system. Previous to joining the Commission, Matt served as the vice-chair of the Transit Alliance. He was appointed by then-Governor Bill Owens to the Colorado Pollution Prevention Partnership, and was vice-chair of the Intervest Energy Alliance. Matt has a bachelor's degree from Penn State University.



Ron Benioff, Manager of International Programs, National Renewable Energy Laboratory (NREL)

Ron Benioff serves as Manager of International Programs for the National Renewable Energy Laboratory (NREL).

In this capacity he directs the lab's work to conduct renewable energy and energy efficiency research and development activities, deployment programs, and energy analysis initiatives with other countries and international institutions. This includes work on biofuels, buildings, geothermal, solar, vehicles, wind and ocean technologies, assessments, policies, and programs with over 50 countries and various institutions around the world. Ron is leading several international climate and clean energy initiatives including the Clean Energy Solutions Center and the Coordinated Low Emissions Assistance Network (CLEAN). Prior to joining NREL in 1997, he worked at the U.S. Environmental Protection Agency for 11 years on climate change and waste management issues.



Ron Bills, Chief Executive Officer and Chairman of the Board, Envirofit International

Ron is a visionary leader with the fundamental idea of creating scalable and sustainable social enterprises at the base of the economic pyramid that are focused on

energy & pollution reduction and heath & economic improvement. He believes it is a basic duty of free enterprise to deliver high quality, durable and aspirational products to emerging consumer markets at the lowest possible cost - while at the same time energizing local economies and developing local entrepreneurs. Actualization of this vision will provide the potential to significantly impact the world's deadliest health and energy related problems.

Mr. Bills is actively speaking on these topics and working on a book about emerging consumer markets, the social responsibility surrounding this evolution and the necessary development of social entrepreneurs in the creation of economic improvement. He recently addressed audiences at World Bank's Clean Energy Week speaking on Household Energy Opportunities in conjunction with

the organization's "Energy, Development and Climate Change" conference. Mr. Bills regularly engages with business and political leaders regarding advancements in the social enterprise space. Since 2004, Ron has led Envirofit by combining his business acumen from the consumer durables industry with visionary thinking in the area of social enterprise. A global leader in the field of technology development and social entrepreneurship, Ron has extensive, worldwide business and P&L experience across private, public, and start-up business environments. His ability to move cutting edge, industry-defining technology from the drawing board to the forefront of the global marketplace has garnered Envirofit a variety of accolades in the areas of product design and technology innovation. Prior to Envirofit, Ron was president and CEO of Segway and previously led several worldwide business units for Polaris Industries, Yamaha Motor Corporations and Bombardier. His career began as an engineer with Martin Marietta Aerospace.



Michael Brownfield, Emeritus Scientist, US Geological Survey

Michael Brownfield is an Emeritus Scientist with the U.S. Geological Survey (USGS) in Denver, CO. During his 37 years with the USGS, he has conducted research in oil and

gas assessments, coal geology, geochemistry, and sedimentology, and utilized data from other studies involving the petrographical, mineralogical, and geological analysis of to publish more than 150 reports and presentations. His research has been both domestic and foreign: regional stratigraphic and detailed mapping studies of coalbearing sequences (Cretaceous and Tertiary) in northwest Colorado supported the Colorado Plateau Coal Assessment (2000). Over the past 25 years, he has been involved in USGS programs designed to provide technical assistance to countries in defining and developing their resources: assessed the coal and peat resources of Mauritania (1986); traveled to Bulgaria to train their coal experts on the development of a coal-quality data base (1992); participated in the assessment the coal resources of Armenia, and served as a consultant to Armenia geologists on the subject of coal exploration and resource assessment (1996-1999). Currently, he is still working with the World Petroleum Resource Project as the Regional Coordinator for Sub-Saharan Africa (Region 7) and as the assessment geologist for the Pacific Northwest on the National Oil and Gas Assessment Project (NOGA). He has conducted assessments of undiscovered oil and gas in Total Petroleum Systems in provinces located in Sub-Saharan Africa including the Chad and Sud rift basins, the west Africa coastal provinces of Senegal, Gulf of Guinea, Niger Delta, West African Coastal, West-Central Coastal, and Orange River Coastal, Offshore South Africa, and the Mozambique and Morondave Provinces of east Africa (1996-Present). He has published the conventional and unconventional oil and gas resource assessments of both eastern and western Oregon and Washington as part of the NOGA Project.



