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For Studies & Research in Energy Sciences
The research arm of the International Agency for Energy Security

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Editor in Chief
Saif Bin Helal Al-Shehhi

Art Director
Mohamed Elgindy

Managing Editor
Nashwa Nashaat

SBHC for Studies and Research in Energy Sciences
مركز سيف بن هلال لدراسات وأبحاث علوم الطاقة
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إحدى مؤسسات الوكالة الدولية لأمن الطاقة
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IAFES

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Preparation Team

Editor in Chief
His Excellency/ Saif Bin Helal Al-Shehhi
Founder & Executive President

Managing Editor
Ms. Nashwa Nashaat
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Mr. Fadi Khalil
Ms. Maha Mahmoud

Art Director
Mr. Mohamed Elgindy

About us

IAFES is an independent, for-profit, international, and non-governmental business organization specialized in the following areas:

Scientific research (studies and research in energy sciences of all kinds).

- tackling opportunities and risks in the energy market.
- Providing all studies and statistics related to production, supply and demand in all types of energy.
- Holding seminars and conferences specialized in energy topics.
- Monitoring the impact of conflicts and wars on energy production sources.
- Sponsoring research and innovation in the field of renewable and clean energy.
- Sponsoring, supporting and disseminating legislation and laws issued by the United Nations and its institutions concerned with preserving natural sources of energy.
- Cooperating with energy institutions and relevant international organizations.
- Cooperating with governments and ministries of energy around the globe.
- Measuring, determining and sensing the risk of misuse of nuclear energy.

The agency is interested in studies of energy security, the political and geopolitical impacts thereon, as well as the impacts of energy security on the stability in the system and international peace, in addition to studying the political, economic and social impacts of multiple energy crises; whether in energy exporting or importing countries consumers, and through energy security programs; Which is reflected in the political and social stability in these countries and different regions of the world.

In the United States of America in 2022, under the license of (IAFES), the International Agency for Energy Security was established pursuant No. (License No. 1505 / United States of America - State of California).

In order to achieve its vision and goals, the International Agency for Energy Security strengthened its work team with a research group that includes the most important researchers in the field of energy studies, and this culminated in the establishment of Saif Bin Helal Center for Studies and Research in Energy Sciences, based in the Arab Republic of Egypt, License No. 26499, extracted from the Ministry of Investment, 6th of October City, Cairo, December 2022. The main mission of the Saif Bin Helal Center for for Studies and Research in Energy Sciences is to study energy-related issues on an unbiased and scientific basis, where all points of view are presented with impartiality and scientific objectivity, relying in its analyzes and publications on scientific research tools. It tries as well to anticipate the future in the topics it presents and addresses, for the public benefit of those interested in energy issues and security, as well as attempting to rationalize the energy industry.

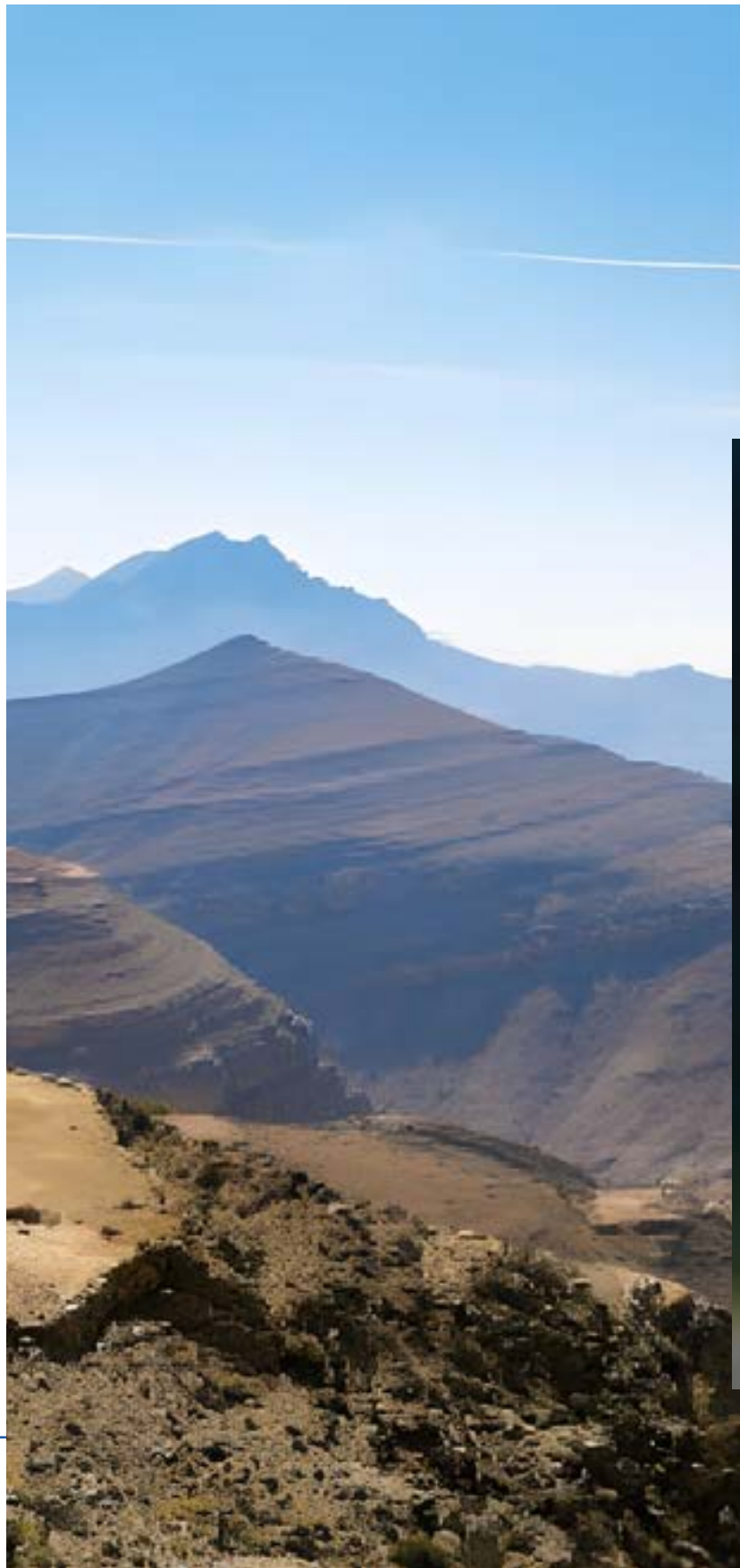
Founder's Message

His Excellency/ Saif Bin Helal Al-Shehhi
Founder & Executive President

I grew up on a land rich of oil, gas, and minerals, and there was always a question lingered in my head:

How do we preserve energy sources unless we possess the elements of security for these sources? The question grew with the expansion of wars around us, the lack of opportunities (no peace), and the absence of the culture of (no violence). I found myself repeating the phrase, "Future generations will not have energy unless we have a culture of energy security through diversifying energy sources, sustaining the same, and protecting these sources through studies and innovation in the field of energy security.

In 2022, the answer was to establish the International Agency for Energy Security in the United States of America and its research arm, Saif Bin Helal Center for Studies and Research in Energy Sciences, in the Arab Republic of Egypt.



Vision

The International Agency for Energy Security (IAFES) - being an international business organization concerned with energy security and resources as well as studying risks and opportunities - seeks to achieve excellence, leadership and innovation in research, analysis and scientific supervision in energy security and the areas of influence and vulnerability thereto, so that "energy security" serves as the basic foundation for development issues on the humanitarian level.

Mission

The mission of the International Agency for Energy Security (IAFES) is to provide serious scientific solutions to make energy one of the tools of international cooperation and sustainable development, rather than energy being a source of threat to security and human peace and a weapon used in every conflict. We are working to make energy sources a human right like intellectual freedom, social justice and development peace, based on the principle of "mutual dependence" between energy-exporting countries "in all its forms" and energy-importing countries, as well as stimulating the use of energy in its various forms to be a means of achieving prosperity, flourishment, and comprehensive and sustainable development.

Goals

Goals of SBHC for Studies and Research in Energy Sciences

Agency Research Arm

1- Enriching scientific research in the Middle East and the world on energy issues in all their political, economic, and social dimensions and related problems, and shedding light on ways to achieve security for this sector in order to ensure the realization of the interests and security of the energy sector in the region in particular and the world in general, through organizing conferences, training, and workshops in the field of energy studies.

2- Directing scientific research activity to pay attention to "energy security" issues by presenting research papers, analytical articles, and related studies in order to ensure access to wide sectors of public opinion.

3- Establishing bridges of communication and mutual relations with many research centers and political and strategic institutions in various countries of the world, as well as universities and scientific institutions, especially those concerned with the field of energy.

4- Strengthening the link between the research center and companies that are operating in the field of energy in order to achieve "energy security" according to its various approaches.

5- Providing scientific consultations in the field of energy to the various relevant parties by acting as a house of expertise in the field of energy.

6- Discussing opportunities, risks, security threats, and energy sources.

Editorial

Opening Statement

by:
His Excellency/ Saif Bin Helal Al-Shehhi
Founder & Executive President

In 1850AD, the American scientist James Young documented his patent in the world of fuels derived from petroleum or oil rocks, and then it developed to include hydrocarbon liquids and later he achieved the distillation of bituminous coal. Mankind has gone through various stages in its quest to obtain energy sources. From Baku in 1837, the first commercial oil distillation refinery was established, then Poland, Bucharest, Canada and the United States, then in the State of Kuwait in 1946, and it was preceded by the Arab region of Ahvaz in 1908AD. Rapid events and milestones that changed the features of the globe, and there was a race to possess such treasures by the colonists, resulted in what is called the "Seven Sisters." After the United States dismantled the "Standard Oil" company through "anti-monopoly" laws, seven companies were created, or in the correct sense, seven economic empires controlling energy sources, formulating world policies, and appointing governments as they want, as well as isolating those who are not desired. These companies produced other affiliates with other names according to the circumstances, times, and requirements of international politics.

Today, after nearly two centuries, it has become necessary to establish modern economic entities that keep in mind the interests of humanity, its continuity, and the preservation of energy resources and security. We will work hard through the International Agency for Energy Security with international organizations partners, with the major Nation Organization - the United Nations - and its agencies, and with the governments of the world seeking a future that preserves their countries' treasure and natural resources, and achieves energy security and the security of future generations. We seek to enact laws that criminalize the plundering of the continents' wealth, countries, and peoples. We seek to create a world in which energy revenues are dedicated for science, knowledge, and human development, and not for energy resources to be the source of wars, conflicts, and the enslavement of humans. We seek for a person's right to his natural resources, and his enjoyment of energy sources, meaning his right to live, develop, receive education and treatment, and other human rights guaranteed by laws and stipulated in the International Charter of Human Rights.

Prof. Ibrahim Hassan
Former Vice President for Studies and Conferences Affairs at Saif Bin Helal Center for Studies and Research in Energy Sciences (SBHC)
Environmental Studies and Air Pollution Prof. at the Faculty of Science, Alexandria University
Chairman of the National Committee of Environmental Issues at the Academy of Scientific Research and Technology

Introduction

Why Energy Security?

The challenges facing the concept of "energy security" have increased at all local, regional and global levels, such as challenges of transitioning to renewable, clean and more sustainable energy sources, political turmoil, climate change, global crisis in energy markets, and so on. Perhaps confronting these challenges requires defining priorities during the current stage, and acknowledging the mechanisms to face them, whether during the current or future stage.

Hence the idea of "Energy Security" Magazine, a monthly scientific magazine issued by Saif Bin Helal Center for Studies and Research in Energy Sciences, aims to provide insights, analytical research studies, and opinion articles on energy issues and their various political, economic, legal, developmental, environmental, security and strategical dimensions, identifying the challenges presented in this regard, and developing the necessary future plans to confront those challenges.

This comes from a forward-looking perspective on various energy security issues and problems.
A group of experts, thinkers, academics and specialists in energy fields, whether inside or outside the Arab Republic of Egypt, will participate through writing in Saif Bin Helal Magazine for Studies and Research in Energy Sciences, in order to provide solutions, alternatives and proposals to decision and policy makers on the one hand, and to non-governmental bodies and research centers concerned with the energy file on the other, giving warning about possible future phenomena in this matter, and translating those proposals and recommendations into actual and effective policies that can be implemented on the ground.

The first section of the magazine is titled "Opinion Articles" by a group of researchers, thinkers, and specialists in energy issues, and the second section is titled "Analytical Studies," which includes supervision, evaluation, and analysis of some energy issues and its problems. As for the third section of the magazine, it is titled "Issue File," which tackles one of the basic energy issues or topics discussed in the regional and international zones, subject of constant controversy and arguments. The fourth section is entitled "Interview" and this interview is conducted with one of the local, regional, or international figures concerned with energy issues and has influence and impact at all levels. There is another title called "Main Figure" which deals with one of the most prominent figures concerned with energy, in addition to the magazine's presentations and discussions of the most important books and scientific dissertations recently published in the field of energy and its security. There is another section in the magazine "Energy Risks Around the World," which deals with, through monitoring and analyzing, the most prominent developments and events regarding energy and its risks in different countries around the globe, the magazine ends with Center's news.

The Center's management hopes that "Energy Security" magazine will be an addition to the Arab library in a new field, namely "Energy Security" and anticipating its future, according to a scientific methodology based on monitoring, research and analysis, in a way that enables us to avoid studying opportunities, reduce the size of risks and crises, and advance preparation to confront it in a new field of rigorous scientific research, which is "energy security" and its challenges.

Articles

His Excellency/ Saif Bin Helal Al-Shehhi
Founder & Executive President

The "Energy Security" Concept and Definition

Energy is an essential element of economic growth and environmental sustainability, as the seventh goal of the Sustainable Development Goals is to "Ensure that everyone receives reliable and sustainable energy services at affordable costs." In addition, energy resources are of utmost importance in shaping the features of the geopolitical scene, and have extremely significant impacts on the international relations; since it still is a source of regional crises and wars. It is not possible to imagine the continued prosperity of industrialized countries without ensuring access to various energy resources, hence the concept of "energy security" has become part of the approaches to international security, international relations, and soft power strategy for the countries keen to improve their public diplomacy.

The concept of "energy security" is one of the pillars of the security concepts that began to take shape and take its place within the different variables appeared post-Cold War era. The concept of "energy security" became like those marks constituting the content of national security and the foreign policies of countries. The increasing demand for oil and gas resources from developed and developing countries has led to the urgency of including "energy security" in national, regional and international security Systems. The foreign policy strategies of several countries deal currently with issues of energy security, development of energy infrastructure, and the formation of a common energy system as major geopolitical factors. Some researchers even went on to assert that the concept of "energy security » emerged as a result of conflict and competitive relations between countries that lead to realizing the importance of securing the country's energy needs.

In light of the above-mentioned, and in line with the emphasis on the importance of "energy security" concept at all national, regional and international levels because of its political and developmental dimensions that affect the interests of most countries around the world, the International Agency for Energy Security, which is based in the United States of America, established on 09/06/2022 by launching its research arm, "Saif Bin Helal Center for Studies and Research in Energy Sciences", to study risks and opportunities in " Energy Security" on the national, regional and international levels through scientific research and analysis, so that energy becomes one of the tools of international cooperation and its soft power instead of being a tool of conflict by emphasizing the principle of mutual interdependence between countries that export energy and countries that import and consume it; and to be a means of achieving progress and comprehensive development.

One of the problematic issues raised by the concept of "energy security" is how to define the concept. Despite the huge number of studies on the concept of "Energy Security," there is still a deficiency in the approach, as the focus is on only one aspect, the economic or technical aspect and nothing else.

On the other hand, we find that international organizations have given different definitions of the concept, and there are also definitions put forward by countries, and here we find that the concept of Energy Security is interpreted differently by groups of energy-importing and energy-exporting countries. Thus, the concept differs based on the scope of interests of both groups. Each country has its own perception for energy; where governments choose the concept of energy security that justifies their policy.

Here, we must know what is meant by the concept of "energy security" from the international organizations' perspective on the one hand, and the countries' definition of "Energy Security" on the other hand. In fact, there is no specific definition, as the definitions are multiple, **however it can be stated as follows:**

The International Energy Agency defines the concept of "energy security" as the continuous and uninterrupted availability of energy sources.
It means: preserving the safety of various energy sources, ensuring the safety of production sources, and ensure the delivery of energy products to their users.

We at the International Agency for Energy Security define the concept of energy security as: preserving the safety of various energy sources, ensuring the safety of production sources, and ensure the delivery of energy products to their users.

Based on these definitions, we find a difference in the concept of long-term energy security as a means of energy supply in economic development and environmental requirements, and short-term energy security as a way to enable the current energy system to respond immediately to sudden changes in the balance between supply and demand. It is worth noting that energy security in the short and long term requires a diverse and comprehensive set of initiatives and compatible policies to meet market objectives and ensure a safe path to providing energy sources.
We find that the United Nations defines energy security as: the state in which energy supplies are available all the time, in different forms, in sufficient quantities, and at appropriate and reasonable prices. Thus, energy security issues fluctuate between abundant supplies at all times and at appropriate prices, and this concept is a traditional concept that serves the interests of energy consumers in favor of its producers.

While the European Commission identified four main pillars on which European energy security is based:

- Working to diversify energy sources, which would reduce dependency on a particular resource or country.
- Managing the application item by introducing different concepts related to the principle of energy usage and with the aim of reducing energy consumption as much as possible.
- Strong management and control of external supply by entering into strong partnerships with the main countries, on which the European Union depends to secure its oil and gas requirements.
- Working to avoid crises in the energy market, through the conviction that achieving security of supply necessarily requires markets to be strongly regulated and not affected by crises as much as possible.

As for countries, energy security occupies a prominent place in the foreign policy priorities, especially for energy importing countries. We find in a statement made by former US President George W. Bush in March 2001 saying: Energy security should constitute a priority in American foreign policy. Senior officials in industrialized countries such as the European Union, Russia, and China have adopted the same opinion, focusing on the importance of energy issues and the extent to which the availability of its sources affects the foreign policy of countries; for energy resources are often a fundamental determinant in the foreign policy orientations of countries, especially when it comes to exporting countries, and since energy resources are a fundamental cause of the conflicts and wars that humanity has known.

The general concept of American energy security is: working to reduce dependence on energy resources that are imported from outside the United States of America, through promotions of different types of locally produced fuels, such as ethanol, and working to reduce risks and high prices through the diversity of suppliers. The United States of America aims to rely on biological alternatives for alternative energy of fossil fuels, one of the most important components of American national security.

The Russian energy security concept is based on: the principle of achieving security of demand, high prices, long-term and sustainable commitments and supplies, safe access to global markets, especially to the European continent without obstruction from transit countries, working to extend energy and gas pipelines to the heart of the European Union, as well as strongly working on creating a balance in Russian energy markets to prevent the Russian bear from being tied to a single market.

The Chinese energy security concept is based on the necessity of securing energy imports through moving on both the internal and external paths with the aim of diversifying supplies and achieving energy security.

By analyzing and understanding these previous concepts about energy security, and the difference in their concept from one country to another, it is possible to formulate an appropriate definition of energy security concept, which is (the availability of the required quantities in global markets at appropriate, stable and sustainable prices, with the necessity of working to develop the available energy sources, through technology, search for new sources that meet the growing need for energy is a must, in addition to rationalizing energy usage and providing appropriate guarantees to preserve the environment.

In fact, "energy security" brings together many variables and factors, including economic, political, security, and environmental, strategic...etc., thus raising a number of geostrategic challenges at all internal, regional and international levels, which is in line with the new concept of energy security, including the environmental, security and political scopes, in addition to economic aspects. This is what the Saif Bin Helal Center for Studies and Research in Energy Sciences will do during the next stage.

Dr. Hany Elnoqrashy
President Consultant of Energy

Khomeisa, the Best Plan to Secure Sustainable Electricity for Egypt

Is Khomeisa Plan Flexible? or Central?

Guaranteed electricity 7/24 - 365 days a year. Solar plants are built in groups of five modular plants, each with 50 MW of thermal storage for overnight transit, supported by one emergency gas plant and connected to each other in a sub-grid. Solar plants located near the coast have their air condenser replaced by desalination unit, resulting in the production of the water needs to coastal cities without reducing electrical output. Fuel consumption is less than 3%.

What are the qualitative features? And why?

• The price of electricity is %30 lower than its production based on the geographical situation of Egypt. Fossil fuels within latitudes 20 and 30 give it 360 days of sunbeams and make the duration of the night rather short, in summer and winter, which facilitates thermal storage. After paying the debt installments, the price of electricity is one American cent per kilowatt/ hour. The lowest cost of production is limited to the price of electricity, maintenance, and workers' wages.

- Delivering electricity to its users at the lowest cost. Khomeisa is placed in the desert on both sides of the Nile Valley, crowded with human activity, near cities and villages, to reduce the load on the network.
- The heat surplus from these typical plants is designed to allow desalination of seawater without reduction, at the lowest possible cost to desalinate its electrical output, seawater and then produce green hydrogen.
- High-speed train feeding is done more efficiently when Khomeisa groups are placed near train stations.
- The modular design of the five-stations group opens the way for local manufacturing of various components, reducing costs.

Since the sun shines over all Egypt, it is best to produce electricity from thermal solar plants including thermal storage.

It has the same performance as traditional stations, with these stations being placed near locations demanding electricity. The Khomeisa plan consists of groups of five typical solar thermal stations with a steam turbine that runs an electricity generator. Each station has a capacity of 50 megawatts and has enough heat storage in a mixture of molten salts to operate at full capacity throughout the night. This is short-term storage. However, in the days of the Khamseen or heavy clouds, natural storage is used, which is the energy stored in plants in the form of plant methane gas. This is what the group needs for a maximum of 9 days a year, i.e. 3% of its service period.

These five stations are interconnected in a subnetwork enhanced by a gas unit of the same capacity for emergencies, i.e. 50 MW, and operate for a maximum of 7 days a year, during peak summer hours, because summer peak is 20% above the nominal capacity of each station. Each group operates as a single power station with a capacity of 250 MW, but it is distinguished by operating 365 days a year; because maintenance periods are scheduled during the low demand season for electricity, which is winter in Egypt and most Arab countries. One by one station respectively stops for a week or two at most while the other four stations operate. In winter, four stations are sufficient to meet the demand for electricity, which is 20% lower than the summer. Stations' locations in the attached drawing are examples that can be applied in other places. The Khomeisa group is placed in the desert facing the demand sites, as its condenser is air-cooled and does not require a water stream close to it. If the annual demand increases, another group is added, starting with one with the emergency unit, and then the other stations are added to it successively.

In stations established near the coast, the air condenser is replaced with a seawater desalination unit, so that each station produces 35 thousand cubic meters of desalinated water per day without reducing its electrical output. As it uses the excess heat that comes out with the steam exhaust at a temperature of 80 degrees Celsius, which is sufficient to evaporate the water using Multiple Effect Distillation (MED).

Dr. Ahmed Elgeyoushy
Prof. of Vehicles Engineering and Energy at Helwan University

Green Hydrogen is the Future Fuel!!

We hear a lot these days about "Green Hydrogen" and how it represents the fuel of the future, which is the optimal solution to the problem of "Climate Change". This problem is characterized by the increase in the average temperature of the Earth's atmosphere by one and a half Celsius degrees compared to what it was 150 years ago, due to the intensive use of petroleum fuel in supplying airplanes, cars, power plants, and energy-intensive industries such as iron and cement. The use of this petroleum fuel or natural gas (which is a mixture of carbon combined with hydrogen) results in carbon dioxide emissions, which is the primary cause of climate change and the rise in Earth's temperature. This rise in temperature poses various climate, environmental, and biological risks that threaten life on this planet unless we find suitable technological solutions.

If both petroleum fuel and natural gas contain carbon combined with hydrogen (CH) in different forms, compositions, and chains, then the optimal solution is to search for a fuel that is free from this carbon bond, meaning a fuel that contains pure hydrogen or chemically bound to other elements away from carbon, provided that the process of obtaining this carbon-free hydrogen fuel is also a process that does not emit any other carbon compounds. If we succeed in obtaining this carbon-free hydrogen fuel as a final product, and during its production or generation, we have obtained what is now known as the term "green hydrogen."

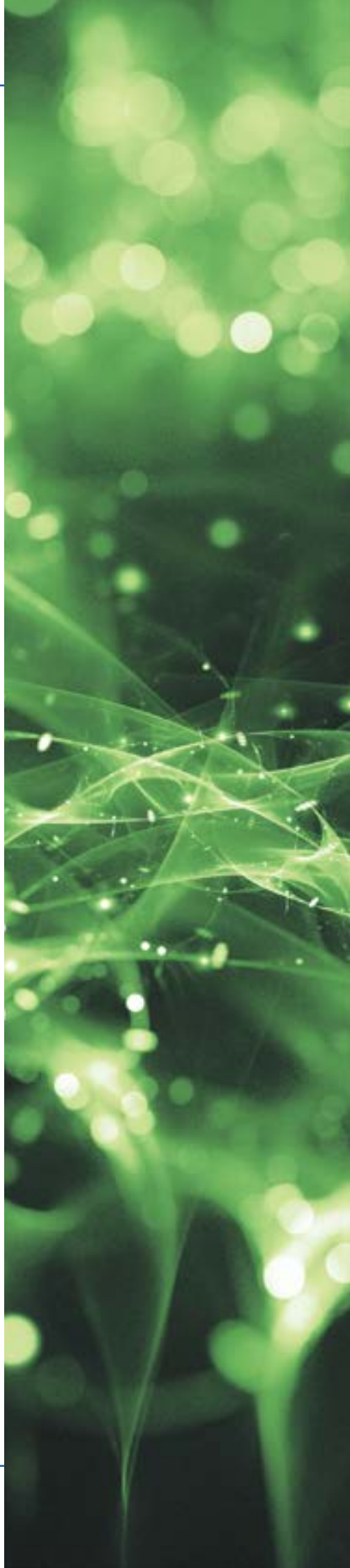
Here we take the above parameters to talk more specifically about two important stages related to green hydrogen. The first stage is the production of green hydrogen through carbon-free methods in all its steps. The second stage is about how to use this green hydrogen and its techniques to achieve zero carbon emissions by 2050. The Globe, Scientific research centers and technological applications are now focusing their efforts on the most successful technology in generating green hydrogen from drinking water or saltwater from oceans and lakes around the world. Yes, dear reader, don't be surprised, it is "water" that not only God created everything living therefrom, but He also placed the fuel of the future therein for all human uses. But how is that possible? And does water represent the optimal alternative to petroleum, which has caused all the disasters and wars in the last century? The answer to the second question is "yes," but how is that possible? The answer requires more detailed explanation. The water we drink or the water in the oceans contains only two components: two hydrogen atoms and one oxygen atom in the form of H2O. As you can see, the water we drink does not contain any carbon at all and only contains hydrogen as a source of energy, which we need to obtain pure by separating it from the oxygen combined therewith in water.

So now things are clear, or so I hope. We have water made up of hydrogen combined with oxygen, and the goal is to separate the hydrogen alone to make it the fuel of the future and climatically the safe alternative to petroleum and natural gas, provided that the process of separating and producing this hydrogen is also free of any carbon emissions, so that we can call the end product "green hydrogen". In recent years, this process of separating hydrogen from water has been technologically done by using intense electrical energy. Here a question arises of whether we consume intense energy in generating hydrogen that we use to generate new energy, what is the benefit? And it is a logical question that now drives scientific efforts to provide logical answers It is inevitability relying on new and renewable electricity sources given to us by the Almighty Creator and do not contain any carbon components in the journey of separating and producing hydrogen from water, which we call in these processes completely carbon-free "green hydrogen." Here we are talking about generating electricity from solar energy or wind energy, and then using it to separate and produce green hydrogen from water.

All of the above seems to be a simple matter in technology, so what's the problem? And why doesn't the whole world turn east and west for this fuel (green hydrogen) to hit more than one bird with one stone? Because green hydrogen in this case will not only be a source of energy used directly as fuel or used technologically, but more importantly for storing intermittent solar energy day and night, and then transporting it from one area to another in the world thousands of miles away to areas where abundant sunshine may not be available as in other places. The problem with all of the above is related to the disparity in countries' ability to possess the necessary technology, and more importantly, attracting, enabling, and obtaining the necessary investments. The two matters are linked together, as technological solutions will work to reduce the cost (which is currently high) in order to make the production of green hydrogen from renewable sources of electricity competitive with the cost of traditional energy and the cost of petroleum fuel in order to attract investments and financing.

In a time when the world and science are actively working to invent the necessary "technological" and "cost-effective" solutions to produce green hydrogen by separating it from water using solar energy or wind energy, scientific research efforts and applied technologies are now working tirelessly to find innovative solutions for how to use this green hydrogen in various applications, whether as a direct fuel for airplanes, ships, or heavy energy-intensive industries such as iron and cement. The most important efforts in this regard are focused on producing "ammonia", as we know it, which is a compound consisting of hydrogen combined with nitrogen without any carbon in the production and use chain.

But where does Egypt stand in all of this that we have talked about? The answer holds great hopes for this country that has been blessed by the abundant sunshine throughout the year, in addition to the extension of our beaches overlooking the Mediterranean and Red Seas, connected to all the world's oceans east and west. This is a wealth that, if we invest it well technologically and financially, could make us one of the most important centers and stations for green hydrogen production in the world, which is the world's petroleum that will never run out, especially if we learn that the cycle of green hydrogen production and use, referred to as "water-hydrogen-water," means that we extract hydrogen from water, then it returns to water again after using it as fuel in an inexhaustible, renewable divine gift.

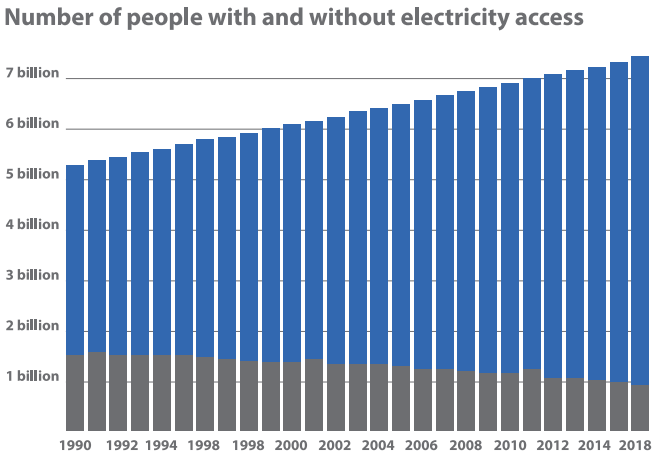


Prof. Ibrahim Hassan
Former Vice President for Studies and Conferences Affairs at Saif Bin Helal Center for Studies and Research in Energy Sciences (SBHC)
Environmental Studies and Air Pollution Prof. at the Faculty of Science, Alexandria University
Chairman of the National Committee of Environmental Issues at the Academy of Scientific Research and Technology

Energy Security and Development Challenges for Promoting Sustainable Energy in the Future

Energy and its uses represent one of the landmarks of the beginning of human civilization, which began with the discovery of fire and the burning of biomass to generate heat for the purpose of heating or cooking. After that, the industrial revolution at the end of the 18th century led to a shift in the pattern of energy use from burning biomass to using coal, oil, and natural gas as primary energy sources. With the increase in population over the years, the need for these non-renewable sources has doubled, pushing the environment to the brink of destruction and the climate changes that we all suffer from.

Seventh Sustainable development Goal



Number of people with and without electricity access

With the continuous increase in population, the gap between those who can afford energy expenses and those who cannot has widened. Despite the availability of electricity to more people globally, nearly one billion people still live without electricity, and three billion people lack access to clean cooking facilities and are exposed to dangerous levels of indoor air pollution. At the same time, the fossil fuel-dependent economy is causing climate change. Therefore, energy is essential in overcoming all the challenges that the world faces today, including adapting to climate change, food security, health, education, sustainable cities, job opportunities, and transportation. Therefore, we must resort to environmentally friendly energy sources that can be made available to any region of the world. The seventh Sustainable Development Goal is expected to stimulate efforts to meet the Paris Climate Agreement.

Sustainable Development Goal 7 (SDG7) is one of the seventeen Sustainable Development Goals adopted by the United Nations General Assembly in 2015 (Clean and Affordable Energy). It aims to provide modern and sustainable energy sources that can be relied upon at a reasonable cost for everyone. Energy availability is one of the most important pillars on which economic development, poverty reduction efforts, and people's well-being depend. In addition to its five goals, which are at the heart of the seventeen Sustainable Development Goals. If we do not achieve the energy goal, it will be extremely difficult to provide opportunities for good health care or education, achieve gender equality, create job opportunities, achieve growth, ensure sustainable consumption, or effectively resist climate change, which threatens to undermine the achievements of all goals. The aforementioned seventh goal is also a fundamental factor for almost every aspect of development. For this reason, success must be a primary goal, and we need to achieve its goals much earlier than 2030 to create conditions for progress towards all goals.

Goal 7 of the United Nations Sustainable Development Goals is closely linked to the rest of the 17 goals, especially Goals 2 (End hunger in all its forms), 3 (Ensure healthy lives and well-being for all), 6 (Clean water and sanitation), and 9 (Industry and innovation 13 (Climate Action), 14 (Life Below Water), 15 (Life on Land), and 17 (Partnerships to Achieve Goals).

A figure showing the overlap of the seventh goal with the rest of the sustainable development goals

People have been relying on coal and oil for energy and electricity production for a long time now, and due to the environmental damage caused by those sources, countries around the world are seeking other alternatives (renewable energy sources) for energy production such as solar, hydro, wind, green hydrogen, and others:

- Solar radiation provides the universe with solar energy. It is an extremely clean energy source that can be extensively used due to its abundance. Solar energy technologies such as photovoltaic panels, concentrated solar power, solar heating, and cooling are racing to produce and supply energy to all areas, including remote areas where there are no traditional fuel sources.
- Harnessing the kinetic energy in the wind can provide us with clean but intermittent energy. Wind energy can be exploited by establishing wind farms consisting of several wind turbines in areas characterized by strong and frequent winds.
- The heat emanating from the Earth's interior can be utilized to produce energy through geothermal power plants and heat pumps that capture the heat emitted from hot springs. This energy usually does not produce any harmful emissions and does not affect the ecological balance due to the enormous thermal capacity of the Earth.

Hydropower: It is the energy produced by converting the potential kinetic energy in flowing water into electrical energy, through the construction of dams in rivers to produce clean energy without emissions. Hydropower accounts for most of the annual energy production among renewable sources.

- Hydrogen contains nearly three times the energy of fossil fuels, making it more efficient. With some water and a little electricity, more electricity or heat can be generated. It is also widely available.

Despite the world has begun to shift to renewable energy sources, they still constitute only 18% of total global energy consumption, while modern renewable energy sources constitute only 10% of the total.

Energy security is of critical importance to humanity and the planet. It is a balance between the three dimensions of sustainable development: economic, social, and environmental. The bottom line is that sustainable energy is a call to conserve and repair the environment, allowing each individual to have access to reliable energy while being able to afford it, in order to live a productive, healthy, and safe life while respecting the planetary constraints we all face as a result of climate change.

Ms. Nashwa Nashaat
Executive Director at Saif Bin Helal Center for Studies and Research in Energy Sciences (SBHC)

Employing Energy for Countries' Foreign Policies

The power of countries is no longer measured only by their political, economic, or military power, but also by their energy capacity and their possession or exploitation of natural energy resources in order to produce energy and technology to enhance their global interests and undermine those of their competitors. This is known as "Energy Power" or "Soft Power," and therefore "Energy Policy" has become part of government policies and is at the core of a country's foreign policy.

Energy plays a pivotal role in shaping the foreign policies of countries, whether they are energy exporters or importers. However, the key difference between these countries lies in how they use energy as a weapon to influence their foreign policies. For energy-importing countries)like the United States and China(, they link their foreign policies to providing economic and military aid. In the case of the United States, the "limited energy resources" have not negatively affected its foreign policies, but rather intensified them. The same applies to China.

The United States, as the largest energy-importing country, has attempted to develop renewable energy alternatives and replace oil, as well as work towards energy independence and explore oil reserves in American coasts.

"It has become clear in US-Iranian relations, as successive US administrations have sought to apply the theory of 'energy power' to some of US foreign policy issues, such as the surge in US oil production being used as a factor to push Iran towards a negotiated solution to the dispute over its uranium enrichment activities, as the increase in US production reduced the impact of Iran's declining exports to the US.

As for energy-exporting countries, the key is not to use the country's available national capabilities to achieve its foreign policy goals, but rather to be 'effective' in the sense of being able to achieve foreign policy goals, despite Saudi Arabia's use of 'oil' as a strategic weapon happening only once in 1973. This weapon was effective and Saudi Arabia was able to achieve its goals.

Among other energy-exporting countries is 'Russia', where we find that the energy factor is an important element in determining the direction and orientations of Russian foreign policy, as Russia is one of the richest countries in the world in terms of energy sources, being the world's first country in terms of natural gas reserves, as well as having the seventh largest oil reserves in the world. The energy sector is considered a fundamental pillar of Russian national security and an important tool in its foreign policy, encompassing both oil, natural gas, and coal.

