INTERNATIONAL MULTIDISCIPLINARY JOURNAL FOR RESEARCH & DEVELOPMENT

Volume10Issue04, April-2023, pg.32-44

E-ISSN:2394-6334

Published Date: - 10-04-2023

GENERATION OF RENEWABLE ENERGIES: ITS COMMUNITY-CENTERED TENETS AND TENETS

Audrey Vazquez Ramirez

Universidad Tecnica De Manabi, Fcmfq, Carrera De Ingenieria En Construcciones, Portoviejo, Ecuador

Maylin Gonzalez Gamez

Universidad Tecnica De Manabi, Fcmfq, Carrera De Ingenieria En Electricidad, Portoviejo, Ecuador

Alberto Sarmiento Santos

Centro De Eficiencia Energetica Y Energias Enovables, (Ceter), Cujae, Cuba

Abstract: Even though the introduction of renewable energy sources has altered the energy scenario in recent years, the global environmental problem remains unsolved because more industrialized nations continue to emit a large number of elements into the atmosphere. These emissions, in addition to the natural hazards caused by volcanic eruptions, fires, and other economic issues, are accelerating the melting of the polar ice caps. As a result, it is necessary to move away from an industry that only produces and encourages the use of electricity generated from fossil fuel consumption and toward a diverse, renewable, and sustainable energy industry that is supported by the use of renewable resources that are geographically available, which encourages specific energy consumption and is tailored to the requirements of material and environmental quality under appropriate constraints on consumption. The requirement for the country to embrace the progress to another public energy base is uncovered, which suggests the broad entrance of all types of purpose of inexhaustible sources, as the best way to accomplish supportability under the states of current mechanical turn of events, as well as leave on the most brief way towards energy freedom and innovative manageability, and it is important to reorient the public energy strategy, zeroed in on the hypothesizes and standards of economical energy improvement, for which it is important to order a lawful decide that expressly, address security over the infiltration of innovations that exploit sustainable sources in the energy framework.

Keywords: Energy advancement; Energy; norm in law; sources that are renewable; Sustainability;

INTRODUCTION

It is important to enter into a brief review of the problem from a philosophical point of view and a social vision, which helps to understand the formulation of new integrated solutions to sustainable development policy concepts, based on the use of renewable energy sources. This is in addition to the arithmetical calculations, the immutable laws of physics, and the mathematical models that are

Volume10Issue04, April-2023, pg.32-44

E-ISSN:2394-6334

Published Date: - 10-04-2023

typically used to help subjects related to the study of the energetic profile. Of the four and a half billion years of history that the planet has, man has imparted to the other animals the last 500,000 years. Evolution and extinction occurred before and after its effects killed the rest of the species. Every species has a finite lifespan in geological time; however, it has been demonstrated that man's responsibility for the process of extinction of biological diversity and depletion of natural resources occurs at a rate that is a thousand to ten thousand times faster than the natural process.

On this premise, the misfortune during the 21st 100 years of 66% of every single existing specie, the exhaustion of hydrocarbons and other mineral assets fundamental for improvement is determined, which regarding living species, is comparable to the vanishing delivered in the Cretaceous period and it required 5,000,000 years for the natural equilibrium to be accomplished, that is to say, multiple times the period of man on earth.

It is possible to analyze the historical context of this scenario by pointing out that since the arrival of Europeans in the Americas in the fifteenth century, human aggression has escalated to the point where it threatens to exterminate their own species; the most repugnant feelings have been fueled by economic gain and interests; The entire population was eradicated; Without reneging on the kingdom of heaven, the burgeoning rising bourgeoisie lowered its eyes to the earth like never before and cared more about its present, considering man as a simple workforce and insatiable devourer of goods. At the same time, a predatory policy of natural resources and the environment was unleashed, which unfortunately continues to this day. Unrivaled cultures were truncated in their full development, plundered in their values, humiliated in their principles, The turmoil of this time spread to the sciences, where the discoveries were later used by industry. All of this gave a significant boost to economic growth and strengthening, which reached its peak in the late eighteenth century following the industrial revolution. The industrial revolution marked a significant increase in the demand for energy and raw materials at the end of the eighteenth century. Wood, which had been the most widely used fuel up until that point, was gradually replaced by fossil fuels like coal, oil, and natural gas.

