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Forest Resources as a Factor of Strategic Advantage in the Geopolitical Competition of Major Actors of World Politics in the Context of Global Climate Change

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ABSTRACT

The article provides a comprehensive analysis of the transformation of forest resources into an instrument of geopolitical competition in the context of global climatic and economic changes. The study aims to determine the role of forest resources as a factor of geopolitical influence of key actors in the international system and to establish the mechanisms through which they are employed in the implementation of foreign policy strategies within contemporary climatic and regulatory regimes. The methodological basis comprises institutional-comparative and comparative approaches combining the analysis of international regulatory documents, carbon regulation systems, and state climate policies. Content analysis, institutional analysis, and etymologization of geopolitical strategies were applied, enabling an examination of the interrelationship between forest resources, climate mechanisms, and the global redistribution of influence. The principal findings consist in the identification of a multilevel system of forest resource utilization in geopolitical competition, wherein key actors employ diverse models of influence – ranging from institutional norm-setting to resource and investment expansion. It is established that the geopolitical motivations of key actors in their use of forest resources are determined not by ecological priorities but by the logic of competition for influence and strategic advantage. The United States seeks to preserve its role as the architect of the global climate order, since control over the rules governing carbon markets provides an indirect means of shaping the economic behavior of other states. China employs forest and climate mechanisms to construct financial dependencies that are subsequently converted into political loyalty and an erosion of Western influence. Russia transforms forest resources and carbon schemes into geopolitical currency, exchanging them for a reduction in sanctions pressure and support for its own foreign policy ambitions. The European Union, Canada, and Japan, for their part, demonstrate that adherence to ecological norms simultaneously constitutes a source of normative influence and a structural constraint that narrows their geopolitical maneuvering space relative to actors that disregard such limitations. The geopolitical behavior of each actor in the domain of forest resources is subordinate to its broader foreign policy objectives. The global climate architecture does not eliminate geopolitical competition over forests; rather, it transforms its form – shifting the contest from the field of direct resource control to the arena of norm-setting, verification, and access to financial flows. It is precisely this tension between declared ecological goals and the actual geopolitical motivations of key actors that constitutes the central subject of this study. The scientific novelty lies in deepening the theoretical understanding of forest resources as an element of geopolitical power rather than merely an object of natural resource management, as well as in the systematization of the mechanisms through which they are deployed in processes of influence redistribution among key geopolitical actors. The practical significance of the findings lies in their potential application to the modelling of the geopolitical behavior of key actors in international politics. The particular scholarly value of the study derives from its interdisciplinary character – specifically, its integration of the international environmental dimension (the global struggle against climate change) and a geoeconomics framework, both of which generate new opportunities while simultaneously imposing significant constraints on geopolitical actors in the pursuit of their strategic objectives.

KEYWORDS

forest resources, geopolitical competition, strategic objectives, climate change, sustainable development.

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Лісові ресурси як чинник стратегічної переваги в геополітичній боротьбі основних акторів світової політики в контексті глобальної зміни клімату

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СТАТТЯ

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АНОТАЦІЯ

У статті здійснено комплексний аналіз трансформації лісових ресурсів у інструмент геополітичної конкуренції в умовах глобальних кліматичних і економічних змін. Метою дослідження є визначення ролі лісових ресурсів як чинника геополітичного впливу ключових акторів та встановлення механізмів їх використання для реалізації зовнішньополітичних стратегій у межах сучасних кліматичних і регуляторних режимів. Методологічну основу становлять інституційно-порівняльний і компаративний підходи, що поєднують аналіз міжнародних нормативних документів, систем карбонового регулювання та кліматичної політики держав. Застосовано контент-аналіз, інституційний аналіз і типологізацію геополітичних стратегій, що дозволило дослідити взаємозв'язок між лісовими ресурсами, кліматичними механізмами та глобальним перерозподілом впливу. Основні результати дослідження полягають у виявленні багаторівневої системи використання лісових ресурсів у геополітичній конкуренції, де ключові актори застосовують різні моделі впливу – від інституційного нормотворення до ресурсної та інвестиційної експансії. Встановлено, що геополітична мотивація ключових акторів у використанні лісових ресурсів визначається не екологічними пріоритетами, а логікою боротьби за вплив і стратегічні переваги. США прагнуть зберегти роль архітектора глобального кліматичного порядку, оскільки контроль над правилами карбонових ринків забезпечує опосередкований вплив на економічну поведінку інших держав. Китай використовує лісові та кліматичні механізми для формування фінансових залежностей, які конвертуються у політичну лояльність і послаблення позицій Заходу. Росія перетворює лісові ресурси і карбонові схеми на геополітичну валюту, якою розплачується за послаблення санкційного тиску і підтримку власних зовнішньополітичних амбіцій. Водночас ЄС, Канада та Японія демонструють, що дотримання екологічних норм є водночас джерелом нормативного впливу і структурним обмеженням, яке звужує їхній геополітичний маневр порівняно з акторами, що такими обмеженнями нехтують. Геополітична поведінка кожного актора у сфері лісових ресурсів підпорядкована його ширшим зовнішньополітичним цілям. Глобальна кліматична архітектура не усуває геополітичну конкуренцію за ліси, а лише змінює її форму – переносячи боротьбу з поля прямого ресурсного контролю на поле нормотворення, верифікації та доступу до фінансових потоків. Саме це протиріччя між декларованими екологічними цілями та реальними геополітичними мотивами ключових акторів є центральним предметом цього дослідження. Наукова новизна полягає в поглибленні теоретичного підходу до розуміння лісових ресурсів як елемента геополітичної сили, а не лише об'єкта природокористування, а також у систематизації механізмів їх використання в процесах перерозподілу впливу між ключовими геополітичними акторами. Практичне значення результатів полягає у можливості їхнього використання для моделювання геополітичної поведінки ключових акторів міжнародної політики. Особлива наукова цінність дослідження продиктована його міждисциплінарністю – а саме, врахуванням міжнародної екологічної (глобальною боротьбою зі зміною клімату) та геоекономічної рамки, які визначають нові можливості, але і накладають суттєві обмеження для геополітичних акторів щодо реалізації стратегічних геополітичних цілей.

