About KAPSARC

The King Abdullah Petroleum Studies and Research Center (KAPSARC) was founded as a non-profit global institution dedicated to objective research into energy economics, policy, technology, and the environment across all types of energy.

More than 150 great minds in the energy economics field from more than 20 nationalities have gathered in Riyadh to advance the understanding of energy economics and to act as a catalyst for dialogue. Through our initiatives and projects we aim to create a road map to future better welfare for societies locally and globally.

KAPSARC develops economic frameworks to help achieve effective alignment between energy policy objectives and outcomes and improve societal well-being and prosperity, both in the region and worldwide.

Since its inauguration by King Salman bin Abdulaziz in 2016, the Center has served as the focal point of innovation, research and analytics in the energy research industry in the Kingdom and the world.

KAPSARC researchers collaborate with leading international research centers, public policy organizations, and industrial and government institutions to share knowledge, insights and analytical frameworks.

In 2020, KAPSARC successfully moved up the ranks of the think tank index despite the formidable challenges imposed by the pandemic. The Center ranked 12th out of 60 research centers in the Energy and Resource Policy Think Tank category and placed 15th out of 101 amongst MENA research centers according to the University of Pennsylvania Think Tank and Civil Societies Program.
KAPSARC Contributions to the Research World

The Center’s mandate is to advance the understanding of energy challenges and opportunities facing the world and Saudi Arabia, in energy economics, policy, technology, and the environment across all types of energy.

KAPSARC is focused on finding solutions for the most effective and productive use of energy to enable economic and social progress nationally, regionally, and globally.

KAPSARC’s agenda provides a variety of initiatives and research programmes, focused on investment, macroeconomics, the future of energy, oil and gas, in addition to transportation, electricity markets and climate change.

Projects

We prioritize five research programs that address the most prominent topics in energy economics.

• Energy and macroeconomics
• Markets and industrial development
• Policy and decision science
• Energy transition and electric power
• Climate change and environment
Initiatives

KAPSARC’s research agenda addresses and engages with the interests of its stakeholders, offering informed insights into the impacts of local, regional and global energy-related issues.

Our agenda covers a broad range of initiatives, from the potential impact of global freight on Saudi energy demand to emissions reduction policies that could help the Kingdom meet its commitments to the Paris Agreement.

Climate Change Policies and Governance

This initiative will investigate emissions-reduction policies to provide options to Saudi policymakers as they implement the Paris Agreement and prepare to negotiate the new nationally determined contributions. It will also examine development pathways that can help Saudi Arabia achieve its economic and carbon abatement goals.

Evaluation of Public Investment Projects

The Kingdom has begun to diversify its economy, changing its resource use and creating new development opportunities. This initiative assesses the opportunity costs of Saudi energy resources to inform Saudi Arabia’s economic decision-making. It will also help shape a framework for evaluating public investment projects in the Kingdom.

Future of Global Oil Markets

This initiative investigates what role oil can play in an environmentally sustainable future energy and feedstock mix. It also considers the extent to which the Kingdom needs to diversify and bolster its economy to remove its reliance on oil revenue and oil-based economic activity.
**Future of Natural Gas Markets**

This initiative explores the potential of Saudi Arabia’s consumption, domestic supply, and natural gas trade in the global context. It will provide a roadmap for a functioning, competitive and globally connected natural gas market in the Kingdom of Saudi Arabia.

**Productivity and Economic Diversification**

This initiative focuses on the relationship between employment and sustainable economic growth in Saudi Arabia, and the determining factors that lead to business growth and job creation. It also examines the drivers of productivity in the country and how they might impact upon the Kingdom’s economic diversification.

**Electricity Sector Transitions**

This initiative explores the role of electric power in the energy transition and investigates how the transition will affect the global supply of and demand for electricity. How Saudi Arabia can mitigate the risks and capitalize on the opportunities presented by this transition are questions at the forefront of the initiative.

**Energy and Economic Vulnerability**

In an interconnected world, national economies and societies are vulnerable to global energy price shocks and disruptions to energy systems. This initiative will explore policies that can help identify and mitigate against such risks in the Kingdom and help it achieve macroeconomic stability.
**Models, Data and Tools**

This research aims to assess the opportunity costs of Saudi energy resources, to inform Saudi Arabia’s economic decision-making. It will also help shape a framework for evaluating public investment projects tailored to the Saudi economy’s specific characteristics.