Since the mid-2000s, the Russian Ministry of Energy has begun to view energy as a type of 'geopolitical tool' and one of the assets of 'soft power' that Russia uses to maintain its influence in the world, where Russian energy exports have greatly increased its revenues and economic power. Moscow has adopted some tactical positions such as price increases or discounts and supply disruptions to enhance its geopolitical motivations, and 'gas pipelines' have emerged as an effective political tool in the hands of the state against other parties".

In general, over the years, we find that "energy" has been used as a strategic weapon in the implementation of foreign policies of countries. Examples of this include the decision of the League of Nations during World War II to ban oil exports to Italy after its aggression against Abyssinia (currently Ethiopia), and the decision of Iranian Prime Minister Dr. Mossadegh in 1951 to nationalize the petroleum industry.

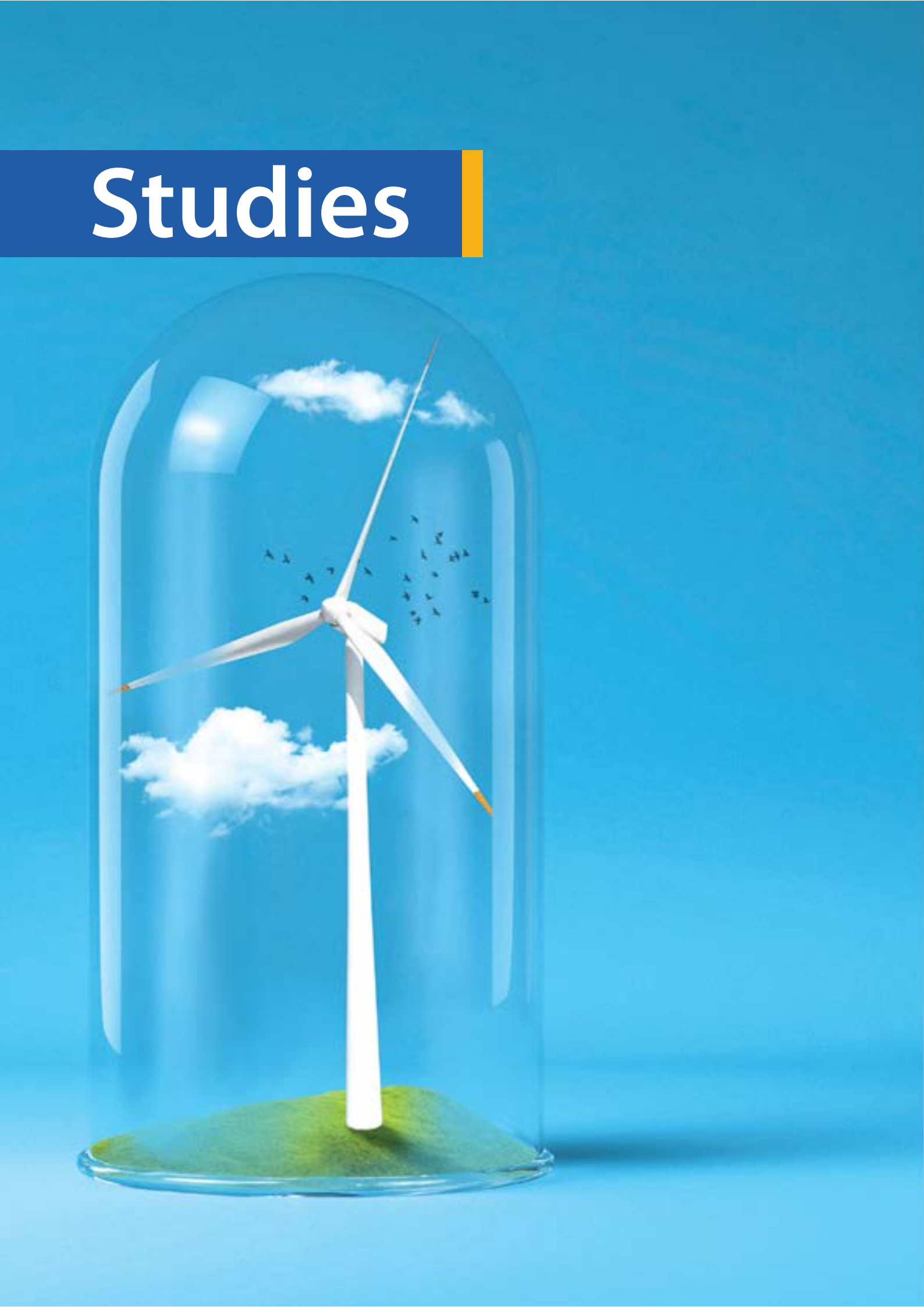
In June 1967, a group of Arab countries announced the suspension of their oil supply to the United States, Britain, and West Germany, according to the embargo strategy. This was a desire by those countries to force Israel to withdraw from the occupied territories in the 1967 war. Between 1973 and 1974, Arab member countries of OPEC sought to curb external support for Israel by imposing an embargo on oil shipments to the United States and the Netherlands, causing a global economic slowdown.

With the Arab oil embargo crisis in 1973, the concept of "energy security" became a priority of US national security, and the issue of "energy security" became a prominent issue on the agenda of presidential candidates.

In light of the above, we come to three main conclusions:

First: The use of energy as "Soft Power" instead of "Hard Power" has become an alternative when managing crises between countries or implementing foreign policies.
Second: Some countries have succeeded in using energy as a "strategic weapon" to implement their foreign policies, while others have failed to do so.
Third: The optimal approach to employing energy in achieving foreign policy goals is to use flexible and peaceful methods to access energy sources. This represents the strategic thinking to access energy sources within the framework of what is known as "energy diplomacy".

Studies



Dr. Mohamed Mohsen Abou El-Nour
An International Relations Researcher and Expert in Iranian affairs, with a PhD and Master's degree in Iranian affairs from Al-Azhar University in Cairo

The Iranian Bushehr Reactor Threat to the Arabian Gulf Region

The Iranian Bushehr nuclear reactor represents a real threat to nuclear safety in the western region of Iran and the Arabian Gulf in general, due to repeated operational failures, multiple cyber attacks, and its susceptibility to successive earthquakes that struck the geographical area on which it is built, just a few hundred meters from the waters of the Arabian Gulf. While all of the above represents a real threat to nuclear safety in that region, the most dangerous thing is Iran's failure to join the nuclear safety agreements adopted by the International Atomic Energy Agency, and its lack of cooperation in disclosing the technical problems of the reactor. These factors combine to pose a real danger to this reactor on the nuclear community in this strategic region of the Middle East.

This article attempts to describe, explain, and analyze the location of the reactor, the reasons for choosing this location and its establishment history, the Russian factor in its operation, and its threat to the Arabian Gulf region.

First: the Reactor Location and Construction:

The Bushehr reactor is located 12 kilometers southeast of the city of Bushehr, the capital of Bushehr province, which Tehran changed its name from its Arabic name "Abu Shahr" to its current Persian name. It is located adjacent to the eastern coast of the Arabian Gulf, 524 meters from the coast, and is far from the western coast of the Arabian Gulf. The countries of the Gulf Cooperation Council are located 243 kilometers away, while the reactor is 771 kilometers away from the capital, Tehran. This means that the reactor is closer to the Gulf States by more than 3 times than it is to the political capital of the Iranian Republic.

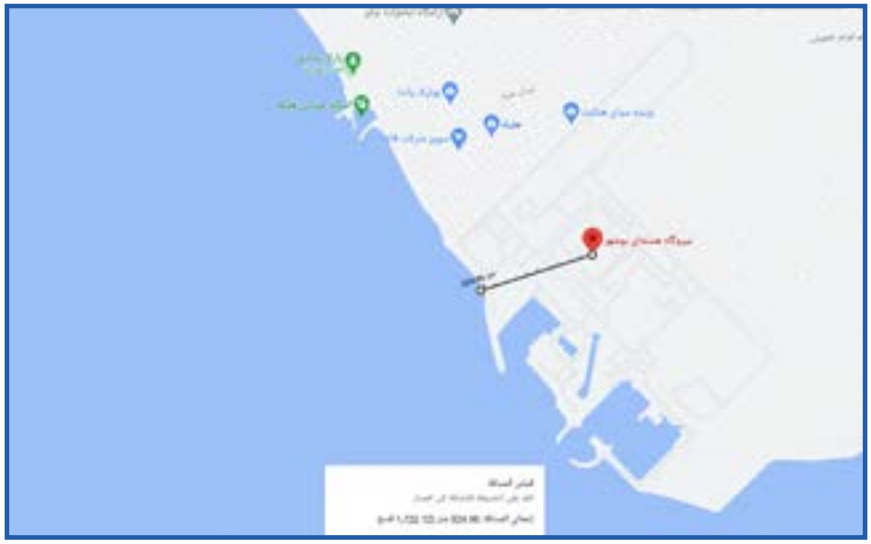


Figure (1) measuring the distance from the reactor to the eastern shore of the Arabian Gulf

Figure (2) measuring the distance from the reactor to the western shore of the Arabian Gulf

Figure (3) measuring the distance from the reactor to the capital, Tehran

The creation of the reactor dates back to 1974, when Shah Mohammad Reza Pahlavi (1997-1941) attempted to capitalize on the peak of oil following the October 1973 war and the subsequent doubling of the price of oil. At that time, Iran had huge financial surpluses that enabled it to start its nuclear program and build its nuclear reactors after an agreement with the German company Siemens. The Bushehr facility was the first facility of the program and was dedicated to generating electricity using nuclear energy.

The Bushehr Nuclear Power Plant is Iran's first nuclear power plant and has been rebuilt in its current form in cooperation with Russia. The construction and operation of this plant have witnessed many ups and downs. In 1975, two years after the establishment of the Atomic Energy Organization of Iran, the organization signed a long-term cooperation agreement with the Technology and Research Division at the West German Atomic Energy Organization. As a result, Kraftwerk Union, a subsidiary of Siemens, built two nuclear power plants in Bushehr, each with a capacity of 1293 megawatts and a net capacity of 1196 megawatts.

However, in 1979, the German side suspended work on the project due to the outbreak of the Islamic Revolution, at a time when %75 of the first plant and %60 of the second plant had been completed. The Iranian government then filed a lawsuit against the German company in the International Court of Justice to settle the legal dispute. As a result, the International Court of Justice ruled on March 1982 ,13, that all parts and equipment manufactured in the Bushehr power plants at that time, in addition to half of the nuclear fuel, should be handed over to the Iranian government, and Siemens was obligated to deliver these parts to Iran.

On that background, the German company resumed work at the Bushehr station, avoiding losses from the International Court of Justice decision. However, at the same time German experts were working at the station, the Iraqi missile attack during the Iran-Iraq war (1988-1980) caused damage to part of the Bushehr power station building, which hindered Germany from continuing the project. In 1989, with the visit of President Ali Akbar Hashemi Rafsanjani to Russia, a nuclear cooperation agreement was signed between the two countries. Afterwards, on August 1992 ,24, a full nuclear cooperation agreement was reached between Tehran and Moscow. In November 1994, a contract was signed to complete the first unit of the Bushehr power station between Iran and Russia. According to this contract, the completion of the Bushehr station was planned to be finished by the end of 2000. This contract was approved in January 1996 between the Atomic Energy Organization of Iran and the Russian company Atom Story Export. The Russian side committed to completing the construction of the power station by 2000. Iran also committed to returning the nuclear fuel waste of the Bushehr nuclear station to Russia. However, the project delivery was delayed by 10 years, despite the Russian authorities announcing the start of work at the Bushehr nuclear power station in 2000.

The Bushehr reactor is one type of pressurized water reactors with an assumed production capacity of 1024 megawatts of electricity. It took until September 2011 to complete it under the second government of Mahmoud Ahmadinejad. Then, the Bushehr power station started producing electricity and currently operates at a capacity of 700 megawatts.

In the meantime, the exact figure of the total cost incurred by the Iranian government to restart such a reactor has not been announced, but Ali Akbar Salehi, the head of the Iranian Atomic Energy Organization, announced in 2015 that the cost of the Bushehr plant was estimated at about 5$ billion. However, a number of specialized centers estimated that the cost of such a project would be equivalent to 11$ billion, depending on two factors:

First: the change in the exchange rate over long years of delay in delivering this project.

Second: the decline in the currency price after waves of international sanctions on Iran under the six international sanctions packages.

Second: The Western- Russian Bargain

Joint interests always push countries to change their positions, even in the most clearly defined issues, and perhaps what happened regarding the operation of the Bushehr reactor and the change in the Western countries' position towards it is an indication of this, especially since the West announced its rejection of operating the reactor, knowing its risks to the nuclear safety of the Arab Gulf region. When Iran announced in the summer of 2010 its intention to resume work at the Bushehr reactor, it was supposed to be met with Western rejection from the European Union and the United States, which had previously announced their rejection of its operation. However, the West turned a blind eye to the rejection of the project as part of a deal with Russia, which was allowed to invest in this sector with Iran in exchange for Moscow not using its veto power against the UN sanctions packages against Tehran.

At that time, the British government radio network, the BBC, said that Western officials "changed their position on the reactor after describing it as a threat to nuclear safety, by describing the same as an example of the peaceful benefits of nuclear energy, which Iran has the right to obtain," as part of the political deal with the Russian Federation.

Meanwhile, British Foreign Secretary Alistair Burt declared his support for Iran's right to possess civilian nuclear energy, saying: "There are other issues of concern... The problem is Iran's continued refusal to convince the International Atomic Energy Agency and the international community that its work in uranium enrichment and heavy water projects is exclusively peaceful."

The West has formed its opinion on the assumption that the uranium fuel, which Iran will use in that facility, is much lower than the required level of enrichment for a nuclear bomb; as uranium used in the production of nuclear weapons must be enriched to a level of over 90%, while uranium was being enriched in the Bushehr reactor at a rate of 3.5%, in line with the Iranian approach based on the "Atom for Peace" program, a program inherited by the Supreme Leader's system from the Shah's system, and still adheres to it until now. Current facts have proven that the Western estimation of such a type of general policies towards Iran is completely correct; as Iran is now enriching uranium to at least 60%, and its officials say that their country has all the scientific nuclear knowledge for enrichment at a level of 90%; which means that the Western fear, which was absent in 2010 when Russia was allowed nuclear cooperation with Iran in exchange for passing international sanctions on the latter, has now become a reality after about 12 years.

Third: Iranian Reactor Threat on the Arabian Gulf

Although the Fukushima reactor explosion occurred in Japan on March 2011 ,11, its repercussions were strongly heard in the Arab Gulf countries. These countries made decisions to abandon their nuclear programs, including Bahrain, Oman, and Kuwait. Although these responsible decisions were made by these countries, Iran, on the eastern side of the Arabian Gulf, made a decision contrary to that. It went on to restart the Bushehr nuclear facility in cooperation with the Russian side just two months after the Fukushima disaster, specifically in May 2011, and opened it in September of the same year.

The Iranian Bushehr reactor took the lead in energy news in the summer of 2021, after it abruptly stopped operating on June 2021 ,20, due to an unspecified engineering malfunction, according to a statement issued by the Atomic Energy Organization of Iran. It decided to disconnect it from the Iranian national electricity grid, and then the reactor returned to service by July 2021 ,5, which raised central question marks about the importance of the reactor for Iran and the geographic danger it poses to Iran itself, and to the Arabian Gulf region, and its impact on nuclear safety in this important region of the world.

The Iranian Bushehr reactor in fact poses a real threat to the security of the region in general, and to the security of the Arab Gulf countries in particular, given its very close geographical location to the Arab Gulf, as well as its location above one of the most active seismic zones in the Middle East, at the intersection of three seismic lines: the European-Asian rift, the Arabian rift, and the Iranian rift. This geographical mass is located between the southern Iranian borders, passing through the area adjacent to the Arab Gulf, and ending in the Iranian-Iraqi border region, which has witnessed seven major earthquakes in recent decades. Nuclear safety concerns have raised fears among some nuclear energy experts and neighboring countries such as Kuwait, Bahrain, Saudi Arabia, the UAE, and Qatar, which are at greater risk in the event of a radiation leak due to their proximity to the reactor.

Iran chose the city of Bushehr in the Ahwaz region to build the reactor, and built it close to the Arab Gulf, 12 km away from the Arab city of Bushehr, which has a population of 165,000, in order to keep it away from major population masses in the center and north of the country. This indicates Iran's desire to keep any potential danger away from its citizens. Nuclear experts, (including Bill Horak, head of the Nuclear Science and Technology Department at the Brookhaven National Laboratory in New York,) always cite potential safety issues due to the hybrid design between German expertise during the Shah's era and Russian expertise during the Islamic Republic era. Moscow resorted to reducing the operating costs of the reactor by using old German equipment, in addition to the Iranian nuclear expertise in this advanced technology field being limited.

In addition, the reports of the International Atomic Energy Agency mentioned that the Iranian Nuclear Regulatory Authority has a "shortage of staff," which reduces the efficiency of the reactor's operation. The workers at the Bushehr facility also suffer from a lack of training and funding, in addition to Tehran's reluctance to join nuclear safety monitoring agreements, including the Nuclear Safety Convention and the Early Notification of Nuclear Accidents Agreement, under the International Atomic Energy Agency. All of this has a significant impact on the safety of the reactor and therefore its potential danger to the Arabian Gulf region in the event of any operational crisis, as has happened before, most recently was the failure to operate the reactor in June 2021.

In addition to all of the above, relevant research confirms that the Bushehr reactor is located at the intersection of three tectonic seismic plates, raising concerns that any major earthquake will inevitably cause significant damage to the station and lead to the cracking of the upper parts of the reaction domes. It is worth noting that the reactor has been exposed to multiple earthquakes in recent years, including, for example: being exposed to an earthquake with a magnitude of 4.6 on the Richter scale in 2002, an earthquake with a magnitude of 6.3 on the same scale in 2013, an earthquake with a magnitude of 5.9 in 2018, an earthquake with a magnitude of 5.1 in 2019, an earthquake with a magnitude of 5.7 in 2021, and finally an earthquake with a magnitude of 6.9 in April of the same year.

The important factor in this regard and the complement to the matrix of the great danger to the Gulf Cooperation Council countries is the direction of the winds in that area. The wind direction is east-west, which means that the coastal currents rotate counterclockwise. This confirms that Kuwait, Saudi Arabia, Qatar, and Bahrain will feel the effects of the radiation leak in Bushehr within hours. With the Arabian Gulf countries relying on desalination plants for fresh drinking water, long-term pollution of the Gulf will be deadly for the populations of those adjacent to the western coast of the Arabian Gulf.
In addition to the above, the reactor is constantly exposed to cyber-attacks such as Stuxnet virus attacks. It is also vulnerable to sabotage by armed groups spread in this geographic belt. Experiences from 2010 to 2021 indicate that cyber attackers have exploited the cyber vulnerabilities in Iranian nuclear plants, and Iran's delay in cyber defense capabilities makes it susceptible to electronic attacks on the reactor. This exposes the entire region to a major radiation threat, meaning that the reactor is weak from a security standpoint, making it vulnerable to cyber-attacks. This makes an actual attack on the reactor possible due to this weakness.

Fourth: Recommendation in General Politics

The Bushehr nuclear reactor is one of the most important reactors in the Iranian nuclear program in general, which exceeds its technical position into larger strategic areas, allowing Iran to maximize its political and geostrategic roles beyond its geographical boundaries. Therefore, it should be emphasized that this program has become one of the pillars on which the current Iranian regime is based.

Therefore, it is not easy for this regime to abandon one of the pillars of its rule. However, officials in Arab capitals, especially directors and heads of international organizations such as the Arab League and the Gulf Cooperation Council, can still play an exceptional role in pressuring the international community to urge Iran to submit this reactor specifically to relevant international agreements, including the Nuclear Safety Agreement and the Early Warning Agreement of a nuclear accident for 1986.

Arab governments must also put the Iranian nuclear program in general, and this reactor in particular, at the top of the list of issues raised on any negotiating table with Iran, such as those that began in the capital Baghdad since April 2021. This would convince Iran that any comprehensive settlement talks with Arab countries will not have sustainable success like this program, and such a reactor raises the fears of peoples on the other side of the Arabian Gulf.

Finally, Arab countries can use their growing influence in both Western and Eastern capitals to urge those countries to pressure Iran in forums, conferences, and political gatherings, including the Shanghai Cooperation Organization, the Astana Mechanism, the Security Council, and other relevant organizations, to enforce internationally recognized nuclear safety standards on this reactor. This would help build political pressure on Iran, which seems indifferent to the potential harm that any leakage or radiation from this reactor - located far from its capital, Tehran - could cause to the people of the Gulf Arab countries.

Dr. Mohamed Alhamshary
Assistant President of Nasser Academy for Military Sciences

Media and How it Tackles Energy Crises

The world has witnessed in recent decades a state of instability, the effects of which have appeared in the transformation of some countries from stable centers to semi-controlled states, if the expression is correct. This was a result of the emergence of energy resources in these countries, where they were unable to protect their resources, leading to the intervention of major powers and turning them into a theater of competition and a geopolitical playground based on classical dominance theories supported and fueled by soft power. We must realize that energy is the nerve of life and the source of economic power for many countries, but it has become a direct cause of ongoing regional and international conflicts. This has played a significant role in reshaping and evolving the international system as a result of calculated crises and their management through various and diverse ideological and ethnic approaches, except for a few wise countries that quickly regained control.

The media and its tools and means have played a major, if not primary, role in this by manipulating various and different images. It has been a driving force behind the imbalance of international strategic stability and the formation of crisis hotspots in the world, especially in the Middle East. The negative geopolitical interaction between the countries of the region, followed by the change in Iranian rhetoric to threaten the Gulf region and the inflaming of ethnic sectarianism within Iraq, paved the way for ideological militias to dominate and fight for their beliefs at oil and gas wells, spreading along the energy transportation routes from extraction and production areas to their future markets in Europe through the aspiring Saxo-Ottoman influence seeking to become an energy agent instead of Russia, which is currently being depleted in a conflict that it was lured into in order to remove it from this promising market in the future.

So it has become necessary for all governments to prioritize in their media policies a strategy of positive confrontation with all negative media practices and treatments that may in turn disrupt the security and stability of their countries; hence, we have been keen to discuss in this article the analysis of media coverage of energy crises, especially in recent times and the variables and consequences it has witnessed, leading to the escalation of international conflict due to each party's attempt to impose control, which in turn directs energy policies towards its own interests, and this is what the media tries to do in addressing energy crises.

It is worth noting here that the energy crisis that accompanied the October 1973 war was one of the direct reasons for the great powers and major countries to focus on securing energy sources for their own benefit around the world, and among the effects of these tools was the use of media in its various means, methods, and treatments as a type of supportive activity for military and economic operations in the field of energy control.

Here, we try to provide a general overview of the mechanisms and rational processes observed in media treatments that have greatly contributed to the destabilization of security and stability in many regions of the world. This article analyzes media coverage of energy crises, especially in recent times and the variables and consequences it has witnessed, affecting energy in all parts of the world. The energy crisis has led to the escalation of international conflict due to each party's attempt to impose control over energy sources in energy regions worldwide. Consequently, every energy crisis may lead to a change in the direction and framework of current energy policy, and this is what the media tries to do in addressing these energy crises in the international community.

In addition, we find that the main idea on which the article relies is that the media is a fundamental factor in addressing crises and appropriately allocating media tools in addressing energy crises in the face of the changing context, given the importance of the media as a fourth type of revolution as it is associated with scientific and technological developments that contribute to expanding horizons building information, and attracting the audience, associated with a comparison between the impact of television, press, and electronic media. With both dimensions, expanding the realms of life and economic dimensions as any media flow will make people more capable of acting.

Therefore, the real goal of this article is to provide a general overview of the mechanisms and main processes that have been observed in media processes with the possibility of shaping media responses to energy crisis issues in times of crises. Media tools must make urgent decisions when facts are uncertain, especially existing media. Crisis destabilizes work environments and opens the door to media attention that threatens the functioning of the system itself and undermines the basic references and collective choices of affected stakeholders.

In this context, the emergence of the crisis causes changes at the global level; therefore, the energy crisis is identified as a crucial factor for economic development. It attracts geopolitical, social, economic, technological, environmental, and legal interests, and thus cannot be ignored, which we can attribute to the role of the media in continuously highlighting issues related to energy crises in the world. Therefore, the role and influence of the media in every field of life are direct and dominant.

First: Media Concept and Crises Management:

Media is a human activity based on ideas, participation, and persuasion through the transmission of information, facts, news, numbers, and statistics. A synonym for the word "media" can be linked to "mass communication," taking into account the difference between media in which the goal is to assume neutrality and propaganda that follows the method of temptation and excitement, and stirring emotions. The media assumed to keep pace with existing culture and civilization, raise the level of public opinion environmentally and culturally, build knowledge and embody.

Despite the fact that the concept of crisis has been widely discussed for years, recently, the term "crisis" has been applied to various social phenomena as a key word, particularly evident in the speeches produced by economists, politicians, and journalists. Crises in culture, education, science, finance, and energy are being talked about.

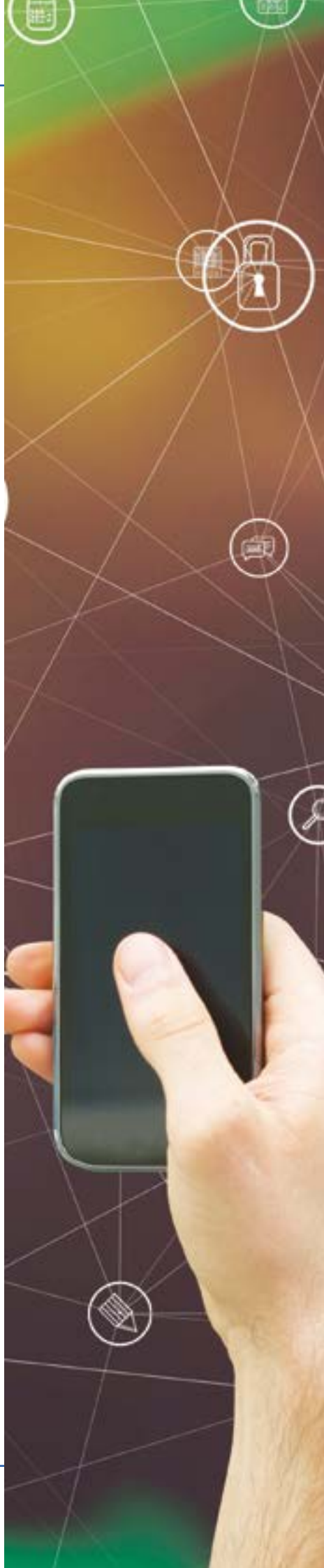
In the information age, the media is considered one of the most important means of communication. This creates an important role for the media in performing its functions and media treatments to reshape public opinion due to the spread of access. Crises in all their forms are an integral part of human life, and their diversity increases over time, with the media playing a special role in providing information and raising awareness of the situation during crises.

Therefore, its means and tools play an important role in what is planned, how it is thought about, and what, how, and why it affects the masses. It spreads in the eyes of ordinary people, regardless of their level of education. The belief that the media possesses an unimaginable power is related to the mentality of the masses.

Where most people believe that the media can change philosophical and political opinions, and give ideas a new form, and direct all the actions of the masses, these all show the undeniable role of the media in human societies, especially in crisis situations where they can help the victims or, on the contrary, increase their problems and suffering. In addition to the clear economic function, the media has an important social function. By making perspectives of a country known to others, the media becomes a mediator for dialogue at the national level on political issues, and the media can help integrate our society together into a nation with a common cultural identity.

Second: Media in Raising Public Awareness:

Free and independent media should provide citizens with accurate, comprehensive, and high-quality information. This is a right and a duty at the same time. The media should fulfill this main function at all times, but it is even more important in times of crisis, when they should be able to stimulate the discussion about the right measures to address the causes of the crisis and its negative effects and overcome them.



Media channels should also facilitate citizen participation in discussions about the long-term changes required to increase society's resilience to potential future crises. They should play a key role as a link between decision-makers and the public, and have an educational role by analyzing and explaining new crises and the behavior expected of citizens by the media in addressing the crisis.

The role of the media in educating the public becomes more complicated in the face of increasing risks of misinformation and information manipulation during times of crisis. The threat of information disorder is amplified, and the need to prevent and combat it becomes more urgent. Professionalism and inclusiveness in verifying published information are crucial during times of crisis, and the media should be aware of the growing responsibility they must bear. Social media platforms should double their efforts to counter information disorder by developing fact-checking tools and enhancing reliable and accurate news sources. As the energy crisis sector continues to evolve and transition from traditional energy sources to cleaner, more sustainable resources such as wind energy, solar energy, and biomass waste, societal awareness about product availability and diverse uses remains a knowledge gap. Therefore, intentional investment in building media capacity capable of understanding and conveying information related to renewable energy crises is necessary to raise public awareness. Hence, diverse media channels must be empowered to decode complexity into simplicity that everyone can understand and resonate with.

And thus, the media can calm the masses and encourage them to engage in positive actions, and vice versa, intimidate the masses and create chaos amidst the surrounding crises due to the increasing spread and influence of the media in today's society. It has become an integral part of any situation. Consequently, the media facilitates access to information for policymakers and citizens alike, increasing the speed of gathering and distributing new information and employing it in the desired manner and towards the intended goal of reaching the masses.

Third: Media and Energy Crises:

The world today is living in a state of complexity in all fields, which often results in many crises, ranging from the contemporary energy crisis and its implications through political and economic crises alongside the environmental crisis. Crises have affected all areas of life and reshaped the world according to visions that surpass the ability of communities and individuals to control them, whether they are terrorism, financial crises, wars and genocide, mass population displacement, or environmental disasters.

In parallel, crises often create mechanisms for thinking about new effective strategies, where all forces of society must contribute to launching a new phase of stable life in the face of the challenges of the "risk society." Therefore, governments are called upon to develop a communication policy to improve the transparency of public work and ensure effectiveness and efficiency. Weaving the conditions of an alliance between government and political media, built on a structure of mutual trust and distrust that explains the contradiction of lack of security.

The media's expansion and the amplification of the energy crisis context fit the disaster and thus change crisis management. Increasingly, all parties competing for energy sources exert strong pressure to prevent the media from obtaining accurate information. The primary responsibility for communication in crises lies with public authorities, politicians, and media channels. Outside the crisis, officials and politicians tend to retain knowledge-building experience. However, foreign communication policy has recently gained essential value due to various constraints: accuracy of information, accountability, and clarity of public action.

Therefore, media channels worldwide have begun to focus on energy crises and the activities of politicians and other decision-makers in the energy sector. All energy crises test the pivotal role of the media in our lives and their significant impact on cognitive and behavioral patterns. This coverage should be useful in the future for selecting the most effective media channels to disseminate energy crisis-related information. One of the most significant roles of the media in influencing energy crisis coverage is its impact on energy prices, such as coal, natural gas, and crude oil, which doubled to quadrupled in mid-2022 compared to 2019. This made local coal producers more interested in exporting, depleting local coal supplies.

Fourth: Media Processing of Energy Crises:

Media frameworks that highlight energy crises by focusing on or omitting certain political, economic, environmental effects, future risks, and opportunities can significantly impact the knowledge base. The public is always annoyed during crises. In these situations, the media can participate in an organized effort to control public sentiment and shape public opinion positively. It should be noted that without positive positions in the media, the best efforts of policymakers and managers will not have the best possible impact. In these cases, general reporters for the media should receive information from official sources only to reduce the number of conflicting and confusing information. Accurate and up-to-date information is crucial in finding solutions in unusual situations and crises, and providing this accurate information is the best way for the media to assist disaster victims. Media experts and reporters are the bridge between the people and the government. Therefore, looking to the nature of society, the media plays an active and positive role prior, during, and after natural disasters.

So, media processing is seen as a tool to improve the quality and effectiveness of energy crises coverage, by meeting the following requirements:

1- The role of mass media with a wide audience to highlight energy crises.
2- Public opinion survey is polling, analysis, monitoring, and measuring public opinion on the energy crisis.
3- Conducting a survey through interviews with the audience themselves, then examining them to determine their effectiveness with the crisis.
4- Prepare an assessment of perspectives and how to deal with them from the tools and media and allocate tools and techniques to cover the audience's perspectives.

With the constant presence of media in society, its power and role in different energy crises become more important. This requires the media to avoid spreading false reports and managing public opinion by producing accurate, diverse, and new news. Increasing information and awareness regarding a specific topic such as a crisis and showing crisis patterns are among the preferred techniques in the media. Presenting the real needs of energy crises, assisting officials in gathering and organizing humanitarian aid, and helping law enforcement to stop looting in energy areas are among the measures that should be priorities for the media during any disaster or crisis.

Conclusion:

This confirms that looking at the energy crisis from a media perspective always requires reflective updating that confirms the relationship between media concepts, media processing, crises, and risks. Where crisis media processing is formed as an element of human activities from media coverage, if the media can influence public opinion to this extent, under these conditions, the media can create a negative whirlpool and increase the exacerbation of the disaster and when it can help increase stability and control the situation.

The media and media processing play their role in addressing energy crises with the aim of providing safe and affordable energy, accelerating the increase in renewable energy for electricity, transportation, and industry, and reducing fossil energy. The energy transition should be gradually implemented after the social, economic, and political conditions that affect policy direction and individuals' purchasing power.

In addition to the essential role of media processing for energy crisis in achieving stability and security of countries and regions, as we still suffer from the negative media processing effects that have created crises between countries, whether small or large, effective or major, those crises were a cause of insecurity and instability.

Dr. Samir Tantawy
UN Climate Change Consultant and Member of the International Climate Change Commission

Energy Challenges and Climate Change in the Arab Region

Introduction:

The Arab region is one of the most affected regions by energy challenges and climate change in the world. This region combines vast fossil energy resources, such as oil and gas, with extensive arid areas, which further complicates the environmental and economic problems it faces. Energy development and adaptation to climate change are at the top of the agenda for governments, institutions, and communities in this region. The Arab region is characterized by a diverse climate, with moderate coastal areas and hot, dry desert regions. In recent years, climate challenges in the region have intensified due to global temperature increases and their impacts on the ecological balance and water resources. Rising temperatures accelerate the evaporation process, leading to water scarcity and rainfall shortages, which negatively affect the agricultural, water, and economic sectors in general.

With one of the world's largest reserves of oil and gas, the Arab region continues to rely on fossil fuels to meet the growing energy demand. However, this reliance is itself a challenge due to volatile oil prices and their negative effects on the financial balance of countries and environmental pollution. Therefore, many Arab countries are seeking to diversify energy sources and invest in renewable energy to achieve energy sustainability and reduce harmful emissions.

In addition, water scarcity is considered one of the biggest challenges facing Arab countries. The region suffers from limited water resources and increasing demand due to population growth and economic activities. Climate change causes a decline in rainfall and snowmelt, affecting river flow and groundwater storage. As a result, pressure on water, agriculture, and energy sectors increases, necessitating improved water resource management and the adoption of sustainable water policies.

Energy and climate change are among the biggest challenges facing the whole world, and the Arab region is particularly important in this context. The region is affected by multiple climate changes and energy challenges that require serious actions to address them. In this article, we will take a look at some of the energy challenges and climate changes in the Arab region and the measures taken to confront them.

To face these energy and climate challenges, Arab countries are working in collaboration with international organizations and regional and local institutions to develop national strategies and programs for transitioning towards renewable energy and adapting economies to climate changes. This joint effort aims to achieve sustainable development, green economy, reduce gas emissions, and rely on sustainable and clean energy sources.

The energy challenges and climate changes in the Arab region present an opportunity to enhance cooperation, exchange of experiences and technology between countries, with the goal of building a sustainable future that protects the environment and ensures economic and social prosperity for current and future generations. Therefore, governmental and societal efforts must be made to confront these important global challenges and work together to preserve our planet and mitigate the negative impacts of climate change and environmental degradation.

Energy Challenges:

Arab countries face many challenges to ensure energy security and sustainability, and it is necessary for them to take serious measures to change towards renewable energy and improve energy efficiency, in addition to supporting research and development in new and advanced energy fields. The matter also requires regional and international cooperation to exchange knowledge and successful experiences, and to stimulate investments in sustainable and clean energy to build a sustainable and prosperous future for the Arab region. The most important energy challenges can be summarized as follows:

Continued reliance on fossil fuels, as Arab countries are among the largest producers and exporters of oil and gas in the world, which makes them heavily dependent on these fossil resources for energy generation and operating their economic sectors. This reliance is considered a weakness as these countries become vulnerable to economic fluctuations resulting from global oil price changes.

Infrastructure challenges, as faced by many Arab countries, also pose challenges in improving the energy sector infrastructure, which affects the ability to generate and distribute energy efficiently and reliably. The biggest challenge here is updating and improving electrical networks to meet the increasing demand for electricity.

