

Twenty-fifth session of the Committee on Sustainable Energy

28-30 September 2016, Geneva, United Nations, Palais des Nations

BIOGRAPHY OF KEYNOTE SPEAKERS

Dr. Volker Krey

Deputy Program Director, Energy Program, International Institute for Applied Systems Analysis (IIASA)



Volker Krey graduated in theoretical physics from the University of Dortmund (Germany) in 2002. In 2003, he joined the Institute of Energy Research - Systems Analysis and Technology Evaluation of the Research Centre Julich, where he continued to work until 2007. Since 2006, he has held a PhD in mechanical engineering from the Ruhr-University of Bochum (Germany). Dr. Krey first visited IIASA as a participant of the Young Scientists Summer Program (YSSP) in 2004. He joined IIASA's Energy Program in October 2007 and since October 2011, is the Deputy Program Director.

Dr. Krey's main fields of scientific interest are the integrated assessment of climate change and the energy challenges, including energy security and energy access. His work focuses on the development and application of integrated assessment models with different regional focuses (national to global scale) and time horizons. In addition, decision making under uncertainty, in particular in the context of future energy transitions and climate change mitigation strategies has been an important part of Dr. Krey's research activities.

He has been appointed Lead Author of the recently published IPCC 5th Assessment Report of Working Group III, a Lead Author of the Global Energy Assessment (GEA), and a Lead Author of the IPCC Special Report on Renewable Energy Sources and Climate Change Mitigation. Since 2010, he has been an Associate Deputy Editor of the well-known journal Climatic Change. Dr. Krey also teaches in an MSc program on "Renewable Energy in Central and Eastern Europe" at the Vienna University of Technology (Austria).

Amory B. Lovins

Cofounder, Chief Scientist and Chairman Emeritus, Rocky Mountain Institute



Physicist Amory Lovins, 68, FRSA, is cofounder and Chief Scientist of Rocky Mountain Institute; energy advisor to major firms and governments in 65+ countries for 40+ years; author of 31 books and 600 papers; and an integrative designer of superefficient buildings, factories, and vehicles.

He has received the Blue Planet, Volvo, Zayed, Onassis, Nissan, Shingo, and Mitchell Prizes, the MacArthur and Ashoka Fellowships, the Hoppold, Benjamin Franklin, and Spencer Hutchens Medals, 12 honorary doctorates, and the Heinz, Lindbergh, Right Livelihood ("alternative Nobel"), National Design, and World Technology Awards. In 2016, the President of Germany awarded him the Officer's Cross of the Order of Merit (*Bundesverdienstkreuz 1. Klasse*).

A Harvard and Oxford dropout, former Oxford don, honorary US architect, and Swedish engineering academician, he has taught at ten universities, most recently Stanford's Engineering School and the Naval Postgraduate School (but only on topics he's never studied, so as to retain beginner's mind). He is a member of the U.S. National Petroleum Council and an advisor to the U.S. Chief of Naval Operations.

Time has named him one of the world's 100 most influential people, and Foreign Policy, one of the 100 top global thinkers. His latest books include Natural Capitalism (1999, www.natcap.org), Small Is Profitable (2002,

www.smallisprofitable.org), Winning the Oil Endgame (2004, www.oilendgame.com), The Essential Amory Lovins (2011), and Reinventing Fire (2011, www.reinventingfire.com).

His main recent efforts include supporting RMI's collaborative synthesis, for China's National Development and Reform Commission, of an ambitious efficiency-and-renewables trajectory to inform the 13th Five Year Plan, and exploring how to make integrative design the new normal, so investments to energy efficiency can yield expanding rather than diminishing returns.

Graeme Maxton

Secretary General, Club of Rome



Graeme Maxton is the Secretary General of the Club of Rome, a global network of 100 renowned independent thinkers dedicated to addressing the problems facing humanity. The Club is perhaps best known for the best-selling book, *The Limits to Growth*.

Graeme is the author of several best-selling books on economics and the environment. A trenchant critic of modern economic thinking, he is the author of *The End of Progress: How modern economics has failed us*, (Wiley 2011). The book was nominated for the FT's Best Book about Business Award and has been translated into Chinese, Czech, Romanian and German. It became a top-20 best-seller in Germany.