КЛЮЧОВІ СЛОВА

лісові ресурси, геополітична конкуренція, стратегічні цілі, зміни клімату, сталий розвиток.

1. Introduction

In the conditions of modern geopolitical volatility, forest resources are increasingly considered as a factor in the geopolitical struggle for control over strategic resources and mechanisms for their regulation. Moreover, it is not about their economic or ecological significance as such, but about the ability to influence the distribution of power between key actors in world politics [1].

The climate factor has only intensified this process, integrating forest ecosystems into the carbon regulation system, which is actually a mechanism for controlling financial flows and access to markets [2]. In this context, the decisive importance is not the natural characteristics of the resource, but political decisions that determine the rules for its use [3].

At the same time, the practice of geopolitical behavior of key actors confirms that forest resources are integrated into strategies of geopolitical influence. Moreover, the importance of forests as a mitigator of global climate change acts here rather as a manipulative tool for achieving foreign policy goals. In particular, Russia uses boreal forests as an argument for reducing external regulatory pressure and preserving the resource-export model of the economy, which, in turn, finances its aggressive foreign policy [4]. The United States of America (hereinafter – the USA) forms control over carbon markets through carbon accounting standards and monitoring technologies, which allow determining the rules of their functioning [2]. The European Union extends regulatory influence through environmental standards and the Carbon Border Adjustment Mechanism (hereinafter – CBAM), setting external restrictions for other states [3]. At the same time, Brazil uses the Amazon as a tool of pressure, blackmailing other global players with deforestation in order to obtain financial preferences in return [5]. In these conditions, competition for forest resources goes beyond purely environmental or economic issues, instead acquiring signs of a systemic geopolitical struggle. Control over them means control over financial flows, regulatory mechanisms and conditions of participation in the global economy, and therefore control over the instruments for implementing foreign policy ambitions [6].

2. Literature Review

Modern research on forest resources is formed at the intersection of ecology, economics and international regulation, but their political dimension has long remained secondary. In most works, forests are considered as an element of the climate system or an object of management, while the issue of their use in the struggle for power and control does not receive due coverage [6]. The legal and institutional foundations of the integration of forests into global politics are revealed in the study of J. Langer, where it is shown that it is norms that determine access to resources and the distribution of benefits between actors [7]. At the same time, relying on the concept of "regime complexity" proposed by R. Cohen and D. Victor, climate policy should be considered as a set of interconnected but non-hierarchical regimes, within which the main struggle unfolds not so much for the resources themselves, but for control over the rules of their use [8]. This approach allows us to clarify that geopolitical competition in the field of forest resources occurs through the establishment of accounting standards, verification mechanisms and access to markets that determine the distribution of benefits between actors in world politics.

A separate area of research focuses on the ecological and economic functions of forests, but without taking into account their geopolitical significance. In the work of M. Doré and R. Guevara, the forest is considered as an element of climatic stability, without analyzing its role in political processes [9]. A similar approach is also observed in modern research on sustainable development, where the emphasis is on environmental efficiency, rather than on the struggle for control [10].

At the same time, certain scientific explorations of the political significance of forest resources can still be found in Western literature. In particular, a scientific approach has been formed where forest resources are considered as an instrument of power. Research by M. Brockhaus, A. Engelsen and V. Sanderlin shows that in the countries of the Global South, control over forests is associated with access to financial flows and political resources [11]. F. Fleischmann and colleagues argue that carbon markets function not as economic mechanisms but as politically driven benefit-sharing systems [2].

Further research reveals asymmetries of influence between states. In particular, M. Cárdenas and J. Guzmán Ayala show that carbon mechanisms entrench unequal access to resources and financing [12].