Michael Callahan, Senior Project Leader, Deployment and Market

Transformation Group, National Renewable Energy Laboratory Michael Callahan earned a BS in civil engineering and a MSBA in sustainable

business. He has studied in Venezuela and Spain and has helped design and manage energy projects in five West African countries over a period of four years. Following his work in Africa, Mike

managed teams of contractors, engineers, and architects to build multi-million dollar construction projects, including the first award winning Leadership in Energy and Environmental Design (LEED) recreation center in Colorado. At that time Mike became a LEED accredited professional and a licensed professional engineer. As a Sr. project leader at the National Renewable Energy Lab, Mike supports energy efficiency and renewable energy project development and finance internationally and in the US. Under the Energy and Climate Partnership of the Americas (ECPA), Mike is leading the US Department of Energy's technical assistance for the Peruvian Ministry of Energy and Mines to help establish the Peruvian Office of Energy Efficiency. Also under ECPA, Mike is supporting the Peace Corps Energy Poverty Alleviation Initiative in Latin America. Finally, Mike is the cofounder of PowerMundo, a social enterprise operating in Latin America to improve people's lives and conserve nature through the deployment of renewable energy technologies.



Dr. David B. Cox, Assistant
Dean for Full Time MBA
Programs, Daniels College of
Business, University of Denver
David Cox is the Assistant Dean for Full Time
MBA Programs for the Daniels College of
Business at the University of Denver. Dave

has been teaching in the Reiman School of Finance since 1988. He holds a Masters Degree and PhD (ABD) in Finance, and a Juris Doctorate. He currently teaches corporate finance and international finance courses at both the undergraduate and graduate level, Sustainable Development in the Compass portion of the graduate program, and business law at the undergraduate level, and is part of the Compass Development team in the MBA program. Since 1999, Dave has been a part of Executive training teams for First Data Corp., OMI Inc., Orica, Inc., Newmont Mining Corp, TIMET Inc., and others.



Tanuj Deora, Director, Colorado Governor's Energy Office

TJ is the Director of the Governor's Energy Office (GEO). Prior to joining the GEO, TJ led policy advocacy efforts as Senior Manager in Horizon Wind Energy's government

affairs team, where he focused on promoting investment-friendly environments at the state and regional level across the eastern U.S. Earlier, he led Horizon's market and transmission development in New England and early stage project development efforts in the Rockies. In that role, TJ developed projects in Kit Carson, Cheyenne, and Baca counties, and helped found, and served as co-chair of, the Colorado Renewables and Conservation Collaborative, a voluntary industry working group. TJ has served on the boards of the Interwest Energy Alliance, the Colorado Independent Energy Association, and Renewable Energy New England.

Before joining Horizon, TJ was a consultant with McKinsey's energy practice, based in Washington DC, where he served utility and industrial clients. He earlier worked in Calpine's energy trading group in Houston, analyzing the performance of their fleet of natural gas-fired power plants and guiding trading strategy. TJ started his career as an engineer for The Dow Chemical Company in engineering, operations, R&D, and business development roles. He holds a Bachelors of Science in Mechanical Engineering from the University of Texas in Austin and a Masters of Business Administration from Harvard Business School. TJ spent two years serving as a Peace Corps volunteer in Jamaica.



Ron Eller, President and Chief Executive Office, Ascent Solar Technologies, Inc.

Ron Eller has been the President and Chief Executive Officer of Ascent Solar Technologies Inc. since March 31, 2011. Mr. Eller has extensive senior executive

experience in fast growing technology businesses, including strategy, product development, operations, sales and business development and commercialization of emerging applications. He has served as an independent director of Ascent since June 2009. He has been an owner, principal or managing director in various private equity firms since 2008. From 1994 until March 2008, Mr. Eller held various senior executive positions at Hewlett-Packard Company, an integrated technology firm, including Vice President and General Manager of the NetServer business from 2002 to 2003 and, more recently, Vice President and General Manager of the software and system integrator channels of the Technology Solutions Group. Mr. Eller has served on the board of the Colorado Neurological Institute since April 2009, the board of Next I/O since 2011 and is a certified public accountant. He holds a B.S. degree in Professional Aviation from Purdue University, and an M.S. degree in Business from Colorado State University.



