

A stylized sun logo composed of several horizontal, overlapping brushstrokes in shades of yellow and orange, creating a sense of motion and energy.

# ENERGY AFRICA

November 7-8, 2013  
Colorado School of Mines  
Golden, Colorado  
[www.energyafricaconference.com](http://www.energyafricaconference.com)



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# STATE OF COLORADO

## EXECUTIVE CHAMBERS

136 State Capitol  
Denver, CO 80203 - 1792  
Phone (303) 866-2471



John Hickenlooper  
Governor



November 7, 2013

Greetings:

It is my pleasure to welcome you to Colorado for the 2013 Energy Africa Conference.

Access to affordable, reliable, and clean energy is essential to Africa's economic growth. By bringing together some of the best minds in the energy technology area, this conference has the extraordinary potential to foster creative opportunities for sustainable development across Africa. We are confident that the thriving spirit of innovation and collaboration that exists in Colorado makes our state the perfect venue for this type of dialogue.

Once again, welcome to Colorado for this important event. We wish the best for a memorable and meaningful conference and hope you enjoy your stay in Colorado. You have my best wishes, both now and in the years to come.

Sincerely,

A handwritten signature of John Hickenlooper in black ink.

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## **Welcome to Colorado and the 2013 Energy Africa Conference.**

Colorado is one of the leading states in the nation in developing and disseminating clean energy policies and practices. We hope to share this experience with the conference participants.

Holding the conference in Golden at the Colorado School of Mines and adjacent to the National Renewable Energy Laboratory is ideal as these institutions are home to some of the best minds and students in the energy technology area. Colorado is also a focal point for many companies active in the responsible development of natural gas resources.

Access to affordable and cleaner energy is essential to accelerating economic development of countries in Africa and enhancing the living standards of their citizens. The synergy between renewable energy technologies and the unexploited extensive natural gas resources promises a cost effective, environmentally friendly and sustainable approach for Africa to meet its energy needs. The Energy Africa Conference brings together business executives and thought leaders from the public, non-government organizations and research institutions to discuss and encourage work needed to leverage the synergy between natural gas and renewable energy sources in Africa.

We hope this conference inspires you to think bigger and more broadly about energy related opportunities, to expand your horizons, to grow your businesses and to help make the world a better place.

We want to express our appreciation to the Colorado School of Mines and its President Dr, Bill Scoggins for their hospitality and allowing us to hold the conference at Mines. We hope to expand and continue this partnership in the future.

We would also like to thank our sponsors for their generous support without which this conference would not be possible.

Energy Africa Conference Committee

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## **DAY ONE THURSDAY, NOVEMBER 7**

### **All Day Registration**

#### **7:30-8:30 AM: Breakfast/Networking Coffee**

#### **8:00-8:25 AM: Welcoming Remarks**

Dr. Luka Powanga, Professor, Regis University; Founder and Vice Chair, Energy Africa Conference

Paul Washington, Executive Director of the Denver Office of Economic Development

Fred Julander, President, Julander Energy and Conference Chair

Jeff Ackerman, Director, Colorado Energy Office

#### **8:25-8:45 AM: Introduction and Overview: Meeting Africa's Energy Needs By Leveraging the Synergy Between Gas and Renewable Energy Sources**

This session describes the vision for the conference. Gas and renewables are rapidly becoming significant factors in utility scale, industrial and urban grid connected applications. In small scale, off grid applications, renewable technologies such as photovoltaic systems and wind are having rapid and immediate impacts. Small scale biogas and liquid petroleum gas systems offer affordable and cleaner approaches to cooking. Micro grids and mini grids are emerging as an approach to combine multiple electric loads to meet essential needs in rural areas. Expansion of the utility grid serving urban and industrial will be required. Gas and renewables in combination promise a cost effective and sustainable approach to meeting Africa's future energy needs. The implications of the newly launched US Power Africa Initiative for this vision will also be introduced

**Speakers:** David Posner, President EnVent Energy LLC, and Conference Vice Chair

Dr. Luka Powanga, Professor, Regis University; Founder and Vice Chair, Energy Africa Conference

#### **8:45-9:15 AM: Keynote Speaker: Ambassador Liberata Mulamula, Tanzanian Ambassador to the United States**

#### **9:15-10:45 AM: Session 1- The Future for Sustainable Energy**

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More than 50 countries have endorsed the goals of the UN's Sustainable Energy for All initiative. Throughout sub-Saharan Africa, there remain hundreds of millions of people who lack access to basic energy services – creating devastating social, environment, and economic repercussions. This session will discuss the roles that renewables and gaseous fuels can play in meeting the ambitious objectives of universal access to energy by 2030.

**Moderator:** Dr. Andrew Yager, Senior Advisor, Renewable Energy Advisory Services, NORPLAN

**Panelists:** Dr. Morgan Bazilian, Deputy Director , Joint Institute for Energy Analysis

Dr. Youba Sokona, Special Advisor on Sustainable Development, South Center  
Dr. Ogunlade Davidson, former Minister of Energy and Water Resources, Sierra Leone

Paula R. Jackson, President & CEO, American Association of Blacks in Energy  
Minoru Takada, Senior Policy Advisor on Energy, United Nations

### **10:45-12:15 PM: Session 2- Transformation in the Utility Scale Energy Landscape- Renewables and Gas**

New large scale projects are emerging that illustrate how renewables (wind, solar, hydro, and geothermal) and gas can become a significant generation source for the utility grid. This session highlights the comparative attributes of utility scale natural gas and renewable generation assets, including risk profiles, development time frames, and economics. What policy contexts enable or constrain the development of these resources? How does the emerging availability of natural gas complement and compete with renewables?

**Moderator:** Alice Madden, Principal Deputy Assistant Secretary of Intergovernmental Affairs and External Relations, Department of Energy

**Panelists:** David Maloney, Vice President Sales and Project Finance, GE Capital Markets

Dr. Kate Steel, Associate, Energy and Sustainability Team, Google.org  
Arnaud Braud, Infrastructure Finance Specialist, The World Bank

### **12:15-1:30 PM: Lunch: Keynote Speaker: Ambassador Irene Giner-Reichl, Austrian Ambassador to China and Mongolia and President Global Forum on Sustainable Energy**

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### **1:30-2:30 PM: Session 3- Small Scale Renewables-The Evolving Market and Business Opportunities**

Many companies are having significant success developing markets for small scale renewable applications. From photovoltaic systems to biogas to wind and energy efficient stoves, this segment is vibrant and growing. This session continues to follow the experiences of companies that are demonstrating that meeting energy needs in new and sustainable ways is good for business and for the growing numbers of customers served.

**Moderator:** Ravi Malhotra, President and Founder, ICAST

**Panelists:** Ron Bills - Chairman and Chief Executive Officer, Envirofit  
Steve Kosteros – Chief Executive Officer, Nokero  
Dr. Ogunlade Davidson, former Minister of Energy and Water Resources, Sierra Leone  
Paul Hueper, Director, Energy Programs, US Department of State's Bureau of Energy Resources  
Dan Murphy, Manager, Lighting Africa, The World Bank

### **2:30-3:30 PM: Session 4-Energy Efficiency**

This is often a neglected sector in the energy discussion when it should be on the top of the list because it is the cheapest energy source of all. Energy Efficiency is also integral to many of the renewable energy applications such as solar water pumping (without an efficient pump, solar pumping is not feasible) or solar lanterns (without energy efficient LED lights that application falls apart). Efficiency is also a critical part of the cook stoves market.

**Moderator:** Ravi Malhotra, President and Founder, ICAST

**Panelists:** Dr. Francis D Yamba, Professor and Director, Center for Energy Environment and Engineering  
Dr. Andrew Yager, Senior Advisor, Renewable Energy Advisory Services, NORPLAN  
Dr. Moncef Krarti, Professor, Department of Civil, Environmental, and Architectural Engineering, University of Colorado

### **3:30-5:30PM: Session 5- New Developments in African Natural Gas Supplies and Markets**

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This session will highlight ongoing projects where natural gas development is changing the energy supply outlook in Africa. Companies are moving projects from exploration to development. Along with these projects come extensive political, social and economic changes in the countries and regions impacted. Balancing the project requirements for large scale market outlets while beginning the process of developing domestic market needs is particularly important. Through project examples, this session will illustrate how natural gas projects are opening new opportunities for economic development and to supply a significant portion of Africa's growing energy needs.

**Moderators:** Fred Julander, President, Julander Energy and Conference Chair  
James Emme, Executive Vice President, Endeavour Corporation  
David Posner, President EnVent Energy LLC, and Conference Vice Chair

**Panelists:** Jim Demarest, Vice President, Global Frontier and New Venture Exploration, Noble Energy, Inc.

Mutiu Sunmonu, Managing Director of the Shell Petroleum Development Company of Nigeria Limited (SPDC), Vice President Production (Sub Sahara Africa)

Country Chair, Shell Companies in Nigeria.

Andrew Cochran, Former Chief Executive Officer, Dominion Petroleum, Ltd

Dr. Azra Tutuncu, Harry D. Campbell Chair and Director, The Unconventional Gas Institute, Colorado School of Mines

**5:30-6:30 PM     Networking Reception**

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## DAY TWO FRIDAY, NOVEMBER 8

### All Day Registration

#### 7:30-8:30 PM: Breakfast/Networking Coffee

#### 8:00-8:25 AM: Welcoming Remarks

Dr. Luka Powanga, Professor, Regis University; Founder and Vice Chair, Energy Africa Conference  
Dr. Barry Martin, Director-Special Programs For Continuing Education (SPACE), Colorado School of Mines  
Dr. Bill Scoggins, President, Colorado School of Mines

#### 8:00-9:30 AM: Session 6- Developing Networks and Policies For Gas and Renewables

As access to new supplies of natural gas expands, the networks and policies to develop the infrastructure and markets to take advantage of these supplies need to be developed. This session examines the challenges of establishing the framework for successful development and use of natural gas in industry and power generation. How natural gas interfaces with renewable supplies including hydro resources will also be considered.