Dependency of importing countries on imports, as some Arab countries heavily rely on energy imports to meet local needs, which results in additional costs and reduces the countries' energy independence. Diversifying energy sources and investing in local energy infrastructure are important for reducing reliance on imports.

Providing electricity to remote areas: some remote and rural areas in the Arab region face significant challenges in providing electricity and clean, sustainable energy. Providing energy to these areas requires intensive efforts and investments in appropriate infrastructure.

Reducing losses in energy production and distribution: energy loss in the process of electricity production and distribution is an important challenge, as it leads to increased costs and greater consumption of energy resources. The energy sector in the region needs to adopt modern technology and develop infrastructure to reduce energy loss and improve its efficiency.

Climate Changes:

Arab countries are striving to develop national and regional strategies to adapt to these challenges and mitigate their impacts. This requires cooperation and coordination between countries and international and local institutions to exchange experiences and knowledge, and enhance research and innovation in clean and renewable technologies. By taking serious measures to overcome climate challenges, the Arab region can effectively contribute to global climate change efforts and achieve sustainable development for current and future generations.

Arab countries face significant environmental and economic challenges that require quick and effective action. There are impacts on agriculture and food security, as climate change affects rainfall and weather conditions in the Arab region, greatly affecting the agricultural sector and food production. Water scarcity and rising temperatures make agricultural challenges more difficult and increase pressure on the region's food security. Changes in rainfall patterns and their effects on water have important implications, as many countries in the region rely on rivers flowing from outside their borders to meet their water needs. Climate change causes fluctuations in rainfall patterns and melting of ice in mountainous areas, affecting river flow and groundwater resources. It also affects biodiversity and the wild and marine environment in the Arab region. Decreased water levels and rising temperatures have negative impacts on plants, animals, wildlife, and coral reefs.

This is undoubtedly in addition to rising sea levels and coastal threats, which pose a serious challenge to Arab countries, as they can threaten coastal areas and infrastructure projects. This exposes populated coastal areas and vital facilities to the risk of drowning and flooding. There is also an increase in the frequency of natural disasters in the Arab region due to climate change, such as floods, sandstorms, heatwaves, and hurricanes. This results in significant human and economic losses and weakens communities' ability to deal with these disasters.

Precautions Taken:

Improving water management and provision is at the top of the list of measures, as water is an important natural resource in the Arab region, and countries need to improve its management and use it in efficient and sustainable ways. Countries must take measures to protect water sources, improve water storage and distribution systems, and encourage effective and balanced water use in different sectors.

The measures taken to confront the challenges of energy and climate change in the Arab region are among the most important policies and actions that should be adopted. These measures can include promoting the use of renewable energy, as renewable energy, such as solar, wind, hydro, and biofuel, is considered a sustainable and clean alternative to fossil fuels. Many Arab countries are working to promote the use of these sources, renewable energy, and encourage investment in solar and wind power projects and the development of modern alternative energy technologies. Improving energy efficiency is a key focus, as significant energy savings can be achieved by improving energy efficiency in industries, facilities, homes, and transportation. These measures include using efficient lighting technologies, energy-saving appliances, and improving building insulation.

It is also important to mention adaptation to climate change, as Arab countries must develop strategies on how to face climate change and reduce its negative impacts on various sectors. These strategies can include improving water resource management, developing drought-resistant agricultural technologies, and improving urban planning to adapt to sea-level rise. Environmental awareness and education about climate change and its impact on communities are also important tools in addressing these challenges. Countries should strive to raise awareness among citizens about the importance of protecting the environment, relying on sustainable energy, and adopting environmentally friendly behaviors. Climate challenges are undoubtedly a global issue that requires international and regional cooperation. Arab countries must participate in international efforts to reduce greenhouse gas emissions and achieve the goals of international agreements related to climate change.

By adopting these measures and actions, Arab countries can achieve sustainable development and mitigate the negative impacts of climate change on the economy, environment, and society. These efforts must be continuous and integrated to achieve a more sustainable and prosperous future for the region and its inhabitants.

Mr. Ahmed Mohamed Saeed Mohamed
Economic Researcher at the Media Center of the Cabinet,
Holder of a Master's Degree in Political Sciences at Cairo University

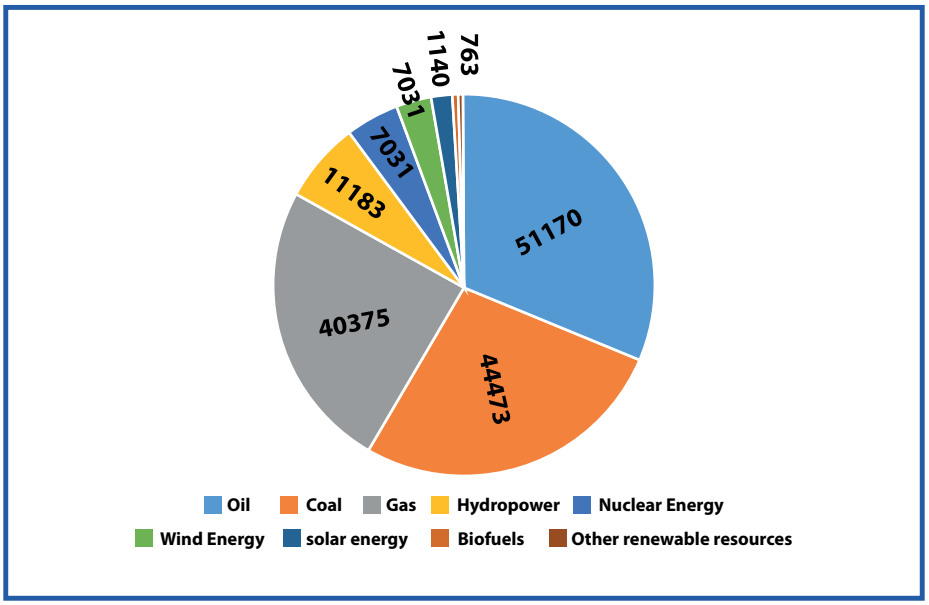
The Development of Energy Sources in Light of Climate Change:
Applying to the Arab Republic of Egypt and the United Arab Emirates

The population growth and global economic activity have led to an increased demand for energy in the past few decades. Coal, oil, and natural gas have been the main sources to meet most of the world's energy needs, accounting for over three-quarters of global energy consumption. However, excessive reliance on fossil fuels has caused widespread environmental damage, such as increased greenhouse gas emissions, leading to what is known as "global warming" and resulting in unpredictable climate changes that have been observed in various parts of the world in recent years. As a result, there is a need to reduce dependence on fossil fuels and invest in alternative sources of energy that are clean, available, and sustainable.

First: the Current Energy Combination and moving toward the renewable clean energy:

Burning fossil fuels for electricity and heat generation releases greenhouse gases that prevent sun heat. Fossil fuels, such as coal, oil, and gas, are the largest contributors to global climate change, representing more than 75% of greenhouse gas emissions and around 90% of carbon dioxide emissions. To avoid the worst effects of climate change, emissions must be reduced by nearly half by 2030 and brought to zero by 2050. To achieve this, it is necessary to decrease the use of fossil fuels and invest in alternative sources, such as renewable energy sources like solar, wind, water, waste, and geothermal heat, which emit minimal to no pollutants.

The following figure shows the mixture of global energy of 2021 (terawatt/hour):



It is evident from the figure that fossil fuels, such as coal, oil, and gas, account for about 83% of global energy consumption, while renewable and clean energy sources account for approximately 17% of this consumption. These proportions highlight the urgent need to move towards renewable energy sources, especially after recognizing the multiple benefits of this type of energy, which include:

1- **Renewable energy availability everywhere:** Renewable energy sources are available in all countries and their full potential has not yet been fully utilized. The International Renewable Energy Agency believes that 90% of all carbon removal solutions by 2050 should come from low-cost renewable energy. Carbon removal technologies, along with bioenergy, will reduce carbon dioxide emissions and facilitate the transition towards a zero-emission energy system by 2050.

2- **Renewable energy in low-cost:** Renewable energy is the most low-cost energy source in most parts of the world today. The cost of electricity generated from solar energy has decreased by 85% between 2010 and 2020. The cost of onshore and offshore wind energy has also decreased by 56% and 48% respectively. Thanks to its affordability, renewable energy is becoming increasingly attractive everywhere, including low- and middle-income countries. The lower prices present a real opportunity to provide a significant amount of new energy supplies from low-carbon sources in the coming years.

3- **Maintaining Health:** Unhealthy levels of fine particles and nitrogen dioxide primarily result from burning fossil fuels. In 2018, air pollution from fossil fuels caused health and economic costs amounting $2.9 trillion, or approximately $8 billion per day. Therefore, transitioning to clean energy sources, such as wind and solar energy, not only helps confront climate change but also helps tackle air pollution and improve public health.

4- Economic Benefit: Around 4$ trillion should be invested annually in renewable energy by 2030, especially in technology and infrastructure, in order to achieve zero emissions by 2050. The initial cost might be high for many countries with limited resources, and many of them will need financial and technical support to undergo the transition. However, investing in renewable energy will pay off. Reducing pollution and the effects of climate change alone can save the world up to 4.2$ trillion annually by 2030.

Second: Global Efforts in Renewable Energy:

In June 2022, a report titled "Tracking SDG 7: The Energy Progress Report" was released by several international institutions, including the World Bank and the International Energy Agency. The report highlighted the level of progress in achieving the goal of ensuring universal access to sustainable and affordable energy services by 2030, with the following key features:

1-. Access to Electricity: The rate of the world's population with access to electricity increased from %83 in 2010 to %91 in 2020, resulting in an increase of 1.3 billion people worldwide who can access electricity. The number of people without access to electricity decreased from 1.2 billion in 2010 to 733 million in 2020.

2- Clean Cooking: The rate of the world's population with access to clean cooking fuel reached %69 in 2020, an increase of 3 percentage points compared to the previous year. However, population growth has exceeded many of the gains made in electricity access, especially in Sub-Saharan Africa. As a result, the total number of people lacking access to clean cooking fuel remained relatively stable for decades. Between 2000 and 2010, that number approached three billion people, or about one-third of the world's population. However, it decreased to around 2.4 billion people in 2020. This increase was driven by progress in the ability to access clean cooking fuel in densely populated countries in Asia.

3- Renewable Energy Sources: Covid 19 has led to a %7 annual increase in electricity generation from renewable energy, supported by long-term contracts and the installation of new renewable energy capacities. Electricity generated from renewable sources represents half of global renewable energy consumption, with three-quarters of it increasing annually. Hydroelectric power is the largest renewable source of electricity. As for heating, which is the largest final energy use, it has only recorded a %1.2 absolute increase when it comes to renewable sources. However, coal, gas, and oil resources still cover three-quarters of global heating demand, making this sector heavily dependent on fossil fuels.

Therefore, the share of renewable energy in total final energy consumption must significantly increase, from %18 in 2019 to reach %30 by 2030, in order to move in the right direction towards an energy emissions-free pathway by 2050. Achieving this goal will require enhancing policy support in all sectors and implementing effective tools to increase private capital mobilization, especially in less developed and non-coastal developing countries.

Third: Egypt and UAE.. Moving to Renewable and Clean Energy Sources:

Looking at the efforts to change to renewable energy sources in the Arab region, we find that both the Arab Republic of Egypt and the United Arab Emirates are leading in this regard. The efforts of both countries can be highlighted as follows:

1- The Arab Republic of Egypt:

Egypt was the largest producer of renewable energy among Arab countries in 2021, with its production growing by %8.3 compared to 2020, reaching 10.5 terawatt-hours. Morocco ranked second with 6.9 terawatt-hours, followed by the UAE with 5.2 terawatt-hours, and Saudi Arabia fourth with 0.8 terawatt-hours, as shown in the following table:

State	Renewable Energy Production (Terawatt/hours)
Egypt	10.5
Morrocco	6.9
UAE	5.2
Saudi Arabia	0.8
Algeria	0.7

As Egypt leads the region in wind and solar energy, projects generate a total capacity of up to 3.5 gigawatts annually. This surpasses any other Arab country, with the UAE coming in second at nearly 1 gigawatt. Egypt is a "wind pioneer in the region" with a current capacity of 1.6 gigawatts. In terms of solar energy, it produces 1.9 gigawatts of electricity from solar power plants, ranking second after the UAE, which produces around 2.6 gigawatts.

Egypt's position is the result of its efforts to transition to renewable energy sources. Egypt launched its Sustainable Energy Strategy for 2035, and currently, renewable energy sources account for about %20 of Egypt's energy mix, with a target of reaching %42 by 2035. Egypt has also implemented a plan to move to natural gas as a precursor to clean energy sources. The total number of vehicles converted to natural gas is 437,000, and natural gas has been supplied to 13.5 million residential units so far. Egypt has also launched several clean and renewable energy projects, such as:

- Benban Solar Park in Aswan:

Egypt executed the Benban Solar Park project, the world's largest solar energy project with a total production capacity of 1,650 megawatts of electricity. This is enough to power hundreds of thousands of homes and businesses. It is expected that this project will avoid 2 million tons of greenhouse gas emissions annually, equivalent to removing around 400,000 cars from the road. The International Finance Corporation and other lenders have committed 653$ million to support the project.

- Wind Stations:

Egypt has wind stations with a total capacity of 1375 megawatts, including three stations: Zafarana Wind Farm (545 megawatts), which includes 700 turbines of different models (600 kW, 660 kW, and 850 kW), and Gebel El-Zeit Wind Farm (580 megawatts), which includes 3 stations: Gebel El-Zeit Wind Station 1 with a capacity of 240 megawatts, Gebel El-Zeit Wind Station 2 with a capacity of 220 megawatts, and Gebel El-Zeit Wind Station 3 with a capacity of 120 megawatts. The existing wind stations also include a private sector wind station in the Gulf of Suez with a capacity of 250 megawatts, where the station was built through ownership, construction, and development by Ras Gharib Wind Energy Company, which includes a partnership between Engie (French), Orascom (Egyptian), and Toyota (Japanese), making it the first privately owned wind station in Egypt.

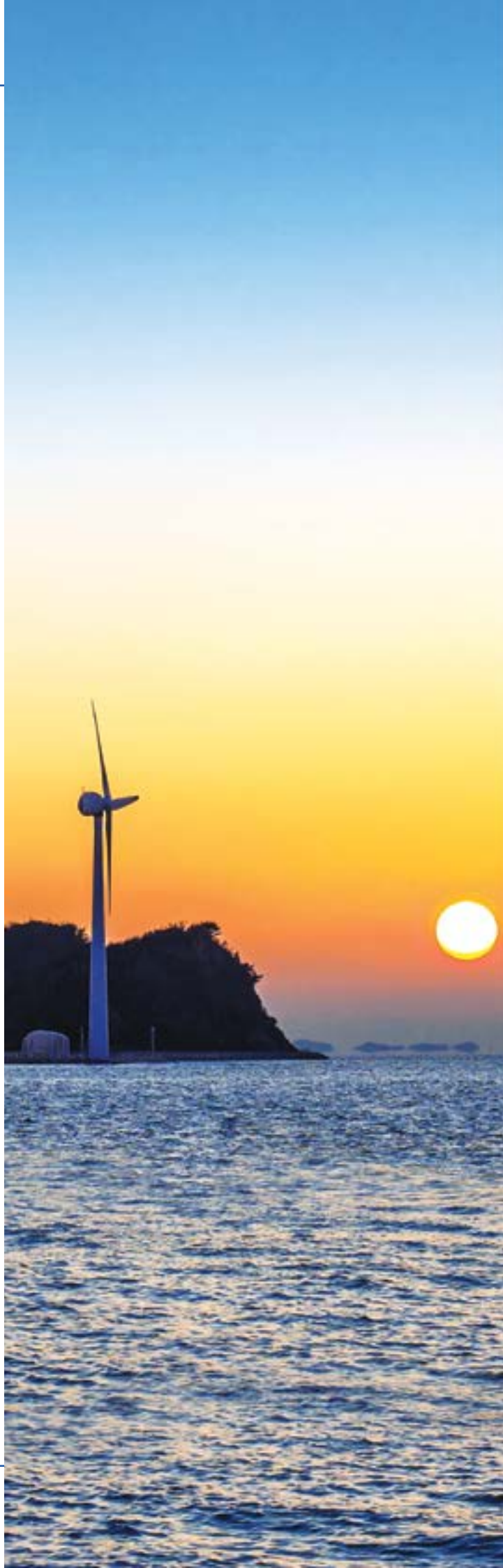
2- The United Arab Emirates: The UAE is a leading solar energy country in the Arab region, producing about 2.6 gigawatts of renewable energy from sunlight. There are several ongoing renewable energy generation projects in the UAE, including:

- The world's largest independent solar power station:

The UAE is building the Al Dhafra Solar Photovoltaic (PV) Power Plant, the world's largest solar power station with a capacity of 2 gigawatts of electricity in the Al Dhafra region. The plant will support diversity of renewable energy sources in Abu Dhabi and reduce the carbon emissions of the Emirates by more than 2.4 million metric tons annually. It will also provide electricity to over 160,000 households in the UAE, in addition to increasing the total solar power capacity in Abu Dhabi to about 3.2 gigawatts.

- Concentrated Solar Power Project:

As part of Dubai's Clean Energy Strategy 2050, the largest concentrated solar power project in the world with a capacity of 1000 megawatts by 2030 was announced. When completed, the project will contribute to reducing over 6.5 million tons of carbon emissions annually. It will utilize thermal storage technology for a duration of 8 to 12 hours daily, taking into consideration technical and economic factors, which will enhance production efficiency and provide sustainable energy supplies.



- Mohammed Bin Rashid Al Maktoum Solar Park:

The park is the largest strategic project for renewable energy generation in one location in the world, according to the independent power producer system. It aims to generate 5000 megawatts by 2030. The first phase of the project started in 2013 with a capacity of 13 megawatts using photovoltaic technology. The second phase, producing 200 megawatts of electricity, was inaugurated in March 2017. The third phase, with a capacity of 800 megawatts, started operating in November 2020. When completed, the project will contribute to reducing 4 million tons of carbon emissions annually. It is part of Dubai's Clean Energy Strategy 2050, which aims to provide 25% of Dubai's energy from clean sources by 2030 and 75% by 2050.

In conclusion, the utmost importance of expanding the use of renewable energy sources has become clear as a crucial aspect of addressing the impacts of climate change. Therefore, there are a set of recommendations that decision-makers can consider when formulating policies in this regard:

- Moving forward with utilizing available renewable energy resources to free up more oil and gas for export, while addressing climate change as an integrated package to preserve human health.
- Formulating incentive legislation for investment in economically viable renewable energy projects that contribute to sustainable development.
- Shifting support from fossil fuels to renewable energy, known as green support, to enhance the transition to net-zero carbon emissions.
- Removing barriers that hinder knowledge sharing and technology transfer, including intellectual property restrictions, to make renewable energy technology a global public benefit.

Mr. Ahmed Askar
Researcher at Al-Ahram Center for Political and Strategic Studies, specialized in African Affairs, and a Researcher in the Preparatory Program for a PhD at the College of African Studies

How does Oil and Gas Enhance Africa's Status on the Global Stage?

Africa is presenting itself strongly on the global stage as a potential supplier of oil and natural gas to European Union countries. This comes in light of the escalating tensions in Russian-Western relations amidst the ongoing Russian-Ukrainian war since February 2022. Europe has been pushed to adopt a new policy aimed at reducing Russian natural gas imports by two-thirds by the end of 2022 and ending reliance on Russian oil and gas before 2030. The United States has also imposed an immediate ban on Russian gas. With expectations of Africa's ability to fill this void in the coming years, it further enhances Africa's position and influence on the international stage.

First -Africa's Oil Abilities Facts:

The international powers are turning their attention to Africa as it possesses a large energy reserve that can meet international demands for oil, gas, and other natural resources and minerals sought by these powers. This comes as the global oil crisis has escalated in recent times, especially following the outbreak of the Russian war in Ukraine and the resulting escalation of Russian-Western relations. This strengthens the continent's position in the agendas of active international powers there.

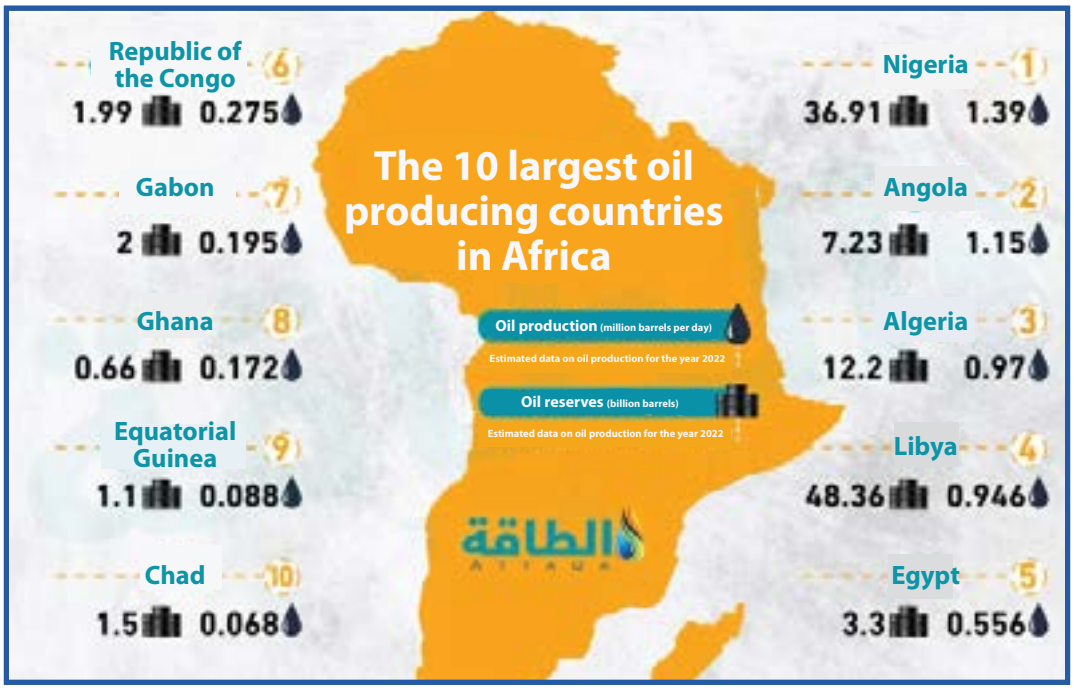
Africa has become one of the prominent alternatives for European countries to cover their needs for oil and natural gas. European Union countries are seeking Africa as an attempt to avoid the economic damage resulting from the current war in Eastern Europe. They are also seeking quick alternatives to meet their gas needs instead of relying on Russian gas, which represents about 45% of the total annual gas consumption in European Union countries, which also depend on Russia for supplying 25% of their oil needs. The draft document of the European Union's energy strategy, issued in May 2022, indicates the European Union countries' efforts to enhance cooperation with African countries to help reduce oil and gas imports from Russia. This is particularly true for African countries, especially West African countries such as Nigeria, Angola, and Senegal, which have untapped potential in liquefied natural gas.

"Africa has a significant rank in the world oil production map, especially as it produces about 11% of the world's total production and has reserves of up to 12% of the world's total oil reserves. The continent also has huge reserves of oil and natural gas, with Africa producing about 5.28 million barrels of oil per day. Angola and Nigeria are the two largest oil-producing countries in Africa, producing 4% of the world's total oil production, while the average production for other African countries ranges between 200-300 thousand barrels per day.

Africa holds more than 124 billion barrels of oil reserves, representing %12 of the world's total oil reserves. In addition, more than 100 billion barrels need to be discovered on the various coasts of the continent. Africa's natural gas production represents %6.5 of the world's total natural gas production, with African countries having about 634 trillion cubic meters of the world's total natural gas reserves, representing about %10 of the world's total gas reserves.

A number of African countries lead the oil wealth in Africa, with the North African region having two members of OPEC, Libya and Algeria. The East African region is weak in production except for Sudan, which is one of the most important countries in oil production. The West African region has the most prominent oil-producing countries on the continent, such as Nigeria, Togo, Cameroon, Equatorial Guinea, Cote d'Ivoire, Ghana, and Benin. It is one of the most promising African regions for oil due to the massive oil discoveries in the Gulf of Guinea. Angola, South Africa, Zambia, and Zimbabwe are among the leading oil producers in the Southern African region."

As 10 oil-producing countries lead the African continent in 2022, Angola produces 1.16 million barrels of oil per day, making it the largest oil producer in Africa, with about 13.5 trillion cubic feet of proven gas reserves. Then Nigeria, with a total production of up to 1.02 million barrels per day, has about 206.53 trillion cubic feet of gas reserves. Algeria produces about 970,000 barrels per day, with its gas reserves accounting for about %2 of the world's total gas reserves. Egypt produces about 556,440 thousand barrels per day, followed by Congo-Brazzaville with production of up to 275,000 barrels per day, with about 10.1 trillion cubic meters of proven gas reserves. Gabon produces about 195,000 barrels per day, Ghana produces about 172,000 barrels per day, and Equatorial Guinea produces up to 88,000 barrels per day, with about 5 trillion cubic feet of gas reserves. Chad produces up to 68,000 barrels per day. Africa is home to five of the world's top 30 oil-producing countries, producing more than 7.9 million barrels per day in 2019, representing %9.6 of global production.



It should be noted that the largest proportion of Africa's oil reserves is mainly located in West Africa, especially in the Gulf of Guinea. There are expectations that Africa's gas production will reach about 470 billion cubic meters by 2030, equivalent to about 75% of the expected Russian gas supplies in 2022. West Africa is also the largest contributor to the continent's future oil and gas, accounting for about 70% of African oil and about 60% of recently discovered reserves. The region has announced the discovery of more than 50 trillion cubic feet of gas. Three fields have emerged that hold large quantities of reserves: the Yakaar-Teranga field in Senegal, the Orca field in Mauritania, and the Baobab field in Cote d'Ivoire, which contains 3.6 billion barrels of crude oil.

As African oil gains increasing strategic importance, it stands out for its variety, with over 40 types of crude oil on the continent. Most of them are of high quality due to their low sulfur content, which reduces the cost of refining. The quality of African crude oil surpasses that of its counterpart in the Middle East as it is compatible with modern refineries. Foreign companies in Africa obtain several privileges as they produce, pump, and sell oil to themselves according to agreements with African governments. They then share the economic returns with Africans after deducting the costs they incur, which means they achieve significant profits. In addition to the proximity of African oil to the consumer markets in Europe and America, West Africa is geographically close to the eastern coast of the United States, reducing transportation costs.

Second -Oil Discoveries and Projects Map in Africa:

With the continued increase in European demand for oil and gas, this is expected to help boost African production from around 260 billion cubic meters in 2022 to 335 billion cubic meters by 2030, and around 500 billion cubic meters by the end of the next decade. Africa is expected to represent about one-fifth of the total energy demand between 2035 and 2040. Many international companies operating in the oil and natural gas sector are considering implementing projects costing up to 100$ billion, as investments in the energy sector are launched in the coming years in some African countries such as Namibia, South Africa, Uganda, Kenya, Mozambique, and Tanzania. The international oil companies spend about %80 of their exploration budgets in sub-Saharan Africa, particularly in the Gulf of Guinea, which is one of the continent's most important oil-producing regions.

Expectations indicate that Namibia alone could produce around 500,000 barrels of oil per day from new oil projects. Africa could potentially produce up to one-fifth of Russia's gas exports to Europe by 2030.
Africa has always been one of the world's richest regions in oil and gas, leading major industrial powers to rely on it to meet a large percentage of their oil needs, especially with the discovery of new reserves in several areas of the continent. The African Petroleum Producers Association (APPA) has reported that one-third of the world's oil discoveries are in Africa and that the continent accounts for %12 of the world's total oil reserves. Africa now has 21 oil-producing countries, accounting for nearly %95 of Africa's total oil production, after only four oil-producing countries in the 1960s.

The European Union has indicated that it will explore export opportunities to sub-Saharan Africa in order to reduce dependence on Russian oil and gas. Olaf Scholz, Germany's advisor, emphasized the importance of securing gas supplies from West Africa during his visit to Senegal in May 2022. This reflects Africa's emergence as a strong alternative to European markets after the recent ban on Russian gas imports. Several European and Western countries and companies have rushed to make deals, agreements, and oil projects with African countries in recent times. This is because the West believes that West Africa and North Africa have the capacity and projects that can ultimately replace Russian gas supplies to Europe.

Italian oil company Eni has successfully made deals with Egypt for about 3 billion cubic meters of gas in 2022, and with Algeria for about 9 billion cubic meters of gas in 2023 and 2024. They have also made additional deals with Angola and the Republic of Congo, where Eni has been the second-largest oil operator for almost five decades. In light of the Italian government's efforts to add these countries to its gas and oil supplier group, replacing the Russian gas that provides %45 of Italy's gas needs. Eni aims to produce liquefied natural gas in Mozambique. The company is heavily involved in the oil sector in Africa, with nearly %50 of its oil production and about %60 of its oil reserves located in 14 African countries. It also has a branch in Ghana's Offshore Cape Three Points and is conducting multiple oil discoveries in African countries such as the oil field in the Niger Delta Basin in southern Nigeria, which was discovered in August 2019 and contains about 1 trillion cubic feet of gas and 60 million barrels of oil.

Meanwhile, an Italian delegation traveled to the Republic of Congo to sign a declaration aimed at accelerating and increasing gas production in the country through the development of a liquefied natural gas project expected to start in 2023 with a capacity of over 4.5 billion cubic meters annually once fully operated. Italy also signed an intention declaration with Angola to develop new natural gas projects with the aim of increasing oil exports to Italy.

As American and European officials visited African countries to persuade their governments to expedite oil and gas delivery projects to Europe, such as the visit of the Italian Foreign Minister to Angola and Congo-Brazzaville in the first quarter of 2022. The year 2022 has witnessed mergers and acquisitions in the oil and gas sector worth over $12 billion. In June 2022, British oil company Tullow Oil signed a merger deal with British company Capricorn Energy worth $827 million. The first company is expected to hold a 53% stake in the group, while the second company will hold a 47% stake. After the merger, the new group will own about a billion barrels of oil, and it is expected to produce around 100,000 barrels per day from African countries such as Ghana, Kenya, Gabon, Cote d'Ivoire, Mauritania, Senegal, and Egypt by 2025.

In May 2022, Afentra Oil and Gas company signed an agreement with the Angolan National Oil Company Sonangol, granting it stakes in two offshore blocks in the Lower Congo and Kwanza basins. The deal was valued at around $80 million. In April 2022, Sonangol Group signed a deal worth $336 million with British company, Sirius Petroleum, and Angola's Somoil. The deal included participation in the production of Blocks 18, 27, and 31 by BP in Angola, as Sirius and Somoil will pay around $170 million for a 10% stake in Block 31, which includes 4 oil fields producing 80,000 barrels per day through the BVSM facility. In March 2022, Italian company Eni and British BP signed an agreement to merge their operations in Angola under one name, Azule Energy, and the new company is expected to be the largest oil producer in Angola with production of over 200,000 barrels per day of oil and gas, especially with its ownership of around 16 licenses in the country. In February 2022, Nigeria's independent oil and gas company, Seplat Energy, proposed to acquire shallow water operations of Exxon Mobil in Nigeria for $1.2 billion.

Meanwhile, Tanzania signed a framework agreement for liquefied natural gas with Norwegian Energy Company Equinor and British-Dutch company Shell in June 2022, with the aim of developing a $30 billion export pipeline. In January 2022, French company Total Energies announced that it aims to resume a $20 billion liquefied natural gas project in Mozambique in 2022 after it was disrupted by terrorist activity in the north of the country. Tanzania also renewed negotiations with international oil companies, hoping to attract around $30 billion in foreign investments to revive the construction of liquefied natural gas projects in 2023.

Russia is involved in two major gas pipeline projects in West Africa, along with Nigeria, Algeria, and Morocco, in an effort to tighten the noose on European countries that are looking for an alternative to Russian gas.

Meanwhile, Uganda and Tanzania, along with French company Total Energies and CNOOC, signed agreements in 2021 to start a $3.5 billion oil pipeline to help transport crude oil from the western part of the country to global markets. This opens up new prospects for the Ugandan economy, including the implementation of some projects worth approximately $9 billion. In another development, Africa has seen a number of oil discoveries in recent years, particularly in West Africa. One of the most notable of these Discoveries: in 2019 in partnership between British companies BP and Kosmos Energy, with the field containing 13 trillion cubic feet of natural gas at a depth of 2,500 meters in the sea block C8 within the State. In addition, there is the Yakaar-Teranga Project in Senegal, a joint project between British companies BP and Kosmos Energy, estimated at around 20 trillion cubic feet of natural gas. There is also the Balan field in Cote d'Ivoire, which contains about two billion barrels of light oil and 2.4 trillion cubic feet of gas at a depth of 1,200 meters, 60 kilometers from the shore. Early production is expected by late 2023.

Next to the Avena field in Ghana, which was announced by the Ghanaian Company Seringfield in 2019, with the possibility of retaining up to 650 billion barrels of crude oil and about 0.7 trillion cubic feet of gas. There is also the Agogo field in Angola, a joint project between the Italian company Eni and the SS AI Fifteen Company, with a field reserve size of one billion barrels of light oil at a rate of 20,000 barrels per day. The Ndongo field in Angola was discovered with reserves ranging from 800 million to one billion barrels of oil. Production at the field began in February 2022 through the Ngoma Floating Production, Storage, and Offloading Vessel with a capacity of about 100,000 barrels per day. The Nyankom field in Ghana, carried out by AGM Petroleum off the coast of Ghana, was also discovered. The project contains 127 million barrels of confirmed oil reserves, with an estimated additional 600-400 million in the surrounding areas.

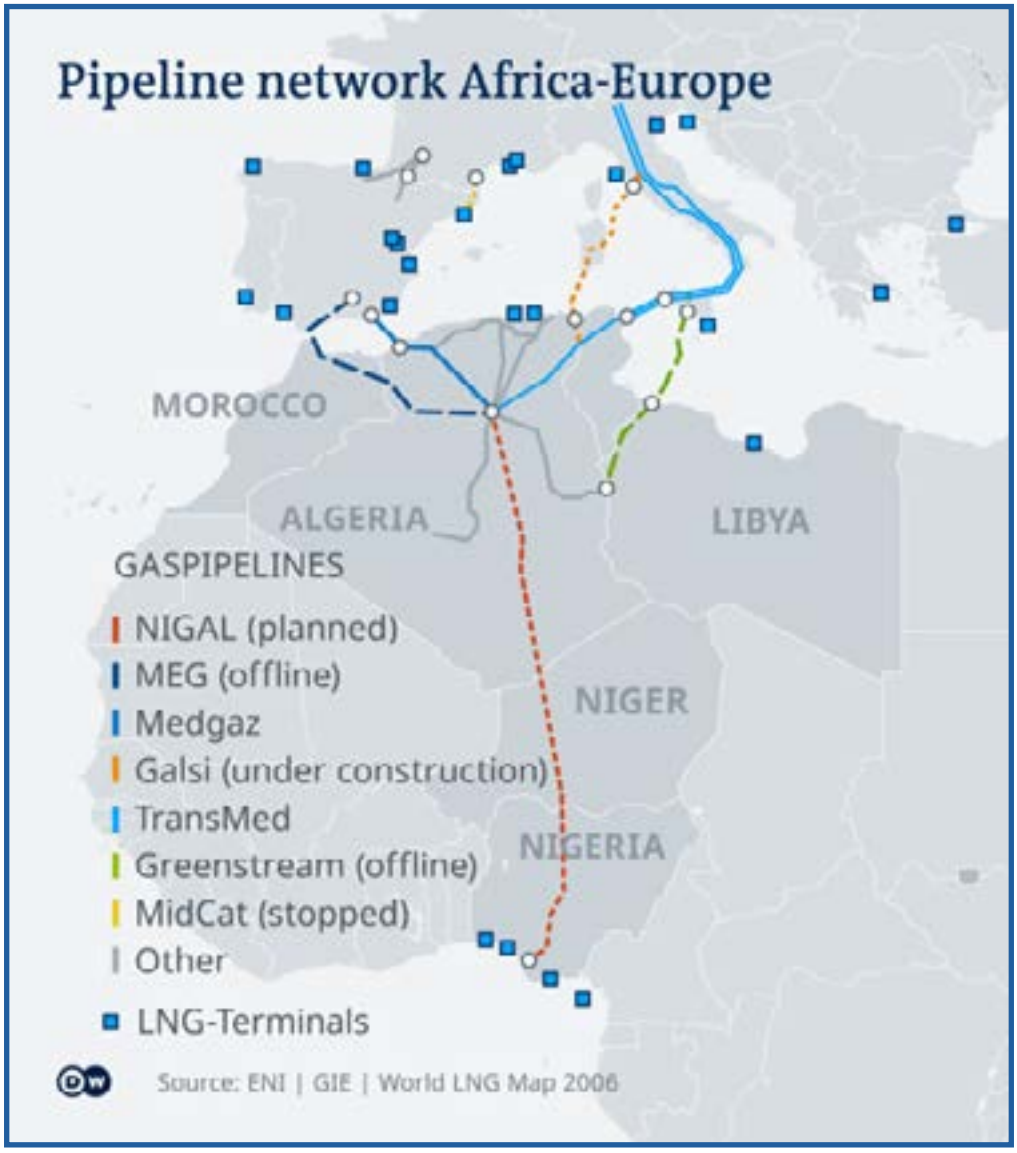
And there are many ongoing and upcoming oil and gas projects in Africa, including:

1- **The Trans-Saharan Gas Pipeline:** NIGAL, which is planned to stretch for 4401 kilometers, connecting Nigeria and Algeria. It was proposed in 1970 and saw no progress until 2002 when the Nigerian National Petroleum Company signed a memorandum of understanding with the Algerian National Oil and Gas Company, SONATRACH. The project is estimated to cost around 13$ billion, with an annual capacity of approximately 30 billion cubic meters of natural gas.