Dr. Paula Gant, Senior Vice President Policy and Planning, American Gas Association

Paula Gant is senior vice president of policy and planning for the American Gas Association (AGA) with responsibility for managing the association's policy and regulatory agenda

and outreach on behalf of AGA's 195 natural gas distribution company members. Since joining AGA in 2006, Dr. Gant has sought to advance awareness of the important role that natural gas utilities serve in meeting the needs of a clean energy economy — now and for decades to come. Natural gas utilities and their customers have increased the efficiency of energy use in homes and buildings by 39% since 1970. This success has reduced greenhouse gas emissions while maintaining the comfort and productivity of American homes and businesses.

Previously, Paula worked for Duke Energy in a variety of positions including vice president of government affairs and energy policy for Duke Energy Gas Transmission. In that role she was responsible for ensuring a collaborative approach to stakeholder relations for new infrastructure construction projects and ongoing operations. Dr. Gant previously served as director of energy policy for Duke Energy Corporation and as director of government affairs and regulatory policy for Duke Energy International, building internal teams while developing constructive relationships with key stakeholders in the Americas and Europe. Before joining Duke, Dr. Gant served as public spokesperson for the Louisiana Alliance for Lower Electric Rates, on the faculty of the Department of Economics at Louisiana State University and as assistant professor of economics at the University of Louisville. Paula received a Bachelor of Arts degree in economics from McNeese State University and a Ph.D. in economics from Auburn University. She lives in Washington, D.C., with her husband, Neil Meyer and son, Mason.



Dr. David W Hendricks, Professor of Civil and Environmental Engineering – Emeritus, Colorado State University

Teaching. Courses in water and wastewater

treatment plant design, water supply and wastewater disposal, environmental assessment, industrial wastewater management, environmental health engineering, solid waste/ hazardous wastes management, water chemistry, fluid mechanics, hydraulics. Research. Principal investigator or co-principal investigator for 35 research projects totaling about 2.4 million dollars since (1966-1996). Projects have included: developing a hydro-quality simulation model, travel of pollution through porous media, bacterial adsorption thermodynamics, sorption kinetics, waste stabilization pond energy balance, water reuse systems analysis, the role of water reuse in regional water supply, evaluation of the 1972 water quality act effluent limitations on water quality and biota in the South Platte River, interdisciplinary engineering for large scale public works projects, water supply management analysis and alternate development for the South Platte River Basin, input-output modeling of municipal water supply wastewater system, health hazards of irrigation with treated wastewater, salinity hazards of water reuse, water reuse planning, filtration, advanced water treatment, membrane technologies, surrogates for filtration of pathogens.

Consulting. Various engagements since 1966 with consulting engineering firms, and government agencies (e.g., Corps of Engineers, Pan American Health Organization, CIDIAT, Missouri River Basin Commission, etc.). Foreign assignments have included work in Italy, Venezuela, Brazil, Mexico, Iraq, and Yemen. Domestic has included various advisory services and project work, expert witness testimony and case preparation, and testimony for hearings. Topic areas have included stream pollution, groundwater pollution, industrial wastes, environmental assessment, municipal water quality, stream water quality classifications, river basin planning, hazardous wastes, solid waste management, filtration, etc.



Dr. Bruce Hutton, Dean Emeritus and Professor of Marketing, Daniels College of Business, University of Denver

Bruce Hutton is Dean Emeritus, Professor of Marketing, and holds the Piccinati Chair in Teaching Innovation at the Daniels

College of Business, University of Denver. He received his Ph.D. from the University of Florida. His research interests include corporate social responsibility, sustainable development, and the application of consumer behavior principles to issues of public policy. He is a recipient of the Faculty Pioneer Institutional Leadership Award from the World Resources Institute and the Aspen Institute's Business & Society Program (Beyond Grey Pinstripes) for leadership in integrating social and environmental issues into business education.



Fred Julander, President, Julander Energy

Fred has over 39 years of experience in energy and natural resources as an independent operator. He has been a leader in the oil and gas community pushing for responsible exploration and development

and for recognition that natural gas has a bright future as a natural compliment to renewable energy and efficiency. Fred is a member of the National Petroleum Council, past President of the Colorado Oil & Gas Association, founding Chairman of COGA's Rocky Mountain Natural Gas Strategy Conference and Chairman of the Natural Gas Committee of COGA. Fred is also the recipient of the 2007 Distinguished Public Service Award presented by the Rocky Mountain

Association of Geologists.

