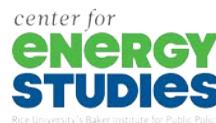


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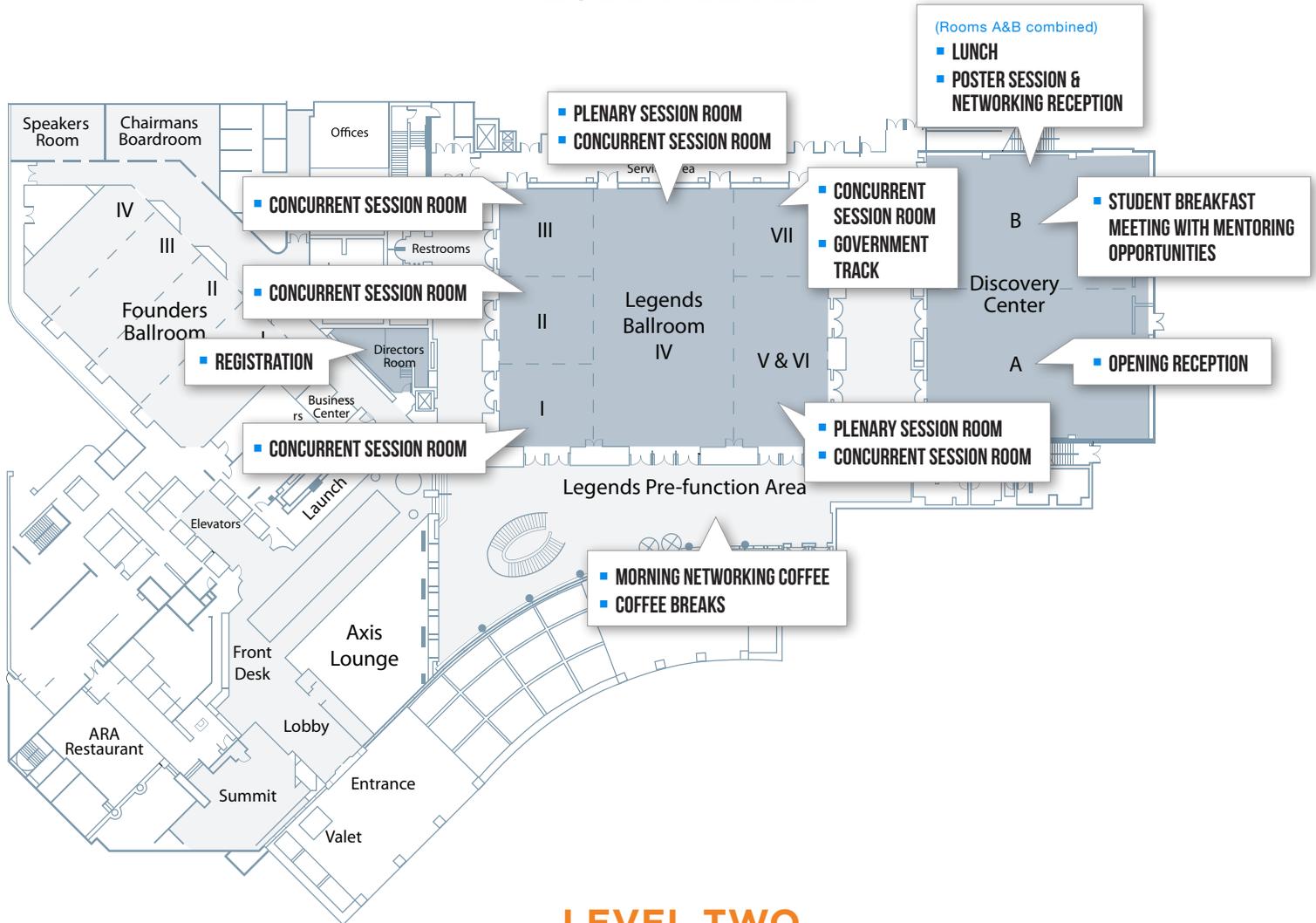
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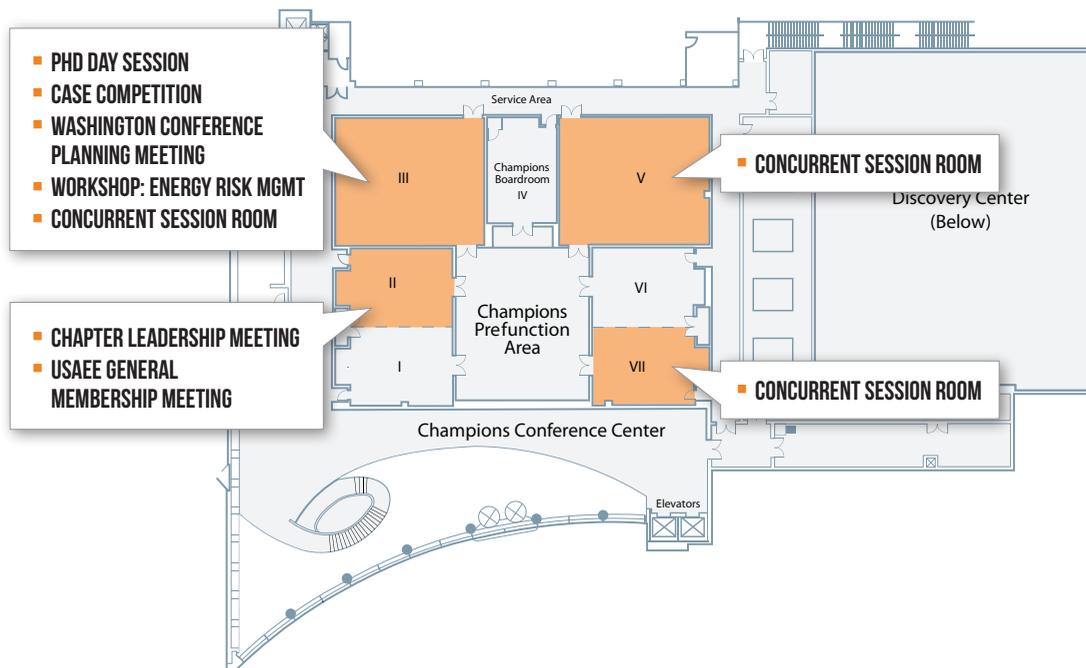


MEETING ROOMS AT ROYAL SONESTA HOUSTON

LOBBY LEVEL



LEVEL TWO



SUNDAY, NOVEMBER 12

PHD DAY SESSION

9:00 am - 3:30 pm ■ Champions III

A pre-conference event for students only. Each paper presented at this session will be reviewed by a discussant for a more in-depth and stimulating analysis.

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TOUR: OFFSHORE DRILLING RIG MUSEUM

1:00 pm - 5:00 pm ■ Offshore Drilling Rig Museum

Join us for a tour on the Ocean Star Offshore Drilling Rig Museum and Education Center. Meet at the front of the Royal Sonesta Hotel, porte-cochere to board bus.

REGISTRATION

12:00 noon - 7:00 pm ■ Directors Room

CASE COMPETITION SESSION

4:00 pm - 5:30 pm ■ Champions III

Parth Vaishnav (*Presiding*)

ASST. RESEARCH PROFESSOR, CARNEGIE MELLON UNIVERSITY

Team #1 - Energy Wranglers

Scott Vitter

Thomas Deetjen

Phillip White

Katrina Ramirez-Meyers

UNIVERSITY OF TEXAS, AUSTIN

Team #2 - EcoFin Environment

Salaheddine Soummame

Fatima Shuwaikh

UNIVERSITY OF PARIS-SACLAY

Team #3 - The Live Wires

Liza Reed

Tobi Adekanye

Anne Walker

CARNEGIE MELLON UNIVERSITY

Team #4 - Team Lehigh

Huilai Gu

Adhitya Jayasinghe

Salvador (Josh) Tarun

LEHIGH UNIVERSITY

OPENING RECEPTION

SUNDAY 6:00 PM - 7:30 PM

■ Discovery Center A

MONDAY, NOVEMBER 13

REGISTRATION

7:00 am - 7:00 pm ■ Directors Room

STUDENT BREAKFAST MEETING
WITH MENTORING OPPORTUNITIES

7:00 am - 8:30 am ■ Discovery Center B

Kick-off your conference experience at the Student Breakfast Meeting with an opportunity to meet your fellow students attending the conference as well as a selection of mentors who will be present at this event.

Come, have breakfast, and get to know the other students at the conference before the first session begins. Melanie Craxton, the USAEE Student Representative, will also be there to make some general announcements and answer any questions you may have. We have also organized for 5 seasoned professionals in various fields to be available at tables in the room for you to sit with and chat about their careers and personal experiences.

