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Article

Energy Productivity as a Strategy for Transitioning Towards a Prosperous Economy within the Framework of Saudi Vision 2030 and the Requirements of the Sustainable Development Goals

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Abstract: The availability of energy services is a key element in achieving sustainable development. The Kingdom of Saudi Arabia has affirmed its full commitment to achieving the Sustainable Development Goals (SDGs) at the national level and has taken effective steps to implement the 2030 Agenda. Managing the relationship between energy consumption and economic growth is crucial for sustainable development, with energy productivity serving as an indicator for policymakers to identify where and how to maximize the value derived from energy use. Saudi Vision 2030 has set clear objectives related to its overarching goal of transitioning to a less oil-dependent economy by fostering growth in the non-oil private sector. However, low energy prices and strong growth in the production of relatively low–value-added and energy-intensive goods make improving energy productivity a significant challenge for Saudi Arabia. This situation requires the Kingdom to enhance energy efficiency as a pathway to mitigating the financial and economic risks associated with the current oil-based growth model. In response, Saudi Arabia has developed a comprehensive energy efficiency program that encompasses all major energy-consuming sectors.

Keywords— Energy Productivity, Saudi Vision 2030, Sustainable Development

INTRODUCTION

The availability of energy services is a crucial factor in achieving sustainable development, as energy supply constitutes a fundamental driver of production, stability, and growth in the economic sphere. This, in turn, generates job opportunities and improves living standards. In contrast, the absence or inadequacy of modern energy services is linked to numerous poverty indicators. Since access to energy is a necessity for all, it is essential to focus on ensuring universal access, improving energy efficiency, and promoting the use of renewable energy. The latter is considered one of the most important alternatives for achieving sustainable economic development by creating new jobs and economic opportunities.

As a founding member of the United Nations, the Kingdom of Saudi Arabia has played an active role in shaping the outcomes of the Sustainable Development Goals (SDGs). The Kingdom has reaffirmed its full commitment to achieving the SDGs at the national level and has taken effective steps to implement the 2030 Agenda. Managing the relationship between energy consumption and economic growth will be vital for sustainable development, with energy productivity serving as an indicator for policymakers to determine where and how to maximize the value of energy use. Saudi Vision 2030 has set clear objectives aligned with its overarching aim of transitioning towards a less oil-dependent economy by accelerating the growth of the non-oil private sector.

However, low energy prices and strong growth in the production of relatively low–value-added and energy-intensive goods make improving energy productivity a major challenge in Saudi Arabia. This necessitates enhancing energy efficiency as a

pathway to reduce the financial and economic risks associated with the current oil-based growth model. Consequently, Saudi Arabia has developed a comprehensive energy efficiency program covering all major energy-consuming sectors.

The main research question can thus be formulated as follows:

To what extent can energy productivity contribute to achieving Saudi Vision 2030 and the Sustainable Development Goals?

We attempt to address this research problem through the following axes.

The Concept of Sustainable Development

Various definitions of sustainable development have been proposed, yet the widely accepted one originates from the report *Our Common Future*, published in 1987 by the Brundtland Commission. It states: *"Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs."*

The adoption of this definition by the United Nations General Assembly granted the term significant political importance, leading to the formulation of the principles of sustainable development in 1992 during the United Nations Conference on Environment and Development (UNCED) in Rio de Janeiro, Brazil[i].

Sustainable development is based on seven key concepts[ii]:

- Interdependence: Understanding the interconnected relationships between the environment and the economy at all levels, from local to global.
- Citizenship and stewardship: The responsibilities that each individual must assume within society to ensure the world becomes a better place.
- Needs and rights of future generations: Recognizing the basic needs of society and the implications of today's actions for future generations.
- Diversity: Respecting and valuing cultural, social, and economic differences.
- Quality of life: Acknowledging that achieving equality and justice worldwide are essential elements of sustainability and fundamental needs to be met globally.
- Uncertainty and precaution: Recognizing different approaches to sustainability, the continuous changes in circumstances, and the importance of flexible, adaptive learning.
- Sustainable change: Understanding that resources are limited, which may negatively affect human lifestyles.

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The Sustainable Development Goals (SDGs)Tourism

The SDGs are a universal call to action for all countries—whether poor, middle-income, or rich—to promote prosperity while protecting the planet. These goals recognize that ending poverty must go hand in hand with strategies that foster economic growth, while also addressing a range of social needs including education, health, social protection, and employment opportunities, alongside tackling climate change and protecting the environment.

