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Day 2: Sunday, February 5, 2023
Concurrent Session Block 1
11:15 – 12:45

Concurrent Session 1A: Geopolitical Risk and Energy Security

Session Location: Auditorium, Ground Floor, APEX Convention Center

Session Presider: Tilak Doshi, Doshi Consulting

The Security of Energy Demand

Author & Presenter: Michael Lynch, Energy Policy Research Foundation, Inc. (EPRINC)

Energy Security in Mexico

Author & Presenter: Emily Medina, Asia Pacific Energy Research Centre (APEREC)

Quantifying Energy Security Risks in Southeast Asia

Author & Presenter: Glen Sweetnam, Asia Pacific Energy Research Centre (APEREC)

Competing Interests: Energy Transition, Energy Security and Energy Justice

Presenter: Slawomir Raszewski, University of East London
Authors: Slawomir Raszewski¹, Eduardo G. Pereira², Ngozi Chinwa Ole³

¹University of East London, ²University of West Indies,

³African Centre of Excellence for Water and Environmental Research

Concurrent Session 1B: Disruptions in Natural Gas Markets

Session Location: Room 2A, Second Floor, APEX Convention Center

Session Presider: Nathalie Hinchey, The Brattle Group, Inc.

On the Geopolitical Disruption of the EU Natural Gas Market: A Correction Model

Author & Presenter: Pierluigi Nichilo, Colorado School of Mines and IFP School

Market Integration in the Global Natural Gas Market - Empirical Evidence on Asymmetric Price Transmission

Author & Presenter: Markos M Farag, University of Cologne

Short-Term Actions To Address The Current Oil And Gas Crisis In The APEC Region

Author & Presenter: Christopher J Doleman, Asia Pacific Energy Research Centre (APEREC)

Natural Gas Consumption In Azerbaijan: Is There Room To Export More?

Presenter: Sarvar Gurbanov, ADA University

Authors: Sarvar Gurbanov¹, Jeyhun Mikayilov², Shahin Maharramli³

¹School of Public and International Affairs, ADA University,

²King Abdullah Petroleum Studies and Research Center (KAPSARC), ³Azerbaijan Energy Regulatory Agency

Natural Gas Export Capacity And Domestic Consumers: A Tale Of Two Australia's

Author & Presenter: Mathew C Horne, Asia Pacific Energy Research Centre (APEREC)

Concurrent Session 1C: Energy, Risk and Electricity Markets

Session Location: Room 1A, First Floor, APEX Convention Center

Session Presider: Peter Hartley, Baker Institute, Rice University

Gas Games With Electricity

Author & Presenter: Kelly Neill, University of Sydney

Occupational Choice And Energy Access – Electricity For More And Better Jobs

Author & Presenter: Ulrike G Lehr, World Bank Group

Tail-Based Risk Network In Energy Sectors

Presenter: Layla H Khoja, Dar Al-Hekma University
Authors: Gazi Salah Uddin¹, Axel Hedström², Muhammad Yahya³, Layla Khoja⁴

^{1,2}Linköping University, ³Inland Norway University of Applied Sciences, ⁴Dar Al-Hekma University

Impacts Of The COVID-19 Pandemic On Natural Gas Use In The APEC Region Based On The Joint Organizations Data Initiative (JODI) Data

Author & Presenter: Nobuhiro Sawamura, Asia Pacific Energy Research Centre (APEREC)

Roadmap For Smart Energy Solutions To Reach A Sustainability To Reach A Sustainable And Secure Electricity Supply In Europe

Author & Presenter: Philipp Riegebauer, Centre of Innovative Energy Systems, University of Applied Sciences, Dusseldorf and BABLE GmbH

Concurrent Session 1D: Modeling Volatility and Risk in Energy Markets

Session Location: Room 2B, Second Floor, APEX Convention Center

Session Presider: John Ballantine, Brandeis University

Strategic Commodities' Price Risk And Financial Contagion In Oil Importing And Oil Exporting Countries

Presenter: Khaled Guesmi, Center of Research for Energy and Climate Change (CRECC) - Paris School of Business & Telfer School of Management, University of Ottawa, Canada

Authors: Ilyes Abid¹, Saad Alshammari², Khaled Guesmi³, Ramzi Benkariem⁴, Christian Urom⁵

¹ISC Paris, ²University of Rhodes Island, ³Center of Research for Energy and Climate Change (CRECC) - Paris School of Business & Telfer School of Management, University of Ottawa, Canada, ⁴Audencia Business School, ⁵Paris School of Business

Global Oil Inventory Responses To Geopolitical Shocks

Presenter: Philipp Galkin, King Abdullah Petroleum Studies and Research Center (KAPSARC)

Authors: Philipp Galkin¹, Jennifer Considine¹, Emre Hatipoglu¹
¹King Abdullah Petroleum Studies and Research Center (KAPSARC)

Oil Price Cycles And The Choice Of Private Vs Public Schools

Author & Presenter: Abdullah Almansur, KFUPM Business School

The Cost-Effectiveness Of Physical Versus Financial Risk Mitigation For Hydropower Suppliers

Presenter: Rui Shan, University of North Carolina at Chapel Hill

Authors: Rui Shan¹, Rosa I. Cuppari¹

¹ University of North Carolina at Chapel Hill

Concurrent Session 1E: Balancing Resiliency and Volatility

Session Location: Room 2C, Second Floor, APEX Convention Center

Session Presider: Mustafa Babiker, Saudi Aramco

Minimizing Oil Revenue Volatility For Saudi Arabia: Statistical Analysis And Impact Overview

Presenter: Khalid Aldubayyan, Ministry of Energy, Saudi Arabia

Authors: Khalid Aldubayyan¹, Abdulkarim Alfalaj², Ali Alsaed³, Abdullah Alayed⁴

¹Oil Sustainability Program, Ministry of Energy, ² Saudi Aramco, ³ Accenture, ⁴King Abdullah City for Atomic and Renewable Energy (KA CARE)

Resilience Of Saudi Arabia's Economy To Oil Shocks: Effects Of Economic Reforms

Presenter: Hossa Al Mutairi, King Abdullah Petroleum Studies and Research Center (KAPSARC)

Authors: Hossa Al Mutairi¹, Marzio Galeotti², Baltasar Manzano³, Axel Pierru¹

¹ King Abdullah Petroleum Studies and Research Center (KAPSARC), ² KAPSARC and University of Milan, ³ KAPSARC and Universidade de Vigo

Economic Impacts Of Investment In Renewables For Energy Exporters With Oil Price Uncertainty: A Diversification Strategy?

Author & Presenter: Christopher M Hannum, University of Central Asia

Establishing Dialogue In The International LNG Market: A Decade Of LNG Producer-Consumer Conferences

Author & Presenter: Kazutomo Irie, Asia Pacific Energy Research Centre (APERC)

Concurrent Session 1F: Integrating Energy Efficiency and Renewables

Session Location: Room 1C, First Floor, APEX Convention Center

Session Presider: Adam Cohen, Associated Universities, Inc.

What Role Does Energy Efficiency Play In Climate Mitigation In Saudi Arabia? Time Series Quantile And Out-Of-Sample Forecast Approaches

Presenter: Fateh Belaid, King Abdullah Petroleum Studies and Research Center (KAPSARC)

Authors: Fateh Belaid¹, Camille Massié²

¹ King Abdullah Petroleum Studies and Research Center (KAPSARC), ² FGES, Lille Catholic University

Emissions Pricing Instruments With Intermittent Renewables: Second-Best Policy

Author & Presenter: Nandeeta Neerunjun, Aix Marseille School of Economics

Causal Relationships Between Renewable Energy Patents And Renewable Electricity Generation Among 18 OECD Countries

Presenter: Eunnyeong Heo, Seoul National University

Authors: Eunnyeong Heo¹, Yeongju Yun¹

¹ Seoul National University

What Do We Know About Electricity Demand Elasticities For The Future?

Author & Presenter: Carol A Dahl, Colorado School of Mines

Renewable Resource Rents, Taxation And The Effects Of Wind Power On Rural Economies

Presenter: Nhu Nguyen, Purdue University

Authors: Russell Hillberry¹, Nhu Nguyen¹

¹ Department of Agricultural Economics, Purdue University

Concurrent Session 1G: Energy and the Economy (conducted in Arabic)

Session Location: Room 1B, First Floor, APEX Convention Center

Session Presider: Radia Sedaoui, UN Economic Social Commission of West Asia (UNESCWA)

الاستثمار المستدام: بحث حول دور الصناديق السيادية في دعم وتمويل مشاريع الطاقة النظيفة بين فرص النجاح وكواجه

Presenter: Salwa Al Mulla, Hamad bin Khalifa University

Authors: Salwa Al Mulla¹, Mohammed Elmahdi Chenine

¹Hamad Bin Khalifa University, ² University Kasdi Merbah-Ouargla

الاقتصاد الأخضر وأثره على التنمية المستدامة في المملكة العربية السعودية مقارنة بتجارب دولية

Presenter: Nada Alsaif, King Saud University (KSU)

Authors: Nada Alsaif¹, Nashwa Mustafa Ali Muhammad¹
¹ King Saudi University (KSU)

مقارنة دراسات إنتاج الطاقة البحرية في الدول العربية: دراسة مقارنة

Presenter: Nawal Ali, King Saud University (KSU)

Authors: Sarah Almogbel¹, Nawal Ali¹

¹ King Saudi University (KSU)

An Experiment On Plastic Waste Distillation And Plastic Waste Oil

Author & Presenter: Kamal Hamid, University of Nyala

Day 2: Sunday, February 5, 2023

Panel Discussion – Session 1

11:15 – 12:45 (Main Hall)

Panel Discussion: Hydrogen-Fueling the Future: Opportunities and Challenges

Session 1: Hydrogen: Between affordability, energy security, and diversity

Session Focus for Discussion: A hydrogen economy is anticipated to include hydrogen as a globally traded commodity. Due to the multiple pathways to produce clean hydrogen, new entrants will compete with traditional energy exporters. In contrast, importers are expected to seek a multi-dimensional approach seeking affordability, diversity, and energy security, which will affect the geopolitics of energy and reshape energy trade flows. Procuring the raw materials, including precious metals, needed to advance the hydrogen value chain adds another layer of complexity. In this session, we explore the risks and opportunities of the hydrogen economy for MENA countries and potential importers. What is the importance of international collaboration to develop the hydrogen economy? Is there an opportunity for neighboring countries in MENA to cooperate in hydrogen development and trade? How will laws and regulations in importing countries impact future trade flows of hydrogen? There will be a question-and-answer session at the end of the session.