**Moderator:** Dr. Robert Stoner, Deputy Director of the MIT Energy Initiative, co-Director of the Tata Center for Technology and Design, and Conference Vice Chair

**Panelists:** Michael Farina, Fuels Market Intelligence Leader, General Electric  
Leonard Crook, Vice President, Natural Gas Practice, ICF International  
Kenneth Strzepek, Research Scientist and Professor Emeritus, Massachusetts Institute of Technology

#### 9:30-10:45 AM: Session 7-Micro Grid Power and Rural Electrification

Micro grids (off-grid solutions) promise to be an ideal solution to Africa's energy access problems especially in rural areas where electricity supply may be limited or erratic. In urban areas where electricity transmission may be inefficient, micro grids could be integrated in the distribution system to serve critical infrastructures such as hospitals, water treatment plants and data centers during power outages. In addition renewable power sources, and the technology to control and produce "utility grade power" using renewable generation, is available in micro grids. The incorporation of renewables into a micro grid help these critical power users become green power users. This



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session will discuss the demonstrated and operational micro grids focusing on the lessons learned, challenges, and the role of micro grids in meeting rural electrification objectives.

**Moderator:** Dr. Luka Powanga, Professor, Regis University; Founder and Vice Chair, Energy Africa Conference

**Panelists:** Dr. Spero Mensah, President & Chief Executive Officer, JEM Smart LLC

Dr. Lawrence Jones, Vice President, Regulatory Affairs, Policy and Industry Relations, Astom Grid

Dr. Lakshman Guruswamy, Professor, Internal Law, University of Colorado

Dr. Kenneth Jennings, Managing Director, K2J Environmental

Dr. Tjama Tjivikua, Professor and founding Rector of the Polytechnic of Namibia

### **10:45-12:30 PM: Session 8- Power Africa and Business Opportunities**

The United States launched the Power Africa initiative to help Africa increase the supply of cleaner, affordable and reliable energy by more than 10,000 megawatts. Join the experts in discussing how your organization can get plugged into this unique initiative and the role of partnerships in increasing energy access in Africa.

**Moderators:** Dr. Luka Powanga, Professor, Regis University; Founder and Vice Chair, Energy Africa Conference

Dr. Robert Stoner, Deputy Director of the MIT Energy Initiative, co-Director of the Tata Center for Technology and Design, and Conference Vice Chair

**Panelists:** Christian Burgsmüller, counselor, European Union Delegation to the United States

Melvin Foote, President and Chief Executive Officer, Constituency for Africa

Michael D Masserman, Executive Director, US Department of Commerce

Alexander Ochs, Executive Director, World Watch Institute

Maryamu Aminu, Assistant Director for the U.S. Government Relations, ONE.org

Paul Hueper, Director, Energy Programs, US Department of State's Bureau of Energy Resources

Kamran Khan, Vice President, Millennium Challenge Corporation

### **12:30-1:30 PM: Lunch: Keynote Speaker: Ambassador Palan Mulonda, Zambian Ambassador to the United States**

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## **1:30-2:45PM: Session 9-Capacity Building**

None of the energy developments will benefit Africans as much as they could if the local population had the education and training to execute on these projects themselves rather than depend on outsiders. The local population gaining the ability to design, develop, engineer, procure materials, and construct the energy projects will magnify the impact of these projects. Also, as has often been the case, well intentioned projects lie waste soon after the installers have gone back to their country due to lack of the ability of locals to properly maintain the operate them. Capacity building in the form of education and training in the relevant technical and business subject matter is critical to the long term sustainability of any efforts to bring energy access to all in Africa.

**Moderator:** Robert Youngberg, President, Sustainable Development International

**Panelists:** Teshome Alemneh, Program Officer, Africa, Higher Education for Development (HED)

Dr. Helena Chum, Research Fellow, National Bioenergy Center-National Renewable Energy Laboratory (NREL)

Melvin Foote, President and Chief Executive Officer, Constituency for Africa

Ravi Malhotra, President and Founder, ICAST

Paula R. Jackson, President & CEO, American Association of Blacks in Energy

## **2:45-4:00 PM: Session 10-Investment Risk in Energy Development Projects**

Whether working in developing or developed countries, companies must consider a variety of risks that could potentially undermine their investments. Political risks encompass governmental, economic, social, resource, and security risks. For example, companies may be vulnerable to nationalization, changes in government, local protests, ethnic conflict, and health risks for their employees, high crime rates, water scarcity due to climate change, and local or international terrorist attacks. This panel considers what types of risks companies might face when engaging in energy projects in Africa, ways to mitigate these risks, and types of risk insurance available to businesses.

**Moderator:** Dr. Kathleen Hancock, Associate Professor, Colorado School of Mines

**Panelists:** Dr. Kate Neville, Post Doctoral Fellow, Duke University

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Hon. Jesca Eriyo, Deputy Secretary General, East African Community  
Chris Valentine, Owner, Bonwich Capital Partners  
John Works, Senior Energy Manager, Engility-IRG  
Chinesom Ejiasa, Director, Private Equity, Overseas Private Investment Corporation

#### **4:00-5:00 PM: Session 11-Energy Policy, Leadership and Closing Remarks**

As a new generation of leaders emerges in many African countries, it is important they are getting access to information on the opportunities that renewables and gas together offer for energy and economic development. This session will be a dialogue between current and new leaders to discuss how to further this agenda.

**Moderators:** Dr. Luka Powanga, Professor, Regis University; Founder and Vice Chair, Energy Africa Conference  
Dr. Robert Stoner, Deputy Director of the MIT Energy Initiative and Conference Vice Chair  
Fred Julander, President, Julander Energy and Conference Chair

**Panelists:** Michael E. McKelvy, President and Division Chief Executive, Ch2MHill  
Hon. Jesca Eriyo, Deputy Secretary General, East African Community  
Ambassador Liberata Mulamula, Tanzanian Ambassador to the United States  
Ambassador Palan Mulonda, Zambian Ambassador to the United States

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## Speakers



### **Ambassador Irene Giner-Reichl: Ambassador to China and Mongolia, Austria**

Irene Giner-Reichl is the Austrian ambassador to the People's Republic of China and Mongolia and the President of the Global Forum on Sustainable Energy. She has worked in Austria and abroad occupying various positions. She worked in Egypt and New York in Foreign Service for Austria and was the deputy head of mission, and later headed the Austrian mission to the United Nations. She represented Austria at the United Nations Economic and Social Council. Other positions include head of unit for International Women's Issues, head of the department for multilateral social affairs, Alternate Permanent Representative of Austria to the United Nations in Vienna, head of the International and European union Affairs Department at the Ministry for the Environment, Youth and Family Affairs, Permanent Representative of Austria to United Nations Industrial Organization (UNIDO), the International Atomic Energy Agency, the United Nations Office in Vienna and the Preparatory Commission for the Comprehensive Nuclear-Test-Ban Treaty Organization (CTBTO), Assistant Director-General for United Nations (UN Affairs, Director of the UNIDO office in New York and Minister-Plenipotentiary in the Department for Development Cooperation, Ministry of Foreign Affairs, Vienna.

She served as Director-General for Development Cooperation and the Ministry for the European and International Affairs in Vienna, prior to being appointed the Austrian Ambassador to the People's Republic of China and Mongolia.

The ambassador is active in energy issues. She has chaired/convened a variety of workshops such as "Fostering the Linkage between Energy and Sustainable Development within the International Institutions", "International Expert Meeting on Renewable Energy", "The EU Expert Group on Energy and Sustainable Development.

She was on the Board of the World Energy Council (WEC) for the revision of „Energy for Tomorrow's World“, and the panel for the World Energy Assessment, jointly hosted by the United Nations Economic and Social Affairs, the United Nations Development Program and the World Energy Council.

She has also lectured on a variety of issues. Her degrees include a Mag. Phil and Juris Doctorate from the University of Innsbruck in Austria and a Masters of Arts from Fordham University in New York.



### **Melvin Foote: President and Chief Executive Officer, Constituency for Africa**

Mr. Melvin P. Foote has worked on African issues for more than 35 years. He is the Founder, President and CEO of the Constituency for

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Africa, (CFA), a 20-years old Washington, D.C.-based network of organizations, groups and individuals committed to the progress and empowerment of Africa and African people worldwide. CFA's mission is to build public and private support for Africa, and to help shape U.S. policies towards Africa. In 2002 Mr. Foote also founded the African American Unity Caucus (AAUC), a broad-based coalition of African-American and other Americans of African descent, who lead or are leaders of Africa-focused organizations and groups – to promote Pan-African cooperation and to link Diaspora leaders in the Western Hemisphere with the African Union (AU), as part of their “sixth region” outreach initiative. Further, he serves as a consultant to the World Bank on African Diaspora issues as well as advises the African Union’s Ambassador to the United States.

Mr. Foote has traveled and worked extensively in more than thirty African countries. To start his career, from 1973 – 1976, he went to Eritrea and Ethiopia as a U.S. Peace Corps Volunteer and teacher. From 1981-1984, he served as Africare’s Representative in Somalia, where he designed and managed a number of projects and programs that addressed issues of refugee assistance and rural development. From 1984-1994, he was assigned to Africare’s Washington headquarters as their Director of Development Education and Constituency Development, which eventually led to the founding of the Constituency for Africa.

Mr. Foote has participated in numerous high-level missions to Africa, including as a participant on a White House delegation to assess the impact of the genocide in Rwanda in 1994; as a Member of a high profiled team of former Peace Corps Volunteers, that sought to end the war between Ethiopia and Eritrea in 1998; as a member of a Presidential mission to five African countries in 1998 to promote U.S. trade with Africa and the African Growth and Opportunity Act; as the leader of a mission to reach a comprehensive peace agreement in Sudan in 2001; and as the leader of a delegation to South Africa in 2003 to assess the New Partnership for African Development (NEPAD), a continent-wide initiative to promote economic integration and development. In December 2010, Mr. Foote traveled to Senegal and Gambia at the behest of the State Department, to address young African leaders on U.S. – African relations.