2- **Gas pipeline between Nigeria and Morocco:** In September 2022, the Economic Community of West African States (ECOWAS), Morocco, and Nigeria signed a memorandum of understanding regarding the Nigerian-Moroccan gas pipeline. This agreement strengthens ECOWAS's commitment, as well as the thirteen countries through which the pipeline will pass, to contribute to the implementation of this project with the aim of providing gas to the member countries in the first phase, and to Europe in the following phase. It is expected that the gas pipeline will start from Nigeria, passing through countries such as Benin, Togo, Ghana, Ivory Coast, Liberia, Sierra Leone, Guinea, Guinea-Bissau, Gambia, Senegal, Mauritania, and reaching Morocco. The new project is also expected to connect with the Maghreb-European gas pipeline and the European gas network. It will also supply some landlocked countries with gas, such as Niger, Burkina Faso, and Mali. It is likely that this pipeline will transport over 5,000 billion cubic meters of proven natural gas reserves, benefiting around 400 million people.

3- Medgaz Pipeline Project: It is located under the sea, spanning 210 kilometers between Beni Saf in Algeria and Almeria in Spain. It can accommodate 8 billion cubic meters of natural gas annually and enhances energy security for southern Europe.

4- Trans-Mediterranean Gas Pipeline: It is a 2475-kilometer pipeline for transporting natural gas from Algeria to Italy through Tunisia and Sicily. The total project cost is approximately 6.25 billion dollars, with a capacity of around 33.5 billion cubic meters per year.



5- The Tanzania liquefied natural gas project, also known as the Likong'o-Mchinga Project, has been in preparation since the first gas discovery in the country in 2010. Tanzania has reserves of around 57 trillion cubic feet of gas, in addition to another 29.5 trillion cubic feet located offshore. The project is estimated to cost around 30$ billion and will have the capacity to produce 10 million tons of liquefied natural gas annually. It was expected to begin in 2022 and end in 2028.

6- "The Rovuma Gas Processing Station: costing 30 billion dollars, it is located off the coast of the Cabo Delgado region in northern Mozambique. It includes three gas tanks in area 4 of the Rovuma Basin, which contains 85 trillion cubic feet of natural gas. ExxonMobil is responsible for building and operating the station, which has a planned production capacity of about 15.2 million tons of natural gas annually.

7- Namibian Refinery Complex: located in Angola, it is expected to begin operations in 2025 and is estimated to cost about 12 billion dollars.

The Russian-Ukrainian War Impact on Energy Policies in Africa:

The Russian-Ukrainian war has paved the way for African countries to gain more influence in the global oil and gas market. This is due to the increasing demand for energy in the world, which has played a role in the rise of oil prices, resulting in the growing strategic importance of African oil in recent times. It has become a top priority for influential international powers to secure energy, which has reinforced the importance of oil and natural gas-rich regions, especially in Africa. The United States of America possesses 23% of the continent's total oil production, while China accounts for 14%, and both Italy and India account for 8% of the total production of the continent. The European Union possesses more than 25% of the total production. The outbreak of the Russian war has caused a series of problems in the African arena, resulting in a significant increase in the cost of living on the continent and inflation rates in many African countries. The African Development Bank's expectations also indicate that the continent's real GDP growth rate will reach 4.1% during the year 2022, that is, less than the growth rate achieved in 2021, which was about 7%.

However, Africa's need for energy is growing to the extent that it will have to exploit gas on a large scale, especially since there are approximately 600 million Africans who do not have access to electricity, equivalent to %43 of the total population of the African continent, and 900 million people rely on cooking stoves in the continent's regions. Therefore, there is a need for gas in Africa as it is a suitable and less polluting resource. This comes at a time when calls are increasing for Western countries to reduce their use of gas in order to alleviate the severity of climate change crises."

However, it is likely that oil and gas-producing African countries will benefit from the global crisis and the search by Western countries for new markets to meet their oil and gas needs, both economically and financially. Although this requires expanding investment in the oil sector, which requires some factors that motivate foreign investment, such as political and security stability and good governance in the African continent. The current crisis has also increased the need for African countries to create a series of development and modernization in the energy industry in the continent, especially the search for new oil projects and opening the door to more foreign investment in the oil and natural gas sector. This is in order to become a major energy supplier to Europe and others, especially after the disruption of global energy markets, which has prompted European powers to search for alternative sources to meet their oil needs. This enhances the economic returns of African governments and the high rates of economic growth throughout the continent in the long term.

Fourth - The future of Africa's role and influence in the global energy market:

African oil has become one of the most influential factors in the global system. It is also one of the main axes of international competition in Africa, in light of current developments such as the repercussions of the COVID-19 pandemic and the ongoing Russian-Ukrainian war in Eastern Europe. It is expected that the oil imports of major powers from African countries will increase in the coming years. The International Energy Agency forecasts that Chinese oil imports will reach around 13 million barrels per day by 2030. The possible future withdrawal of Russia from the European gas market is seen as a good opportunity for the African continent to supply European countries with their oil and gas needs. This would give Africa momentum to boost its economies and enhance African-European cooperation in the energy sector. The ongoing and future oil and gas projects in Africa also present a crucial opportunity for African countries to play a more central role in the global energy market. They can intervene to fill the gap in oil and gas demand in the coming years, ranging from 50 to 190 billion cubic meters annually.

However, the future role and influence of Africa in the global energy market depend on several factors, including Russia's role in the global energy market and the extent to which its supplies to Europe are affected by its negotiations with Ukraine. This is evident from the fluctuation of prices in line with expectations about the progress of negotiations between both parties. In addition, the market share controlled by other non-African producers also plays a role. Europe relies not only on Africa to fill the gap in gas demand, but also on other sources such as the United States, which is increasing its exports of liquefied natural gas to Europe. Europeans also enter into long-term deals with oil and gas-producing countries in the Middle East region.

There are also some challenges facing the energy industry in Africa that may affect gas and oil supplies to Europe. The main challenges include the increasing domestic demand for gas in African countries, the deterioration of African infrastructure, and the lack of investment in it. Nigeria, which has the largest gas reserves in Africa, faces restrictions on gas supplies due to its infrastructure limitations, and its infrastructure hinders its ability to meet its export commitments. Estimates have indicated that the weakness of the infrastructure contributed to a 19% decrease in oil production in 2019 compared to a 7.8% decrease in 2017. African gas production also experienced a relative decrease of about 5% during the same period. The escalating security challenges negatively impact oil and gas projects, as the activities of the terrorist organization ISIS in the Cabo Delgado region, which began in 2017, have disrupted liquefied natural gas development projects in the country worth $50 billion by international companies such as Total Energies, ExxonMobil, and Eni. The complex political and security context in the Sahel, the Sahara, and West Africa hampers the implementation of oil projects and the passage of oil and gas pipelines due to the worsening activities of terrorist organizations there.

Overall, Africa can assert itself on the international stage by maximizing its role in the global energy market and make use of the current international contradictions. This can be achieved by leveraging its immense potential in the oil and natural gas sectors. However, this requires overcoming all the challenges that may hinder oil projects, especially the deterioration of Africa's infrastructure. It also involves taking advantage of the escalating international competition between powers and international companies to attract more foreign investments in the energy sector and enhance the economic returns of African countries.

Issue Focus

The Arab-Iranian Dispute over the Dorra Field

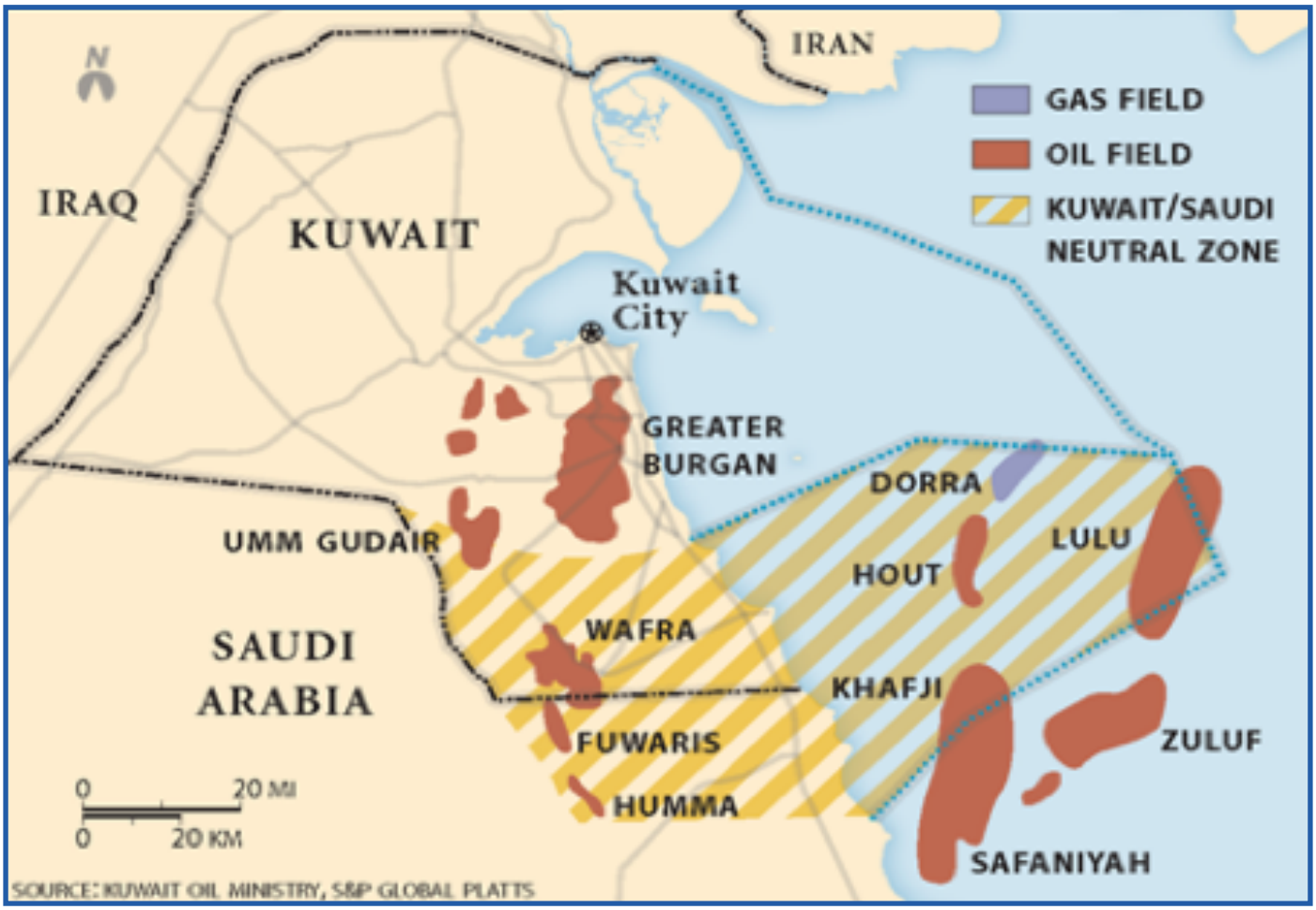
Mr. Ahmed Abou Youssef
Researcher at Saif Bin Helal Center for Studies and Research in Energy Sciences (SBHC)

Historical and Geographical Background of the Arab-Iranian Dispute over Dorra Field

The Dorra field was discovered in 1967 when maritime borders between countries were not clearly defined, and gas was not a strategic resource for countries at that time. The field was not developed due to the dispute that arose between Kuwait and Saudi Arabia on one side and Iran on the other, where Iran demands its right to share the oil and gas resources of the field, but refuses to negotiate nonetheless. Although negotiations began between the two sides to demarcate maritime borders, they stopped in 2014 without any result, knowing that Tehran has progressed in negotiating the demarcation of maritime borders with Qatar, and an agreement was reached in 2010.

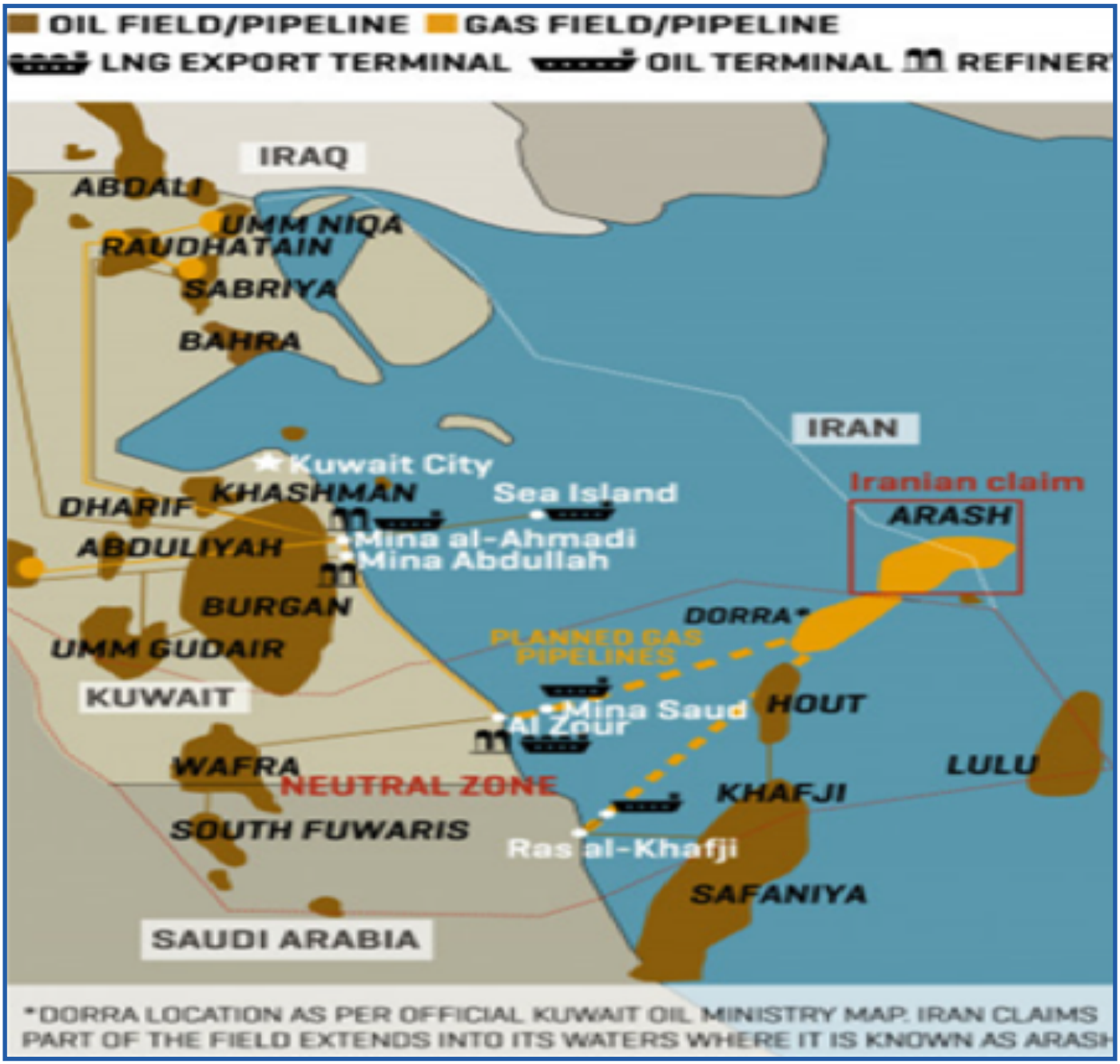
In March 2022, Kuwait and Saudi Arabia signed a document to develop the Dorra field, which is expected to produce one billion standard cubic feet of gas per day and 84,000 barrels of condensates per day, according to a statement issued by the Kuwaiti Petroleum Corporation. Some studies also indicate that the field contains 11 trillion cubic feet of natural gas, in addition to 300 million barrels of oil. However, Iran questioned the legitimacy of the Kuwaiti-Saudi agreement and considered it "illegal", and demanded the necessity of joining any attempt to develop and operate the field or benefit from its resources. Iran justified its position by saying that there are parts of it in the scope of the undefined waters between Iran and Kuwait.

Looking at the map (1), it's clear that the field is located within the territorial waters of Kuwait and Saudi Arabia. Even if we were to draw a straight line in the middle of the Gulf, considering that the Arabian Gulf is a closed sea and not open, which means that the demarcation of maritime borders is based on distance from the coast and not on determining the continental shelf, we will find that the field is located in Kuwait's part. However, Iran claims that parts of the field are connected to the Iranian Arash field, and therefore demands to share the resources with the benefiting countries.



Map (1)

The map number 2 shows the geographical location of both the Kuwaiti-Saudi Al-Durra field and the Iranian Arash field, suggesting that it is easy to separate the two fields directly, assuming the validity of the Iranian claims. In order to do this, it is necessary to conduct negotiations and appoint a team of experts to study the case more accurately.



Map (2)

Mr. Fadi Khalil
Researcher at Saif Bin Helal Center for Studies and Research in Energy Sciences (SBHC)

The Legal Frame Governing the Arab-Iranian Dispute over the Dorra Gas Field

Introduction:

Iran has invited Kuwait (which also represents Saudi Arabia) in March 2023 to negotiate the demarcation of their maritime borders, including the disputed Dorra Gas Field between them since the 1960s. However, the two countries have failed to reach an agreement due to their differences in approach to demarcation. Iran insists on adopting the continental shelf approach, considering the Arabian Gulf as an open sea. Meanwhile, Kuwait insists on following the approach of closed or semi-closed seas and objects to Iran's demarcation of the borders between the Iranian island of "Kharg" and the Kuwaiti mainland, for ignoring the Kuwaiti island of "Failaka".

Therefore, this paper analyzes and draws conclusions regarding the content of the sources of international law governing the dispute over the Dorra field, Iranian practices towards it, the counter-reactions of Kuwait and Saudi Arabia, the Kuwaiti-Saudi agreements regulating their exploitation of the field, Iran's reactions to those Kuwaiti-Saudi agreements, and the reactions of Kuwait and Saudi Arabia towards Iran. This is done to determine the states with sovereign rights over the field and the legal basis for that, as well as whether any state has violated the sovereign rights of another state related to the field, and whether any state has undermined the comprehensive development rights of another state.

First: Presenting the content of international law sources related to the dispute over the Durrah field:

The international agreements, customary international law, and general principles of law (national and international) are the three sources that establish the international legal foundation, according to Article 38 of the Statute of the International Court of Justice. This section focuses on presenting the texts of the agreement articles, which our legal analysis will be based on.

1- The International Conventions:

a. The Montevideo Convention on the Rights and Duties of States in 1933:

The Montevideo Convention is one of the oldest contemporary international law agreements, and although only 16 South American countries have ratified it, it has become an international custom binding on all states thereafter.

Article 4 of the Convention states that states are legally equal and have the same rights and equal capacity to exercise the same. Also, the rights of each state do not depend on the power it possesses to confirm its exercise, but on the fact of its existence as an entity under international law. According to Article 5, the fundamental rights of states are not subject to any form of influence. Article 8 indicates that no state has the right to intervene in the internal or external affairs of another state. Article 10 stipulates that the fundamental interest of states is to maintain peace, and therefore, all their disputes must be settled by recognized peaceful means. According to Article 11, state lands are protected and cannot be targeted for military occupation or any other measures imposed directly or indirectly by another state, or for any reason whatsoever, temporarily.

b- Charter of the United Nations of 1945:

The Charter of the United Nations is one of the most important international agreements, not based on chronological order in this section. Its second article, which deals with the principles of the international organization (and international law as we will see), includes four important clauses, as follows:

1- The organization is based on the principle of equality in sovereignty among all its members.

2- In order to ensure them the rights and advantages resulting from membership, the members of the organization undertake, in good faith, the obligations they have assumed under this Charter.

3- All members of the organization settle their international disputes by peaceful means in a manner that does not jeopardize peace, security, and international justice.

4- This Charter does not authorize the United Nations to interfere in matters that are within the domestic jurisdiction of any state, nor does it require members to submit such matters to settlement under this Charter, provided that this principle does not undermine the application of repressive measures set out in Chapter VII.

Regarding the principle mentioned in Article 32 of the Charter, which relates to the obligation of states to settle their disputes peacefully, Article 33 states that: "Parties to any dispute, the continuance of which is likely to endanger the maintenance of international peace and security, shall, first of all, seek a solution by negotiation, inquiry, mediation, conciliation, arbitration, judicial settlement, resort to regional agencies or arrangements, or other peaceful means of their own choice."

c- UN Convention on the Law of the Sea of 1982:

Compared to the 1958 Continental Shelf Convention signed only by Iran on May 28, 1958, we find that the UN Convention on the Law of the Sea of 1982 is the only convention specific to the governing law of the continental shelf area, which was ratified by Kuwait (on May 28, 1986), Saudi Arabia (on April 24, 1996), and signed by Iran (on December 10, 1982). This makes the latter convention the only one applicable to the dispute discussed in this paper, partially due to Iran's signing not its ratification.

Article 71, which deals with the straight baseline, states in the convention: "Whereas the coast forms a deep indentation or where a fringe of islands exists along the coast in its immediate vicinity, the method of straight baselines joining appropriate points may be employed in drawing the baseline from which the breadth of the territorial sea is measured." Article 76, which defines the continental shelf of a coastal state, indicates that it includes "the seabed and subsoil of the submarine areas that extend beyond its territorial sea throughout the natural prolongation of its land territory to the outer edge of the continental margin, or to a distance of 200 nautical miles from the baselines from which the breadth of the territorial sea is measured if the outer edge of the continental margin does not extend up to that distance." Similarly, Article 122 defines enclosed or semi-enclosed seas as follows: "An enclosed or semi-enclosed sea is a gulf, basin or sea surrounded by two or more States and connected to another sea or to the ocean by a narrow outlet or consisting entirely or primarily of the territorial seas and exclusive economic zones of two or more coastal States." In addition, Article 279 of the convention obliges the parties to settle "any dispute between them concerning the interpretation or application of this Convention by peaceful means in accordance with clause 3 of Article 2 of the Charter of the United Nations, and to this end shall seek a solution by the means indicated in paragraph 1 of Article 33 of the Charter," which is reiterated in Article 280 of the convention.

d. Vienna Convention on the Law of Treaties of 1969:

The Vienna Convention on the Law of Treaties of 1969 is the only international agreement that regulates the life of any international treaty concluded between parties, from its negotiation to its termination. Kuwait joined the Vienna Convention on November 11, 1975, and Saudi Arabia joined on April 14, 2003, while Iran only signed it on May 23, 1969. The Convention has also become an international norm, making it binding on Iran.

Article 18 of the Convention states that “a state must refrain from acts that would hinder the object and purpose of a treaty: (a) if it signed the treaty... unless it has made its intention clear not to become a party to the treaty.” Article 36(1) provides that “a right arises for third party state if the parties intended to grant that right to either a non-party state, a group of states, or all states, and the third-party state agrees to it, assuming consent unless the non-party state indicates otherwise, unless the treaty provides otherwise.

Customary International Law:

a. Declaration of Principles of International Law concerning Friendly Relations and Cooperation among States in accordance with the Charter of the United Nations 1970.

The official interpretation of the United Nations Charter can be found in the Declaration of Principles of International Law concerning Friendly Relations and Cooperation among States in accordance with the United Nations Charter of 1970, which states that "the principles of the Charter included in this declaration represent the fundamental principles of international law." Although the declaration is not legally binding, it has become an international custom in terms of its content.

"The principle of non-intervention in matters within the domestic jurisdiction of any state, as stated in the Charter, prohibits any state or group of states from directly or indirectly intervening, for any reason, in the internal or external affairs of any other state. No state shall use economic, political, or any other kind of measures... to coerce another state into relinquishing its sovereign rights and obtaining any advantages. It is the duty of states to cooperate with each other in accordance with the Charter."

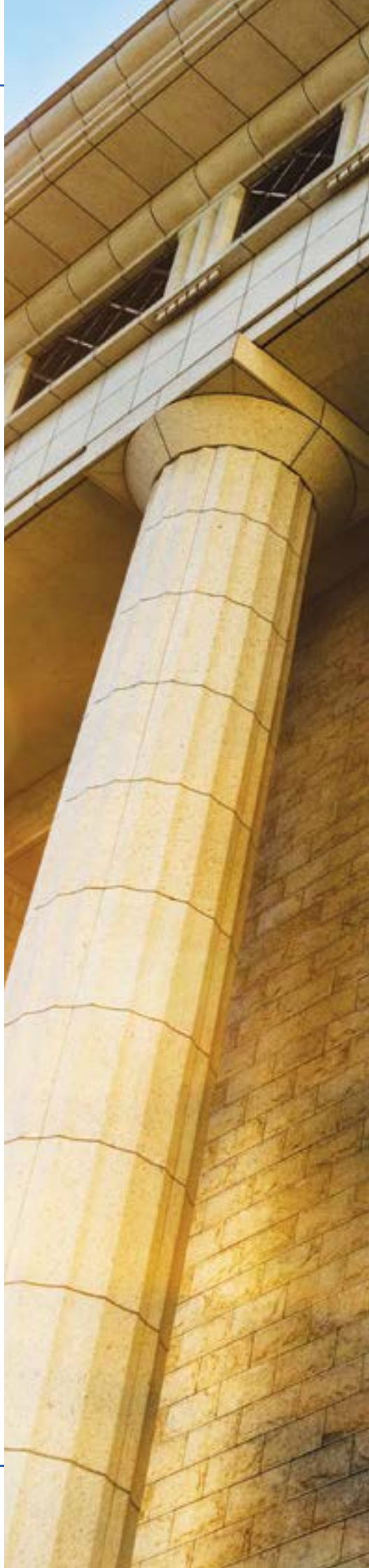
(c) States are required to conduct their international relations in the economic fields... in accordance with the relevant provisions of the Charter.

The Principle of Equality in Sovereignty Among States:

All states are equal in sovereignty. They have equal rights and obligations and are equal members of the international community regardless of economic, social, political, or other differences. Equality in sovereignty includes the following elements in particular: (a) states are equal in legal terms; (b) each state enjoys the rights inherent in full sovereignty; (c) every state has a duty to respect the personality of other states; …(d) and every state has a duty to fulfill its international obligations in good faith and to live in peace with other states."

b. Charter of Economic Rights and Duties of States 1974:

As mentioned in the previous section on the Declaration of Principles of International Law, although the Charter of Economic Rights and Duties of States is not legally binding, the majority of its provisions have become an international custom in terms of their content. The following are the stipulations of these provisions.



First Chapter: International Economic Relations Basics:

The economic relations between countries, as well as political relations and others, are subject to the following principles in particular:

a) Sovereignty of states and their regional integrity and political independence.

b) Equality of all states in sovereignty.

c) Non-aggression.

d) Non-intervention.

e) Mutual and fair benefit.

f) Peaceful coexistence.

g) Peaceful settlement of disputes.

h) Faithful fulfillment of international obligations.

i) No attempt to seek hegemony and spheres of influence.

Article 2:

1. Each state has full and permanent sovereignty, which it exercises freely, over all its wealth, natural resources, and economic activities, including its ownership, use, and disposal.
2. Each state has the right to: b) Regulate the activities of non-national companies within the scope of its national jurisdiction and supervise them, and take measures to restrict these activities in accordance with its laws, rules, and systems, and align them with its economic and social policies ... and it is the responsibility of each state, with full respect to its sovereign rights, to cooperate with other states in exercising the right provided for in this subparagraph.

Article 7:

Each state is primarily responsible for the economic, social, and cultural development of its people. To fulfill this obligation, each state has the right and responsibility to choose the means and goals of its development, mobilize and fully utilize its resources, implement progressive economic and social reforms, and ensure the full participation of its people in the development process and its benefits. It is the duty of all states to cooperate, individually and collectively, in removing the obstacles that hinder this mobilization and utilization.

Article 8:

States should cooperate in facilitating more just and equitable international economic relations.

Article 24:

All countries have a duty to conduct their economic relations in a way that takes into account the interests of other countries. In particular, all countries should avoid harming the interests of developing countries.

Article 26:

All countries have a duty to coexist in tolerance and live together in peace.

Article 27:

1- Every country has the right to fully enjoy the benefits of envisaged financial trade and to participate in expanding such trade.

2- International trade, based on fair efficiency and mutual benefit, and working to expand the global economy, is the common goal of all countries. The role of developing countries in international trade should be promoted and strengthened in line with the mentioned goals, with special consideration given to the specific needs of developing countries.

3- All countries should cooperate with developing countries in their efforts to increase their ability to earn foreign exchange from non-envisaged transactions, in accordance with the capacities and needs of each developing country, and in line with the aforementioned goals.

c. UN General Assembly Resolution on the Definition of Aggression in 1974:

The United Nations General Assembly adopted resolution 3314 (29-d) on the definition of aggression unanimously, and it has undoubtedly become an international definition. Article 3 states: "The character of aggression applies to any of the following acts, whether declared or not, and without prejudice to the provisions of Article 2 and in accordance with it: (a) The invasion or attack by the armed forces of a State on the territory of another State...". According to Article 5, "aggression entails international responsibility."

d. Draft Articles on the Responsibility of States for Internationally Wrongful Acts:

The International Law Commission of the United Nations formulated and interpreted the draft articles on the responsibility of states for internationally wrongful acts in 2001, based on customary international law. Most countries, international law scholars, and all international courts have recognized it. According to Article 2 of the draft articles: "A state commits an internationally wrongful act if the conduct in question: (a) is attributable to the state under international law; and (b) constitutes a breach of an international obligation of the state."

3- Law General Principles

Some examples of general principles of law relevant to the case at hand, the principle of recognition as the master of evidence, meaning that the confession of a party in a particular case of the validity of the opposing party's argument is the strongest evidence of its validity. Similarly, the principle of clean hands, meaning that the wrongdoer's contribution to his own acquittal before the law is not considered, or "the non-birth of errors to rights". There is also the principle of non-binding of states in international relations except by their own will, whereby the duties of states in international relations arise only when they explicitly or implicitly agree to the establishment or interpretation of a binding international rule. Additionally, an important principle is the principle of good neighborliness: not harming neighboring countries without a sound legal basis.

Second: Iranian practices towards the governing sources of international law regarding the dispute over the Dorra field, and the counter-reactions of Kuwait and Saudi Arabia.

The importance of this section lies in understanding the opinion of each party in the dispute towards the actions of the other party, as an essential part of the process of determining the sovereign rights of the countries over the field and the legal foundations for that, and whether any country has violated the sovereign rights of another country related to the field, and whether any country has undermined the rights of another country in its comprehensive development, as mentioned in the introduction.

The president of the Iranian State-Owned Offshore Oil Company announced in January 2001 Iran's intention to unilaterally implement a comprehensive development project for the Dorra field, if Kuwait did not agree to an Iranian offer for joint development, adding that Tehran had already launched its operations for this development (and production) without delay, awaiting Kuwait's reaction. In the same year, Iran escalated tensions by deploying drilling equipment near its side of the field, prompting Kuwait to file a series of complaints with international organizations. In 2003, Iran rejected Kuwait's invitation to refer their dispute over the Dorra field to international arbitration. After that, the president of the Iranian "Offshore Oil Company" stated Iran's intention to produce oil from the continental shelf area of the field unilaterally, in the event that no agreement is reached between Iran and Kuwait. In response, the acting ambassador of the Kuwaiti Ministry of Foreign Affairs summoned the Iranian chargé d'affaires in January 2012 and handed him a protest note, confirming during their meeting that the continental shelf area is disputed and subject to negotiations between the two countries for its final demarcation, and that such provocative actions can only be taken after this demarcation.

Iran rejected the calls of Kuwait and Saudi Arabia to demarcate their maritime borders with them. The spokesperson for the Iranian Ministry of Foreign Affairs stated afterwards that Iran, Saudi Arabia, and Kuwait have joint sovereignty over the Dorra field because it partially lies in the territorial waters of Iran and Kuwait, considering that Iran has the right to exploit it in a collaborative manner with Kuwait and Saudi Arabia. He added that "according to international customs, any step for investment and development in this field must be coordinated and cooperated among the three countries." Kuwait then expressed its rejection of these statements, affirming that, according to international law, the Dorra field is a "purely Kuwaiti-Saudi field" and does not fall within the scope of the disputed area with Iran

And in protest against Tehran's two projects to develop the field and extract gas for its own benefit, in August 2015, the Kuwaiti Ministry of Foreign Affairs summoned the acting Iranian embassy to its headquarters. In May of the following year, Iranian military ships entered Kuwaiti and Saudi Arabian maritime areas, leading Kuwait and Saudi Arabia to submit a protest memorandum to the United Nations, describing Iran's actions as a "threat". After that, Kuwait and Saudi Arabia issued a joint statement in April 2022, proposing negotiations with Iran to demarcate the eastern borders of the disputed submerged area that includes the Dorra field. The statement indicated that both countries had previously invited Iran to negotiate the demarcation of the continental shelf between Kuwait, Saudi Arabia, and Iran, but received no response. Kuwait and Saudi Arabia then renewed their call for Iran to initiate those negotiations.

It should be noted that over the years, Kuwait and Iran have held talks to determine the status of the continental shelf in their maritime borders, without reaching an effective result. Similarly, the spokesperson for the Iranian Ministry of Foreign Affairs confirmed that Iran "will retain the right to use the gas field" in the manner it deems appropriate, noting that its behavior will be consistent with "previous agreements". He reiterated that "any action in this field must be coordinated by the three countries." The Iranian Minister of Oil announced in March 2023 that Iran had started drilling operations in the Dorra field, considering that there are parts of the field within the undefined waters between Iran and Kuwait. In May 2023, Iran escalated its demands and claimed that the Dorra field is located in its territorial waters, prompting the Saudi Energy Minister to consider that this escalation hinders the Kuwaiti-Saudi plans to develop the field. The President of the Iranian National Oil Company also announced in June of the same year the country's readiness to start drilling in the field and that a development plan had been submitted to the Iranian company's board of directors, regardless of any agreement with Kuwait and Saudi Arabia. The dispute over the Dorra gas field between Iran on one side and Kuwait and Saudi Arabia on the other side resurfaced after Tehran announced in early July 2023 its intention to conduct drilling operations at the site as part of its plan to develop the disputed field. At that time, the Kuwaiti Deputy Prime Minister and Minister of Oil requested Iran to demarcate its international borders with Kuwait first before claiming any rights over the Dorra field.

Third: Kuwaiti- Saudi Agreements that Regulate the Use of Dorra Field:

Kuwait and Saudi Arabia have signed several agreements to demarcate their maritime borders and divide and exploit the Dorra field, not only for their economic benefit, but also as a proof of their rightful sovereignty over the field. The following presents these agreements in chronological order and their historical development.

The borders between Iraq, Kuwait, and Saudi Arabia were first delineated in 1922 under the Red Line Agreements and the Uqair Protocols, in the absence of Iran. This established what is known as the "Joint or Neutral Zone" between them, although it remained ambiguous. In 1965, Kuwait and Saudi Arabia signed a second division agreement, asserting their joint ownership of the resources beneath the surface of that area.

In the mid-1960s, Iran granted the right to explore and exploit gas in the Dorra field to British Petroleum, while Kuwait granted the same right to Royal Dutch Shell. However, the concessions overlapped in a part of the field. Additionally, Kuwait and Saudi Arabia developed a neutral zone known as the "Divided Neutral Zone," covering their border region on land and sea. Subsequently, the two sisters signed a third agreement in July 2000 to demarcate their maritime borders in the continental shelf area, where the Dorra field is located, from the end of the land border towards the sea. The agreement divided the sovereign rights over the area and its resources between them. After Iran resumed drilling in the field in 2001, the two countries signed a fourth maritime border demarcation agreement and planned to establish joint oil reservoirs.

The two sisters signed a memorandum of understanding for joint cooperation in developing the Dorra field in December 2019, followed by their announcement in January 2020 of their intention to appoint a technical advisor to review and evaluate the plan and development costs of the Dorra field, production expectations, storage options, and determine the gas share for each country. Based on an agreement between the two sisters in March 2022, the gas of the Dorra field was divided equally between them, and each directed their share through pipelines to their territories. They also agreed to develop it about fifty nautical miles (80 km) from each of their coasts. In December of the same year, Saudi Arabia's Aramco and Kuwait's government-owned Gulf Oil agreed to participate in the field's development, and therefore decided to share the wealth of the joint area equally, regardless of the quantities of gas or oil present in it.