Panel Moderator: Emre Hatipoglu, King Abdullah Petroleum Studies and Research Center (KAPSARC)

Panelists:

- Quentin Blommaert, Hydrogen Diplomacy Office
- Muhammad I Akimaya, King Fahd University of Petroleum and Minerals (KFUPM)
- Karthik Ganesan, The Council on Energy, Environment and Water (CEEW)
- Jinsok Sung, Hankuk University of Foreign Studies

Day 2: Sunday, February 5, 2023

Poster Session 1A

10:45 – 11:15 (Lobby Area During Coffee Break)

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دراسة تحليلية لواقع استهلاك الطاقات المتجددة في الدول العربية

Presenter: Benlahbib Taha, University of Ouargla

Authors: Benlahbib Taha¹, Ben Seghiér Fatima Zohra²

¹University of Ouargla, ² Université Larbi Tébessi - Tébessa

Towards Sustainable Transportation: The Development Of Hydrogen Train In Saudi Arabia

Author & Presenter: Hamad Almujiabah, Taif University

The Relationship Between Financial Development And Renewable Energy Consumption On CO₂ Emissions And Economic Growth In The G20 Countries

Author & Presenter: Fatimah Saad Al-kaboor, JATCO

Hydrogen Production Utilizing Concentrated Solar Power (CSP) in Saudi Arabia

Author & Presenter: Abdullah Ayed Alrwili, Northern Border University

Day 2: Sunday, February 5, 2023

Poster Session 1B

15:45 – 16:15 (Lobby Area During Coffee Break)

Incorporating ESG Indicators Into Financial Models For Hydrogen Assets

Presenter: Georgia Giannakidou, Hellenic Association for Energy Economics and Audencia Business School

Authors: Georgia Giannakidou¹, Nikolaos Georgiadis¹, Andriosopoulos Konstantinos²

¹ Hellenic Association for Energy Economics, ² Audencia Business School

An Exploratory Study Of Hydrogen Production By Natural Gas With And Without Carbon Sequestration

Presenter: Jameel Jamhar, National Institute of Technology, Agartala

Authors: Jameel Jamhar¹, Sukriti Sharma², Asad Sahir²

¹ National Institute of Technology, Agartala ² Indian Institute of Technology, Ropar

Position Of Petroleum Resources In The Africa's Gulf Of Guinea Region: Environment, Economy And Development

Author & Presenter: Babagana Abubakar, K Computers

Day 2: Sunday, February 5, 2023

Concurrent Session Block 2

16:15 – 17:45

Concurrent Session 2A: Commodities, Wealth Funds and Bonds – Instruments to Manage Energy Markets

Session Location: Auditorium, Ground Floor, APEX Convention Center

Session Presider: Glen Sweetnam, Asia Pacific Energy Research Centre (APEREC)

Opportunity Costs And Discount Rates For Public Assessment Of Oil-Related Projects And Policies In Oil-Exporting Countries

Presenter: Axel Pierru, King Abdullah Petroleum Studies and Research Center (KAPSARC)

Authors: Fatih Karanfil¹, Axel Pierru¹

¹ King Abdullah Petroleum Studies and Research Center (KAPSARC)

Structural And Policy Drivers Of The EU Energy Crisis: Exploring Their Nexus Beyond Current Exogenous Shocks

Author & Presenter: Roberto Cardinale, The American University in Cairo

A First Assessment Of The EU Taxonomy And Its Impact

Presenter: Lucia Visconti Parisio, Università di Milano – Bicocca

Authors: Susanna Dorigoni^{1,2}, Lucia Visconti Parisio², Paola Galfrascoli²

¹Bocconi University, Milan, ²Università di Milano – Bicocca

Time Frequency Connectedness Between Green Bond And The Energy Commodities

Presenter: Fuzuli Aliyev, ADA University

Authors: Ayşe Nur Şahinler¹, Fuzuli Aliyev², Elsevar Ibadov³

¹Ankara Yıldırım Beyazıt University, ²ADA University, ³Baku Engineering University

Concurrent Session 2B: Full Disclosure- ESG and Green Finance

Session Location: Room 1C, First Floor, APEX Convention Center

Session Presider: Michael Lynch, Energy Policy Research Foundation, Inc. (EPRINC)

Closing The Investment Gap To Achieve The Paris Agreement Goals

Presenter: Fatih Yilmaz, King Abdullah Petroleum Studies and Research Center (KAPSARC)

Authors: Fatih Yilmaz¹, Fahad Alswaina¹, Fateh Belaid¹, Mohamad Hejazi¹, Mari Luomi¹, Salahaddine Soummane¹

¹ King Abdullah Petroleum Studies and Research Center (KAPSARC)

ESG And Its Impact On Oil & Gas Investments

Author & Presenter: Julio Arboleda Larrea, King Abdullah Petroleum Studies and Research Center (KAPSARC)

Energy Transition And Regulatory Actions

Presenter: Amani Mustafa, King Abdulaziz University

Authors: Wejdan Asiri¹, Amani Mustafa², Sarah Alsaadi³

¹ The General Authority for Survey and Geospatial Information, ² King Abdulaziz University, ³ Naft AlSafi Company

Corporate Disclosure And Green Finance Market: A Legal Perspective

Author & Presenter: Wejdan Asiri, The General Authority for Survey and Geospatial Information

Concurrent Session 2C: Pricing Electricity Markets – Challenges?

Session Location: Room 1B, First Floor, APEX Convention Center

Session Presider: Ricardo Raineri, Pontificia Universidad Católica de Chile, and Associated Universities, Inc.

Ex-Post Assessment Of Energy Price Reforms In Saudi Arabia

Author & Presenter: Salaheddine Soummane, King Abdullah Petroleum Studies and Research Center (KAPSARC)

Privatization And Electricity Sector Performance: A Case Of Electricity Distribution Companies In Nigeria

Author & Presenter: Iyabo A Olanrele, Nigerian Institute of Social and Economic Research

Competition And Greening Of The French Retail Electricity Market: The Effects On Household Electricity Prices

Presenter: Sandra Moreno, Université de Perpignan Via Domitia

Authors: Sandra Moreno¹, Sophie Masson¹

¹ Université de Perpignan Via Domitia

Pricing Schemes For Solar Energy Matter In Residential Electricity Use

Presenter: Hideki Shimada, National Institute of Advanced Industrial Science and Technology

Authors: Hideki Shimada¹, Tomonori Honda¹

¹ National Institute of Advanced Industrial Science and Technology

Forecasting Of Korean Electricity Market Price Using Seasonal Decomposition Methods

Presenter: Arim Jin, Konkuk University

Authors: Arim Jin¹, DaHan Lee¹, JaeHyung Roh¹, Jong-Bae Park¹

¹Konkuk University

Concurrent Session 2D: Modelling Energy Futures

Session Location: Room 2C, Second Floor, APEX Convention Center

Session Presider: Jessica Obeid, Middle East Institute

Modelling Energy Price Reform Outcomes And Understanding The Determinants Of Success

Presenter: Anwar Gasim, King Abdullah Petroleum Studies and Research Center (KAPSARC)

Authors: Anwar Gassim¹, Lama Yaseen¹, Paolo Agnolucci², Paul Ekins²

¹ King Abdullah Petroleum Studies and Research Center (KAPSARC), ² University College London

The Effects Of Opportunity-Based And Necessity-Based Entrepreneurship On Environmental Performance: A Cross-Country Analysis

Presenter: Boumediene Ramdani, Qatar University

Authors: Boumediene Ramdani¹, Fateh Belaid², Mahmoud Abdellatif¹

¹College of Business and Economics, Qatar University, ² King Abdullah Petroleum Studies and Research Center (KAPSARC)

Public Utilities' Corporate Growth And Environmental Conservation: Evidence From Japan

Author & Presenter: Masao Tsujimoto, Japan University of Economics

Modelling Climate Change Impact On Hydroelectric Power Plant Energy Production

Presenter: Cem Avci, Bogazici University

Authors: Cem Avci¹, Cem Tiranlar¹, Irem Akcan¹, Masume Atam¹

¹ Bogazici University

Modelling The Future Of Energy: What Are The Present Tools Missing?

Presenter: Afsal Mr. Najeeb, IIT Bombay

Authors: Afsal Najeeb¹, Anand B Rao¹, Satish Agnihotri¹, Vinod Mishra², Srinivas Sridharan²

¹IIT Bombay, ²Monash University.

Concurrent Session 2E: Carbon Neutrality and Hydrocarbons

Session Location: Room 2B, Second Floor, APEX Convention Center

Session Presider: Carol Dahl, Colorado School of Mines

Carbon-Neutral LNG And Oil: The Future Of Hydrocarbons In The World Of Energy Transition?

Presenter: Zlata Sergeeva, King Abdullah Petroleum Studies and Research Center (KAPSARC)

Authors: Zlata Sergeeva¹, Colin Ward¹, Rami Shabaneh¹, Hamid Al Sadoon¹

¹ King Abdullah Petroleum Studies and Research Center (KAPSARC)

A Tool For Measuring Countries' Circular Carbon Economy Potential And Progress: The Circular Carbon Economy Index

Presenter: Thamir Al Shehri, King Abdullah Petroleum Studies and Research Center (KAPSARC)

Authors: Fatih Yilmaz¹, Mari Luomi¹, Thamir Alshehri¹

¹ King Abdullah Petroleum Studies and Research Center (KAPSARC)

Carbon Neutrality Of Oil Majors – Current Status, Targets, And Economic Rationale

Author & Presenter: Matthias Pickl, Saudi Aramco

How CCS Works For Future Power Market In Japan And Its Impact On The Demand Of Fossil Fuels Especially Coal

Author & Presenter: Hisanori Nei, National Graduate Institute for Policy Studies

What Changed In The IPCC Report Before And After The Paris Agreement?

Author & Presenter: Jinmi Kim, Korea University

Concurrent Session 2F: Comparing Investment Strategies in Renewables

Session Location: Room 1A, First Floor, APEX Convention Center

Session Presider: Nils-Henrik M von der Fehr, University of Oslo

The Economic And Financial Impact Of Reforms To The Electricity Supply Industry In Saudi Arabia

Author & Presenter: Jeremy Rothfield, King Abdullah Petroleum Studies and Research Center (KAPSARC)

Economic And Energy Impacts Of Saudi's Giga Tourism Projects

Presenter: David Omom, Saudi Aramco

Authors: David Omom¹, Sijesh Aravindhakshan¹, Laila Alabdrabalnabi¹

¹Saudi Aramco

Firm Investment In Renewable Energy: An Empirical Evidence From The People's Republic Of China

Presenter: Dina Azhgaliyeva, Asian Development Bank Institute

Authors: Dina Azhgaliyeva¹, Hai Le¹

¹ Asian Development Bank Institute

Analytical And Prospective Study Of The Turkish Experience In The Field Of Renewable Energy Investments

Presenter: Abdelmalek Mahri, Larbi Tebessi University – Tebessa

Authors: Abdelmalek Mahri¹, Abdelmalek Meriem, Laib Sana

¹Larbi Tebessi University – Tebessa

Long Term Energy Policy Vs. Dynamic Public Preferences? A Review Of German Energy Policy 2008-2023

Presenter: Christina Kockel, RWTH Aachen University

Authors: Christina Kockel¹, Aaron Praktijnjo¹, Jakob Kulawik¹

¹ Institute for Future Energy Consumer Needs and Behavior (FCN), RWTH Aachen University

Concurrent Session 2G: Reduced Investments and Energy Volatility

Session Location: Room 2A, Second Floor, APEX Convention Center

Session Presider: Adonis Yatchew, University of Toronto

Flexibility Requirements And Incentives For Storage Investments In Future European Power Systems

Author & Presenter: Derck Koolen, European Commission

Investment In Oil Industry And Renewable Energy: Crowding-In Or Crowding-Out Effect?

Author & Presenter: Samar Mohamed, Alexandria University

Ukrainian Crisis And Market Power In The Italian Electricity Market

Presenter: Carlo Andrea Bollino, Università di Perugia

Authors: Carlo Andrea Bollino¹, Maria Chiara D'Errico¹,

¹Università di Perugia

Day 2: Sunday, February 5, 2023

Panel Discussion – Session 2

16:15 – 17:45 (Main Hall)

Panel Discussion: Hydrogen-Fueling the Future: Opportunities and Challenges

Session 2: Financing the low carbon hydrogen

Session Focus for Discussion: ESG has become an essential factor for financial institutions and the driver to invest in low-carbon energy technologies. However, the low-carbon hydrogen value chain is complex, capital-intensive, and absent a merchant price. With the hydrogen market still nascent and facing a chicken-and-egg problem between potential suppliers and demand centers, investors must ensure that these investments are de-risked. What do investors need to see to make a project bankable and provide a return on investment? What, from the point of view of an investor, is the role of governments in such projects (if any)? Other than low-cost hydrogen production, what are investors looking for to meet their ESG requirements (particularly the “social” and “Governance” part)? There will be a question-and-answer session at the end of the session.

