

Energy Transition and Sustainable Development: Economic Constraints and Environmental Incentives

Larbi Benamara¹, Samira Basset²

Abstract

The study aims to analyze the complex relationship between energy transition and the achievement of sustainable development, focusing on economic barriers on the one hand and environmental drivers on the other. The shift from fossil fuels to renewable energy has become a strategic and ethical necessity in the face of climate change and the imperative to ensure a secure environmental future. However, this path faces major obstacles, particularly in oil producing countries that heavily rely on oil revenues, which complicates energy transition efforts. The study employs an analytical approach to break down the excessive dependence on fossil fuels, a comparative approach to examine different models of energy transition across countries, and a descriptive method to present the theoretical and conceptual framework. The study concludes that political will, public pressure, and the intensification of environmental disasters constitute essential incentives for transition, despite prevailing economic challenges.

Keywords: *Energy Transition, Sustainable Development, Renewable Energy, Rentier Economy, Economic Challenges, Environmental Governance*

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Introduction

The transition to renewable energy sources stands as one of the most pressing global challenges of the twenty-first century, being a strategic imperative directly linked to the future of sustainable development. Overreliance on fossil fuels is no longer a viable option, given the severe environmental consequences it entails, including climate change, air and water pollution, and the depletion of non-renewable resources. Conversely, the shift towards clean and renewable energy represents an opportunity to redesign economic and environmental policies on fairer and more sustainable grounds. However, this transition is far from simple, as it lies at the intersection of economic interests, particularly those of major states and corporations and environmental imperatives that demand urgent action to mitigate ecological crises. This study, therefore, seeks to explore the dimensions of this transition by analyzing the economic constraints on the one hand and the environmental drivers on the other. Based on the importance of this topic and the complex economic and environmental challenges it raises, the central question emerges as: **How can an effective energy transition be achieved that reconciles the requirements of sustainable development with growing economic and environmental pressures?**

The concept of development and sustainable Development

The definition of development varies according to the criteria and indicators used to assess it. During the 1960s and 1970s, gross national product (GNP) per capita was frequently employed as a primary indicator. At that time, statistics ranged from 50\$ to 4,200\$ per person, with higher figures generally indicating a higher ranking in global development classifications. Other indicators included number of calories consumed per individual and the per capita consumption of electrical energy, both of which were used to reflect the level of advancement of a given country.

In 1987, the United Nations World Commission on Environment and Development published the Brundtland report, titled *Our Common Future*. This report became a foundational document for the concept of sustainable development and addressed the deteriorating condition of planet Earth. It observed

¹ Center of Research in Social and Cultural Anthropology, Oran, Algeria. Email: l.benamara@crasc.dz

² Badji Mokhtar University- Annaba, Algeria. Email: samira.basset@univ-annaba.dz

that the most pressing environmental issues are primarily linked to widespread poverty in the Global South and to unsustainable patterns of production and consumption. The report raises a critical point: humanity cannot continue to rely indefinitely on natural resources that are unable to regenerate over the long term and are vulnerable to depletion. The protection of biodiversity requires safeguarding natural ecosystems from various forms of pollution-most of which are generated by modern human civilization. The report emphasizes that development which is which is uncontrolled and environmentally irresponsible, as is often the case today, could ultimately lead humanity toward disaster. Therefore, development process must be carried out with respect for the ecological balance of the planet. Since the publication of the Brundtland Report the notion of sustainable development has been widely adopted³.

Sustainable Development and the context of its Emergence

The year 1992 witnessed what came to be Known as the Earth Summit in Rio de Janeiro, where heads of state and government convened to discuss the pressing challenges of development and environment. Science and technology were among the most prominent participants in the discussions. A wide array of critical issues was addressed, including global warming and the decline of biodiversity. The summit resulted in the drafting of international treaties aimed at reassessing systems of production and consumption, spatial planning regulation, The proposed solutions largely relied on technological, social and organizational innovation. Sustainable Development, as a broad and complex concept encompasses multiple dimensions that must be considered collectively it is practically impossible to address each dimension in detail individually, as the scope of the topic is Vast.⁴

The world commission on environment and development commonly known as the Brundtland commission and the 1992 Earth Summit in Rio de Janeiro are the two landmark events that brought the concept of sustainable development into widespread use⁵. The most widely cited definition of sustainable development derived from the Brundtland Report is « Development that meets the needs of the present without compromising the ability of future generations to meet their own needs⁶. While This definition may be seen as broad and inclusive, its purpose is clear: not to halt or reduce growth, but to promote a form of development that is responsible and forward looking.