In 2009 Mr. Julander was selected to the Independent Petroleum Association of Mountain States Rocky Mountain Oil & Gas Hall of Fame. Mr. Julander earned a BA degree from the University of New Mexico and a JD degree from the University of Iowa Law School. He is a graduate of the University of Denver's Executive MBA program



Mr. Stephen Katasoros, Inventor and Founder, Nokero

Nokero inventor Stephen Katsaros' career is centered around innovation—ranging from product development to intellectual property. These activities have enabled Stephen to license inventions to sports

companies (such as Dynastar Skis, K2, HaberVision, etc.) and build a transportation product company (RevoPower -- a motorized wheel for bicycles that gets 200 MPG at 20 MPH). He enjoys developing products and making dreams into reality. Stephen earned a Bachelors of Science Mechanical Engineering (BSME) from Purdue University in 1996 and was a non-degree seeking student at the Bard Center of Entrepreneurship at the University of Colorado from 1998-1999. As a recognized leader in innovation, Stephen received a B.F. Goodrich Collegiate Inventors Award in 1995. Prior Press Coverage includes the Wall Street Journal, Denver Post, C-Spann, Popular Science, Gizmodo, Engadget, T3, Discovery, and CNN. Stephen will talk about ROI (Return on Investment) of small solar lighting to replace Kerosene Lamps.



Jeff Loving, Vice President, Axxess Energy, LLC

Jeff has worked in the non-profit arena for 27 years. For the past six of these years he has been promoting the previously known 'Circle of Light' program that is now Axxess Energy. Jeff is working at Axxess Energy

to invest in modern energy products & services to meet unmet cooking and lighting needs in 50,000 rural households in Kenya. Axxess Energy leverages investor capital to establish a profitable energy business in rural Kenya. This business distributes LP gas cook stoves and 12 volt battery lighting in medium and small community cooperatives. Jeff will talk about Economic Development in Africa: has it worked? Can it and will it work? Meeting rural energy needs in Kenya and Mozambique: the past, present, and future.



John Maina, Executive Coordinator, Sustainable Community Development Services (SCODE)

Through its low cost solar drying for food security project, SCODE has managed to reach many people empowering them

in fresh produce preservation. It is this effort that earned the organization international recognition when it scooped the energy global awards in the year 2006.

Through the period 2004-2007, SCODE provided technology related support services to the Breathing Space Fund (BSF) in Kenya. BSF is a funding mechanism supported by the Shell Foundation (UK) and aims at supporting, disseminating demand driven clean energy products and services that reduce indoor air pollution in households in Kenya

Gender mainstreaming has been found to be an important factor that contributes towards the success of a project/organization.

And for this, SCODE has made a conscious effort to mainstream gender in its programs and the organization as a whole. As such, SCODE is carrying out a pilot project for mainstreaming gender in its ICS project which has support from many quotas including ENERGIA International. As an organization that has been dealing with renewable energy technologies, we have curved a niche in the energy sector as a reliable contractor. As such, we are among the implementers of the Kenya National Domestic Biogas Programme (KENDBIP) whose goal is to disseminate 8,000 bio-digesters in four years. SCODE is the focal point of the EATDN in Kenya. EATDN (East African Energy Technology Development Network) is a regional network comprising of NGOs, institutions of education and research, community groups, private companies, government departments etc which was established in 1998 and whose goal is to reduce poverty among communities in East Africa through use of appropriate energy technologies. The network has been building the technical capacity of members to design and implement demand-driven renewable energy projects while providing a platform for information sharing. The organization also is also an active participant in the ABC-K (Association of Biogas Contractors-Kenya): an association that brings together various parties interested in biogas technology to enable full participation of the members. SCODE produced the first chairman of this association.



Ravi Malhotra, Founder and Chairman, iCAST (International Center for Appropriate and Sustainable Technology)

Mr. Malhotra started working on community development shortly after

receiving a B. Tech in Engineering from the Indian Institute of Technology, New Delhi, India. He later received an MS in Engineering and an MBA from the University of Texas. In the past 20 years, Mr. Malhotra has accumulated experience helping small entrepreneurial firms manage their growth. He has also developed and disseminated numerous sustainable technologies internationally and created financially viable enterprises globally. Mr. Malhotra is the founder of five social enterprises and received the Entrepreneur of the Year award in 2009 from the City of Lakewood, CO. He was a member of the Western Governor Association's Solar and Bio-energy Task Force and is a frequent guest speaker at various Universities across Colorado.