Panel Moderator: Rami Shabaneh, King Abdullah Petroleum Studies and Research Center (KAPSARC)

Panelists:

- Abdullah Alshangiti, Columbia University
- John Ballantine, Brandeis University
- Alexander Hoogsteyn KU Leuven, Leuven and Energyville, Genk
- Martin C. Wilhelm, GEOPOLIS Energy Partners GmbH

Day 3: Monday, February 6, 2023

Concurrent Session Block 3

11:00 – 12:30

Concurrent Session 3A: Economic Implications of Energy Transitions

Session Location: Room 1B, First Floor, APEX Convention Center

Session Presider: Roula Inglesi-Lotz, University of Pretoria

Economic Growth And Convergence: Implications Of Energy Transition Pathways

Presenter: Nader Alkathiri, King Abdullah Petroleum Studies and Research Center (KAPSARC)

Authors: Nader Alkathiri¹, Abdulelah Darandary¹

¹ King Abdullah Petroleum Studies and Research Center (KAPSARC)

The Economic Impact Of Energy Poverty And Sustainable Development Goals (SDGs)

Presenter: Moodhi Alotaibi, Arab Open University

Authors: Moodhi Alotaibi¹, Omaimh Ali¹

¹ Arab Open University

Is Small Powerful? An Evaluation Of The Ecological, Economic, And Social Aspects Of The Decentralized Energy Transformation

Presenter: Jens Weibezahn, Copenhagen Business School (CBS)

Authors: Jens Weibezahn¹, Raluca Dumitrescu², Daniel Philipp²

¹Copenhagen Business School, ² Technische Universität Berlin

Economic Impacts Of Renewable Energy In Egypt By Using A CGE Model

Presenter: Tarek Safwat Kabel, University of Sadat City

Authors: Tarek Safwat Kabel¹, Mohga Bassim²

¹ Department of Economics, University of Sadat City, ² Department of Economics and International Studies, University of Buckingham

Total Greenhouse Gas Emission Trends And Projections In The Egyptian Electricity Sector

Presenter: Mostafa Mohamed Hasaneen, The Regional Center for Renewable Energy and Energy Efficiency

Authors: Mostafa Mohamed Hasaneen¹, Jauad El Kharraz¹, Mahmoud Mohieldin²

¹ The Regional Center for Renewable Energy and Energy Efficiency, ² Cairo University

Concurrent Session 3B: Renewables, Emissions and Electricity

Session Location: Room 2B, Second Floor, APEX Convention Center

Session Presider: Gerardo Rabinovich

Saudi Arabia Net-Zero Emissions By 2060: The Transformation Of The Power Sector

Presenter: Puneet Kamboj, King Abdullah Petroleum Studies and Research Center (KAPSARC)

Authors: Puneet Kamboj¹, Mohamad Hejazi¹, Khalid Alhadhrami¹, Gokul Iyer², Page Kyle², Silvia Regina Santos Da Silva³

¹ King Abdullah Petroleum Studies and Research Center (KAPSARC), ² Pacific Northwest National Laboratory, ³ George Mason University

Demand-Side Management And Economic Dispatch For Energy Transition In Karnataka, India

Presenter: Yuan Xu, The Chinese University of Hong Kong

Authors: Balasubramanian Sambasivam^{1,2}, Yuan Xu¹

¹ Department of Geography and Resource Management, The Chinese University of Hong Kong, ² Department of Mechanical Engineering, The University of Texas at Austin

Determinants Of Urban Household Cooling Electricity Consumption- Evidence From India

Presenter: Divya Jain, TERI School of Advanced Studies

Authors: Divya Jain¹, Gopal K. Sarangi¹, Sukanya Das¹

¹ TERI School of Advanced Studies

Long-Term Assessment Of CSP Entry Into Saudi Arabia's Power System Using PLEXOS

Presenter: Khalid Alhadhrami, King Abdullah Petroleum Studies and Research Center (KAPSARC)

Authors: Khalid Alhadhrami¹, Ahmed Albalawi¹

¹ King Abdullah Petroleum Studies and Research Center (KAPSARC)

Concurrent Session 3C: Renewables and the Environment

Session Location: Room 1C, First Floor, APEX Convention Center

Session Presider: Hans Auer, Vienna University of Technology

Forecasting Saudi Arabia's 2060 Carbon Dioxide Emission Pathways: A Multivariate Approach

Presenter: Abdulelah Darandary, King Abdullah Petroleum Studies and Research Center (KAPSARC)

Authors: Abdulelah Darandary¹, Anwar Gasim¹, Lester C. Hunt^{1,2}, Jeyhun Mikayilov¹

¹ King Abdullah Petroleum Studies and Research Center (KAPSARC), ² University of Portsmouth

GCC Renewable Energy Development – Road To Meet 2030 Targets

Author & Presenter: Salem Alhajraf, EdamaConsult

Assessment Of Price Policies In The Power Matrix Of Saudi Arabia Under The Scope Of Vision 2030

Presenter: Harif Fontecha, King Abdullah University of Science and Technology (KAUST)

Authors: Harif Fontecha¹, Shashank Nagaraja¹, Mani Sarathy¹
¹ King Abdullah University of Science and Technology (KAUST)

The Effect Of Green Hydrogen Production Growth To The Renewable Energy Sector

Author & Presenter: Muhammad I Akimaya, King Fahd University of Petroleum and Minerals (KFUPM)

Concurrent Session 3D: The Role of Oil in Energy Transitions

Session Location: Room 2C, Second Floor, APEX Convention Center

Session Presider: Marcello Contestabile, Qatar Environment and Energy Research Institute

The Contribution Of National Oil Companies (Nocs) To The Energy Transition

Author & Presenter: Cesar Baena, EM Normandie Business School

The New Geopolitics Of Energy Transition In The Middle East

Presenter: Ahmed Alrashed, Columbia University

Authors: Kaushik Deb¹, Ahmed Alrashed¹

¹ Columbia University

Global Oil Market In Constrained Energy Transition Scenarios

Presenter: Abdullah A Aljarboua, King Abdullah Petroleum Studies and Research Center (KAPSARC)

Authors: Abdullah A Aljarboua¹, Fatih Karanfil¹, Axel Pierru¹

¹ King Abdullah Petroleum Studies and Research Center (KAPSARC)

Beyond Clean Energy Technological Fixes: A Critical Assessment On The Hydrogen Partnerships Between Germany And Arab Gulf States

Author & Presenter: Tobias Zumbraegel, University of Hamburg & Center for Applied Research in Partnership with the Orient (CARPO)

Peak Demand Vs. Declining Supply

Author & Presenter: Evonne Tan, Saudi Aramco

Concurrent Session 3E: Just Transitions and the Environment

Session Location: Room 2A, Second Floor, APEX Convention Center

Session Presider: Salaheddine Soummane, King Abdullah Petroleum Studies and Research Center (KAPSARC)

Evaluating Spatial Spillover Effects Of Renewable And Non-Renewable Energy On Environmental Degradation

Presenter: Amjad Naveed, Aarhus University
Authors: Amjad Naveed¹, Nisar Ahmed², Reza Fathollahzadeh²

¹ Aarhus University, ² Sultan Qaboos University

The Impact Of Digital Financial Inclusion On Energy Consumption In Sub-Saharan Countries

Presenter: Nancy Muvumbu Mukalayi, University of Pretoria

Authors: Nancy Muvumbu Mukalayi¹, Roula Inglesi-Lotz¹

¹ University of Pretoria

CO₂ Emissions, Financial Inclusiveness And Economic Governance

Presenter: Jihan Bousrih, University of Princess Nourah Bint Abdulrahman

Authors: Jihan Bousrih¹, Fatma Mabrouk¹, Hela Borgi¹, Mohamed Mehdi Mekni²

¹ Economics Department, College of Business and Administration, University of Princess Nourah Bint Abdulrahman, ² Faculty of Law, Economics and Management Sciences, University of Jendouba

Health Effects Of Fuel Transitions In India: Evidence From Panel Data

Author & Presenter: Mehtabul Azam, Department of Economics, Oklahoma State University

The Four Dynamics (4Ds) Of Energy Transition: Decarbonization, Decentralization, Decreasing Use, And Digitalization

Author & Presenter: Muhammad Asif, King Fahd University of Petroleum and Minerals (KFUPM)

Concurrent Session 3F: Pathways for Hydrogen

Session Location: Auditorium, Ground Floor, APEX Convention Center

Session Presider: Shahid Hasan, King Abdullah Petroleum Studies and Research Center (KAPSARC)

Green Hydrogen: A Key Power For The Energy Transition

Author & Presenter: Amal Ebrahiem Ismail, New & Renewable Energy Authority

Assessing The Performance Dimensions Of Hydrogen Supply Chain Pathways Using Life Cycle Sustainability Analysis (LCSA) And Network Analytics For The Hydrocarbon Industry's Energy Transition

Author & Presenter: Camilo Fernando, University of Aberdeen

Which Way To Choose? Technical, Economic And Environmental Evaluation Of Different Hydrogen Production Pathways

Presenter: Jakob Kulawik, RWTH Aachen University

Authors: Jakob Kulawik¹, Christina Kockel¹, Aaron Praktijn¹,

¹Chair For Energy Systems Economics, RWTH Aachen University

A Techno-Economic Analysis Perspective On Hydrogen Production And Utilization For India

Presenter: Sukriti Sharma, Indian Institute of Technology, Ropar

Authors: Sukriti Sharma¹, Asad Sahir¹

¹ Indian Institute of Technology, Ropar

Towards Developing A Green Hydrogen Potential Map For The Kingdom Of Saudi Arabia

Presenter: Mohammed Alquhays, Saudi Aramco

Authors: Mohammed Alquhays¹, Abdulaziz Almohammadi², Ali Al Awami²

¹ Saudi Aramco

² King Fahd University of Petroleum and Minerals (KFUPM)

Concurrent Session 3G: Assessing Solar PV in the Energy Mix

Session Location: Room 1A, First Floor, APEX Convention Center

Session Presider: David Omom, Saudi Aramco

Solar Photovoltaic End Of Life Disposal Policy Assessment For The Kingdom Of Saudi Arabia

Presenter: Amjad Ali, King Fahad University of Petroleum and Minerals (KFUPM)

Authors: Amjad Ali¹, Fahad A. Alsulaiman¹, Kashif Irshad¹, Md Shafiullah¹, Sheraz Alam Malik², Muhammad Zeeshan Malik³, Md. Hasan Zahir¹

¹ Interdisciplinary Research Center in Renewable Energy and Power Systems, King Fahd University of Petroleum and Minerals (KFUPM)

² College of Business, Al Faisal University, ³ School of Electronics and Information Engineering, Taizhou University

Overcoming Weather Data Scarcity To Aid Policymakers In Effective Renewables Deployment For Saudi Arabia

Presenter: Marie Petitot, King Abdullah Petroleum Studies and Research Center (KAPSARC)

Authors: Marie Petitot¹, Amro ElShurafa¹, Frank Felder¹

¹ King Abdullah Petroleum Studies and Research Center (KAPSARC)

Optimal Site Selection For A Solar PV Plants In Saudi Arabia

Author & Presenter: Hassan Z. Al Garni, Royal Commission of Jubail and Yanbu - Jubail Industrial College

Net Billing Tariff Assessment In The Kingdom Of Saudi Arabia For A Feasible Integration Of Distributed On-Grid Residential Roof-Tops Solar Pv

Presenter: Fahad A Alsulaiman, King Fahad University of Petroleum and Minerals (KFUPM)

Authors: Abdul Hafiz AlHariri¹, Fahad Al Sulaiman², Nasser Al Kaabi³, Shafiqur Rehman²

¹ Mechanical Engineering Department, King Fahd University of Petroleum and Minerals (KFUPM), ² Interdisciplinary Research Center in Renewable Energy and Power Systems, King Fahd

University of Petroleum and Minerals (KFUPM), ³ Saudi Iron and Steel Company (HADEED -SABIC)

Day 3: Monday, February 6, 2023
Panel Discussion – Session 1
11:00 – 12:30 (Main Hall)

Panel Discussion: Circular Carbon Economy: Walking the Talk in Saudi Arabia and Beyond

Session 1: From Concept to Implementation – Case of Saudi Arabia

Session Focus for Discussion: Focusing on energy and emission flows, the Circular Carbon Economy (CCE) concept aims to prevent atmospheric emissions via the 4Rs pillars: Reduce, Recycle, Reuse and Remove. Through its flexible framework, it enables a holistic assessment of all available energy and emission management technologies that can support the design of net-zero emission pathways adapted to countries' national circumstances, resource endowments, and competitive advantages. Aiming to quantify countries' CCE progress and potential, the CCE Index (<https://cceindex.kapsarc.org/cceindex/home>) was developed by King Abdullah Petroleum Studies and Research Center by putting forward a set of shared indicators in diverse country contexts.