MORNING NETWORKING COFFEE

7:45 am - 8:30 am ■ Legends Ballroom

WELCOME & INTRODUCTION

8:30 am - 9:00 am ■ Legends IV

OPENING PLENARY SESSION:

The U.S. as an International Oil and Natural Gas Market Maker — Markets, Geopolitics and U.S. Energy Policy

9:00 am - 10:30 am ■ Legends IV

The shale technology revolution is shifting the U.S. role in world oil and natural gas markets from market taker to market maker. Saudi Arabia, Russia, Qatar and China will vie for market position, but none looks likely to have the same market clout in the new geopolitics of excess supply. How will this affect and be affected by market forces, geopolitical dynamics and emerging U.S. energy policy & politics in the Trump Administration? What will this mean for oil and natural gas price and supply security, and future energy cycles?

Edward L Morse (*Presiding & Presenting*)

GLOBAL HEAD OF COMMODITIES RESEARCH, CITIGROUP

Sarah Ladislaw

DIRECTOR AND SENIOR FELLOW, ENERGY AND NATIONAL SECURITY PROGRAM, CENTER FOR STRATEGIC AND INTERNATIONAL STUDIES

Amy Jaffe

DAVID RUBENSTEIN SR FELLOW FOR ENERGY AND THE ENVIRONMENT AND DIRECTOR, PROGRAM ON ENERGY SECURITY AND CLIMATE CHANGE, COUNCIL ON FOREIGN RELATIONS

COFFEE BREAK

10:30 am - 11:00 am ■ Legends Ballroom Pre-Function

CONCURRENT SESSIONS 1-9

11:00 am - 12:45 pm

1. Does Nuclear Have a Place in 21st Century Energy Supply?

■ Legends IV

Christophe Bonnery (*Presiding*)

DIRECTOR ECONOMICS & PROSPECTIVE, ENEDIS

The Economic Impact of Nuclear Power Plant Shutdowns

Jung You

CALIFORNIA STATE UNIVERSITY-EAST BAY

Minsoo Jeong

YONSEI UNIVERSITY

Scenarios for a Low-Carbon European Electricity Sector

Clemens Gerbaulet

Casimir L Lorenz

BERLIN UNIVERSITY OF TECHNOLOGY

Oei Pao-Yu

Claudia Kemfert

GERMAN INSTITUTE FOR ECONOMIC RESEARCH (DIW BERLIN)

Economic Aspects of Nuclear Power in the 21st Century

Christian R von Hirschhausen

PROFESSOR, BERLIN UNIVERSITY OF TECHNOLOGY

Decomposing the Public's Fear of Nuclear Power

Parth Vaishnav

CARNEGIE MELLON UNIVERSITY

Ahmed Abdulla

UNIVERSITY OF CALIFORNIA SAN DIEGO

2. Electricity Market Design Issues for Accommodating Renewables

■ Legends V, VI

Andrew Coleman (*Presiding*)

GOVERNMENT LEAD, EPRI

Market Design, Welfare, and Environmental Implications of Recognizing Wind Production Uncertainty in PJM

Ali Daraeepour

Dalia Patino-Echeverri

DUKE UNIVERSITY

Flexible Forward Contracts for Renewable Energy Generators in Deregulated Electricity Markets

Zamiyad Dar

GE ENERGY CONSULTING - GE POWER

Aparna Gupta

Koushik Kar

RENSSELAER POLYTECHNIC INSTITUTE

MONDAY, NOVEMBER 13, CONTINUED

Two-sided and Non-Convex Markets for Electricity Markets

Alberto Lamadrid
Luis F Zuluaga
Xiaolong Kuang
LEHIGH UNIVERSITY

Forward Contracts and Generator Market Power: How Externalities Reduce Benefits in Equilibrium

Ian Schneider
MIT

Audun Botterud
ARGONNE NATIONAL LABORATORY AND MIT LIDS

Mardavij Roozbehani
MIT LIDS

3. Alternatives to Fossil Fuels in Future Energy Supply

■ Legends VII

Ricardo Raineri Bernain (*Presiding*)
PROFESSOR, PONTIFICIA UNIV CATOLICA DE CHILE

Sensitivity of Solar Fossil Hybrid Electricity Technology Penetration to Price and Efficiency Projections

Kristen E Brown
U.S. ENVIRONMENTAL PROTECTION AGENCY

Designing a Global Energy System Based on 100% Renewables for 2050

Pao-Yu C Oei
BERLIN UNIVERSITY OF TECHNOLOGY

Thorsten Buhrandt
Konstantin Loeffler
Karlo Hainsch
BERLIN UNIVERSITY OF TECHNOLOGY (TU BERLIN)

Examining a “No Regrets” Policy to Facilitate a Transition to a Lower Carbon Future

Frances Wood
Sharon Showalter
ONLOCATION, INC.

A Review of Hydrogen Production Pathways, Cost and Decarbonization Potential

Fan Tong
CARNEGIE INSTITUTION FOR SCIENCE

Ines L Azevedo
Jeremy Michalek
CARNEGIE MELLON UNIVERSITY

4. Modeling North American Natural Gas and NGL Markets: Focus on Exports

■ Legends II

Robert Borgstrom (*Presiding*)
INDEPENDENT CONSULTANT

A MARKAL-Based Analysis to Assess the Role of Natural Gas in Electricity Sector Emission Reductions for Future Energy Scenarios

Bandyopadhyay Rubenka
Ozge Kaplan
U.S. EPA

Prospects for North American LNG Exports—How Much and How Soon

Robert E Brooks
Ning Lin
RBAC, INC.

RBAC's 2017 North American NGL Market Forecast

Robert E Brooks
RBAC, INC.
Ken Chow
MUSE, STANCIL & CO.

5. Macroeconomics and Energy: GE Models, Cycles and Growth

■ Legends I

Ronald Ripple (*Presiding*)
PROFESSOR OF ENERGY BUSINESS AND FINANCE,
THE UNIVERSITY OF TULSA

The U.S. Shale Oil Boom, the Oil Export Ban and the Economy: A General Equilibrium Analysis

Michael Plante
Mine Yucel
FEDERAL RESERVE BANK OF DALLAS

Nida Melek
FEDERAL RESERVE BANK OF KANSAS CITY

An Evaluation of U.S. Macroeconomic and Petroleum Market Outcomes under Future Economic Scenarios

Gbadebo Oladosu
Paul N Leiby
OAK RIDGE NATIONAL LAB

Jennifer C Li
U.S. DEPARTMENT OF ENERGY

Credit Market Frictions and Business Cycle Dynamics in an Oil-Rich Emerging Economy Model

Fred O Iklaga
Fadimah Yusuf
Moses K Tule
CENTRAL BANK OF NIGERIA

Non-Renewable Resources, Extraction Technology and Endogenous Growth

Martin Stuermer
FEDERAL RESERVE BANK OF DALLAS

Gregor Schwerhoff
MCC BERLIN

6. Role of OPEC in the World Oil Market

■ Legends III

Samiha Khayyat (*Presiding*)
ASSISTANT PROFESSOR, KING ABDULAZIZ UNIVERSITY

The Value of Exporting an Additional Barrel of Oil Saved in Saudi Arabia

Jorge Blazquez
Axel Pierru
KAPSARC

Baltasar Manzano
UNIVERSIDAD DE VIGO AND KAPSARC

Lester C Hunt
UNIVERSITY OF PORTSMOUTH AND KAPSARC

Integration in the Global Production of Energy Commodities

Neil A Wilmot
ASSOCIATE PROFESSOR, UNIVERSITY OF MINNESOTA

Shale Producers' Erosion of OPEC Market Power: Captured in an Empirical Dominant Firm Model

Peter N Volkmar
PHD STUDENT, RICE UNIVERSITY

Investment in Incremental Production Capacity by a Dominant Oil Producer

Yaser Faquih
RICE UNIVERSITY

7. Coping with Risks in the Natural Gas Industry

■ Champions III

James Smith (*Presiding*)
PROFESSOR OF FINANCE, SOUTHERN METHODIST UNIVERSITY

Securing Regulatory Stability for International Gas Commercialisation and LNG Projects: The Nigerian Experience

Tade Oyewunmi
CENTRE FOR CLIMATE CHANGE,
ENERGY AND ENVIRONMENTAL LAW

The Cost of the Missing Pipeline — Constraints and Adaptation

Patty S VanHorn
NEWLAND CONSULTING

How Reliable Is Natural Gas? An Historical Overview of Natural Gas Transmission's Outage Track Record

Carly J Page
NEVADA PUBLIC UTILITIES COMMISSION

Diagnostic Metrics for The Adequate Development of Efficient-Market Base-Load Natural Gas Storage Capacity

Ernesto Guzman
COLORADO SCHOOL OF MINES

MONDAY, NOVEMBER 13, CONTINUED

8. Student Best Paper Competition

■ Champions VII

Anastasia Shcherbakova (*Presiding*)
ASST PROF DEPT OF AG ECON, TEXAS A&M UNIVERSITY

Natural Gas Salt Cavern Storage Cost Predictability
Nathalie Hinchey
RICE UNIVERSITY

Fuel Switching from Coal to Gas: The Impact of Coal Stockpiling at U.S. Coal-fired Plants
Sul-Ki Lee
COLORADO SCHOOL OF MINES

Peaking Interest: How Awareness Drives the Effectiveness of Time-of-use Electricity Pricing
Brian Prest
DUKE UNIVERSITY