**Future of Transport and Fuel Demand**

This initiative aims to advance the understanding of passenger transport energy demand using a network analysis of future passenger transport activity, starting from Riyadh, Saudi Arabia. It also investigates how changes in freight movement globally will alter the Kingdom’s energy demand.

**Regional Energy Markets**

This initiative analyzes energy market integration among Gulf Cooperation Council countries, the implications of China’s changing energy demand, energy policies and security strategies for Saudi Arabia. It also assesses India’s energy demand drivers, the significance of its energy policies, and security strategies for the Kingdom.
Adam Sieminski was appointed as the president of KAPSARC in April 2018. Before his appointment, Mr. Sieminski held the James R. Schlesinger Chair for Energy and Geopolitics at the Center for Strategic and International Studies (CSIS). Prior to that, he was a non-resident senior adviser to the CSIS Energy and National Security Program. He also served as the administrator of the U.S. Energy Information Administration (EIA) from 2012 to 2017 and was the senior director for energy and environment on the staff of the United States National Security Council.

Mr. Sieminski’s membership of leading policy and research organizations includes the roles of senior fellow and former president of the U.S. Association for Energy Economics, and president of the U.S. National Association of Petroleum Investment Analysts.

He holds the Chartered Financial Analyst (CFA) designation and holds both an undergraduate degree in civil engineering and a master’s degree in public administration from Cornell University.
Dr. Fahad Alturki is Vice President of Research at KAPSARC. In this role he oversees KAPSARC’s research programs and priorities, ensuring that these are strategically focused on impacts within the Kingdom of Saudi Arabia, both regionally and globally. Dr. Fahad interacts with key stakeholder groups within the Kingdom and internationally, in the private, academic, and government sectors. Moreover, he is responsible for setting the overall directions and parameters for collaboration with KAPSARC’s partners and affiliates.

Prior to joining KAPSARC, Dr. Fahad was the chief economist and head of research at Jadwa Investment Company. Dr. Fahad has a proven track record in economics, with more than 20 years of experience in the field. Before joining Jadwa, Dr. Fahad was the chief economist at Barclays, Saudi Arabia. Prior to his time at Barclays, Dr. Fahad was an economic specialist at the Saudi Arabian Monetary Authority, where he worked for 11 years in the Economic Research and Statistics Department.

Dr. Fahad holds a B.A. in Business Administration from King Saud University in Saudi Arabia and master’s and Ph.D. degrees in economics from the University of Oregon (Eugene, United States).
Dr. Mansoor Al-Mansoor was appointed vice president of finance and operations at KAPSARC in February 2016. Previously, he served as deputy director general of the Human Resources Development Fund (HRDF), where he oversaw the development and implementation of recruitment strategies and the development of young national leaders, as well as supervising the national program to support job seekers.

Dr. Mansoor has more than 25 years of experience in the fields of scientific research, training, project management and planning, and human resources development in the public and private sectors. The latter includes seven years’ experience as vice president for administrative affairs and human resources in a publicly traded company.

Dr. Mansoor holds a Ph.D. from Ball State University, Indiana, and a master’s in Human Resource Management and English Language from the University of Missouri. He also holds an Executive Diploma in Financial Management from Harvard University.
KAPSARC Research

Methodology Paper

Toolkit and Methodology Papers are detailed explanations and justifications for KAPSARC online or in-house tools. In 2020 we have produced five studies discussing the Vision 2030 Input-Output table, the new oil model to analyze shocks to world oil and inventory markets, how we can implement alternative pricing policies in economic equilibrium models using the extended mathematical programming framework, the behavioral aspects of energy transition, and highlighting the K-DSGE as a dynamic stochastic general equilibrium model for Saudi Arabia.

Data Insight

Data Insight is a one-page publication elaborating a data fact that shows recent data trend changes on topics related to energy, economics, and environment. Data Insights should showcase data trends and entice the users to use the data portal for open access energy data. It includes a link to download the open access data behind the Insight and reflect KAPSARC’s views as the home of energy data expertise. We produced around 18 Data Insights to address the most important energy economics topics in the Kingdom and worldwide.

Workshop Brief

The Workshop Brief summarizes the insight and recommendations developed during a KAPSARC workshop. We published 11 Workshop Briefs in the past year, to cover several topics such as the path toward a hydrogen economy, opportunities for natural gas trade in the GCC, enhancing the electricity market in GCC and MENA, energy global transition, gas market potential in India, and green growth pathways.