Fourth: Iran Reactions Towards Kuwaiti- Saudi Arabia Agreements, and the Counter Reactions of Kuwait and Saudi Arabia:

For the same reasons mentioned in the above section on "Iranian practices towards the governing international law sources of the dispute over the Dorra field, and the counter-reactions of Kuwait and Saudi Arabia," we parallel and equally present in this section how Iran responded to Kuwait and Saudi Arabia's aforementioned bilateral agreements, and the nature of Kuwait and Saudi Arabia's reactions towards it.

As a result of the privileges granted to them by Iran and Kuwait to the companies "British Petroleum" and "Royal Dutch Shell", respectively, for the exploration and exploitation of gas in the Dorra field in the 1960s, Kuwait objected to Iran's search for gas in the field where there was no agreement on demarcating the borders.

Iran described the agreement between Kuwait and Saudi Arabia in March 2022 as "illegal", insisting that it should be included in any measures aimed at working in and developing the field. However, Iran agreed to negotiate with Kuwait only on demarcating the continental shelf between them before - according to Iran - accepting Saudi Arabia's involvement later. Kuwait responded by stating that the Dorra field is "completely Kuwaiti and Saudi". According to the Iranian news agency "IRNA", the Iranian Oil Minister tweeted on Twitter, announcing the imminent start of drilling operations in the Dorra field by installing the base, confirming that despite their desire to negotiate and cooperate in developing the joint fields, unilateral actions will not prevent the implementation of the mentioned project. He added that the actions of one party (referring to Saudi Arabia and Kuwait) regarding the field will not prevent them from implementing their plan, and Tehran will continue its comprehensive studies in the field as a prelude to starting drilling platforms and conducting seismic studies.

The Chairman of the Board of Directors of the Iranian Oil and Gas Drilling Companies Association has called for caution against Saudi Arabia's depletion of the border oil fields, in response to the agreement between Aramco and Gulf Oil, which was concluded in December 2022, as mentioned above.

Fifth: Conclusions

Based on the previous presentation, we can conclude the following points:

1. Kuwait and Saudi Arabia are the only ones currently having sovereign rights over the Dorra field.

Based on the previous presentation, to determine the countries that have sovereign rights and those that do not have them over the Dorra field, and the legal basis for that, we state several important derived results as follows:

Iran's own recognition, as the opposing party, of the sovereignty of Kuwait and Saudi Arabia over the field, based on the principle of recognition being the master of evidence, settles the issue of that sovereignty.

Kuwait has the right to adhere to the application of Article 7 to determine the straight baselines, from the United Nations Convention on the Law of the Sea of 1982, as there is a series of islands along its coast, very close to it directly. These islands are Warbah, Bubiyan, Maskan, Failaka, Umm Al-Naml, Awuha, Kabbarah, Qaruh, and Umm Al-Maradim. And if we apply this article, we will find that the "200 nautical miles from the baseline" mentioned in Article 76, which defines the continental shelf of any coastal state, from the same convention, places the entire Dorra field within Kuwaiti waters. Also, in light of Article 122, which defines enclosed or semi-enclosed seas, from the same convention, it becomes clear to us that Iran's argument regarding demarcating its maritime boundaries with Kuwait through the approach of the continental shelf, based on considering the Arabian Gulf as an open sea, is factually and legally incorrect because it is a semi-enclosed sea.

In addition, according to Article 26 of the Vienna Convention on the Law of Treaties of 1969, Kuwait and Saudi Arabia enjoy sovereign rights granted to them by the agreements they have concluded, especially since these agreements do not establish rights for Iran in accordance with Article 36(1) of the same convention, or violate provisions of international law, as we have seen. Furthermore, Kuwait or Saudi Arabia are not responsible for Iran's failure to demarcate its maritime borders with Kuwait, according to draft Article 2 of the articles concerning the responsibility of states for internationally wrongful acts, as Iran has rejected some related claims by Kuwait and Saudi Arabia, or has not responded to others, or has failed to reach an agreement on this matter with Kuwait without the latter's arbitrariness (the principle of clean hands), or has demanded its alleged rights before proving their existence in the first place (before demarcating its borders with Kuwait in a way that gives it those rights without contradicting the provisions of international law).
Finally, and not least, according to the principle of non-binding of states except by their own will, as long as Kuwait and Saudi Arabia have not violated international law and have not concluded any agreements with Iran, or made any official statements that are in line with Iran's demands regarding the Dorra field, as we have seen, Kuwait and Saudi Arabia are not bound by those demands.
Therefore, Iran has no sovereign rights over the Dorra field at present.

2. Iran's violations of Kuwait and Saudi Arabia's sovereign rights over the Dorra field:
Since Kuwait and Saudi Arabia are the only ones who have sovereign rights over the Dorra field at present, and since Articles 4, 5, 8, 10, and 11 of the Montevideo Convention on the Rights and Duties of States of 1933, Article 2(1)(2)(7) of the United Nations Charter, and the principles of "non-interference in matters that are within the domestic jurisdiction of any state" and "equality in sovereignty among states" stated in the Declaration of Principles of International Law Concerning Friendly Relations and Cooperation among States in accordance with the United Nations Charter of 1970, Chapter I and Articles 24 and 26 of the Charter of Economic Rights and Duties of States of 1974, and Article 3 of the United Nations General Assembly resolution on the definition of aggression, and the principle of good neighborliness, they are equal in full respect and protection, based on the principle of good faith, to their sovereignty and rights (including the right to live in security and the preservation of their territories), their duties, their eligibility, and the exercise of their rights, and the prevention of interference in their internal affairs.

And since Article 18 of the Vienna Convention on the Law of Treaties of 1969 binds Iran, by signing and not ratifying the United Nations Convention on the Law of the Sea of 1982, to refrain from acts that impede the object or purpose of the treaty; Iran has violated all these international laws by engaging in numerous unlawful acts without legal justification:

a) Escalating tensions in 2001 by deploying drilling equipment near its side of the field.

b) Declaring its intention to produce oil from the continental shelf area of the field unilaterally, in the absence of an agreement with Kuwait.

c) Announcing in January 2001 its unilateral intention to implement a comprehensive development project for the Dorra field if Kuwait does not agree to an Iranian joint development proposal, and launching its operations for such development (and production) without waiting for Kuwait's response.

d) Iranian military ships entering Kuwaiti and Saudi maritime areas in May 2016.

e) Asserting its alleged right to use the gas field in the manner it deems appropriate, in accordance with "previous agreements," and reiterating that any work in this field must be coordinated by the three countries.

f) Declaring in March 2023 its drilling operations in the Dorra field "considering that there are parts of the field within the undemarcated waters between Iran and Kuwait."

g) Escalating its unjustified demands in May 2023 by claiming that the Dorra field is located in its territorial waters.

h) Announcing at the beginning of July 2023 its intention to conduct drilling operations at the site as part of its plan to develop the disputed field.

i) Resuming exploration in the field in 2001.

j) Describing the agreement concluded between Kuwait and Saudi Arabia in March 2022 as "illegal," and emphasizing the need for its participation in any measures targeting the work and development of the field.

k) Declaring its imminent start of drilling operations in the Dorra field by installing the base, affirming that the unilateral actions of Kuwait and Saudi Arabia do not prevent the implementation of the mentioned project, and that it will continue its comprehensive studies in the field as a prelude to the installation of drilling platforms and seismic studies.

l) Warning against "Saudi Arabia's depletion of border oil fields."

In addition, since Article 10 of the Montevideo Convention, Article 2(3) of the United Nations Charter, Article 279 of the United Nations Convention on the Law of the Sea, and the principle of "the duty of states to cooperate with each other in accordance with the Charter" contained in the principles of international law relating to friendly relations and cooperation between states, stipulate that countries must settle their international disputes by peaceful means; Iran has violated these international legal provisions by: rejecting in 2003 Kuwait's invitation to submit their dispute to international arbitration, refusing repeated invitations from Kuwait and Saudi Arabia to demarcate their maritime boundaries with them, or not responding to them.

3. Iran's undermining of Kuwait and Saudi Arabia's (developing countries) right to comprehensive development of their states:

Since the principle of "the duty of states to cooperate with each other in accordance with the Charter" contained in the principles of international law relating to friendly relations and cooperation between states, according to the United Nations Charter, states are required to conduct their international relations in the economic fields in accordance with the provisions of the relevant Charter; and since Article 27 of the Charter of Economic Rights and Duties of States refers to the right of each state to enjoy full benefits of envisaged financial trade and to participate in expanding this trade, and the need for all states to cooperate with developing countries in their efforts to enhance their ability to earn foreign exchange from non-envisaged transactions according to the capacities and needs of each developing country; the aforementioned Iranian violations undermine Kuwait and Saudi Arabia's (developing countries) right to comprehensive development of their states; because they either maintain the tense situation as it is, or threaten to undermine Kuwait and Saudi Arabia's enjoyment of their sovereign rights over the field in the present and future.

Conclusions:

Currently, Kuwait and Saudi Arabia alone have the right to enjoy sovereign rights over the Dorra gas field, in accordance with sources of international law represented in international conventions, customary international law, general principles of law, and bilateral contractual agreements concluded between them, until Iran accepts the demarcation of its maritime boundaries with the two countries, and grants it the same sovereign rights. Iran has always tried, including recently, to undermine and cut off Kuwait and Saudi Arabia's enjoyment of their sovereign rights over the field - indirectly undermining their right as developing countries in the comprehensive development of their two states, through actions and making many unauthorized international statements, for which it bears legal responsibility.

Ms. Maha Mahmoud
Researcher at Saif Bin Helal Center for Studies and Research in Energy Sciences (SBHC)

Economic Significance of Dorra Field

Introduction:

There is no doubt that energy sources are of utmost importance in shaping the economic and political features, with significant implications for international relations. They have been and continue to be a major source of regional crises and wars, and it is impossible to imagine the continued prosperity of industrialized nations without access to various energy resources. The issue of energy is currently one of the most important issues in international relations, whether political or economic. Many experts in all fields expect that energy will dominate future international and political discussions among nations.

This interest stems from the pivotal role that energy sources have played since the early twentieth century, contributing strongly to economic growth in both producing and consuming societies. The pivotal role they play between producers, whether companies or countries, and consumers, whether individuals or governments, during times of crisis and stability has led to energy sources acquiring significant media and political influence.

In this context, the current issue of the magazine highlights the importance of the topic we will analyze, which concerns one of the important fields of oil and natural gas, namely the "Dorra Field". This field has been the center of a long-standing conflict between three countries, namely Saudi Arabia, Kuwait, and Iran. Despite the importance of the field and its discovery many years ago, it was supposed to have been operational for a long time. However, its border location has caused delays due to the disputes surrounding it.

Whereas Dorra Field is located in the overlapping maritime area that has not been demarcated between Kuwait and Iran. It extends along the shared borders between Kuwait, Iran, and Iraq, and the field takes the form of a water triangle divided into three sections. The first section is located in Iranian waters from the north, the second section is within Kuwaiti waters, and the third, which is the southern part, is located in the shared waters between Kuwait and Saudi Arabia.

The Economic Significance of Dorra Field:

All theories of international relations revolve around their attempts to focus on economic security, especially energy security. This is because the majority of major countries in the world now rely more on their economic strength than their military strength, which has made economic importance increase significantly in light of new international developments. Given that energy is one of the most important components of economic security, it is considered a vital economic resource and a strategic goal that everyone seeks to possess. Therefore, the importance of the energy sector as a strong arm of national security lies in being one of the most prominent issues of internal security. In general, the relationships that arise between energy-producing and consuming countries create a state of instability, especially if there is a shortage in energy supplies from the producing countries, which makes the producing countries always possess a deterrent power.

On the other hand, the use of energy sources helps countries in their production to use energy as a strategic weapon, either directly or indirectly. From another perspective, energy sources, as vital and strategic resources, affect a country's global status and its adherence to an active foreign policy and its position in the international system. Major countries attach great importance to the role of energy and the necessity of securing their sources to prevent their industries and economic growth from being affected. On the other hand, oil and energy-producing countries exploit this advantage in their foreign policies and international relations in order to achieve maneuverability.

All countries in the world, especially global powers, seek to control and dominate energy sources globally in order to achieve many goals. Foremost among these goals is that a country's dependence on energy sources reflects its impact on the speed of its national economy, which works to enhance its influence and strength as a politically and economically characterized state. This is reflected in its effective and strong presence at both the regional and international levels, which also ensures an effective role in international issues. In addition, by depending on energy sources and their resources, a country obtains economic and political advantages, including the advantage of providing security, which is accompanied by cases of political stability, considered a fundamental pillar for economic and political development in the country. This has effects on its external relations and the enhancement of its international policy.

The importance of the Dorra Oil and Gas Field comes from the fact that it represents a point of conflict between Iran, Kuwait, and Saudi Arabia. Dorra Field has a vast reserve of oil and gas and is considered one of the most important gas fields in the region, especially with the development projects of the shared field, in order to meet the increasing demand for gas in these countries. The field was discovered in 1960, but oil and gas extraction has not been directly carried out due to international disputes between neighboring countries. The lack of investment in the field is not due to technical reasons, but rather to reasons related to demarcating the boundaries of the area where the field is located, which is shared between Iran, Saudi Arabia, and Kuwait.

The majority of this field is located in the countries of Kuwait and Saudi Arabia, with one-third of the northern field located in Iranian territorial waters and one-third of the southern field in the shared territorial waters of Kuwait and Saudi Arabia. The field takes the shape of a triangular water area and has significant geographical and economic importance due to its location, in addition to the vast quantity of gas it possesses.

This field has a large stock of oil and gas, with its reserves estimated at 300 million barrels of oil and 11 trillion cubic feet of natural gas. The company responsible for the Dorra Oil Field is the National Iranian Oil Company, in partnership with the Khafji Joint Operations (a joint venture between Kuwait Gulf Oil Company and Aramco Gulf Operations). The dispute over this field began when Iran granted exploration and exploitation rights to the Anglo-Iranian Oil Company, while Kuwait granted the license to Royal Dutch Shell. The licenses overlapped in the northern part of the field.

Undoubtedly, Saudi Arabia and Kuwait need every bit of gas they can produce, and Kuwait may need gas more than Saudi Arabia, as Saudi Arabia has multiple natural gas projects and will add two billion cubic feet per day of unconventional gas from the Jafurah field in a few years. This is part of Aramco's efforts to increase gas production, which will undoubtedly raise its production capacity to over 23 billion cubic feet per day within a decade or less. Its total production reached about 18 billion cubic feet per day by the end of 2022. On the other hand, Kuwait does not have much free gas except for some gas from Jurassic reservoirs, which is considered sour gas and requires more processing for use. Kuwait also purchases 3.5 billion cubic meters of gas at a high price despite having rights to the field and investing in expensive infrastructure for its liquefaction. Therefore, Kuwait is in desperate need of the Dorra field, as it is one of the main gas fields that Kuwait heavily relies on to meet its future gas needs.

The governments of Saudi Arabia and Kuwait are looking to benefit from the field due to the current direction of both countries, working towards achieving comprehensive economic and cultural growth in vital sectors, completing the infrastructure for the requirements of new global technology, and meeting the citizens' need for prosperity and updating their lifestyles. The development of the field will contribute to the development of both Kuwait and Saudi Arabia in the next phase, supporting growth in various vital sectors in both countries, as it is expected to meet the local demand for natural gas and its liquids in Saudi Arabia and Kuwait, especially in light of the ongoing war between Russia and Ukraine, as Russia is one of the world's largest exporters of gas and oil, and there is fear of a halt or shortage in gas and oil exports due to the war and the economic blockade imposed on Russia. The ongoing conflict between Russia and Western Europe and America is expected to last for a long time, and the economic blockade of Russia by the West is expected to continue for years to come.

The value of gas and petroleum condensates in the field is estimated to be equivalent to current oil prices and according to estimates of confirmed gas reserves, it is about 25 trillion cubic feet, equivalent to about half a trillion dollars.

Estimates of the gas resources in the field vary greatly, with some indicating that there are 60 trillion cubic feet, while other estimates suggest it contains 10-13 trillion cubic feet and 300 million barrels of oil. Production estimates also vary, with some estimates around 800 million cubic feet per day and others at one billion cubic feet per day, along with 84,000 barrels per day of oil. According to a joint statement by Saudi Arabia and Kuwait, it is expected that the development of the Dorra field will lead to the production of about one billion standard cubic feet of gas per day, as well as the production of 84,000 barrels of condensates per day.

Saudi Arabia and Kuwait are working to increase crude oil production in the neutral zone, in which they share equal production and reserve capacities for oil and gas. Crude oil exports from the neutral zone in 2021 ranged from a low level of 158,000 barrels in August to a peak level of 257,000 barrels in November, according to data from Kepler, which showed that exports are consistently heading to India, China, South Korea, and the United States.

Regarding the neutral zone fields, which are located in the shared land and sea territories between Kuwait and Saudi Arabia, the production is divided equally between the two countries. The offshore Khafji field is operated by Aramco Gulf Operations Company in Saudi Arabia and Kuwait Gulf Oil Company. Meanwhile, the onshore Wafra field is operated by Chevron Arabia Company in Saudi Arabia and Kuwait Oil Company. The resumption of production in the Khafji field took two months to reach its maximum capacity of around half a million barrels per day by the end of 2020. Kuwait announced the trial pumping in the Wafra field in mid-February 2020, as Chevron started preparations for production since then, following Kuwait's assumption of the joint operations presidency in the Wafra field at the end of January 2020. This came after a Saudi-Kuwaiti agreement in December 2019, which facilitated the return of production in both the Khafji and Wafra fields.

The divided neutral zone between the two countries is characterized by types of heavy sour crude oil, the global supply of which has been reduced due to decreased supply from Iran, Venezuela, and other unstable regions. Chevron and Kuwait Gulf Oil Company jointly carry out exploration, development, and petroleum production in the onshore part of the divided zone, including the Wafra field, South Umm Gudair, South Fawares, Arq, North Wafra, and Huma. It also mainly produces heavy oil from ten reservoirs. While Al-Khafji's joint operations include exploration, development and production of oil in the maritime region of the divided region shared between the two countries includes oil and gas fields in the Khafji, Lulu, Al-Hawt, and Dorra regions.

Now we will highlight the role of the energy sector in the three countries involved in the dispute over the Dorra field to clarify the importance of the field for each country and the prominent role played by the energy sector in the economic growth of these countries.

1- The Role of the Energy Sector in Saudi Arabia.

First: the oil sector:

The Kingdom has enjoyed a leading position in the global petroleum industry and has used this position to achieve stability and balance in the global oil markets. It participated in the establishment of the Organization of Petroleum Exporting Countries (OPEC) in 1960, along with Kuwait, Iraq, Iran, and Venezuela. It also participated in the establishment of the Organization of Arab Petroleum Exporting Countries (OAPEC) in 1968. The Kingdom's massive oil reserves are among the lowest cost in the world. The Kingdom owns 19% of the world's reserves, 12% of global production, and over 20% of petroleum sales in the global market. It also has refining capacity of over five million barrels per day, domestically and internationally, and its proven oil reserves are estimated at around 267 billion barrels. The Kingdom's influential role in the global energy sector was highlighted during the COVID-19 pandemic, where it reached a historic OPEC+ agreement and made efforts to enhance countries' compliance with their production cuts and compensate for excess production. The impact of reaching this agreement on the stability of global markets was significant.

Table showing revenues from oil resources in Saudi Arabia (% of GDP)

Year	2010	2011	2012	2013	2014	2015
Petroleum Sources Revenues (% of Total Local Production)	37.901	49.161	47.409	44.456	40.32	23.956
Year	2016	2017	2018	2019	2020	2021
Petroleum Sources Revenues (% of Total Local Production)	20.005	23.617	28.084	24.329	15.978	23.686

Source: World Bank data.

Second Gas Sector:

Natural gas is one of the important natural resources in the Kingdom, and the Ministry of Energy is striving to maximize its utilization through exploration, production, and investment operations. Natural gas is used to meet the increasing demand for energy in the local market, where it is used as fuel for power generation plants and desalination of water, in addition to being used as a basic material for several conversion industries, as well as fuel in other industrial sectors. It is worth mentioning that the Kingdom is the seventh largest market for natural gas in the world, and despite the ability of the main gas network to eliminate flaring, the gas flaring intensity in gas plants is the lowest in the world, being less than 1%. The Kingdom aims to completely stop routine gas flaring in gas plants by 2030.

A table illustrating electricity production from Gas Resources in Saidu Arabia (as a rate of Total)

Year	2000	2001	2002	2003	2004	2005	2006	2007
Electricity Production from Natural Gas Sources (% of Total)	46.0318	52.4698	55.84	54.843	56.94	56.492	53.25	50.240
Year	2008	2009	2010	2011	2012	2013	2014	2015
Electricity Production from Natural Gas Sources (% of Total)	48.825	44.812	46.140	43.33	44.683	52.75	51.16	55.80

Source: World Bank data.

Table showing revenues from Natural Gas resources in Saudi Arabia (% of GDP)

Year	2010	2011	2012	2013	2014	2015
Natural Gas Resources Revenues (% of Total Local Production)	0.933	0.986	0.99721	1.0099	0.96400	0.84161
Year	2016	2017	2018	2019	2020	2021
Natural Gas Resources Revenues (% of Total Local Production)	0.6833	0.8032	1.107	1.0798	1.277	1.715

Source: World Bank data

As previously mentioned, thermal energy sources such as oil and natural gas dominate the energy generation mix in Saudi Arabia, indicating the importance of energy sources and the need to increase them. In 2020, 340.9 terawatt-hours of electricity were produced from traditional heat, representing 99.8% of the total electricity generated in the country. At the end of 2020, Saudi Arabia had 40.9 billion metric tons of confirmed crude oil reserves, ranking second after Venezuela. In the same year, the total gas reserves in the country reached 212.6 trillion cubic feet. In recent years, Saudi Arabia has seen an increase in electricity generation from gas-powered plants, while the production of crude oil has decreased. This shift is a result of the global movement towards cleaner energy sources. In 2020, electricity generation from oil reached 132.8 terawatt-hours, while gas-generated power reached 207 terawatt-hours. In January 2022, Dhurma Electricity Company completed the $1.2 billion refinancing of the gas-powered PP11 electricity generation plant in Saudi Arabia, which has a joint cycle capacity of 1730 megawatts and is located about 135 kilometers west of Riyadh.

The contribution of crude oil and natural gas activities reached 32.7%, followed by government services at 14.2%, non-oil manufacturing activities at 8.6%, and wholesale and retail trade, restaurants, and hotels at 8.2%.

In the fourth quarter of 2022, the Saudi oil sector contributed about 34.4% of the country's total gross domestic product, which recorded 1.023 trillion riyals. The total gross domestic product of oil activities increased significantly from 919.929 billion riyals in 2021 to 1.608 trillion riyals in 2022. Saudi oil export revenues in 2022 achieved an annual growth rate of 61.42%, reaching their highest level since 2012. The value of Saudi oil exports increased to $326.16 billion in 2022, compared to $202.05 billion in 2021.

Estimates indicate that the real GDP of the Kingdom of Saudi Arabia for the first quarter of 2022 achieved the highest increase since 2011, with a growth rate of 9.6% on an annual basis. This growth is attributed to a 20.4% increase in oil activities and a 3.7% increase in non-oil activities, in addition to a 2.4% increase in government services activities.

The Kingdom of Saudi Arabia has implemented the comprehensive energy efficiency program, the Saudi Energy Efficiency Program, based on international best practices. This includes all major energy consumption sectors, as well as prioritizing institutional aspects and capacity building, including the establishment of an energy efficiency market framework that includes energy services companies and a set of regulatory measures to drive the market.

The main goal of the Kingdom is to reduce the use of oil and gas in energy generation. In 2017, the country launched the National Renewable Energy Program (NREP), which is a strategic initiative within the Vision 2030 and the King Salman Renewable Energy Initiative. The program aims to maximize the potential of renewable energy in the country. In January 2020, the country launched the third round of the National Renewable Energy Program. The third round consisted of four photovoltaic solar energy projects with a combined generation capacity of 1,200 megawatts.

And oil supplies are of vital importance to the Kingdom. The steady flow of Saudi oil is crucial to both the global markets and the Kingdom itself. Saudi Arabia is the world's largest source of crude oil and consistently ranks among the top three producers (alongside the United States and Russia). The importance of Saudi production to the global markets lies in the necessity for the national oil company, Aramco, to maintain a plentiful supply of crude oil to compensate for any disruptions that may result from sabotage, technical failures, or natural disasters. The Kingdom also makes significant efforts to sustain its stable role in the global market. These efforts have been demonstrated in recent years through its leadership in dialogue between consumers and producers, hosting the headquarters of the International Energy Forum in the Diplomatic Quarter of the capital, Riyadh, and providing financial support to the initiative. The majority of gas in Saudi Arabia (approximately 57%) is found in oil fields, specifically in fields that contain layers of both oil and gas.

And from the above, the role of the oil and gas sectors in the economic growth in the Kingdom of Saudi Arabia is clear. Saudi Arabia relies on oil revenues to finance its public budget and has a significant impact on the global oil market through its adopted policies and its oil reserves. Alongside its increasing oil exports, oil revenues also contribute significantly to the development of various economic sectors, which in turn helps achieve economic development goals. Oil is also considered a strategic commodity, which is why owning oil resources in Saudi Arabia is important.

2- Oil and Gas Sectors Role in the Kuwait Economy:

The oil and natural gas sector represent the natural wealth of Kuwait and is the main source of its national income. With the start of oil exports, a new phase began in the country's economy and played an increasingly important role in the growth of the national economy. Oil was discovered by Kuwait Oil Company in the Burgan field, but the first oil shipment was not exported until 1946. However, it was built at Al-Ahmadi Port and its refinery, with a capacity of 25,000 barrels per day, as well as a power station and seawater distillation plant, were established in 1949. Oil was also discovered in Rawdatain in northern Kuwait in 1955, and production began in the western Yarak field in 1960. By 1965, the companies had produced a billion tons of oil. In 1991, the first shipment of Kuwaiti crude oil was exported after a year-long hiatus due to the fires and destruction caused by the Iraqi invasion. That shipment amounted to 260,000 tons. In October 1999, Kuwait and South Korea signed two oil agreements to enhance oil cooperation, with Kuwait supplying Korea with 210,000 tons annually. In 2006, natural gas was discovered in Kuwait for the first time in large quantities. On August 17, 2009, Equate Petrochemical Company announced the start of commercial operations for its ethylbenzene and styrene monomer plant, with a production capacity of up to 450,000 metric tons per year. This was the first time this substance was produced in Kuwait. In 2010, Kuwait Oil Company's production capacity reached three million barrels per day for the first time. In 2011, the Kuwait Oil Tanker Company's fleet consisted of 24 tankers. In 2012, Kuwait Oil Company signed an agreement with the World Bank to reduce global gas flaring rates and optimize renewable energy resources. In 2013, a new oil field with commercial quantities of oil and gas was discovered in the Kabed Area in western Kuwait. In 2014, the Petrochemical Industries Company achieved a net profit of 230 million dinars, thanks to the continued financial success of participating companies.

Table showing revenues from oil resources (% of GDP)

Year	2010	2011	2012	2013	2014	2015
Oil Resources Revenues (% of GDP)	48.190	58.368	57.412	55.55	53.239	36.448
Year	2016	2017	2018	2019	2020	
Oil Resources Revenues (% of GDP)	31.673	36.009	44.0490	38.655	27.5816	

Source: World Bank data.

Table showing revenues from oil resources (% of GDP)

Year	2010	2011	2012	2013	2014	2015	2016
Oil Resources Revenues (% of GDP)	0.6353	0.7003	0.7315	0.7843	0.731	0.864	0.6903
Year	2016	2017	2018	2019	2020		
Oil Resources Revenues (% of GDP)	0.6903	0.74817	1.10292	1.1829	1.70268		

Source: World Bank data.

It is evident from the previous data that Kuwait heavily relies on oil export revenues, as the oil sector accounts for about 90% of export revenues and represents about 40% of the total GDP. Like all oil-producing countries, Kuwait faces changes in the energy world, as shifts in supply, demand, and technology have resulted in a volatile oil market and market uncertainty.

Today, Kuwait heavily depends on oil and natural gas products to meet its energy needs, with both fuel categories representing half of the total primary energy consumption. While Kuwait is an oil producer, it is a major importer of liquefied natural gas due to insufficient gas reserves. There is also a trend towards replacing oil with natural gas in the electricity generation sector to retain oil export revenues for savings and investment. Government plans also include increasing the share of renewable energy in the electricity generation mix. However, renewable energy currently meets less than 1% of the energy demand today.

3- Energy Sector Role in Iran

Iran is one of the world's major energy giants due to its confirmed reserves of oil and natural gas. Tehran possesses the fourth-largest confirmed oil reserve and the second-largest natural gas reserve in the world. Iran is also ranked among the top ten crude oil producers. The oil industry plays a significant role in Iran's economy, being the most important sector that provides foreign currency for the Iranian economy. Currently, Iran supplies about 5% of the world's consumed oil. In 2004, Iran produced 5.1% of the world's total crude oil, which amounted to 3.9 million barrels, resulting in revenues ranging from 25 to 30 billion US dollars.

The main source of Iran's income came from foreign oil revenues. In 2006, oil revenues accounted for about 18.7% of the GDP. However, the hydrocarbon sector's importance in the Iranian economy was much greater. The oil and gas industry drove economic growth, directly affecting public development projects, the government's annual budget, and most foreign currency sources.

On the other hand, Iran controls the Strait of Hormuz, a major passage for crude oil and liquefied natural gas exports from Arab Gulf countries. Additionally, Iran is one of the founding members of the Organization of the Petroleum Exporting Countries (OPEC), which was established in 1960 due to its status as one of the largest oil-exporting countries. Iran also requires massive investments to develop its energy sector, which provides significant opportunities for many global energy companies.

Iran plans to improve its production capacity of crude oil and natural gas by developing its oil fields. The country also aims to attract new investors and oil companies to invest in its exploration and production sector.

Iran is one of the largest countries in terms of energy reserves. In 2012, Iran was the second-largest source among the Organization of the Petroleum Exporting Countries. In the same year, Iran's annual oil and gas revenues amounted to approximately $250 billion in 2015.

In 2018, Iranian crude oil exports exceeded 1.5 million barrels per day in May, the highest monthly level since 2018. Exports reached 2.5 million barrels per day in 2018 before the United States withdrew from the nuclear agreement. Iran has increased its crude oil production to 2.9 million barrels per day, the highest level since late 2018.

Regarding gas, Iran exports significant quantities to Turkey and Iraq, but supplies have been irregular due to domestic shortages. Increasing confirmed sales to Turkey could displace Russian gas there, provide liquefied natural gas imports, and allow for the flow of additional gas through Turkey to Southeast Europe, which would help achieve European energy security goals.

Table Shows Oil Resources Revenues in Iran

Year	2010	2011	2012	2013	2014	2015
Oil Resources Revenues (% of GDP)	20,2248	22,3514	18,412	21,2565	21,2353	12,2663
Year	2016	2017	2018	2019	2020	2021
Oil Resources Revenues (% of GDP)	10,8895	14,6204	27,6646	20,0780	13,2733	18,265

Source: World Bank data.

Table Shows Natural Gas Resources Revenues in Iran

Year	2010	2011	2012	2013	2014	2015
Natural Gas Resources Revenues (% of GDP)	1,86108	1,91739	2,01887	2,71871	2,97411	2,62955
Year	2016	2017	2018	2019	2020	2021
Natural Gas Resources Revenues (% of GDP)	1,9183	2,33627	5,80900	6,82201	8,49623	8,8088

Source: World Bank data.

Prominent Agreements and Events

There have been several rounds of negotiations between Kuwait and Saudi Arabia to begin extracting resources from the Dorra gas field, which the countries share. Since a large portion of Saudi Arabia's oil production is used to generate electricity in power plants, the kingdom has sought to increase its share of natural gas and renewable energy. As shale gas extraction in Saudi Arabia becomes more economical, some sources estimate that the kingdom could increase its oil production and export capacity by around 1.5 million barrels per day, which could be a significant shock to the market.

- Iran escalated the risks in 2001 by drilling equipment alongside its field, prompting Kuwait to lodge a series of complaints with international organizations. Apparently, in an attempt to maintain good neighboring relations to help solve the problem and define the boundaries of exploration activities, Iran voluntarily halted field development. Kuwait followed suit, suspending a joint project it had started with Saudi Arabia in 2000. Over the next two decades since 2001, Iran prepared a plan to begin extracting energy resources from the disputed field.

- On June 7, 2006, Kuwait and Saudi Arabia agreed to develop the Dorra Gas Field to reach a production of around 600 million cubic feet of gas within about four years, to be equally shared between the two countries. But nothing happened.

- Official discussions on field developments were difficult as both Saudi Arabia and Kuwait sought to exploit resources according to their own schedules, needs, and strategies. Oil field development remained the focus of governments with onshore abundance fields, and the offshore Khafji field was under development while Dorra's exploitation was not addressed. In the early years of the 21st century, with both countries' increasing demand for gas, discussions were resumed between Saudi Arabia and Kuwait regarding the joint development of the Dorra field. In 2013, both countries suspended negotiations due to differences in pipeline routes and gas production sharing. The produced gas was delivered to the Saudi-controlled section in the neutral New Zealand area, which Kuwait rejected, indicating a lack of trust between the two countries. In the subsequent years, 2014-2015, the ongoing operational disputes led to conflicts that ultimately resulted in the suspension of oil production from the neutral zone fields, and Dorra's development plans came to a halt again.

- In August 2015, Tehran presented two projects to develop the extension of the field to foreign companies, and in 2016, Iran sought to develop the field alone, causing a diplomatic issue between Iran and Kuwait.

• Following the 2019 attacks on the Abqaiq oil facilities in the Kingdom of Saudi Arabia, in which Riyadh accused Iran of being behind it, tensions between Tehran and Riyadh reached their peak. Tehran strongly denied Saudi Arabia's accusations of complicity in the attacks. Furthermore, tensions remain high between the two countries due to the ongoing Saudi war in Yemen. Despite Iran publicly denying its involvement in the war, Saudi authorities have provided evidence that Tehran has supplied the Houthis with ballistic missiles, drones, and other conventional weapons. To resolve the issue, leaders from Tehran and Riyadh met in Baghdad five times, with the Iraqi government playing the role of mediator in the hope that the Saudi-Iranian tensions would lead to a decrease in violence in Iraq, which has been a frequent battleground for their disputes in recent years.

• On December 24, 2019, Saudi Arabia and Kuwait signed a memorandum of understanding for joint work on the development and exploitation of the Dorra field. The field's production will be divided equally between the two countries according to the agreement, with Saudi Aramco receiving the Saudi share, while the Kuwait Gulf Oil Company will receive the Kuwaiti share. The countries agreed to resume production from the neutral zone fields, which served as an indication that broader talks could resume in the Dorra field. In late 2020, both countries announced that they would appoint a technical advisor to review and assess the field's development plan, production expectations, storage options, development costs, and determine each country's gas share.

• Both Kuwait and the Kingdom of Saudi Arabia signed an agreement to develop the field on March 21, 2022, where Saudi Armco Gulf Works Company and Kuwait Gulf Oil Company signed a memorandum of understanding to develop the Dorra field for shared gas between the two countries, under the auspices of Saudi Energy Minister Prince Abdulaziz bin Salman and Kuwaiti Oil Minister Badr Al-Mola. This led to an increase in conflicts between Kuwait and Iran.

They announced that the Dorra gas field would provide about one billion standard cubic feet of non-associated gas and 84,000 barrels of liquefied gas per day, shared equally between the partners. The signing of the memorandum is the implementation of the Dorra field development agreement signed in March 2022, so that work on the Dorra field development project will be resumed immediately, and work will be accelerated according to the implementation plan and timeline approved by both countries.

The development of the field came as a result of the memorandum of understanding signed by the Kingdom of Saudi Arabia and the State of Kuwait in Kuwait on December 24, 2019, which included joint work on the development and exploitation of the Dorra field.

This and the area divided between Kuwait and Saudi Arabia contain vast quantities of natural gas and heavy and medium crude oil, which global oil and energy companies seek to exploit. However, the region has been experiencing oil production crises for many years, with a production halt of 5 years due to environmental crises. The divided region, which includes the Dorra field, is one of the richest oil areas, with an area of about 5,770 square kilometers. The first agreement regarding it was between Saudi Arabia and Kuwait in 1965, after the discovery of massive oil quantities there for the first time.