Robyn L McGukin, PMP, CEM, Director of Clean Energy and Sustainability, MWH

Ms. McGuckin has managed energy sector programs in developing countries with a specific focus on overcoming issues which prevent adequate power provision. She

has led renewable energy projects in the Middle East and South Asia assessing the feasibility, project design and delivery of biomass energy, on-shore wind, solar PV, and micro-hydro. In addition, she has led post-disaster power sector and infrastructure reconstruction in Iraq, Lebanon and Indonesia. Her work has been highlighted by IEEE, NPR, the Washington Post, BBC, Fortune Magazine, and in several current affairs books. Ms. McGuckin has a BS in Biological Systems Engineering and an MS in Biological Engineering. She has lived and worked in the U.S., South Asia, the Middle East, Europe, and Africa.



Dr. Dag Nummedal, Director of the Colorado Energy Research Institute, Colorado School of Mines

Dag Nummedal is the Director of the Colorado Energy Research Institute, an institute at the Colorado School of Mines

focused on broad multi-disciplinary research programs in both fossil and renewable energy. He is also the director of the Colorado Carbon Management Center, a multi-disciplinary and multi-institutional center engaged in research on geological and terrestrial carbon sequestration, as well as economic and policy analysis of different approaches to reductions in carbon emissions from global energy systems.

Nummedal has an MS from the University of Oslo, Norway, and a Ph.D. from the University of Illinois at Urbana-Champaign. Prior to joining the Colorado School of Mines in 2004, Nummedal served as professor of geology and geophysics at Louisiana State University and the University of Wyoming. He also served for five years as manager of exploration and production technology at the Unocal Corporation.

Dag Nummedal has served as president of SEPM and as an AAPG distinguished speaker. He is currently board member at RPSEA, the S&T committee at the Alliance for Sustainable Energy, the Energy Security Advisory Board at the Los Alamos National Laboratory, the Norwegian carbon sequestration research center SUCCESS, the Energy Council, and the Colorado Renewable Energy Collaboratory. He is a quest professor at the China University of Geosciences, Beijing.



Robert L Poley, CPA

Bob Poley is a CPA who, since 2004, has consulted with small companies—particularly energy companies—on capital formation, compliance with the regulations of the U.S. Securities and Exchange Commission and complex

accounting matters. From 2002 to 2004 he was on the staff of the SEC's Division of Corporation Finance in Washington, DC. There he reviewed registrations statements of companies desiring to offer public securities, and the periodic filings of public companies. Prior to the SEC he was chief financial officer or controller of several public companies, primarily in the metro Denver area. He began his career as an auditor with Arthur Andersen and Co.

He has a Master of Science in Business Administration from the University of Denver and a Bachelor of Arts from the University of Kansas



David Posner, President, EnVent Energy LLC

David M. Posner founded EnVent Energy LLC in 2000. EnVent's primary business is negotiating gathering, processing, transportation and marketing arrangements for natural gas producers,

and related strategic initiatives. Posner previously led the marketing function and midstream operations for Santa Fe Snyder, Snyder and Ladd, is a past Chairman of COGA, and has over 30 years of experience in energy marketing, project development, and management. EnVent is also involved the development of waste heat power projects on gas pipelines and at processing plants, and the interface between new energy technologies including renewable sources and

natural gas. Posner is a graduate of Brown University and received his Masters degree in Mineral Economics from the Colorado School of Mines



Dr. Luka Powanga, Professor, Regis University

Dr. Luka Powanga is a professor in the School of Management at Regis University and the Executive Director of the Global Commerce Forum. He is also the Managing Editor of the Journal of Global Commerce

Research and the Journal of Current Research in Global Business. He is currently the US correspondent for CargoNews Asia a trade magazine based in Hong Kong.

He holds a BSC degree in Metallurgy and Mineral Processing, Masters and PhD degrees in Mineral Economics from Colorado School of Mines with a minor in Finance from the Graduate School at Denver University. He also holds a Masters degree in Computer Information Technology and Graduate Level Certificate in Object Oriented Programming from Regis University. His industry and academic experience spans over thirty years at middle and senior management levels. He consults in mining and international business management. He worked in the mining and telecommunications industry at middle and senior management level within and outside the United States. He taught at Colorado School of Mines before transitioning to Regis University. He has written a textbook in economics published by McGraw-Hill.



