



Meeting Our Future Energy Needs: What Role Will Renewables and Energy Efficiency Play?

Date: Thursday, 24 November 2011
Time: 1:00pm to 7:30pm
Venue: Raffles Town Club
The Dunearn Ballroom
Level 1, Dunearn Wing
1 Plymouth Avenue
Singapore 297753

(Please park your vehicle at basement 3 carpark and take lift number 4 to level 1)

Please send us your name, organisation and email address via the ESI website [here](#) . For enquiries, please contact Ms. Jan Lui at 65162000.

Abstract:

Renewable energy will play an increasingly important part of the global energy mix in the years to come. However, additional efforts are needed to make these forms of energy more commercially competitive. Such efforts may include technological advances, regulatory efforts, financial mechanisms and public-private partnerships. Featuring renewable energy and energy efficiency expertise from industry and academe, this seminar will look at current and developing thrusts in renewable energy production and use, energy efficiency and new ways to reduce future carbon emissions.

Programme

THURSDAY, 24 November 2011	
Meeting Our Future Energy Needs: What Role Will Renewables and Energy Efficiency Play?	
13:00	Registration (light refreshments will be served)
13:30	Introductory Remarks H.E. Ms. Janne Julsrud <i>Norwegian Ambassador to Singapore</i> Dr Elspeth Thomson <i>Senior Fellow, Energy Studies Institute, National University of Singapore</i> Ambassador K. Kesavapany <i>Director, Institute of Southeast Asian Studies</i> Moderator: Mr. Erik Knive , Executive Vice President, SN Power
13:45	Keynote Address: "Energy & Environment in a Changing Climate" by Lord Oxburgh of Liverpool, KBE, FRS
14:45	"Carbon Capture and Storage (CCS) – The Need to Reduce Emissions from Fossil Fuels" by Dr. Per Christer Lund , Counsellor, Norwegian Environmental Technology Center
15:15	Coffee & Tea Break
15:30	"The Role of Energy Efficiency " by Professor J. Kelly Kissock , Professor and Chair, Department of Mechanical and Aerospace Engineering, Director of the Renewable and Clean Energy Programme at the University of Dayton
16:00	"Sustainable Energy Systems-The Role of Solar Energy" by Professor Joachim Luther , CEO, Solar Energy Research Institute at the National University of Singapore
16:30	"The Significance of Wind Power in the Energy Mix" by Mr. Ernst Meyer , Vice President, DNV
17:00	Coffee & Tea Break
17:15	"Smart Grids: Getting Smart Answers!" by Mr. Kevin William Chiu , Head of Engineering for Substation Automation, Siemens
17:45	"Electric Vehicles Charged Forward" by Dr. Wong Yuk Sum , Research Engineer at the State Grid Energy Research Institute (SGERI), State Grid Corporation of China
18:15	Reception hosted by the Royal Norwegian Embassy

Jointly organised
by:



Moderator:



Mr. Erik Knive, is the Executive Vice President of Statkraft Norfund Power Invest AS (SN Power). Statkraft Norfund Power Invest AS is a significant international hydropower and renewable energy company and is a commercial investor, developer and operator of renewable energy and hydropower projects in emerging markets. Mr. Knive is responsible for all operational entities and business developments in Southeast Asia, as well as global support functions. He has comprehensive executive experience from Norconsult Telematics and Teleplan, having been responsible for Global Business Development and all telecom operations in Europe and Asia. He has a GMP from Harvard Business School and holds a BSc from the University of New Orleans.

Speakers:



Ron Oxburgh (Lord Oxburgh of Liverpool) trained as a geologist/geophysicist at Oxford and Princeton Universities. He subsequently taught and researched in those disciplines at Oxford, Cambridge, Stanford and Caltech, while also working as a consultant for the oil industry. After a spell as President of Queens' College Cambridge, he became Chief Scientific Adviser to the Ministry of Defence (1987 to 1993) and chaired the investigation into the safety of UK nuclear weapons. From 1993 to 2001 he served as Rector of Imperial College. Having been on the Board of Shell for a number of years he became Chairman in 2004 and oversaw the unification of Shell with Royal Dutch to form a single company eighteen months later at which point he stood down.

