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The Need for the Green Economy Factors in Assessing the Development and Growth of Russian Raw Materials Companies

Vladimir Leonidovich Ulanov[1,*]

[1]*National Research University Higher School of Economics, Russia*

Abstract: Approaches to assessing economic development and growth in the context of transition to a green and low-carbon economy are considered on the example of the Russian raw materials business. The implementation of carbon regulation leads not only to the expected environmental results but also to a change in market conditions. With the spread of protectionist measures and restrictions, the assessment of the former integral indicator is distorted. It is shown that the curtailment of long-term contracts for the supply of fossil fuels and restrictions on investments in traditional energy projects adjust the assessment. In this article, its author drew attention to the need to take into account the factors of the green economy in the context of the development and growth of Russian developing companies. Indices, ratings, as well as such indicator systems as environmental, social, and governance may be of interest as a criterion of success. One of the factors of sustainable development and growth of raw materials companies is the number of proven reserves of recoverable resources, the potential of hard-to-recover resource, and the inability to reproduce natural resources. Based on the analysis of dependencies, it is proposed to develop strategies, which allow us to identify new opportunities. The system for assessing economic development and economic growth of raw materials and energy companies, built on a single-criterion approach, should consider the conditions of subsurface use, the level of reserves, and use of additional indicators to consider the impact of external circumstances. The assessment of the Russian raw materials and energy business on market principles may show negative dynamics in the short term, but in the long term, expectations are optimistic. This situation is largely explained by the inconsistency of the set goals for climate protection and the delay or inadequacy of actions taken as an example.

Keywords: green economy, energy transition, economic growth, investment, company value

1. Introduction

The global economy faces the challenges of limiting global warming and ensuring socio-economic development. These two tasks must be solved simultaneously. One possible way to curb temperature increases is to reduce the carbon footprint in production. This can be achieved by introducing modern technologies. But not everyone can afford it. Ensuring a balance between economic and environmental well-being has become a key challenge.

Companies are increasingly mentioning decarbonization, the development of green energy technologies, and the modernization of the oil and gas industry in favor of environmental standards. Gazprom Neft, Severstal, and EVRAZ have signed an agreement on cooperation in the development of technologies for reducing carbon dioxide emissions in Russia and abroad, as well as the production, transport, storage, and use of hydrogen. Reducing emissions requires companies to take action in a number of the activity areas: assessing energy flows and emissions in the company; internal and external comparison of indicators; setting goals and reporting; piloting and implementing advanced technologies for monitoring and reducing emissions, as well as developing new technologies that contribute to reducing emissions; changing the criteria for selecting investments based on the impact of future regulations and subsequent management of the current and future securities portfolio; and strengthening and harmonizing internal organizational structures and performance management to support the achievement of the Sustainable Development Goals [1]. Companies that fail to transform their business processes are at risk of losing market share.

The carbon border adjustment mechanism proposed by the European Union is intended to encourage trading partners to reduce the carbon intensity or carbon footprint of exported products [2, 3]. The mechanism involves the mandatory purchase of the greenhouse gas emissions certificates by importers [4] in accordance with the carbon intensity of products (while exporters can take into account the paid cost of carbon under the national emission accounting system in order to avoid double taxation). At the same time, the national energy security of consumers of raw materials and energy resources dictates the need to ensure a variety of resources in these economies, both at the expense of renewable energy sources (RES) and traditional oil, gas, and coal [5]. Therefore, in the coming decades, the share of traditional energy in the global energy balance will decrease, but it will remain significant [6]. A practical consequence of the decarbonization policy is that the carbon footprint is becoming an important parameter for evaluating companies [7]. This encourages businesses to reduce carbon intensity, apply cleaner technologies, and refuse to finance sectors associated with high greenhouse gas

*Corresponding author: Vladimir Leonidovich Ulanov, National Research University Higher School of Economics, Russia. Email: VULANOV@HSE.RU

emissions. A variety of factors in the future will increasingly affect the estimates of economic development and growth of the raw materials business.