Sustainable Development, like economic growth and development, seeks the continuous improvement of human well-being on multiple levels including profit generation while preserving the rights of future generations and avoiding environmental degradation. At its core, it aims to ensure that the planet management of forests in ways that allow for gradual regeneration and prevent over exploitation.

The Brundtland Report further emphasizes that : there are two key concepts closely linked to sustainable development, the concept of needs, particularly the essential needs of the world's poor to which overriding priority should be given, and the idea of "Limitations" imposed by the state of technology and social organization on the environment's ability to meet present and future needs in broader terms, sustainable development aims to pave the way for a state of harmony both among human beings and between humanity and nature⁷. The definition of sustainable development proposed by Brundtland commission emphasized what later became known as the three pillars of the Concept: The economic, social and environmental dimensions. Although the environmental aspect is often the first to come mind when discussing sustainable development, the t reality and the core content of the concept does not focus exclusively on ecology. Instead, it also highlights the importance of economic viability and social equity. Sustainable Development calls for progress that is both environmental friendly and socially responsible, ensuring that development

³ Farid Beddache, *Le Développement Durable*, troisième tirage, 2010, Eyrolles, PP 13-14

² Conseil de La Science et de la Technologie, *Innovation, et Développement Durable : L'économie de Demain*, Bibliothèque National du Québec, Canada, premier tirage, Septembre2001, p 01.

³ Ibid, p03.

⁴ Idem.

⁷ Sylvie Brunel, *Sustainable Development: The Challenge of The Present*, translated by : Rachid Barhoum, Abu Dhabi Authority For Tourism and Culture, Abu Dhabi, 2011, p 69.

does not come at expense of ecological diversity or the rights of future generations to access vital resources. The Call to make development environmentally friendly is not merely an exercise in applying the principle of sustainability, it also constitutes an explicit acknowledgment that the prevailing development model was inherently unsustainable. It prioritized profit progress, and growth for present generations, often with little regard for nature, the rights of future generations, or the long-term viability of life on the planet. Consequently, there is a pressing need to invent new models of development that promote human well-being while simultaneously preserving the earth from pollution and destruction thus ensuring a livable future for generations to come.

There are alternative interpretations of the concept of sustainable development. Some view it as a call to ensure that development is characterized by durability and continuity. In this perspective, growth is understood in its broader sense as the Capacity to endure and persist over time. The underlying idea is that it is not the preservation of ecological diversity that sets the limits for development, but rather that development itself determines the survival and continuity of societies⁸.

Sustainable development requires a strong political will to implement rational economic policies and manage the economy efficiently. It also calls for the effective and Proactive governance of public affairs, the integration of environmental concerns into decision-making processes, and the advancement of democratic systems that enable the participation of all stakeholders in the sustainable development process while taking into account the specific Contexts and characteristics of each country⁹. This is precisely the crux of the matter, each country has its own specificities that must be respected whether in terms of the economic system it adopts, the level of development it has achieved, the abundance (or scarcity) of its natural resources, or its Capacity to utilize both renewable and non-renewable resources. These and other structural and contextual factors shape the conditions and possibilities of sustainable development within each political unit.

As with other major concepts, sustainable development is grounded in an awareness of real and urgent issue. Namely, the relationship between development and ecological balance within the biosphere over long term. This includes considerations of the pace of and methods of resources exploitation. In today's reality, the term development is rarely used without being preceded by the qualifier "sustainable". Debate and discussion around the concept of sustainable development remain dynamic, as it continues to evolve and be enriched through ongoing Contributions. According to professor Hatem Fabric, by 1990, he had identified more than 60 different definitions of sustainable development. The Brundtland Report alone, he noted, contains six distinct definitions of the concept¹⁰

The 1972 Stockholm Conference led to the establishment of the United Nations Environment Programme (UNEP). Following this milestone, most countries around the world Created ministries or governmental departments dedicated to environmental affairs. The African Charter on Human and People's Rights, adopted in 1981, also explicitly recognizes the right to a healthy environment¹¹.