Dam Spillovers: Direct Costs and Spillovers from Environmental Constraints on Hydroelectric Generation
Brian Archsmith
UNIVERSITY OF CALIFORNIA DAVIS

9. Costs, Benefits and Pricing of Renewable Generation

■ Champions V

Thomas Drennen (*Presiding*)
PROFESSOR OF ECONOMICS,
HOBART AND WILLIAM SMITH COLLEGES

U.S. Wind and Solar Are Much Less Efficient Decarbonizers than Combined Cycle Gas Turbines
James L. Plummer
CLIMATE ECONOMICS FOUNDATION

Charles R. Frank
BROOKINGS INSTITUTION

Robert R. Michaels
CALIFORNIA STATE U FULLERTON

On Renewable Energy Pricing
Julian I. Silk
KEEE

Evaluating Net Energy Metering: Insights into Welfare Impacts from an Economic Efficiency Approach
Melanie Craxton
James Sweeney
STANFORD UNIVERSITY

Renewable Energy Levelized Energy Cost Modeling: Lessons for Marine Energy Conversion Technologies
Peter H Kobos
Vincent S Neary
Bernadette A Hernandez-Sanchez
Ryan G Coe
SANDIA NATIONAL LABORATORIES

AWARDS LUNCHEON

12:45 pm - 2:30 pm ■ Discovery Center A & B

USAEE Adelman Frankel Award to:
Mine K. Yucel

USAEE Senior Fellow Awards to:
James T. Jensen
Edward L. Morse
Samuel A. Van Vactor

Robert McNally (*Keynote Speaker*)
FOUNDER AND PRESIDENT, THE RAPIDAN GROUP

"Welcome Back to Boom-Bust Prices"

DUAL PLENARY SESSION:

Innovation in Energy Finance and Investment — Accelerating a Transition

2:30 pm - 4:00 pm ■ Legends IV

Rapidly changing dynamics in energy infrastructure, consumer demands, and technology innovations are stimulating change and innovation in energy sector finance. The financing of and investment in the energy industry is increasingly occurring through more innovative vehicles and techniques. From third party financing of rooftop solar to leveraging the yieldco model to provide liquidity to debt financings, these changes introduce complexity and opportunity for the investment community and economic stakeholders.

Martha Goodell (*Presiding*)
MANAGING PARTNER, ENIGAMI PARTNERS LLC

Jason Blumberg
CEO AND MANAGING DIRECTOR, ENERGY FOUNDRY

Ric Abel
MANAGING DIRECTOR,
PRUDENTIAL CAPITAL ENERGY PARTNERS

Caitlin MacLean
DIRECTOR, INNOVATIVE FINANCE, MILKEN INSTITUTE

DUAL PLENARY SESSION:

Future of the Refining Sector — Trumponomics and Low Oil Prices

2:30 pm - 4:00 pm ■ Legends V & VI

Globalization has transformed the downstream refining sector, but can global product demand keep pace with expectations for new supply amid emerging new environmental regulations? How will downstream refiners, in both domestic and international markets, evolve to regain market balance? What are the myths versus realities? Our panel of experts will provide insights into the changing conditions and answers to these questions.

Tina Vital (*Presiding*)
DIRECTOR, AEGIS ENERGY ADVISORS CORP

Carol A Dahl
SENIOR FELLOW, COLORADO SCHOOL OF MINES

Garfield L Miller III
PRESIDENT AND CHIEF EXECUTIVE OFFICER,
AEGIS ENERGY ADVISORS CORP

Susan W Grissom
CHIEF INDUSTRY ANALYST, GOVERNMENT RELATIONS/
OUTREACH, AMERICAN FUEL & PETROCHEMICAL MANUFACTURERS

COFFEE BREAK

4:00 pm - 4:30 pm ■ Legends Ballroom Pre-Function

CONCURRENT SESSIONS 10-18

4:30 pm - 6:15 pm

10. Evolution of the North American Electricity Supply System

■ Legends IV

Peter Balash (*Presiding*)
SENIOR ECONOMIST, U.S. DEPARTMENT OF ENERGY - NETL

Efficiency and Productivity of U.S. Coal-Burning Power Plants
Jermaine A Moulton
BELOIT COLLEGE

Natural Gas Combined Cycle Innovations in the U.S.: The Impact of the Advanced Turbine System Program
Kelly A. Stevens
UNIVERSITY OF CENTRAL FLORIDA

Risky Business: Marginal Switching and Price Volatility in PJM
Anastasia V Shcherbakova
TEXAS A&M UNIVERSITY
Jeremy Lin
PJM INTERCONNECTION

Alessio Saretto
UNIVERSITY OF TEXAS AT DALLAS

Evolution of North American Gas Power in the Post-Obama Era
Robert E Brooks
Bethel A King
RBAC, INC.

Rahul Dhal
EPIS, LLC

MONDAY, NOVEMBER 13, CONTINUED

11. Risk in Electricity Markets and Effects on Suppliers and Customers

■ Legends V, VI

Alberto J. Lamadrid (*Presiding*)

ASSISTANT PROFESSOR OF ECONOMICS, LEHIGH UNIVERSITY

The Effect of Procuring Electricity In-House on Utility's Performance: Evidence from the U.S. Electric Utility Industry

Takuro Tanaka

CENTRAL RESEARCH INSTITUTE OF ELECTRIC POWER INDUSTRY

Effect of Suppliers' Risk Appetite on Market Performance in Electricity Markets

Masahiro Ishii

SOPHIA UNIVERSITY

Koichiro Tezuka

NIHON UNIVERSITY

Who Pays in Deregulated Electricity Markets?: Quasi-Experimental Evidence of Inter Class Subsidization from Ohio Complete Bill Data

Noah C Dormady

Alfredo Roa-Henriquez

OHIO STATE UNIVERSITY

Matthew Hoyt

EXETER ASSOCIATES

Price Dispersion in the Norwegian Electricity Market

Kari-Anne Fange

OSTFOLD UNIVERSITY COLLEGE/
NORWEGIAN UNIVERSITY OF LIFE SCIENCES

Olvar Bergland

NORWEGIAN UNIVERSITY OF LIFE SCIENCES

12. CO₂ Emissions: Taxes, Cap-and-Trade, Vehicle Emissions

■ Legends VII

Martha Goodell (*Presiding*)

MANAGING DIRECTOR, ENIGAMI PARTNERS LLC

Price and Carbon Tax Elasticities of Diesel Demand in British Columbia

Jean-Thomas Bernard

Maral Kichian

UNIVERSITY OF OTTAWA

Flexibility in Petroleum Product Mix Undermines Greenhouse Gas Benefits from Biofuel Policies

I. Daniel Posen

UNIVERSITY OF TORONTO

W. Michael Griffin

Paulina Jaramillo

Inês L Azevedo

CARNEGIE MELLON UNIVERSITY

Richard J Plevin

UNIVERSITY OF CALIFORNIA, BERKELEY

A Spatial Assessment of Vehicles' Climate Change and Air Pollution Damages Across the United States

Fan Tong

CARNEGIE INSTITUTION FOR SCIENCE

Inês L Azevedo

Paulina Jaramillo

CARNEGIE MELLON UNIVERSITY

Cost-Effective Methane Mitigation Policy in an Era of Low Natural Gas Prices

Arvind P Ravikumar

Adam R Brandt

STANFORD UNIVERSITY

13. Modeling Energy Supply, Demand and Prices

■ Legends II

Melanie Craxton (*Presiding*)

PHD CANDIDATE, STANFORD UNIVERSITY

Long-Run Productivity Models of Oil and Gas for Energy and Climate Policy: A Stable Equilibrium or Inherent Volatility?

Justin Ritchie

Hadi Dowlatabadi

UNIVERSITY OF BRITISH COLUMBIA

The Dependence of Commodity Spot-Futures Markets: How Can This Help Investors to Make Profit? A Copula Approach

Sana Ben Kebaier

PHD STUDENT, UNIVERSITY OF PARIS DAUPHINE

The Cost Implications of Managing Outliers in Energy Commodity Prices

Joe Byers

FINANCIALSEAL

Betty J. Simkins

OKLAHOMA STATE UNIVERSITY

Ivilina Popova

TEXAS STATE UNIVERSITY

Analysis of Electricity Demand and Price Patterns of the United States Electricity Sector

Suman Gautam

ECONOMIST, DAYMARK ENERGY ADVISORS

14. Energy Intensity and Energy Transition in Japan and China

■ Legends I

David H. Knapp (*Presiding*)

CHIEF ENERGY ECONOMIST, ENERGY INTELLIGENCE GROUP

Economic Cycles and the Responsiveness of Natural Gas Demand in China's Residential Sector – An Unobserved Components Model

Noha Razek

SENIOR RESEARCH ASSOCIATE, KAPSARC

Regional Electricity Demand and Economic Transition in China

Jiang Lin

Xu Liu

LAWRENCE BERKELEY NATIONAL LABORATORY

Jin Guo

CHINA NDRG MACRO ECONOMIC RESEARCH INSTITUTE

Gang He

STONY BROOK UNIVERSITY

Induced Technological Change and the Declining Energy Intensity of the Japanese Economy

Toshihiro Mukai

CENTRAL RESEARCH INSTITUTE OF ELECTRIC POWER INDUSTRY

Embodied and Disembodied Capital in Energy Conservation: The Case of Chinese Industry

Sarah Tang

SUFFOLK UNIVERSITY

Gary Jefferson

BRANDEIS UNIVERSITY

15. Interactions between Energy Markets and Monetary and Fiscal Policy

■ Legends III

Peter Hartley (*Presiding*)

MITCHELL PROFESSOR OF ECONOMICS, RICE UNIVERSITY

The Empirical Relationship between U.S. Monetary Policy and Oil Prices

Jungho Baek

UNIVERSITY OF ALASKA

Dragan Mijjkovic

NORTH DAKOTA STATE UNIVERSITY

Finders, Keepers?