The session aims to illustrate how the CCE concept is being operationalized into policies and implementation at various levels in Saudi Arabia. The session starts with a deep dive into the CCE Index results for Saudi Arabia to set the scene for discussions on the Kingdom's plans to accelerate its CCE implementation and enhance the enabling environment. It will bring perspectives from Saudi policymakers and private sector leaders, as well as domestic researchers.

Panel Moderator: Noura Mansouri, King Abdullah Petroleum Studies and Research Center (KAPSARC)

Panelists:

- *Thamir Al Shehri, King Abdullah Petroleum Studies and Research Center (KAPSARC)*
- *Humam Alghamdi, Ministry of Energy*
- *Masha'el Al Shalan, AEON Collective*
- *Mustafa Babiker, Saudi Aramco*
- *Haleema Amri, Ministry of Energy (TBC)*

Day 3: Monday, February 6, 2023
Poster Session 2A
10:30 – 11:00 (During Coffee Break)

Sustainable Energy Development In Saudi Arabia: Multi-Level Perspective

Author & Presenter: Sarah Alotaibi, King Faisal Center for Research and Islamic Studies (KFCRIS)

Grid-Connected Renewable Power System With Electric Vehicle Charging Stations For Car Parks On Academic Campuses

Presenter: Shafiqur Rehman, King Fahad University of Petroleum and Minerals (KFUPM)

Authors: Shafiqur Rehman¹, Abdul Baseer Mohammed², Fahad Al Sulaiman¹

¹ Interdisciplinary Research Center in Renewable Energy and Power Systems, King Fahd University of Petroleum and Minerals (KFUPM), ² Mechanical and Manufacturing Engineering Technology Department, Jubail Industrial College

Techno-Economic Study Of Lighting Street And Residential Buildings Using Renewable Energy Resources: A Case Study Of Riyadh City

Presenter: Ahmad F Tazay, Al Baha University

Authors: Megren Awad Alharthy¹, Ahmed F Tazay¹
¹ Al Baha University

Performance Assessment Of Air Conditioning System Assisted By Photovoltaic Cold Thermal Storage

Presenter: Kashif Irshad, Interdisciplinary Research Center in Renewable Energy and Power Systems, King Fahd University of Petroleum and Minerals (KFUPM)

Authors: Kashif Irshad^{1,2}, Firoz Khan¹, Md. Hasan Zahir¹, Amjad Ali¹

¹ Interdisciplinary Research Center in Renewable Energy and Power Systems, King Fahd University of Petroleum and Minerals (KFUPM), ² KA CARE Energy Research and Innovation Center

Day 3: Monday, February 6, 2023
Poster Session 2B
15:30 – 16:00 (During Coffee Break)

The Relationship Between Economic Growth And Co2 Emissions In Saudi Arabia: An Empirical Analysis Of The Environmental Kuznets Curve

Presenter: Rawaa Ahmed Alafari, King Faisal University

Authors: Rawaa Ahmed Alafari¹, Oussama Zaghdoud¹
¹ Department of Economics, School of Business Administration, King Faisal University

Unexpectedly Very Low Percentage Of Thermally-Insulated Apartment Buildings In Amman, Jordan, And Investigation Of Stakeholders' Responsibilities

Presenter: Sudki Sameer Hamdan, Department of Statistics, Jordan

Authors: A.N. Abdel Fattah¹, Sudki Sameer Hamdan², O. Ayadi³

¹ Water, Food and Energy For Environmental Resource Management, ² Department of Statistics, Ministry of Planning and International Cooperation, Jordan, ³ Mechanical Engineering Department, The University of Jordan

Households' Willingness To Adopt Solar Energy For Business Use In Uganda

Presenter: Jennifer Nabaweesi, Makerere University Business School

Authors: Jennifer Nabaweesi¹, Kabuye Frank¹, Muyiwa Samuel Adaramola²

¹ Makerere University Business School, ² University of Life Sciences, Norway

Day 3: Monday, February 6, 2023

Concurrent Session Block 4

16:00 – 17:30

Concurrent Session 4A: Decarbonizing Hard to Abate Sectors

Session Location: Room 1A, First Floor, APEX Convention Center

Session Presider: Edmar de Almeida, Instituto de Energia – PUC-Rio

Alternative Fuels For Saudi Cement Manufacturing With Time-Varying Carbon Pricing

Presenter: Walid Matar, King Abdullah Petroleum Studies and Research Center (KAPSARC)

Authors: Walid Matar¹, Doaa K. Filali²

¹ King Abdullah Petroleum Studies and Research Center (KAPSARC), ² Princess Nourah Bint Abdulrahman University

Decarbonization Policies And Energy Price Reforms In Bangladesh

Presenter: Sakib Amin, North South University

Authors: Sakib Amin¹, Tooraj Jamasb², Manuel Llorca², Laura Marsilian³, Thomas I Renström⁴

¹School of Business and Economics, North South University, ²Copenhagen School of Energy Infrastructure, Copenhagen Business School, ³ Durham University Business School and Durham Energy Institute, ⁴ Durham University Business School

Biogas As Clean Energy Alternative For Rural Poor At West Kordofan-Sudan

Presenter: Muna Ahmed, University of Khartoum

Authors: Abdel-Mahmoud Banazeer¹, Muna Ahmed²

¹Agriculture Technological Transfer Society, ² University of Khartoum

Potential Fly Ash Utilization For Concrete Admixture And Carbon Capture Technology From Biomass-Coal Co-Firing Power Plant In Indonesia

Presenter: Rachmat Hermawan, PT PLN (Persero)

Authors: Rachmat Hermawan¹, Muhammad Idris¹

¹ Perusahaan Listrik Negara (PLN)

The Effect Of Technological Innovations On Energy Efficiency In Tunisia

Author & Presenter: Oussama Zaghdoud, Department of

Economics, School of Business Administration, King Faisal University

Concurrent Session 4B: Air Quality, Emissions and Innovations

Session Location: Room 1B, First Floor, APEX Convention Center

Session Presider: Colin Ward, King Abdullah Petroleum Studies and Research Center (KAPSARC)

Impact Of Financial Development On Carbon Dioxide Emissions: Empirical Evidence From Azerbaijan, Russia, And Kazakhstan

Presenter: Samra Talishinskaya, Central Bank of the Republic of Azerbaijan

Authors: Samra Talishinskaya¹, Jeyhun Mikayilov²

¹ Central Bank of the Republic of Azerbaijan, ² King Abdullah Petroleum Studies and Research Center (KAPSARC)

Analyzing The Impacts Of Technological Innovation On Co₂ Emission "Innovation Claudia Curve Theory (ICC)" In MENA Countries

Presenter: Nouf Al-Nafisah, Princess Nourah Bint Abdulrahman University and King Saud University

Authors: Nouf Alnafisah¹, Eman Alsmari², Amal Alshehri²

¹Princess Nourah Bint Abdulrahman University and King Saudi University, ² Princess Nourah Bint Abdulrahman University

ESG And CFP In Emerging Markets – A U-Shaped Relationship?

Author & Presenter: Alexander Schult, Technical University of Munich

Effective Options For Addressing Air Quality-Related Environmental Public Health Burdens In Saudi Arabia

Presenter: Mashael AlOmran, Public Health Authority of Saudi Arabia

Authors: Jared Woollacott¹, Wael AlSufyani², Robert H. Beach¹, Laura T.R. Morrison¹, Alison Bean de Hernandez¹, Severin Rakic, Mashael AlOmran², Reem Alsukait³, Christopher Herbst³, Salem AlBalawi²

¹RTI International, ²Public Health Authority of Saudi Arabia, ³ World Bank Group

The Effect Of Greenhouse Gas Emissions And Green Innovation On Corporate Investors' Financial Performance: Toward Net Zero Emissions

Presenter: Fatima Shuwaikh, Léonard de Vinci Pôle Universitaire, Research Center

Authors: Fatima Shuwaikh¹, Thomas Chemmanur²

¹ Léonard de Vinci Pôle Universitaire, Research Center, ² Boston College, Carroll School of Management

Concurrent Session 4C: Valuing Risk in Developing Energy Markets

Session Location: Room 2A, Second Floor, APEX Convention Center

Session Presider: Baltasar Manzano, Universidade de Vigo

Quantifying The Value Of Reduced Investment Risk Under Different Green Energy Support Policies

Presenter: Peio Alcorta, University of the Basque Country

Authors: Peio Alcorta¹, Maria Paz Espinosa¹, Cristina Pizarro-Irizar^{1,2}

¹Department of Economics, University of the Basque Country

²Basque Centre for Climate Change

Renewable Energy And Job Creation: An Automation Risk Assessment

Author & Presenter: Cian Mulligan, King Abdullah Petroleum Studies and Research Center (KAPSARC)

Performance Of Power Generation In The Pre-&Post-Covid-19 Oman: A Dynamic Productivity And Efficiency Analysis

Presenter: Reza Fathollahzadeh Aghdam, Sultan Qaboos University

Authors: Reza Fathollahzadeh Aghdam¹, Sami Al Kharusi¹, Nisar Ahmad¹, Adham Al Said¹, Bahareh Berenjforoush Azar²

¹ Sultan Qaboos University, ²University of Technology Sydney

Financial Sector Development And Energy Poverty: Empirical Evidence From Developing Countries

Author & Presenter: Muhammad Khan, IQRA University, Islamabad

Rolling-Out Biogas Production To Empowering Rural Women In Sudan

Presenter: Hazir Farouk, Sudan University of Science and Technology

Authors: Hazir Farouk^{1,2}, Andrew Lang²

¹ Sudan University of Science and Technology, ² World Bioenergy Association

Concurrent Session 4D: Role of Hydrogen in Decarbonization

Session Location: Room 2C, Second Floor, APEX Convention Center

Session Presider: Peter Hartley, Baker Institute, Rice University

Economic Analysis Of Sustainable Hydrogen Production From Thermolysis And Electrolysis Relying On Nuclear Power

Presenter: Ahmed Eslam Salman, Egyptian Atomic Energy Authority

Authors: Ahmed Eslam Salman¹, Ashraf Aboshosha¹

¹ Radiation Eng. Department, NCRRT, Egyptian Atomic Energy Authority

Hydrogen Economy Development In South Korea: Lessons To Learn

Presenter: Jinsok Sung, Hankuk University of Foreign Studies.

Authors: Jinsok Sung¹, Zlata Sergeeva²

¹ Hankuk University of Foreign Studies, ² King Abdullah Petroleum Studies and Research Center (KAPSARC)

Decarbonizing The German Power Sector – A Case Study On The Integration Of Power-To-Hydrogen And H2-Imports

Presenter: Marco Sebastian Breder, University Duisburg-Essen

Authors: Marco Sebastian Breder¹, Julian Radek¹, Christoph Weber¹

¹ University Duisburg-Essen

Support Mechanisms For Accelerating Decarbonization Using Hydrogen.

Presenter: Alexander Hoogsteyn, KU Leuven & Energyville

Authors: Alexander Hoogsteyn¹, Kenneth Bruninx², Jelle Meus¹, Erik Delarue¹

¹ KU Leuven & Energyville, ² TU Delft

Concurrent Session 4E: Carbon Pricing and Emissions Trading

Session Location: Room 1C, First Floor, APEX Convention Center

Session Presider: Mustafa Babiker, Saudi Aramco

Baseline Greenhouse Gas Forecasts For Saudi Arabia Using The Structural Time Series Model And Autometrics

Presenter: Lester C Hunt, University of Portsmouth

Authors: Anwar Gassim¹, Lester C Hunt^{1,2}, Jeyhun Mikayilov¹

¹ King Abdullah Petroleum Studies and Research Center (KAPSARC), ²University of Portsmouth

Emission Trading Or Lower Energy Prices? Re-Assessing The Impact Of The Greenhouse Gas Initiative On The Energy Transition

Presenter: Daniel Gatscher, Technical University of Munich

Authors: Daniel Gatscher¹, Svetlana A. Ikonnikova²

¹Center for Energy Markets, Technical University of Munich,

²Technical University of Munich

The Network Effects Of Carbon Pricing

Author & Presenter: Emanuele Campiglio, University of Bologna

Determinants Of Carbon Dioxide Emissions: Role Of Renewable Energy, Governance, Urbanization And Economic Growth

Presenter: Jacob Otim, Kyambogo University

Authors: Jacob Otim¹, Susan Watundu², John Mutenyo³, Vincent Bagire²

¹Department of Economics, Kyambogo University,

²Department of Management Science, Makerere University Business School, ³College of Business and Management Sciences, Makerere University

The Role Of Renewable Energy And TFP In Reducing CO₂ Emissions In RECAI Countries. Fresh Insights From A New Theoretical Framework Coupled With Advanced Panel Methods

Presenter: Fakhri J. Hasanov, King Abdullah Petroleum Studies and Research Center (KAPSARC)

Authors: Fakhri Hasanov¹, Shahriyar Mukhtarov², Elchin Suleymanov³, Sa'd Shannak⁴

¹ King Abdullah Petroleum Studies and Research Center (KAPSARC), ²Vistula University, ³Baku Engineering University, ⁴Qatar Environment and Energy Research Institute

Concurrent Session 4F: Extractive Risks and Geopolitics

Session Location: Room 2B, Second Floor, APEX Convention Center

Session Presider: Adam Cohen, Associated Universities, Inc.