Reports

Each quarter, our Center publishes a special report named KAPSARC Oil Market Outlook (KOMO), which provides a comprehensive overview of world oil market fundamentals, including supply and demand balances, OECD crude oil inventories, risk assessments, and a Brent crude oil price confidence interval based on the researchers’ analyses.
Discussion Paper

Discussion Papers are policy papers written to showcase research results. Discussion Papers are similar to academic papers in structure except they are written for a wider audience that includes policymakers. We published 29 studies to provide insights and recommendations to achieve energy security and transition.

Commentary

A Commentary is a written piece that captures short-term and intermediate research insights. In 2020 we produced 19 papers in order to express KAPSARC researchers’ opinions.

Instant Insight

An Instant Insight is a short written piece about recent news or events related to energy, economics, environment, and policies. During 2020 we produced 29 papers to focus on the impact of COVID-19 on many energy and economics topics such as transportation, oil, gasoline, employment, and electricity consumption.
In order to assess the effect of energy economics policies and predict the future, KAPSARC launched an open data portal to the public in 2016, which has grown to around 1,400 public datasets. The portal is designed to enable users to better understand energy, economy and environment.

Critical energy economic data is available in an easy-to-use machine-readable format. Our datasets are classified into 16 themes, to represent the energy-intensive sectors and the economy as a whole. They are collected from more than 230 sources and cover more than 30 countries. To date, our dataset has had more than 8 million downloads. We develop tools and models to inform, and to help policymakers to make educated decisions.

Our data and tools are important in presenting scenarios and understanding what will change our lives, and what will be the force driving energy markets.
Despite the challenges of COVID-19 and the measures of social distancing, our events have continued during this unprecedented time. In the past three months we organized more than three webinars and co-hosted two virtual workshops which shed light on the topic of energy issues.

Through this energy series we predicted the global gas market outlook, discussed the development of the energy economics open data ecosystem and pondered optimizing of renewable energy utilization.

KAPSARC webinars are an interactive and participatory platform that brings together stakeholders, experts and specialists in energy and economics. The Center collaborates with a number of global research centers, public policy organizations, government and industrial institutions to share knowledge, analyses and recommendations aimed at improving the welfare of societies locally and globally.

Explore more about our webinar discussions by viewing the news page:

- Global Gas Security Review and Gas Market Outlook
- Energy Economics Open Data Ecosystem, Data Transparency, Policy Scenario Models & Tools
- Energy Data Transparency, Policy Scenario Models & Tools
- Future Roles of System Operators in Facilitating the Energy Transition and Optimizing Renewable Energy Utilization
CCE Guide

KAPSARC’s role in producing the Circular Carbon Economy (CCE) Guide

As part of Saudi Arabia’s G20 Presidency, the Kingdom has pioneered the concept of the circular carbon economy (CCE). Following on from the G20 Energy Ministers’ Communiqué, the G20 leaders endorsed the CCE’s 4 Rs framework (Reduce, Reuse, Recycle and Remove).

In September 2020, the G20 energy ministers’ meeting, organized and held under the Saudi Arabia G20 presidency, commended King Abdullah Petroleum Studies and Research Center’s (KAPSARC) role in presenting the CCE (Circular Carbon Economy) Guide in collaboration with several international organizations: the International Energy Agency (IEA), the International Renewable Energy Agency (IRENA), the Nuclear Energy Agency (NEA), the Global CCS Institute (GCCSI), and the Organisation for Economic Co-operation and Development (OECD).

Under this framework, carbon emissions can be reduced by energy efficiency, recycled through the natural carbon cycle with bioenergy, reused as an input for chemicals and fuels, or removed and stored in geologic formations. Watch the video to explore more about how we can safeguard the planet.

The CCE is an integrated and inclusive approach toward more comprehensive, resilient, sustainable, and climate-friendly energy systems that support and enable sustainable development. It encourages countries to take advantage of all technologies, forms of energy, and mitigation opportunities, according to resource availability, economics, and national circumstances.

The CCE Guide describes key aspects of the 4Rs approach to managing carbon emissions: Reduce, Reuse, Recycle, Remove. The website includes the CCE Visualizer that allows users to explore how the energy and carbon management system might evolve through 2050 within a CCE framework, and will serve as a global knowledge hub for the CCE.

Discover more about how we can safeguard the planet by visiting the CCE website here.
During the past year, the King Abdullah Petroleum Studies and Research Center (KAPSARC) and the King Faisal Center for Research and Islamic Studies co-led an engagement group serving as the ‘ideas bank’ of the G20 that was held under the presidency of Saudi Arabia: Think20 (T20) Saudi Arabia.