Niko Jaakkola

IFO INSTITUTE

Daniel Spiro

OSLO BUSINESS SCHOOL

Arthur van Benthem

THE WHARTON SCHOOL

A Merged Biophysical and Monetary Model Linking Natural Resources and Debt

Carey King

THE UNIVERSITY OF TEXAS AT AUSTIN

Evaluating the Impact of Oil Price Volatility on Investor and Fiscal Revenues

Akil Zaimi

KAPSARC

Baltasar Manzano

KAPSARC AND UNIVERSIDADE DE VIGO

16. The Future of LNG and Natural Gas Markets More Generally

■ Champions III

Burcu Cigerli Esmerok (*Presiding*)

SENIOR ANALYST, SHELL OIL COMPANY

Will There Still be a Golden Age of Gas?

Kirsten N Smith

James Kendall

ASIA PACIFIC ENERGY RESEARCH CENTRE

Yoshikazu Kobayashi

INSTITUTE OF ENERGY ECONOMICS, JAPAN

MONDAY, NOVEMBER 13, CONTINUED

Future LNG Market in Japan Based on the Potential Capacity Back of its Nuclear by 2020

Hisanori Nei
PROFESSOR, GRIPS

Will the Natural Gas Price Remain Low?

Jean-Pierre M Favennec
CONSULTANT, WD COOPERATION

What Drives LNG Spot Prices?

Ziya Cologlu
PH.D. CANDIDATE, UNIVERSITY OF TEXAS AT DALLAS

17. Transportation: Electric Vehicles, Fuel Economy Standards and Other Policies

■ Champions VII

Benjamin Schlesinger (*Presiding*)
PRESIDENT, BENJAMIN SCHLESINGER & ASSOC LLC

An Analysis of the Macroeconomic Effects of 2017-2025 Federal Fuel Economy and Greenhouse Gas Emissions Standards

Sanya Carley
Denvil Duncan
Nikos Ziropiannis
John D Graham
INDIANA UNIVERSITY

Saba Siddiki
SYRACUSE UNIVERSITY

Energy Policies in the Transportation Sector

Paulo Henrique de Mello Santana
Luiza P Bertazzoli
ABC FEDERAL UNIVERSITY

Understanding Latent Demand for Hybrid and Plug-In Electric Vehicles Using Large-Scale Longitudinal Survey Data of U.S. New Vehicle Buyers

Rubal Dua
Kenneth White
KAPSARC

Evaluating Future Emissions from Electric Vehicles Across the United States with a Changing Electric Grid Mix Under the Clean Power Plan

Alan Jenn
UNIVERSITY OF CALIFORNIA, DAVIS

18. Solar PV: Deployment and Impacts

■ Champions V

Peter Kobos (*Presiding*)
MGR WATER POWER TECHNOLOGIES,
SANDIA NATIONAL LABORATORIES

The Impacts of Photovoltaic Electricity Self-Consumption on Value Transfers Between Private and Public Stakeholders in France

Jonathan Richard Ludovic Roulot
Ricardo Raineri Bernain
PONTIFICIA UNIVERSIDAD CATÓLICA DE CHILE

Measuring PV Technical Potential and Financial Feasibility for Educational Buildings in the United States

Nichole Hanus
Gabrielle Wong-Parodi
Ines Azevedo
Alex Davis
CARNEGIE MELLON UNIVERSITY

The Political Economy of Community Solar: Lessons from Minnesota

Gabriel Chan
UNIVERSITY OF MINNESOTA

Screening Solar PV Adopters and Non-adopters: An Application of Machine Learning Methods

Changgui Dong
RENMIN UNIVERSITY OF CHINA
Benjamin Sigrin
NATIONAL RENEWABLE ENERGY LABORATORY

USAEE CHAPTER LEADERSHIP MEETING

5:15 pm - 6:15 pm ■ Champions II

POSTER SESSION & NETWORKING RECEPTION

6:30 pm - 8:00 pm ■ Discovery Center A & B

1. Opportunities and Risk Factors in Construction of Solar Photovoltaic Plant with Venture of Public Private Partnership. Case Study of Largest PV Plant

Bilal Anwar
PHD RESEARCH SCHOLAR, XI'AN JIAOTONG UNIVERSITY

2. The Design of Flat Energy Management Structure for Iron & Steel Enterprises in China

Yuhui Jin
Shiping Jin
Junyin Zhang
Yan Long
HUAZHONG UNIVERSITY OF SCIENCE AND TECHNOLOGY

Yonghong Huang
WISDRI ENGINEERING & RESEARCH INCORPORATION LIMITED

3. The Future of the Energy Sector and Geopolitical Impact

Ikechukwu Igwe
EMERALD ENERGY INSTITUTE

4. Why is There a Gap for Energy Performance? Evidence from Green Commercial Buildings

Jing Liang
Yueming (Lucy) Qiu
UNIVERSITY OF MARYLAND

5. An Analyze of Oil Royalties Impacts on the Southeastern Municipalities per Capita GDP: A Spatial Econometric Approach for the Natural Resource Curse

Felipe Tavares
Augusto Seabra
Alexandre Almeida
UNIVERSITY OF SÃO PAULO

6. Optimum Hybrid Configuration For Off-Grid Rural Electricity Generation In The Six Geopolitical Zones Of Nigeria

Nathaniel A Babajide
CENTRE FOR ENERGY,
PETROLEUM AND MINERAL LAW AND POLICY

7. Welfare Impacts of Optimal Virtual Bidding in a Multi-Settlement Electricity Market with Transmission Line Congestion

Hyungkwan Kim
Andrew L Liu
Paul V Preckel
PURDUE UNIVERSITY

Douglas Gotham
STATE UTILITY FORECASTING GROUP

8. Energy Storage Reshaping The Grid

Hudson R Howard
FROSTBURG STATE UNIVERSITY

9. Effectiveness of Feed-in Tariff and Renewable Portfolio Standard under Strategic Pricing in Network Access

Kurakawa Yukihide
WASEDA UNIVERSITY
Hibiki Akira
TOHOKU UNIVERSITY

10. Modeling Complexity in Energy Systems: A Fuzzy Logic Approach

Mohammed AlMehdar
BRANDEIS UNIVERSITY

11. Stochastic versus Deterministic Grid-Evolution Models- A Case Study on MISO

Naga S. Goteti
Eric Williams
Eric Hittinger
ROCHESTER INSTITUTE OF TECHNOLOGY

12. Energy Efficiency and Machine Learning: Understanding Technology Adoption Decisions

Aramayis Dallakyan
Reid Stevens
TEXAS A&M UNIVERSITY

STUDENT HAPPY HOUR MONDAY 8:00 PM - 10:00 PM ■ THE RAILYARD

Immediately following the Poster Session & Networking Reception, come join fellow students at The Railyard, a 15 minute walk from the conference hotel, for further drinks and networking opportunities. Gather at the Meeting Point (Hotel Lobby) at 7:45 pm to walk over with the first group, or join us at your convenience. **Railyard – 4206 San Felipe St., Houston, TX 77027**

TUESDAY, NOVEMBER 14

REGISTRATION

7:00 am - 6:30 pm ■ Directors Room

MORNING NETWORKING COFFEE

7:45 am - 8:30 am ■ Legends Ballroom Pre-Function

CONCURRENT SESSIONS 19-27

8:30 am - 10:15 am

19. Energy Storage in Electricity Supply Systems

■ Legends IV

John Jimison (*Presiding*)
ATTORNEY AT LAW - ENERGY

Effects of Grid-Scale Electricity Storage on System Carbon Dioxide Emissions as a Power System Decarbonizes

Michael Craig
Paulina Jaramillo
CARNEGIE MELLON UNIVERSITY

Bri-Mathias Hodge
U.S. NATIONAL RENEWABLE ENERGY LABORATORY

Can Energy Storage Operation Be Clean? Reducing System Emissions While Retaining Revenue

Eric Hittinger
Laura Arciniegas
ROCHESTER INSTITUTE OF TECHNOLOGY

Renewable Electricity Storage with Ammonia Fuel: A Case Study in Japan with Optimal Power Generation Mix Model

Ryoichi Komiyama
Yasumasa Fujii
THE UNIVERSITY OF TOKYO

Arbitrage Strategies for Energy Storage Units

Olvar Bergland
NMBU

20. Electricity Transmission and Trade in Electricity

■ Legends V, VI

Paul Christie (*Presiding*)
SENIOR ANALYST, ALPINE ENERGY

The Impact of International Trade on Electric Loads in Mexico

Marc H Vatter
MARC H. VATTER, PH.D.