The United Nations outlined the following SDGs[iii]:

- Goal 1: End poverty in all its forms everywhere.
- Goal 2: End hunger, achieve food security and improved nutrition, and promote sustainable agriculture.
- Goal 3: Ensure healthy lives and promote well-being for all at all ages.
- Goal 4: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all.
- Goal 5: Achieve gender equality and empower all women and girls.
- Goal 6: Ensure availability and sustainable management of water and sanitation for all.
- Goal 7: Ensure access to affordable, reliable, sustainable, and modern energy for all.
- Goal 8: Promote sustained, inclusive, and sustainable economic growth, full and productive employment, and decent work for all.
- Goal 9: Build resilient infrastructure, promote inclusive and sustainable industrialization, and foster innovation.
- Goal 10: Reduce inequality within and among countries.
- Goal 11: Make cities and human settlements inclusive, safe, resilient, and sustainable.
- Goal 12: Ensure sustainable consumption and production patterns.
- Goal 13: Take urgent action to combat climate change and its impacts.
- Goal 14: Conserve and sustainably use the oceans, seas, and marine resources for sustainable development.
- Goal 15: Protect, restore, and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, halt and reverse land degradation, and halt biodiversity loss.
- Goal 16: Promote peaceful and inclusive societies for sustainable development, provide access to justice for all, and build effective, accountable, and inclusive institutions at all levels.
- Goal 17: Strengthen the means of implementation and revitalize the global partnership for sustainable development.

The Sustainable Development Goal (SDG) 7 and its five targets lie at the very heart of the 17 SDGs. Without achieving the energy goal, it will be extremely difficult to provide access to quality healthcare and education, achieve gender equality, create job opportunities, promote economic growth, ensure sustainable consumption, or effectively combat climate change—all of which risks undermining the progress of all other goals. Moreover, SDG 7 is a fundamental driver for nearly every aspect of development. For this reason, success in achieving this goal must be prioritized and reached well before 2030 in order to establish the enabling conditions necessary for advancing the other goals[iv].

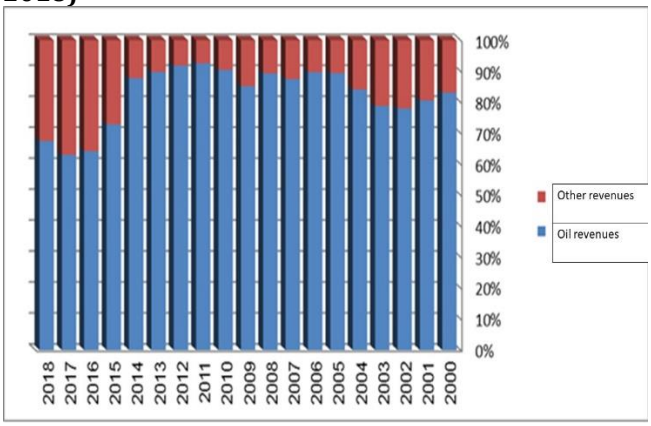
The Saudi Economic Structure and the Need for Vision 2030:

Oil Revenues

To this day, the current Saudi economic structure remains heavily dependent on oil. No significant transformation has occurred in diversifying the productive base that could generate private-sector jobs, enhance competitiveness and productivity, ensure sustainable growth, and build an industrial economy that will be of critical importance once oil revenues begin to decline. Such diversification is essential for stabilizing growth rates in the Kingdom and avoiding the fluctuations that hinder its transition to a middle- or high-income economy.

The sharp fall in oil prices in 2014, combined with high levels of government spending in recent years, has depleted state resources. Oil continues to contribute more than 80% of government revenues. In this section, we highlight the economic performance of the Kingdom of Saudi Arabia, as illustrated in Figure 01, which shows the contribution of oil revenues to financing the Saudi national budget (2000–2018).