The Russian raw materials business is an open economy. Problems and developments among trading partners affect the economic situation through export–import operations and external investments. In the face of uncertainty about long-term demand and raw material prices, companies do not increase investment. Based on the current trends in project implementation, the accumulated deficit of investments required to meet the demand for raw materials and resources will grow. At both high and low prices, investment (or lack thereof) in production and transportation leads to a supply shock in the market, which affects the price equilibrium and distorts the assessment of the financial state of companies. It can lead to the risk of using outdated technologies and causing environmental damage. Implicit links between Russian companies that may be affected by a contraction in trade and rising world rates and companies that are not affected by such factors lead to increased information asymmetry. However, in response to changes in global market conditions, the Russian raw materials business may deviate from the general trend [8].

The issues of business efficiency in the context of energy transition are in the field of scientific discussion, but most of the work explores the strategies of energy companies aimed at their "greening" [9], the economic feasibility of developing promising technologies [10], and low-carbon fuel production plants [11]. There are a number of papers that emphasize the idea of the need to make changes in general approaches to evaluating effectiveness [12, 13]. Certain tensions and uncertainties caused do not negate the impact of the global trend of decarbonization and the need to take them into account.

2. Overview of Approaches to Measuring Economic Development and Growth

One of the most significant developments in the evolution of economic growth criteria was the introduction of the Human Development Index (HDI), developed by the United Nations Development Programme at the end of the 20th century. The HDI measures economic growth in terms of human development, taking into account factors such as life expectancy, education, and standard of living. This new measure of economic growth helped to highlight the importance of human well-being as an essential component of economic growth, and it has since become a widely used and accepted indicator of economic progress.

An important development in the evolution of economic growth criteria was the introduction of the Gross National Happiness Index (GNHI), which was first introduced in Bhutan in the second half of the 20th century. The GNHI index measures economic growth in terms of subjective well-being, taking into account factors such as health, education, cultural preservation, and environmental protection [14]. This indicator of economic growth has helped to highlight the importance of subjective well-being as a key component of economic growth, and it has since been adopted by a number of other countries. In addition to the HDI and the GNHI index, other new indicators of economic growth have been developed, including the Genuine Progress Indicator, the International Wealth Index, and the Happy Planet Index. These new economic growth indicators take into account a wider range of factors, including the impact of economic growth on the environment, income distribution, and social well-being. By providing a more complete picture of economic growth, these indicators have increased understanding of what constitutes economic progress and helped to make better informed decisions.

The problems of assessing development and growth (Table 1), analyzing patterns of economic development, have been debated for many years [15]. More often, indices and ratings serve as criteria for development and growth. When determining them, various parameters are taken into account: business characteristics; production and financial indicators; and market factors. Both indexes and ratings indicate the sustainability of development, management efficiency, and investment attractiveness. Ratings are less objective (relative to indexes) but more influential analytical indicators. The leading stock indexes of the world economy S&P 500 (Standard and Poor's 500), Nasdaq Composite, Nikkei (Nikkei 225), DAX, CAC 40, and others, which are the benchmarks for investors, issuers, and other market participants, have shown great volatility in recent years.

The main Russian indices, which are based on the value of leading Russian companies, are subject to fluctuations. Business value is not just about cash flows; it is also about expectations, which can lead to conflicting and even unexpected results. Statistical data demonstrate the separation of the cash flow generated by a business from the commodity flow. The Russian Trading System index is one of the two main indices of the Moscow Exchange and a capitalization-weighted average parameter of 50 Russian shares listed on the Moscow Exchange, calculated in US dollars. At the beginning of the exchange's operation (01.09.1995), it was equal to 100. In 2021, the index grew from 3,289 to 7,787, i.e., by 15%. In 2023, the index rose slightly (0.12% as of 01.09.2023), but its level was only 1055. The Moscow Interbank Currency Exchange index is

Table 1
Organic and inorganic growth of the company

Organic growth through corporate strategies		Inorganic growth through mergers	
Corporate strategies	Assigning strategies	Types of joins	Content
Operating room	Reducing the share of fixed costs, minimizing resource inventories, increasing market share, etc.	Horizontal merger	Companies in the same industry with the same production characteristics merge
Investment	Minimizing cash balances, optimizing the use of fixed capital, selling excess assets	Vertical mergers	Companies that supply raw materials or finished products, process and consume them are united
Financial	Capital structure optimization, risk reduction, etc.	Diversified formations	Simple structures for the production and sale of technologically unrelated products are being united

calculated in rubles. The share prices of Russian companies have been even more volatile recently. Their market price differs from the analysts' estimates, as in the conditions of freezing of the "unfriendly" non-residents' institutional money, growing geopolitical risks, low liquidity, and opacity of operations, market efficiency decreases.