The Brundtland Commission called for the organization of a global conference on environment and development a Proposal that was approved, leading to the United Nations Conference on Environment and Development (UNCED), held in Rio de Janeiro, Brazil, from June 3 to 14, 1992. This event Known as the Earth Summit, is considered the largest conference ever organized under the auspices of the United Nations. It brought together 172 governments, including 108 heads of state, over 10,000 delegates and country representatives, 2,400 representatives from non-governmental organizations (NGOs) and nearly

⁸ Morva Bertrand, *Le Développement Durable : Une Utopie Politiquement Correct*. In : Quaderni, No41, 2000, Utopie 2, : Les Territoires De L'utopie, p 94.

⁹ Conseil de La Science et de la Technologie, *Innovation, et Développement Durable : L'économie de Demain*, Bibliothèque National du Québec, **Op-Cit**, p 03.

¹⁰ Comélieau Christian, *Développement du Développement durable, ou Blocage Conceptuels*. In : Tries-Monde, tome 35 N° 137, 1994, *Après le Sommet de la terre : Débat sur le Développement durable*, PP 61-62.

¹¹ Fabrice Flipo, *Le Développement durable*, 3ème édition, Paris : Bréal, 2014, P 51

10,000 Journalists. The Summit produced several key outcomes, including the Rio Declaration and Agenda 21 among others. The 1990s witnessed a remarkable expansion of environmental diplomacy. One of its major milestones was the adoption of the Kyoto protocol in 1997, under which industrialized countries responsible for approximately 75% of greenhouse gas emissions committed to reducing their emissions by 5% by the year 2010 Compared to 1990 levels. However, these targets were not fully met, notably due to the United States initiating large -scale shale gas production, a path soon followed by several other countries¹².

International Initiatives in Support of Sustainable Development¹³:

1972: The birth of a political Movement. in 1972 The club of Rome published its landmark report titled the Limits to Growth, which served as a warning: each passing day of unchecked exponential growth brings the global ecological system closer to critical thresholds beyond which growth can no longer be sustained. The report emphasized that failure to act in the face of this reality is, in itself, a decision to double the risk of systematic collapse. In the same year, the United Nations Environment Programme was established, marking a major institutional step in the international environmental governance framework.

1979: The first international conference on human beings and climate under the auspices of the United Nations.

1985: Adoption of the Vienna convention for the protection of Ozone Layer.

1987: publication of the Brundtland Report (Our Common Future).

1992: Earth Summit in Rio de Janeiro, Brazil, and the Launch of the Agenda 21 action plan.

1997: Kyoto Conference and the adoption of the Kyoto Protocol.

2002. Earth Summit in Johannesburg, South Africa.

Looking at the chronology of treaties, summits, and international meetings since 1972, one observes that international political action at certain points was marked by a period of stagnation particularly during the Cold War. This period was characterized by intense debates over whether market mechanisms could address environmental problems and internal contradictions on their own, or whether state intervention was state necessary. According to professor Farid Dabbashe these ideological debates significantly delayed the initiation of serious discussions and concrete measures related to sustainable development.¹⁴

The Concept of Energy Transition. The concept of Energy Transition emerged in both Germany and France in the early 1980s, introduced notably by the German association Öko-Institut. Its primary objective was to move away from dependence on conventional fossil fuels. This concept refers to a fundamental transformation of energy policy - shifting from a supply and production - centered approach to one focused on meeting social demand for energy services. It also involves a transition from a centralized model reliant on non-renewable energy sources to decentralized, renewable based system of energy production¹⁵.

Energy transition also refers to a shift from traditional patterns of energy production and consumption toward a more efficient and sustainable energy system. Each form of energy transition is shaped by the availability of specific energy resources within a country or region, environmental Protection goals, public

¹² **Ibid**, pp 52-53

¹³ Farid Beddache, **Op-Cit**, p 43.