Impact Of The Global Energy Transition On Hydrocarbon Economies

Author & Presenter: Osamah Alsayegh, Kuwait Institute for Scientific Research

Technical Constraints, Cost Risks And Failure Modes Of The Energy Transition (Implications For Energy Security And Guidance For Policymakers)

Presenter: Lucian Pugliaresi, Energy Policy Research Foundation Inc. (EPRINC)

Authors: Lucian Pugliaresi¹, Batt Odgerel¹

¹ Energy Policy Research Foundation Inc. (EPRINC)

Extractives: Challenges And Opportunities For The South In The Energy Transition

Presenter: Adam Cohen, Associated Universities, Inc.

Authors: Ricardo Raineri^{1,2}, Adam Cohen²

¹ Pontificia Universidad Catolica de Chile, ²Associated Universities Inc.

Investment In Fossil Fuels And Environmental Degradation In Nigeria: Policy Options To Mitigate The Potential Trade-Off

Author & Presenter: Ladi Raulatu Balakeffi, Central Bank of Nigeria

Concurrent Session 4G: Minerals, Materials and Energy Transitions

Session Location: Auditorium, Ground Floor, APEX Convention Center

Session Presider: Frank Felder, King Abdullah Petroleum Studies and Research Center (KAPSARC)

Development Of All-Solid-State Lithium Metal Batteries For High Temperature Applications

Presenter: Firoz Khan, King Fahd University of Petroleum and Minerals (KFUPM)

Authors: Firoz Khan¹, Hasan Jamal², M. Abdul Majid³, Jae Hyun Kim²

¹ Interdisciplinary Research Center in Renewable Energy and Power Systems, King Fahd University of Petroleum and Minerals (KFUPM), ²Division of Energy Technology, Daegu Gyeonbuk Institute of Science and Technology, ³Mathematical Sciences Department, Dammam Community College and Interdisciplinary Research Center in Renewable Energy and Power Systems, King Fahd University of Petroleum and Minerals (KFUPM)

Material Transition In An Energy Transition World

Presenter: Samuel Liew, Saudi Aramco

Authors: Samuel Liew¹, Mohammed A Abusham¹

¹ Saudi Aramco

Critical Minerals In The 8th Energy Demand And Supply Outlook: A Post Hoc Analysis

Presenter: Yu Hsuan Wu, Asia Pacific Energy Research Centre (APERC)

Authors: Mathew Horne¹, Yu Hsuan Wu¹

¹ Asia Pacific Energy Research Centre (APERC)

Cash-Flow-at-Risk

Author & Presenter: Shamsul Anuar, Saudi Aramco

Day 3: Monday, February 6, 2023

Panel Discussion – Session 2

16:00 – 17:30 (Main Hall)

Panel Discussion: Circular Carbon Economy: Walking the Talk in Saudi Arabia and Beyond

Session 2: Carbon Circularity in Diverse Country Contexts

Session Focus for Discussion: Building on the earlier discussion in the first session, this session brings the focus to a global level. It aims to identify the global CCE transition progress and potential through the lens of the CCE Index in a diverse country and regional contexts. Utilizing the index findings, the session begins with providing an overview of regional CCE transition gaps in key mitigation and carbon management technologies and activities, as well as enabling policy environments to lead the discussion toward urgent action areas for the planning of net-zero pathways. The panel discussion highlights regional perspectives from Europe, the Middle East and North Africa, Gulf Countries, and South Asia on the efforts and plans to address these urgencies from different countries' experiences to accelerate the sustainable energy transition.

Panel Moderator: Aljawhara Al Quayid, King Abdullah Petroleum Studies and Research Center (KAPSARC)

Panelists:

- *Fatih Yilmaz, King Abdullah Petroleum Studies and Research Center (KAPSARC)*
- *Coby van der Linde, Clingendael International Energy Programme (CIEP)*
- *Jessica Obeid, Middle East Institute*
- *Abdulla AlAbbasi, DERASAT*
- *Tilak Doshi, Doshi Consulting*
- *Dina Azhgaliyeva, Asian Development Bank Institute*

Day 4: Tuesday, February 7, 2023

Concurrent Session Block 5

11:00 – 12:30

Concurrent Session 5A: Plugging the Energy Transition

Session Location: Auditorium, Ground Floor, APEX Convention Center

Session Presider: Roula Inglesi-Lotz, University of Pretoria

Choosing To Diet: The Impact And Cost-Effectiveness Of China's Vehicle Ownership Restrictions

Presenter: Rubal Dua, King Abdullah Petroleum Studies and Research Center (KAPSARC)

Authors: Antung Liu¹, Rubal Dua², Wei-min Hu³, Arthur Lin Ku¹
¹Indiana University O'Neill School of Public and Environmental Affairs, ² King Abdullah Petroleum Studies and Research Center (KAPSARC), ³National Chengchi University

Evaluation Of The Impact Of Public Policy Measures On California's Fuel Cell Electric Vehicle Market Development

Author & Presenter: Pawel Brusilo, Wroclaw University of Economic and Business / University of California San Diego

Electric Vehicles And Electricity Consumption: Honey, Did I Plug In The Car?

Presenter: Jacobus A Nel, University of Pretoria

Authors: Jacobus A Nel¹, Roula Inglesi-Lotz¹

¹ University of Pretoria

What Do People Think About The Wireless Roadway Charging Systems For Electric Vehicles?

Presenter: Mingyue Selena Sheng, The University of Auckland

Authors: Mira Simunic¹, Mingyue Selena Sheng¹, Le Wen¹

¹ The University of Auckland

Equitable Ride pooling With Community-Driven Stops Using A Fleet Of Autonomous Electric Vehicles

Presenter: Rami S Ariss, Carnegie Mellon University

Authors: Rami Ariss¹, Jeremy Michalek¹, Matteo Pozzi¹

¹ Carnegie Mellon University

Concurrent Session 5B: Decarbonizing Transport

Session Location: Room 2B, Second Floor, APEX Convention Center

Session Presider: Edmar de Almeida, Instituto de Energia – PUC-Rio

Analyzing The Impact Of Online Freight Platform Using Data From Chinese Cities

Presenter: Xun Xu, King Abdullah Petroleum Studies and Research Center (KAPSARC)

Authors: Xun Xu¹, Tianduo Peng²

¹ King Abdullah Petroleum Studies and Research Center (KAPSARC), ² Institute of Climate Change and Sustainable Development, Tsinghua University

Transport Infrastructure And Manufacturing Sector: An Energy Perspective From India

Author & Presenter: Mohammed Shameem, University of Hyderabad

Decarbonizing Medium And Heavy-Duty On-Road Vehicles

Presenter: Matteo Muratori, National Renewable Energy Laboratory (NREL)

Authors: Matteo Muratori¹, Catherine Leda¹

¹ National Renewable Energy Laboratory (NREL)

Impact Of Sustainable Energy Transition In Transportation Sector On The National Oil Companies Of Emerging Economies - A Case Study Of ONGC Of India

Presenter: Athreya Cheppela, University of Groningen

Authors: Athreya Cheppela¹, M. Mulder¹

¹ University of Groningen

Impact Of Non-Tailpipe Emissions On Local Air Pollution: Evidence From New Zealand

Presenter: Le Wen, The University of Auckland

Authors: Mingyue Selena Sheng¹, Le Wen¹, Quan Truong², Perry Davy³

¹Energy Centre, The University of Auckland, ²Department of Property, The University of Auckland, ³ GNS Science

Concurrent Session 5C: Energy Transition on land and in air

Session Location: Room 1C, First Floor, APEX Convention Center

Session Presider: Kelly Neill, University of Sydney

Unveiling The Factors Influencing Energy Consumption In The Aviation Sector Of Saudi Arabia (2010-2019)

Presenter: Andres F Guzman, King Abdullah Petroleum Studies and Research Center (KAPSARC)

Authors: Andres F Guzman¹, Abdulrahman Alwosheel¹

¹ King Abdullah Petroleum Studies and Research Center (KAPSARC)

Techno-Economic Analysis: Charging Airport's Electrical Baggage Tractors With Hydrogen Fuel Cell

Presenter: Sadeq A Alfatesh, King Saud University

Authors: Sadeq A Alfatesh¹, Musab Fahad Alsalamah¹,

Mansour Alhoshan¹, Abdulaziz Bentalib¹
¹King Saud University

Saudi Arabia's Aviation Sector Ambitions And Potential Pathways For Decarbonizing The Sector

Presenter: Muhammad Akmal, Saudi Aramco
Authors: David Omom¹, Muhammad Akmal¹
¹ Saudi Aramco

Energy Recovery And Cost Analysis For Conventional Vehicle And Hybrid Electric Vehicles

Presenter: Abdulrhman Alghamdi, Al Baha University
Authors: Abdulrhman Alghamdi¹, Eid Mohamed^{1,2}
¹Faculty of Engineering, Mechanical Engineering Department, Al Baha University, ² Department of Automotive Engineering, Helwan University

Impact Of E-Mobility On Distribution Systems: The Role Of Smart Tariffs For Vehicle Grid Integration

Presenter: Pierluigi Vicini, CESI FZE
Authors: Marco Cabano¹, Bruno Cova¹, David Dresco¹, Luca Migliorini¹, Pierluigi Vicini²
¹CESI S.p.A., ²CESI FZE

Concurrent Session 5D: Vehicle Fleet Electrification and the Power Sector

Session Location: Room 2C, Second Floor, APEX Convention Center
Session Presider: Hans Auer, Vienna University of Technology

Modelling The Determinants Of Electrical Vehicles Adoption: A Saudi Perspective

Presenter: Ryan Alyamani, King Abdullah Petroleum Studies and Research Center (KAPSARC)
Authors: Ryan Alyamani¹, Dimitrios Pappelis², Maria Kamargianni²
¹ King Abdullah Petroleum Studies and Research Center (KAPSARC), ² University College London

Investigating The Economic Granularity Gap In The Modelling Of Battery Electric Vehicles: An Analysis From A Power-System And A User-Centric Perspective

Presenter: Fabia Miorelli, German Aerospace Center (DLR), Institute of Networked Energy Systems
Authors: Fabia Miorelli¹, Hans Christian Gils¹, Patrick Jochem¹
¹ German Aerospace Center (DLR), Institute of Networked Energy Systems

Comparative Assessment Of LCA For PEM Fuel Cell Bus With Diesel And Electric Bus: A Case Study In Saudi Arabia

Presenter: Chengcheng Zhao, King Abdullah University of Science and Technology (KAUST)
Authors: Chengcheng Zhao¹, Leiliang Zheng Kobayashi¹, Awad Alquaity², S. Mani Sarathy¹
¹ King Abdullah University of Science and Technology (KAUST)
² King Fahd University of Petroleum and Minerals (KFUPM)

Investigating Mass Transit Effects On Energy Demand & Emissions In Kuwait

Presenter: Norah H Alsafi, Kuwait Institute for Scientific Research
Authors: Norah H Alsafi¹, Rawan AlKandari¹, Yousef M. Al-Abdullah¹, Sreekanth K. J. ¹, Fotouh Al-Ragom¹
¹ Kuwait Institute for Scientific Research

The Consequence Of Electrification Of Road Vehicles Faster Than The Transition In The Power Sector

Author & Presenter: Mohd Rahman, Saudi Aramco

Concurrent Session 5E: Tactical Innovations to Reduce Emissions

Session Location: Room 1A, First Floor, APEX Convention Center

Session Presider: Fateh Belaid, King Abdullah Petroleum Studies and Research Center (KAPSARC)

Aero-Thermal Performance Investigation Of Refrigerated Truck Equipped With Phase Change Materials Encapsulated In Rectangular Rods

Presenter: Mustapha Mahdaoui, Abdelmalek Essaadi University
Authors: M.A. Ben Taher¹, M. Mahdaoui¹, T. Kousksou², M. Ahachad¹
¹ Abdelmalek Essaadi University, ² Université de Pau et des Pays de l'Adour (UPPA)

Is Learning Curve On Solar Photovoltaic Installation Affected By Renewable Policy And Regional Characteristics?

