Low-emissions pathways

Workshop agenda
15-16 March 2016, Houston, USA
Decarbonisation and the energy transition are topics increasingly being discussed, with the advent of a new international agreement on climate change from Paris COP-21 in December 2015. The workshop is intended to provide a forum to review and consider the outcomes and implications of the new climate agreement for the oil and gas industry. It will help clarify the long-term signals and implications post-COP-21 for our sector and inform future plans for IPIECA's strategy and long-term vision on climate.

### DAY 1: Tuesday, 15 March
#### 13:00 - 17:30
**Implications of Paris Agreement**

This session will review the outcomes from UNFCCC COP-21 and gain a detailed understanding of the implications of the agreement. We will consider the resultant actions that might be taken at the national level and where the oil and gas industry might play a role.

Chair: Arthur Lee (Chevron)

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<tr>
<th>Time</th>
<th>Session Title</th>
<th>Speaker(s)</th>
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<tr>
<td>13:00</td>
<td><strong>REGISTRATION</strong></td>
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<td>13:30</td>
<td><strong>INTRODUCTION</strong></td>
<td>Brian Sullivan (Executive Director, IPIECA)</td>
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<td>13:40</td>
<td><strong>ANALYSIS OF PARIS AGREEMENT</strong></td>
<td>Tim Profeta (Nicholas Institute for Environmental Policy Solutions, Duke University)</td>
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<td>- Was there progress on key issues: mitigation, adaptation, finance, capacity building, technology transfer?</td>
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<td>- What will the long-term political implications be from Paris?</td>
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<td>14:05</td>
<td><strong>MEANING AND IMPLICATIONS OF PARIS AGREEMENT</strong></td>
<td>Janet Peace (C2ES)</td>
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<td>- What does the text mean in terms of the key pillars: Mitigation, Adaptation, Finance, Capacity Building, Technology Transfer, Measurement, Reporting and Verification (MRV).</td>
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<td>14:30</td>
<td><strong>Q+A: THE STRENGTH OF THE PARIS AGREEMENT</strong></td>
<td>Tim Profeta and Janet Peace</td>
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<td>14:45</td>
<td><strong>NATIONAL AMBITION: INDCs AND &quot;PLEDGE AND REVIEW&quot;</strong></td>
<td>Henry Jacoby (MIT)</td>
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<td>- What do the aggregate INDCs achieve?</td>
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<td>- What will “pledge and review” achieve?</td>
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<td>- What is the role of finance in delivering INDCs?</td>
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<td>15:05</td>
<td><strong>UNEP INDCs GAP REPORT: REACHING A 2C OBJECTIVE</strong></td>
<td>Merlyn Van Voore (UNEP)</td>
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<td>- What do INDCs need to do to reach 2C? Has 1.5C been considered?</td>
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<td>15:25</td>
<td><strong>Q+A: NATIONAL AMBITION AND REACHING A 2C / 1.5C GOAL</strong></td>
<td>Henry Jacoby and Merlyn Van Voore</td>
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<td>15:40</td>
<td><strong>BREAK</strong></td>
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Day 2: Wednesday, 16 March
08:20 - 12:00
Low-emissions pathways

This session aims to:
• Understand possible future scenarios on energy and technology out in the medium to long-term (2100).
• Identify drivers, barriers, and assumptions.
• Focus on specific elements, including the shifting role of the power network, CCS, and whether developing countries can “leap-frog” in energy technology.

Chair: Kate Fay (Noble Energy)
Low-emissions pathways workshop agenda

10:25  BREAK

10:45  THE ELECTRIFICATION OF TRANSPORT
William Chernicoff (Toyota)
- Development and prospects for electric vehicles and the role of governments

11:05  PROSPECTS FOR CCS AND CCUS
Julio Friedmann (Lawrence Livermore National Laboratory)
- What are the prospects for CCS and CCUS in light of Paris and what government support is needed?

11:25  PANEL DISCUSSION: PATHWAYS TO A LOW-EMISSIONS FUTURE
Moderator: Geoff Styles
Panellists: Philippe Benoit, Ryan Jones, William Chernicoff, Julio Friedmann
- What does the energy mix look like in 2030? What is the role of oil and gas?
- What relative contribution for the technologies do you see (CCS, EVs, renewables, etc)?
- By 2030 the IEA 450ppm scenario projects 2.5 tCO₂ stored by 2030 and 5Gt by 2040. Can, and how, will the industrialisation of CCS in 15 years occur?
- What role might the industry play in delivering a low-emissions future?