Mr. Foote is the recipient of numerous high level awards and recognitions including the “Ordre National du Lion” Award in 1998, which is a prestigious public service honor from the Government of Senegal, and the Congressional Black Caucus 2001 Annual Legislative Conference’s Diggs Award for Foreign Affairs in recognition of his outstanding commitment and achievement on issues and concerns pertaining to Africa. In the summer of 2011, Mr. Foote was named by Western State College of Colorado, as part of the schools Centennial Celebrations, as one of the “top 100 Westerners” in the history of the school.

Mr. Foote is a regularly requested speaker on radio and television as well as a prolific writer of articles and editorials featured in newspapers and magazines across the United States and in Africa.



**H.E. Liberata Mulamula: Ambassador to the United States, Tanzania**

Ambassador Liberata Mulamula before her appointment as Tanzania Ambassador and Extraordinary to the United States of America was Senior Personal Assistant of the President of the United Republic of Tanzania from March 2012.

Before that she served as the first Executive Secretary of the International Conference of the Great Lakes Region (ICGLR) with headquarters in Bujumbura, Burundi, from 2006-2011. She also served at the Tanzania High Commission to Canada and Permanent Mission to New York as Minister Plenipotentiary and Head of Chancery from 1999 to 2003 respectively before being appointed Ambassador and Director of Multilateral Cooperation in the Ministry of Foreign Affairs of Tanzania, the post she held up to the year 2006.

She was a part time lecturer on the "Art of Negotiations" at the Centre for Foreign Relations in Dar es Salaam, Tanzania and participated in all the Rwandese Peace Talks, Burundi and DRC as part of the Facilitators Team.

Amb. Mulamula is a graduate from St. John's University, New York where she obtained her MA (Government and Politics) and University of Dar-es Salaam in 1980 and 1989 respectively. She is married to George and have two kids, Tanya and Alvin.



**H.E. Palan Mulonda: Ambassador to the United States, Zambia**

Born circa 1972, Mulonda earned an undergraduate law degree (LLB) and a post-graduate certificate in Legislative Drafting at the University of Zambia in 1995 and a Masters degree in

International Law (LLM) at Lund University in Sweden.

A member of the bar of the High Court of Zambia, Mulonda practiced law as a partner at the firm of Palan & George Advocates, specializing in conveyancing and legal drafting, commercial transactions, probate and succession, human rights, and Zambian constitutional law.

Mulonda has worked for the Zambian Ministry of Justice and served as executive director of the Institute of Human Rights, Intellectual Property and Development Trust (HURID), a private human rights organization in Zambia. He served on the Zambian Human Rights Commission, starting as vice-chairman in November 2007. He taught law at the University of Zambia, and served as director of the Zambia Institute of Advanced Legal Education from December 2009 to December 2012.



**Mutiu Sunmonu : Country Chair – Shell Companies in Nigeria, Managing Director – Shell Petroleum Development Company Limited-Nigeria and Vice President Production – Sub Sahara Africa**

Mutiu Sunmonu is Managing Director of the Shell Petroleum Development Company of Nigeria Limited (SPDC), Vice President Production (Sub Sahara Africa) and Country Chair of Shell Companies in Nigeria.

He graduated from the University of Lagos in 1978 with a first-class degree in Mathematics and Computer Sciences. He joined the IT department of Shell in Nigeria where he held various roles before being posted abroad.

Following three years in Aberdeen at Shell UK, he returned to Nigeria in 1993 to become Head of IT Infrastructure Services and in 1995 he became IT Manager for the Shell Petroleum and Development Company. In 1997 he moved to the core production side of the business as an area production manager. In 2001 he worked as Regional Business Adviser at Shell Headquarters at The Hague, in the Netherlands where he helped develop the initial investment proposal for the China West-to-East integrated pipeline and gas supply project. Returning to Nigeria in 2003, Mutiu was appointed General Manager Production for SPDC Eastern operations. Two years later, he joined the Board of SPDC following his appointment as Executive Director Corporate Affairs and then Executive Director Production in 2006 with overall accountability for the company's oil and gas production activities and delivery.

He was appointed Managing Director of SPDC and Vice President Production on 1 January 2008. In January 2010, Mutiu was appointed Country Chair of Shell Companies in Nigeria.

He is married to Funke and they have four children. Mutiu's hobbies include golf and reading (especially autobiographies). He is a member of the Nigerian Society of Engineers, the Nigeria Association for Energy Economics and in his spare time enjoys educating and imparting knowledge.



**Hon. Jesca Eriyo: Deputy Secretary General, East African Community-Tanzania**

The 10th Extraordinary Summit of the East African Community Heads of State meeting in Arusha on 28 April 2012 appointed Hon. Jesca Eriyo – Deputy Secretary General (Productive Social Sectors), effective 30 April 2012. Hon. Eriyo brings to this position a formidable record of leadership experience that spans more than a

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decade, having served in fields ranging from education, business management and community development to politics. Her time as a politician includes 10 years as a Woman Member of Parliament for Adjumani District in northern Uganda (2001-2006, 2006-2011) and as a Minister of State for Environment (2006-2011).

Hon. Eriyo has also previously worked as a teacher and is a founder member and active participant in various community development initiatives as well as regional and international non-governmental organizations.

Her undergraduate academic training is in the areas of education and social sciences while her postgraduate training is in the fields of democracy and development studies. To date she is a member of the Board of Trustees - Africa Leadership Foundation (AFRICAF) and a member of the Uganda Chapter of the AMANI Forum (Great Lakes Region), to name but only two.



**Michael E. McKelvy: President and Division Chief Executive, Government, Environment and Infrastructure Division - CH2MHill**

Michael McKelvy is President of CH2M HILL's Government, Environment & Infrastructure Division. Currently, he has profit/loss and leadership responsibilities for the division including the Government Facilities & Infrastructure, Environmental

Services and Nuclear Business Groups. As part of CH2M HILL's Operations Council, Mr. McKelvy supports the firm's leadership in sustainability, ethics, safety, quality and diversity.

Since joining CH2M HILL via the Lockwood Greene acquisition in 2003, Mr. McKelvy has served as President and Group Chief Executive for the Industrial Client Group and President for the Manufacturing and Life Sciences Business Group. Between 1988 and 2003, he served in a variety of roles for Lockwood Greene such as the Geschäftsführer for Lockwood Greene GmbH in Germany and Director of Southeast and Southwest US Operations.

Mr. McKelvy has project execution and construction experience world-wide in over 20 countries and in such industries as Life Sciences, Electronics, Manufacturing, Foods & Beverages, Consumer Products, Chemicals, Metals, and Automotive. In addition he has experience in the DOE, COE, DOD and NRC government sectors.

**Previous Experience**

Prior to his association with Lockwood Greene, Mr. McKelvy served 7 years with C. H. Guernsey & Co. in Oklahoma City as Project Manager and Project Architect focusing primarily on projects for the COE, REA and DOD. Prior to Guernsey, he



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worked in Shreveport, Louisiana for AAM Architects for 4 years.

#### Professional & Civic Affiliations

A native of Shreveport, Louisiana, Mr. McKelvy is active in various civic and business organizations. He is a Registered Architect in 25 states and an active member of multiple professional societies and organizations.

#### Education & Board Experience

Mr. McKelvy received a bachelor's of science in environmental design from Oklahoma University, and a bachelor's of architecture from Louisiana Tech University. He has completed programs for Leadership South Carolina, Foundations of Leadership and Executive Finance Course.

Currently he serves on the CH2M HILL Strategic Planning, Executive, Incentive Compensation and Audit Board of Directors committees.



#### **Paul Washington: Executive Director, Office of Economic Development**

Paul Washington is the Executive Director of the Denver Office of Economic Development. Prior to that, Paul was the president of LJS Holdings LLC, a leading finance advisory firm that specializes in international mergers, acquisitions and investment banking. LJS Holdings represents a select group of clients, including companies in Kuwait, India and Germany. Paul is also an adjunct professor at the University of Colorado in Boulder, where he teaches a graduate course in Business Planning.

Paul began his professional career as an attorney at the law firm of Hogan Lovells, specializing in large merger and acquisition transactions. Paul holds a Series 7, 24 and 28 securities license and is a member of the California and Colorado Bar Associations. He was appointed by Colorado Governor John Hickenlooper to the University of Northern Colorado Board of Trustees in 2012 and to the board of directors of the Colorado Housing and Finance Authority in 2013.

In 1991 Paul earned his B.S. in business (finance) from the University of California at Berkeley and in 1996 received his JD from that institution's Boalt Hall School of Law, where he was president of the graduate student body. He also earned his L.L.M. in Taxation from the University of Denver in 2012. Paul currently resides in Boulder, Colorado with his wife Nadia.



#### **Dr. Bill Scoggins: President, Colorado School of Mines**

Dr. M. W. (Bill) Scoggins was appointed as the 16th president of Colorado School of Mines in June 2006. Prior to coming to

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Mines, Dr. Scoggins had over 34 years of experience in the global oil and gas business with Mobil and ExxonMobil. He was President of International E & P and Global Exploration and a member of the Executive Committee of Mobil Oil prior to its merger with Exxon in late 1999. Following the merger, he served as Executive Vice President of ExxonMobil Production Company until his retirement in 2004. Dr. Scoggins currently serves on the Board of Directors for Questar Corporation, Trico Marine Services, Inc., Venoco, Inc., and Cobalt International Energy. In addition, he is a director of the Colorado Oil and Gas Association and a member of the National Advisory Council of the United States Department of Energy's National Renewable Energy Laboratory.