The Joint Area Agreement between the Kingdom of Saudi Arabia and the State of Kuwait is an agreement to share resources, whether in Saudi Arabia's Khafji or Kuwait's Wafra, regardless of the quantities of oil or gas. This means that everything beneath it is divided equally between them according to the agreement. The Saudi Ministry of Foreign Affairs issued a statement stating that the ownership of natural resources in the divided submerged area, including the Dorra field, is jointly owned by the Kingdom of Saudi Arabia and the State of Kuwait only, and that the two countries have exclusive sovereign rights to exploit the resources in that area. They also renewed previous calls for Iran to begin negotiations to demarcate the eastern border of the divided submerged area between the Kingdom and Kuwait as a single negotiating party against the Iranian side, in accordance with international law. It is expected that this important project will open up broad opportunities for the development of oil operations in the neutral zone.

Kuwait is the most in need of local gas resources, so the development of the Dorra field ranks higher on its priority list than Iran or Saudi Arabia, both of which have local resources that still need to be exploited. However, the Dorra field poses a regional concern for both Saudi Arabia and Iran because both will seek to protect what they consider to be within their legitimate resources.

For Kuwait, the risks are high, as dividing production by 50% by 1.0 billion cubic feet per day would only provide more than 12% of the expected 4.0 billion cubic feet per day the country will need by 2030. As for Saudi Arabia, an additional 0.5 billion cubic feet will only add 3% to current daily gas volumes. As for Iran, assuming participation and exploitation, the addition to its total production is less than that because any production from the Dorra field is overshadowed by the giant Pars field. However, all three countries suffer from a gas shortage and cannot meet their domestic needs.

According to a statement issued by Saudi Arabian Oil Company "Aramco" in February 2022, its net profit in the third quarter increased by 39% thanks to the increase in crude oil prices and quantities sold, surpassing expectations. It also announced that the company's net income rose to $42.4 billion in the quarter ended on September 30, from $30.4 billion a year ago. This slightly exceeds the average expected net profit of 16 analysts, which was $41.7 billion. The company's results showed a 51% increase in revenues to $145 billion in the third quarter of 2022, compared to $95.6 billion recorded in the same period a year ago. The company's free cash flows increased to $45 billion from $28.7 billion a year ago.

And the decision of the Arab Economic and Social Development Summit in its third session in Riyadh on January 22, 2013, to adopt the Arab Strategy for the Development of Renewable Energy (2010, 2030) as a framework for Arab joint action in the field of renewable energy, which includes that the percentage of renewable energy sources in electricity production in the Arab region will reach 5.1% by 2020, as announced by the Arab countries' goals (Resolution No. 234 of 2014), and the Arab Ministerial Council for Electricity decided in its twelfth session to request Arab countries to develop their national plans for renewable energy to align with the framework.

In conclusion, the disputes over the Dorra field highlight the complexities and many obstacles associated with regional oil and gas resources. As mentioned above, we have highlighted the role of the energy sector in the three countries involved in the conflict, and the extent to which each relies on petroleum and gas sources as the main source of energy generation, economic growth, and their efforts to diversify energy sources and explore more energy sources. The blame is placed on the sanctions that have contributed to slowing down investment and technological innovation and hindering the ability of the three countries to harness their oil and gas resources. Despite the improvement in relations between the three countries, a decision must be made regarding maritime boundaries and a fair division of shares. All parties involved could benefit from cooperation in the development of the Dorra field, which would contribute to the stability of energy supplies in the region. Fully utilizing the joint oil and gas resources in the region requires continuous communication, diplomatic efforts, and a sincere desire to reach solutions that benefit all parties.

Mr. Ahmed Abou Youssef
Researcher at Saif Bin Helal Center for Studies and Research in Energy Sciences (SBHC)

The Impact of the Arab-Iranian Dispute over Dorra Field on Gulf Security

There are internal and external challenges facing the Gulf countries, and Iran is one of the most important of these threats. After the signing of a Saudi-Iranian reconciliation agreement, sponsored by China in March 2023, it was expected that Iran would change its behavior in the region, paving the way for resolving crises in Syria, Iraq, and Yemen. But contrary to expectations, Iran has once again raised concerns among the Gulf countries after announcing its desire to explore for oil in the "Saudi-Kuwaiti" Dorra field. Iran claims, through its foreign minister, that it has rights in the field, which is connected to the Iranian Arash field. Kuwait has emphasized the importance of negotiation to resolve disputes and has called on Iran not to take any unilateral actions until the maritime borders between the two parties are demarcated.

The dispute over the Dorra field is not just a political dispute over demarcating maritime borders between two countries, but it is a manifestation of Iran's ongoing attempts since 1979 to expand its influence in the Arabian Gulf at the expense of the national security of the Gulf countries. In this part, the study defines the national security of the Gulf countries and how the oil wealth forms a fundamental national pillar for the renaissance of the Gulf countries. The study also examines the impact of the dispute over the Dorra field on Gulf security.

a) Definition of National Security in the Arab Gulf: There are many different definitions of national security regarding the Gulf countries. Generally, national security for a region (where multiple countries share the same region) can be defined as a set of threats that can affect the security, economic, political, and strategic situation of the countries in the region. There is a clear distinction between the realist and liberal theories in defining national security for countries, with the latter providing a range of theoretical frameworks that primarily focus on the role of non-state actors such as international governmental and non-governmental organizations. The liberal theory also places great emphasis on non-military matters.

In this regard, national security for the Gulf countries can be defined as a set of measures taken by the Gulf Cooperation Council countries to counter the various threats facing the Arab Gulf region. The main threat to the Gulf countries comes from Iran, which is attempting to exert its power to control the important oil resources in the Arab Gulf. The Arab Gulf region is one of the most important regions in the world due to its significant oil wealth, which supplies the world with oil. According to statistics, the total oil reserves of the Gulf Cooperation Council countries (Saudi Arabia, Bahrain, Qatar, Oman, the UAE, and Kuwait) exceed 510 billion barrels, accounting for 32.7% of the world's confirmed reserves of 1.55 trillion barrels. The total oil production of the Gulf countries is approximately 18 million barrels per day, representing 19% of the world's total demand of approximately 99 million barrels per day. Saudi Arabia is the second-largest confirmed crude oil reserve holder according to the Ministry of Energy in the Kingdom, with over 270 billion barrels, accounting for approximately 17.3% of the global reserves.

Saudi Arabia is the third largest producer of crude oil in the world, with an average daily production of 10.2 million barrels, according to OPEC data. It is also the largest source of crude oil, with an average of 6.9 million barrels per day. Saudi oil accounts for approximately 10.7% of the world's daily crude oil demand, rising to 13% when produced at maximum capacity. The UAE has confirmed reserves of 107 billion barrels, ranking fifth in the world after Venezuela, Saudi Arabia, Iran, and Iraq. The UAE currently produces about 3 million barrels per day, representing 3.4% of global daily demand. Kuwait, with the sixth-largest oil reserves in the world at 101.5 billion barrels, produces about 2.62 million barrels per day, accounting for 2.9% of global demand. Like Saudi Arabia and UAE, Kuwait has an immediate ability to produce up to 3.2% of production, representing 3.6% of the total demand. Oman produces an average of 1 million barrels of crude oil per day, accounting for 1.1% of global demand. By the end of 2020, the expected reserves of crude oil and petroleum condensates for the Sultanate reached approximately 4.706 billion barrels. Bahrain is a small crude oil producer, producing less than 350,000 barrels per day, while Qatar produces an average of 700,000 barrels per day. Except for Qatar, Gulf countries are natural gas producers, meeting most of their domestic needs and exporting a small portion. But Qatar is the largest producer of liquefied natural gas in the world, producing over 110 million tons annually, and aims to reach 127 million tons by 2027. Qatar produces 205.7 billion cubic meters of natural gas annually, accounting for 5.34 percent of global production, which exceeds 3.84 billion cubic meters.

According to these numbers, the importance of the Arabian Gulf region in the traditional energy industry is evident, especially during times of geopolitical crises between countries. Naturally, all oil is exported to the world through the Strait of Hormuz, which Iran always threatens to close in case of a military attack from the West as a means of pressuring Western countries to make concessions regarding its nuclear program. Despite not having an advanced navy, Tehran plans to heavily target ships passing through the strait and the Arabian Gulf region in general with missile attacks, which will certainly prevent oil and gas tankers from transporting their cargo.

Despite the world's shift towards renewable energy sources as a clean alternative to oil, it is expected that the world will continue to rely on oil and gas in a traditional manner for several centuries before successfully transitioning almost completely to alternative energy sources. This means that the pivotal role of Gulf countries will remain intact throughout this period.

b) The Impact Dorra Field Dispute on Gulf Security: Iran has been the primary threat to the Arab Gulf states since the overthrow of the Shah's regime in 1979. Since then, Iran has adopted a policy of "exporting the revolution" with the aim of overthrowing the monarchies in the Gulf countries. Iran has also adopted various other policies to export the revolution, including supporting Shia groups in the Arab Gulf, Syria, Iraq, Lebanon, and Yemen, with the aim of using violence against the ruling regimes. In response to these Iranian practices, the Arab Gulf states established the Gulf Cooperation Council to maximize cooperation among the six countries against Iran. **The objectives of the council, as stated in its charter, include:**

1. Achieving coordination, integration, and interconnection among member states in all fields leading to their unity.
2. Deepening and strengthening the links and relations and aspects of cooperation among their peoples in various fields.
3. Promoting scientific and technological progress in the fields of industry, mining, agriculture, water resources, and animal resources, establishing scientific research centers, and implementing joint projects, and encouraging private sector cooperation for the benefit of their peoples.

It is clear from the objectives of the council that developing resources and maximizing their benefits is a fundamental goal for future Gulf integration. This includes the development of shared oil and gas fields between different parties, considering that oil wealth is the main source of financial revenues that have contributed to the Gulf countries' prosperity and continue to play a role in future plans, despite attempts by the Gulf countries to establish sustainable sources of income. In this regard, the Dorra field is considered one of the most important fields discovered in the past, but it has not been developed due to Iran's rejection of this matter, as Iran insists on its right to benefit from the resources of the Dorra field in cooperation with Kuwait and Saudi Arabia, both of whom insist that the field is a shared and exclusive right for them. Iran has many motivations to practice a policy of imposing the status quo regarding the Dorra field. First: Iran fully realizes that the field represents a significant gas and oil wealth, as some studies indicate that the gas reserves in the field range between 10 and 60 trillion cubic feet, which means that the field will generate significant financial returns for both Saudi Arabia and Kuwait. And if we look at the nature of the historical disputes between Iran on one hand and Kuwait and Saudi Arabia on the other hand, we will fully realize that this field will increase the financial gap between the two parties, contributing to achieving more prosperity for Saudi Arabia and Kuwait.

Second: Iran suffers from a decline in services and living standards due to the Western sanctions imposed on it because of its nuclear program. Iran is also concerned about the idea of an internal revolution against the Shia regime, especially as the people are experiencing advanced stages of restrictions on religious and personal freedoms, as well as the tendency of Iranians to emigrate abroad in search of better opportunities. As a result, Iran seeks to maximize its financial resources, especially those related to foreign currencies, to ensure financial resources that may contribute to improving the internal situation. Additionally, Iran's participation in gas production enhances its international position in the energy market, especially with the increasing demand for gas at present.

Third: Iran realizes that the Kuwaiti and Saudi benefit from the field undoubtedly means improving their financial ability to buy more advanced weapons from Western countries, which means that the balance of power may shift in favor of the Gulf countries. In this regard, we must point out that the specialized website "Global Fire" ranks Iran ahead of the Gulf countries (Kuwait ranks 78th, while Iran ranks 17th, and Saudi Arabia ranks 22nd, according to the website's rankings for 2023). It should be noted that the website does not take into account the quality of advanced weapons as much as it focuses on the quantity of weapons and soldiers. And because Iran has a larger population than the combined countries of the Gulf Cooperation Council, we find that the military ranking is always in its favor, considering that the website attaches great importance to the human power that enables a state to fight on multiple fronts at the same time. Additionally, the website provides a separate ranking for each country, which means that the combined military power of the Gulf countries surpasses Iran by a large margin, especially with the advanced qualitative weapons owned by these countries (with the note that Iran has signed a contract with Russia to obtain Sukhoi 35 fighters).

Fourth: Iran militarily intervenes in a number of Arab countries, most notably Iraq, Syria, Yemen, and Lebanon, and provides financial support to Shia armed groups in these countries. For example, Iran provides financial and military support to Hezbollah in Lebanon, the Houthi group in Yemen, and the Popular Mobilization Forces in Iraq. Despite the American and Western sanctions imposed on Iran, it continues to be active in these countries and provides generous financial support at the expense of its internal economic and social conditions. This indicates Iran's strong desire to obtain new financial resources to support its expansionist activities in the region. Because Iran fully realizes that international arbitration is not in its favor, it categorically refuses to resort to it and seeks to impose a new reality that allows it to benefit from the Dorra field's resources or at least prevent the Gulf countries from benefiting from it. This has become evident recently when Saudi Arabia and Kuwait announced investments of over 2 billion dollars to develop the field, and Iran responded by confirming that the Revolutionary Guard will form a military force to protect Iran's rights in the Dorra field. Iran aspires in this regard to separate the Gulf countries and deal with Kuwait individually, which may help it impose a new reality, especially with the limited Kuwaiti alternatives due to the lack of demarcation of the common borders between the two parties. Nevertheless, it is expected that the Arab Gulf states will analyze the crisis as a unified bloc through the Gulf Cooperation Council.

Iranian control over the Dorra field, or preventing Kuwait and Saudi Arabia from exploiting its resources, is a direct threat to the security of the Gulf countries, which rely directly on oil and gas revenues for their economies. If we take into account that Iran occupies three Emirati islands near the Strait of Hormuz, we will fully realize that any Iranian attempt to control new resources in the Arabian Gulf will be a direct threat to the national security of these countries and will be considered a declaration of war. In this regard, we find a divergence in dealing with the idea of resorting to force to resolve the conflict. For example, the Gulf countries have already been able to achieve an economic breakthrough and build an attractive environment for foreign investments, in addition to the remarkable development in infrastructure. Therefore, the Gulf countries do not want to engage in a military war that may contribute to the destruction of what has been achieved in the past decades. On the other hand, we find that Tehran is suffering from a suffocating economic crisis, deteriorating services, and deteriorating infrastructure.

Therefore, it is in desperate need to provoke disputes or military clashes with the Gulf countries in order to unify the internal front. Because, as it is known, citizens do not want to change during times of war or crises for fear that power will be handed over to unqualified individuals. This means that the ruling regime in Iran will use these clashes to strengthen its internal position. This indicates that the Iranian motives for provoking conflicts or disputes in the region are greater than those of the Arab Gulf countries, despite the latter having a number of options that they can resort to later on.

On the other hand, Gulf countries do not want tension in the Arabian Gulf region so as not to delay their international obligations to export oil and gas to importers. This may give the latter party the opportunity to sue the former party for failing to fulfill their obligations, in addition to searching for more stable and committed alternatives. In other words, if a military conflict erupts in the Gulf waters, Gulf countries will be the most affected because their international customers will look for new sources from new importers, and Western spending aimed at finding more sustainable alternative sources such as generating electricity from the sun and wind may increase. This means that Gulf countries will lose significant financial returns in the present and will also be affected in the long term. Certainly, if this scenario were to happen, and although unlikely, Western countries would take a strong stance against Iran, especially if the latter blocked the Strait of Hormuz. However, this is unlikely to happen because of the Dorra field, as Western countries may not object to Iran's control over some parts of the field, considering that this will increase Iran's risk in the region, and thus Gulf countries will be pushed towards buying more Western weapons. More precisely, western countries may not object to Iran's control over parts of the field, but they will prevent any military confrontation from happening. Certainly, the increasing pace of the arms race between Gulf countries and Iran will negatively affect sustainable development plans and the level of services provided to citizens.

Also, Iran's control over the field or part of it, or preventing Gulf countries from developing it, is a direct attack on Gulf countries and an imposition of Iranian influence in the Arabian Gulf, which means that Iran has become the first dominant power in the Gulf waters, especially with its control over Emirati islands near the Strait of Hormuz. If this happens, Iran will become more daring, and it is expected to try to avoid demarcating maritime borders with Kuwait as long as it enables it to achieve illegitimate gains.

In the end, Iran continues to engage in the same unruly behavior towards the Gulf countries despite signing a reconciliation agreement with Saudi Arabia under Chinese sponsorship. It was expected that this agreement would contribute to improving relations between Iran on one hand and the Gulf countries on the other hand, but Iran still insists on the same old approach. Iran understands well the value and importance of oil and gas resources in consolidating its rule, but it also understands well that the Gulf countries do not want any military confrontation with it, so Iran persists in its violations and attempts to impose a policy of fait accompli. Nevertheless, Kuwait and Saudi Arabia have several options to defend their rights in the Dorra field against Iranian attempts to impose a new reality.

Ms. Nashwa Nashaat
Executive Director of Saif Bin Helal Center for Studies and Research in Energy Sciences (SBHC)

The Repercussions of the Arab-Iranian Dispute on the Saudi-Iranian Reconciliation

Introduction:

"After continuous tension in the relations between Saudi Arabia and Iran, and a severance that lasted for more than 7 years (since 2016 until March 2023), there was a tangible improvement in the relations between the two countries. In March 2023, Riyadh and Tehran agreed to end their diplomatic dispute, reopen embassies and consulates in both countries, and officially resume diplomatic relations between them, with the agreement mediated by China.

It is worth mentioning that Chinese mediation was preceded by Iraqi and Omani mediation between Tehran and Riyadh in 2019 and 2022, where the foreign ministers of both countries met on the sidelines of the second Baghdad conference in Jordan.

In the first real test of Saudi-Iranian reconciliation, the dispute between Saudi-Kuwaiti from one side and Iran on the other over the "Dorra gas field" in the territorial waters between Saudi Arabia and Kuwait arose.

The renewal of the Saudi-Kuwaiti and the Iranian dispute over the Dorra field raises a major question: What is the impact of the dispute on the recent Saudi-Iranian reconciliation or rapprochement? This is in addition to other subsidiary questions such as: What are Tehran's reasons for reopening the Dorra field file, especially since the Arab-Iranian dispute over it dates back to the 1960s, and why at this particular time?

And this paper attempts to research and analyze the aforementioned questions, by addressing the following topics:

First: The history of Saudi-Iranian relations from the 1970s until the recent reconciliation.

Second: The content, motives, and causes of the Saudi-Iranian agreement.

Third: The implications of the Arab-Iranian dispute over the Dorra field on reconciliation between Riyadh and Tehran.

Fourth: Conclusion and findings.

First: The history of Saudi-Iranian relations from the 1970s until the reconciliation:

Saudi-Iranian relations have gone through multiple crises and tensions throughout their long history since the beginning of the Iranian Islamic Revolution in 1979 until March 2023. This has cast its shadow over the entire Gulf region. Several other regional issues have exacerbated the strained relations between Riyadh and Tehran, including the Iran-Iraq War and the wars in Yemen, Syria, and Lebanon. This is in addition to other contentious issues such as Iran's nuclear ambitions and the different ideological orientations of both countries. However, despite the strained Saudi-Iranian relations in previous years until the breakthrough in relations in March 2023, we find that trade and economic transactions have continued between the two countries. One notable example is the influx of Iranians to the Kingdom of Saudi Arabia to perform Hajj and Umrah, which is an activity that takes place throughout the year.

Trade between the two countries has remained an important bridge for the exchange of goods, especially carpets, perfumes, and some food items. Both Saudi Arabia and Iran are members of OPEC Plus. Saudi Arabia has a huge reserve of oil and gas (261.6 billion barrels of oil reserve, 8 trillion cubic meters of natural gas reserve), while Iran has significant reserves of oil and natural gas (208.6 billion barrels of oil reserve, 34 trillion cubic meters of gas reserve), according to the Unified Arab Economic Report for 2022. Both countries have their positions in the energy markets.

The key historical milestones in Saudi-Iranian relations from 1979 to 2016 can be summarized as follows:

1979: The establishment of the Iranian Islamic Revolution, and Saudi concerns about Tehran's intention to export the revolution to neighboring countries, especially Gulf states.

1980-1988: A period of tension in relations between the two countries following the Iran-Iraq War, which lasted from 1980 to 1988. This tension arose as a result of Iranian anger towards Gulf support, led by Saudi Arabia, for Iraq.

The relationship between Saudi Arabia and Iran became tense in July 1987 after the killing of 402 pilgrims, including 275 Iranians, during clashes in Mecca. Protesters in Tehran stormed and occupied the Saudi embassy, and also set fire to the Kuwaiti embassy in Tehran. A Saudi diplomat in Tehran died from injuries sustained when he fell from a window of the embassy, and Riyadh accused Tehran of delaying his transfer to a hospital in Saudi Arabia. As a result, King Fahd severed relations with Iran in 1988. The two countries did not resume relations until 1991.

In 1990, Saudi-Iranian relations calmed down following the Iraqi invasion of Kuwait on August 2, 1990.
In 1997, there was a relative improvement in Gulf-Iranian relations after President Mohammad Khatami came to power with his policy of " De-escalation." In the same year, Saudi Crown Prince Abdullah visited Iran to attend the Islamic Summit held in December 1997, making him the highest-ranking Saudi official to visit Iran since the Iranian Revolution in 1979.
It is worth mentioning that Khatami worked towards rapprochement with Riyadh after his overwhelming victory in the Iranian elections in 1997. After Khatami's second election victory in 2001, Saudi King Fahd congratulated him on his success in the Iranian elections, and Khatami subsequently visited Saudi Arabia. Relations between the two countries improved, leading to a security agreement in April 2001.
From 2003 to 2012, tensions escalated in the Gulf region. In 2003, the United States led an international coalition against Iraq, resulting in the overthrow of Saddam Hussein's regime. shia groups loyal to Iran took control of the power in Baghdad, which increased security concerns for Riyadh.
In 2005, tensions resurfaced in Saudi-Iranian relations after the victory of the conservative faction (Mahmoud Ahmadi nejad) in the Iranian presidential elections.
In 2007, Iran became involved in the Iraqi political scene, further exacerbating the strained relations between Riyadh and Tehran.

In 2011, protests erupted in Bahrain, prompting the Peninsula Shield forces to intervene in Manama to defend the country's security. At that time, Iran was accused of involvement in Bahrain's affairs. In the same year, two individuals of Iranian nationality were arrested after attempting to assassinate the Saudi ambassador at Washington, Adel Al-Jubeir.

The situation in Syria then worsened, and Iran provided military and financial support to the Bashar al-Assad regime, contributing to the continued deterioration of relations between Tehran and Riyadh.

In 2014, Tehran provided comprehensive support to the Houthi group in Yemen, who seized control of Sanaa, the government headquarters, ministerial headquarters, and the central bank headquarters.

In 2015, 10 countries led by Saudi Arabia launched the military operation "Operation Decisive Storm" against the Houthi group.

In January 2016, Riyadh executed 47 individuals, including the Shia cleric “Nimr al-Nimr”, which sparked criticism from Iran.

On January 3, 2016, Saudi Arabia announced the severing of diplomatic relations with Iran following the storming of its embassy in Tehran and its consulate in Mashhad.

In July 2016, Saudi Arabia agreed to host a temporary consular mission to serve Iranian pilgrims.

In October 2016, the Swiss government approved an agreement between Saudi Arabia and Iran, stipulating that the Swiss embassy in Riyadh would represent Iranian interests in Saudi Arabia, and that the Swiss embassy in Tehran would take care of Saudi interests in Iran.

Second: The content of the Saudi-Iranian rapprochement (March 2023) and its motives and causes:

In March 2023, a joint statement was issued by Saudi Arabia, Iran, and China regarding the resumption of diplomatic and consular relations between Riyadh and Tehran.

In April 2003, Saudi Arabia and Iran signed an agreement through the foreign ministers of both countries, which included clear provisions such as reopening embassies and consulates, resuming air travel, facilitating visa issuance for citizens of both countries, as well as agreeing to resume visits by officials and private sector delegations.

With the resumption of relations between the two countries, there was an announcement about the intention to exchange diplomatic representation within two months, and an affirmation of respecting the sovereignty of both states and international treaties, non-interference in internal affairs, activating the security cooperation agreement signed in 2001 known as the "Naif-Rouhani" agreement, as well as the cooperation agreement in the fields of economy, trade, investment, technology, science, culture, sports, and youth signed in 1998, in addition to the mutual statements between the two countries, which demonstrate a serious intention between the two states to make progress in the success of the relationship's return.

As for the Arab and international reactions to the agreement, Arab and Gulf countries welcomed it, in order to achieve stability and security in the region in general, and the Gulf region in particular, especially after the continuous suffering from Iranian "provocative" and "interfering" practices and actions in the affairs of its neighbors in the region. The agreement also received international welcome.

And there are several causes and motivations that have led both Saudi Arabia and Iran to achieve this breakthrough in their relations, and the causes differ for each party of the two countries, and they can be explained as follows:

As for Saudi Arabia, the Saudi-Iranian rapprochement came from a new strategic goal for the Kingdom of Saudi Arabia, which is the Saudi Vision 2030, and the focal point in that vision is to make Saudi Arabia an influential regional and global actor, which also enhances its interests regionally and globally. This vision came from the desire of His Highness Prince Mohammed bin Salman to build regional and international relations based on principles of equality, respect for the sovereignty of states, and their specificities to achieve security and stability in the region.

As for the Iranian motive behind the rapprochement between the two countries, it is primarily economic. The Iranian economy is in a deplorable state as a result of international sanctions imposed on Iran and regional isolation, where the volume of Iranian domestic investments has weakened compared to its foreign theory, and there is a trade deficit, in addition to the collapse of the value of the local currency against other foreign currencies, and added to all of the above, the limited oil revenues. Therefore, Tehran wants to benefit from the Saudi economic market and enhance and strengthen economic relations between the two countries.

In this regard, data from the Saudi General Authority for Statistics indicate that the trade exchange data between Riyadh and Tehran has stopped in 2015, and those data have not been updated since that date. Iran has not been included in the Saudi trade exchange bulletin with the world's countries.

In 2015, the value of trade exchange between Saudi Arabia and Iran reached 1.24 billion Saudi riyals (330 million dollars), while the trade balance surplus was in favor of Iran by about 316 million riyals.

Trade and economic relations between the two countries may allow the return of those suspended transactions, in addition to new forms of cooperation, given the diversity of the Iranian economy and the possibility of Tehran exporting agricultural goods, raw materials, and primary goods, such as iron, to meet the needs of construction projects in Saudi Arabia.

On the other hand, we find that Saudi Arabia has greatly benefited from the oil boom in the global market since mid-2021 until the end of 2022, which has increased its ability to carry out foreign investments in many countries. In contrast, Iran - under economic sanctions - has seen a decline in its oil revenues compared to what it was before 2018, with a need for foreign investments. According to World Bank data, Iran's share of foreign direct investments during the period 2019-2021 amounted to $1.51 billion, $1.34 billion, and $1.43 billion respectively, which are small amounts compared to Iran's needs for such investments and its shortage of foreign currency due to sanctions. Therefore, we find that the recent rapprochement between Riyadh and Tehran may contribute to enhancing joint investments between them. Saudi Finance Minister "Mohammed Al-Jadaan" confirmed - after signing the recent agreement in Beijing - the possibility of injecting Saudi investments in Iran, to prove that things could lead to positive situations for both countries, emphasizing that there are many opportunities for Saudi investments in Iran.

Third: The consequences of the Gulf-Iranian dispute over the Dorra field on reconciliation between Riyadh and Tehran:

In fact, the dispute between Saudi Arabia and Kuwait on one hand, and Iran on the other hand, regarding the Dorra field is not new, as it dates back to the 1960s when Kuwait granted the "Royal Dutch Shell" company a maritime concession, and Iran granted the British-Iranian Oil Company a maritime concession to exploit its reserves. Since then, until today, Iran has rejected Kuwaiti and Saudi demands to demarcate maritime borders, in order to assert ownership rights and exclusive privileges for its own geopolitical, political, economic, and legal considerations.

Iran's position regarding the Dorra field can be summarized as follows:

1. Tehran confirms that a part of the Dorra field falls within its exclusive economic zone, and therefore, it demands a joint investment in the Dorra field.
2. Iran has been objecting - since the 1960s until now - to any Saudi-Kuwaiti efforts and agreements to develop the Dorra field, describing them as "illegal," as it has been excluded from the development process.

3. Tehran constantly threatens to start drilling operations in the Dorra field. In August 2015, the Kuwaiti Foreign Ministry summoned the acting Iranian embassy to protest Iran's efforts to develop the field. By the end of 2019, Kuwait and Saudi Arabia signed a memorandum of understanding to develop and exploit the field's energy reserves. In response, Iran announced in 2001 that it would suspend drilling. In April 2022, Saudi Arabia and Kuwait renewed their invitation to Iran to hold negotiations to demarcate the borders and define the eastern boundary of the shared submerged area between them, effectively translating the provisions of the 2019 memorandum of understanding into an agreement in March 2022. In June 2023, Iran announced its intention to drill and explore in the field.

As for the joint Saudi-Kuwaiti position on the Dorra field, it can be summarized as follows:

1) Emphasizing that the marine area where the Dorra gas field is located is within the maritime territories of Kuwait, and the natural resources in it are shared only between Kuwait and Saudi Arabia.

2) Confirming that Saudi Arabia and Kuwait alone have full sovereign rights to exploit the resources in that area. Therefore, Kuwait and Saudi Arabia continue to work to implement what was agreed upon under the minutes signed between them on March 21, 2022, regarding cooperation in the development of the Dorra field, and the previously signed memoranda of understanding.

3) Kuwait and Saudi Arabia rejecting any actions or activities related to the field by Iran from

4) Both Saudi Arabia and Kuwait inviting Iran to initiate negotiations to demarcate the eastern boundary of the submerged area divided between the Kingdom and Kuwait as a single negotiating party against the Iranian side, in accordance with international law. The Saudi and Kuwaiti position is based on international agreements to demarcate maritime boundaries, which affirm that the Dorra field is a Kuwaiti-Saudi border field, and the Iranian side has no part or rights in it. It is worth mentioning that the Kuwaiti National Assembly has approved the formation of a Foreign Affairs Committee to monitor government procedures and steps towards protecting national sovereignty and preserving the natural resources in the offshore Dorra field. Saudi Arabia and Kuwait have also affirmed their determination to implement their plans for the development of the field in accordance with the memoranda of understanding that stipulate joint cooperation in the development and exploitation of its resources.

In fact, Tehran aims behind opening the Dorra field file - especially at this time - to achieve two main goals:

1. Achieving maximum economic benefit from the field, in light of the severe economic crisis in Iran - as we mentioned before - in exchange for the enormous economic value of the Dorra field; as the natural gas reserves of the field are estimated at about 220 trillion cubic meters.
2. Tehran's desire to pressure Saudi Arabia and push it to consider the unresolved regional issues between the two countries and settle them quickly. Therefore, the Dorra field issue is considered a "political" card for Tehran to pressure and negotiate with both Saudi Arabia and Kuwait, whenever it wants.

In light of the above, we find that the dispute between Saudi Arabia and Kuwait on one hand, and Iran on the other hand, regarding the Dorra field, will not overshadow the Saudi-Iranian reconciliation, nor will it have any negative impact on that reconciliation. On the contrary, the reconciliation will proceed in the right direction, in light of the mutual desire of both countries for it, as well as the Arab, Gulf, and international desire for it.

The negative impact of the dispute over the field on the Saudi-Iranian reconciliation can be attributed to several reasons, the most important of which are as follows:

As for the Iranian Side:

It is expected that Iran will contain the situation regarding the Dorra field issue and not escalate it in a worrisome manner for both Saudi and Iran. They will resort to a policy of "dialogue and understanding" instead of a policy of "escalation and threat" for the following reasons:

1. Iran considers itself the primary beneficiary behind the recent Saudi-Iranian rapprochement, as it will achieve anticipated economic and trade gains in light of the success of the agreement between Riyadh and Tehran.
2. Iran desires to build and enhance trust bridges with the Gulf region in general and Saudi Arabia in particular, by emphasizing to its Saudi partner that it is committed to the provisions of the recent agreement, especially the part concerning respect for the sovereignty of states and non-interference in their internal affairs, particularly since the essence of the conflict between the two countries primarily stems from Iran's continuous interference in the affairs of Gulf states.
3. Tehran's desire to improve its relations with neighboring countries, especially those in the Gulf, and end the regional isolation that has lasted for many years.
4. Iran will not embarrass the Chinese mediator, given the economic and trade interests between Tehran and Beijing. China is a major importer of Iranian oil even during times of sanctions and is Iran's most important trading partner. There is a comprehensive strategic partnership agreement with China that was signed in 2021 and lasts for 25 years, covering areas such as transportation, especially rail transport, energy, and infrastructure.

In addition, China will not easily accept the failure of the Saudi-Iranian agreement, which it sponsored, considering this agreement as a real test of its strength, international status, and tools of influence in the Gulf region, as well as a confirmation of the success of its foreign policies.

Regarding the Saudi side, we find that Riyadh will resort to diplomatic solutions in dealing with the crisis of the Dorra field, in line with the comprehensive renewal movement that Saudi Arabia is currently witnessing at all levels, economic, social, and intellectual, and primarily with the new approach of Saudi foreign policy based on the priority of achieving regional security and stability (Saudi Vision 2030). This is due to Riyadh's desire not to get involved in regional crises that affect its local interests, prompting Riyadh to rearrange its relations with its neighbors, according to a new Saudi vision that expands the horizons of cooperation and enhances interests with various regional parties, focusing on national interests (Saudi Arabia first). Riyadh is determined to play a leading role both regionally and internationally.

Fourth: Conclusion and Findings

It is evident from the above that there is a shared Saudi and Iranian desire to turn the page on the past and start a new chapter - especially since the messages exchanged between the two countries after the reconciliation in Beijing indicate that there are upcoming steps on the economic and political levels. This is accompanied by news of Saudi King Salman bin Abdulaziz inviting Iranian President Ebrahim Raisi to visit Riyadh, and the commitment to the policy of "negotiation and dialogue", in addition to the shared desire of both Riyadh and Tehran to abide by the provisions of the recent agreement, especially since a fundamental part of it is based on respecting the policy of good neighborliness and international conventions. This requires Iran to demonstrate good intentions by stating the extent of its real and "non-formal" commitment to the provisions of the recent agreement, through Iran's compliance with the joint Saudi-Kuwaiti desire to resort to international arbitration to settle the dispute over the demarcation of maritime boundaries for the field. Iran will respond to this joint Saudi and Kuwaiti demand, as Iran was keen to open a new chapter with Saudi Arabia, especially and the Gulf countries in general.

On the other hand, it has become clear through the previous presentation that there is a Saudi-Kuwaiti common format regarding the offshore Dorra field. This format has been ongoing since the 1990s until now. Prince Abdulaziz bin Salman, the Minister of Energy in the Kingdom of Saudi Arabia, confirmed that Kuwait and Saudi Arabia want to discuss the issue of the Dorra gas as one team with Iran because the resources in the field are a common interest for both countries.

This position reflects the Saudi-Kuwaiti coordination regarding the Dorra field and also reflects a desire for dialogue and understanding, in line with the current state of calm in Iran's relations with the Gulf, which neither party wants to retreat from, but without "compromising" rights or making concessions.

Here we emphasize that the real test of reconciliation between Riyadh and Tehran is the success of both parties in finding solutions to the fundamental challenges facing that reconciliation, including the war in Yemen, the situations in Syria and Lebanon, the Iranian nuclear ambition, the ideological conflict between the two countries, the continued support of the Iranian constitution for the ideological export and expansion beyond borders, and the crisis of trust with the Iranian side... etc. As for the problem of the "Dorra field", it will find its way to containment and resolution through diplomatic means as it has happened in previous years.

Mr. Mohy El-Din Saeed
Political Analyst

Scenarios of the Arab-Iranian Dispute over the Dorra Field

Introduction:

Amid indications of a clear convergence in Gulf-Iranian relations, the controversy surrounding the disputed "Dorra Field" between Saudi Arabia and Kuwait on one side and Iran on the other has raised many questions. These questions revolve around the future of Gulf-Iranian relations and the proposed scenarios for the future of this longstanding renewed conflict, as well as the position of international law on it.

The Dorra Field was discovered in 1967 and is located in the northern Arabian Gulf, in the form of a water triangle that extends from the bottom of the tri-border point between Kuwait, Iraq, and Iran. It stretches southward, with the majority of it located opposite the coasts of Kuwait and the Kuwaiti-Saudi neutral zone. There is also a shared portion of the field with the Iranian side. The controversy surrounding the field has varied and intensified over the years. One of the early controversies occurred in the 1960s when Iran granted exploration and exploitation rights to the Anglo-Iranian Oil Company, while Kuwait granted the concession to Royal Dutch Shell. The concessions overlapped in the northern part of the Dorra Field.

Another controversy arose when Riyadh and Kuwait announced in 2000 that they had reached an agreement on their maritime borders, and the Khafji company was granted the right to develop and produce in 2012, replacing Shell.

