

MTMSD 2022**I International Conference «Modern Trends in Governance and Sustainable Development of Socio-economic Systems: from Regional Development to Global Economic Growth»****TAX INCENTIVES FOR THE DEVELOPMENT OF
ALTERNATIVE ENERGY IN RUSSIA**Rustam Alievich Yalmaev (a)*, Lyubov Vladimirovna Grigoryeva (b),
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Abstract

This study explores the efficacy of tax incentives in promoting the development of alternative energy sources in Russia. The research aims to assess the impact of existing tax policies on the growth of renewable energy and to propose potential reforms to optimize these incentives. The study employs a combination of qualitative and quantitative methods, including a comprehensive review of relevant literature, analysis of government regulations, and examination of statistical data on renewable energy investments and production. A standout result of the research is the identification of specific tax incentives that have successfully stimulated investment and innovation in the alternative energy sector. The findings underscore the intricate balance required to navigate the energy transition successfully, emphasizing collaboration, adaptation of global best practices, and the importance of transparent reporting mechanisms, also underscore the importance of tailored tax policies in driving sustainable energy transitions and offer insights into optimizing fiscal measures to accelerate Russia's transition to a greener energy future.

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1. Introduction

Reducing greenhouse gas emissions in the face of dramatic global climate change provides, as one option, a change in the public energy paradigm. That is, reducing the consumption of fossil fuels and switching to green energy resources, which include renewable energy sources (Abdulaeva et al., 2019).

Russia is no exception. The developed Energy Strategy of the Russian Federation for the period up to 2035 is aimed at a modernization breakthrough. The goal of which is flexible and sustainable energy. In the long term, capable of ensuring not only an effective energy transition, but also adequately responding to external threats and challenges (Official Internet Portal of Lighting Information, 2020). Oil and gas companies should be the key players in the new energy transition (Belousov, 2013).

The steps taken in Russia in this direction cover a fairly wide trajectory of impact on business entities, emphasizing the need to diversify energy sources. However, the created incentives, in particular tax incentives, require a revision of the current regulations, as well as the development of a new taxation model for oil and gas companies aimed at more actively stimulating them to diversify their business in favor of alternative energy (Batashev & Bisultanov, 2021).

2. Problem Statement

The shift from conventional fossil fuels to renewable energy is imperative for mitigating environmental impacts. However, in nations heavily dependent on high-carbon energy, such as Russia, a seamless transition to renewables is vital to maintain energy security. A significant hurdle to developing alternative energy in Russia is the insufficient support and incentives for business entities, particularly oil and gas companies not actively involved in renewable energy endeavors. Consequently, there is a pressing need to scrutinize prevailing tax incentive policies for business entities, aiming to facilitate an effective and efficient energy transition.

3. Research Questions

This study delves into several pivotal inquiries concerning the identified problem. Firstly, it aims to elucidate the theoretical foundations underpinning the concept of "alternative energy." Additionally, the research scrutinizes the current progress and prevalent challenges in the development of alternative energy in Russia. Furthermore, it seeks to unravel the intricacies of the existing taxation model applicable to enterprises engaged in alternative energy ventures within the Russian context. Finally, the study explores strategic approaches to leveraging tax incentives, with a specific focus on encouraging heightened participation of oil and gas companies in the renewable energy sector of Russia.

4. Purpose of the Study

This study is designed to provide a comprehensive exploration of the concept of "alternative energy" and its specific application within the Russian context. The primary objectives include a thorough analysis of the existing policy landscape governing tax incentives for business entities, particularly focusing on the unique challenges faced by oil and gas companies in transitioning to renewable energy

initiatives. The ultimate goal is to formulate a strategic taxation model that incentivizes and stimulates increased engagement of oil and gas companies in the development of sustainable and renewable energy sources. Through these efforts, the study aims to actively contribute to the facilitation of an effective and seamless energy transition in Russia, with due consideration to the imperative of maintaining the nation's energy security.