12:00  LUNCH
Bios

Philippe Benoit

Philippe Benoit is the Head of the IEA’s Energy Environment Division that is responsible for analysing an array of climate change related issues, including policies to incentivize decarbonisation, analysing the impact of the COP negotiations on the energy sector and vice versa, and energy sector resilience issues. Mr. Benoit previously worked at the World Bank in a variety of capacities, including as Energy Sector Manager for the Latin America and Caribbean Region as well as project manager for the Chad/Cameroon Petroleum Development Project, as well as in the private sector, both as an investment banker (as a Director in SG’s oil and gas project finance department) and as a New York corporate lawyer specializing in energy project financings. In addition to renewables and energy efficiency, Mr. Benoit worked for about 15 years on oil and gas project financings, including the Baku-Ceyhan pipeline. Egypt LNG, the West Africa Gas Pipeline, the Turkey-Greece gas interconnector, and the West Africa Gas Pipeline. He has a BA in Economics and Political Science from Yale University and a JD from Harvard Law School.

William Chernicoff

Dr. Chernicoff started with Toyota Motor North America in January 2009 and leads efforts in technology policy and communication. Dr. Chernicoff provides key input into Toyota’s North American strategy and direction. His work includes analyzing sustainability, climate change, and energy impacts of technology development and deployment coupled with energy and environmental policy on Toyota’s North American vehicle and technology mix. Prior to joining Toyota in 2009, Dr. Chernicoff served as the hydrogen and alternative fuel program manager in US DOT’s Research and Innovative Technology Administration where his work focused on hydrogen and alternative fuel technology safety, development, demonstration, & deployment, and climate change mitigation.

John Drexhage

John Drexhage has over 20 years of experience working on issues related to climate change, natural resources and sustainable development. He has worked on these issues with as a negotiator in the UNFCCC representing the Canadian government, as Director of Climate Change and Energy with the International Institute for Sustainable Development and as Director for Climate Change and Energy Management with the International Council for Mining and Metals. John is currently working with ICMM, IPIECA, the International Fertilizer Association and the World Bank on processes related to the Sustainable Development Goals and the post Paris climate agreement.

Dirk Forrister

Dirk Forrister is President and CEO of the International Emissions Trading Association (IETA), a non-profit business association dedicated to market-based climate policies. Dirk brings deep experience from both the public and private sector in market-based environmental policy. In the early 2000’s, he spent a decade as Managing Director at Natsource LLC, the manager of one of the world’s largest carbon funds. Earlier in his career, he served as Chairman of the White House Climate Change Task Force under President Clinton and Assistant U.S. Secretary of Energy for Congressional, Public and Intergovernmental Affairs. He began his work in public policy as legislative counsel for Rep. Jim Cooper, whom he assisted in drafting the US acid rain trading law of 1990.

Julio Friedmann

Dr. Julio Friedmann is a laboratory fellow at the Lawrence Livermore National Laboratory. His prior appointments included the Principal Deputy Assistant Secretary for the Office of Fossil Energy and the Deputy Assistant Secretary for Clean Coal and Carbon Management at the US. Department of Energy. In these capacities, he is responsible for the DOE’s R&D program in advanced fossil energy systems, including carbon capture utilization and storage (CCUS), unconventional oil and gas programs, advanced power cycles, and subsurface science cross-cutting initiative. In his prior appointment as Chief Energy Technologist for Lawrence Livermore National Laboratory, Dr. Friedmann’s research portfolio included smart grid and energy systems analysis, conventional and unconventional hydrocarbons, CO2 capture, utilization, and sequestration, geothermal power, and renewable power prediction and integration. Dr. Friedmann is one of the most widely known and authoritative experts world-wide on carbon capture and sequestration.

Benjamin Gully

Dr. Ben Gully contributes battery expertise to many business areas within DNV-GL, including both maritime and stationary applications. Energy storage services and research at DNV-GL encompass both experimental and analytical evaluation; looking at performance, lifetime or degradation, as well as safety and failure testing. These efforts also include bankability studies and assessments, as well as system testing for qualification.
Henry Jacoby

Henry D. Jacoby is the William F. Pounds Professor of Management, Emeritus in the M.I.T. Sloan School of Management and former Co-Director of the M.I.T. Joint Program on the Science and Policy of Global Change. An undergraduate mechanical engineer at the University of Texas at Austin, he holds a Ph.D. in Economics from Harvard University where he also served on the faculties of the Department of Economics and the Kennedy School of Government. He has been Director of the Harvard Environmental Systems Program, Director of the MIT Center for Energy and Environmental Policy Research, Associate Director of the MIT Energy Laboratory, and Chair of the MIT Faculty. He currently serves on a U.S. National Academies Committee to Advise the U.S. Global Change Research Program, and on an Academies Committee on Assessing Approaches to Updating the Social Cost of Carbon.