As well as contributing articles to a wide range of international newspapers, journals and magazines, he is also the co-author of *Time for a Model Change*, Cambridge University Press' Feature Book of the Year 2004, and *Driving Over a Cliff* (Longman, 1995), which was also nominated for the FT's Best Book about Business Award.

Graeme was previously a regional director with The Economist Group in Hong Kong, spent many years with strategy consultants Booz Allen & Hamilton, with Citigroup and American Express, and was visiting professor at Cass Business School in London between 1988 and 2002.

His latest book *Reinventing Prosperity*, co-written with Jorgen Randers, one of the authors of *The Limits to Growth*, on how to solve the problems of unemployment, inequality and climate change was recently published.

Prof. Dr. Kevin Anderson

Tyndall Centre for Climate Change Research, University of Manchester



Kevin Anderson is Professor of Energy and Climate Change in the School of Mechanical, Aerospace and Civil Engineering (MACE) at the University of Manchester. Kevin is also the Zennström visiting Professor in Climate Change Leadership at Uppsala University in Sweden. He is deputy director of the Tyndall Centre for Climate Change Research and a non-executive director of Greenstone Carbon Management. Kevin is research active with publications in Royal Society journals and Nature. He engages widely across all tiers of government; from reporting on shale gas and aviation related emissions to the UK and EU Parliament through to advising the Prime Minister's office on Carbon Trading. He previously contributed analysis underpinning the UK's Climate Change Act and the development of national carbon budgets and was a Scientific advisor to the Welsh Government's climate change commission.

With his colleague Alice Larkin, Kevin's work on carbon budgets has been pivotal in revealing the widening gulf between political rhetoric on climate change and the reality of rapidly escalating emissions. His work

makes clear that there is now little chance of maintaining the rise in global temperature to below 2°C, despite repeated high-level statements to the contrary. Moreover, Kevin's research demonstrates how avoiding even a 3 to 4°C rise demands a radical reframing of both the climate change agenda and the economic characterisation of contemporary society.

Kevin has a decade's industrial experience, principally in the petrochemical industry. He is a chartered engineer and a fellow of the Institution of Mechanical Engineers.

Prof. Dr. Lex Hoogduin

CEO/Funder Global Complexity Network (GloComNet) / Professor for complexity and uncertainty in financial markets and financial institutions, Groningen University



Lex Hoogduin is professor of complexity and uncertainty in financial markets and financial institutions at Groningen University in the Netherlands. He holds a PhD from Groningen University (Some Aspects of Uncertainty and the Theory of a Monetary Economy).

Lex is CEO of GloComNet BV (The Global Complexity Network for social complexity and uncertainty - www.glocomnet.com). GloComNet is a global network for research, education, consultancy and art and culture with respect to social complexity and uncertainty.

Lex is a non-executive member of the Board of London Stock Exchange Group and chairman of LCH, a central counterparty. He is also chairman of the supervisory board of centre for integral revalidation (CIR), a health care company.

Lex has, among other things, been executive director at the Dutch Central Bank (responsible for monetary and economic policy, financial stability, financial markets, oversight of market infrastructure and payment systems and statistics), adviser to the first president of the European Central Bank (Wim Duisenberg), chief Economist of Robeco (an asset manager) and head of IRIS (the research company of Robeco and Rabobank for retail clients).

Prof. Dr. Mark Howells

Professor, Energy Systems Analysis Group, Royal Institute of Technology (KTH-dESA)



Mark Howells directs the division and holds the chair of Energy Systems Analysis (KTH-dESA) at the Royal Institute of Technology in Sweden, and is an Honorary Affiliate Prof at the University of Technology in Sydney and Editor in Chief of Energy Strategy Reviews.

KTH-dESA spearheads the development of some of the world's premier open source energy, resource and spacial electrification planning tools. Mark has published in Nature Journals; coordinates the European Commission's think tank for Energy; is regularly used by the United Nations as a science-policy expert; and is a key contributor to UNDESA's 'Modelling Tools for Sustainable Development Policies'. His division contributes to efforts for NASA, IRENA, ABB the World Bank and others.