5. Research Methods

The research methodology employed in this study draws on the scholarly contributions of both Russian and international researchers, delving into theoretical and practical dimensions of alternative energy development in Russia and globally. The study encompasses an extensive review of scientific literature pertaining to methodologies utilized for incentivizing the adoption of green energy solutions, as outlined by scholars such as Dzhabrailova et al. (2021). The empirical foundation of the study rests on data sourced from the Ministry of Energy of the Russian Federation, the Renewable Energy Development Association, Enerdata (an independent information and consulting firm), along with relevant materials from economic literature and online information repositories.

The chosen research methodology integrates logical, structural, economic-statistical, and other scientific analysis methods to ensure a comprehensive investigation. The practical analysis adopts a dynamic approach, complemented by tabular and graphical methods to enhance clarity and precision in presenting the research findings.

6. Findings

The analysis of contemporary scientific literature reveals a nuanced perspective on the definition of "alternative energy" in both Russian and international contexts. The term is often regarded interchangeably with "renewable energy," as indicated by many researchers, including Guimaraes (2021). Conversely, some scholars opt to use "alternative energy" in contrast to "traditional energy," emphasizing that it encompasses both renewable and non-renewable sources. This perspective introduces the criterion of low-carbon attributes and underscores its significant role in economic activities.

Another approach to interpreting "alternative energy" involves its association with energy efficiency technologies. This interpretation implies that the developed power systems prevent energy loss during transmission, thereby creating an additional source of energy.

Upon scrutinizing existing state strategies for decarbonizing national economies, there is a prevalent initial emphasis on "alternative energy" framed specifically within the context of renewable sources. Typically encompassed within this category are wind, bio-, hydro-, geothermal, and solar energy, each potentially including subcategories contingent upon the specific technology employed for energy extraction.

An analysis of modern scientific literature has shown that in Russian and foreign practice there is an ambiguous opinion about the essence of the category "alternative energy". Many researchers believe that this concept is synonymous with renewable energy (Guimaraes, 2021).

Other researchers prefer to use the term “alternative energy” as opposed to “traditional energy”. In this context, it is emphasized that alternative energy is not only renewable, but also non-renewable energy sources. This thesis is complemented by the criterion of low-carbon nature of such energy sources and high importance for economic activity.

There is also an approach to the disclosure of the term “alternative energy” through energy efficiency technologies. This implies that the created power systems allow not to lose part of the energy “on the way”, thereby creating an additional source of energy.

Analyzing the existing state approaches in developing strategies for the decarbonization of national economies, it can be seen that initially, the main emphasis is on the category of “alternative energy - renewable energy sources”. As a rule, these include: wind, bio-, hydro-, geothermal, solar energy. All of the above types of alternative energy may include subspecies depending on the energy extraction technology.

6.1. Current Trends in the Development of the Alternative Energy Sector in Russia

Examining the current trends in Russia's alternative energy sector reveals several notable developments. The country has seen a growing interest and investment in renewable energy sources (RES) over recent years. Solar and wind energy projects have garnered particular attention, with an increasing number of installations and capacity additions.

Government initiatives, such as auctions for renewable energy projects, have played a crucial role in promoting competition and attracting investments. These auctions, along with supportive regulatory frameworks, aim to diversify the energy mix and reduce dependence on traditional fossil fuels.

The adoption of advanced technologies in the alternative energy sector has been a key trend. Innovations in energy storage, grid management, and smart technologies are contributing to the efficiency and reliability of renewable energy systems. Integration with digital solutions and the Internet of Things (IoT) is enhancing the overall performance and sustainability of alternative energy infrastructure.

Collaborations between the public and private sectors, as well as international partnerships, are fostering the exchange of expertise and resources. This collaborative approach is essential for overcoming challenges and accelerating the pace of development in the alternative energy sector.

Despite these positive trends, certain challenges persist, including intermittency issues in renewable energy generation and the need for further infrastructure development. Addressing these challenges will be crucial for sustaining the positive trajectory of the alternative energy sector in Russia.

The Russian Federation is one of the countries actively using renewable energy sources. A third of the electricity generated in the country comes from nuclear, hydro and other renewable energy sources.