In contrast to indicators measured in natural terms, in terms of value, estimated indicators can change when using different accounting methods, information asymmetry, and irrational behavior of investors. Focusing only on financial indicators and not taking into account industry specifics may provide you with incorrect guidelines. According to the financial statements of the global company Rosneft (from the official website of Rosneft), the company's hydrocarbon production increased by 2.3% in 2022; revenue for the same year increased by 3.2%; EBITDA – by 9.5%, and debt and trade obligations decreased by 0.7 trillion rubles. The average growth rate of hydrocarbon production was 6.6% for Rosneft in 2012–2022; the largest companies had an average decline: BP – 3.1%; Shell and ExxonMobil – 1.3%. Despite its clear leadership in hydrocarbon production, Rosneft lags behind the level of its business value both in terms of volume and specific indicators compared to the aforementioned and other leading companies in the world.

Russian raw materials companies are inferior to their competitors in terms of the ratio that demonstrates the ratio of stock market valuations and reserves [16]. Proven reserves, availability, productivity, recovery rate, volume of production, and processing are the main factors that form the cash flows of a raw material company and confirm their reality in the future. It is important to have information on the terms of issuing development licenses: in the Russian economy – 20 years (excluding exploration) and 25 years (including subsurface exploration). The conditions of subsoil use, methods of accounting for reserves, and the tax system (including the rental component) are significant for the investor.

Investments are recognized as the foundation of development and growth [17]. However, their growth, taking into account the needs and emerging trends in the global economy, does not always have a positive impact on the main criterion, which is the company's value. The results of investment activity in Russia [18] caused by state policy reforms are contradictory [19]. In the context of the transformation of oil product consumption and decarbonization, state support for the industry aimed at increasing the depth of refining by intensifying capital investments carries a great risk – the implementation of such a strategy for some projects may be delayed, and investments in qualitative growth, for example, Russian oil refining will not be able to pay off in the future. On the other hand, for certain projects, it is government support that has a decisive impact – in conditions of high uncertainty, it assumes a significant share of risk and improves the economic performance of project implementation. In line with the proposed incentives, the Russian Ministry of Energy signed investment and modernization agreements to improve environmental protection with 22 oil refineries worth more than a trillion rubles. Additional volumes of light oil products based on the results of investment projects were intended for the world market [20]. External factors offset the gains achieved by Russian businesses.

3. The Evolution of Approaches to Assessing Business Success

Criteria for economic growth is a constantly evolving concept that was formed under the influence of changing economic conditions, achievements in economic theory, and recognition of the limitations of traditional indicators of economic growth [21]. The growing focus on sustainability and environmental protection, as well as concerns about the impact of economic growth on the environment, leads to a demand for measures that take into account the impact of economic activity on the environment, carbon dioxide emissions, deforestation, and depletion of natural resources. However, large amounts of investment in the implementation of the energy transition are not reflected in the same significant increase in the share price. And the energy crises that periodically arise in the global economy lead to the resuscitation, for example, in modern Europe, of already practically unused energy sources such as coal. Only with the normalization of international relations will the importance of the energy transition factor increase many times over. Alternative energy sources [6], despite the increase in their share in global energy consumption, will not be able to compete with oil and gas, which account for more than 50% of global primary energy consumption, for a long time.

Reducing CO_2 emissions is achieved through the use of various tools, including tightening environmental fuel standards, introducing carbon regulation, restrictions on the sale of cars with internal combustion engines, and supporting the development of RES [22]. Many countries of the world are implementing economic mechanisms that encourage enterprises to reduce greenhouse gas emissions [23]. The reduction of greenhouse gas emissions is planned to be achieved through the use of various tools, including quota and emissions trading systems, the introduction of carbon taxes, restrictions on the sale of cars with internal combustion engines, and support for the development of RES. An example of the largest climate initiative is the Green Deal of the European Union, which aims to achieve carbon neutrality by 2050 and reduce CO_2 emissions by 55% by 2030 compared to 1990 levels. An integral part of this program is a plan to expand the system of trading quotas for CO_2 emissions through the introduction of cross-border carbon regulation [7]. Russian businesses can expect carbon regulation initiatives can be expected from many countries (including the Asia–Pacific region), where Russian companies are currently reorienting their supplies. The struggle for stricter environmental standards has led to the emergence of such a well-known analysis system in the global economy as environmental, social, and governance (ESG).