Author & Presenter: Saiful Arefeen, Graduate School of Economics, Ritsumeikan University

Techno-Economic Analysis Of Solar-Assisted Integrated Energy Optimization System For Steel Making Plants Located In Ras Al-Khair Industrial City

Presenter: Faisal Bader Almutairi, Saudi Aramco
Authors: Faisal Bader Almutairi¹, Ali Abdulaziz Uglu¹
¹ Saudi Aramco

Improved Coordinated Protection Scheme For DFIG Based Wind Turbines

Presenter: Arshad Arshad, Glasgow Caledonian University
Authors: Arshad Arshad¹, Wahab Ali Shah², Sali Issa³
¹School of Computing, Engineering and Built Environment, Glasgow Caledonian University, ² Namal University, ³ Department of Physics, Mechanical and Electrical Engineering, Hubei University of Education

Optimal Planning And Operation Of Isolated Micro-Grid For Sustainable Development

Presenter: Mohammed M Mishref, National Graduate Institute for Policy Studies (GRIPS)
Authors: Mohammed Mishref¹, Makoto Tanaka¹
¹ Graduate School of Policy Studies, National Graduate Institute for Policy Studies (GRIPS)

Concurrent Session 5F: Geospatial Analysis of Energy

Session Location: Room 1B, First Floor, APEX Convention Center

Session Presider: Fatima Shuwaikh, Léonard de Vinci Pôle Universitaire, Research Center

Assessing The Development Of KSA As A Sustainable Logistics Hub – A Geospatial Multi-Criteria Analysis

Presenter: Nourah Alhosain, King Abdullah Petroleum Studies and Research Center (KAPSARC)

Authors: Nourah Alhosain¹, Lama Yaseen¹, Nora Nezamuddin¹
¹ King Abdullah Petroleum Studies and Research Center (KAPSARC)

Geospatial Agent-Based Modelling Of Household Long-Term Energy Transition In The MEA Region Using High-Resolution Gridded Data And The MUSE-RASA Model

Presenter: Diego Moya, Imperial College London and Technical University of Ambato

Authors: Diego Moya¹, Sara Giarola², Adam Hawkes³
¹ Imperial College London and Technical University of Ambato, ² Imperial College London and Polytechnic University of Milan, ³ Imperial College London

Energy Consumption, Urbanization, Economic Growth And Carbon Dioxide Emissions: Evidence From Middle East And North Africa

Presenter: Geoffrey. S. Mutumba, Kyambogo University

Authors: Geoffrey. S. Mutumba¹, Jacob Otim¹
¹ Economics, Faculty of Science, Kyambogo University

Achieving Sustainable Freight Movement In Saudi Arabia Via Transport Policy

Author & Presenter: Nora Nezamuddin, King Abdullah Petroleum Studies and Research Center (KAPSARC)

A Micro-Spatial Economic Model For Riyadh Energy Use

Presenter: Abdelrahman Muhsen, King Abdullah Petroleum Studies and Research Center

Authors: Abdelrahman Muhsen¹, John Edward Abraham², Amila Sandaradura², Geraldine Fuenmayor², Kevin Stefan²
¹ King Abdullah Petroleum Studies and Research Center, ² HBA Specto Incorporated

Concurrent Session 5G: Sustainability, Resiliency and Smart Cities

Session Location: Room 2A, Second Floor, APEX Convention Center

Session Presider: Gerardo Rabinovich

Smart Cities Indicators, Human-Centric Development And The Impact On Energy Sustainability

Presenter: Lama Yaseen, King Abdullah Petroleum Studies and Research Center (KAPSARC)

Authors: Lama Yaseen¹, Robert Marinescu-Muster², Nourah Alhosain¹

¹ King Abdullah Petroleum Studies and Research Center (KAPSARC), ² University of Twente

Nuclear Power Reactors Based Hydrogen Production For The Sustainable Development Of Smart Cities

Author and Presenter: Ashraf Aboshosha, Radiation Eng. Department, NCRRT, Egyptian Atomic Energy Authority

Why Invest In Hydrogen? A Sustainable Path Forward

Presenter: John Ballantine, Brandeis University

Authors: John Ballantine¹, Mohammed AlMehdar¹
¹ Brandeis University

Heating In German City Quarters: How Does The Regulatory Framework Influence Investments In Renewable Technologies?

Presenter: Frieder Borggreffe, RWTH Aachen University

Authors: Frieder Borggreffe¹, Marius Tillmanns¹, Max Hoffmann², Chuen-Fung Tang¹, Lars Nolting³, Aaron Praktijnjo⁴

¹ Chair For Energy System Economics, RWTH Aachen University, ² RWTH Aachen University, ³ Chair For Energy System Economics, RWTH Aachen University and TenneT GmbH, ⁴ E. ON Energy Research Center, RWTH Aachen University

Solar Energy Access In Rural Off-Grid Areas Of Bangladesh: Determinants And Impacts

Presenter: Mainul I Chowdhury, North South University

Authors: Sakib Bin Amin¹, Mainul Islam Chowdhury¹, S.M. Asif Ehsan¹, S.M. Zahid Iqbal¹

¹ North South University

Day 4: Tuesday, February 7, 2023

Panel Discussion – Session 1

11:00 – 12:30 (Main Hall)

Panel Discussion: Data, Models, and Simulators to Advance Energy and Climate Policy Decisions

Session 1: Policy decisions enabling data availability and gaps.

Session Focus for Discussion: To support policymakers, there is a need for regular, up-to-date, and detailed time series data supply to models and simulators that evaluate policy options and pathways. In this session, we will discuss the availability of regional data sources and new tools to access machine-readable energy, economic, and climate data:

- Regional data availability perspectives from publishers and

consumers

- Challenges and solutions addressing data transparency issues and data use licenses
- Primary and secondary data sources for vital energy and climate models.

Panel Moderator: Sadeem AlHosain, King Abdullah Petroleum Studies and Research Center (KAPSARC)

Panelists:

- Rolando Fuentes, Tec De Monterrey
- Andreas W. Schäfer, Air Transportation Systems Laboratory, University College London
- Najla Alsudairy, Oil Sustainability Program, Supreme Committee for Hydrocarbon Materials
- Omar Basulaiman, Data Management Office, Ministry of Energy
- Abdullah Al-Thunayan, General Authority of Statistics (GASTAT)

Day 4: Tuesday, February 7, 2023

Poster Session 3A

10:30 – 11:00 (During the Coffee Break)

Renewables Opportunities And Challenges

Presenter: Ayidh Al Swidan, Baker Hughes

Authors: Sara Alalqam¹, Ayidh Al Swidan

¹Baker Hughes

Ground Source Ventilation And Solar PV Towards Zero Carbon Houses In Riyadh

Author & Presenter: Osamah Alanazi, King Saud University

Functionalized Fullerenes Cages (C59m) As Promising Materials For Capturing Environmental Pollutions CO₂, NO₂ And SO₂ Gases

Presenter: Iman Aldosari, Jazan University

Authors: Iman Aldosari¹, Ahlam El Barbary¹

¹ Physics Department, Jazan University

Optimal Design And Scheduling Of A Grid-Connected PV/CHP Hybrid System With Incentive-Based Demand Response And Electric Vehicles: A Case Study Of A Multi-Residential Complex Building

Presenter: Mohamed Elkadeem, Tanta University

Authors: Mohamed Elkadeem¹, Mohamed Abido², Fahad Al Sulaiman²

¹Tanta University, ² Interdisciplinary Research Center in Renewable Energy and Power Systems, King Fahd University of Petroleum and Minerals (KFUPM)

Day 4: Tuesday, February 7, 2023

Poster Session 3B

15:30 – 16:00 (During the Coffee Break)

Synthesis And Fabrication Of Mos2 QDS Thin Films For Novel Optoelectronic Devices With Cost-Efficient Technique

Presenter: Maymunah Alwehaibi, Princess Nourah bint Abdulrahman University

Authors: Maymunah Alwehaibi¹, Yasmeen Khoja¹, Reem Alghamdi¹, Fahdah Alsuhaibani¹, Norah Alwadi¹, Manar Alshatwi¹

¹ Princess Nourah bint Abdulrahman University

Virtual Power Plant: A Smart Way Of Managing Solar Systems

Presenter: Muhammad Ali, University of Glasgow

Authors: Zahid Ullah¹, Arshad Arshad², Muhammad Ali³

¹ Institute for Globally Distributed Open Research and Education, ² Glasgow Caledonian University, ³ University of Glasgow

Contribution To Improving The Energy Performance Of A Hotel In Tangier - Morocco

Presenter: Mohammed Ahachad, Abdelmalek Essaadi University

Authors: Mohammed Ahachad¹, F Akzoun¹, Z. Romani², M. Mahadaoui¹

¹ Abdelmalek Essaadi University, ² National School of Architecture

Day 4: Tuesday, February 7, 2023

Concurrent Session Block 6

16:00 – 17:30

Concurrent Session 6A: Comparing the Economics of Energy Efficiency and Renewables

Session Location: Auditorium, Ground Floor, APEX Convention Center

Session Presider: Marzio Galeotti, University of Milan

Demand Response Program Design: Environmental And Economic Perspectives

Presenter: Mohammed Al-Sadig Al-Haj, Qassim University

Authors: Mohammed Al-Sadig Al-Haj¹, Azzam Hamad Alhumaidi¹, Abdulaziz Saleh Al Harbi¹, Mohammed Khalid Althunayyan¹

¹ Qassim University

A Bayesian Approach To Analyse The Nexus Between The Environmental And Financial Factors To Affect Energy Efficiency In The GCC Region

Author & Presenter: Rozina Shaheen, Finance Department, College of Business, Effat University

Renewable energy and employment in Saudi Arabia: Assessment and Prospects

Author and Presenter: Sylvain Cote, Saudi Aramco

Impact Of PV Distributed Generation On Loop Distribution Network In Riyadh City

Author and Presenter: Mohammed Alruwaili, King Saud University-SASO

Concurrent Session 6B: Impact of Policies on Social and Industrial Societies

Session Location: Room 1A, First Floor, APEX Convention Center

Session Presider: Sakib Bin Amin, North South University

Inter-Fuel Substitution In Industrial Sector Of Saudi Arabia

Presenter: Muhammad Javid, King Abdullah Petroleum Studies and Research Center (KAPSARC)

Authors: Muhammad Javid¹, Fakhri Hasanov¹, Abdulelah Darandary¹

¹ King Abdullah Petroleum Studies and Research Center (KAPSARC)

Financial And Energetic Investigation Of Saudi District Cooling System

Author and Presenter: Mohammad Saleh Alobaid, Department of Mechanical Engineering, Majmaah University

Energy Subsidies Reform And Homebuyer Choices: Evidence From Saudi Arabia

Presenter: Hussain Alshammasi, King Fahd University of Petroleum and Minerals (KFUPM)

Authors: Hussain Alshammasi¹, Abdullah Almansur¹

¹ King Fahd University of Petroleum and Minerals (KFUPM)

Present And Future Trend In Saudi Seaborne Trade And Oil Demand: Could BAU Scenario Meet NTL's Maritime Target?