Bill Ritter Jr., Director Center For New Energy Economy at Colorado State University, Former Governor of Colorado

Bill Ritter Jr. is currently the Director of the Center for the New Energy Economy (CNEE) at Colorado State University. The Center

started February 1, 2011 with Ritter as the founding Director and currently the sole employee.

Bill was elected as Colorado's 41st governor in 2006 — the first Colorado-born governor in more than 35 years. Bill lead Colorado forward by bringing people together to tackle some of our state's biggest challenges. During his 4 year term, He established Colorado as a national and international leader in renewable energy by building a New Energy Economy that is creating thousands of new jobs and establishing hundreds of new companies; enacted an aggressive business-development and job-creation agenda that is focused on knowledge-based industries of the future, such as energy, aerospace, biosciences, information technology and tourism; initiated sweeping K-12 education reforms to give Colorado children the skills and knowledge they need to compete and succeed in a 21st century global economy; and, improved access to quality and affordable health care for many of the 800,000 Coloradans who lack health coverage.

Bill served as Denver's District Attorney from 1993 to January 2005. He earned a national reputation as one of the country's most effective and innovative prosecutors, and several of his programs continue to serve as state and national models.

The sixth of 12 children, Bill was raised on a small farm in Arapahoe County. He was a member of the first graduating class of Gateway High School (1974), and he earned his bachelor's degree in political science from Colorado State University (1978) and his law degree from the University of Colorado (1981).

Bill is married to Jeannie, and before his serving as District Attorney, he and Jeannie operated a food distribution and nutrition center in Zambia. They have four children; August, Abe, Sam, and Tally.



Dr. Phillip H. (Pete) Stark, Vice President, Industry Relations, IHS CERA

Pete Stark is Vice President of Industry Relations for IHS CERA in Englewood, Colorado. Prior to joining IHS in 1969, Dr. Stark was an exploration geologist

for Mobile Oil. Dr. Stark has authored papers on E&P databases, hydrocarbon shows, horizontal drilling, US natural gas, global oil and gas resource, global E&P trends, giant fields, and unconventional O&G plays. He serves on the boards of the AAPG International Pavilion and the Western Energy Alliance. He also serves on the AAPG Corporate Advisory Board and Resources Committee. Previously, he was Chairman of the Board of Visitors for the University of Wisconsin Department of Geology and Geophysics. Dr. Stark holds a B.Sc. in geology from the University of Oklahoma and M.Sc. and Ph.D. degrees from the University of Wisconsin. The University of Wisconsin Department of Geology and Geophysics honored Dr. Stark's contributions to the University and profession with a Distinguished Alumni Award.



Dr. Robert Stoner, Associate Director of the MIT Energy Initiative/Executive Director of the MIT-Tsinghus-Cambridge Low Carbon Energy University Alliance, Massachusetts Institute of Technology,

Cambridge MA

After earning his Ph.D. in condensed matter physics at Brown University in 1992, Dr. Stoner joined the Microprocessor Development Group at Intel Corporation.In 1995,he formed Cooper Mountain Corporation, which developed the first commercial instruments to incorporate ultrafast pulsed lasers. These instruments, based on the picosecond ultrasonic method which he co-invented, are now extensively used to characterize computer chips during production. Hesubsequently foundedVinestone Corporation, a UK-based peerto-peer database and workflow software developer. Dr. Stonerlater held a number of senior executive positions and served as Chairman of the Technical Advisory Board at Zygo Corporation, a developer of precision optical systems and instruments for the global consumer electronics, aerospace and semiconductor industries. Dr. Stoner received a Bachelor of Science degree in Engineering Physics from Queen's University, Canada. He was a National Science and Engineering Research Council of Canada Scholar, and holds US patents in the fields of semiconductor devices, optical measurement and imaging systems, optical devices, network computing, and acoustics. His current technical interests include high resolution imaging techniques, distributed computing, and energy distribution and storage technology and policy for developing countries.



