

MIT Industrial Liaison Program Faculty Knowledgebase Report

Scaling up low-carbon energy: Economic, geopolitical, and environmental impacts

July 7, 2020 10:00 am - 11:30 am

10:00am - 10:05pm

Opening Remarks
CJ (Changjie) Guo
Program Director, [MIT Corporate Relations](#)



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Program Director
[MIT Corporate Relations](#)

Dr. CJ Guo joined the Office of Corporate Relations as a Senior Industrial Liaison Officer in July, 2015. CJ comes to OCR with 25 years of extensive global experience in technology innovations, portfolio management and business development in emerging and conventional energy sectors with leading multinational corporations in the US, China and Canada.

CJ is a leading expert in emerging energy technologies and energy system transitions. With Shell, he was the Emerging Technology Theme Leader in China/Beijing (2011 to 2015), worked extensively with the Chinese energy communities on the country's future energy landscape, and the Senior Technology Advisor in alternative transportation fuels in the US / Houston (2006-2010), and served during 2010 as Chairman of the Fuel Operations Group for the US DOE FreedomCar Partnership. Prior to joining Shell, CJ has held technology development, commercialization and management positions with Air Liquide (2002-2006) and The BOC Group (1995-2001) after working as a research scientist in oil-sands upgrading with CANMET in Canada (1992-1994).

CJ earned his Ph.D., Chemical Engineering, at CSU, Ohio, his M.S. and B.S., Chemical Engineering at TYUT, China. He has earned various awards from Shell, Air Liquide, BOC, Shanxi Province (China). He holds many patents and has sat on the board of Shenzhen Sanmu Battery Technology Company as an independent board member during 2009-2010.

10:05am - 10:15am

Introduction and framing
Robert Armstrong
Chevron Professor of Chemical Engineering
Director, [MIT Energy Initiative \(MITEI\)](#)



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Professor Robert C. Armstrong directs the [MIT Energy Initiative](#), an Institute-wide effort at MIT linking science, technology, and policy to transform the world's energy systems. A member of the MIT faculty since 1973, Armstrong served as head of the Department of Chemical Engineering from 1996 to 2007. His research interests include polymer fluid mechanics, rheology of complex materials, and energy.

Armstrong has been elected into the American Academy of Arts and Sciences (2020) and the National Academy of Engineering (2008). He received the Founders Award for Outstanding Contributions to the Field of Chemical Engineering (2020), Warren K. Lewis Award (2006), and the Professional Progress Award (1992), all from the American Institute of Chemical Engineers. He also received the 2006 Bingham Medal from the Society of Rheology, which is devoted to the study of the science of deformation and flow of matter,

Armstrong was a member of MIT's [Future of Natural Gas](#) and [Future of Solar Energy](#) study groups. He advised the teams that developed MITEI's most recent reports, [The Future of Nuclear Energy in a Carbon-Constrained World](#) (2018) and [Insights into Future Mobility](#) (2019), and is co-chairing the new MITEI study, [The Future of Storage](#). He co-edited [Game Changers: Energy on the Move](#) with former U.S. Secretary of State George P. Shultz.

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10:15am - 10:40am

Scaling up low-carbon energy
Sergey Paltsev
Deputy Director, MIT Joint Program on the Science and Policy of Global Change
Senior Research Scientist, MIT Energy Initiative and MIT Center for Energy and
Environmental Policy Research (CEEPR)
Director, Energy at Scale Center



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Dr. Sergey Paltsev is a Deputy Director of the MIT Joint Program on the Science and Policy of Global Change, a Senior Research Scientist at the MIT Energy Initiative and MIT Center for Energy and Environmental Policy Research (CEEPR), and a Director of the MIT Energy-at-Scale Center, Massachusetts Institute of Technology (MIT), Cambridge, USA. He is the lead modeler in charge of the MIT Economic Projection and Policy Analysis (EPPA) model of the world economy. Dr. Paltsev is an author of more than 100 peer-reviewed publications in scientific journals and books in the area of energy economics, climate policy, transport, advanced energy technologies, and international trade. Sergey was a Lead Author of the Fifth Assessment Report (AR5) of the Intergovernmental Panel on Climate Change (IPCC). He is a recipient of the 2012 Pyke Johnson Award (by the Transportation Research Board of the National Academies, USA, for the best paper in the area of planning and environment). Sergey is an Advisory Board Member for the Global Trade Analysis Project (GTAP) Consortium and a Member of the Scientific Steering Committee of the Integrated Assessment Modeling Consortium. Additional information at:

<https://globalchange.mit.edu/about-us/personnel/paltsev-sergey>

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10:40am – 11:25am

Industry panel discussion
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Vijay Swarup
Vice President for Research and Development, ExxonMobil

Agustín Delgado
Chief Innovation and Sustainability Officer, Iberdrola

Thomas Fitzgerald
Senior Analyst, National Grid

Claudia Schaeffer
Global Energy and Climate Change Director, The Dow Chemical Company

11:25am - 11:30am

Closing remarks

Henry Jacoby
Professor Emeritus; Former Co-Director, MIT Joint Program