He is a Fellow of the Royal Society and Royal Academy of Engineering and a Foreign Member of the US Academy of Sciences. He has served as President of the European Union of Geosciences, and of the British Association for the Advancement of Science. He has chaired the Trustees of the Natural History Museum. He was created a life Peer in 1999 and for four years chaired the Science and Technology Select Committee of the House of Lords. He is now an adviser on research and environmental matters to the Government of Singapore and works with a number of organisations in the general field of energy and environment. He is Chairman of 2OC and Green Energy Options and an adviser to Climate Change Capital, Deutschebank and McKinsey.



Dr. Per Christer Lund was born in Stavanger, Norway and received his PhD from the Norwegian University of Science and Technology in chemical engineering in 1992. He has been engaged in the energy and environment business in a variety of positions in research, software development and consulting. He worked on CCS (Carbon Capture and Storage) during a post-doc in Japan in 1993 and as research fellow at the Japanese nuclear reactor "Fugen" in 1997.

Dr. Lund has also been involved in the design and operation of deregulated electricity markets in North America, India and Europe, as country manager for NASDAQ OMX in Canada and Vice President at Nord Pool Consulting in Norway. Since 2006, he has held the position of Science and Technology Counselor at the Norwegian Embassy in Tokyo, with special responsibility for technology and research collaboration between Norway and Japan pertaining to energy and the environment. He is currently coordinating Innovation Norway's energy and environment sector activity in Asia.



Dr. J. Kelly Kissock is a Professor and Chair of Mechanical and Aerospace Engineering and Director of the Renewable and Clean Energy Programme at the University of Dayton. He is also Director of the University of Dayton Industrial Assessment Center. He has been a research engineer at the Center for Air Pollution Impact and Trend Analysis at Washington University, the International Institute for Applied Systems Analysis in Vienna, the Energy Systems Laboratory at Texas A&M University and the Center for Energy and Environmental Studies at Princeton University.

Dr. Kissock works in the fields of building, industrial and renewable energy systems. He teaches graduate and undergraduate courses in thermal sciences and energy systems. He was the Mechanical and Aerospace Engineering Professor of the Year in 2009, and has twice been honored with the Distinguished Educator Award by Who's Who Among America's Teachers.

His research has been supported with over \$3 million in contracts and grants from the U.S. Department of Energy, U.S. Environmental Protection Agency, U.S. Army, ASHRAE, State of Ohio and others. Dr. Kissock developed the EModel software for the Texas LoanSTAR programme, the Advanced PRISM software for Princeton University, the ETracker software for the U.S. Environmental Protection Agency Energy Star Buildings Program, the Inverse Modeling Toolkit for ASHRAE's Measurement and Verification Guideline and many other widely used software applications. In 2009 he won the University of Dayton Alumni Award for Scholarship. Dr. Kissock served as Associate Editor of the ASME Journal of Solar Energy Engineering and chaired the ASME Technical Committee on Conservation and Solar Buildings. He served as co-chair of the ACEEE 2007 Summer Study on Energy Efficiency in Industry. To date, he has conducted over 200 industrial and building energy assessments. He is a U.S. Department of Energy certified Energy Expert in compressed air and process heating systems. He has conducted numerous seminars and training sessions on energy efficiency for consultants, utilities, industrial and government organizations in the U.S. and internationally. The University of Dayton Industrial Assessment Center was recognized with the 2003 U.S. Department of Energy Center of Excellence Award and the 2006 Ohio Governor's Award for Excellence in Energy. Dr. Kissock's contributions were recognized with the 2011 Champion of Energy Efficiency award from the American Council for an Energy Efficient Economy.



Professor Joachim Luther is the CEO of the Solar Energy Research Institute of Singapore (SERIS). He is also a visiting Professor in the Department of Materials Science and Engineering, at the National University of Singapore. He was a member of the International Panel of Experts (IPE) on Sustainability of the Built Environment for the Building and Construction Authority of Singapore (BCA) in 2008 and of the Steering Committee on Environmental Sustainability (CES) of Singapore's Housing and Development Board (HDB).