In 2015, there was a significant development in the history of the Dorra Field when Iran announced a project for its development, leading to a dispute between Tehran and Kuwait. The latter had previously reached an agreement on June 7, 2006, with Saudi authorities to develop the Dorra gas field, aiming to produce around 600 million cubic feet of gas within four years, to be shared equally between the two countries.

On August 26, 2015, the Kuwaiti Foreign Ministry summoned the chargé d'affaires of the Iranian embassy to protest against Iran's introduction of two projects for the development of the Dorra oil field, according to the Kuwaiti Foreign Ministry.

The Kuwaiti Foreign Ministry stated that it delivered a protest memorandum due to reports indicating that the Iranian National Oil Company had issued a bulletin regarding oil investment opportunities in Iran, including opportunities to invest in parts of the Dorra Field located in the overlapping maritime area that has not been demarcated between Kuwait and Iran.

Escalated Developments

According to reports and various studies on the developments of the dispute in this file, Iran sought, on its own, in 2016, to develop the field, which caused a diplomatic problem between Iran and Kuwait. On July 27, 2016, Saudi Arabia and Kuwait expressed their strong protest and dissatisfaction with the repeated attacks and violations by Iranian military boats in the submerged area adjacent to the divided submerged area. Kuwait and Riyadh sent a joint protest message to the then Secretary-General of the United Nations, Ban Ki-moon, by the Permanent Representative of the State of Kuwait, Ambassador Mansour Ayad Al-Otaibi, and the Permanent Representative of the Kingdom of Saudi Arabia, Ambassador Abdullah Al-Mualimi, regarding Iran's violations in the divided area and demanding the dissemination of a copy of it to all member states and its publication in the Law of the Sea Journal.

The two governments affirmed the repeated attacks and violations of Iranian military boats on the submerged area adjacent to the divided area between Saudi Arabia and Kuwait, which have exclusive sovereign rights for Saudi Arabia and Kuwait only for the purpose of exploring and exploiting the natural resources in it.

The message emphasized that Saudi Arabia and Kuwait alone, without others, have "exclusive sovereign rights to explore and exploit hydrocarbon resources in the Dorra field and the divided submerged area." It also confirmed that the Iranian government was requested to start negotiations - between the governments of Saudi Arabia and Kuwait as one party and the Iranian government as the other party - to determine the maritime boundaries separating the divided submerged area from the waters of the Islamic Republic of Iran in accordance with the provisions of international law. However, the request received no response from the Iranian government despite their repeated calls for negotiations to determine those boundaries.

On March 21, 2022, Kuwaiti Oil Minister Dr. Mohammad Al-Fares and Saudi Energy Minister Prince Abdulaziz bin Salman bin Abdulaziz signed an agreement to develop the submerged Dorra field in the Arabian Gulf, with a production capacity that has increased to one billion cubic feet per day.

It was agreed that the Joint Operations Company in Khafji, a joint project between Saudi Aramco and the Kuwait Gulf Oil Company, would select a consultant to conduct the necessary engineering studies for the development of the field using the best modern methods, techniques, and practices that prioritize safety, health, and environmental preservation. The aim is to create the most efficient and effective engineering designs from both a capital and operational perspective. At the time, expectations were that the development of the Dorra field would result in the production of one billion standard cubic feet of natural gas per day, in addition to 84,000 barrels of condensates per day.

On March 26, 2022, the Iranian Ministry of Foreign Affairs stated that the agreement between Kuwait and Saudi Arabia to develop the Dorra gas field is illegal because it ignored Iran's participation in the field. Therefore, it is necessary for Iran to be a party to any operation or development process.

The Iranian Foreign Ministry posted on its official Twitter account that the Arash field (the Iranian name for the Dorra field) is a shared field between Iran, Kuwait, and Saudi Arabia, and there are parts of it within the undesignated waters between Iran and Kuwait. The Islamic Republic reserves the right to exploit the gas field.

The spokesperson for the Iranian Foreign Ministry, Saeed Khatibzadeh, confirmed that the Kuwaiti-Saudi agreement contradicts previous negotiations with Kuwait to demarcate the field's borders.

And Khateeb Zadeh pointed out that the recent agreement will not change the legal status of the field, emphasizing that the field is shared between Iran, Kuwait, and Saudi Arabia. He stressed that Tehran has the right to invest in it and that any action to operate or develop it must be coordinated among the three countries. Tehran also expressed readiness to enter into negotiations with Kuwait and Saudi Arabia to demarcate the boundaries in the field and start working on it.

On March 28, 2022, Iranian Oil Minister Javad Owji announced that Iran has begun exploration and seismic survey operations in the Arash (Dorra) gas field. He mentioned that drilling will start soon in the shared field with Kuwait and Saudi Arabia. Owji emphasized that Iran is ready to negotiate and cooperate in the Arash field, but Kuwait and Saudi Arabia's unilateral actions will not prevent them from implementing their projects.

On March 27, 2022, Kuwaiti sources responded to Iran's claims regarding the Dorra gas field, stating that these claims are invalid and contradict international law and maritime boundary demarcation rules. The sources, as reported by the Kuwaiti newspaper "Al-Qabas," stressed that Iran's claims of participating in the development of the Dorra gas field are baseless.

On March 29, 2022, Kuwaiti Foreign Minister Sheikh Ahmed Nasser Al-Mohammad Al-Sabah stated in media statements that the Dorra field is a tripartite issue between Kuwait, Saudi Arabia, and Iran. He added that there are Kuwaiti and Gulf concerns regarding the Iranian nuclear agreement that they hope will be taken into consideration.

He further stated that Iran is not a party to the natural gas field because it is a purely Kuwaiti-Saudi field. He emphasized that Kuwait and Saudi Arabia alone have exclusive rights to exploit and invest in this field, according to the agreements concluded between the two countries.

Linked Stations:

Disagreements continued in June 2023. Mohsen Khajesteh Mehr, the CEO of the National Iranian Oil Company, stated that there is no undefined oil field between Iran and Saudi Arabia, but preliminary work for bilateral cooperation will begin with the return of relations between the two countries.

Khajesteh Mehr said: there are complete preparations to begin drilling in the Arash oil field, and we have allocated significant resources to implement a development plan for this field in the board of directors of the National Iranian Oil Company. When conditions are ready, we will start drilling in the Arash field.
On July 3, 2023, Saad Al-Barrak, the Deputy Prime Minister and Minister of Oil of Kuwait, rejected Iran's claims and actions regarding the offshore Dorra field of natural gas, stating that 'we reject Iran's claims and actions regarding the Dorra field' and emphasizing that 'the Dorra field is a Kuwaiti-Saudi natural resource, and no other party has any rights to it until the maritime boundaries are resolved.'
The minister added in a statement that 'we were surprised by Iran's claims and intentions regarding the Dorra field, which conflict with the simplest rules of international relations.'
He confirmed that 'the Kuwaiti and Saudi parties are fully agreed as one negotiating party,' calling on Iran to 'first commit to demarcating the maritime boundaries before it has any right to the Dorra field.'
The Kuwaiti Foreign Ministry had also confirmed on the same day that the maritime area in which the Dorra field is located falls within the maritime areas of the State of Kuwait, and that the natural resources in it are shared between Kuwait and Saudi Arabia, which have exclusive rights to the natural resources in the Dorra field.
It also renewed its call to the Iranian side to begin negotiations to demarcate the maritime boundaries between the Kuwaiti and Saudi sides as one negotiating party in exchange for the Iranian side.
On July 5, 2023, Saudi Arabia confirmed that it and 'Kuwait only' have the right to exploit natural resources in the 'divided submerged area,' including the Dorra gas field, renewing its call for Iran to negotiate to demarcate the boundaries."

On July 10, 2023, the spokesperson for the Iranian Ministry of Foreign Affairs, Nasser Kanaani, stated that Iran is holding talks with Kuwait regarding the Dorra gas field.

Kanaani responded to a question about Saudi Arabia and Kuwait rejecting to Iran's participation in the field's utilization, saying, "We are following this issue within the framework of bilateral talks with the Kuwaiti authorities," without providing further details.

Kuwait's Minister of Oil, Dr. Saad Al-Barrak, reiterated that the Dorra gas field is jointly owned by Kuwait and Saudi Arabia only, and anyone claiming otherwise should demarcate the boundaries, referring to Iran, according to the Kuwaiti News Agency.

On July 11, 2023, Kuwait's Foreign Minister, Salem Abdullah Al-Jaber Al-Sabah, stated that the resources in the "Dorra field" are shared equally between Kuwait and Saudi Arabia only, nothing more.

The Kuwaiti Foreign Minister, in his intervention during the regular National Assembly session, stated that the Ministry of Foreign Affairs issued a very clear statement regarding the Dorra field, emphasizing Kuwait's position during his discussions with Iranian Foreign Minister Hussein Amir Abdollahian. He explained that "ending the demarcation of borders with Iran and Iraq" is a priority for the government, noting that three rounds of talks have been held with the Iraqi side and one round with the Iranian side, and the government is serious and committed in its meetings with both sides.

In the last week of July 2023, Kuwait's Minister of Oil, Saad Al-Barrak, stated in media statements that Kuwait will begin exploration and production in the Dorra gas field without waiting for the demarcation of borders with Iran.

Al-Barrak had previously stated that Kuwait and Saudi Arabia have an "exclusive right" to the Dorra gas field in the Gulf, and he called on Iran to start demarcating its maritime borders first in order to confirm its demands in the field.

Various Proposals

On July 15, 2023, Abdullah Al-Nafisi, a former Kuwaiti political science professor and deputy, called for what he called "relying on Turkey against Iran" regarding the dispute over the Dorra gas field between Saudi Arabia and Kuwait on one side, and Iran on the other.

Al-Nafisi tweeted, "Iran realizes the weakness of the Gulf Cooperation Council countries in the face of confrontation in the Dorra field, and studying the Houthi attack is not far off... and Iran realizes the NATO alliance's preoccupation with Ukraine's war and the China issue."

And he added, "So that Iran does not isolate us, the strategic option available to the cooperative countries is to rely on Turkey through a joint investment project in Dorra."

The invitation of Al-Nafisi sparked wide-ranging debate among observers, with supporters and opponents divided. Iraq entered the dispute in July 2023 when the Iraqi Parliament's Oil, Gas, and Natural Resources Committee announced that "historical documents in the maritime area confirm Iraq's right to the Dorra gas field," indicating that "Iraq's right is based on maritime law."

Member of the committee, Zainab Al-Mousawi, mentioned that "Kuwait, Saudi Arabia, or any other country is not entitled to explore in the Dorra field," noting that "the extractable gas reserves are estimated at about 200 billion cubic meters." The member of the oil committee also explained that "the gas committee is following this important file for the oil and gas sector in Iraq," pointing out that "the Dorra field will add production of about 600 million cubic feet of gas within about four years." Member of Parliament, Aila Nasif, had called for submitting a memorandum of reservation to the United Nations Security Council to ensure the rights of the Iraqi people in the Dorra gas field.

The Relationship File and Multiple Scenarios:

Tehran doesn't claim that it owns the field and doesn't deny Kuwait's right to it, but clearly declares that its goal is to share its production. It insists on imposing an equation that calls for the suspension of drilling and exploration in the field or sharing its resources. In other words, it solidifies the principle that "nothing can happen in the Gulf without Iran's approval, regardless of how the crisis is resolved, whether through its participation in the field or bargaining on other files."

Kuwait restored relations with Iran in 2022, followed by Saudi Arabia in March 2023 after lengthy negotiations that concluded with a Chinese guarantee.

Certainly, with the rapid steps towards normalizing Gulf-Iranian relations, this dispute has emerged to curb the great optimism accompanying Saudi-Iranian reconciliation and to test the effectiveness of the diplomatic approach in solving problems between Iran and the Arab countries. It raises concerns about its potential negative effects on the region, although some see it as a limited and not new problem that will not affect what has been achieved between the Gulf countries and Iran. There is talk of the possibility of reaching Chinese mediation to resolve this crisis as well.

The importance of the Dorra field stems from being one of the most prominent fields in the joint operational areas between Saudi Arabia and Kuwait. It works to support growth in various vital sectors in both countries, which intend to take serious steps to develop its gas reserves.

Based on the legal rules governing such disputes, Iran's claims that it is involved in the field and must be a party to any operation or development procedures otherwise it will violate international law, United Nations agreements, and the Law of the Sea, which stipulates the inclusion of the islands in demarcating maritime boundaries. By specifically including the Filka Island in drawing the border line, Iran does not have any share in the field, as it insists on including the impact from the mainland, which is inconsistent with international law for demarcating maritime boundaries.

In this context, the 1958 General Agreement on the Sea supports the Kuwaiti side, based on the fact that "Dorra field is an extension of Kuwait's continental shelf, and according to the agreement, the concept of the extension of the continental shelf outside the exclusive economic zone has been globally accepted, which made it much easier to sign the Geneva Agreement regarding the continental shelf, acknowledging the coastal states' right to extend their jurisdiction over it, considering its areas complementary to the mentioned states' region and part of it. However, if the agreement on the application of the continental shelf principle was quickly reached, countries relied on it in an attempt to assert sovereignty over this part of the maritime areas, and at the forefront of these justifications was the necessity to assert sovereignty over coastal fisheries."

Beyond Power:

Over years of dispute over the field, there has been noticeable variation in the positions of writers and politicians regarding dealing with it, between calls for escalation in defense of "Gulf rights" or calls for following the legal and peaceful path in the solution.

Perhaps the closest examples to the latter group are what was sparked by the political sociology professor at Kuwait University, Mohammed Al-Rumaihi, when he adopted the call for a solution through internationally recognized general rules, expressing his absolute rejection of the "logic of force" that is no longer valid for this era, and **he says:** "Reason should be arbitrated, and international rules and laws should be resorted to because if this dispute erupts, the costs to be paid by all participants will be high and expensive for the local and international community. Therefore, it is better if there is a dispute to be resolved peacefully and through the United Nations system."

Al-Rumaihi also believes that there is only one mechanism today, far from the use of force and imposing the status quo. That mechanism is a return to international law, as the Gulf states and Iran are governed by a known international law that must be adhered to without coercion or threat of force, under the protection of the United Nations.

He pointed out that border disputes in the Gulf region are not new, they appear from time to time, and in recent years, the consensus among Gulf Arab countries has become much stronger than the discord that prevailed in the past, of course, the past cannot be allowed to decide the future in any way.

He adds: Everyone knows that for months there has been some reconciliation between the Kingdom of Saudi Arabia and the Islamic Republic of Iran. There have also been Omani, Emirati, Qatari, and Kuwaiti relations included in the peace between Iran and those countries. This peace is welcomed by the Arab peoples because the cost of an alternative is greater than anything. Al-Rumaihi also pointed out that most of the border disputes between Gulf countries have been resolved through consensus, and delving into those files is a shortcoming in understanding the regional and international challenges surrounding everyone, indicating that the proximity between Iran and the Gulf countries is a historical one. When the political and economic situation in Iran was turbulent, there were migrations to the Arab side, and vice versa. This proximity imposed a type of interaction that both parties hoped would be fair and achieve common interests for all parties.

And it indicates that we have the impression that the Iranian approach to problem-solving has changed, citing the recent agreement between Tehran and Riyadh, saying: "Iran has signed an agreement with Saudi Arabia months ago, and therefore we have the impression that Iran has a tendency to resolve disputes peacefully, but this peaceful approach should not be selective in some files and aggressive in others; for this reason, the sincere invitation is for all of us to resort to international arbitration if an agreement between Kuwait and Saudi Arabia on one hand, and Iran on the other hand. There are agreed-upon rules that have been implemented in the South China Sea and other areas where there has been a maritime border dispute between coastal countries."

Dispute Escalation:

The Western-Iranian dispute over the "Dorra field" has resurfaced once again, leading to discussions about its dimensions and implications dominating the regional scene in recent times, especially since the dispute, specifically between Kuwait and Saudi Arabia on one hand and Iran on the other hand, has escalated in recent times, after the increase in Iranian claims of its right to this field, which was met with a categorical Kuwaiti rejection at all levels. Iran threatened to start drilling and exploration operations in the field located in the area divided between Kuwait and Saudi Arabia, claiming that part of it falls within Iranian territorial waters in the unmarked border areas with Kuwait.

In response to these claims, Kuwait's Deputy Prime Minister and Minister of Oil, Saad Al-Barak, confirmed during the first week of July 2023 that Kuwait categorically rejects Iran's planned claims and actions regarding the field, as reported by the Kuwaiti News Agency.

Kuwait's Minister of Oil, Saad Al-Barak, emphasized the unity of Kuwaiti and Saudi positions regarding the Dorra gas field, located in the disputed area between the two countries. He believes that there is no room for negotiations with Iran in this matter until the borders are demarcated to determine rights. He affirmed that the development of the field is an exclusive right of Kuwait and Saudi Arabia.

The Kuwaiti Minister of Oil added that anyone claiming otherwise should first start by demarcating the borders. If Iran does not know its maritime boundaries, it is impossible to claim rights in the disputed area.

Dispute Core:

The Dorra field is a huge offshore gas asset, and both Kuwait and Saudi Arabia want to preserve it and exploit its resources. On the other hand, Iran is also getting involved, claiming its rights in order to exploit its resources as well.

The Kuwaiti Minister of Oil, Saad Al-Barak, stated that the field is a natural Kuwaiti-Saudi wealth only, and no other party has any rights in it until the maritime borders are demarcated. An agreement was signed between Saudi Arabia and Kuwait, as Khafji Joint Operations Company, a joint project between Aramco Gulf Operations and Kuwait Gulf Oil Company, is to select a consultant to conduct the necessary engineering studies for the development of the field, using the best modern methods and practices that consider safety, health, environment, and the most efficient and effective engineering designs in terms of capital and operations.

In fact, Iran continues to renew its claims that the Dorra field falls within its exclusive economic zone since the 1960s, whenever its ambitions for the region's wealth, especially regarding this field, are renewed. These claims may fall under the category of diverting attention of Iran from internal problems, regional political gains, or joining development projects and benefiting from them in the presence of Saudi and Kuwaiti investments.

Observers here argue that Iran's oil and gas infrastructure has not been developed since the Shah's era in the late 1970s, which has affected its gas facilities due to their age. Additionally, there is a reluctance among major international companies to invest in Iran. Therefore, Tehran imports gas from countries located on its northern border and also shares the largest gas field in the world with Qatar on its southern border. As a result, Iran benefits from the lack of border demarcation and uses it as a card that it may resort to in comprehensive negotiations to try to achieve gains or concessions.

On the other hand, the Kuwaiti-Saudi side has developed a neutral zone that covers the land and maritime borders, known as the "divided neutral zone." They will work on developing all hydrocarbon fields in collaboration with national oil companies. Riyadh has also agreed to demarcate the neutral zone and carry out joint operations in order to achieve the desired goals from this field. On July 4, 2023, the Saudi foreign ministry stated that "the ownership of natural resources in the divided submerged area, including the entire Dorra field, is jointly owned by the Kingdom and the State of Kuwait only..." meaning that they alone have full sovereign rights to exploit the resources in that area. The statement continued, "The Kingdom renews its previous calls to the Iranian side to start negotiations to demarcate the eastern boundary of the divided submerged area between the Kingdom and Kuwait as a single negotiating party against the Iranian side, in accordance with international law."

Scenarios:

Looking at experts' analysis of the issue in recent times, we can say that there are several scenarios for the future of this dispute. One of them is that this dispute over the disputed gas field may hinder Iranian-Gulf reconciliation and may even create new tensions between the two sides, especially since there are Gulf accusations against Tehran for refusing to engage in dialogue or negotiation regarding the field. This scenario is somewhat unlikely, especially in light of the world's increasing need for gas after the Russian-Ukrainian war, where oil-producing countries have become more concerned about natural gas than before. Moreover, this dispute is not a sudden development.

Scenario two: It is the cooperation between all parties in demarcating the borders through negotiations, then determining the areas under the jurisdiction of each Gulf country in the Dorra field, and thus sharing the production of oil and gas. And if the three parties do not agree, resorting to the International Court of Justice to settle the border issue across the continental shelf, and thus determine the rights of each country in the waters, oil and gas resources. It is expected that this scenario will be favored.

So, the ball is in the Iranian side's court, which requires Tehran to respond to the call for negotiations and try to reach a border division for the field that ensures the rights of each party, especially since the benefits of rapprochement between the Gulf and Iran deserve concessions and sacrifices in order to achieve reconciliation, especially in light of the ongoing global conflicts. The global economic situation also imposes on all parties not to solidify the state of dispute, as the reserves of the Dorra field can contribute greatly to enhancing oil and gas production for Saudi Arabia, Iran, and Kuwait.

International Environment:

The dispute over Dorra was not immune to the surrounding regional and international environment, and we can say that the degree of excitement about this file varied in relation to the effects of regional and international events, in an attempt to take advantage of these events and exploit the preoccupation of the world and the region with them. One of those effects is related to the repercussions of the Ukrainian war in fueling the oil and political conflict between the Gulf and Iran. Although the crisis of the "Dorra field" is not new, what is different in its return to the surface again is the timing, which witnesses a Gulf-Iranian rapprochement after decades of estrangement, which witnessed a rise in sharp disputes between Saudi Arabia and the Emirates on one hand, and Iran on the other hand, after the escalation of Houthi attacks on the Emirates, or the repeated attacks on oil facilities in Saudi Arabia without the United States, "the strategic security ally" of the Gulf, taking any deterrent action against the Houthi group supported by Iran.

It is clear that the Iranian side specifically wanted to take advantage of the world's preoccupation, including major countries such as the United States, with the Russian-Ukrainian war, by raising the issue of the Dorra field. Tehran believed that Washington, being close to Gulf capitals but far from them, would not be able to engage in the Gulf-Iranian conflict due to its involvement in the Ukrainian war.

The Russian-Ukrainian war also caused tremors in global energy markets, prompting Saudi Arabia, as a key player in OPEC, to use energy as a means of pressure. When it refused to increase its production beyond the agreed-upon levels in its agreement with the organization, in order to compensate for the shortage caused by the ban on Russian energy sources. Saudi Arabia also deepened its alliance with China, and it was previously announced that Riyadh decided to sell oil to China in Chinese yuan instead of the US dollar. Undoubtedly, Riyadh's ability to control a massive production like the Dorra field at this time gives it more relative advantages in controlling the energy market and facing the hesitancy of its American ally.

Conclusion:

It is obvious that despite the great and escalating tension around the gas field of Dorra, the closest scenario to be realized is for the three countries to turn the page on this conflict through the presence of demarcation of borders according to maritime law and not according to natural resources, while each retains a share of the field's production, in an effort to achieve reconciliation. This has folded more heated files in its path, which has led some to see at times that Saudi-Iranian reconciliation is a path of fantasy that can be added to the great impossibilities known to the world throughout its history, but reconciliation has folded these files and proceeded on its way, which is the same path that the dispute over the "Dorra" field is expected to take.

Interview

His Excellency/ Saif Bin Helal Al-Shehhi
Founder & Executive President

Questions on Energy and its Future

Interview made by
Mr. Mohy El-Din Saeed
Deputy Editor-in-Chief of Youm7 Newspaper

Saif Bin Helal Al-Shehhi: We invest in Arab minds and bet on their success.

We invest in Arab minds and bet on their success

Saif Bin Helal Center for Studies and Research in Energy Sciences is the first of its kind globally, regionally, and in the Arab world. We hope it will achieve its desired goals in a short period of time.

- The International Agency for Energy Security adopts an extensive plan to enrich scientific research in the world and in the Middle East region on energy issues in all its dimensions and shed light on ways to achieve security in this sector.
- The Russian-Ukrainian crisis is the main trigger for global energy security... and we need an international entity with binding decisions to deal with the climate and environmental issues.
- Global concern for energy security is an inevitable necessity if we want life to continue on this planet or to return to pre-civilization eras.
- Arab experiments in transitioning to a green economy are commendable, and we hope they reach global levels that positively impact the economies of the region.
- There are projects for the International Agency for Energy Security and its research arm - Saif Bin Helal Center for Studies and Research in Energy Sciences - in collaboration with the Egyptian government. We hope to see them come to light soon.

In line with the decisions of the COP27 Climate Conference, which was held in Sharm El-Sheikh in November of last year, and the emphasis on the importance of energy security at all national, regional, and international levels due to its political and developmental dimensions that affect the interests of most countries in the world, the International Agency for Energy Security, headquartered in the United States of America and registered under license number 1505 on 9/6/2022, launched its research arm, Saif Bin Helal Center for Studies and Research in Energy Sciences. It works to study the risks and opportunities in the field of energy security at national, regional, and international levels through scientific research and analysis, to make energy one of the tools of international cooperation and its soft power, instead of being a tool of conflict. It is emphasizing the principle of interdependence between energy-exporting countries in all its forms and energy-importing and consuming countries, to be a means of achieving progress and comprehensive development.

To learn about the agency's goals, its research arm, and their future plans, as well as how to deal with the international and regional impact of current events on the concept of energy security and international and Arab handling of it, especially in light of the talk about the impact of climate changes... We had this meeting with His Excellency Saif bin Helal Al-Shehhi - Founder and President of the International Energy Agency and the CEO - to provide a comprehensive overview discussed in the following dialogue.

Greetings to you and much appreciation for your esteemed role in the field that we hope will have a strong presence in our Arab countries, especially in light of the clear global belief in the importance of energy in its various and diverse fields in shaping the present and future of humanity. We would like to ask you some questions to clarify the complete picture of the Egyptian and Arab public opinion regarding your great project.

First, we would like to know about the goals and activities of the International Agency for Energy Security and its presence among the active organizations and institutions in this field during the past period.

The International Agency for Energy Security is a modern entity and the only non-governmental organization in the world. It started its journey in cooperation with international organizations, governments, and major energy companies. The goals of the International Agency for Energy Security include enriching scientific research in the world and in the Middle East region on energy issues in all their political, economic, social dimensions, and associated problems, as well as shedding light on ways to achieve security in this sector to ensure the interests of the energy sector in the region specifically, and the world in general, through organizing conferences, training sessions, and workshops in the field of energy studies.
The International Agency for Energy Security also aims to direct scientific research activity to focus on energy security issues by presenting research papers, analytical articles, and relevant studies to reach wider circles of public opinion.

Now, if we move on to talk about the research arm, "Saif bin Helal Center for Studies and Research in Energy Sciences," we would like to know about its goals and areas of work.

Saif Bin Helal Center for Studies and Research in Energy Sciences, the research arm of the agency, has set for itself a number of goals to achieve. These goals include establishing communication bridges, connections, and exchange relationships with many research centers, political and strategic thought centers in different countries around the world, as well as universities and scientific institutions, especially those concerned with the field of energy. The center also aims to strengthen the connection between the agency and its research arm with energy companies to achieve energy security according to its various approaches. Additionally, the center works on providing scientific consultations in the field of energy to relevant parties by acting as a house of expertise in the field of energy. Lastly, but not least, the center aims to research opportunities, risks, and threats to the security and sources of energy.

The Center Issues Include:

- Monthly magazine and special files.
- Analytical articles.
- Readings and presentations on everything related to the issue adopted by the center and related to "energy security."

What about the activities of the International Agency for Energy Security and its research arm?

The International Agency for Energy Security (IAFES) organizes a number of events, including monthly seminars, an annual forum under the slogan "International Energy Forum," as well as organizing an annual conference for energy researchers.

Saif Bin Helal Center for Studies and Research in Energy Sciences adopts ideas aimed at innovation in the field of energy, in addition to offering three annual scholarships to outstanding energy studies students and conducting workshops for students and graduates interested in energy studies.

What is your vision of the concept of "energy security"? Has the agency succeeded in promoting the concept in a way that can change the perspective of countries and governments around the world while dealing with energy issues in general?

The International Agency for Energy Security defines the concept of energy security as: preserving the safety of diverse energy sources, ensuring the security of production sources, and ensuring the security of energy products till they reach their users.

How do you see the future role of the center in the Arab region in promoting energy concepts and security? And how can the center play a role in creating a generation of young Arab researchers in this field?

The center is the first of its kind globally, regionally, and in the Arab world. We hope that it will achieve its desired goals in a short period of time, as we invest in Arab minds and bet on their success and excellence in this field. The agency has also allocated ten scholarships starting from next year to ten Arab students in various energy specialties, and allocating an international prize for research and studies in the fields of energy security and renewable energy.

At present, efforts are directed towards research institutions, universities, decision-making centers, and economic partnerships, and this will be reflected in strengthening the relationship with the ordinary citizen, as we bet on the results.

What is your vision of the current position of the Arab world on the energy map in the world? Do you expect it to have a worthy place in the global energy race, especially in light of the immense potential and capabilities that qualify the Arab region for this?

The Arab and African regions, in particular, are of interest to the International Agency for Energy Security, and the center's programs are also directed towards serving this important geographical area of the world. We give it our utmost attention. Our upcoming projects will originate from and be directed towards this region.

Our Arab and African region lacks nothing to be among the world's leading energy-exporting and manufacturing countries, except for two things: getting rid of administrative and financial corruption, and believing in young talents and investing in their minds. Additionally, the International Energy Agency will adopt a reverse migration program for Arab minds by developing an attractive work environment and eliminating all the reasons that repel Arab minds who have excelled in diaspora countries.

How do you see the impact of global conflicts and events such as the Russian-Ukrainian war in consolidating and affirming the role of energy in shaping the power map in the world?

The Russian-Ukrainian crisis is the main trigger for global energy security, as it has revealed the significant gap between traditional energy security methods and the global energy security system, which has been shaped as a result of COVID-19 lockdowns, conflicts, and wars. This has necessitated the development of a new energy security system, one of the strategic objectives of the International Energy Agency.

Experts believe that there have been several changes in the global, regional, and international political systems in recent times, with the emergence of important regional powers such as Saudi Arabia and Iran in the Middle East, and the international economic bloc of BRICS. The global system has become multipolar, both in the West and the East. How do you see the impact of all this on regional and international energy issues?

BRICS is an ambitious entity with two major powers, Russia and China, and we do not deny the goals on which BRICS was built to counter the dominance of the United States and its unipolar world policy, as well as the United States' constant efforts to marginalize regional countries. However, one of the threats to the success of BRICS is the Chinese hegemonic tendency, as well as the presence of anti-peace parties such as the Islamic Republic of Iran within the BRICS group. The difference cannot be reduced in months or years because American hegemony has lasted for decades and is built on strategic interests and adorned with noble principles such as supporting democracy, human rights, and combating nuclear proliferation, even if these programs are nothing more than attempts to dominate. One of the reasons that will hinder the progress of BRICS is that the World Bank is a key player and a player belonging to the American camp. Even if we assume a debate about the BRICS project to establish a new international bank, it will not achieve the success enjoyed by the World Bank and its connection to the International Monetary Fund. It is premature to evaluate the BRICS experience until it achieves real successes.

Energy security has become the main concern for governments in the United States, Europe, China, India, and Japan. It also directs politics and the economy. We witnessed an energy crisis in Europe, India, and China several months before the Russian invasion of Ukraine and the rise in energy prices to historical levels at that time. How do you see the future of global concern for energy security?

Global concern for energy security is inevitable if we want life to continue on this planet or if we want to go back to pre-civilization eras. The population explosion and environmental problems such as global warming and carbon emissions are closely related to energy security. Environmental concerns, energy sources, and the security of these sources are inseparable twins that cannot be separated.

How do you see some of the experiments in the Arab region, such as the Egyptian experience in supporting the green economy, and leading regional and international movements towards formulating a common approach to the impacts of climate change on the future of humanity?

The Arab experiences, whether Egyptian, Saudi, Algerian, Emirati or Moroccan, are all worthy of praise, and the transition that these countries are undergoing towards the green economy through programs that have been launched for several years is commendable and we hope that it reaches global levels positively reflect on the economies of the region.

Many crises in the world are related to energy, which has produced alliances in several regions of the world. In this context, how do you see the future of an alliance like the one that brings together Egypt, Greece, and Cyprus, especially since this growing alliance puts the issue of energy in its various forms at the top of its priorities, especially the gas that is abundant in the waters of the eastern Mediterranean?

The Greek-Egyptian-Cypriot cooperation is inevitable due to several regional issues, the most important of which are Turkish ambitions to dominate the wealth of the Mediterranean Sea. After the Arab Spring and the decline of the influence of Mediterranean regional countries, Turkey imagined that it was possible to control the wealth of the Mediterranean Sea, including gas, oil, and other resources.

Also, one of the factors that motivated the necessity of the tripartite alliance was the desire of the three countries combined to transform into a bridge connecting the continent of Africa and the countries of Northern Europe, in addition to the Russian-Ukrainian crisis and its resulting consequences in the energy supply shortage to Europe.

These collective reasons lead us at the International Energy Agency to question the future of natural gas in the Mediterranean Sea, with commercial quantities exceeding previous expectations, which will reduce Europe's dependence on Russian gas, necessitating a unified political decision from the three countries to enable them to compete and become key players in the global energy markets in the near future.

The Paris Climate Agreement signed in 2015 is one of the most influential central scenes in changing the strategies of global energy markets in recent years, as the agreement is associated with every failure or success that occurs in the path of emissions reduction and energy transition. Do you think the world needs similar agreements or the activation of already existing provisions in the agreement?

The Paris Climate Agreement is an excellent initiative that diagnosed the problem and provided proposals for action. But today, after eight years, we find ourselves facing the same dilemma again. The Paris Agreement operates on a five-year cycle, and one of the problems with the agreement is that it is not binding for the 193 signatory countries. It relies on each country presenting its plan based on reporting the steps taken to combat global warming and reduce carbon emissions.

Today, we are in dire need of an international entity with binding decisions that addresses the climate and environmental problem. This international entity should operate under the management of the United Nations and build upon what the Paris Agreement has started, prioritizing the interests of the planet over the interests of major industrialized countries.

Do you agree with the statements of experts and researchers on the need for the Arab world to support and enhance scientific research in general, especially regarding energy issues in all their political, geopolitical, economic, and social dimensions?

The Arab world's need for research and studies centers is as important as our need for water and air. The number of centers in the Arab world is 128, which is the same number as those in Israel, representing 15% of the centers in the United States.

The truth is that talking about this subject is extremely embarrassing when you find that the budget for entertainment in Arab and Gulf countries exceeds the amount spent on strategic studies and scientific research by thousands of times. We are not against entertainment and art, but in times of crises and disasters, we need thinkers, scientists, researchers, and inventors, not choreographers and performers of dance shows.

Based on your diagnosis of the reality of scientific research in the Arab world, we would like to hear from you about the action plan for "Saif Bin Helal Center for Studies and Research in Energy Sciences" in the coming period, especially with the increasing imposition of energy and climate change issues on the international and regional arenas.

The action plan of Saif Bin Helal Center for Studies and Research in Energy Sciences is derived from the International Energy Agency's plan, where the center will convey its noble message through monthly seminars and periodic publications. The first issue of the center's monthly magazine will be released in September. It is a comprehensive magazine that focuses on specialized studies on energy security and its various sources. The center is working hard towards launching the first annual Energy Security Forum in 2024, as the first specialized international forum in the world dedicated to energy security. We are honored that it will be launched from the Arab Republic of Egypt to the world.

In addition, there are a number of projects in the field of scientific research directed towards the Arab region and the African continent.

Finally, after inaugurating the center's headquarters in Cairo, are you planning to launch cooperation plans with the Egyptian government in adopting energy and climate change issues?

The center learns from the Egyptian government and is honored to cooperate with it, putting all its resources at the disposal of the Ministry of Energy, the Ministry of Environment, and all the partner entities in the Arab Republic of Egypt.

There are projects of the International Energy Agency and its research arm, Saif Bin Helal Center for Studies and Research in Energy Sciences. We hope that they will see the light soon through joint cooperation with the Egyptian government.

Main Figure

Prof. Ibrahim Abdel Jalil Elsayed
Academic Chair, H.H Sheikh Zayed Bin Sulan Al Nahyan
in Environmental Science
Arabian Gulf University – Bahrain

Prof. Ibrahim Abdel Jalil Elsayed

Academic Chair, H.H Sheikh Zayed Bin Sulan Al Nahyan in Environmental Science
Arabian Gulf University – Bahrain

First: Positions:

- CEO of the Environmental Affairs Agency from November 1997 to April 2002.
- Former head of the Energy Planning Agency.
- Former program director of Environmental Management at the Arabian Gulf University in Manama.
- Former visiting professor at the University of Bahrain.
- Expert in the fields of energy and environment at the Emirates Center for Strategic Studies and Research.