In 1868, a request was submitted to the Ministry of Foreign Affairs of the Austro-Hungarian Empire by a group of farmers concerned about the hunt that insectivorous birds were objects before the demand of their plumage for hats according to Victorian fashion. This request was the first known legal document on a subject related to environmental protection. It asked the Emperor to sign a treaty between countries to protect agriculturally beneficial birds.

The Hunting Law was enacted in Cuba in 1884, following the same trend, to protect agriculturally useful species of Cuban fauna. Later, in 1909, the Law of Hunting and Fishing was enacted. At the end of the 19th century, petroleum and nuclear fuels appeared as elements that would allow for an everlasting solution to the problems of development in terms of their energy needs. However, the political and economic system that was in place at the time, which was based on an uncontrolled race for consumption, designed these sources to be considered unlimited and infinite without taking into

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E-ISSN:2394-6334

Published Date: - 10-04-2023

account the environmental impact of intensively utilizing hydrocarbons and nuclear fuels or the physical exhaustion of their reserves.

Since neither ethically nor scientifically existed such concerns prior to that point, science had not demonstrated the effects on the environment or the accelerated depletion of natural resources that had already accumulated as a result of man's predatory and irresponsible behavior. As a result, the primary contributors to the rise in industrial development were overjoyed by their technological innovations and the new knowledge they had gained. He didn't care if they made everyone who didn't fit his immediate tastes, patterns, or interests go away because they were the judges and executioners of everything.

The paradigm that industrial society's technological takeoff imposed was to produce more in order to reap greater rewards—that is, to put energy generation ahead of its effects and consequences. During the first half of the twentieth century, the cost of fuel was so low and accessible that increasingly advanced conventional technologies made it possible for the consumption of energy to reach levels that were practically unimaginable. Prior to the 1970s, humanity's energy consumption doubled every ten years, or every fourteen years, equaling its previous energy consumption.

Even though the issue of acid rain was well-known, a group of German scientists noticed signs of deterioration in the forests by 1984. In the same year, 11 million hectares of forests were reported to be disappearing annually, and in 1985, two British scientists discovered a hole in the ozone layer over Antarctica. But the world's inability to strike a balance between growth and protecting the environment has already endangered life on the planet. In order for man to attain an irrational standard of living, he must continue to waste natural resources, which are being depleted at an unsustainable rate, resulting in more pollution and negative effects.

Beyond the contentious debate regarding its causality, it has begun to become aware of the finite nature of the resources of the biosphere as well as the need to maintain economic and social development without compromising the enjoyment of an adequate environment by current and future generations, which has been referred to as modern. The serious damage that the imperial policies of development have caused to the natural environment, where production and overconsumption of energy have played a decisive role, has caused this to occur.

Renewable energy shines in its capacity for practical action as an alternative to an adequate solution for achieving the proposed objectives, in order to safeguard the health of the planet and achieve the goals of sustainable development, during this ebb of transformations and impacts. A general interest in the protection of the environment was progressively fostered, favoring a paradigm shift that has motivated the birth and development of "Environmental Law."

As a system of international standards, environmental law, on the other hand, does not imply a binding nature and is therefore not obligatory for states to comply. It is based on consensus agreements to achieve certain environmental protection goals. This leaves a significant margin for the initiative and

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self-determination of each state, allowing them to affirm that the normative perspective of its content does not reach the order in which renewable energy sources are used and improved.

From a national perspective, there is legislation governing the environment, led by Law 81 of 1997; yet, following the style of Global Ecological Regulation, it has a more proactive and consultative nature of what endlessly ought not be finished, not connecting criminal measures to resistant gatherings, nor does it consider the compulsory nature that people can expect to embrace specific moderation measures and decrease of ecological effects.

However, neither the social relationships that result from the energy services associated with the use of renewable sources nor the definition, regulation, or protection of their use are addressed by the country's energy legislation. To propitiate a strategic projection equipped with a political vision based on the postulates and principles of sustainable energy development—for which the adequate use of renewable energy sources and their penetration will be inevitable—environmental and energy legislation is ineffective under these conditions. In the national energy matrix, based on new ideas about how to use natural resources, how efficiently, how well, and how little you use. The goal of the study is to draw attention to the need for a legal regulatory framework that promotes the use of renewable energy sources (ERP) and the spread of technologies connected to Renewable Energy Services (SER).