Figure 01: Contribution of Oil Revenues to Financing the Saudi National Budget (2000–2018)



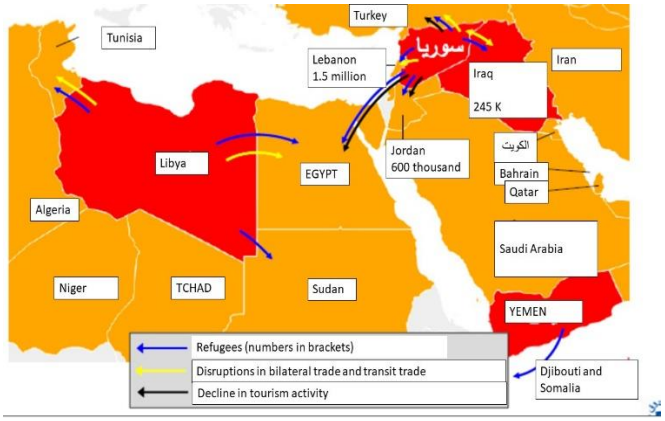
Source: Prepared by the researchers based on data from the Saudi Ministry of Finance, 2019.

Geopolitical Conflicts and Their Impact on Oil

Geopolitical factors significantly influence oil prices by affecting production volumes, global supply levels, and demand. Natural disasters, wars, and conflicts that threaten production sites, transportation and distribution routes, or consumption hubs directly impact oil prices. Prices are also influenced by the degree of political stability in oil-producing countries and in some key consuming nations—both regionally and globally.

Any form of political instability in these arenas can affect oil price levels. In addition, a set of behavioral factors—often equally important—contribute to oil price volatility. The Middle East has witnessed multiple conflicts, wars, and geopolitical tensions, especially since the outbreak of the Arab Spring, along with terrorism and security instability (see Figure 02). These ongoing conflicts undermine trust and negatively affect economic activity in the region, posing serious risks to the future of the oil industry[v].

Figure 02: Geopolitical Conflicts and Their Impact on Oil



Source: International Monetary Fund, Oil, Conflicts, and Transitions, May 5, 2015.

Energy Productivity and Saudi Vision 2030

Energy productivity—defined as the amount of economic activity generated per unit of energy consumed—serves as an indicator used worldwide to help manage the balance between economic growth and domestic energy consumption. It reflects the structural diversity between energy-intensive and less energy-intensive activities, as well as the overall energy efficiency of an economy. Beyond its role as an indicator, energy productivity also provides a strong policy framework, particularly for industrial strategy, based on the principle of maximizing the value that society derives from energy use.

With domestic energy demand in Saudi Arabia expected to double by 2030, the Kingdom's objective is to ensure energy availability to drive economic and social progress, support global development, and leverage technology and innovation to make energy use cleaner. This includes expanding renewable

energy sources to diversify the energy mix and secure optimal fuel for domestic consumption, especially in electricity generation and water desalination. The National Program for Energy Management and Conservation has been transformed into a permanent national center for energy efficiency in Saudi Arabia. Its mission is to improve energy production and consumption efficiency, unify efforts among various stakeholders, and contribute to ongoing environmental protection initiatives[vi].

Recognizing the shared risks of an economy excessively dependent on oil exports, coupled with a rapidly growing population, rising unemployment, and accelerating domestic energy consumption, Saudi Arabia introduced an ambitious reform program known as **Vision 2030**. On April 25, 2015, the Saudi Council of Ministers approved a new national charter—Vision 2030—entrusting the Council of Economic and Development Affairs with developing mechanisms, monitoring ministries and relevant bodies, and tracking implementation through key performance indicators (KPIs). This vision constitutes a broad framework to align and organize both government and private sector efforts toward achieving the 2030 goals.

The program encompasses key initiatives such as the National Transformation Program and the Fiscal Balance Program, which, among other objectives, aim to diversify the economy, adjust energy prices, and enhance energy use efficiency. A major target within this plan is to increase the private sector's contribution to non-oil GDP from around 40% in 2015 to 65% by 2030[vii].

Managing the relationship between energy consumption and economic growth will therefore be crucial for sustainable development in the Kingdom. By adopting energy productivity as both an indicator and a policy framework, Saudi Arabia has launched a comprehensive program for energy efficiency—the Saudi Energy Efficiency Program (SEEP).

The Saudi Energy Efficiency Center (SEEC):

The Saudi Energy Efficiency Center was established by Cabinet Resolution No. (363), dated 24/11/1431H. Subsequently, another resolution was issued by the esteemed Council, No. (16) dated 17/1/1433H, approving the organization of the Center, which detailed its functions and a number of provisions concerning its role and resources. On 3 Rajab 1439H (20 March 2018), Cabinet Resolution No. (353) approved the new organization of the Saudi Energy Efficiency Center. The Center aims to rationalize the production and consumption of energy to ensure higher efficiency across the Kingdom and to unify efforts in this field, whether among governmental or non-governmental entities.