Daniel F Suurkask
BIRCH ENERGY ECONOMICS, LLC

A Review of Literature on Electricity Network Pricing Against Recent Findings in New Zealand

Paul A Christie
SENIOR ANALYST, ALPINE ENERGY LIMITED, NEW ZEALAND

California's Cap-and-Trade Program and Emission Leakage: An Empirical Analysis

Chiara Lo Prete
Cody Hohl
Ashish Tyagi
THE PENNSYLVANIA STATE UNIVERSITY

Reducing Variable Generation Curtailment Through Flexible Transmission Expansion and Operation in the United States

Yinong Sun
Wesley Cole
NATIONAL RENEWABLE ENERGY LABORATORY

21. Environmental Issues Arising from Energy Production

■ Legends VII

Troy Thompson (*Presiding*)
BUSINESS PLANNING & ANALYTICS MGR, CHEVRON

Life Cycle Cost Analysis Comparing the Conventional and a Prototype Bio-Based Manufacturing Process for a Wind Turbine Blade

Katerin Yessenia Ramirez Tejada
David A. Turcotte
Daniel Schmidt
Kelechi Adejumo
Enmanuelle Reynaud
UNIVERSITY OF MASSACHUSETTS LOWELL

The Impact of Environmental Regulation on the U.S. Coal Industry: A Counterfactual Analysis

Isaac A Duah
WASHINGTON STATE UNIVERSITY

Climate Change and Energy Production: The Effect of Drought on Hydraulic Fracturing Productivity

Reid B Stevens
Gregory L. Torell
TEXAS A&M UNIVERSITY

Case Study - Dynamic Pressure-Limited Capacity and Costs of CO₂ Storage in the Mount Simon Sandstone

Steven T. Anderson
Hossein Jahediesfanjani
U.S. GEOLOGICAL SURVEY

22. Modeling Interactions between Energy Markets and CO₂ Emissions

■ Legends II

David H. Knapp (*Presiding*)
CHIEF ENERGY ECONOMIST, ENERGY INTELLIGENCE GROUP

The Effect of Restricting Coal Consumption on Coal Exports and Greenhouse Gas Emissions

Andre J Barbe
U.S. INTERNATIONAL TRADE COMMISSION

The Impact of Climate Change on Residential Energy Demand: A Case Study of Australia

Nnaemeka V Emodi
Rabiul Beg
Taha Chaiechi
JAMES COOK UNIVERSITY

Decarbonization of Power Markets and Fairness: An Application of Cooperative Game Theory

Christoph Weissbart
IFO INSTITUT

Electric Generation Scenario Modelling with Uncertainty in CO₂ Price

Joel R Theis
Charles A Zelek
Christopher J Nichols
Peter C Balash
NATIONAL ENERGY TECHNOLOGY LABORATORY

23. Energy Security and Emergency Oil Stockpiling

■ Legends I

Shirley Neff (*Presiding*)
SENIOR ADVISOR, ENERGY INFORMATION ADMINISTRATION

Impacts of Oil Price Shocks on the U.S. Economy: a Meta-Analysis of Oil Price Elasticity of GDP for Net Oil-Importing Economies

Gbadebo Oladosu
Paul Leiby
David Bowman
Megan Johnson
Rocio Uria-Martinez
OAK RIDGE NATIONAL LABORATORY

Economic Benefits of Alternative Configurations of the Strategic Petroleum Reserve

Paul Leiby
Rocio Uria-Martinez
Gbadebo A Oladosu
OAK RIDGE NATIONAL LABORATORY

David C Bowman
ECONOTECH LLC

Megan Johnson
ORISE/ORNL

Using Meta-Analysis to Estimate World Oil Demand Elasticity

Rocio Uria-Martinez
Megan M Johnson
Paul N Leiby
OAK RIDGE NATIONAL LABORATORY

David Bowman
ECONOTECH

Gbadebo Oladosu
OAK RIDGE NATIONAL LABORATORY

TUESDAY, NOVEMBER 14, *CONTINUED***The Strategic Determinants of Oil Stockpiling Behavior**

Kenneth R Vincent
DEPARTMENT OF ENERGY

Informing SPR Policy Through Oil Futures and Inventory Dynamics

Richard G. Newell
RESOURCES FOR THE FUTURE

Brian C Prest
DUKE UNIVERSITY

24. Information about North American Energy Markets

■ Legends III

Tina Vital, Presiding
DIRECTOR, AEGIS ENERGY ADVISORS CORP.

Impact of Incidences in Regional Natural Gas Price

Negar Dahi Taleghani
Arash Dahi Taleghani
LOUISIANA STATE UNIVERSITY

Are U.S. Federal Reporting Thresholds Adequate to Address an Interdependent Electricity and Natural Gas Grid?

Gerad M Freeman
Jay Apt
CARNEGIE MELLON UNIVERSITY

BLM Oil and Gas Economic Impact Analysis: Methods, Desk Guide, and Tool to Facilitate IMPLAN Analysis for Oil and Gas Activities on the Federal Mineral Estate

Holly W Bender
Lisa A McDonald
PINYON ENVIRONMENTAL

Josh Sidon
BUREAU OF LAND MANAGEMENT

Chris Dixon
LOUIS BERGER

David (Tex) Taylor
UNIVERSITY OF WYOMING

North American Cooperation on Energy Information

Shirley Neff
Natalie Kempkey
ENERGY INFORMATION ADMINISTRATION (EIA) DOE

25. Issues Arising from the Shale Revolution

■ Champions III

Michael Plante, Presiding
SENIOR RESEARCH ECONOMIST,
FEDERAL RESERVE BANK OF DALLAS

Revisiting the Economic Impacts of Fracking in the Pennsylvania

Timothy Considine
UNIVERSITY OF WYOMING

The Impact of Shale Boom on North American Natural Gas Market

Xiaoli Zheng
UNIVERSITY OF CALGARY

How Spot Prices Shape Future Drilling Activity: an Empirical Analysis in New Mexico

Elmira Kalhor
Janie M. Chermak
UNIVERSITY OF NEW MEXICO

Optimal Royalty Rates in the Haynesville Shale

Mark Agerton
RICE UNIVERSITY

26. Financing Energy Projects, with a Focus on Government Enterprises

■ Champions VII

Kim Coffman, Presiding
ECONOMIST, U.S. BUREAU OF OCEAN ENERGY MGMT.

Why Federal Agency Energy Projects are Privately Financed

Michael E Canes
DISTINGUISHED FELLOW, LMI

Performance Measurement for Oil and Gas Companies: Functional Currency

Fumihiko Matsubara
HOSEI UNIVERSITY

Empirical Relationship Between Energy Infrastructure, Project Finance and Other Conventional Sources of Financing Using Generalised Method of Moments to Explain the Variations in Energy Projects in Developing Nations (Nigerian Energy Sector)

Nasir A Kolade
UNIVERSITY OF THE WEST OF SCOTLAND

Have the Chinese National Oil Companies Paid Too Much in Overseas Asset Acquisition?

Xiaoyi Mu
UNIVERSITY OF DUNDEE

27. Global Adoption of Solar Power and Solar Technology Transfer

■ Champions V

Seth Blumsack, Presiding
ASSOCIATE PROFESSOR, PENN STATE UNIVERSITY

Patent Quality, Intellectual Property Rights, and Technology Transfer in the Solar Sector: All in the Family?

Amanda Phalin
LECTURER, WARRINGTON COLLEGE OF BUSINESS,
UNIVERSITY OF FLORIDA

Assessing the Effectiveness of Feed-in-Tariffs and Renewable Portfolio Standards: An Analysis of Global Renewable Energy Policy

Gregory B Upton
LOUISIANA STATE UNIVERSITY

Sanya Carley
INDIANA UNIVERSITY BLOOMINGTON

Cross-Border Cost Reductions from PV Capacity in Germany

Felix Muesgens
BRANDENBURG UNIVERSITY OF TECHNOLOGY

International Model for Diffusion of Residential Solar Power

Eric Williams
Matthew Ronnenberg
Rexon Carvalho
ROCHESTER INSTITUTE OF TECHNOLOGY

COFFEE BREAK

10:15 am - 10:45 am ■ Legends Ballroom Pre-Function

DUAL PLENARY SESSION:**Changing Ties with Mexico**

10:45 am - 12:15 pm ■ Legends IV

Mexican energy regulators and operators will discuss their expectations on the country's outlook as the Energy Reform is implemented as well as the vulnerabilities and potential impacts of a policy shift in the U.S.. The trends toward larger foreign direct investments and trade links with the U.S. have strengthened. Most of the natural gas consumed in Mexico today is imported from the U.S. through pipelines and LNG vessels. Furthermore, U.S. oil and gas companies participated in tendering processes for oil fields, and some will start operations soon.