RESEARCH METHOD

An examination of the historical development of the behavior of the Cuban energy profile served as the foundation for the investigation. It began with the introduction of electricity in Cuba and progressed through a number of stages before reaching the distributed generation mode, where renewable energies were introduced. We were able to uncover the postulates and principles that ought to distinguish sustainable energy development based on the use of FREs and the introduction of SER by conducting a review of the literature, a historical analysis, logical reasoning, and exegetical analysis. This was made possible by our examination of the Bible.

RESULTS AND ANALYSIS

Historical background

The principal guideline connected to the fiery profile that is kept in it, is connected with the utilization of sun oriented energy in engineering and dates from old Greece; "In houses facing south, the sun penetrates the portico in winter, while in summer the solar arc described rises above our heads and by above the roof, so that there is shade," Socrates explained, pointing out that the ideal house should be cool in the summer and warm in the winter [4]. The development of society was ensured for thousands of years by renewable energy sources. However, by the end of the 18th century, as the Industrial Revolution began, an energy industry characterized by large generation centers and a complicated and

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E-ISSN:2394-6334

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extensive process of distribution and transportation of electricity to its final consumption, based first on the use of coal, then on the intensive exploitation of oil, and most recently on the use of nuclear energy, was already established.

Energy is essentially technical in this scenario, but it is important from an economic standpoint because it allows for the configuration of a social image of a fictitious electricity service while millions of people do not have access to it. This is in response to increasingly high demand for electricity, which means greater profits.

On February 22, 1889, at approximately 12 and a half, the electric arc lights that had been turned on for the first time in the Central Park of Havana were turned on, marking the beginning of electrical services in Cuba. installed there, and on Sunday, March 3, electric lighting in the Central and Isabel "la Católica" parks would be turned on. The service was provided by the Tallapiedra plant in Havana, which was run by Spanish and Creole front men to close business with the Havana City Council. On September 7 of the same year, the public service of electric lighting in the city of Cárdenas in Matanzas was officially turned on.

In just five years, electrical lighting reaches the cities of Matanzas, Camagüey, and Pinar Del Ro. In 1900, the University of Havana establishes the School of Engineers, Electricians, and Architects. The Havana Electric Railway Light and Power Co. were established on March 26, 1912. That same year, it merged with the Spanish American and centralized the capital's gas, electricity, ice, water, and tram services. The Cuban Electric Company, also known as the Cuban Electricity Company, was established in the United States on December 10, 1927, in accordance with Florida law, and the Monopoly of Electric Service in Cuba was extended as early as 1928. by the Compaa Cubana de Electricidad, a subsidiary of the American & Foreign Power Co. (an Electric Bond & Share Co. subsidiary).

By 1958, the Cuban Electricity Company had installed nearly four times the capacity it had in the 1930s and had approximately 10,200 kilometers of lines of all voltages; in any case, the electric help reaches out to where it is favorable financially to the proprietors of the electric assistance. The service is only available to 56% of Cuban citizens, and it is virtually unknown in rural areas.

The role of the dominant class's regulatory order in function of materializing in a regulated manner each of its purposes, which acquired relevant levels during the penetration of the North American energy monopoly and the emergence and consolidation of the Cuban electric bourgeoisie, can be defined in a tight synthesis on the analysis of the historical development of the country's energy profile over these years. Energy begins to be regulated as a straightforward market product, producing more energy to consume more, disregarding any consideration of social and environmental rights. Energy is reduced to the value of a simple commodity throughout this dynamic process.

The prevailing tyranny is overthrown on January 1, 1959, and during the subsequent twenty years, significant conceptual and structural shifts will occur in the nation's economic and social life. As part of this metamorphosis, energy development will be undertaken, now with a new valuation; A

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redeployment of the role and energy management toward social and not just mercantilist functions begins for the first time in the nation's history. Electricity begins to be seen as a legitimate right in support of the nation's and society's development rather than just a commodity on the market.

Although no specific revolutionary law was enacted regarding the energy profile, the Cuban Electricity Company was nationalized in August 1960, marking the beginning of the nation's integral development and the provision of electricity to all regions.