According to the Association for the Development of Renewable Energy (ARVE), in 2021, about 4 GW of capacity is produced in Russia. This is a rather modest indicator. But according to the data of the Ministry of Energy of the Russian Federation (Figure 1), there is a gradual increase in energy production from alternative renewable sources. In particular, in 2014, only 23 kWh of solar energy was generated, and in 2020 this figure reached more than 1.5 million kWh. Wind energy results are also impressive, from 6 kWh in 2014 to almost 611 thousand kWh (Tomain et al., 2011).

The presented data demonstrate the prevalence of development in Russia of alternative energy sources, such as wind and solar energy. Against this background, achievements in the development of small hydroelectric power plants (HPPs), biogas and other alternative energy sources are quite modest. In particular, in 2020, electricity generation from landfill gas and the use of biomass and waste decreased significantly. Their growth rates were 12.1% and 60.7% respectively.

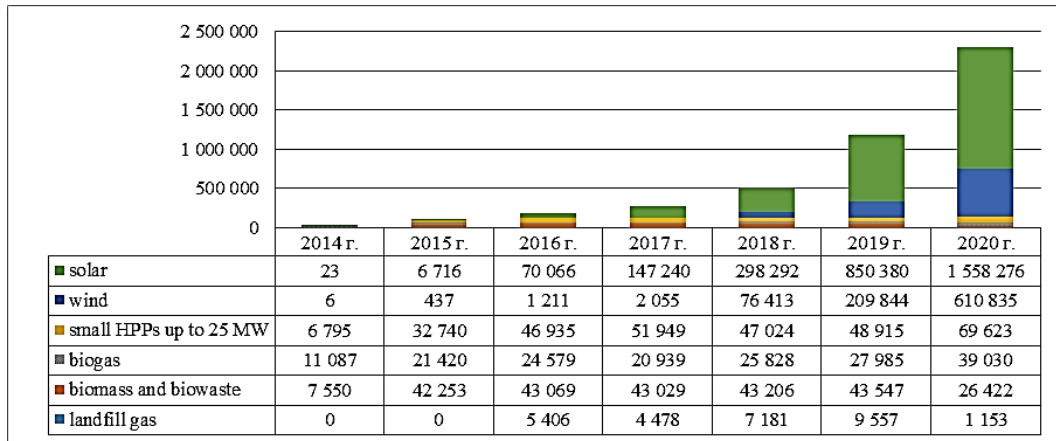


Figure 1. Volume of electricity generation at qualified renewable energy facilities in the retail and wholesale markets, confirmed by certificates (thousand kWh)

Separately, it should be noted that the specifics of energy production from renewable sources implies the need to locate energy production stations in the regions of the highest climatic favor. In Russia, the Southern Federal District is a promising place for development. Where wind generation and solar energy generation are already actively used, and their further development is planned (Gatalsky, 2021).

The experience of many countries, including Russia, shows that at the initial stage, the introduction of alternative energy is quite capital-intensive, and therefore is not an attractive type of investment. In this regard, without state support, it is very difficult to achieve the effect of a green energy transition. The priority of alternative energy sources for a decarbonized economy implies active stimulation by the state of business entities for the energy transition.

In this vein, oil and gas companies consider the development of alternative energy as part of their business strategies as a business diversification, and not as a potential type of core business. Although Russian oil and gas companies have enough resources to implement alternative energy development projects (Murtazova, 2022; Shakhgiraev & Zubairae, 2021).

Evidence of the low involvement of oil and gas companies in the development of alternative energy (Figure 2) is the data on the distribution of investment projects for solar, wind and small hydropower plants in 2021 (Renewable Energy Development Association, 2022). The presented figure shows that out of the entire set of implemented and planned investment projects, oil and gas companies (through their subsidiaries) accounted for only 47 MW of generated capacity (solar and small hydro power plants) (Zelinskaya & Kovalenko, 2021).