¹⁴ **Idem**.

¹⁵ Tahar Hamar, Abdelhamid Ait Tabel, "La Transition énergétique en Algérie : Stratégie et enjeux", Journal of Business Administration and Economic Studies, Vol. 06, issue 01,2020, P259.

engagement and the Political will of decision- makers¹⁶. The term is most often used to describe the gradual phase-out of several energy sources primarily fossil fuels and, in some cases, nuclear energy, while simultaneously promoting the development of no renewable energy sources. This process, must also be accompanied by concrete measures to enhance energy efficiency. Beyond its environmental dimension, energy transition also encompasses economic and social considerations. It aligns with the broader objectives of sustainable development, as defined and elaborated in the 1987 Brundtland Report. Among the main drivers behind the shift toward energy transition are growing environmental challenges such as global warming the depletion of conventional national resources, and the urgent need to adopt cleaner and a renewable energy solutions¹⁷.

Countries differ significantly in terms of their endowment with natural resources. while many nations possess a wide variety of these resources in considerable quantities, other lack such assets altogether. In this context, it is essential to address a fundamental issue: how states exploit and manage their natural resources and to what extent they benefit from them. Some countries such as Malaysia, Norway, and Indonesia, have successfully moved beyond reliance on their natural resource exports, diversifying their economies and reducing their structural dependency, in contrast, other nations have remained heavily dependent on the revenues generated from exporting raw materials, without actively seeking alternatives or improving the efficiency of managing these revenues. This pattern is particularly evident in several oil-producing countries such as Nigeria and Venezuela on resource exports as an economic strategy.

In Algeria, political discourse around economic diversification and reducing dependence on hydrocarbons has existed since the 1970s. However, just a few years later, the contribution of hydrocarbons to the country's total exports exceeded 95% as of 1977, and since 1998, that figure has risen to approximately 97%¹⁸. This starkly illustrates the deep gap between official rhetoric and actual practice. The real outcomes are reflected in hard data, far removed from political exaggeration or rhetorical overstatements. As observed, ever since the official discourse began to emphasize economic diversification, the share of hydrocarbons in total exports has increased, while the contribution of other goods to Algeria's foreign trade has steadily declined.

The shift Toward Sustainable Development as a Necessity and an Imperative:

The Necessity of Economic Diversification:

According to professor of Economics Chems Eddine Chitour, "It is now more necessary than ever to reconsider everything We are doing. To begin with, the state must stop living on a Train of wealth (natural resources), that has nothing to do with wealth creation (Value-added production). We must revalorize our expertise by relying on ourselves, not on the Chinese, the French, the Turks or the Koreans, who see Algeria merely as a market where anything can be sold, amounting to 30 billion dollars in goods with no future. what we need is a new national management plan, one that is rooted in training human capital and that must begin with the school system "¹⁹. Although more than a decade has passed since this statement was made, it remains highly relevant to Algeria's current situation. True economic take-off must begin with the school, the university, and vocational training Centers. The most effective and sustainable investment is investment in human capital yet this can only be achieved if there is a clear and coherent strategy adopted at the highest levels of decision-making and one that is not subject to change with every shift in leadership or political appointments.

¹⁶ Tegrerout Mohamed, Hanane Atmania, " La transition énergétique en Algérie : Comment Préparer l'après pétrole à l'horizon 2030 ," Journal of Economic Studies Institute, Vol 24, N°01, 2021, P1368.

¹⁷ Hanriti Dalila, Sultana Bouzadi, " La stratégie Algérienne de transition énergétique conformément au programme de développement des énergies renouvelable et d'efficacité énergétique : état des lieux et perspectives de développement", Journal of Contemporary Business and Economic Studies, Vol 04 N° 02, 2021, P595.