The implementation of the economy carbon regulation proposed by the European Union also leads to changes in market conditions and business valuation volatility [24]. Despite taking into account the energy transition factor in the activities of raw materials companies, purposeful work to change the technical and technological structures of the business, the shares have not recovered in the exchange's estimates in recent years. Meanwhile, global demand for raw materials and resources is relatively stable. At the same time, there are opposite examples from the global practice of 2023: Shell's statement on the adjustment of corporate measures for "green" energy has a positive impact on the dynamics of its shares. Therefore, using a single-criteria approach to assessing the development of companies (based only on increasing the value of the business as the main criterion for success) does not always give an objective result and requires adjustment.

4. Tools for Assessing Development and Growth at the Corporate Level

Sustainable development is a guideline for business and plays a key role in building a competitive economy based on the interests of social development and environmental conservation. Sustainable development covers many areas of management activity. It includes strategic management, industrial safety, social factors affecting the quality of life, and regional ecology. One of the

main factors influencing the sustainability of energy companies is the size of proven reserves of recoverable resources, the potential of hard-to-recover ones, and the impossibility of reproduction of natural resources. The sustainability factor is the level of reorientation toward the development and exploitation of new fields. Companies need to develop proactive and transparent sustainability strategies that, while maintaining the license to operate traditional businesses, identify new opportunities arising, for example, from the transition to a low-carbon economy.

Since the beginning of the Anglo-Saxon management model dominating the world economy, the main criterion for success has been the cost of business (Table 2). It is based on the cash flows generated by the asset and the expectations associated with it [25]. In practice, this can be observed when the market reacts to decisions of the US Federal Reserve on the base interest rate or reports on the spread of coronavirus. If expectations and weighted average costs remain unchanged, then the change in market value is equal to the change in economic profit.

The business value serves as a benchmark for investors as holders of

Table 2
Evolution of company economic growth indicators

No.	Early indicators	Modern indicators
1.	Gross domestic product	Return on investment
2.	Share price	Market capitalization
3.	Unemployment percentage	Revenue growth
4.	Customer satisfaction with a product or service	Cost of getting a client
5	Inflation rate	Consumer Loyalty Index
6.	Work productivity	Interaction with nature and society

funds for economic development and growth. Therefore, when developing measures to increase investment attractiveness, it is important to offer the investor an image that guarantees the achievement of their goals [26]. The strategy is tailored to the interests of a specific group (institutional portfolio investors; individual small investors; strategic investors from the industry). At the present stage, cash flows in the energy and raw materials sector are decreasing: commodity flows are decreasing; revenues from the sale of Russian resources are decreasing due to changes in logistics schemes. However, the subjectivity of valuations and the information inefficiency of capital markets give businesses a chance to increase investment attractiveness through an income management policy or a disclosure policy. Certain management of investor sentiment through the use of different accounting methods creates opportunities for individual projects, but this is unlikely to happen for the entire sector. An understanding of some manageability of investor sentiment has always been present, but the business value indicator, the company's capitalization as a benchmark for participants in any market, remained the most important parameter when buying shares. In the free market, this benchmark has proven to be a reliable tool for determining investment decisions.

With the spread of protectionist measures and sanctions, information from previous benchmarks is distorted and additional information is needed to make a decision. The development of Russian businesses based on market principles will demonstrate a negative state of affairs. An example is the global Russian company Gazprom, which is increasing investments in the exploration, production, transportation, storage, processing and sale of gas, gas condensate and oil, as well as solving environmental problems from year to year. Gazprom is a recognized leader among global energy companies due to the diversification of sales markets, ensuring energy security and sustainable development, increasing operational efficiency, and harnessing its scientific and technological potential. The share of R&D expenditures in Gazprom's revenue (in accordance with Gazprom's Innovative Development Program until 2035) is at least 0.11% annually. The reduction in specific greenhouse gas emissions of CO_2 equivalent in 2025 will be 3.1% in relation to the base year 2018. The number of patents used in the company will be equal to 525 in 2025. At the same time, Gazprom's investment results and innovation successes are largely offset by external factors.