The National Electroenergetic System (SEN) was created and operational by 1973 with the assistance of the Socialist Field's member nations, particularly the Soviet Union; in addition, by 1989, 95 percent of the country's population was electrified, and the generation of electricity had increased eightfold.

The level of energy development that has been achieved is maintained over the following years; Law 1287, also known as the Cuban Electricity Law, was passed in 1975. One of its goals is to guarantee the order and regulation of the growth of the electricity industry to meet the growing demand as a result of the country's economic and social development, providing this essential service to numerous agricultural and industrial facilities across the country.

The Law itself establishes the need to update and harmonize the various technical standards that regulate the matter, which were distributed up until that point in various laws and dispositions, as a mandatory goal for the entire nation. The Law also begins to regulate the initial steps to avoid waste or inadequate use of energy.

The Regulation of the Electric Service was approved and published in 1975 in accordance with Law 1287. It established the regulatory bases necessary to achieve the rational use and maximum utilization of electric power and required the updating and unification of the various regulatory technical norms on the subject.

Between 1989 and 1993, the island's gross domestic product was cut in half, imports were cut by 75 percent, and oil imports were cut by 40.6% as a result of an unfavorable international political situation and the resurgence of the United States' economic blockade of North America. This had a very serious impact on all aspects of the country's economic and social life for several years. In addition, the electrical industry began to run out of spare parts and other essential components.

In 1993, a serious course of recuperation of electric age limit started, joined by an eminent expansion in the interest for power and in 1997 the Cuban Government supported a system zeroed in on a few goals, pointed toward molding the productivity and recuperate the age limit of the SEN.

In 2005, the country's authority sent an administrative system, in view of the reception of a gathering of arrangements and goals of the political administration bodies and the state, pointed toward requesting the endeavor of the Energy Upheaval, in light of a bunch of standards, as well as the

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execution of different projects suitable to the circumstances and potential outcomes of monetary and social improvement.

The SEN was able to inject electric generation capacity of 2,418 MW based on GD between diesel generators and fuel oil engines because of the country's desire for energy recovery. Additionally, approximately 6,000 emergency diesel generators have been installed in key production and service centers. All of this effort demonstrates the essence of the social dimension of energy, clearly expressing its character as a social right rather than as a market instrument at the service of private companies and state monopolies. Without a doubt, the country's management made a significant effort; However, despite the fact that some advantages in terms of fuel consumption indicators have been reported, all of these technologies based on oil consumption still require substantial financial resources to ensure their operation and maintenance, as well as a reduction in the negative effects of using oil. of these methods.

Cuba's Energy Revolution is based on the conviction that sustainable development cannot be achieved without the rational use and conservation of all resources and the utilization of renewable energy sources, which by their very nature are distributed and intermittent. On the national territory of Cuba, the annual average value of solar energy incident is approximately 5 kWh/m2 per day. This indicates that every square meter of Cuban land receives an amount of solar radiation equivalent to half a kilogram of oil's energy every day on average throughout the year.

The expectation that the application of energy technologies that make use of this renewable source, as well as the implementation of programs for the development of wind energy and the use of energy, will accelerate due to the availability of the solar resource on the territory of Cuba has fostered this expectation. Water heating with solar radiation.

In the past, hundreds of small-scale biogas plants, cogeneration in the sugar industry, electricity generation from forest biomass, and wind farms have all been installed in Cuba. Small-scale hydroelectric power has also been used to heat water, solar energy has been used to heat water, and wind energy has been used to pump water.

In any case, the special utilization of power as an energy transporter is kept up with and the utilization of oil in age is as yet viewed as really important, addressing a committed responsibility of significant monetary assets in the upkeep of the ongoing energy lattice and the help of an arranging plan concentrated, which doesn't answer boosting the productivity of the possible contained in sustainable sources.

A group of currents has been proposed to undertake new sustainable solutions to the old problems of the traditional energy scheme, and even when some novel solutions with the application of renewable sources, there is a tendency to maintain common features of traditional energy designs. In these conditions of energy development, they have been gaining space in the field of human thought.

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These currents are the offspring of a linear thought that ignores other equally significant factors and goes too far with legitimate and important considerations, such as: scientism," "technology," and "economism".