¹⁸ William C. Byrad, Contre-Performances économiques et Fragilité institutionnelle, Confluences Méditerranée N°45, printemps 2003, P 59

¹⁹ Luis Martinez, Algérie : les Illusion de la Richesse pétrolière, les études du centre d'études et de recherche internationales (CERI), N° 168, Septembre, 2010, P 05

According to the findings of a 2009 world Bank Report, achieving export diversification requires the establishment of strong and effective institutions. However, this is a long-term process that depends on several essential factors. Among these are the development of infrastructure to reduce costs, the improvement of product quality and distribution channels, the creation of a well-

developed financial sector, the adoption of an appropriate exchange rate policy, and the implementation of an open trade policy to facilitate access to global markets and enhance export competitiveness. Furthermore, structural reforms are necessary to foster a regulatory environment conducive to private sector development, along with a legal framework that encourages domestic investment and attracts foreign direct investment²⁰.

Oil revenues possess four fundamental characteristics: their large volume, their extraordinary nature, their volatility and their opacity. These four features reflect both the historical organization of the oil industry and the revolutionary transformations that took place during the 1960s and 1970s, which significantly reshaped oil-producing countries²¹. As such, oil rents often lead to the erosion and marginalization of local expertise. They tend to generate expectations of easy consumption and wealth accumulation (often concentrated in the hands of a few), while simultaneously undermining investment in human capital²². This pattern is particularly evident in many rentier states whose economies are heavily reliant on the extraction and export of natural resources. In such contexts, rent revenues can sometimes act as a brake on development, stifling entrepreneurial initiative and discouraging productive investment.

Among the proposals made by Raci Ait Yaala, CEO of the Revox Group, is the establishment of medium and long-term investment funds that would not rely on oil-based tax revenues for financing. Instead, these funds would be supported by contributions from the national diaspora, retirees, and other societal groups willing to deposit their savings. The goal is to channel these resources into productive investments that promote economic development. Such models have proven successful in more advanced economies, including the United States and the United Kingdom²³. Now, more than ever, the country needs to pursue economic diversification whether in agriculture, tourism, new technologies, manufacturing, renewable energy, or other key sectors. These are the pillars upon which a diversified economy can be built. However, success in this endeavor depends fundamentally on reaching a firm conviction among policymakers of the need to prioritize human capital. Once a highly skilled and well-trained workforce is in place, the most difficult part of the challenge is already overcome²⁴.

Civil society organizations and non-governmental organizations (NGOs), regardless of their specific missions, have a significant role to play in this regard. Their contributions include monitoring various activities that may pose environmental, social, or economic risks, identifying potential violations, and exerting pressure on governments to adopt renewable and clean energy sources, while reducing or ideally eliminating the reliance on polluting non-renewable energy. It is important to stress that such observations primarily apply to countries that have already made significant progress in their development trajectories. These cases are worth analyzing and presenting as models for developing countries to emulate in their own transitions toward sustainable development. Accordingly, civil society in all its forms plays a vital role in raising awareness, exposing risks and abuses and providing support and guidance in identifying appropriate alternatives for a wide range of challenges.

In France, on February 28, 2005, the Environmental charter (Charte de L'environnement) was adopted, recognizing the right to live in a balanced and healthy environment as a fundamental right, on par with the

²⁰ Manel Mansour, "The Resource Curse and Ways to Avoid it", *Diraasat Journal*, N°03, December, 2015, p p 205-206.

²¹ Michael Ross, *The Oil Curse: How Petroleum Wealth Shapes the Development of Nations*, Translated by: Mohamed Haitham Nashwati, Qatar, Qatar National Library, 2014, P 63.

²² Luis Martinez, **Op-Cit**, p 05.

²³ Nordine Grine, *L'économie Algérienne Otage de la Politique*, Alger : Casbah Edition, 2004, PP 04-05.

²⁴ Farida Kafi, Zakia Akli, "L'économie Algérienne à la Lumière des Retournements du Marché Pétrolier : entre Leçon du passé et défis d'un Avenir Incertain", *Revue Afak*, vol 12, N° 01, 2020, p 19.

Universal Declaration of Human Rights. According to professor Farid Dabbashe, this represents a major step forward, as it holds individuals accountable for their actions and their environmental consequences thereby reinforcing the principle that the polluter pays. The charter further affirms that citizens not only have the right to access environmental information, but also the right to participate in decision-making processes related to environmental issues, whether at the governmental or institutional level²⁵.