**Michael Masserman: Executive Director, US Department of Commerce**

Michael Masserman serves as the Presidentially appointed Executive Director for Export Policy, Promotion, and Strategy at the U.S. Department of Commerce. Michael is charged with leading Commerce and government-wide efforts to implement the National Export Initiative (NEI), which President Obama laid

out in his 2010 State of the Union Address with the goal of doubling exports by the end of 2014.

In addition to helping drive a “whole of government” approach to the NEI, Michael coordinates closely with private-sector companies, trade associations, chambers of commerce, and institutions such as Brookings, on advancing global trade and export policies and priorities.

Prior to his current role, Michael served as the Director of the Office of Advisory Committees within the Department of Commerce, where he managed over 20 different committees, including the President's Export Council, that advise the President, Secretary of Commerce and the USTR on the formulation and implementation of trade policies.

Michael began his career practicing international corporate law at Simpson Thacher & Bartlett in New York, where his focus was primarily on domestic and cross-border capital markets and securities transactions. After a number of years at Simpson Thacher, he moved to Sydney, Australia, where he worked at the law firm Mallesons Stephen Jaques and specialized in international mergers and acquisitions as well as international corporate finance.

Michael took a leave of absence from Mallesons to join the Obama campaign in 2008, where he worked on the political, field and constituency teams in a number of states. After the campaign, he worked as a business development consultant for a start-up company where he primarily worked on enhancing

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their global supply chain strategy. Michael received his B.A. with distinction from the University of Michigan and his J.D. cum laude from University of California, Hastings College of the Law.



**Arnaud Braud: Infrastructure Finance Specialist, World Bank**

Arnaud is an Infrastructure Finance Specialist at the World Bank in Washington DC. He works with governments and private sponsors to structure financial instruments (such as guarantees) to enable energy projects in Sub-Saharan Africa. His experience covers various sizes of public and PPP projects, and various technologies, particularly gas and hydropower. Arnaud has a masters in Finance and Strategy and about 8 years of experience internationally, particularly in West and Central Africa.



**Christian Burgsmüller: Legal Counselor, European Union**

Dr. Christian Burgsmüller is a career EU diplomat with the European External Action Service (EEAS) and currently serves as counselor at the EU Delegation to the United States in Washington D.C., where he heads the Energy, Transport and Environment Section. Having studied law in Freiburg im Breisgau, Geneva and Cologne, Dr. Burgsmüller worked as a trainee solicitor in Düsseldorf, Brussels, Cologne and Buenos Aires before passing the German bar exam in 2000. He then joined the European Commission in Brussels as a career official. Over the following six years he held posts both in the commission's Directorate-General for Enterprise and Industry as well as in the Directorate-General for Trade. From 2006 till 2010 he headed the Political, Economic and Public Affairs section of the EU delegation to Brazil in Brasilia. Dr. Burgsmüller holds a Ph.D. in constitutional law from the University of Cologne and has been a visiting lecturer on EU and German politics at Sciences Po Paris and the University of Sao Paulo.



**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

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Brown University and received his Masters degree in Mineral Economics from the Colorado School of Mines.



**Dan Murphy: Manager, Lighting Africa Program, The World Bank**

Dan Murphy has over 15 years of professional experience working on development issues in Africa, with the past decade spent at the World Bank. In his current role, he leads the team supervising the Lom Pangar Hydropower and Kribi Gas Power Projects in Cameroon, both of which are currently under construction. In addition, Mr. Murphy manages Lighting Africa, a joint program with the International Finance Corporation that seeks to offer modern, affordable lighting and improved energy access to communities in sub-Saharan Africa, largely through the use of solar technology. He is also helping the Bank's Africa Energy Group to identify prospective grid-scale renewable investments. Mr. Murphy holds a BA from Bates College and an MA from the Johns Hopkins School of Advanced International Studies.



**Robert Stoner: Deputy Director, MIT Energy Initiative/ Executive, 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. He subsequently founded Vinestone Corporation, a UK-based peer-to-peer database and workflow software developer. Dr. Stoner later 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.



### **Jeff Ackerman: Director, Colorado Energy Office**

Jeff Ackermann has had a long career in state government and in the energy sector. He became the Director of the Colorado Energy Office (CEO) in April 2013 where he oversees the CEO staff, and the organization's many initiatives and programs.

Ackermann's extensive energy experience aids him as he works collaboratively with other state agencies and external stakeholders to design and implement an "all-of-the-above" statewide energy platform.

Ackermann served as a section chief with the Colorado Public Utilities Commission (PUC) from November 2009 through March 2013, overseeing the monitoring and investigation of "emerging issues" likely to affect the regulation of Colorado utilities in the near future. Working with the commissioners and PUC leadership, Jeff developed a special projects group capable of supporting numerous dockets and research initiatives. Prior to his section chief role at the PUC, Jeff served as an advisor to the PUC Commissioners in the area of demand-side management (DSM). Ackermann has worked twice before in the state's energy office; in 1984-1995, and 2004-2007, where he managed the weatherization program.

Ackermann was born in Detroit, Michigan. He has worked in the philanthropic world, and was a product developer for PSCo. He has a Master of Nonprofit Management degree and Bachelor of Arts degree in Environmental Economic Policy.



### **Francis D Yamba: Professor and Director, Centre for Energy Environment and Engineering, Zambia**

Professor Yamba is currently a full professor in mechanical engineering at the University of Zambia with a bias on thermal sciences and energy and environment since 1985, and currently serves as Director at Centre for Energy Environment

and Engineering Zambia (CEEEZ). Has 38 years of experience in teaching, research and development, consultancy, management, engineering applications. Has served as Dean - School of Engineering at the University of Zambia, Executive Director-Technical at INDECO (Industrial Development Corporation), Managing Director of Engineering Services Corporation (ESCO).

Prof F.D Yamba has wide experience in project management and research having supervised and participated in over 40 projects in climate related studies (climate modeling and adaptation analysis, mitigation analysis related to energy and combustion, industry, land use change and forestry, and Clean Development

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Mechanism(CDM) projects development); and energy related studies (energy modeling and planning, and renewable energy and energy efficiency analysis and applications.



**Ogunlade Davidson: Dean of Post-Graduate Studies and Former Minister of Energy-Sierra Leone , University of Sierra Leone**

Since 1993, Ogunlade R. Davidson has been Professor of Mechanical Engineering and is currently the Dean of Post-Graduate Studies at the University of Sierra Leone, and was Dean of the Faculty of Engineering for several years. Internationally, he is Co-Chair of Working Group III of the Intergovernmental Panel on Climate Change (IPCC), and Co-Chair of the Steering Committee of the Global Network on Energy for Sustainable Development (GNESD). Between 2000 and 2003 Dr. Davidson was Professor and Director of the Energy and Development Research Centre (EDRC), at the University of Cape Town, South Africa. Earlier, he was a Senior Fulbright Scholar at the University of California, Berkeley in 1987, and MacArthur Scholar at Princeton University and Lawrence Berkeley Laboratory in the USA in 1990-92. He has been a Visiting Professor at the University of Gothenburg, Sweden, ENDA-TM in Senegal, and at Riso National Laboratory in Denmark. Dr. Davidson has published extensively on African energy systems and policies, power sector reform, renewable energy policy, mitigation of climate change and on national climate change strategy. He has worked as a Consultant for several bodies, including UNESCO, UNIDO, ILO, UNECA, UNDP, UNEP, GEF, UNFCCC, NEPAD, ADB, the World Bank, Batelle laboratories and the Carnegie Corporation of New York. Professionally, he is a Registered Chartered Engineer of the United Kingdom and a Fellow of the African Academy of Sciences and of the Sierra Leone Institution of Engineers.



**Mahama Kappiah: Executive Director, Economic Community Of West African States (ECOWAS) Centre for Renewable Energy and Energy Efficiency-Cape Verde**

Mahama Kappiah has been the Executive Director of the Economic Community Of West African States (ECOWAS) Centre for Renewable Energy and Energy Efficiency (ECREEE) since 1993. He was instrumental in the establishment of the Centre which aims to ensure increased access to reliable, affordable and clean energy in the West African region. Under his leadership, ECREEE has attained international recognition as a unique regional renewable energy and energy efficiency promotion agency in sub-Saharan Africa, with other regional economic Communities such as the East Africa Community (EAC) and the Southern African Development Committee are emulating.

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Prior to the establishment of ECREEE in 2010, Mahama Kappiah was Head of the ECOWAS Energy Division. Some of his achievements include the creation of the West African Power Pool (WAPP) and the ECOWAS Regional Electricity Regulation Authority (ERERA). Before joining the ECOWAS Commission, he worked in the Planning and Development Department of the Volta River Authority (VRA) of Ghana, where he served in various capacities.

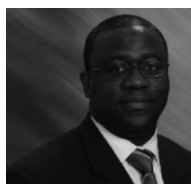
Mahama Kappiah is a member of the REN21 Board. He holds a Master of Science in Electromechanical Engineering from the Kharkov Polytechnic Institute, Karkov, Ukraine. He has over 20 years of experience working on issues related to energy, environment, climate change and sustainable development in West Africa and beyond.



**Luka Powanga: Professor, Regis University; Founder and Vice Chair, Energy Africa Conference**

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.



**Lawrence Jones: Vice President Regulatory Affairs, Policy & Industry Relations, Alstom Grid**

Dr. Lawrence E. Jones has over 20 years of experience in the energy industry. Throughout his career, he has been exploring trends, developing and implementing technology and forward-thinking business strategies for smart-supply, -delivery and -consumption of electricity around the world. He lends his expertise to several key areas including: integration of renewable, smart and clean energy technologies;

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impacts of climate change and societal trends on critical infrastructure utilities (electricity, water and ICT); infrastructure resilience; the applications of emerging technologies to mitigate and adapt to climate change. He joined Alstom Grid in 2000, and is currently North America Vice President for Regulatory Affairs, Policy and Industry Relations. He also serves on the company's global Smart Grid Business Development team. He was previously Director of Strategy and Special Projects, Worldwide, in the Network Management Systems business and led its global Renewable Energy Integration activities.