Heidi VanGenderen, Director of National and Regional Outreach, American council on Renewable Energy

Heidi VanGenderen currently works as

the Director of National and Regional Outreach for the American Council on Renewable Energy (ACORE) where she is part of the policy team and is oversees the regional outreach program, along with specific forums for member and community engagement such as an upcoming series that will examine creation of a viable utility business model for the 21st century. Previously, she served as a Senior Energy Advisor to the Worldwatch Institute where she was part of the Energy and Climate team. A Colorado native, Heidi previously served as Colorado's first gubernatorial climate advisor where she oversaw creation of the state's first Climate Action Plan. She was a core team member in passage of Amendment 37, Colorado's citizen initiated renewable energy standard. She has worked on energy and climate policy and education in the non-profit, public, academic and private sectors as an organizer, writer, researcher, and educator for the whole of her professional career. Thanks to the British Foreign Commonwealth Office, she completed a Chevening Fellowship on Finance and Investment in a Low-Carbon Economy in Edinburgh and London in 2009 and is a graduate of Carleton College.



Doug Vilsack, Attorney, DGS Law, Elephant Energy

Doug Vilsack is an attorney in the Environmental Group where his practice focuses on complex CERCLA hazardous waste litigation, Western water resource

matters, public land and tribal law, and issues relating to climate change and renewable energy. Prior to joining the firm in 2008, Mr. Vilsack worked extensively in Africa and South America on projects involving land reform, renewable energy and sustainable development. Recently, he has been involved in a number of natural resources matters, including:

..Representing a mining company in settlement negotiations and litigation involving CERCLA claims against the United States government

...Representing a major corporate landowner in efforts to quantify groundwater rights in Western and Plains states

.. Assisting a company to evaluate potential CERCLA, RCRA and state law violations at acquired agricultural chemical sites.

Mr. Vilsack brings an important international perspective to the firm

Mr. Vilsack brings an important international perspective to the firm and his clients, giving him unique insight into global issues such as climate change and land use. He has worked extensively overseas, including stints in Geneva, Switzerland, Mount Vernon, Jamaica, Katima Mulilo, Namibia, and Quito, Ecuador. In addition to his legal practice, Mr. Vilsack continues to work to promote renewable energy development in Africa as the founder of Elephant Energy, a non-profit organization.

During law school at the University of Colorado School of Law, Mr. Vilsack worked with the Center for Energy and Environmental Security (CEES) to author a report analyzing international and domestic emissions trading systems. The report provided recommendations to prepare the state of Colorado and local corporations for regional or national Carbon dioxide regulation. It was presented to both houses of the Colorado Legislature. In addition to his work in Colorado during law school, Mr. Vilsack studied natural resource issues at the University of Cape Town in South Africa. He also spoke on a variety of topics, including: ...Numerous presentations relating to emissions trading, African wildlife conservation and toxic tort law in developing countries, given at the University of Colorado School of Law ...Democratic Party platform issues, as a surrogate speaker and debater for Hillary Clinton during her 2008 Presidential campaign

..Colorado Carbon Emissions Trading Opportunities, presented to the Pollution Prevention and Advisory Board of the Colorado Department of Public Health and Environment

Mr. Vilsack received his B.A. from Colorado College where he majored in Environmental Systems: Resource Management. He received distinguished thesis honors for his research on Antarctic tourism regulation. He also studied environmental science at Columbia University's Biosphere II in Oracle, Arizona and international law with the School for International Training in Geneva, Switzerland. After college, Mr. Vilsack founded a non-profit organization dedicated to turning out the youth vote in the 2004 Presidential Election. The group sponsored an expedition to paddle the entire 2300-mile length of the Mississippi River by canoe and registered over 2000 young voters.



Dr. Bryan Willson, Co-Founder, Envirofit and SolixBiofuels

Dr. Bryan Willson is a Professor of Mechanical Engineering at Colorado State University (CSU) and has worked

for over 25 years to develop large-scale solutions for global energy needs. He serves as Director of CSU's Clean Energy Supercluster (www.Energy.ColoState.edu), an academic unit of over 120 diverse faculty members working to develop and disseminate clean energy solutions. He is co-founder of Solix Biofuels (www.SolixBiofuels. com), a developer of large-scale production systems for algae-based biofuel, and Envirofit International (www.Envirofit.org), a global company distributing clean energy solutions in the developing world. In June 2009, Scientific American named him to its inaugural list of the "Scientific American 10" -ten individuals who have made significant contributions to "guiding science to serve humanity" on a global basis; in August 2009, he was awarded the Maurice Albertson Medal for Sustainable Development (Albertson was the architect of the Peace Corps); in 2008 he received the Royal Award for Sustainability from the governments of Denmark and Spain.