Alejandra Elizondo (Presiding)
RESEARCH FELLOW, CIDE

Guillermo Garcia Alcocer
PRESIDENT COMMISSIONER, ENERGY REGULATORY COMMISSION

Jimena Marvan
DEPUTY EXECUTIVE DIRECTOR, ASEA

Hector Moreira Rodriguez
COMMISSIONER, NATIONAL HYDROCARBONS COMM. OF MEXICO

DUAL PLENARY SESSION:**Electricity Markets**

10:45 am - 12:15 pm ■ Legends V & VI

The electricity industry is undergoing significant change. This panel will explore some of the rapidly evolving characteristics within electricity markets such as the role of different market players, legal issues that may arise at the grid's edge, and resource price dynamics.

William C (Bill) Starnes (Presiding)
PARTNER, RESOLVED ENERGY CONSULTING LLC

Michael Wara
ASSOCIATE PROFESSOR OF LAW, JUSTIN M ROACH, JR.
FACULTY SCHOLAR, STANFORD LAW SCHOOL

Elizabeth Wilson
PROFESSOR, DARTMOUTH COLLEGE

Joshua D Rhodes
POSTDOCTORAL RESEARCH FELLOW, UNIVERSITY OF TEXAS AUSTIN

Jean-Baptiste Galland
SVP STRATEGY, ENEDIS

TUESDAY, NOVEMBER 14, CONTINUED

AWARDS LUNCHEON

12:15 pm - 2:00 pm ■ Discovery Center A & B

Student & Other Awards/Recognitions

Case Competition Presentation

GOVERNMENT TRACK & CONCURRENT SESSIONS 28 TO 36

2:00 pm - 3:45 pm

28. Customer Response to Electricity Prices

■ Legends IV

Eric Hittinger (*Presiding*)

ASSISTANT PROFESSOR,
ROCHESTER INSTITUTE OF TECHNOLOGY

A Novel Approach to Improve the Estimation of Customer Baseline Loads in Residential Demand Response Programs

Peter M Schwarz
Saeed Mohajeryami

UNC CHARLOTTE

Optimizing the Generation Capacity Expansion Cost in Presence of Demand Response in the German Electricity Market

Hamid Aghaie

AIT AUSTRIAN INSTITUTE OF TECHNOLOGY

How Do Households Respond to Critical Peak Pricing? Experimental Evidence on the Role of Information and Incentives

Kenneth Gillingham

ASSOCIATE PROFESSOR, YALE UNIVERSITY

Analysis on the Relationship Between Literacy and Energy Choices in Japan

Miwa Nakai
Yasunori Kikuchi

Tatsuya Okubo
THE UNIVERSITY OF TOKYO

29. Some Wider Lessons from the ERCOT Experience?

■ Legends V, VI

Karl Nalepa (*Presiding*)

PRESIDENT, RESOLVED ENERGY CONSULTING

Operating Reserve Demand Curve, Scarcity Pricing and Intermittent Generation: Lessons from the Texas ERCOT Experience

Raul Bajo-Buenestado

UNIVERSITY OF NAVARRA

Smooth Transition and Integration of the ERCOT Market

Xiaodong Du

UNIVERSITY OF WISCONSIN-MADISON

Ofir D Rubin

BEN-GURION UNIVERSITY OF THE NEGEV, ISRAEL

Does Electricity Get Cheaper and Cleaner with More Wind in ERCOT

Chen-Hao Tsai

CENTER FOR ENERGY ECONOMICS,
THE UNIVERSITY OF TEXAS AT AUSTIN

Derya Eryilmaz

NERA ECONOMIC CONSULTING INC.

The Cost of Policy Uncertainty in Electric Sector Capacity Planning: Implications for Instrument Choice

Benjamin D Leibowicz

ASSISTANT PROFESSOR, THE UNIVERSITY OF TEXAS AT AUSTIN

★ GOVERNMENT TRACK ★

30. Electricity System Flexibility

■ Legends VII

As electricity systems include more variable energy resources and experience changing use patterns, greater flexibility may be needed to ensure reliability. In the near-term, existing generation assets could deliver adequate flexibility if market rules provided sufficient incentives. Without rule changes, however, such assets may be inefficiently utilized and their long-term viability threatened. Meanwhile, nascent technologies such as transactive controls may allow demand-side assets to deliver flexibility, but their impacts on utilities and customers, as well as their public acceptability, are uncertain. This session will explore these diverse perspectives on flexibility by bringing together experts from Department of Energy headquarters and its National Laboratories to review recently completed and ongoing analytical work that is helping to inform operations, planning, policy, and other decisions in this space. This session also will feature a Federal Energy Regulatory Commission presentation concerning market design efforts underway to enable economically efficient deployment and utilization of the myriad of flexibility resources available.

Eric Hsieh, (*Moderator*)

DIRECTOR, OFFICE OF ENERGY FINANCE AND INCENTIVES ANALYSIS, U.S. DEPARTMENT OF ENERGY

Josh Novacheck

SENIOR ANALYST, ELECTRICITY SYSTEM RESEARCH ENGINEER, GRID SYSTEM ANALYSIS, NATIONAL RENEWABLE ENERGY LABORATORY

Abhishek Somani

SENIOR RESEARCH ECONOMIST, ELECTRICITY INFRASTRUCTURE INTEGRATION, PACIFIC NORTHWEST NATIONAL LABORATORY

Fletcher Fields

ECONOMIST, OFFICE OF ENERGY POLICY AND SYSTEMS ANALYSIS, U.S. DEPARTMENT OF ENERGY

Mary Wierzbicki

MANAGER, OFFICE OF ENERGY POLICY AND INNOVATION, FEDERAL ENERGY REGULATORY COMMISSION

31. Modeling CCS, Energy Efficiency and Non-fossil Energy Alternatives

■ Legends II

John Holding (*Presiding*)

INDEPENDENT ENERGY ANALYST

Are U.S. Coal-Fired Power Plants Quantity-Quality Efficient?

Saleem Shaik
Dragan Miljkovic
David Ripplinger

NORTH DAKOTA STATE UNIVERSITY

Older Wind Power Projects: Market Performance and Planning Considerations

Michael Giberson
TEXAS TECH UNIVERSITY

Michael Reed
WEST VIRGINIA UNIVERSITY

Hydrogen Storage Applications in Industrial Microgrids

Marie-Louise Arlt

Goncalo Cardoso
LAWRENCE BERKELEY NATIONAL LAB

Dean Weng

ELECTRIC POWER RESEARCH INSTITUTE

The Transition from Enhanced Oil Recovery to Carbon Capture and Sequestration

Dana M Abdulbaqi
Mohammed AISHaikh

SAUDI ARAMCO

Carol Dahl

COLORADO SCHOOL OF MINES AND LULEO TECHNICAL UNIVERSITY

32. Energy and Geopolitics with a Focus on LNG

■ Legends I

Nathalie Hinchey (*Presiding*)

PHD CANDIDATE, RICE UNIVERSITY

Implications of the Panama Canal Expansion on the Global LNG Market: Lessons for African LNG Producers

Israel J Onyije
Omowumi Iledare
Onuoha I Nnachi

EMERALD ENERGY INSTITUTE,
UNIVERSITY OF PORT HARCOURT

U.S. Potential as a Swing Supplier in the Atlantic Basin

Hannah Gagarin

OAK RIDGE INSTITUTE FOR SCIENCE AND EDUCATION

Carly J Page

NEVADA PUBLIC UTILITIES COMMISSION

TUESDAY, NOVEMBER 14, CONTINUED

Energy Security Implications of Biofuels: Welfare Effects of Biomass Supply Shocks

Rocio Uria-Martinez
Paul N Leiby
OAK RIDGE NATIONAL LABORATORY

Maxwell Brown
COLORADO SCHOOL OF MINES/ORNL

Consequences of U.S. LNG Exports on Gazprom and European Gas Markets

Chi Kong Chyong
EPRI, UNIVERSITY OF CAMBRIDGE

33. Growth of Renewables in the U.S. and China: Explanations and Environmental Consequences

■ Legends III

Suman Gautam (*Presiding*)
ECONOMIST, DAYMARK ENERGY ADVISORS

Drivers of Economic Wind and Solar Penetration in the United States

David Young
John Bistline
EPRI

Modeling the Energy, Climate, and Water Nexus and Tradeoffs in China's Power Sector

Gang He
STONY BROOK UNIVERSITY

The Environmental Potentials of China's Electricity Reform

Yu Yang
Jianxiao Wang
TSINGHUA UNIVERSITY

Climate, Air Quality and Human Health Benefits of Various Solar Photovoltaic Development Scenarios in China in 2030

Junnan Yang
Denise L Mauzerall
Xiaoyuan Li
PRINCETON UNIVERSITY

Wei Peng
HARVARD KENNEDY SCHOOL

Fabian Wagner
INTERNATIONAL INSTITUTE FOR APPLIED SYSTEMS ANALYSIS

34. Estimating Energy Demand

■ Champions III

Benjamin Hobbs (*Presiding*)
PROFESSOR, JOHNS HOPKINS UNIVERSITY

Energy Demand Estimation and Forecasting in Qatar

Ahmed A Khalifa
QATAR UNIVERSITY
Massimiliano Caporin
DEPARTMENT OF STATISTICAL SCIENCES,
UNIVERSITY OF PADOVA

Revisiting the Long-run Income Elasticity of Energy Consumption: An OECD-country Panel Analysis

Brantley Liddle
ENERGY STUDIES INSTITUTE

The Long Run Price Elasticity of Demand for Residential Gas Consumption in the United States: A Time Varying Approach

Kelly R Burns
CURTIN UNIVERSITY

Forecasting Motor Gasoline Consumption in the United States

Melissa Lynes
ENERGY INFORMATION ADMINISTRATION

35. Energy Finance

■ Champions VII

William Kemp (*Presiding*)
PARTNER, ENOVATION PARTNERS, LLC

Skew Preference in Energy Commodity Option Design

Rafael Emmanuel A Macatangay
UNIVERSITY OF DUNDEE

Alebachew D Yimer
NV ENERGY INC.