Prof. Luther holds a PhD degree in atomic physics from the University of Hannover, Germany. From 1974 to 1993 he taught at the University of Oldenburg as professor for applied physics. He was the director of the Fraunhofer Institute for Solar Energy Systems in Freiburg and professor for solid state physics and solar energy at the University of Freiburg from 1993-2006.

He has been a member of numerous international and German committees on solar energy research and technology transfer, including the "Energy Research" task force of Germany's Scientific Council and the "Scientific Council on Global Environmental Change". He was Vice-Chairman of the European Union Photovoltaic Technology Platform. Since 2008, he has been a member of the Commission of Experts on Science and Innovation for the German Government. He is Chairman of the European Union "Becquerel Prize Committee" for outstanding merits in photovoltaics and a member of the Editorial Board for the Green: *International Journal of Sustainable Energy Conversion and Storage* published by Walter de Gruyter GmbH & Co. KG.

He won a number of awards, including the European Becquerel Prize "for outstanding merits in photovoltaics" and the German Environmental Award 2005 of the Deutsche Bundesstiftung Umwelt. In 2008, he was recognised by TIME magazine as a "Hero of the Environment". In 2009, he won the "Achievement through Action Award", International Solar Energy Society (ISES).



Mr. Ernst Meyer is Vice President in DNV and currently holds the position of Regional Manager for DNV Southeast Asia and the Pacific. The Singapore office has a staff of about 500 professionals. His responsibility covers maritime and energy business units operating across the region. His previous job at DNV was Regional Manager for Cleaner Energy and Natural Gas in the Asia Pacific. In this position he was responsible for building up business units serving the renewable energy industries in China, Korea, India and Singapore as well as natural gas units in the same countries plus Australia.

Mr. Meyer has also held Senior Management positions for DNV in Houston and Norway and he has been DNV's global director for LNG. Before joining DNV in 2001, Mr. Meyer worked for six years as a Project Development Engineer for Statoil. He holds an MSc in Marine Engineering and Naval Architecture from the University of Trondheim, Norway.



Mr. Kevin W. Chiu is currently the Head of Engineering for Substation Automation in the newly formed Smart Grid Division of the Infrastructure and Cities Sector at Siemens Malaysia Sdn. Bhd. His experience and expertise in automation spans more than 10 years. He is also serving as the country manager for Standards and Regulations Organization at Siemens.

He started his career in the field of automation with a BEng (Hons) in Electronics and Computing from Nottingham Trent University.

Over the course of his career, he has gained experience in the automation of systems for everything from tunnels to buildings to factories. Mr Chiu was first involved in substation automation when he served with VA Tech, SAT. To date he is credited with the engineering and commissioning of more than 15 Substation Automation Systems at high voltage substations, including the first full IEC61850 system in Malaysia.



Dr. Yuk-sum Wong is a research engineer at the State Grid Energy Research Institute (SGERI), State Grid Corporation of China. His research focuses on energy-economy modelling, cost-benefit analysis of smart grids and grid integration. He also serves as an Associate Editor of the *Encyclopedia of Automotive Engineering*. Recent publications have focused on electric vehicle (EV) batteries and vehicle-to-grid integration in smart grids.

Prior to joining SGERI, he worked in the Energy Studies Institute and Department of Mechanical Engineering at the National University of Singapore (NUS). His portfolio encompassed a wide range of energy-economy modelling and engineering projects, including development of a Singapore energy-economy model and EV lifecycle cost models. He also co-supervised a project on the development of a battery energy management system for EVs. Prior to his time at NUS, he was a research fellow at the National University of Ireland, Galway, where he researched and invented a temperature-compensated intermittent battery charge regime for batteries used in off-shore wind farms.

Dr. Wong received his PhD in electrical and electronic engineering from the University of Hong Kong. He developed an EV simulator for optimization of energy management strategies for EVs and hybrid vehicles. He also holds an MPhil. degree and a BEng. degree in electrical and electronic engineering from the University of Hong Kong.