To assess growth and justify management decisions, it is necessary to correct the existing criterion and develop a different benchmark that will allow you to build goals, take measures, and track the achievement of goals. For short-term transactions and project evaluations, calculations using the accepted methods with positive results are still possible, and some investors will win on the stock market. But to solve problems in the long term, other indicators will be required. Recognition returned to indicators in physical terms: the volume of production and processing in tons; the number of wells drilled in units; and investments in environmental protection facilities.

To analyze the state of business, various indicators of third-party organizations are interesting, for example, the financial stress index of the Russian analytical agency ACRA and an assessment using various methods of world research centers for ESG analysis [27].

Sustainable development management is closely related to measures of strict control over employee safety, modern personnel policies, as well as upholding human rights, developing regional societies through social infrastructure, maintaining information transparency, timely payment of taxes, etc., as well as strategies to combat climate change. This concerns efforts to reduce greenhouse gas emissions, increase energy efficiency, and help energy consumers use energy resources more efficiently. This strategy also includes the introduction of carbon capture and storage technologies. Strategies that reduce a company's influence on the environment preserve biological diversity in the regions where the company operates, reducing pollution of land, air and aquatic environments. Today, the ESG strategy is becoming popular in Russian companies.

Corporate and public administration indicators, environmental factors, and social indicators became components of the ESG business assessment. The ESG assessment is driven by growing public concern about environmental issues. Climate change and its consequences are perceived as a threat to the entire world community. The proposed systems are controversial when used in practice: difficulties in consolidating components, and the disparity of individual factor meters when building a summary indicator for different types of company activities. However, such views are popular and are reflected in the world and the Russian business practice [28]. The application of ESG strategy in Russian companies is at an early stage. Most sustainability strategies are driven by current regulations, political and social pressures, rather than by business needs. The degree of pressure is significant, so sustainable development is aligned with classical strategies.

The Russian Union of Industrialists and Entrepreneurs has proposed introducing sustainable development indices into business practice as a set of tools for independent assessment of companies' performance through their public reporting on specific, comparable

and verifiable indicators. The first is the Responsibility and Transparency Index, which shows the completeness and quality of information disclosure, reflects the impact of companies, and defines a sample of such companies. Another is the Sustainable Development Index, which shows performance and reflects the direction of sustainable development. At different stages of development, many evaluation criteria and indicator systems are developed. Biodiversity provides an opportunity for assessment and analysis based on relevant factors. In practice, it is necessary to take into account the diversity of business activities, the complexity of interaction in the raw materials sector, as well as the possession of a set of technologies and tools for preparing management decisions [29]. With the help of management tools, the objectivity of assessments increases and responsibility is more accurately distributed [30].

Applying the categories of economic development and growth in business practice can be difficult [31]. In 2022, the Russian energy sector showed better results than expected: production growth increased cash flows. With the expected shortage of energy resources, consumers bought them at higher prices; payments grew in 2022; revenues from the Russian energy sector to the state budget increased. In 2023, a regulated reduction in production was introduced, and due to sanctions and the need to redirect commodity flows, building new logistics schemes, cash flows were adjusted. Economic growth is becoming problematic in the near term.

5. Potential and Downside Factors of Russian Companies' Success

The share of traditional hydrocarbons (coal, oil, and gas) consumed in the global energy balance is high and very significant [32]. The Russian mineral resource base is huge, with more than a third of the world's natural gas reserves and 12–13% of coal and oil reserves concentrated in Russia. Therefore, the impact of the Russian raw materials sector on the global economy is very significant. The raw materials business is also important for the national economy. The share of Russia's total energy exports has been about half for many years, and oil and gas revenues to the federal budget are significant (over one-third). Starting in 2022, the Russian raw materials business will face new operating conditions. With proven reserves of raw materials and energy resources, the most important parameter for a raw material company, the economy of the Russian raw materials and energy business has changed.