Prior to joining KTH-dESA he has an award winning career with the International Atomic Energy Agency. Mark's graduate and post-graduate studies were undertaken at the University of Cape Town, South Africa. Within that time he was also an international research affiliate at Stanford's Program on Energy and Sustainable Development: spokesperson for the World Energy Council's student program; lead RSA's Integrated Energy Planning (IEP) process as well as other national initiatives.

Peter Halliday**Head, Building Performance and Sustainability, Siemens Building Technologies**

In January 2016, Peter Halliday became Head of Building Performance & Sustainability (BPS) at the international headquarters in Zug, Switzerland home of the Siemens Building Technologies Division. He is in charge of BPS global business. BPS increases the competitiveness of customer business by delivering energy performance, operational efficiency and sustainability solutions for their buildings and infrastructures. Peter has been with Siemens for 25 years. Over the past years, he has worked in nearly all areas of the building technology field, including engineering, project management, sales, business development and senior management. He was head of Solutions and Service Portfolio for Asia, the Middle East, Australia and Africa regions as well as Head of the Building Technologies Division for ASEAN at Siemens Private Limited. He received his Certificate of Management at Deakin University, Australia.

Dr. Neil Sharkey**Vice President for Research, Penn State University**

Neil A. Sharkey, Ph.D., was appointed interim vice president for research at Penn State on August 1, 2013, and vice president for research on September 19, 2014. In this role, Sharkey is responsible for overseeing a research enterprise with over \$848 million dollars in expenditures.

Sharkey joined the faculty at Penn State as a professor of kinesiology, orthopaedics and rehabilitation in 1997. In August 2007, he was appointed associate dean for research and graduate education in the College of Health and Human Development. Prior to that appointment, Sharkey served as director of research in the Department of Kinesiology from 2004 to 2007. He also served as acting director of the Center for Locomotion Studies in the Department of Kinesiology from 2002 to 2004.

Sharkey received a bachelor's degree in physiology and a Ph.D. degree in comparative pathology, both from the University of California-Davis. His research is aimed at advancing orthopedic medicine through improved understanding, better diagnosis and more efficacious surgical procedures. Sharkey has been well funded throughout his career by the National Institutes of Health and various foundations. He has published extensively in peer-reviewed journals and has delivered innumerable professional presentations pertaining to orthopedic medicine, skeletal tissue mechanics and musculoskeletal biomechanics.

Sharkey has served on a variety of college and university committees in addition to national committees and panels pertaining to his areas of research. He is a member of the Huck Institutes of the Life Sciences at Penn State, and he holds numerous professional memberships, including in the American Society of Biomechanics, the Orthopaedic Research Society and the American Society for Bone and Mineral Research.

Dr. James Freihaut**Department of Architectural Engineering, Penn State University**

Dr. Freihaut is Professor of Architectural Engineering at Penn State University. In addition to his professorship at Penn State, Jim has served as Director of DOE Mid Atlantic Clean Energy Application Center, the Ben Franklin Center for High Performance Building Systems Research and Technical Director of the DOE Energy Innovation Regional Center for Energy Efficient Buildings at the Philadelphia Navy Yard.

Prior to joining Penn State University, Jim worked for 22 years at United Technologies Research Center (UTRC) of United Technologies Corporation. His research and management activities at UTRC included research in low emission coal, natural gas, jet fuel combustion; photo-catalytic oxidation indoor air quality control systems; high effectiveness factors energy recovery ventilation designs; manufacturing site remediation technology; physics based modeling of combustion for low emissions combustion systems; indoor air quality control technology for building and aircraft systems; and high performance building system design.

Jim's current research interests include energy efficient commercial building designs, combined heat and power system design implementation; dispersion properties of viable and non-viable indoor particulates

with specific activities in the UVGI deactivation of viable aerosols in ducted systems; surface-to-air aerosolization of allergen containing particles; inhalation exposure pathways leading to allergic sensitization and asthma disease development; low allergen, low energy residential building designs.

Jim received his Philosophy/Chemistry Bachelors degree from Christian Brothers College (1966). He earned his masters at Rensselaer Polytechnic Institute (1972) in Nat. Sci./Physical Chemistry. Jim achieved his Ph.D. in Fuel Science from the Pennsylvania State University (1980).