The development of alternative energy due to the high capital intensity is impossible without certain incentives from the state. In Russia, at the present stage, these incentives are already being implemented, but they are unattractive for oil and gas companies.

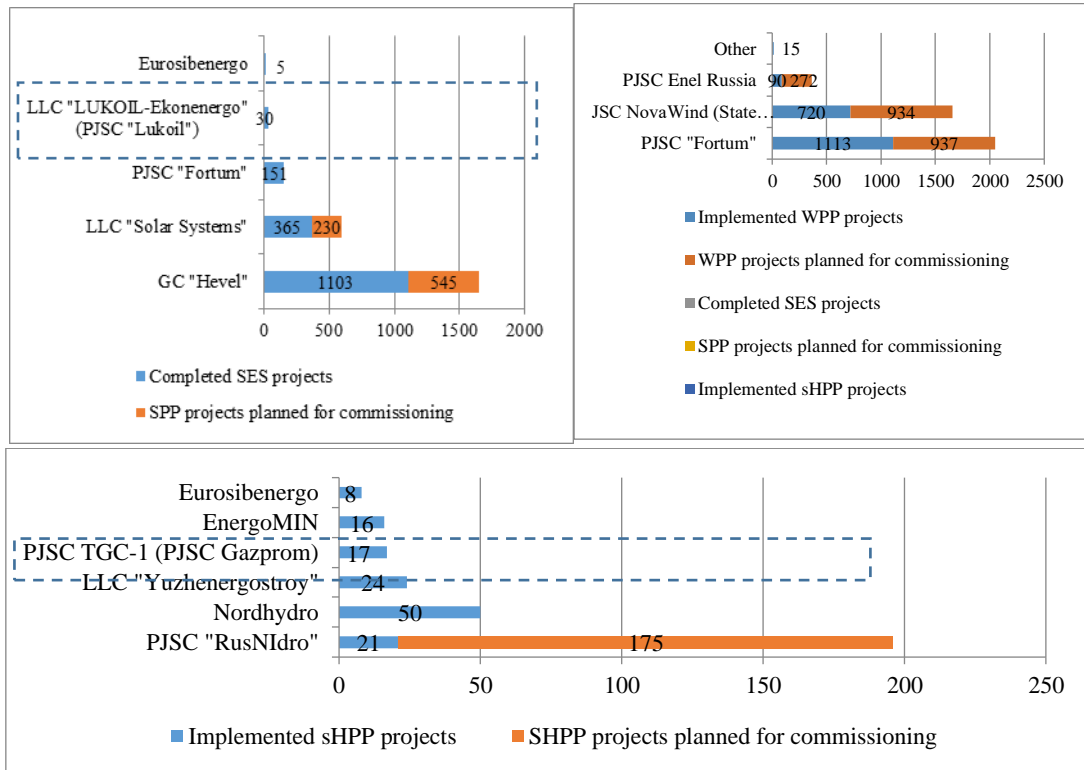


Figure 2. Distribution of investment projects for solar, wind and small hydropower plants, MW

6.2. Formation of an Incentive Model for Taxation of Oil and Gas Companies In Order To Develop Alternative Energy

Developing an effective incentive model for the taxation of oil and gas companies is pivotal for encouraging their active participation in alternative energy projects. A multifaceted approach is necessary to strike a balance between promoting renewable energy ventures and maintaining the financial health of traditional energy players.

One proposed strategy involves introducing tax credits and deductions for oil and gas companies that invest in and contribute to the development of alternative energy sources. These incentives could be tied to specific milestones, such as the capacity of renewable energy projects or the percentage of total energy production derived from green sources.

Additionally, a tiered taxation system may be explored, wherein oil and gas companies receive progressively favorable tax rates as their involvement in alternative energy increases. This approach aims to create a gradual transition, incentivizing companies to diversify their energy portfolios over time.

Collaboration with financial institutions could further enhance the incentive model. Establishing green investment funds supported by tax incentives for participating oil and gas companies could attract additional capital to the alternative energy sector. This collaborative effort aligns economic interests with environmental goals.