Exploration of mineral deposits, the diversity of man-made operating conditions of deposits, and even sections of the same deposit require an assessment of development options [33]. The company's activities without the presence of reserves and resources in the subsoil and development rights have no prospects for either economic development or economic growth [34]. Regulation of access to resources can be presented as one of the industry tools for development and growth [35]. The main regulatory tools are subsoil use regimes, licensing, and standardization [36]. The Russian mineral resources sector is characterized by state ownership of subsoil resources, while the main onshore assets are owned by shareholders of companies that have the right to develop specific subsoil areas. Companies can enter into subsoil use based on the results of an auction, according to which the right to use may extend to subsoil areas of both local and federal significance. Russian legislation regulates subsoil use regimes. It determines who can use the deposits, when and how. An equally important factor is compliance with special rules for subsoil use in order to avoid environmental disasters that can be disastrous for nearby regions. The state is able to limit the use of mineral resources in cases of threats to the environment, the life of nearby settlements, and the need to ensure the country's defense when subsoil areas fall into a zone of military conflict.

Barriers to development and growth can be both general economic problems and industry problems [37]. Although environmental pollution is a global problem, environmental protection is a challenge for individual business projects. In shaping the modern trend toward sustainable development and increased responsibility for the environment, more and more attention is being paid to the global problem of climate change [24]. Russia plans to achieve carbon neutrality by 2060. The impact of the global energy transition on companies' operations has been particularly pronounced since the signing of the Paris Agreement in 2015. The theory dominates the world: billions of US dollars are spent on its support. The date of the climate apocalypse was set and postponed several times (2009, 2014, 2020). Businesses are forced to follow new rules of the game for companies to mitigate the consequences of anthropogenic impact on the environment. Environmental difficulties caused by emissions can be expected to increase. It is important that viable policies are developed to mitigate the growth of relevant CO_2 emissions and achieve environmentally sustainable economic growth.

Energy transformation often occurs not because of the competitive advantages of RES but because of the environmental agenda. The widespread adoption of alternative energy is faced with the absence of certain natural factors: a large number of sunny days a year; large rivers; wind; difficulties in ensuring uninterrupted energy production and constant voltage in the network; and low energy profitability (EROEI) relative to traditional sources. RES are quite strongly dependent on the time of year and climate; frosts have led to accelerated gas consumption in storage facilities; weak winds in the North Sea have significantly reduced electricity generation at wind farms; and increased demand for LNG in the Asian region and Europe's policy of planning energy supplies (switching to spot contracts) have led to sharp jumps in gas prices on the stock exchange. It should be taken into account that after reaching a certain share of RES in the energy balance, further expansion becomes unprofitable at the current level of development of equipment and technologies. The increase in the use of RES will continue, but it will be at the expense of state funding and other support measures. For example, in Germany, a country with a large share of RES in the energy balance, the competitiveness of RES is ensured by subsidies, which creates high electricity prices. Germany is following the Green Deal, a plan to achieve zero net greenhouse gas emissions and zero total environmental pollution by switching from fossil fuels to renewable energy and raw materials by 2050. At the current level of development of alternative energy, it can be argued that further increment of this share will become increasingly expensive, since, firstly, RES are demanding in terms of placement; secondly, even if technical progress reduces the cost of production, for example, of solar power plants (ES). However, rare earth metals and lithium are exhaustible resources that can be used for energy production. They are important elements of the same solar power plants. There are also difficulties in producing semiconductors and solar cells. Thirdly, seasonal heating is a major expense item, and electricity generation for heating should be stable, reliable, and able to increase and decrease depending on changes in temperature and time of year, what wind generation and solar energy will not correspond in the near future. Another element of renewable energy can be "green" hydrogen, which is produced using energy from other renewable sources. Currently, the use of this type of hydrogen fuel is unprofitable relative to others. Relatively cost-effective and stable gas

and nuclear power still make up a large part of Europe's energy mix, but their use cannot be described as completely eco-friendly (without methods for capturing and disposing of carbon dioxide and safely disposing of nuclear waste), despite their recognition as "green" in the European Commission's taxonomy. However, the decision is not yet final, but the refusal can seriously complicate the process of implementing projects related to gas and nuclear energy. In the near future, the use of RES will remain profitable up to a certain threshold share in the energy balance. Without the development of technology and infrastructure, even supporting the current share of alternative energy will require large subsidy costs.

Adapting to new institutional conditions [38] among Russian companies is based on expanding the business model – creating an integrated asset portfolio that includes both hydrocarbon and low-carbon assets, diversifying business toward petrochemical production and small-scale energy development, as well as developing technologies for capture, utilization, and disposal CO_2. Leading positions in terms of integrating the climate agenda are held by companies that are the largest exporters of gas, oil, and petroleum products, and these Russian companies regularly publish non-financial reports.