He served as Director of the Transmission Optimization and Partnering (TOP) which was formed after a series of blackouts in the U.S. and other parts of the world in 2003. Prior to joining Alstom, Dr. Jones was a consultant with ABB Power Systems in Ludvika, Sweden in 1999 and was a visiting scientist at Electricite de France in Clamart, France in 1997. In September 2010, he was appointed by the United States Department of Commerce's National Institute of Standards and Technology (NIST) to a three-year term on the 15-member Federal Smart Grid Advisory Committee. He also serves on the Advisory Boards of several industry conferences and smart grid research programs within the Americas and Europe, and is on the Board of Directors of the Center for Sustainable Development in Africa (CSDA). He is a senior Member of the Institute of Electrical and Electronics Engineers (IEEE).

Dr. Jones was the principal investigator of the 2010/11 Global Survey on Renewable Energy Integration in Power Grids funded by the U.S. Department of Energy. In 2000, he co-founded the International Workshop on Large-Scale Integration of Wind Power and Transmission Networks for Off Shore Wind Farms which has become one of the prominent wind energy conferences held today. He received the Renewable Energy World Network 2012 Excellence in Renewable Award for Leadership in Technology, and the Utility Variable-Generation Integration Group 2012 Achievement Award. He holds patents for technologies that can enhance situational awareness in power system operations, and is Editor of the forthcoming book, "Renewable Energy Integration: Practical Management of Variability, Uncertainty and Flexibility in Power Grids."



**Ravi Malhotra: Founder and President, 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



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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.



**James J Emme: Executive Vice President, North America, Endeavour International Corporation**

Jim Emme is Executive Vice President, North America for Endeavour International Corporation. Endeavour International has exploration and production activities in the UK North Sea and onshore US where Jim oversees the Company's shale gas and tight oil projects. Jim has over 32 years' experience in the oil and gas industry where he has worked in various senior management roles, including 23 years with Anadarko Petroleum. Jim has extensive exploration experience in both domestic and international arenas, including Algeria, North Africa, onshore US, offshore Gulf of Mexico, Canada and Alaska. Jim received a Masters of Geology in 1981 from Colorado School of Mines where he continues to serve on the Visiting Committee and Enhancement Committee for the Department of Geology and Geological Engineering. Jim's family covers the energy spectrum, his wife Kathy is a research associate at CSM supporting Dr. Steve Sonnenberg's shale research consortia, his son Chris teaches outdoor/environmental education and his son David is a Vestas wind turbine technician in Kansas.



**Andrew Yager: Senior Advisor, Renewable Energy Advisory Services  
NORPLAN-NORWAY**

Andrew Yager is a sustainable development advisor resident in Oslo, Norway. He has more than 30 years experience in the public and private sectors as well as academia. He recently retired from the United Nations where he had served as head of the Water, Energy and Strategies Branch in the Division for Sustainable Development. Dr. Yager works on strategy and program development related to sustainable energy access, energy efficiency, alternative energy, and 'smart city' issues. He is currently conducting a formal evaluation of the Global Energy Assessment for the Global Environment Facility (GEF).

Prior to spending 9 years at UN HQ in New York City, Dr. Yager lived in Nairobi, Kenya where he managed a major Industrial Energy Efficiency Project, aimed at increasing sustainable industrial development and decreasing global carbon emissions.

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Prior to joining the United Nations, he was Head of International Development at the Institute for Energy Technology in Norway where he managed the energy and climate change portfolio.

He previously served for 6 years as Renewable Energy and Rural Electrification Advisor to the SADC Energy Sector, while residing in Luanda, Angola for 3 years. Dr. Yager is a Norwegian resident and a Canadian citizen. He received his Ph.D. in Energy Engineering from the University of Colorado at Boulder in 1984.



**Morgan Bazilian: Deputy Director, Joint Institute for Energy Analysis**

Morgan Bazilian is the Deputy Director of the Joint Institute for Strategic Energy Analysis (JISEA). The Institute conducts leading-edge interdisciplinary research and provides objective and credible data, tools, and analysis to guide global energy investment and policy decisions. The institutional partners are the National Renewable Energy Laboratory (NREL), the Massachusetts Institute of Technology (MIT), Stanford University, the University of Colorado-Boulder (CU), the Colorado School of Mines (CSM), and Colorado State University (CSU). He is also a Senior Research Fellow at the Global Green Growth Institute.

Previously, Morgan was the Special Advisor to the Director-General of UNIDO on international energy policy. In this role he was deeply engaged with the design and implementation of the United Nations Sustainable Energy for All initiative, and managed UN-Energy. UN-Energy is the UN's interagency mechanism on all energy issues.

Prior to his time in the United Nations, he held a political appointment as Chief of Cabinet for the Minister of Energy in Ireland, after directing the clean energy division of Ireland's national energy authority for several years.

Morgan has been the lead climate change negotiator for the European Union on low-carbon technology, and a member of the UNFCCC's Expert Group on Technology Transfer (EGTT). He has been a national representative to various International Energy Agency governing bodies and executive committees, as well as to the EU's energy research and development programs.



**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

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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.



**Kathleen Hancock: Associate Professor, Colorado School of Mines**

Dr. Hancock is an Associate Professor of Political Science in the Liberal Arts and International Studies Division, where she teaches undergraduate courses in International Relations and in the Masters of the International Political Economy of Resources (MIPER) program. She earned her PhD in Political Science at the University of California, San Diego. She specializes in regional economic integration, global governance, and Eurasia. Her teaching interests also include human rights. Before earning her PhD, Dr. Hancock worked in Washington, DC as a Senior Evaluator at the US Government Accountability Office (GAO) and as a lobbyist for the Federation of American Scientists. She has conducted field research in numerous countries in Europe and Eurasia, including Kazakhstan, Kyrgyzstan, Russia, and Ukraine. Dr. Hancock's book, *Regional Integration: Choosing Plutocracy* (New York: Palgrave Macmillan, 2009) compares economic integration efforts led by Prussia, South Africa, and Russia. She has published articles in *Foreign Policy Analysis*, *China-Eurasia Forum*, *Asian Perspective*, and *Georgetown Journal of International Affairs*. She is currently working on her second book, tentatively titled *Identity and International Institutions: Regional Integration in Southern Africa*.



**Dr. Kenneth Jennings: Managing Director, K2J Environmental**

Dr. Ken Jennings is an environmental scientist with over 25 years experience in government (the US EPA Headquarters); industry (Amoco, Shell and Microsoft Corporations) and consulting. His areas of expertise include sustainability, energy, and climate change in Africa and the Caribbean.

As Managing Director of K2J, recent speaking engagements include:

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The African Presidential Roundtable on Energy Strategy for the 21st Century in Mauritius - June 2011, The Africa Energy Indaba in Johannesburg - February 2012, The African Presidential Roundtable on Energy Security in Johannesburg - May 2012, The Joint UK, US, Niger Investment Forum in London (a participant) - June 2012. Dr. Jennings earned a BS in geology and geophysics from Yale, a Masters in geology from the University of California Santa Barbara, and a Doctorate in environmental science and engineering from UCLA.



**Spero Mensah: President & CEO, JEM Smart LLC**

Dr. Mensah has over 30 years of hand-on experience on all aspects of Transmission/ Distribution Network Management and Energy Market Systems (MMS). He was the pioneer of Smart Grid at AREVA/ALSTOM. His accomplishments

include leading the development of the first Industry Advanced Distribution Management Systems (ADMS) at CAE resulting in CAE being positioned as the World Leading supplier of ADMS technology which is now the foundation of the ADMS Technology at GE Energy. He also spearheaded the Technical and Executive Leadership for development of ALSTOM ADMS Solution, being the principal Designer of the Industry Two Leading ADMS Solutions (GE Energy and ALSTOM Grid) and developing the ALSTOM/AREVA Solutions for Regional Transmission Operators & Independent System Operators. The solutions have been the industry preferred and dominant Solution for more than one decade now. Dr. Mensah is the Father of the of ALSTOM e-terra Family products.

Additionally, Dr. Mensah led the design of AREVA/ALSTOM first Micro Grid Offering to help several Power utilities (in Middle East, Europe, India, Africa, and USA) develop and implement their strategic Power Electric Reforms.



**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 health & 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.

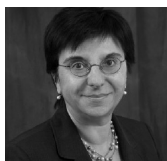
Mr. Bills is actively speaking on these topics and working on a book about emerging consumer markets, the social responsibility surrounding this evolution

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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.

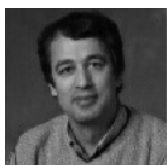
Prior to Envirofit, Ron was president and CEO of Segway and previously led several worldwide business units for Polaris Industries, Yamaha Motor Corporations and Bombardier. His career began as an engineer with Martin Marietta Aerospace.



**Azra Tutuncu: Harry D. Campbell Chair and Director, The Unconventional Gas Institute, Colorado School of Mines**

Azra Nur Tutuncu is the Harry D. Campbell Chair and the director of Unconventional Natural Gas and Oil Institute (UNGI). She holds a B.S. in Geophysical Engineering from Istanbul

Technical University, an M.S. in Geophysics from Stanford University, and M.S. and Ph.D. in Petroleum Engineering from University of Texas at Austin. Azra worked as a Research Engineer at UT Austin Petroleum Engineering Department and as the Director of Rock Physics Laboratory at Stanford University Geophysics Department prior to joining Shell Research where she held various research and leadership assignments. Her interest areas include rock-fluid interactions, integrated borehole stability, geomechanics, reservoir characterization and formation damage detection and removal. Dr. Tutuncu has over fifty journal publications and sixty reports in research and novel technology implementations and holds several patents on pore pressure prediction, attenuation and acoustic stimulation. Dr. Tutuncu is an active member of SPE, ARMA, SEG, AADE, Sigma Xi and Pi Epsilon Tau organizations over twenty five years, and members of AGI Environmental Geoscience Advisory Committee, ARMA Executive Board and President of ARMA. She is a licensed Professional Engineer and Licensed Geoscientist in the state of Texas.