The predominant form of "economism" is anthropocentrism, which places little or no value on nature other than its immediate use for generating profits or dividends. This idea holds that there are no "rights" that humans are required to respect in the natural world. It was a notion that justifies overconsumption and the depletion of natural resources given the comfort guarantees they report. It also denies the penetration of alternative renewable energy solutions, claiming that these solutions have high investment costs in relation to the nominal power of the systems. It also resists in-depth study and recognition of the economic impact of using these sources.

In other instances, the non-adoption of a legal system that regulates and promotes the introduction of renewable energies is justified, arguing that economic capacity would make it impossible to comply with the Law due to a lack of resources to develop these systems. However, the analysis of economic results has been prioritized in the short term, and it resists long-term economic planning.

"Scientism" holds that science has all the power to solve human problems and that science can accomplish the same or greater things than nature. It minimizes the methods for utilizing renewable energy sources, considering them to be straightforward, antiquated, and unable to address the technical issues posed by energy development's demands.

This current manifests itself very covertly and is based on the requirement that technological advancement be made in order to provide modern and comfortable solutions to the problems facing society. This manifestation is an oversimplification of the ways in which science is related to the social and political issues of human society, and some authors consider it to be heresy.

The term "technology" was closely associated with previous trends and derives from technological advancement. It was founded on the indispensable role that technology was required to play in the face of numerous environmental issues. Considers that technologies based on the use of renewable resources are unable to meet the high demands required by humanity's economic and social development. When technological solutions are found that diverge from science and one more broad range of values and human interests and are based on the application of technologies that prey on natural resources and have an impact on the environment, they become a dangerous current.

The old traditional energy development scheme, which was based on the consumption of fossil fuels, has large generation centers that imply increasingly sophisticated and specific generation technologies, a complicated scheme of distribution and transportation of electricity that has associated losses, which particularizes preferentially the consumption of a type of energy without considering other solutions and variants linked to fuel savings, the protection of natural resources, and the optimal use of other territorially available sources. As a result, the goals of sustainable development cannot be achieved.

INTERNATIONAL MULTIDISCIPLINARY JOURNAL FOR RESEARCH & DEVELOPMENT

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E-ISSN:2394-6334

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Postulates and principles of sustainable energy development

It is difficult to achieve the objectives of sustainable energy development with the widespread use of renewable sources and their incorporation into the national energy matrix without putting the tools into use in a scenario where the rules and laws that govern the traditional energy profile are in place. Instruments for regulating the gradual and controlled incorporation of renewable energy sources into the national energy mix.

It's about separating the regulatory foundations of two processes that align with the social goals of their management and that, from a technical standpoint, can be combined to ensure that energy is available for social development projects; however, their foundations, principles, and instrumental and practical concepts differ.

Electric service is dispensed by a Central Cargo Office and other offices in the province levels. The planning scheme responds to the concepts of centralization of generation and dispatch of energy, technological processes associated a group of environmental impacts that constitute an economic burden for the system and the national economy. The traditional electric system is sustained in the consumption of fossil fuels to generate electricity. It is based on a scheme with large and medium generation centers and a complex system of distribution and transportation of electricity to final consumption.

The energy system that is based on the utilization of potential that is dispersed throughout the territory is based on a distributed scheme that is comprised of multiple facilities that have the capacity to provide various quality energy services. It is not necessary to link the complex processes of dispatch, distribution, and energy transportation. Instead, the system is based on the utilization of the potential that is dispersed throughout the territory. The plan responds to territorial and local ideas about how to use renewable resources, reducing the country's and systems economic burden from environmental impacts.

A solid theoretical platform of postulates and principles that aims to characterize and distinguish the development scenario of these sources must serve as the foundation for the analysis of the regulatory capacity required to order the process of gradual and progressive penetration of renewable sources into the nation's energy base.

Postulates of sustainable energy development

The principles that should govern the penetration of technologies that take advantage of renewable sources are formulated using the postulates of sustainable energy development. These concepts are used to demonstrate openness to a new way to establish a national energy base that is diverse, respectful of the laws of nature, a protector of the environment, and respect for the enjoyment of a healthy and full life by future generations. The logical reasoning for the future energy policy is based on these postulates.