Functions of the Center

The Saudi Energy Efficiency Center has several functions, which can be summarized as follows:

- Developing national energy efficiency programs and setting indicators, targets, plans, and related policies;
- Proposing draft regulations on energy efficiency in coordination with relevant entities;
- Issuing technical regulations, standards, and procedures to achieve energy efficiency, including building codes and district cooling standards;
- Contributing, together with relevant entities, to the development of technical specifications for appliances, equipment, lighting systems, transport means, and others to improve energy efficiency;
- Establishing suitable frameworks to manage the Energy Efficiency Labeling Program in coordination with relevant stakeholders;
- Setting rules for licensing and accrediting energy efficiency service providers in preparation for completing the necessary regulatory requirements;
- Cooperating with relevant entities in setting rules for energy efficiency testing;
- Providing technical and consulting services in energy auditing, measurement, and verification;
- Preparing, publishing, and updating the National Measurement and Verification Guide for energy efficiency services;
- Monitoring compliance with energy efficiency standards and taking all necessary measures to ensure this;
- Preparing periodic reports on energy efficiency in the Kingdom in cooperation with relevant entities;
- Promoting and supporting studies and research in energy efficiency–related fields;
- Encouraging investment and financing in areas that aim to achieve energy efficiency;
- Signing memorandums of understanding and agreements with international, regional, and local bodies—both governmental and non-governmental—such as companies and institutions, in fields related to energy efficiency.

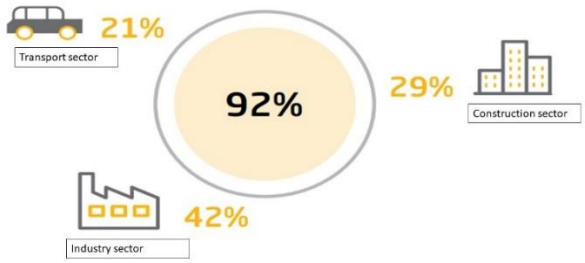
The Saudi Energy Efficiency Program

The Center began its activities by establishing a national program to rationalize and enhance energy consumption efficiency, named the Saudi Energy Efficiency Program, along with the necessary plans to implement it. This program represents an integrated effort based on consensus and alignment among all relevant stakeholders in both the public and private sectors. It is designed on a mechanism of full

cooperation and coordination among these entities, while respecting their respective mandates, overcoming challenges they face, enabling them to implement energy efficiency programs more effectively, and benefiting from international experiences in reviewing the results of globally applied programs.

The program aims to improve and enhance energy efficiency in three main sectors, which together account for more than 90% of domestic energy consumption: buildings, industry, and land transport (as illustrated in Figure No. 03).

Figure No. 03: Percentage of Domestic Energy Consumption in Saudi Arabia



Source: Saudi Energy Efficiency Center, https://www.seec.gov.sa/ar.

Industrial Sector

The industrial sector consumes 42% of primary energy in the Kingdom, with iron, petrochemicals, and cement industries accounting for up to 80% of energy use in this sector. Accordingly, the Saudi Energy Efficiency Center, through its industrial team, has focused its efforts and initiatives on these core industries in cooperation and full coordination with the relevant government ministries, agencies, institutions, and major national companies, while also leveraging international expertise.

Key challenges to energy efficiency in the industrial sector include[viii]:

- The absence of specific targets for improving energy efficiency in existing factories, which has exacerbated energy consumption;
- The lack of energy efficiency requirements when licensing new factories. The target should be for energy efficiency in covered industrial sectors to reach levels equivalent to the top quartile of global benchmark standards available at the time of the plant's design;
- The continued use of outdated technologies in older factories, many of which still operate with these inefficient systems.

Buildings Sector

The buildings sector (residential, governmental, and commercial) accounts for about 29% of total energy consumption in the Kingdom. This sector alone consumes over 75% of total electricity produced, with an annual growth rate of about 7%. This is mainly due to two reasons:

1. The low energy efficiency of appliances in use, and
2. The lack of thermal insulation in most buildings.

The national energy rationalization program, prepared by the Center, has implemented several subprograms to reduce electricity consumption in buildings. These include updating standards for air conditioners, other household appliances, and lighting equipment, as well as specifications for large-capacity cooling systems.