**Moncef Krarti: Professor, Department of Civil, Environmental, and Architectural Engineering, University of Colorado**

Dr. Krarti is a Professor in the Department of Civil, Environmental, and Architectural Engineering at the University of Colorado. He also served as the director of the Architectural Engineering Program at the University of Colorado. He has conducted several research projects in a wide range of applications related to building energy systems and renewable technologies.

He is considered one of the world's best experts in energy efficiency of building systems. He has published over 10 books and handbook chapters as well as over 180 technical publications in referred journals and conference proceedings. He has received several awards from professional organizations including American Society of Mechanical Engineers (ASME), American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ASHRAE), and International Solar Energy Society (ISES) for his service to promote and improve the engineering professions.



**Michael Farina: Leader, Fuels Market Intelligence, Global Strategy and Analytics, GE International**

Michael F. Farina is one GE's senior analysts on the global fuels market landscape. He is Leader of GE's Fuels Center of Excellence (COE) and part GE's Corporate Strategy and Analytics team. His work helps senior leadership understand how fuels markets impact GE's long-term business strategy and technology investments. Mr. Farina has been in the energy industry for almost two decades, primarily focusing on natural gas and power markets economics, technology, and policy. Prior to joining GE, he was Director, North America Natural Gas, at Cambridge Energy Research Associates (CERA). Mr. Farina holds a BA degree in Economics from Colorado State University and a Master's degree in Economics from the University of Colorado.



**Paul Hueper: Director, Energy Programs, US Dept of State's Bureau of Energy Resources**

Paul Hueper is Director of Energy Programs in the U.S. Department of State's Bureau of Energy Resources. His office manages program and policy work related to capacity building for emerging oil and gas producing countries, unconventional energy resource management and regulation, and global electric power sector reform and development. His office also maintains functional responsibility for

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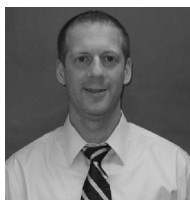
the Department's participation in the Extractive Industries Transparency Initiative. Mr. Hueper previously was Senior Advisor in the State Department's Office of the Special Envoy for International Energy Affairs. He has extensive prior work experience at multiple U.S. Government agencies and the private sector related to the upstream oil and gas sector, energy sector reform, commercial issues related to energy project development, and physical security of energy infrastructure. His work experience primarily is in global frontier oil and gas provinces and post-conflict environments.



**Dr. Kate Neville: Post-Doctoral Fellow, Duke University**

Dr. Neville is a SSHRC Post-Doctoral Fellow at Duke University's Nicholas School of the Environment. She holds a PhD in Political Science at the University of British Columbia, a Master's of Environmental Science from Yale University's School of

Forestry and Environmental Studies, and a BSc (Honours) in Biology from Queen's University. With a passion for global environmental politics, her research focuses primarily on energy developments, water governance, and environmental activism. Dr. Neville's current project explores the politics and political economy of energy developments, particularly unconventional extraction of oil and gas resources, with a focus on hydraulic fracturing. Her publications include articles in Political Geography, Environmental Politics, Third World Quarterly, and The Journal of Peasant Studies. She is currently working on her first book, on the contested politics and political economy of biofuels, drawing on case studies in eastern Africa. When not in North Carolina, she lives in an off-grid cabin in north-western British Columbia.



**David Maloney: Vice President, GE Capital Markets**

David Maloney is a Vice President at GE Capital Markets, Sales & Project Finance in Washington, DC where he structures and arranges financing solutions for GE Power & Water customers in the developing markets. His experience extends across both small and large public and private projects in various industries

including renewable energy, distributed power, water and healthcare. David received his MBA and has over 10-years of international business experience.



**Kenneth Strzepek: Research Scientist and Professor Emeritus, Massachusetts Institute of Technology, Cambridge MA**

Kenneth Strzepek is with the Massachusetts Institute of Technology (MIT) as a research scientist in the MIT Joint Program on Science and Policy of Global Change. He has



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spent 30 years as a researcher and practitioner at the nexus of engineering, environmental and economic systems, primarily related to water resource planning and management, river basin planning, and modeling of agricultural, environmental, and water resources systems. His work includes applications of operations research, engineering economics, micro-economics and environmental economics to a broad range of applications: from project scale to national and global investment policy studies. He has worked for a range of national governments as well as the United Nations, the World Bank, the USAID.

He is Professor Emeritus of Civil, Environmental and Architectural Engineering at the University of Colorado at Boulder, and recently a Visiting Professor of Economics and Affiliated Professor in College of Architecture and Planning at the University of Colorado at Boulder. He is a Visiting Senior Research Fellow at the International Food Policy Research Institute as well as an International Fellow at the Center for Environmental Economics and Policy for Africa and Examiner in the Department of Agricultural Economics at the University of Pretoria, South Africa. He has been a contributing author to the Second IPCC assessment, the Millennium Ecosystem Assessment, the World Water Vision, and the UN World Water Development Report. He is currently the USAID Scientific Liaison Office on Water and Climate Change to the CGIAR. Prof. Strzepek has a PhD in Water Resources Systems Analysis from MIT, an MA in Economics from the University of Colorado and is currently a PhD candidate in the Department of Economics at the University of Hamburg, Germany.



**Chris Valentine: Owner/Partner, Bonwick Capital Partners**

Prior to forming Bonwick Capital, Chris spent 11 years on Wall Street and in private equity, focused on both investing and advisory. Most recently, he operated a consulting and corporate advisory practice based in Dubai, UAE, Valentine & Company FZ LLC, focused on clients primarily located in Africa and the Middle East. Prior to founding V&C, Chris was a Director at Istithmar World – Private Equity & Real Estate in Dubai, where he focused on private equity and alternative investments in the financial services, commercial real estate and hotel/lodging/hospitality sectors globally. Prior to joining Istithmar, Chris worked at Equifin Capital Partners (an affiliate of Och-Ziff) in New York, a private equity firm focused on the financial services sector in North America. Prior to joining Equifin, Chris spent over three years at Goldman, Sachs & Co., where he advised financial institutions on numerous buy-side, sell-side and capital raising assignments. Mr. Valentine began his career in the Global M&A Group at JPMorgan Chase, where he advised clients in a broad range of industries. Mr. Valentine received a Bachelor's of Business Administration degree, with a concentration in Finance, from Howard University in Washington, DC, with an independent study in Actuarial Science where he was a Capstone Scholar. Mr. Valentine holds professional registrations of FINRA Series 7, 24, 63 and 79.





**Dr. Kate Steel: Energy and Sustainability, Google.org**

Dr. Kate Steel recently joined Google.org's Energy and Sustainability team, focusing on energy access. Previously, she worked as an Energy Specialist in the African Energy Unit of the World Bank and was one of the program managers of Lighting Africa. Prior to working at the World Bank, she consulted on energy access projects in South Africa, Tanzania and Kenya. She has a PhD in Engineering Systems from MIT, a MS in Engineering-Development Technologies from University of Melbourne, and BS in Mechanical Engineering from Stanford.



**Teshome Alemneh: Program Officer, Africa, Higher Education for Development (HED)**

Teshome Alemneh manages partnerships between higher education institutions in the United States and in sub-Saharan Africa (SSA). Under the Africa-U.S. Higher Education Initiative launched in 2007, Teshome Alemneh has participated in the drafting of the Request for Application (RFA) and managed competitive grants for 33 planning grants awarded from more than 300 applications. He currently manages the implementation of 11 Africa Initiative partnerships in 10 SSA countries and provides leadership and oversees additional ten university partnerships in the region (in Burkina Faso, Burundi, Ethiopia, Ghana, Kenya, Liberia, Malawi, Rwanda, Senegal, South Africa, South Sudan, and Uganda). Teshome was a research fellow at the Association of Land-grant Colleges and Universities (formerly NASULGC) from March to October 2008. Teshome contributed a background paper entitled "Challenges of Higher Education in Africa and Lessons of Experience" to support the Africa-U.S. Higher Education Initiative and helped lay the foundation for the Initiative. He was a New Century Fulbright Scholar from 2004 to 2005 at the State University of New York, University at Buffalo with a research focus on access and quality of higher education.

Teshome has researched and written extensively about the status and challenges of higher education in Africa, exemplified particularly in his book *Ethiopian Higher Education: Creating Space for Reform* and a journal paper on Cost Sharing in Higher Education. In Ethiopia, Teshome has served as vice dean of Ambo College of Agriculture and associate professor of soil science and land evaluation at Hawasa University. As a deputy minister of higher education in Ethiopia from 2001–2004, he has spearheaded and led the national higher education expansion and reform strategies and policies that resulted in the drafting and promulgation of the first higher education law in the country, the establishment of 10 new universities, the creation of the first national higher education relevance and quality assurance agency and a higher education strategy center. Teshome was

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one of the architects of the vision and framers of the strategy leading to the establishment of additional 13 universities in the country after 2004. Teshome Alemneh holds a BSc in Plant Sciences from Alemaya College of Agriculture in Ethiopia, an MSc in Soil Sciences and a PhD in Earth Sciences and Land Evaluation from Ghent University in Belgium. He has travelled extensively in sub-Saharan Africa (Burkina Faso, Ethiopia, Gabon, Ghana, Kenya, Liberia, Senegal, South Africa, South Sudan and Uganda) in relation to higher education partnerships. Teshome has also travelled to Denmark, France, India, Netherlands, Norway, Sweden, Thailand and United Kingdom for training and higher education related visits.