Second: Research Contribution:

- Ibrahim Abdel Jalil, "Coal and the Future President of Egypt", Al-Shorouk Newspaper, May 6, 2014.
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- Ibrahim Abdel Jalil, Environment and Development, Dar Al-Maaref, Cairo, 2002.
- Ibrahim Abdel Jalil Al-Sayed, "The Kyoto Protocol and the Responsibility of Industrialized Countries", International Conference on Environment and Economic Requirements, 2022, Abu Dhabi.
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- Arab Environment. 8: Arab public opinion poll on consumption patterns: Sustainable consumption: for better resource management in Arab countries includes / Ibrahim Abdul Jalil, Najib Saab », Annual report of the Arab Forum for Environment and Development, 2015.
- Participated in the preparation of "Overview and Technical Summary: Adapting to a Changing Climate in Arab Countries - A Study for Leaders in Building Climate Resilience", Middle East and North Africa Development Report No. 64635, 2012, World Bank, Washington.
- One of the main contributors to the second issue of "Energy Horizons" Magazine issued by the Information Center and Decision Support Center affiliated with the Egyptian Cabinet, June 2023.
- Participated in the preparation of the 12th conference of the Arab Forum for Environment and Development "AFED" guidelines held in Beirut on environmental education in November 2019, and in the preparation of the Human Development Report in Egypt 2021, and the report "Human Development and Environment" (Ministry of Electricity) December 2021.

Third: Events:

- The "Green Economy Development Path" forum in Ajman - UAE in November 2011.
- The Green Investment Conference held on the sidelines of the Arab Environment Ministers Meeting in Hurghada in June 2014.
- The annual conference of the Arab Forum for Environment and Development (AFED) in Beirut in November 2012, and its tenth edition on "The Arab Environment in 10 Years" in Beirut in November 2017.
- Environmental Investment Support Week in Cairo in 2023, in celebration of World Environment Day.

Ms. Maha Mahmoud
Researcher of Saif Bin Helal Center for Studies and Research in Energy Sciences (SBHC)

Energy Hazards Around the Globe

1- The International Atomic Energy Agency, a United Nations agency, called for the establishment of a demilitarized zone around the giant Zaporizhzhia Nuclear Power Station in Ukraine, which is occupied by Russia.

In its latest report, the agency confirmed that despite the continuous shelling, there has not yet been a nuclear emergency, but it still poses a continuous threat to nuclear safety and security due to potential impact on vital safety measures that could lead to highly dangerous radiation consequences. Experts from the agency noted significant damage to the nuclear power plant, and although there was no radiation leakage, the agency stated that the oxygen-nitrogen processing unit and the high-voltage power line were damaged at the plant located in southern Ukraine, which is the largest in Europe. The International Atomic Energy Agency remains extremely concerned about the situation at the Zaporizhzhia Nuclear Power Station.

2- After Germany abandoned nuclear energy, what will happen to its radioactive waste?

Germany has completely abandoned nuclear energy, but the issue will continue to be a major concern for the country for many years. There is now a heated debate about decommissioning the power plants, removing them, and how to dispose of their remnants and highly radioactive waste.

Nuclear energy has become a thing of the past in Germany. Since the 1960s, the country has been supplied with energy by 20 nuclear power plants, and the last three nuclear power plants stopped operating on the fifteenth of this month. The Minister of the Environment, Steffi Lemke from the Green Party, commented on this in a radio interview, saying, "I believe that we should focus all our efforts on promoting solar and wind energy and saving energy consumption, and stop these outdated discussions." Due to tension in the energy market against the backdrop of the war in Ukraine, there are still voices calling for the extension of the operation of nuclear power plants, but these voices have not prevented the closure of these plants.

However, despite abandoning nuclear energy, the issue will continue to occupy the country for a long time. Nuclear power plants must be dismantled and disposed of. But the issue of burying and permanently storing nuclear waste remains the most difficult and controversial. Like other countries that have or still have nuclear power plants, Germany has also not found a permanent and safe place to bury nuclear waste, and these wastes are currently stored in temporary repositories in the areas where the nuclear power plants have stopped operating. However, the law stipulates that radioactive waste must be buried underground safely for thousands of years.

Germany and about thirty other countries that have or had nuclear power plants agree that radioactive waste must be buried underground, but where exactly? The "Gorleben" area in Lower Saxony, Eastern Germany, has long been the preferred place for German politicians to bury nuclear waste. However, "Gorleben" has also always been a site of protests against nuclear energy, so the government abandoned choosing this place for nuclear waste disposal. Now, the search is underway throughout Germany in over 90 locations for a suitable alternative to Gorleben. In this context, Wolfram König says, "We must assume that the process of finding a final resting place for nuclear waste in Germany will last about the same period of time as we used nuclear energy, which is 60 years."

As dismantling about 20 nuclear power plants will also take some time. Wolfram König says: "The responsibility for dismantling shut-down power plants lies with their operators. They must organize the dismantling process." There are now nuclear power plants in thirty countries around the world. Nuclear power plants have been closed in Italy, Kazakhstan, and Lithuania. While the United Arab Emirates and Belarus are now building nuclear power plants and will join nuclear energy users.

The final and secure burial of nuclear waste remains a global problem that has not been solved, and Finland has made the greatest progress in this field. Visa Lakanemi, the mayor of Eurajoki in southern Finland, said in an interview with the German channel ARD about the establishment of a permanent repository for nuclear waste in his region, "Those who benefit from electricity must also bear the responsibility for waste, and this is the case in Finland. Those who use electricity generated from nuclear power must also pay the cost of final storage for waste with their bill." The cost of building the final or eternal repository for nuclear waste is estimated at around 3.5 billion euros.

3- Swiss start-up companies are looking to reinvent nuclear energy:

Transmutex is developing a new type of nuclear reactor that uses thorium instead of uranium, which can produce electricity more safely and without generating high radiation waste, paving the way for a emissions-free society.

Nuclear power plants produce electricity by harnessing the heat generated by nuclear reactions. In a traditional reactor, neutrons collide with fuel atoms, usually uranium or plutonium. The atoms split (fission) and release energy and more neutrons, leading to a chain reaction. The heat energy generated by fission is used to produce steam and then electricity. A nuclear power plant continuously produces electricity in large quantities without emitting greenhouse gases, but it generates radioactive waste, which many countries, including Switzerland, do not know where to store safely and sustainably.

From here came the idea of "Transmutex," which is the use of thorium instead of uranium, and its integration with particle accelerators. Thorium is a weakly radioactive mineral, abundant in almost the entire rocky layer of the Earth's crust, and it is more available than uranium, while most of the uranium used as nuclear fuel is extracted from mines in Kazakhstan, Australia, and Canada.

Christian Schafner, director of the Energy Science Center at the Swiss Federal Institute of Technology in Zurich, said, "It would be great to have flexible, standardized, and small-sized technology to produce clean and safe energy within ten years," and that we need electricity for transportation and heating, so we need more electricity and it may take twenty years to connect a new power station to the grid, and the climate emergencies will not give us all this time
Thorium splits inside a nuclear reactor without difficulty and is fed with neutrons through particle accelerators, which means that the reactor, unlike traditional reactors, does not undergo a sequential reaction, meaning it stops immediately once the flow of neutrons stops.

4- China is preparing to launch a nuclear-powered aircraft carrier:
China seeks to enhance its military capabilities by manufacturing a number of new aircraft carriers, one of which is nuclear-powered and is expected to be operational this year. When the production of the new aircraft carrier is completed, China will rank third among the countries that have produced nuclear-powered carriers. Although nuclear fuel is relatively cheap, its generation cost is generally high due to the need for massive investments in infrastructure projects. Therefore, so far, only military aircraft carriers have been produced that operate on nuclear energy.

The Chinese move comes as part of attempts to secure the country from multiple directions, as it works to enhance its military capabilities, enabling it to confront threats from the United States in the Asia-Pacific region. Beijing is striving in every way to enhance its naval capabilities to face challenges in the South China Sea and the Indian Ocean.

China will launch the new nuclear-powered aircraft carrier in the shipbuilding area of "Jiangnan," in addition to two other aircraft carriers that do not rely on nuclear energy.

The use of nuclear power provides significant advantages for the durability and shape of a ship, and nuclear power in aircraft carriers is distinguished by its ability to operate for a long period of time compared to oil or coal energy. Additionally, it does not take up space on the carrier because the energy is contained within the reactor. However, some countries, such as the United Kingdom, have rejected it due to high costs. The United States and France are the only two countries in the world that operate nuclear-powered aircraft carriers. Traditional aircraft carriers operate on oil or coal, while nuclear-powered carriers operate by generating heat from the reactor.

5- European Hydrogen Backbone Initiative:

In its latest version on Europe's vision for hydrogen infrastructure, the European Hydrogen Backbone Initiative (EHB) revealed that Spain will rely on transportation pipelines with Italy and Morocco for the transport of this biofuel.

As Europe moves away from relying on fossil fuels, the hydrogen backbone represents the backbone of clean energy plans on the continent. Governments have proposed hundreds of hydrogen projects in recent years, but only 7% of those projects have received the necessary funding for implementation. Many of these governments rely on hydrogen to replace fossil fuels because other renewable energy sources, such as wind and solar power, cannot easily perform the same tasks due to some industrial processes that cannot easily rely on electrical sources.

The main advantage of hydrogen is that it serves as a means to store excess energy produced by offshore wind farms and solar arrays in remote deserts for future use. It can also be produced using low-carbon technologies, which increases its attractiveness to governments trying to phase out coal. However, this requires clearer regulatory legislation as well as government funding. The European Union has committed to building two liquefied natural gas stations to replace foreign gas supplies.

And there are plans in place to postpone the planned closure of coal-operated power stations, as coal has become more economically competitive compared to gas. With the rapid increase in gas prices, some countries may resort to relying more on fossil fuel options like coal due to its lower costs, which could lead to a slower recovery and a structural change in global energy. This can be interpreted as the climate change goals pledged by the European Union during the 26th United Nations Climate Change Conference (COP26) no longer being a top priority.

6- "Students protest in Seoul against Japan's plan to discharge treated radioactive water from the Fukushima plant. South Korea:

South Korea has called on Japan to have a supervisory role by sharing a team of experts in monitoring the process of discharging radiation-treated water from the Fukushima plant. South Korean President Moon Jae-in made the request during a discussion with Japanese Prime Minister Fumio Kishida on the sidelines of the two-day NATO summit in Vilnius, Lithuania, according to a statement from the South Korean presidency office. Yun demanded the suspension of Japan's plan to discharge treated water in the event of any malfunction, such as the discovery of a concentration of radioactive material that exceeds international standards. The Foreign Ministry quoted Kishida as saying in a separate statement that appropriate measures would be taken in the event of a problem, including the immediate suspension of water discharge. China criticized the agency's position to soon begin discharging about 1.33 million tons of treated and reduced contaminated water.

Japan Plan:

The Japanese government intends to discharge Fukushima plant water into the ocean after treatment through a system that removes radioactive elements except tritium, then reduces the density of the water. Tritium is a hydrogen isotope that is difficult to separate from water. The treatment will be reduced to levels much lower than international tritium levels before being discharged into the ocean. Pollution removal and plant dismantling will take several decades. Nevertheless, public concern about the plan in South Korea remains high, with some opposition lawmakers beginning a hunger strike in protest, while residents rushed to buy salt out of fears that the ocean would be contaminated."

"IAFES" News

"SBHC" News

"IAFES" News

The International Agency for Energy Security is in talks with several satellite manufacturing companies regarding the production and launch of the first satellite dedicated to monitoring various energy resources to protect and secure vital energy facilities in different countries around the world. The agency is close to finalizing a contract with one of the largest high-tech satellite manufacturers.

"SBHC" News

Recognizing the importance of networking and constructive collaboration at the local, regional, and international levels, Saif Bin Helal Center for Studies and Research in Energy Sciences emphasizes the need for cooperation between the center, various research institutions, government entities concerned with energy issues in Egypt, and specialized energy departments within the Arab League. Throughout July 2023, Saif Bin Helal Center for Studies and Research in Energy Sciences held a series of joint meetings with Al-Ahram Center for Political and Strategic Studies, the Sustainability Office at Cairo University, and the Energy Management at the Arab League. These meetings aimed to discuss areas of cooperation and the desire to build common relationships between the center and the aforementioned entities, serving energy issues at all local, regional, and international levels.

The meetings and their outcomes can be summarized as follows:

1- On Sunday, July 7, 2023, Saif Bin Helal Center for Studies and Research in Energy Sciences held a meeting with officials from Al-Ahram Center for Political and Strategic Studies.

The meeting, held at Al-Ahram Center for Political and Strategic Studies, was attended by:

- Dr. Ayman Abdel Wahab - Deputy Chairman of Al-Ahram Center.

And:

- Ms. Nashwa Nashaat - Executive Director of Saif Bin Helal Center for Studies and Research in Energy Sciences (SBHC).
- Prof. Ibrahim Hassan - Former Vice President for Studies and Conferences Affairs at Saif Bin Helal Center for Studies and Research in Energy Sciences (SBHC).

Ms. Heba Hashish - Former Executive Director of Saif Bin Helal Center for Studies and Research in Energy Sciences (SBHC).
The purpose of the meeting was to discuss areas of cooperation and partnership between Saif Bin Helal Center for Studies and Research in Energy Sciences and Al-Ahram Center for Political and Strategic Studies through a signed cooperation protocol between both parties.
The meeting concluded with Al-Ahram Center for Political and Strategic Studies agreeing to the proposed partnership with Saif Bin Helal Center through the signing of a joint cooperation protocol in the near future.

2. On Tuesday, July 18, 2023, Saif Bin Helal Center for Studies and Research in Energy Sciences held a meeting with the directors of the Sustainability Office at Cairo University.

The meeting, which took place at the Sustainability Office at Cairo University, was attended by:
- Dr. Soheir Fahmy - the General Coordinator of the Sustainability Office at Cairo University
- Dr. Mohamed Naguib - the Executive Director of the Sustainability Office at Cairo University
- Nashwa Nashaat - the Executive Director of Saif Bin Helal Center for Studies and Research (SBHC)
- Prof. Ibrahim Hassan - Former Vice President for Studies and Conferences Affairs at Saif Bin Helal Center for Studies and Research (SBHC)

The aim of the meeting was to discuss areas of mutual cooperation between Saif Bin Helal Center for Studies and Research in Energy Sciences and the Sustainability Office at Cairo University.
Both parties proposed studying the possibility of organizing a regional competition among universities in the Arab and African regions to determine the best environmentally friendly regional university. They also discussed the collaboration between the Energy Studies and Research Center, represented by the Environmental Management Department within the Center, and the Sustainability Office at Cairo University. The importance of cooperation and joint coordination in preparing for the COP28 Climate Change Summit was emphasized. The Center's team proposed forming a technical expert committee from various faculties at Cairo University to hold regular meetings as part of the preparations for the climate summit.

3. On Tuesday, August 1, 2023, Saif bin Helal Center for Studies and Research in Energy Sciences held a meeting with the Energy Department at the Arab League to discuss areas of mutual cooperation between the two parties.

The meeting, which was held at the headquarters of the Arab League, was attended by:
- Ambassador Jamila Matar - Director of the Energy Department at the Arab League.
- Ms. Nashwa Nashaat - Executive Director of Saif Bin Helal Center for Studies and Research (SBHC).
- Prof. Ibrahim Hassan - Former Vice President for Studies and Conferences Affairs at Saif Bin Helal Center for Studies and Research in Energy Sciences (SBHC).

The purpose of the meeting was to discuss areas of mutual cooperation between SBHC and the Energy Department at the Arab League.

The two parties agreed to cooperate and coordinate what is related to the UAE Climate Summit (COP28), especially regarding the panel discussion that will be held by the center on the sidelines of the summit. They also agreed to coordinate with Saif Bin Helal Center regarding the international conference on "Energy Security" in February 2024. In addition, the Energy Department at the Arab League was invited to participate in the first panel discussion that the center will hold with Al-Ahram Center for Political and Strategic Studies on energy issues and challenges. There will also be joint coordination between the Environmental and Climate Change Department at the Arab League and Saif Bin Helal Center regarding the upcoming climate summit.

4- On Wednesday, August 2, 2023, Saif Bin Helal Center for Studies and Research held a meeting with officials from Al-Ahram Center for Political and Strategic Studies.

The meeting was attended by

Dr. Ayman Abdel Wahab - Deputy Chairman of Al-Ahram Center.

Dr. Mohamed Fayez Farhat - Director of Al-Ahram Center.

And:

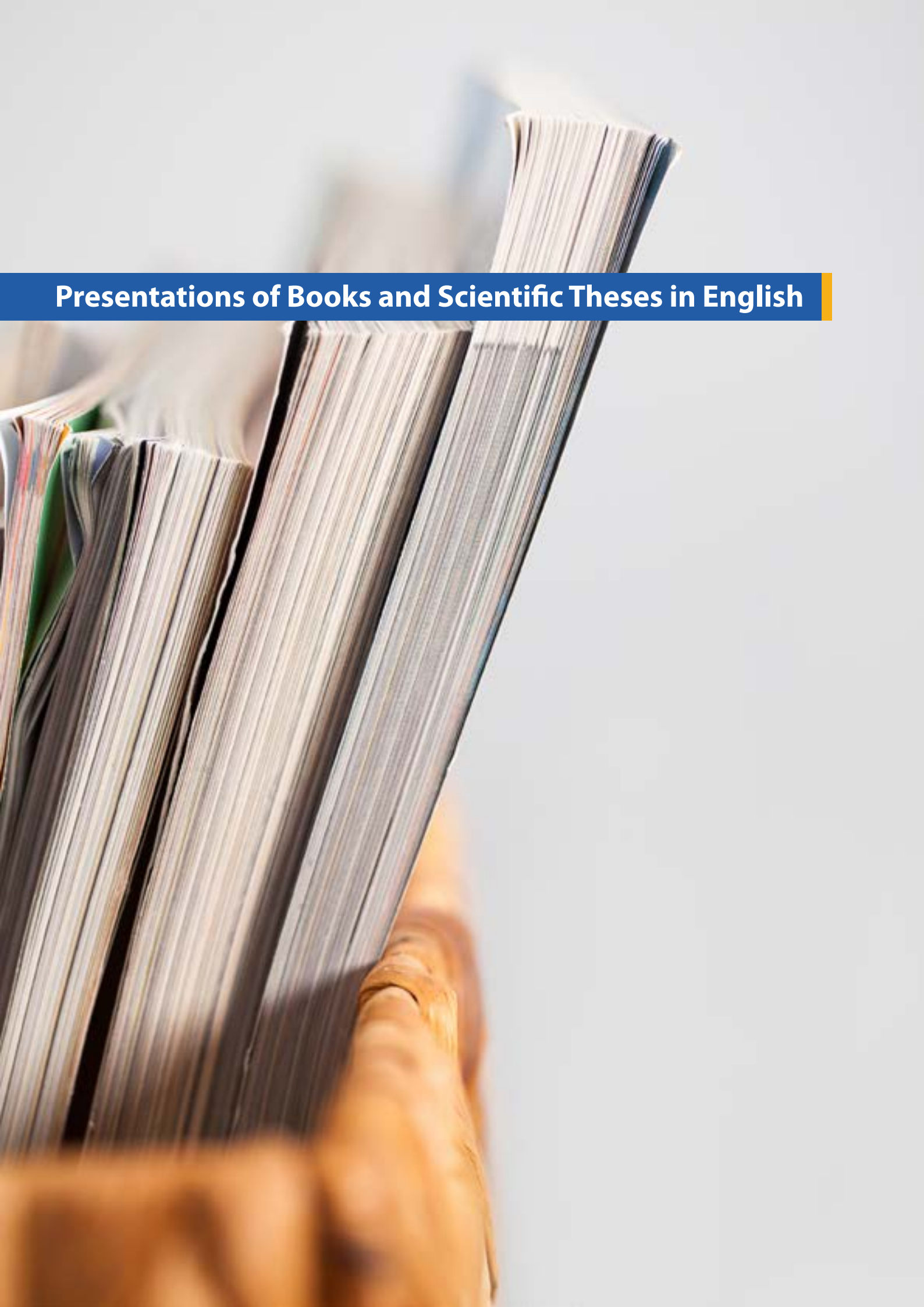
- Ms. Nashwa Nashaat - the Executive Director of Saif Bin Helal Center for Studies and Research (SBHC).
- Prof. Ibrahim Hassan - Former Vice President for Studies and Conferences Affairs at Saif Bin Helal Center for Studies and Research in Energy Sciences (SBHC).
- Ms. Heba Hashish - Former Executive Director of Saif Bin Helal Center for Studies and Research (SBHC).

The purpose of the meeting was to discuss a proposed cooperation and partnership protocol between Saif Bin Helal Center for Studies and Research in Energy Sciences and the Al-Ahram Center for Political and Strategic Studies, which includes the following items:

1. Implementation of a series of panel discussions (Forums) in cooperation and coordination between the research centers on supporting the concept of energy security and its connection to various issues.
2. Implementation of a series of specialized training programs for youth on energy issues with their different dimensions (political, economic, strategic, etc.).
3. Joint exchange of publications, reports, and studies related to energy issues from Al-Ahram Center for Political and Strategic Studies and Saif Bin Helal Center for Studies and Research.

The two parties agreed to hold the first joint panel discussion in August 2023. It is worth mentioning that Saif Bin Helal Center has prepared a policy paper on the panel discussions to be held in cooperation with Al-Ahram Center, which has been well received by the latter.

Presentations of Books and Scientific Theses in English



Book Title: Energy Security in the Eastern Mediterranean
Publishing House: Palgrave Macmillan
Year of Publication: 2022

Mr. Ahmed Abou Youssef
Researcher at Saif Bin Helal Center for Studies and Research in Energy Sciences (SBHC)

Energy Security in the Eastern Mediterranean

Energy Security in the Eastern Mediterranean, authored by Floros Flouros, consists of four chapters and was published in 2022 by Palgrave Macmillan. In this book, the author has tried to show the importance of energy in shaping relationships around the world, taking into consideration the rising demand for energy supplies.

In Chapter 1:

The author stated that energy is a key component of countries' development and power worldwide. Despite energy advantages, countries should take into consideration that energy will be scarce in the future. As a result, they should work on alternatives from now on to generate electricity. From different methods to approach the case, Floros decided to use the approach of international political economy to connect energy, society, technology, and politics.

This approach mainly aims at understanding how politics shapes the economy and how the economy shapes politics. Floros has also explained the connection between the international political economy and economic theory and how that contributed to better understanding and explaining the economic issues at the international level. Realism has also contributed to the importance of natural resources as countries seek to maximize their benefits by seizing sources of energy. This is an indicator that countries can go to war once they recognize their interests are under threat.

In Chapter 2:

The author analyzed the international landscape of energy. In the beginning, he stated that changes in the international system of power have impacted the landscape of energy, especially after the fall of the Soviet Union in 1991. Floros has also mentioned that the biggest increases in oil consumption within a decade came from the developing world. In 2018, China imported 70% of its needs in oil and around 40% of its consumption in natural gas, while India imported 80% of its needs in oil and around 50% of its consumption in natural gas. In this chapter, the author has also talked about the main actors in this field of global energy. Those actors are the KSA, Qatar, Kuwait, Iraq, the UAE, Russia, the United States, and Norway. The author has also stated that the high usage of oil and its derivatives has contributed to climate change that has resulted in more deserting of lands, which has created a food crisis. It is obvious in this chapter that the author has not paid enough attention to Iran and Venezuela, despite their being known to have huge reserves of oil and gas (Venezuela is number one in the world in terms of oil reserves, while Iran is among the top 5).

Iran and Venezuela are playing a huge correlational role in their capacities due to Western sanctions; however, it is worth noting that they can contribute to easing the energy crisis in the world.

In Chapter 3:

The author talked about Europe and its energy needs. Europe as a continent is not rich in oil and gas, and it is importing its needs from the Gulf and Russia. The author stated that the crisis began in 2022 when Russia invaded Ukraine as European countries imposed sanctions on Russia, attempting to force it to withdraw forces from Ukraine.

Additionally, it was not logical for Europe to impose sanctions on Russia while buying oil from it, as this provided Russia with billions of dollars that have been used to support its military actions in Ukraine. The author has also given analytical details of the gas exporters to Europe. For instance, in 2020, the main exporter of NG to the EU was Russia (39.3%), followed by Norway (19.2%), similar to previous years. Other exporting countries to the EU27 are Algeria (12.3%), the UK (6.7%), and the US (6.7%).

Since Europe is one of the main consumers of oil and gas in the world and since the North Sea is an insufficient provider of gas and oil, Europe has started looking for new green sources. Of course, Europe is rich in coal. However, the EU is attempting not to depend on it as a main source of energy due to its negative impacts on the environment. Drawing on this, the EU has increased its investments in gas as a sustainable source of energy on the continent. In this chapter, the author has ignored the role of nuclear energy. It is known that Europe is looking for new sources of clean energy. However, Europe must not stop depending on or close its nuclear plants until it secures new sources of energy.

Other alternatives that the user has ignored include generating electricity from the sun. Since Europe is known for being cold, it is more than suggested that Europe invest money to build plants in Africa, Sub-Saharan Africa, or the oceans.

In Chapter 4:

The author has analyzed the state of energy in the Eastern Mediterranean. By 2020, the GDP of countries residing in the Eastern Mediterranean was approximately 1.8 trillion dollars, which is about 10% of their respective GDP in Europe. The economy of the Eastern Mediterranean region is foreseen to grow further, while at the same time the population of the region is expected to grow by an additional 68 million people by 2030 and an additional 80 million during the subsequent period up to 2050.

Based on current levels of consumption, regional energy (oil and natural gas) reserves are not enough to last for more than a few decades. However, the latest discoveries of large hydrocarbon resources in natural gas (NG) in the offshore Levant Basin and Zohr resin are affecting the supply-side forecasts for the region.

These discoveries have the potential to provide the necessary energy supply to meet the growing regional demand and possibly even spur exports. Some scholars believe that the gas discoveries in the Eastern Mediterranean can cause political disruptions and tensions between countries rather than enhance their relationships. The author has also provided detailed information about energy production in countries residing in the Eastern Mediterranean. For instance, the average daily petroleum production in the country had reached around 7.1 billion cubic feet (bcf) per day by the end of 2018, which is 75% more than five years earlier. Based on the Cairo Declaration that was signed between Egypt, Cyprus, and Greece, Turkey was supposed to terminate all exploration missions in areas designated to be in the lands of Cyprus. For Greece, there are three different geographical zones where geophysical hydrocarbon exploration takes place and where the prospects for exploration of NG deposits are either confirmed or high: (a) marine plots in the Ionian Sea; (b) marine plots in the Aegean Sea and (c) marine plots south of the island of Crete. The country has also been trying in the past few years to delineate its maritime borders with neighbors like Egypt, Cyprus, Turkey, Albania, and Italy.

Previous studies and estimates by Greek and international analysts have shown that the potential value of Greece's natural gas reserves could create a turnover in excess of 250 billion dollars, supporting the process of replacing coal with natural gas in the wider region and accelerating the transition to a more sustainable low-energy energy system. Lebanon depends mainly on importing oil and gas.
The Lebanese are currently making progress in the legislative process, and despite the political turmoil in Lebanon, they intend to continue exploration activities. Regarding regional cooperation for Lebanon, it appears that Cyprus could have been an excellent place for a hub for exporting gas to an energy facility; however, each country has its own priorities and internal needs that precede the choice of exports and cooperation with third parties that come second. For Palestine, the country has Gaza Marine, which was discovered in 1999 by British Gas and is expected to play a prominent role in securing energy needs in Palestine.

Syria is not rich in oil. However, the discoveries in the Eastern Mediterranean were negatively impacted due to the conflict. Similarly, the conflict in Syria has impacted Lebanon's attempts to discover new oil fields as waves of migration have invaded Lebanon, which is already known to have very limited resources. By that, I mean that Lebanon could not designate large amounts of money to explore its maritime territory in the Eastern Mediterranean. For Turkey, the author mentioned that the country has gone through internal changes that have enabled it to conduct exploration in the Eastern Mediterranean while ignoring the EU warnings. Turkey is also known for having very limited resources, and the country is ambitious to find more.

In the end, the author has talked about the Union for the Mediterranean and its role in increasing cooperation between countries north and south of the Mediterranean. However, the author has ignored the fact that this organization has not played any effective role in easing tensions between Greece and Cyprus on one side and Turkey on the other. Also, Turkey has signed a maritime deal with Libya that was refused by other countries like Greece and Cyprus, which indicates that the role of the UFM is limited when it comes to conflicts over energy.

Book Title: The International Law of Energy
Publishing House: Cambridge University Press
Year of Publication: 2022

Fadi Khalil
Researcher at Saif Bin Helal Center for Studies and Research in Energy Sciences (SBHC)

The International Law of Energy

International

The book is composed of 8 chapters with a total of 482 pages (the core is 340 pages), written by Jorge E. Viñuales. It is part of 'Cambridge Studies in International and Comparative Law', and was published in September 2022 by Cambridge University Press.

The author is "the Harold Samuel Chair of Law at Cambridge, the Founding Director of the Cambridge Centre for Environment, Energy, and Natural Resources Governance, and a Member (Associé) of the Institut de Droit International. He has published extensively on international law and has wide experience as a counsel, expert, and adjudicator".

The book argues that the architecture of energy in the world promotes the universal environmental crisis and that changing it requires massive regulatory change. In reaching this result, it gives an inclusive coverage of the international rules, processes, and institutions on energy, and extensively analyses the effects of the current energy transformation on its overall market share and global energy governance. Also, it provides an up-to-date account of the current developments fueled by energy transformation.

In Chapter 1:

'Energy in International Law' introduces energy as an object governed by law (a resource, a product, a technology, and an activity), explains the objectives of international energy governance (availability, security of supply, diversification, efficiency, safety, access, and sustainability), the architecture of global energy transactions (entitlements over energy, the enabling and protection of the transactions, and the regulation of their negative externalities), and the significant approaches or patterns applied in their regulation ('foundational', 'ad hoc' and 'centralized'). Furthermore, it demonstrates that the principal driver of internationalizing energy transactions has been the differences between the countries, in which the energy resources that characterize the 'mineral fuel' economy are located and consumed in the first place. That said, from an analytical perspective, the author asserts that these are the elements that describe the transformation of the objectives of energy governance.

The applications of these concepts and approaches then appear in the remaining chapters.

In Chapter 2:

'Foundational Approach - International Energy Transactions' identifies and lays the functions of what the author believes are the two sets of rules organizing international energy transactions. The first are the rules: a) conferring entitlements of various entities (e.g. states, international organizations, peoples, other groups, and individuals) over energy resources that convert into products; and b) that organize the allocation among competing uses. The second set of rules are those organizing the necessary transnational movements to access resources and process them in products, to be consumed in other states. The chapter adds that these rules and processes also empower and safeguard investment, flows of trade and the transit required by these transactions.

In Chapter 3:

'Foundational Approach - Regulating Negative Externalities', applied in parallel with the 'foundational' approach, also identifies and lays the functions of additional set of rules that limit the harmful effects of the said transactions on humans and the environment (human rights law, international environmental law, and investment, trade and transit law). Then, it analyzes the advantages and disadvantages of their inclusion with illustrations. After that, he reaches the opinion that this set of rules have re-explained energy questions in instruments tackling the limitation of greenhouse gases emissions, reduction of environmental degradation, and the fulfillment of human rights.

The author then sees that the rules in Chapters 2 and 3 lay the legal background of international energy transactions.

In Chapter 4:

'Ad Hoc Approach - Joint Development of Hydrocarbons' gives a brief introduction to the main characteristics of ad hoc perspectives to governance. The author states that the rule in this ad hoc governance is a certain deposit of hydrocarbons or the project for the exploitation of part of a hydrocarbon deposit to generate electricity from a shared watercourse or develop/operate pivotal energy infrastructures, most importantly pipelines or electricity transmission lines.

In Chapter 5:

'Ad Hoc Approach - Hydroelectricity, Offshore Wind, Pipelines and Electricity Transmission Lines' discusses the four other major applications of the ad hoc approach, that is "the construction and operation of hydroelectric dams, pipelines, offshore wind energy projects, and electricity transmission lines". The chapter adds that the increasing variety of applications of the ad hoc approach, specifically with regards to modern renewable energies and electrification, could be seen as a manifestation of the current energy transition. Furthermore, the ad hoc hydroelectricity regimes are also relevant, but given their long history, they cannot as such be considered manifestations of the energy transformation. These regimes, the book clarifies, have been increasingly applied, to date, in order to organize: a) the joint development and transportation of hydrocarbons; b) long-distance electricity transmission lines and offshore windfarms.

In Chapter 6:

It is on Centralized Approach - Nuclear Energy'. The author uses the term 'centralized' to address a high level of institutionalization and a central 'steer', not a regime only managed internationally. The chapter introduces the main characteristics of this approach in broad terms and then turns to its clearest example, the international law on nuclear energy. The chapter examines the latter in two steps: a) the historical driver of the 'dual use' of nuclear technology for centralization; b) the architecture and content of the centralized governance of nuclear energy, while paying specific attention to the IAEA's role.

In Chapter 7:

'Centralized Approach Producer/Consumer, Promotion and Regional Cooperation Organisations' (the three main forms of proto-centralization) show that, in a number of cases, the absolute objective of a regime has been highly centralized (e.g. the one governing nuclear energy). In other sets of cases, the level of centralization has been narrower and lower, dedicated to defending specific interests. Examples of these interests include those of the producers (such as GECF or OPEC), of the consumers (such as "the IEA – of oil or gas"), that concern the promotion of specific forms of energy (for example, IRENA's and IEA's promotion of renewable energies), or on regional cooperation (whether being highly integrated, as in the European Union, or loose, as in South-East Asia and South America).

Then, the author demonstrates that the evidence of this is manifested by the way goals, such as SDG7 "Ensure access to affordable, reliable, sustainable and modern energy for all", are designed, as well as in the improvement of the roles of centralized and proto-centralized regimes. Examples of the former include the IAEA, and the EU energy policy beginning with the 'Third Package', whereas the significant example of the latter is the improvement of IEA's mandate and IRENA's establishment.

In Chapter 8:

The chapter argues that sector rules concerning the protection of foreign investment, which are neutral, are widely applied currently by the renewable energy sector, in order to defend its ability to compete against other processes that generate energy. Furthermore, it points out the fact that "the green industrial policies enacted to sustain the development of renewable energy sectors have been successfully challenged before trade panels, whereas fossil fuel subsidies and other production subsidies have so far escaped trade disciplines".

In conclusion, the author views that the emerging socio-technical regime seems to be well-positioned in the third phase, within the 4 general phases of an energy transition "(technological innovation, scaling up of production, expansion of market share in core markets, propagation and consolidation throughout)". This is seconded by organizations, the new objectives, old rules on foreign investment, and - to a lesser degree - trade.

Furthermore, he asserts that the legal dimension is largely unreached, namely the rules granting entitlements to energy, even in the highly integrated European Union. Most probably, he adds, this is due to sovereignty issues related to the minerals of the fossil fuel economy, as well as those supporting the technologies leading the energy transition.

Lastly, the author sees that one of the important front lines in the fight for realizing market share is the system of trade between the consolidated socio-technical-regime companies. The author believes that it is a process, through which the shares of various energy technologies, and their transactions, pass by a substantial, sometimes fundamental, readjustment. Finally, the author predicts that the rules and technologies of the former socio-technical regime will remain with those of the new regime, and views this as important, provided that individuals are given time to address the causes of that transition.

Evaluation

Despite the book's title, which gives the reader the impression that it belongs to the legal discipline, it is clear that it follows the interdisciplinary/applied approach, as it focuses on the practical sides of the topic of 'Energy' (namely scientific, policy, economic, operational, trade, etc.) much more than the theoretical (legal) side. This also makes it belong to the realist school of international law, which, contrary to the positivist school, speaks facts much more than law. In other words, unlike the positivist school, the author gives the least weight to the identification of all treaty and customary rules, and general principles of law, on 'Energy', and does not mainly analyze them in light of previous judicial decisions and juristic teachings.

That said, the points of strength of the book are many. First, the book is devoted to Energy, not also to other aspects, such as environment and investment, and hence, as we shall see in the upcoming points, offers comprehensive information on the subject. Second, the core of the book is presented in 340 pages, which makes it relatively concise. Third, the book is recent, published in September 2022. Fourth, the Publisher, Cambridge University Press, is a leading academic one. Fifth, the book is currently given a full rate of '5.0' on Amazon and ranked 4th on Amazon out of 110 books in the theme 'Foreign & International Law'. Sixth, the author, Jorge E. Viñuales, is a world-leading legal expert in the field of Energy, who has co-authored, for example, International Environmental Law 2nd Edition with Pierre-Marie Dupuy, rated '4.9' on Amazon. Finally, the book tackles the theoretical and real-world policy dimensions of the international law on energy and provides a strong basis for research, teaching, and practice.

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Note

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Sources and references

All sources and references for the scientific material of the magazine.

It can be consulted through the website of the Saif Bin Helal Center for Energy Science Studies and Research.

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إحدى مؤسسات الوكالة الدولية لأمن الطاقة
A Subsidiary of the "International Agency for Energy Security"
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Contact Us

H.Q Address	5115 Lankershim Blvd, North Hollywood, CA 91601
Address	Tower 25, Abd El-Moneim Riad Street, Mohandessin, Giza, 8th floor, Office 17-18.
Telephone	(+2) 0233350114 - (+2) 0233350115
E-mail	info@sbhcenter.com
Website	www.sbhcenter.com

www.sbhcenter.com