Modelling the Volatility of Electricity Spot Price in Brazil

Andre L S Leite
PROFESSOR, FEDERAL UNIVERSITY OF SANTA CATARINA

Relative Efficiency of Hedging U.S. Saudi Crude Oil Imports: Employing WTI and Brent Futures Contracts

Kelly D. Burns
Julian Inchauspe
CURTIN UNIVERSITY

Ronald D Ripple
UNIVERSITY OF TULSA

Identifying and Quantifying Risks and Uncertainties in Developing an Offshore Oilfield Under Varying Oil Price Regimes

Oyebimpe Adeogun
Ovunda O. Green
Omowumi O. Iledare
EMERALD ENERGY INSTITUTE, UNIVERSITY OF PORT HARCOURT

36. Environmental and other Effects of Renewable and Bioenergy Sources

■ Champions V

James C. McDonnell (*Presiding*)
COO, AVALON ENERGY SERVICES, LLC

Intended and Unintended Consequences of U.S. Renewable Energy Policies

Nisal Herath
Wally Tyner
PURDUE UNIVERSITY

Renewable Energy Projects: A Socioeconomic and Environmental Case Study for New Mexico

Jamal Mamkhezri
UNIVERSITY OF NEW MEXICO

Jennifer Thacher
ASSOCIATE PROFESSOR

Janie M Chermak
PROFESSOR

Bioenergy Prospects in Mexico

Hector M Nunez
CENTRO DE INVESTIGACIÓN Y DOCENCIA ECONÓMICAS

General Equilibrium Effects of Mitigation Actions in the Primary Sector in Mexico

Alejandra Elizondo
CIDE

María Eugenia Ibararán
IBERO PUEBLA

Roy Boyd
OHIO UNIVERSITY

COFFEE BREAK

3:45 pm - 4:15 pm ■ Legends Ballroom Pre-Function

DUAL PLENARY SESSION:

Entrepreneurship in the Energy World

4:15 pm - 5:45 pm ■ Legends IV

Innovation and entrepreneurship are growing in the energy eco-system. New Startups are proposing improvements, sometimes incremental, sometimes disruptive, to energy production, delivery or consumption. Low and volatile prices pressure businesses to reduce costs, while high and volatile prices encourage consumers to reduce demand and look for alternatives. Universities are also playing a vital role in connecting researchers and collegiate entrepreneurs to investors in launching successful ventures.

Shree Vikas (*Presiding*)
DIRECTOR MARKET INTELLIGENCE & BUSINESS ANALYSIS,
CONOCOPHILLIPS

Brad Burke
MANAGING DIRECTOR, RICE ALLIANCE
FOR TECHNOLOGY AND ENTREPRENEURSHIP

Jim Sledzik
DIRECTOR, HALL LABS LLC

Kemal Anbarci
MANAGING VENTURE EXECUTIVE,
CHEVRON TECHNOLOGY VENTURES

Surya Rajan
MANAGING PARTNER AND VICE PRESIDENT,
PROFITABILITY3

TUESDAY, CONT.

DUAL PLENARY SESSION:

Renewable Energy - Integration Challenges and Emerging Solutions

4:15 pm - 5:45 pm ■ Legends V & VI

This plenary explores challenges related to the integration of renewable energy generation into electrical grids and emerging solutions implemented in U.S. wholesale electricity markets. Topics of interest include the need for better coordination between renewable energy assets and transmission planning; the definition of new markets and products to maintain grid stability and accommodate renewable penetration; and interactions with climate change policy.

Alberto J Lamadrid (*Co-Presiding*)
ASSISTANT PROFESSOR, LEHIGH UNIVERSITY

Chiara Lo Prete (*Co-Presiding*)
ASSISTANT PROFESSOR ENERGY ECONOMICS,
THE PENNSYLVANIA STATE UNIVERSITY

Benjamin F. Hobbs
PROFESSOR OF ENVIRONMENTAL MANAGEMENT,
JOHNS HOPKINS UNIVERSITY

Michael Robinson
PRINCIPAL ADVISOR OF MARKET DESIGN, MISO

Nitika Mago
SUPERVISOR OPERATIONS ANALYSIS, ERCOT

USAEE GENERAL MEMBERSHIP MEETING

5:45 pm - 6:15 pm ■ Champions II

OPTIONAL NETWORKING DINNERS
TUESDAY 6:30 PM - 9:00 PM

Sign up at registration desk; cost not included in registration fee. See page 12 for more information.

WEDNESDAY, NOVEMBER 15

REGISTRATION

7:00 am - 6:00 pm ■ Directors Room

WASHINGTON CONFERENCE PLANNING MEETING

7:30 am - 8:30 am
■ Champions III

MORNING NETWORKING COFFEE

7:45 am - 8:30 am ■ Legends Ballroom Pre-Function

DUAL PLENARY SESSION:

Strategies to Adapt, Survive and Evolve in the Upstream Oil and Gas Markets

8:30 am - 10:00 am ■ Legends IV

The downturn in global crude prices negatively impacted all segments of the upstream sector, and has forced a broad rethink in how firms operate. What strategies have companies across the upstream sector, from service companies to operators, both onshore and offshore, employed to emerge in better position after the downturn? What structural changes have upstream players employed? Have these lessons been learned for the long-term or are we in danger of repeating history? Our panel of experts from across the upstream sector will speak from their experiences on these and other questions affecting the upstream.

Caldwell Bailey (*Presiding*)
INVESTOR RELATIONS, HI CRUSH

Ron Gusek
PRESIDENT, LIBERTY OILFIELD SERVICES

John Daniel
SENIOR RESEARCH ANALYST, OILFIELD SERVICES, SIMMONS

Robert Kleinberg
SCHLUMBERGER FELLOW EMERITUS, SCHLUMBERGER

Laura Fulton
CHIEF FINANCIAL OFFICER, HI-CRUSH PROPPANTS LLC

DUAL PLENARY SESSION:

Intelligent Energy Systems

8:30 am - 10:00 am ■ Legends V & VI

Infrastructure, technologies, and the 'Internet of Things' are changing the energy sector in ways that were recently only science fiction. From using 'Big Data' for real-time electricity grid monitoring to cutting-edge technologies in smart buildings, smart grids, and autonomous vehicle networks, the prospects, management tools, as well as the cyber risks continue to gyrate upward. This panel of experts will explore such issues including the intelligent energy systems of today, what they envision as enablers and opportunities for the energy systems of the future, along with accompanying risks and challenges.

Melanie Craxton (*Presiding*)
PHD CANDIDATE, STANFORD UNIVERSITY

Anna Scaglione
PROFESSOR, ARIZONA STATE UNIVERSITY

Zoltan Nagy
PROFESSOR, UT AUSTIN

Ram Rajagopal
ASSISTANT PROFESSOR OF CIVIL AND ENVIRONMENTAL ENGINEERING, STANFORD UNIVERSITY

COFFEE BREAK

10:00 am - 10:30 am ■ Legends Ballroom Pre-Function

CLOSING PLENARY SESSION:

Pulling It All Together: Are We Cycling Uphill or Downhill?

10:30 am - 12:15 pm ■ Legends IV

The closing plenary session will gather three nationally-recognized experts from industry and academia in a participatory discussion of the state of energy markets and policy in North America. The panelists will make brief remarks and the audience will then be invited to have a highly interactive discussion with the panelists and the panel moderator. As much of the time for this session will be dedicated to the audience rather than the panelists, this session is a great chance for conference participants to engage in sustained and meaningful dialogue with the panelists and each other.