**Paula Jackson: President and CEO, American Association of Blacks in Energy**

Paula R. Jackson is President and CEO for the American Association of Blacks in Energy. Prior to her current role, Ms. Jackson served as the association's Vice President of Operations and also served for 2-years as the organization's Director of

Communications. Ms. Jackson's experiences include 15 years in the energy industry for both electric and natural gas distribution companies. During that time she has built a stellar reputation working with Federal and State regulators in her role as Manager Government Affairs and her job as Regulatory Affairs Manager. Ms. Jackson commands a clear understanding of the consumer and community sides of the business as well having held industry positions in Consumer Outreach and Economic Development.

Ms. Jackson is a seasoned non Profit professional. Prior to her position at the AABE, Ms. Jackson was the Community Awareness Director for the Regional YMCA of Western Connecticut where she was responsible for the organizations' marketing, communications, community and government relation and public relations functions. These experiences provide a well framed background to lead the AABE in its mission going forward.

The AABE is a non-profit professional association whose focus is to ensure that African Americans and other minorities have input into the discussions and development of energy policy, regulations, and environmental issues. Ms. Jackson received her B.S. in Marketing Management from the University of Delaware. She is the recipient of the Bring it Home to Hartford Award, the Clarke Watson Chairman's Cup and the Award of Distinction by the Videographer Awards. She is a 2003 graduate of Leadership New Haven and has contributed to an article on work life balance in Take Pride magazine.

Ms. Jackson lives in Rockville, MD with her four children.



### **Leonard Crook: Vice President, ICF International's Natural Gas Practice**

Leonard Crook is a Vice President in ICF International's Natural Gas Practice, with over 30 years' experience in North American and international natural gas markets. Prior to joining ICF, Mr. Crook served at FERC for 10 years, where he was a member of the FERC team that prepared the President's Decision on the Alaska Natural Gas Transportation System. Mr. Crook's practice at ICF has focused on the economics of gas supply, pipelines, LNG, and gas markets. In 2012, led an ICF team that developed the gas master plan for Mozambique. The master plan addresses how the Government of Mozambique can leverage gas development into a broader strategy of economic development. In 2010-2011 Mr. Crook directed the development of a conceptual design for a national gas pipeline grid for the Government of India. In this project, ICF developed a fundamentals analysis of potential gas demand in India, across all of the major industries and the potential in over 200 cities. In North America, he has advised distribution companies, independent power producers and electric utilities on gas supply strategies and has served as lenders' gas expert on over \$4 billion in project financed power and natural gas facilities. He has advised the governments and private clients in Ontario, Nova Scotia, and Newfoundland and Labrador on strategic gas supply issues. Elsewhere internationally, he has participated in ICF projects to design gas markets for Australia and Singapore. Mr. Crook has an MA in History and a BA in Economics and History from the University of Memphis.



### **Maryamu Aminu: Assistant Director for U.S. Government Relations, The ONE Campaign**

Maryamu Aminu is Assistant Director for U.S. Government Relations at The ONE Campaign, an organization Co-founded in 2002 by singer and activist, Bono, is an advocacy organization dedicated to eradicating extreme poverty and preventable disease in Africa. In this role, she is responsible for developing and managing the organization's engagement with Democratic members of the U.S. House of Representatives to help build bipartisan support for critical lifesaving and development initiatives relating to U.S. policy towards Africa. Previously, Maryamu worked for the late Congressman Tom Lantos, Chairman of the House Committee on Foreign Affairs, where she was Director of the Africa Region and Global Health for the Congressional Human Rights Caucus, and Congressional Coordinator for the Lantos 'Humanity in Action' European Fellowship Program.

Before joining the Lantos Office in November 2001, she was the African Diplomatic Corps Fellow at the Constituency for Africa (CFA), a non-profit organization dedicated to improving U.S. policy towards Africa and fostering

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increased relations between Africans and Americans.

Born and raised in Nigeria, Maryamu graduated from the University of Wales at Aberystwyth, UK, with a degree in International Relations. She also has a graduate degree in International Politics from Aberystwyth, majoring in Critical Security Studies and Human Rights.



**Alice Madden: Principal Deputy Assistant Secretary for Intergovernmental & External Affairs, U.S. Department of Energy**

Appointed in August of 2013, Alice Madden serves as the central point of contact for the department's work with local, state and tribal governments, and its work with external constituencies. As that interface, Alice coordinates work with each program to help advance the goals of the department.

Alice started her career in the high tech industry in Colorado followed by an almost ten-year commercial litigation practice specializing in employment law. In 2000, Alice was elected to the Colorado House of Representative where she served as the House Majority Leader from 2004 – 2008. One of Alice's legislative focuses was building the foundation for what is now referred to nationally as the New Energy Economy. A few key accomplishments included taking Colorado to a 30% renewable energy standard by 2020, and implementing net metering, solar gardens, and a series of clean energy and efficiency financial incentives.

Alice continued to apply her experience in economic and energy sustainability issues as Climate Change Advisor and Deputy Chief of Staff to former Colorado Governor Bill Ritter. Among many milestones, she oversaw the implementation of the groundbreaking Clean Air Clean Jobs Act, which will lead to the early retirement of over 900MWs of coal power, to be replaced with cleaner burning fuels such as natural gas, wind and solar. Alice also served as a Senior Fellow on Climate Change issues at the Center for American Progress.

Alice more recently served as the Timothy E. Wirth Chair in Sustainable Development at the University of Colorado focusing on strategic collaborations among governments, businesses, academic institutions and non-profit groups to form sustainable practices and policies that carefully balance economic, environmental and social welfare concerns. Alice worked to advance environmental literacy curriculums in K-12 education, increase the interest of minority college students in STEM and sustainability fields, and increase the number of women in developing countries studying and working in sustainability fields through mentorships and expanded support systems. Alice is married and has two children.



**John Works: Senior Energy Manager, IRG/Engility**

Mr. Works currently serves as the Senior Energy Manager at IRG/Engility. In this capacity he manages international projects by supervising the selection, preparation, placement, and support for all technical experts, overseeing project budget, contract management, and LOE expenditures, and interfacing with clients to ensure adequate quality control and achievement of project objectives. Mr. Works brings over 3 decades of progressively responsible work experience and a cross-sectorial and full-cycle understanding of the international energy arena from his work as a consultant, government official, corporate executive, investment banker, and lawyer. Prior to IRG/Engility, he served as Senior Project Finance Manager at Nexant on the USAID-funded Africa Infrastructure Program (AIP) where he managed an interdisciplinary team of power, technical, regulatory, and finance professionals to identify and prioritize potential USAID sub-Saharan Power Africa projects. Mr. Works holds a BA in Political Science, a JD in International Law, and an advanced degree in International Economics.



**Dr. Lakshman Guruswamy: Professor, University of Colorado**

Lakshman Guruswamy, the Nicholas Doman Professor of International Environmental Law at the University of Colorado at Boulder, was born in Sri Lanka, and is a recognized expert in International Environmental and Energy Law. Lakshman teaches International Environmental Law, International Energy Law, and Energy Justice at CU. He is also the Director of the Center for Energy & Environment Security (CEES) of the University of Colorado. This is an interdisciplinary Center that seeks to find renewable energy solutions for the energy deficits confronting the globe, and pursues environmental justice for peoples of the developing world. Prior to joining the University of Colorado, he taught in Sri Lanka, the UK, and the Universities of Iowa and Arizona. Guruswamy is a frequent speaker at scholarly meetings in the US and around the world. He is the author of books traversing crucial aspects of international environmental and energy law, and is widely published in international energy and environmental law in legal and scientific journals.



**Dr. Helena Chum: Research Fellow-National Bioenergy Center, National Renewable Energy Laboratory**

Dr. Helena Chum is a Research Fellow in the National Bioenergy Center at the U.S. Department of Energy's National Renewable Energy Laboratory (NREL) and a member of the NREL Research

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Fellows Council that reports to the Science and Technology Deputy Director. Her expertise is in renewable fuels, transportation systems, and international renewable energy activities including biomass, biofuels, and biorefineries.

Dr. Chum conducts research on the sustainability of biomass and biofuels in the global context. She has developed technologies for the conversion of biomass and a variety of organic wastes into fuels, including hydrogen, chemicals, electricity, and high value materials. She directed analytical chemical research and the development of standards and reference materials for biomass. To these and other fields she has contributed more than 110 papers, is a co-inventor of 20 patents, and has lectured and participated in seminars and conferences worldwide. She participated in the development of the Office of Science and Technology Policy's National Environmental Technology Strategy (released 1995). Dr. Chum is a Fellow of the American Association for the Advancement of Science, of the International Academy of Wood Science, of the Cellulose and Renewable Materials Division of the American Chemical Society, and of the American Chemical Society. She served as a member of the Hydrogen Technical Advisory Panel from 1998 to 2003. She received the Individual Trail Blazer Award in Green Engineering, presented by HENAAC Inc. and Green Technology Magazine, in 2006. She has served on several Advisory Boards of universities and organizations and represented NREL in the Council for Chemical Research. She served in the Office of Industrial Technologies' Industry of the Future Program, representing NREL on the Laboratory Coordinating Council and chairing this Council in 1997. She was an Associate Editor of the Clean Processes and Products journal (Springer) and Editor of CHEMTECH (ACS).