Recent factors influencing the assessment of the development and growth of the Russian sector continue to dominate. Practice shows examples of the selective nature of protectionist ideas. In 2023, it became clear that the Brussels measures do not apply to petroleum products produced from Russian oil outside of Russia, and the "price ceiling" rule will not apply when mixing energy resources from Russian and foreign suppliers. Political tensions and the resulting uncertainty due to anti-Russian sanctions do not negate the impact of the global trend of decarbonization on the economy of traditional energy projects.

6. Recommendations on the Criteria for Evaluating the Success of the Raw Materials Business

In the market, the main criterion for the success of a company is its capitalization as a parameter of business value. The cost is based on the cash flows generated by the asset in question and the expectations associated with it. Such a criterion has served and can serve as an objective reference point in the context of a free market. With the spread of protectionist measures information from such benchmarks is distorted and additional information is required to make a management decision on assets. Currently, if cash flows are growing, expectations adjust the integral indicator to a downward trend. It will not always be correct to reflect the state of affairs on market principles. In order to make a long-term decision, additional information will be required. Not only the resulting information is of interest, but also the leading information. However, the proposed criteria and indicator systems (including the ESG score) require further development. In addition to sectoral factors (tariff policy, principles of subsurface use), the development and growth of the economy are significantly influenced by other factors (sanctions, trade wars). Currently, recognition has returned to indicators in physical terms (production and processing volumes in tons; number of wells drilled in units; availability of licenses; use of patents, etc.).

7. Conclusion

The implementation of conditions for the transition to a green and low-carbon economy, aimed at reducing the carbon intensity of products, can have a significant impact on the economic development and economic growth of the Russian raw materials and energy business.

The raw materials business remains a significant part of the global economy, given the energy transition, decarbonization, development of RES, growth in the production of electric vehicles, as well as the trend toward curtailing long-term contracts for the supply of fossil fuels and limiting investment in traditional energy projects. The spread of green energy can have a positive impact on the economy as a whole (the introduction of various innovations and their interrelation with the use of alternative energy; expanding the opportunities of all segments of the population; ensuring national security, etc.), but for traditional energy, RES are a competitive factor. The share of energy from renewable sources (hydropower, solar energy, wind energy, geothermal energy, bioenergy, wave and tidal energy) in the world is constantly increasing. The new energy sector has become one of the leading ones, and in the future it will dominate over carbon-neutral energy.

Raw materials businesses will have to reduce their emissions. To assess the role of low-carbon energy in their future portfolios, several issues will need to be considered, including:

- which types of low-carbon energy are most relevant to the existing scale of activities and technical and commercial opportunities, and how can existing opportunities be developed and used for successful work in the low-carbon energy sector?
- which investments and financial resources will be required for successful diversification into low-carbon energy, and how these investments will be balanced with investments in the main types of oil and gas;
- how the operating model should change to accommodate new business sectors, whether new businesses should be integrated to use common services and synergies, or whether they should be managed remotely;
- how existing shareholders and future investors will balance existing oil and gas revenues with future growth in low-carbon technologies, and what is the integrated value proposition for the company.

An obstacle to the implementation of the latest achievements is economic feasibility. Diplomatic agreements and various promises are relegated to the background in the presence of economic problems. In the Russian economy today, it is not appropriate to consider reducing the production of traditional hydrocarbons (coal, oil, gas), since their share in world consumption is very high. Such a step would be irrational and would entail various negative consequences, including currency fluctuations, decreased energy reliability and security, rising oil prices, decreased state budget revenues, etc. In the near future, fossil fuels will maintain their positions, gradually reducing their share in the global energy mix. The energy transition in the future is inevitable, as is the transformation of companies' business models. But it will only happen in the presence of breakthrough technologies for the production of green energy and its storage. The company also runs the risk of ending its existence before it has time to adapt to the modern requirements of the surrounding world.

Ethical Statement

This study does not contain any studies with human or animal subjects performed by the author.

Conflicts of Interest

The author declares that he has no conflicts of interest to this work.

Data Availability Statement

Data sharing is not applicable to this article as no new data were created or analyzed in this study.

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