There is hope that such legislation might one day be extended to other countries such as Algeria in order to involve civil society in decision-making processes that have an environmental impact. Examples include the exploitation of shale gas in the southern desert regions, which contain vast reserves of groundwater, the widespread and excessive use of chemical fertilizers and pesticides, and the uncontrolled use of additives and supplements for poultry and cattle, often without adherence to proper quantities, methods, or safety guidelines. This raises a fundamental question in the Algerian context: Has Civil society reached a sufficient level of awareness to engage affectively in these matters? Do environmental and public health issues rank among its top priorities? Is it fulfilling its essential role and purpose? Or are most of these organizations primarily charitable or religious associations engaged in proselytization or the promotion of new sectarian movements foreign to Algerian society? These are Critical questions that merit further investigation.

The Stakes of the Absence of Sustainability in The Health Sector

The issue of health, in general, has been the focus of attention for many scientists and specialists. These experts have warned of serious repercussions resulting from human activities that disregard environmental concerns and ignore the concept of sustainability. Since 1974, some scientists began warning about the depletion of the Ozone layer surrounding the Earth. Later during the 1980s, efforts were made to explain and highlight the risks of Ozone layer depletion on global health. In 1987, the Montreal protocol was adopted, aiming to gradually phase out gas emissions responsible for the deterioration of the ozone layer²⁶. The result achieved by the protocol were not necessarily driven by a pursuit of sustainable development, but rather as a direct response to the perception of a threat to human health on the planet. Significant efforts have since been made by researchers and scientists, along with the support media, governmental and non-governmental organization, to pressure states into adopting sustainability standards in their development paths and to pay greater attention to environmental issues and the future of the planet.

Obstacles to adopting a sustainable Development Approach:

By Observing the behavior of individuals, groups, and even political entities and states, it becomes evident that there is a clear lack of vision on understanding of the concept of sustainability. Short-term and narrow interests often prevail, while a genuine sense of responsibility toward the environment and related ethical commitments remains absent. Actions tend to prioritize immediate individual or collective gain, with little regard for the rights of future generations to live in a healthy and pollution-free environment. Although the concept of sustainable development has established itself faces at least theoretically its practical implementation still faces numerous challenges and obstacles. Among the key factors that drive countries to continue relying on environmentally harmful fossil fuels are the easy revenues generated through a relatively simple process of extraction and export. Although these resources are non-renewable and have severe impacts on environmental balance, investment in them persists. This often fosters practices lacking transparency, particularly in rentier states plagued by widespread bribery and corruption-further exacerbating governance crises undermining sustainable development.

According to Deniel Yergin director of Cambridge Energy Research Associates, oil is 10% economics and 90% politics, a phrase he used to describe the European oil market during the 1930s, a time when most economies were still dominated by the state (strong public sector influence). Since the end of World War 2 and up to the beginning of 21st century the number of countries in the world has tripled rising from 60 in 1945 to 191 in 2005. These geopolitical transformations were accompanied by significant developments in

²⁵ Farid Beddache, **Op-Cit**, P 42

²⁶ **Ibid**, PP 38,39

global energy dynamics. Oil was no longer just a domestic issue for some advanced countries but rather became a global geopolitical stake.

The issue of oil transcended national borders and the number of influential actors multiplied relationships became entangled not only between producers and consumers, but also among international oil companies¹. In this context it becomes increasingly difficult to circumvent the policies imposed by major powers that control energy markets, especially for developing countries, many of which have suffered from colonial domination and exploitation.

The Polluter pays principle or the principle of Holding the polluter Accountable:

This principle can be briefly explained through the concept known as “The polluter pays”, meaning that party responsible for pollution bears the costs. Professor Farid B explains this principle by distinguishing between private (individual) costs, and social (collective) costs. Accordingly, economic actors can be held accountable for both types of costs simultaneously through the imposition of fees or taxes on industries that have negative environmental impacts. This includes industries that directly pollute the environment such as those that discharge pollutants into the ocean or that produce goods containing substances that are difficult to decompose naturally, thus causing environmental harm. The issue is not limited to the materials themselves but also extends to the packaging and containers in which these goods are sold, which must later be collected and recycled. These costs can be imposed on the producer through environmental fees or taxes²⁷. However, this principle can be a double-edged sword. On one hand, it can serve as a deterrent to those who continue to rely on highly polluting and environmentally risky activities. On the other hand, it may lead to cases of evasion and cover-ups by large Corporations whose activities are difficult to trace hold accountable.