Presenter: AHM Mehub Anwar, King Abdullah Petroleum Studies and Research Center (KAPSARC)

Authors: AHM Mehub Anwar¹, Rubal Dua¹, Nora Nezamuddin¹, Abdulrahman Alwosheel¹

¹ King Abdullah Petroleum Studies and Research Center (KAPSARC)

An Analysis Of Power Outages Induced Electricity Backup Choice In Pakistan

Presenter: Faisal Jamil, National University of Sciences and Technology (NUST)

Authors: Faisal Jamil¹, Tanweer ul Islam¹

¹ School of Social Sciences and Humanities, National University of Sciences and Technology (NUST)

Concurrent Session 6C: The Role of Sustainability in Building Energy Efficiency

Session Location: Room 2A, Second Floor, APEX Convention Center

Session Presider: Rejean Casaubon, The Institute of Energy Economic, Japan (IEEJ)

Improving Energy Performance In Residential Buildings In Saudi Arabia

Author & Presenter: Mana M Alyami, Najran University

Energy Efficiency Initiatives Towards Sustainability On University Campuses In Saudi Arabia

Presenter: Saleh Albadaily, Imam Mohammad Ibn Saud Islamic University

Authors: Saleh Albadaily¹, Abdullah Alhaqbani¹, Walied Alfraidi¹

¹ Department of Electrical Engineering, College of Engineering, Imam Mohammad Ibn Saud Islamic University

The Role Of Residential Energy Efficiency In Reducing Energy Demand And Reaching Saudi Arabia's 2060 Net Zero Target

Author & Presenter: Mohammad H Aldubyan, King Abdullah Petroleum Studies and Research Center (KAPSARC)

Regulations And Contract Design In Multi-Agent District Heating And Cooling Systems

Presenter: Maximilian Hoffmann, RWTH Aachen University

Authors: Maximilian Hoffmann¹, Frieder Borggrefe¹, Aaron Praktijnjo¹

¹ Chair For Energy System Economics, RWTH Aachen University,

Impact Of Energy Labels On Selecting Houses Of Consumers: Validation By Logistic Regression Analysis

Author & Presenter: Mieko Fujisawa, Kanazawa University

Concurrent Session 6D: Risks and Rewards from Downstream Investments

Session Location: Room 2C, Second Floor, APEX Convention Center

Session Presider: Athreya Cheppela, ONGC

Linear And Factor Oil Price Forecasts

Presenter: Abdullah S Al Shammre, King Faisal University

Authors: Abdullah S Al Shammre¹, Benaissa Chidmi²

¹ King Faisal University, ² Texas Tech University

Cost-Benefit Analysis For Petrochemical Projects: The Case For Saudi Arabia

Presenter: Dongmei Chen, King Abdullah Petroleum Studies and Research Center (KAPSARC)

Authors: Dongmei Chen¹, Philipp Galkin¹, Colin Ward¹

¹ King Abdullah Petroleum Studies and Research Center (KAPSARC)

Sustainable Energy Efficiency Improvements Through Methodology Of Prioritizing Selections

Presenter: Abdulrahman Hazazi, Saudi Aramco

Authors: Abdulrahman Hazazi¹, Zeeshan Farooq¹

¹ Saudi Aramco

Virtual Gas Pipeline As Prudent Solution In Gas Infrastructure Investment In Saudi Arabia

Author & Presenter: Dicky Suriakusumah, Saudi Aramco

Financial Liabilities And Environmental Implications Of Unplugged Wells For Gulf Of Mexico And Coastal Waters

Presenter: Greg B. Upton, Louisiana State University

Authors: Mark Agerton¹, Siddhartha Narra², Brian Snyder³, Gregory B. Upton²

¹Department of Agricultural and Resource Economics, University of California Davis, ²Center for Energy Studies, Louisiana State University, ³Department of Environmental Studies, Louisiana State University

Concurrent Session 6E: Petrochemicals and the Energy Transition

Session Location: Room 1B, First Floor, APEX Convention Center

Session Presider: Ricardo Raineri, Pontificia Universidad Católica de Chile, and Associated Universities, Inc.

Plastics To Oil: Saudi And Global Perspectives

Presenter: Evar Umeozor, King Abdullah Petroleum Studies and Research Center (KAPSARC)

Authors: Julio Arboleda¹, Evar Umeozor¹, Jitendra Roychoudhury¹

¹ King Abdullah Petroleum Studies and Research Center (KAPSARC)

Unlocking Industrial Demand-Side Flexibility For The Power System Through Local Green Hydrogen Production: A Case Study In Germany

Presenter: Marius Tillmanns, RWTH Aachen University

Authors: Marius Tillmanns¹, Jan Priesmann¹, Aaron Praktijn¹

¹ Institute for Future Energy Consumer Needs and Behavior, Chair for Energy Systems Economics, RWTH Aachen University

The Role Of The Petrochemical Sector In Economic Diversification In Saudi Arabia

Presenter: Heyran Aliyeva, King Abdullah Petroleum Studies and Research Center (KAPSARC)

Authors: Fakhri Hasanov¹, Muhammad Javid¹, Heyran Aliyeva¹

¹ King Abdullah Petroleum Studies and Research Center (KAPSARC)

Models Of The Demand For Petrochemical Feedstocks Worldwide

Presenter: Raed Al Mestneer, King Abdullah Petroleum Studies and Research Center (KAPSARC)

Authors: Raed Al Mestneer¹, Carlo Andrea Bollino^{1,2}

¹ King Abdullah Petroleum Studies and Research Center (KAPSARC), ²Università di Perugia

Attracting Investments To The Petroleum Industry By Using Distributed Ledger Technology

Presenter: Khaled Omar Hantosh, University of Dundee

Authors: Khaled Omar Hantosh¹, Sayed Mehdi Alizadeh²,

Mohammed Saleh Al Ali³

¹ Centre for Energy, Petroleum & Mineral Law and Policy, University of Dundee, ²Australian University of Kuwait,

³Kuwait Institute for Scientific Research

Concurrent Session 6F: Managing Volatility Through Technical Innovations and Price Signals

Session Location: Room 1C, First Floor, APEX Convention Center

Session Presider: Nils-Henrik M von der Fehr, University of Oslo

The Evolution Of Electricity Prices And Its Impacts On Consumption In Saudi Arabia

Presenter: Abeer Alghamdi, King Abdullah Petroleum Studies and Research Center (KAPSARC)

Authors: Abeer Alghamdi¹, Jeyhun Mikayilov¹

¹ King Abdullah Petroleum Studies and Research Center (KAPSARC)

Energy Storage Economics And Future Market Potentials In Saudi Arabia

Author & Presenter: Khaled S. Alusaimi, Saudi Aramco

Techno-Economic Analysis Of Green Hydrogen Storage Systems Based On Photovoltaic Energy To Guarantee Electricity Feeding In Off-Grid Environment - Case Study

Presenter: Younes Faydi, Moroccan Agency for Sustainable Energy (MASEN)

Authors: Younes Faydi¹, Hichame Laabassi¹, Hicham Bouzekri¹

¹ Moroccan Agency for Sustainable Energy (MASEN)

On The Role Of Residential Battery Storage And Photovoltaic Systems In Shaping Behavioral Changes And General Welfare

Author & Presenter: Liliana Nowakowska, Imperial College Business School

Forecasting The Rate Of Cost Reductions In Blue And Green Hydrogen

Author & Presenter: Anders Norlen, Saudi Aramco

Concurrent Session 6G: Pathways for Low-Carbon Energy Transition

Session Location: Room 2B, Second Floor, APEX Convention Center

Session Presider: Fakhri Hasanov, King Abdullah Petroleum Studies and Research Center (KAPSARC)

A Panel VAR Analysis Of Oil Supply And Demand Shocks And Macroeconomic Performance: The Case Of Gulf Cooperation Council Countries

Presenter: Youssef Saidi, Gulf Monetary Council

Authors: Youssef Saidi¹, Atef Saleh Alrashidi¹

¹ Gulf Monetary Council

Energy Efficiency For Sustainable Development In Nigeria

Presenter: Humphrey Oruwari, Nigerian National Petroleum Corporation

Authors: Humphrey Oruwari¹, Lucky Itsekori²

¹NNPC Upstream Investment Management Services, Nigerian National Petroleum Corporation, ² Valourteyn Nigeria Limited

Non-Linear Effects Of Environmental Policies On Low-Carbon Technical Change: The Case Of The French Buildings Sector

Author & Presenter: Valentin Laprie, Université Paris Nanterre

Is Institutional Quality The Missing Piece Between Economic Growth And CO₂ Emissions?

Presenter: Alanda Venter, Department of Economics, University of Pretoria

Authors: Alanda Venter¹, Roula Inglesi-Lotz¹

¹ Department of Economics, University of Pretoria

Advancing Environmental Stewardship Through Circular Economy In Oil & Gas Facility

Author & Presenter: Mubarak Al-Rashid, Saudi Aramco

Day 4: Tuesday, February 7, 2023

Panel Discussion – Session 2

16:00 – 17:30 (Main Hall)

Panel Discussion: Data, Models, and Simulators to Advance Energy and Climate Policy Decisions

Session 2: Energy models and simulators advancing policy decisions.

Session Focus for Discussion: To support policymakers, there is a need for easy-to-use web-enabled models and policy simulators with up-to-date data, documented model assumptions, easy to walk-across models and scenarios that evaluate policy options and pathways. In this session, we will discuss the availability of models, policy simulator design patterns, and technologies that can accelerate data and energy/economic/climate model development.

- Availability and accessibility of energy and climate models to policymakers
- Software innovations that can accelerate the development of models and policy simulators
- Integration and crosswalk across diverse models for effective policy pathway solutions

Panel Moderator: Amar Amarnath, King Abdullah Petroleum Studies and Research Center (KAPSARC)

Panelists:

- Michelle M. Foss, Baker Institute Center for Energy Studies (CES)
- Andreas W. Schäfer, Air Transportation Systems Lab, University College London
- David Omom, Saudi Aramco
- Diego Moya, Imperial College London
- Baltasar Manzano, Universidade de Vigo

Day 5: Wednesday, February 8, 2023

Concurrent Session Block 7

11:00 – 12:30

Concurrent Session 7A: Trading Energy on the Path to Energy Transition

Session Location: Auditorium, Ground Floor, APEX Convention Center

Session Presider: Fatima Shuwaikh, Léonard de Vinci Pôle Universitaire, Research Center

Energy Transition And Export Diversification In Oil-Dependent Countries: The Role Of Structural Factors

Presenter: Fatih Karanfil, King Abdullah Petroleum Studies and Research Center (KAPSARC)

Authors: Fatih Karanfil¹, Luc Désiré Omgba²

¹ King Abdullah Petroleum Studies and Research Center (KAPSARC), ² University of Lorraine

Asymmetric Effects Of Energy Dependence On Interstate Relations

Presenter: Mehmet Soytas, King Fahd University of Petroleum and Minerals (KFUPM)

Authors: Mehmet Soytas¹, Emre Hatipoglu²

¹ King Fahd University of Petroleum and Minerals (KFUPM)

² King Abdullah Petroleum Studies and Research Center (KAPSARC)

The Role Of The Circular Economy In Fostering Sustainable Economic Growth In The GCC

Presenter: Jawaher Ali Binsuwadan, Princess Nourah Bint Abdulrahman University

Authors: Jawaher Ali Binsuwadan¹, Ghadda Mohamed Yousif¹, Hiyam Ahmed Abdulrahman¹

¹ Department of Economics, Princess Nourah Bint Abdulrahman University

Lighting The Path: Challenges And Opportunities In MENA Power Sectors

Author & Presenter: Jessica Obeid, Middle East Institute

Linking Electrical Grids Between Europe And The MENA Region: Potentials And Opportunities

Presenter: Menna Elsobki, RWTH Aachen University

Authors: Menna Elsobki¹, Aaron Praktikno¹

¹ Institute for Future Energy Consumer Needs and Behavior

(FCN), Chair for Energy Systems Economics, RWTH Aachen University

Concurrent Session 7B: Volatility, Geopolitics and Energy Transition

Session Location: Main Hall, Ground Floor, APEX Convention Center

Session Presider: Eunnyeong Heo, Seoul National University

The Impact Of World Population Growth On Global Energy Consumption: A Probabilistic Analysis