Ryan Jones

Ryan has deep analytical expertise in electricity operations, reliability, and long term planning. His work has focused on jurisdictions with increasing levels of renewable energy, exploring implications from the perspective of system operators, as well as renewable developers and energy technology companies. Through this work, creating and using a broad set of analytical tools, Ryan has developed a unique conceptual understanding of the long-term challenges and opportunities of deep decarbonisation. He holds a masters degree from Stanford University in Atmosphere/Energy and a bachelors degree, Summa Cum Laude, from Emory University in Environmental Studies and Physics.

Amber Mahone

Amber Mahone is the Director of Climate Policy Analysis at Energy and Environmental Economics (E3), a prominent energy economics consulting firm based out of San Francisco. Ms. Mahone has expertise in energy and greenhouse gas policy evaluation and modeling, resource planning and energy efficiency. Since joining E3 in 2007, she has managed a wide range of projects, including evaluating the impacts of the 50% renewable portfolio standard in California and several multi-sector analyses of long-term greenhouse gas reductions pathways. She is currently working with the California Air Resources Board on their AB 32 Scoping Plan Update on greenhouse gas mitigation strategies. Ms. Mahone holds an M.P.A. from Princeton University and B.A. in International Relations from Wellesley College.

Janet Peace

Janet Peace is the Senior Vice President of Policy and Business Strategy at the Center for Climate and Energy Solutions (C2ES). She manages much of the center’s policy work and the Business Environmental Leadership Council (BELC), the largest U.S.-based association of companies devoted to climate-related policy and corporate strategies. Dr. Peace brings more than 25 years and a wide spectrum of experience on environmental issues to her work at C2ES. She is a recognized expert on market-based climate policy and is a past member of the National Research Council’s Roundtable on Climate Change Education and the Council of Canadian Academies on oil sands environmental technologies. She holds a Ph.D. and Master of Science in economics and an undergraduate degree in geology.

Tim Profeta

Tim Profeta is the director of Duke University’s Nicholas Institute for Environmental Policy Solutions. Profeta’s areas of expertise include climate change and energy policy, the Clean Air Act, and adaptive use of current environmental laws to address evolving environmental challenges. His work at the Nicholas Institute has included numerous legislative and executive branch proposals to mitigate climate change, including providing Congressional testimony several times on his work at Duke University, developing multiple legislative proposals for cost containment and economic efficiency in greenhouse gas mitigation programs, and facilitating climate and energy policy design processes for several U.S. states. Prior to his arrival at Duke, Profeta served as counsel for the environment to Sen. Joseph Lieberman. Profeta earned a J.D., magna cum laude, and M.E.M. in Resource Ecology from Duke in 1997 and a B.A. in Political Science from Yale University in 1992.

Geoffrey Styles

Geoffrey Styles is Managing Director of GSW Strategy Group, LLC, an energy and environmental strategy consulting firm. Since 2002 he has served as a consultant and advisor helping organizations and executives, particularly through the application of scenario planning. His industry experience includes 22 years at Texaco, Inc., culminating in a senior position on Texaco’s leadership team for strategy development, focused on the global refining, marketing, transportation and alternative energy businesses, and issues such as climate change and sustainable development. Previously he held senior positions in alliance management, planning, commodity trading, supply & distribution, and risk management. He earned an M.B.A from Berkeley’s Haas School of Business and a B.S. in Chemical Engineering from U.C. Davis.

Merlyn Van Voore

Ms Merlyn Van Voore has over 10 years’ experience in the climate change policy and negotiations arena. Merlyn has been UNEP’s climate change coordinator and special advisor to UNEP’s Executive Director, Achim Steiner on climate change issues, and in that dual capacity was responsible for overseeing all of UNEP’s COP21 preparations and strategic inputs. Prior to joining UNEP, Merlyn worked at the South African Government’s Department of Environmental Affairs as Director of International Governance and multilateral environmental agreements, including climate change. Merlyn was a member of the South African delegation to UNFCCC negotiations, where she focused on climate finance. She holds a Master’s degree in Public Policy and Economics from the London School of Economics and a Bachelor of Science degree (Mathematics) from the University of Cape Town.
IPIECA is the global oil and gas industry association for environmental and social issues. It develops, shares and promotes good practices and knowledge to help the industry improve its environmental and social performance, and is the industry’s principal channel of communication with the United Nations.

Through its member-led working groups and executive leadership, IPIECA brings together the collective expertise of oil and gas companies and associations. Its unique position within the industry enables its members to respond effectively to key environmental and social issues.

MEMBERS


IPIECA also has an active global network of oil and gas industry association members. Please refer to our website for a full list.