Weakness of Dialogue:

Sustainable development is a broad topic that intersects with numerous fields of Knowledge, as well as economic, social and all aspects of life. Given its critical importance, there is a pressing need for the exchange of ideas, open and constructive discussions and genuine dialogue between various stakeholders including states, national and international actors both governmental and non-governmental. Such dialogue is essential to hear the insights of specialists, benefit from the expertise of scholars and experts, and make the best use of this Knowledge. Reflecting on sustainable development reprises careful consideration of the full range of economic, social and environmental challenges, as most projects fall within the intersection of these three domains²⁸. Therefore, concern for sustainable development necessitates the active Participation of all stakeholders in shaping a shared vision of the world one in which the interests of all parties converge without injustice or marginalization. And although international discussions and conference on sustainable development began in the 1970's, initially focusing on the dangers of chemical and nuclear industries and their impacts on various aspects of life, The risks and concerns have since multiplied. The negative consequences of the irrational exploitation of non-renewable natural resources have also increased and become more evident to any party following or interested in the issue of sustainable development. Thus, with this evolution, even economic institutions have become more focused on their narrow interests, namely maximizing profits and material gains at the expense sustainability. Consequently, the challenge has grown and become more complex, especially regarding access to credible data and accurate information about the activities of industrial companies and the amount of waste they produce and release into the environment without treatment. Therefore, it is essential to rely on dialogue and exchange between various civil society actors and official bodies, and to reach a transparent dialogue for the sake of the public interest. All problems and concerns must be simplified so they are understood by everyone, enabling all parties to participate in finding solutions and outcomes without causing losses or harm to economic operators,

¹ Philippe Sébille-Lopez, *The Geopolitics of Oil*, Translated by Najat Sulaibi Al Taweel, Abu Dhabi, Abu Dhabi Authority for Tourism and Culture, 2013, PP 9,10

²⁷ Farid Beddache, *Op-Cit*, p 36.

²⁸ Farid Beddache, *Le Développement Durable*, 3em tirage, Eyrolles, 2010, p 45.

investors, and companies while ensuring environmental protections and achieving long-term sustainable development. General environmental orientations that emphasize the necessity of giving absolute priority to environmental protection even at the expense of slowing down the pace of development are often met with reservations by developing countries. These globally oriented initiatives can be interpreted as attempts to curb the economic growth of countries striving to catch up with developed nations. In this context, most international documents such as the Global Strategy for Sustainable Development tend to be more aspirational and idealistic than realistic or actionable. They often lack clear timelines for implementation and do not impose binding obligations on wealthy countries²⁹. From this perspective, such documents remain positive initiatives in appearance, but their implementation requires genuine political will and commitment to translate them into tangible realities. Achieving concrete results, in turn, demands a firm and serious approach to all actors, both official, including environmental NGOs seeking support to implement sustainability - related projects. These initiatives must be thoroughly studied in advance and presented with clearly defined and measurable outcomes to ensure proper funding and enhance their seriousness and effectiveness.

Conclusion

The study concludes that achieving sustainable development through energy transition remains a complex objective that requires a careful balance between economic requirements and environmental imperatives. Economic obstacles, particularly in developing and oil producing countries, constitute a significant barrier to accelerating the transition due to their heavy dependence on traditional resource revenues. Nevertheless, growing environmental pressures, rising societal awareness, and international commitments provide strong incentives for innovative solutions that can foster development without compromising the rights of future generations to a healthy environment. Therefore, the success of energy transition depends on the integration of national and international efforts and on strengthening dialogue among economic, political and environmental actors, within a holistic vision that places clean energy at the core of long-term sustainable development.

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²⁹ Sylvie Brunel, **Op-Cit**, p 74.

Kafi Farida, Zakia Akli, " L'économie Algérienne à la Lumière des Retournements du Marché Pétrolier : entre Leçon du passé de défis d'un Avenir Incertain", Revue Afak, vol 12, N° 01, 2020.

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