Think20 (T20) is responsible for connecting and collaborating with regional and international think tanks to produce a communiqué aiming to shape a future of prosperity, sustainability, and global inclusion.

Despite the unprecedented times due to the coronavirus pandemic, the T20 succeeded in developing policies and recommendations virtually for consideration by G20 leaders at the G20 summit, which took place in Riyadh from November 21 to November 22.

As part of producing the T20 Communiqué, T20 launched the T20 Summit Season which included 11 webinars to discuss key themes and recommendations developed by T20 Saudi Arabia task forces during the year. The webinars offered insights and solutions to global issues, and gathered local and international experts, and several civil society organizations.

In order to find solutions for issues like climate and energy, migration, innovation and technology, economic development and food security, the summit of T20 was held on October 31 and November 1, and concluded by handing up the T20 Communiqué virtually to Minister of Foreign Affairs Prince Faisal Bin Farhan Bin Abdullah on behalf of the Custodian of the Two Holy Mosques King Salman.

The Communiqué included 32 recommendations grouped into seven high-level categories, each seeking to shape a sustainable future. Examples of the T20 Communiqué recommendations are: stressing the need to promote global solidarity and multilateralism in response to COVID-19 and future shocks; improving cooperation between G20 members and non-member states; reforming governance; improving key functions of the World Trade Organization; and promoting innovative frameworks to bridge the investment gap for a resilient and sustainable infrastructure.

The T20 Saudi Arabia summit became the first one among the previous T20 summits to record such a high number of published policy briefs, which reached 146 research summaries from 678 authors working in 464 research institutions in 62 countries, compared with 80 published policy briefs in Argentina and 104 in Japan.

Story of the T20 Communiqué

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KAPSARC in the News

The last year was a proactive one for us in the local and global media outlets. We earned a lot of exposure and received significant attention from the media.

During 2020 we were picked up by leading international media outlets and mentioned in more than 100 news stories, TV reports, media releases and features.

Have a look at some of our media appearances.

KAPSARC offers a new vision for ambitious climate change mitigation by oil exporters

The report aligned with KAPSARC’s goal to study and ponder the changes in the oil, gas and renewable energy industry, and outlined options for supply-side climate policies, and considered how these could support fossil fuel producers in establishing proactive and progressive approaches toward climate mitigation.

The study, written by KAPSARC researchers Paul Zakkour and Wolfgang Heidug, suggests new policies and tools could allow oil exporters to better manage the climate impacts posed by their products in ways that can help maintain their role in a low carbon world.

KAPSARC study analyzes regional electricity demand after energy price reform

The report highlighted the first study of its kind published by KAPSARC that analyzes regional electricity demand in the Kingdom after energy price reform, after the two waves of energy price reforms in 2016 and 2018.

The paper, published by the center’s researchers Jeyhun I. Mikayilov, Abdulelah Darandary, Ryan Alyamani, Fakhri J. Hasanov and Hatem Alatawi, showed that residential electricity demand is determined by a variety of aggregate and disaggregate drivers, which can vary from one region to another. These drivers include, among other things, market concentration, regional wealth, population and income.

Oil crash poses severe test for OPEC+ after Moscow, Riyadh miscalculate

This report focused on one of our Instant Insight papers, which discussed the importance of OPEC in stabilizing oil markets and prices.
G20 energy ministers commend KAPSARC’s CCE Guide

The story shed light on the work led by KAPSARC and the valuable contributions from the various international organizations (International Energy Agency, the International Renewable Energy Agency, the Nuclear Energy Agency, the Organisation for Economic Cooperation and Development, and the Global CCE Institute), in producing the CCE framework and its 4Rs, in collaboration with the five international organizations.

G20 creates platform for circular carbon economy

We all known that CCE is an integrated and inclusive approach toward more comprehensive, resilient, sustainable, and climate-friendly energy systems that support and enable sustainable development. This report highlighted our vital role with our partners to produce CCE guide, and where is the idea come from.

Saudi Arabia reaps rewards of gas-saving technology

The story explored KAPSARC’s recent Commentary titled “Saudi Arabia’s Gas Flaring Mitigation Experience,” written by our researcher Majed Al-Suwailem. The story focused on the benefits of advanced gas technology such as Master Gas System (MGS) for Saudi Arabia as it led to saving more than 18 billion cubic feet per day of gas in 2018 and meeting growing energy demands.
For any inquiries, please contact the media and communications team at:
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