David H Knapp (*Presiding*)
CHIEF ENERGY ECONOMIST, ENERGY INTELLIGENCE GROUP

Adam E Sieminski
ENERGY & NATIONAL SECURITY PROGRAM,
CENTER FOR STRATEGIC & INT'L STUDIES

Michael Webber
DEPUTY DIRECTOR, ENERGY INSTITUTE,
UNIVERSITY OF TEXAS AT AUSTIN

Guy Caruso
SENIOR ADVISOR, CENTER FOR STRATEGIC AND INTERNATIONAL STUDIES

WEDNESDAY, CONT.**NOTES**

WORKSHOP:

Global Energy Risk Management: Turning Risk into a Competitive Opportunity

12:45pm - 5:00pm ■ Champions III

Energy risk management requires focus on the complexities associated with asset transformation, storage, processing, treatment and transportation of energy commodities to develop sound risk management strategies. This session will communicate from lectures and case studies to gain an understanding of:

- The basics of energy risk management.
- Fostering a mindset of real option valuation to address risk and value added strategies.
- Hedging strategies to add extrinsic value to a company's asset structure.

Separate registration required. See Registration Desk.

Glenn Labhart (*Presiding*)

CHAIRMAN OF ENERGY OVERSIGHT COMMITTEE OF THE GARP ERP PROGRAM & SENIOR PARTNER LABHART RISK ADVISORS

Spyros Maragos

MANAGER ANALYTICS, DIRECT ENERGY

Gordon E. Goodman

INDEPENDENT ENERGY CONSULTANT

TOUR: PETRA NOVA

12:45pm - 5:00pm

Attendees of the USAEE/IAEE North America Conference will have the unique opportunity to visit and tour the Petra Nova generation and carbon capture facility, located southwest of Houston. Meet at the front of the Royal Sonesta Hotel, porte-cochere to board bus.

PROGRAM COMMITTEE

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Thomas Drennen, *Hobart and William Smith Colleges*

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POSTER SESSION CHAIR

John Holding, *Independent Practitioner*

CASE COMPETITION CHAIR

Parth Vaishnav, *Carnegie Mellon University*

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Caldwell Bailey, *IHS Energy*

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Andrew Slaughter, *Deloitte Services LP*

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Melanie Craxton, *Stanford University*

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Seth Blumsack, *Penn State University*

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Kim Coffman, *U.S. Bureau of Ocean Energy Management*

Melanie Craxton, *Stanford University*

Carol Dahl, *Colorado School of Mines*

Thomas Drennen, *Hobart and William Smith Colleges*

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Andrew Slaughter, *Deloitte Services LP*

James Smith, *Southern Methodist University*

Jesse Thompson, *FRB Dallas - Houston Branch*

Shree Vikas, *ConocoPhillips*

Tina Vital, *Aegis Energy Advisors Corp*

Meal tickets are only valid for conference provided meal functions. Meal tickets are not transferrable to general hotel restaurants or bars.

ELECTRONIC COMMUNICATIONS

We encourage all delegates to use our conference website. The Conference Program; Session Abstracts, Full Papers, & Bios (if available); Detailed Session Descriptions & Speaker Biographies; and more can all be accessed at www.usaee.org/usaee2017/

Our Mobile website at www.usaee.org/usaee2017/mobile provides abridged information for on-the-go delegates, including Hotel & City Maps, Weather forecasts, and a link to the Conference Survey.

CONFERENCE SURVEY

Please visit <https://tinyurl.com/USAEE17> to take our Houston Conference Survey. We very much value your opinions to help shape our next conference.

USAEE CASE COMPETITION

The United States Association for Energy Economics (USAEE) Case Competition is a team-based competition focused on energy economics, open to teams of students across the globe. This year, the topic for the competition involves the potential impact on fossil fuel resource-holders of policies aimed at keeping anthropogenic global warming to below 2°C. Participating teams worked on the designated case problem over a period of three weeks and submitted a written report detailing their methods and solution to USAEE. The four teams with the best solutions will be presenting their results in a special session on Sunday afternoon from 4:00–5:30pm in the Champions III Room, immediately preceding the Opening Reception. These four teams will be competing for first, second and third place with cash prizes to be awarded. Furthermore, the winning team will present their research to all conference delegates during Tuesday's lunch.

This program would not be possible without the financial support of the following organization:



Besides a special thanks to our sponsor, we are also grateful to the USAEE Case Competition committee that has worked hard over the past year to ensure the success of this event!

OPTIONAL NETWORKING DINNERS

The Royal Sonesta hotel is located in the Galleria area of Houston and is surrounded by numerous award-winning and acclaimed restaurants. On Tuesday evening some of the USAEE leaders will host interested conference attendees to networking dinners at various restaurants (American, Italian, Mexican, and Seafood) within a 5-10 minute walk of the hotel. This will be a great opportunity for you to mix, mingle and network in an informal setting. Please note that attendees will be responsible for paying for their own dinner. Signup sheets will be available at the Conference registration desk from Sunday until Tuesday noon time. Signup will be first-come first-serve and seating for each restaurant will be limited. Those signed up will leave from the Royal Sonesta main lobby at 6:30pm to walk to the restaurants.

PLEASE NOTE

By the act of registering and attending this USAEE/IAEE North American conference, you agree that USAEE/IAEE shall acquire the right to use your name, photograph, video recording, and/or audio recording in reporting on the conference in their publications or website, in publicity for future conferences, or in other reasonable manners for the benefit of the Association(s). You further agree to waive any liability on the part of the USAEE/IAEE, and to hold the USAEE/IAEE harmless, for any damages, injury, or loss of benefits that you incur during your travel to or from or attendance at this conference. Presentations will be collected from conference laptops for placement in the Online Conference Proceedings.



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Advanced Resources International
 American Petroleum Institute
 Aramco Services Company
 Carnegie Mellon University
 Center for Energy Studies,
 Louisiana State University
 Chevron Corporation
 ConocoPhillips, Inc.
 ExxonMobil Corporation
 Institute of Transportation Studies,
 University of California, Davis
 John and Willie Leone Family
 Department of Energy and Mineral
 Engineering, Pennsylvania State University
 KAPSARC
 National Renewable Energy Laboratory
 Rice University, Baker Institute
 Shell Oil Products US
 Toyota Motor North America
 University of Tulsa

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Administración del Mercado Eléctrico,
Uruguay
 Aramco Services Co., *USA*
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 Carleton University, Faculty of Public Affairs,
Canada
 ConocoPhillips, *USA*
 Energy Information Administration, *USA*
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South Korea
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 Norwegian School of Economics
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 Rice University, Baker Institute, *USA*
 Shell International, Ltd., *Netherlands*
 The Energy Studies Institute,
 National University of Singapore,
Singapore
 University of Alberta, *Canada*
 University of Auckland, *New Zealand*
 University of Stavanger, *Norway*
 University of Western Australia, *Australia*
 UTE, *Uruguay*

FUTURE IAEE EVENTS

2018

April 22-24

Abuja, Nigeria

11th NAEE/IAEE Conference

Theme to be Announced

June 10-13

Groningen, The Netherlands

41st IAEE International Conference

Transforming Energy Markets

September 23-26

Washington, DC, USA

36th USAEE/IAEE North American Conference

Evolving Energy Realities: Adapting to What's Next

October 18-20

Tbilisi, Georgia

3rd IAEE Eurasian Conference

Theme to be Announced

November 2-4

Wuhan, China

6th IAEE Asian Conference

Energy Exploitation and Cooperation in Asia

2019

May 26-29

Montreal, Canada

42nd IAEE International Conference

Local Energy, Global Markets

August 25-28

Ljubljana, Slovenia

16th IAEE European Conference

Energy Challenges for the Next Decade

October 17-19

Astana or Almaty, Kazakhstan

4th IAEE Eurasian Conference

Theme to be Announced

The USAEE Government Track

This is the second year that the USAEE is offering a Government Track. It is designed to serve members who are affected by actions of Federal, state, and local governments and to appeal to a wider audience as well. It seeks to provide both topics of interest and opportunities for collaboration and professional development.

The Inaugural Government Track was offered at our North American Conference in Tulsa, Oklahoma. It took place two weeks before the U.S. Presidential election in 2016 and focused on lessons learned in previous Presidential and other government transitions.

This year, the USAEE Government Committee has arranged the opening plenary session on international oil and natural gas markets, geopolitics and U.S. energy policy, which extends beyond the Government Track, and a separate Government Track panel discussion on the need for electricity system flexibility in the face of variable generation sources and changing use patterns.

This Government Track session, **Electricity System Flexibility**, will take place on **Tuesday, November 14, 2:00 - 3:45pm in Legends VII**. The panel of speakers will bring together experts from the Department of Energy headquarters offices, DOE's National Laboratories, and the Federal Energy Regulatory Commission. They will discuss recent analytical work to help inform operations, planning, policy, and other decisions in this space as well as to describe market design efforts underway at FERC to enable economically efficient deployment and utilization of the myriad of flexibility resources available.

Although Government Track sessions will tend to be discussions regarding policy, rather than presentations of individual research projects, in future conferences these sessions may vary considerably and are expected to include plenary-level talks and discussions, panel discussions of policies, laws, and regulations, skill-based workshops, and other events. Often, these will be developed in collaboration with other parts of the USAEE organization, as was the case of the post-conference energy risk workshop in 2016. Please include any suggestions for future Government Track session with your conference evaluation or submit them directly to usae@usae.org.