**Kamran Khan: Vice President of the Department of Compact Operations, Millennium Challenge Corporation**

Kamran Khan is Vice President of the Department of Compact Operations at the Millennium Challenge Corporation. Mr. Khan is responsible for overseeing MCC's \$9 billion compact grant program portfolio, and manages the agency's engagement with partner country governments and civil societies to reduce poverty and generate sustainable economic growth. Mr. Khan is responsible for ensuring rigorous stewardship of U.S. Government resources, establishing partnerships with the private sector and development partners, and promoting MCC's principles of country ownership, accountability and achieving results. Prior to joining MCC, Mr. Khan served as Program Director of the World Bank Global Infrastructure Finance Center of Excellence in Singapore. He established the World Bank Group (WBG) office in Singapore in 2009, and worked with Government of Singapore to create a WBG hub focused on infrastructure finance. He also led the WB's Infrastructure Finance Practice in East Asia, and was a member of WB's Global Expert Team on Public Private Partnerships (PPPs). He has led numerous PPP projects in developing

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countries to financial close.

Mr. Khan was a member of the Board (Asia) of International Project Finance Association, and served as a Technical Advisor on Infrastructure Finance to APEC Business Advisory Council. He has also served as a member of the Task Force on Investment and Infrastructure for the B-20, and was Advisor to ASEAN. Mr. Khan's experience includes investment banking and advisory services with Goldman Sachs, JP Morgan Chase, and LEK Consulting. He also served as a U.S. Foreign Service Officer with the U.S. Agency for International Development (USAID), where he was instrumental in the launch of USAID's global project finance and guarantee facility. Mr. Khan holds an MBA from the University of Chicago, and a MSC in International Development and Master of Government Administration from the University of Pennsylvania.



**Chinesom Ejiasa: Director, Private Equity, Overseas Private Investment Corporation**

Chinesom is a Director at the Overseas Private Investment Corporation within its private equity group where he manages over \$900 million in capital reserved for private equity funds that hold investments in companies across four continents and over 30 countries. As it pertains to Africa, Chinesom has overseen more than \$400million in capital reserved for investments that span various sectors including, financial services, telecoms, fast moving consumer goods, agriculture, and energy. He co-represents OPIC as the point of contact for the sub-Saharan Africa region.

Previously, Chinesom worked for several years in the fixed income industry in Colorado and New York; specifically focused on asset and mortgage backed securitizations.

Chinesom graduated from The Colorado College where he received his bachelor of arts in economics and was a four year football varsity letter. He also holds an MBA from The Darden School of Business where he also served as the student body class president.



**Philip Mshelbila: GM External relations and Communications, Shell Companies Nigeria**

Philip graduated from the Ahmadu Bello University, Zaria in 1990 with a degree in Human Medicine (MB,BS), and went on to work for the Nigerian National Petroleum Corporation (NNPC). In 1994 he left NNPC to work for National Oil & Chemical Marketing Plc (a Shell JV) as a Medical Officer. He further studied Occupational & Environmental

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Medicine at the University of Aberdeen, Scotland and underwent training and attachments in various Shell refineries and petrochemical plants in the UK, France and The Netherlands, rising to the position of Chief Medical Officer and Corporate Health Safety and Environment Adviser. He also obtained a Masters of Business Administration (MBA) degree from the IESE Business School of the University of Navarra, Spain in 2000. Subsequently he joined Shell Nigeria Oil Products working for Shell Health Services as the Regional Health Adviser for Africa. In this position he oversaw the management of all health and related matters for Shell downstream (retail, marine, aviation, LPG, manufacturing, consumer & industrial) and chemicals businesses in 35 African countries.

In 2004 he left the medical practice to work as Regional (Business) Adviser for Africa in the International Directorate of Royal Dutch Shell in The Hague, The Netherlands. In this position he provided cross-business and country advice to the Regional Managing Directors of Shell on African matters. He also served briefly as the Private Assistant to the Chief Executive of Royal Dutch Shell.

He subsequently moved to the Gas & Power business where he worked in LNG Business Development as the Planning & Integration Manager, and subsequently as a Commercial Manager. Subsequently he worked as the Project Development Manager on various Gas & Power projects. In 2009 he joined an industry team to evaluate the Nigerian Petroleum Industry Bill (PIB), as the gas subject matter expert.

In 2010 Philip was appointed as the Managing Director of Shell Nigeria Gas Ltd, a natural gas distribution company that builds and operates pipeline networks in Lagos, Aba and Port Harcourt areas of Nigeria, supplying natural gas to over 60 industrial and commercial customers.

Philip became the General Manager for Sustainable Development and Community Relations in the Shell Petroleum Development Company of Nigeria from January 2012, overseeing social performance, sustainable development, social investment, community relations and relations with the state governments in the Niger Delta. Most recently he was appointed as the Regional Communications Manager for West Africa.



**Robert Youngberg: President , Sustainable Development / International**

Robert is President of Sustainable Development / International (S D / I) in Denver, Colorado consulting on national and international renewable energy and environmental development projects for a variety of clients including the

University of Denver Research Institute, and various international clients.



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Prior to S D / I Robert's executive management positions include large data systems for IHS - Information Handling Services / CERA - Cambridge Energy Research Associates, Oracle Consulting, Sun Microsystems Professional Services, Cendant Corporation, and HWS Environmental Engineering, managing multimillion dollar projects for Western Area Power Administration, Detroit Edison, and Indianapolis Power and Light.

Robert began analyzing natural gas energy futures in graduate school. After several years working in environmental engineering consulting, he founded the Renewable Energy Research and Policy Office in at the University of Nebraska and served as Director for 8 years. His work there included a wide variety of national and international research and demonstration projects in space and water heating, ground coupled heat pumps, energy storage, presentations at numerous regional and national conferences, public information and policy development, including state legislation and presentations at U.S. Congressional hearings on energy policy.

Robert taught graduate level engineering courses on building systems energy design. He has extensive experience in facilitating development of new technology innovation and related start-up companies. He served on the American National Standards Institute (ANSI) Solar Water Heating Design and Installation Standards Committee; clients included U.S. Department of Energy, Argonne National Laboratory and the Solar Energy Research Institute (now NREL). Currently Robert is involved with various international development organizations developing and providing water wells and filters, schools, agriculture projects, economic development and various renewable energy projects. Robert's activities include: Senior Advisor for the Jackson Hole Center for Global Affairs, Board of Trustees for the International Institute for Sustainable Development/ Village Earth, Colorado State University, Board of Directors of the Trailblazer Foundation– Jackson, WY, and Advisory Board for HealthKind.



**Barry Martin: Director-Special Programs For Continuing Education (SPACE), Colorado School of Mines**

Dr. Barry Martin is the Director of Special Programs & Continuing Education (SPACE) which is housed within the Offices of Strategic Enterprises. SPACE provides professionally oriented outreach to the wider community by way of conferences, symposia, technical and academic training, and K-12 teacher education (particularly related to STEM). Dr. Martin joins Mines from Regis University, where he served as Dean of the School of Humanities and Social Sciences in Regis' College for Professional Studies overseeing programs that included undergraduate programs (BFA, Criminology, Liberal Arts, Religious Studies, Psychology, Communications, Sociology) and Master's programs (in Global Nonprofit Leadership, an MA

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in Innovative Studies and Criminology). He has broad career experience in continuing and professional education, on-line distance-delivery, non-traditional student markets and entrepreneurial programs. He was Chair and Professor of Science and Health at John F. Kennedy University in California. There too he served as Faculty Senate President and was also presented with Outstanding Teacher Award. Dr. Martin holds a B.S. in Applied Chemistry from Chisholm Institute of Technology in Melbourne, Australia; an MBA from John F. Kennedy University School of Management; an M.Sc in Pharmacokinetics from Monash University in Melbourne, Australia; and a PhD in Enzymology/ Kinetic Modeling/Molecular Biology. Dr. Martin post-doc-ed at University of California San Francisco School of Pharmacy and Medicine (studies in muscular dystrophy) and then moved to San Francisco's VA Hospital, conducting research in anesthesiology and liver metabolic studies. Dr. Martin taught with Sonoma State University's OSHER Life Long Learning Center for several years and UC's Continuing Education Programs. He was an advisor to the University Board, and also Chabot Observatory and Science Center. He has helped establish several advisory boards and currently sits on the board of two non-profit's. He has been a Co-Producer and Content Advisor for a Cable TV show 'Paradigm Quest' and contributor to science textbooks.



**Dr. Tjama Tjivikua: Founding Rector, Polytechnic of Namibia**

Professor Tjama Tjivikua was appointed in 1995 as the Founding Rector of the Polytechnic of Namibia - soon to be renamed Namibia University of Science and Technology [NUST]. Since establishment, the Polytechnic has grown significantly from a small college with enrolment of just over two thousand to a global university of about thirteen thousand students today. The Polytechnic is internationally recognized through its qualifications and relevance of its extensive network of partnerships. The institution has won several national and international awards. It is rated as the best higher education institution in Namibia since 2002.

Prior to joining the Polytechnic, Tjivikua held the following positions: Assistant Professor in Chemistry at Lincoln University (PA, U.S.A.); Visiting Scientist at the Massachusetts Institute of Technology (MA, U.S.A.); Research Fellow at the University of Pittsburgh (PA, U.S.A.); and Research Fellow at the University of Lowell (MA, U.S.A.). He holds a BA (cum laude), MS and PhD in Organic Chemistry, and has published several articles in scientific and other journals. He was awarded the DSc (Honoris Causa) by Worcester Polytechnic Institute (USA) in 2006 and the Honorary Doctor of Humane Letters (Honoris Causa) by Lincoln University (USA) in 2013.

Professor Tjivikua is the recipient of many awards and honours as a student and leader, such as the following: Service Excellence Award: Junior Achievement

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Namibia (2010); Education Persona - Namibia Business Hall of Fame (2010); Bank Windhoek's Business Communicator of the Year (2008); D.Sc. (Honoris Causa), Worcester Polytechnic Institute (USA) (2006); Life Fellow: Centers for Leadership and Public Values, University of Cape Town/Duke University (2004); International Biographical Centre (IBC), Who's Who in the 21 Century (2001); and Outstanding Young Man of America (1985).

He was named by an international magazine Finweek (28 September 2006) as one of "12 most prominent and respected members since independence for having set up an excellent institution in Namibia."

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