Author & Presenter: Peter Pflaumer, Department of Statistics, Technical University of Dortmund

The Eastern Mediterranean Energy Geopolitics: A "Cyprus-Centric" Analysis Of The Current And Future Challenges

Author & Presenter: Savvas Papasavvas, Strategy International

Cross-Border Power Trade And Renewable Energy Development In Southeast Asia: Economic And Environmental Implications

Author & Presenter: Youngho Chang, Singapore University of Social Sciences

The Korean Rec Spot Market Price Forecasting

Presenter: Jong-Bae Park, Konkuk University
Authors: Jong-Bae Park¹, Sung-Hee Lee², Woo-Nam Lee³, Manho Joung⁴, Da-Han Lee¹

¹Konkuk University, ²BRFrame Inc., ³Korea Electrotechnology Research Institute, ⁴Sempra Energy

Time-Varying Price Elasticity Of Electricity Demand

Presenter: Jieyang Chong, University of Reading
Authors: Jieyang Chong¹, Jacopo Torriti¹

¹ University of Reading

Concurrent Session 7C: Powering Nuclear towards Energy Transition

Session Location: Room 1B, First Floor, APEX Convention Center

Session Presider: Hisanori Nei, National Graduate Institute for Policy Studies

Nuclear Energy In Emerging Markets, MENA And The Impact Of Energy Transition

Presenter: Yagyavalk Bhatt, King Abdullah Petroleum Studies and Research Center (KAPSARC)

Authors: Yagyavalk Bhatt¹, Jitendra Roychoudhury¹
¹ King Abdullah Petroleum Studies and Research Center (KAPSARC)

Fourth IV Generation Nuclear Reactors As Sustainable And Safe Energy Resources

Author & Presenter: Moustafa Aziz Ibrahim, Atomic Energy Authority - Nuclear Safety Research Center

Impact Of Replacement Coal And Fossil Energy By Nuclear Energy On Global Greenhouse Gases Emission

Presenter: Mohamed Abdelaziz, Egyptian Atomic Energy Authority

Authors: Mohamed Abdelaziz¹, Hesham Elkhatib¹, Abdelfatah Abdelmaksoud¹, Mohamed Esawy¹
¹ Egyptian Atomic Energy Authority

Peaceful Uses Of Nuclear Energy In Less Industrialized Countries: Challenges, Opportunities, And Acceptance

Presenter: Ricardo Raineri, Pontificia Universidad Católica de Chile, and Associated Universities, Inc.

Authors: Jeffrey Binder^{1,2}, Adam Cohen¹, Antonio Muller³, Ricardo Raineri⁴
¹Associated Universities, Inc., ²Boston Government Services, LLC., ³AEM Capital, ⁴ Pontificia Universidad Católica de Chile

Nuclear Bias In Energy Scenarios – A Review And Results From An In-Depth Analysis Of Long-Term Decarbonization Scenarios

Presenter: Björn Steigerwald, Workgroup for Economic - & Infrastructure Policy, Universität of Technology Berlin

Authors: Jens Weibezahn¹, Björn Steigerwald², Christian Breyer³, Christian von Hirschhausen²
¹Copenhagen School of Energy Infrastructure and Universität of Technology Berlin, ² Universität of Technology Berlin, ³Lappeenranta University of Technology

Concurrent Session 7D: Role of Hydrogen in MENA's Energy Transition

Session Location: Room 1C, First Floor, APEX Convention Center

Session Presider: Sausan Al Riyami, Oman Hydrogen Center & German University of Technology in Oman

Quest For Energy Diversification In MENA – Opportunities And Challenges For Hydrogen Economy

Presenter: Shahid Hasan, King Abdullah Petroleum Studies and Research Center (KAPSARC)

Authors: Shahid Hasan¹, Rami Shabaneh¹
¹ King Abdullah Petroleum Studies and Research Center (KAPSARC)

The Role Of Civil Law In Environmental Protection For The Suez Canal Axis Development Project

Author & Presenter: Farouk Abdel Rahman, Egyptian Atomic Energy Authority

Emissions & Economic Implications Of Low-Cost Blue Hydrogen Supply From The Gulf States

Presenter: Manal Shehabi, Oxford University

Authors: Manal Shehabi¹, Frank Jotzo²
¹St. Anthony's College, Oxford University, SHEER Research and Advisory, ²Crawford School of Public Policy, Australian National University

Production Potential And Economic Viability Of Green Hydrogen In Algeria

Author & Presenter: Nadjib Drouiche, Agence Nationale de la Valorisation des Résultats de la Recherche et de Développement Technologique (ANVREDET)

How The Arabian Gulf Could Become The World's Clean Hydrogen Hub

Presenter: Abdullah Alshangiti, Columbia University

Authors: Kaushik Deb¹, Abdullah Alshangiti²

¹Center on Global Energy Policy, Columbia University,

²Columbia University.

Concurrent Session 7E: Modelling the Dynamics of Electricity Markets

Session Location: Room 2B, Second Floor, APEX Convention Center

Session Presider: Kelly Neill, University of Sydney

Improving The Techno-Economic Pattern For Distributed Generation-Based Distribution Networks Via Nature-Inspired Optimization Algorithms

Presenter: Ahmed S. Hassan, Ministry of Electricity and Renewable Energy, Egypt

Authors: Ahmed Hassan¹, Araby Sayed¹, ElSaeed Othman², Mohamed Ebrahim³

¹ Ministry of Electricity and Renewable Energy, Egypt, ² Department of Electrical Engineering, Faculty of Engineering, Al Azhar University, ³ Department of Electrical Engineering, Benha University

Modeling, Simulation And Experimental Validation Of A Membrane Distillation Unit Solar Part

Presenter: Khalifa Zhani, Bisha University

Authors: Haled Alserhan¹, S Mejri², M.M. Alquraish¹, K. Zhani¹

¹Department of Mechanical Engineering, College of Engineering, University of Bisha, ²Laboratory of Electromechanical Systems, National Engineering School of Sfax

Dynamic Electricity Tariffs And Willingness To Engage On The Residential Side: Quantifying The Potential Of Energy Intensive Consumers In A Real Case Scenario

Presenter: Faisal Alsallum, Center of Excellence for Complex Engineering Systems, King Abdulaziz City for Science and Technology (KACST)

Authors: Faisal Alsallum¹, Carlos Batlle², Tim Schittekatte², Abdulelah Habib¹

¹Center of Excellence for Complex Engineering Systems, King Abdulaziz City for Science and Technology (KACST), ²MIT Energy Initiative

Quantifying The Non-Linear Impact Of Extreme Temperatures On Power Generation Efficiency

Presenter: Jineon Moon, Center for Sustainable Development, Korea Advanced Institute of Science & Technology (KAIST)

Authors: Jineon Moon¹, Jiyong Eom²

¹ Center for Sustainable Development, Korea Advanced Institute of Science & Technology (KAIST), ² School of Business and Technology Management, Korea Advanced Institute of Science & Technology (KAIST)

Short-Term System Marginal Price Forecasting Using 2-Stage Variable Selection Approach

Presenter: SangWoo Shim, Konkuk University

Authors: SangWoo Shim¹, DaHan Lee¹, JaeHyung Roh¹, Jong-Bae Park¹

¹ Konkuk University

Concurrent Session 7F: Techno-Economic Analysis of Solar Installations

Session Location: Room 1A, First Floor, APEX Convention Center

Session Presider: Carlo Andrea Bollino, Università di Perugia

Can Hybrid Solar Projects Pave The Way For CSP Development?

Author & Presenter: Ahmed A Albalawi, King Abdullah Petroleum Studies and Research Center (KAPSARC)

Design Of Solar Power System For Fish Farm

Presenter: Mutlaq Maktaf Albogame, Al Baha University

Authors: Mutlaq Maktaf Albogame¹, Zuhair Ahmed Alqarni¹

¹Al Baha University

Future R&D Prospects In DNI Forecasting For An Efficient CSP Integration In The Energy Mix

Presenter: Saad Benbrahim, Moroccan Agency for Sustainable Energy (MASEN)

Authors: Saad Benbrahim¹, Ismail Belhaj¹, Hicham Bouzekri¹

¹Department of R&D and Industrial Integration, Moroccan Agency for Sustainable Energy (MASEN)

Performance Investigation Of Two Types Of Solar Chimney Used For Air Conditioning

Presenter: Faouzi Nasri, University of Bisha

Authors: Hamod Ghorn Ali Alshomrsni¹, Faouzi Nasri¹

¹Mechanical Engineering Department, College of Engineering, University of Bisha

Effective Load Carrying Capacity ("ELCC") Of Solar Photovoltaic ("PV") Resources In A KSA Context

Presenter: Amit Pinjani, London Economics International

Authors: A.J. Goulding¹, Amit Pinjani¹, Victor Chung¹, Shashwat Nayak¹

¹London Economics International LLC

Concurrent Session 7G: Just Governance towards Just Transition

Session Location: Room 2C, Second Floor, APEX Convention Center

Session Presider: Lin Zhang, City University of Hong Kong

Will Current Global Climate Governance Deliver?

Author & Presenter: Nadhmi M Alkhamis, CSM

Energy Transition Is No Longer The Same Idea It Used To Be

Author & Presenter: Sami A Alnuaim, Society of Petroleum Engineers

Cifal Center Methodology In Leveraging The Awareness Towards Improving The Energy Sustainability

Author & Presenter: Aiman J Albarakati, Majmaah University

Deploying National Gas Expansion Strategy And The Smart Towns Urbanization Nexus To Stimulate Sustainable Economic Development

Presenter: Oluwaseun T. Tubi, Centre for Petroleum, Energy Economics and Law, University of Ibadan and Nigerian Institute Of Social And Economic Research

Authors: Oluwaseun T. Tubi¹, Adeola Adenikinju²

¹ Centre for Petroleum, Energy Economics and Law, University of Ibadan and Nigerian Institute Of Social And Economic Research, ² University of Ibadan

Dependence Between The Gcc Energy Equities And Select Global Energy Markets: Evidence From Wavelet Analysis

Presenter: Mohammed Alkathery, The Unified Platform in Saudi Arabia

Authors: Mohammed Alkathery¹, Kausik Chaudhuri², Muhammad Ali Nasir²

¹The Unified National Platform in Saudi Arabia, ²University of Leeds

Concurrent Session 7H: Technology Case Studies in Energy Transition

Session Location: Room 2A, Second Floor, APEX Convention Center

Session Presider: Radia Sedaoui, UN Economic Social Commission of West Asia (UNESCWA)

Short-Term Energy Forecasting System For A Photovoltaic Power Plant Installed In Southern Algeria: Oued Nechou

Author & Presenter: Reski Khelifi, Unité de Recherche Appliquée en Energies Renouvelables (URAER)

Efficiency Of Zinc Oxide Nanorods (ZnO Nrs) In Real Produced Water Treatment

Presenter: Fatema Al Hajri, Oman Hydrogen Centre, German University Technology

Authors: Fatema Al Hajri¹, Sausan Al Riyami¹, Mohammed Al Abri²

¹ Oman Hydrogen Centre, German University Technology,

² Nanotechnology Research Center, Sultan Qaboos University

Formulate Of Fault Ride Through (FRT) Criteria With Large-Scale Wind Integration To Maintain System Stability (System Operator Perspective)

Presenter: Mohamed Atia Hazzaa, Ministry of Electricity and Renewable Energy, Egypt

Authors: Mohamed Hazzaa¹, Sayed El Banna², Dalal Helmi¹

¹Egyptian Electricity Holding Company, Ministry of Electricity and Renewable Energy, ² Electrical Engineering Department, Faculty of Engineering, Al Azhar University

Use Of Transfer Prices For Intra-Company Transactions

Author & Presenter: Thorsten Fischer, Saudi Aramco

Tracking Innovation Networks In Electricity Using Twitter

Presenter: Rolando Fuentes, Tec De Monterrey

Authors: Rolando Fuentes¹, Frank Felder²

¹Tec de Monterrey and KAPSARC, ² King Abdullah Petroleum Studies and Research Center (KAPSARC)