Land Transport Sector

Population growth, geographic conditions, and the wide dispersion of population centers in the Kingdom have increased demand for transportation, particularly land transport. The total road network (existing and under construction) exceeds 80,000 kilometers, and the national vehicle fleet has reached approximately 12 million vehicles.

Light vehicles represent 82% of the total fleet, of which about 2.2 million are more than 20 years old. The daily fuel consumption (gasoline and diesel) of this fleet is about 811,000 barrels, contributing to the transport sector accounting for around 21% of total energy consumption in Saudi Arabia.

Macroeconomic Benefits of Investments in Energy Productivity

It is estimated that domestic energy consumption may double by 2030 from the current level of about 4.4 million barrels of oil equivalent per day. Enhancing energy efficiency in the economy by up to 4% annually could avoid the consumption of as much as 1 million barrels of oil equivalent per day by 2030. This does not include the potential structural changes arising from diversification strategies. Such avoided consumption would increase policy flexibility by making additional energy resources available for export, alternative domestic uses, or preservation for future generations.

The King Abdullah Petroleum Studies and Research Center (KAPSARC) estimates that avoiding energy consumption through a 4% annual improvement in energy efficiency could generate between SAR 50 billion and SAR 100 billion annually in additional government revenues by 2030, depending on global oil market conditions.

If reinvested in the economy, this could raise GDP growth by between 0.3% and 0.6% annually by 2030, thereby helping achieve a wide range of Vision 2030 goals.

The program's efforts have also contributed to requiring government entities to adopt district cooling technologies in their project designs where

applicable, and to establishing the National Energy Services Company (Tarshid), which will retrofit government buildings and incentivize the private sector to invest in the energy efficiency services sector. With the implementation of the program's activities, energy efficiency levels in the buildings, industry, and land transport sectors are expected to rise by 2030, reducing energy consumption in these sectors by 20%—equivalent to saving about 1.5 million barrels of oil equivalent per day from the projected 2030 energy demand.

CONCLUSION

Energy is one of the key challenges facing countries around the world today, as it plays a critical role in sustainable development. The energy transition is among the most pressing challenges of our modern world, given the rising demand for energy for development purposes on one hand, and the issue of environmental threats on the other.

With domestic energy demand in Saudi Arabia expected to double by 2030, managing the relationship between energy consumption and economic growth will be crucial for sustainable development in the Kingdom. Energy productivity serves both as an indicator and as a policy framework to help policymakers identify where and how to achieve maximum value from energy use.

Achieving structural transformation in the economy in favor of higher value-added activities, along with improving energy efficiency, are two main pillars of energy productivity. If Saudi Arabia fails in its efforts to transition toward a more diversified and energy-efficient economy, social welfare will remain vulnerable to fluctuations in international oil markets, increasing the risks of declining per capita income over time.

REFERENCES

[i] Bahi, Moussa. Sustainable Development and Economic Diversification in Arab Oil-Producing Countries, Doctoral Dissertation, Division of Knowledge Economy and Globalization, University of Annaba, 2018/2019.

[ii] Fatima Mubarak. Sustainable Development: Its Origin and Emergence, http://www.envirocitiesmag.com, Accessed: 26/07/2019.

[iii] United Nations. Sustainable Development. https://www.un.org/sustainabledevelopment/ar/

[iv] Rachel Kyte. The Role of Sustainable Energy for All and the Promotion of Sustainable Energy in the Future, United Nations, www.un.org/ar/chronicle/article/20306, 2019.

[v] Ahmed Al-Bakr. Challenges of Diversifying the Productive Base in Saudi Arabia, Saudi Arabian Monetary Authority, Saudi Arabia, 2015.

[vi] Khalid bin Mohammed Abu Aleef. Energy, Environment, and Sustainable Development, 10th Arab Energy Conference, Abu Dhabi, United Arab Emirates, December 21–23, 2014.

[vii] ESCWA. Growth Through Diversification and Energy Efficiency: Energy Productivity in Saudi Arabia, Advisory Report, King Abdullah Petroleum Studies and Research Center (KAPSARC), March 2018.

[viii] Saudi Energy Efficiency Center. https://www.seec.gov.sa/ar
, Accessed: 30/09/2019.

ESCWA. Previously cited reference.