One of the methods of stimulating the development of a particular sector of the economy is naturally taxation. Why each country forms a special model of taxation of organizations in the fuel and energy industry.

An analysis of the Russian practice of stimulating companies developing alternative energy has shown that the list of tax benefits is small: investment tax credit; corporate property tax (NI); corporate income tax (IT) (accelerated depreciation) (Bisultanov, 2021; Official Internet Portal of Lighting Information, 2020).

These tax incentives, especially for oil and gas companies, have not proven effective in fact. Examples of diversifying the business of Russian oil and gas companies demonstrate the insignificance of ongoing alternative energy projects on a nationwide scale. Russian oil and gas companies are building solar and wind power plants, usually for their own needs, and often at remote oil and gas production sites.

All of the above allows us to conclude that it is necessary to expand the existing incentive measures of a tax nature, supplementing them at the first stage with the application of (Renewable Energy Development Association, 2022):

- i. Reduced value added tax (VAT) rate for renewable energy sources (RES) - 10%;
- ii. Reduction of the corporate income tax rate in terms of income received from the sale of energy obtained from renewable sources or the provision of tax holidays;
- iii. Introduction of a multiplier for the mineral extraction tax (MET) (in terms of fossil fuels) for enterprises that do not develop the use of alternative energy sources;
- iv. Additivity of tax benefits.

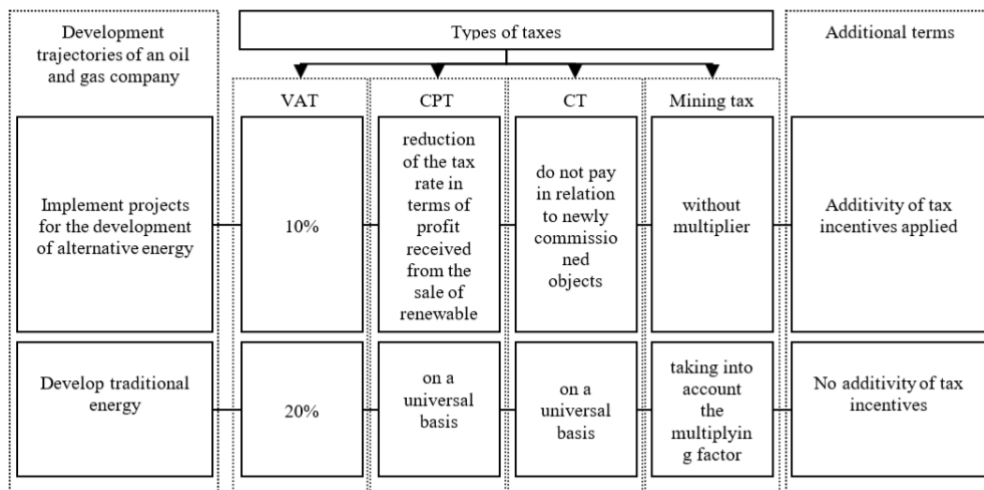


Figure 3. Taxation model for oil and gas companies to stimulate the development of alternative energy in Russia

According to the presented theses, a stimulating taxation model for oil and gas companies that have decided to develop alternative energy sources and contribute to the decarbonization of the Russian economy will be formed (Figure 3) (Harmakshanova, 2020; Shakhgiraev, 2019).

7. Conclusion

In conclusion, this study emphasizes the crucial role of oil and gas companies in Russia's energy transition and the necessity of their active engagement in developing green energy capacities. The proposed tax incentive model emerges as a potent tool to encourage these companies to diversify into alternative energy sources while preserving the nation's energy security. Aligning with the outlined strategy in Russia's Energy Strategy, this approach seeks to maintain an uninterrupted energy supply to consumers while steering the nation towards a more sustainable energy future. The findings underscore the intricate balance required to navigate the energy transition successfully, emphasizing collaboration, adaptation of global best practices, and the importance of transparent reporting mechanisms. By fostering a synergistic relationship between traditional and alternative energy, Russia can expedite its journey towards a more sustainable and secure energy landscape.

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