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E-ISSN:2394-6334

Published Date: - 10-04-2023

In addition, the postulates are a declaration of the most fundamental principles that ought to guide national energy planning based on maximizing self-sufficiency and minimizing dependence on imported technologies of generation based on the consumption of fossil fuels:

a) The country cannot maintain its energy development beyond its territorially available resources.

b) Energy advancement needs to answer monetary, social and ecological interests

Standards of manageable energy improvement

The standards of manageable energy improvement contain the principal thought on which the hypothesis of the utilization of inexhaustible sources and the energy administrations getting from it is based:

The activities of generation and commercialization of the benefits of renewable energy constitute public services par excellence, and their protection must be exercised by the State through the authorities of the territories. However, they may be carried out by natural or legal persons in accordance with the authorization and regulations established in the regulation. The principle of public service derives from the nature of the social effectiveness of energy.

The use of renewable energy, as well as the generation and marketing of energy, will be carried out in the mode of distributed generation, which entails utilizing the renewable resource where its intensity and quality permit it and consuming the energy where it is generated, thereby guaranteeing quality and efficiency in the service while simultaneously reducing the losses that are characteristic of centralized systems. This quality is derived from the territorial principle.

The decentralized and territorial energy planning principle suggests that the planning for the production and commercialization of renewable energy services will be carried out by the territories under the direction of the State. Services for generating energy that help cut down on oil-generated energy consumption receive priority.

In accordance with regulations, all legal and natural persons residing on the national territory have the right to use renewable energy services. The universal energy supply principle is outlined in these concepts, and this service will be provided to all customers in accordance with the regulated quality and safety standards. The goal of territorial technical coordination is to ensure that the system's technical and operational activities are coordinated with the provincial, municipal, and local structures in which they are situated. The Cargo Dispatch, which holds technical direction, will be required to coordinate with those connected to the facilities that generate electricity and are connected to the SEN.

Regardless of the way that sustainable power sources are an essential piece of the common habitat and that their types of purpose are not made by obtrusive mechanical techniques, taking into account their presentation as a commitment of ecological security, no innovation or human activity is

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E-ISSN:2394-6334

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absolutely harmless, so its application will be dependent upon the course of natural effect evaluation from the task stage, to limit its impacts on the climate, designing the guideline of insurance and practical utilization of the climate.

The guideline of regional logical specialized collaboration advances the turn of events and presentation of advances for the utilization of sustainable sources, through a course of study and counsel in participation with the logical and specialized establishments situated in the territories, making the most of the wide potential for existing logical and specialized information, comprising an essential undertaking of the State in the ongoing states of the nation's turn of events. The variety of sustainable power benefits that can be gotten from the utilization of sustainable sources, should be dependent upon a system of separated rates as per the qualities of these and in the circumstances laid out by guideline, in consistence with the rule of separated rates.

The rule of regional energy independence is an essential objective for the nation's economy, in a globalized existence where energy has turned into an instrument of force and domineering mastery of world powers. The SER is based on using renewable sources that are abundant and of high quality at the service location without having to come from outside. By transforming the final customer into an actor in the generation of service, the nature of the SER makes it possible for these to be carried out at the lowest possible cost, thereby enhancing the efficiency and energy savings principle's effectiveness. Since less oil is used to produce energy, these services guarantee that savings will be made because less money will be spent on costs related to the impact on the environment.

The utilization of renewable energy sources necessitates the application of the quality principle and internal control. If strict quality standards and internal control are maintained to promote high levels of profitability in the use of energy potentials, the introduction of technologies that take advantage of these sources will be justified. In the ongoing energy situation all sources and possibilities should be consolidated to take on the most suitable mechanical variation. The guideline of energy complementarily depends on guaranteeing the energy administrations requested by society, through proficient utilization of every one of the accessible sources, privileging the utilization of them in light of the accessibility of assets that are moved by, the ideal mix, effective and productive from the energy, financial and ecological perspectives.

CONCLUSION

Analyzing Cuba's energy profile over time reveals the necessity of articulating a legal regulatory framework that establishes the postulates and principles that should distinguish sustainable energy development from the management of renewable energy sources and its incorporation into the country's energy matrix.

Statement on conflicts of interest and sources of funding the authors declared that they do not have any competing interests. The authors provided funding for the study. Statement of Authorship The

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E-ISSN:2394-6334

Published Date: - 10-04-2023

study's conception and design are the authors' sole responsibility. The final article has been approved by the authors.

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