D. Kleinschmidt and co-authors document state competition for rule-making in global forest governance [13].

Modern research directly emphasizes the power dimension of these processes. For example, B. Arts et al. show the fragmentation of forest governance and competition for control over political mechanisms [14]. J. Kinmengsi and colleagues argue that the main factor is not the resource itself, but the distribution of power between actors [15]. In a broader geopolitical context, natural resources are considered as an instrument of struggle for influence and control over global processes [1]. A similar logic is also traced in the works of I. Overland, where resources are interpreted as a factor in the redistribution of power in world politics [16]. Thus, the existing scientific base demonstrates the transition from an ecological to a political understanding of forest resources, but their use as an instrument of geopolitical struggle remains insufficiently studied.

3. Problem Statement

The purpose of the study is to identify and systematize the role of forest resources in the modern geopolitical struggle between the main actors of world politics, as well as to determine the mechanisms for their use to implement their strategic foreign policy goals in the context of global climate change and the regulatory regimes that they generate.

To achieve this goal, the following research tasks have been defined:

1) to generalize theoretical approaches to the interpretation of forest resources as an element of modern geopolitical competition;

2) to identify and systematize the main geopolitical actors by the level of activity in the use of forest resources for geopolitical purposes, with the allocation of the main groups of states;

3) to characterize the models of geopolitical behavior of states in the field of using forest potential and to establish the impact of global climate policy on the possibilities of its application as an instrument of geopolitical influence.

The study focuses on the analysis of specific cases of the behavior of major geopolitical actors, which allows us to trace how forest potential is used not as a resource in itself, but as a tool of influence in the struggle for strategic advantages in geopolitical struggles.

4. Methods and Materials

The study applied an institutional-comparative approach, which allowed for tracing the connection between climate regulatory regimes and the use of forest resources in the geopolitical strategies of states. The analysis of regulatory documents of the Paris Agreement (an international climate agreement that defines the obligations of states to reduce emissions), CBAM mechanisms and REDD+ programs (Reducing Emissions from Deforestation and Forest Degradation) was carried out using the method of content analysis, which made it possible to identify the rules of access to carbon markets and financial compensations laid down in them. On this basis, it was established how institutional restrictions and incentives for states participating in global climate governance are formed.

A comparison of the behavioral models of the USA, the EU, China, Russia, Canada, Japan and the countries of the Global South was carried out through a comparative analysis of political and economic strategies, where the nature of regulatory influence, investment practices and mechanisms of access to forest resources were compared. This approach allowed not only to record the differences between actors, but also to determine the logic of their mutual dependence within the framework of global regulation.

The institutional dimension of climate markets was investigated through the analysis of carbon accounting and verification standards used in the MRV (Measurement, Reporting, Verification) systems, FSC (Forest Stewardship Council) and PEFC (Programme for the Endorsement of Forest Certification). This allowed to establish how technical procedures are transformed into a tool for regulating access to resources and form a hierarchy of state participation in carbon mechanisms. The results obtained are reconciled through a typology of strategic models, reflecting different ways of integrating forest resources into foreign policy practices.

The empirical basis is open international databases and official documents of institutions that regulate climate and forest policy at the global level. Materials from the UNFCCC (United Nations Framework Convention on Climate Change), the World Bank (World Bank – international development

finance organization) and FAO (Food and Agriculture Organization – Food and Agriculture Organization of the United Nations) were used, which contain generalized statistics on the state of forest ecosystems and climate financing mechanisms. Additionally, reports from the European Commission on the implementation of the CBAM and the EUDR (EU Deforestation Regulation – EU regulation on preventing imports of products related to deforestation) were analyzed, as well as data from voluntary carbon market operators, in particular Verra and Gold Standard, which reflect the practice of monetizing forest projects in the countries of the Global South. The collected materials were processed using the Microsoft Excel software environment for structuring and comparing data, which allowed systematizing information on the mechanisms for using forest resources by different countries. For qualitative analysis of text sources, NVivo (software for computer-based qualitative data analysis) was used, in which regulatory documents and strategic reports were coded to identify recurring institutional patterns of regulation.

5. Results and Discussion

In the conditions of modern geopolitical competition, forest resources are not only a natural asset but also a tool that determines the ability of political actors to influence global economic and political processes. Their transformation is associated with the growing role of carbon markets and the intensification of the struggle for control over natural resources, as a result of which the forest ceases to be just a source of wood and acquires the importance of a geostrategic resource. Control over large forest areas allows international actors to influence the rules of climate regulation, gain access to financial mechanisms and use the environmental factor as an instrument of political pressure. In these conditions, the main geopolitical actors, in particular the USA, China, Canada, EU countries, Japan and countries of the Global South, use forest potential as an element of their own foreign policy strategies. This is both about the economic use of resources and about establishing the rules for the functioning of markets, control over financial flows and the formation of conditions for access to them. International approaches to forest management are formed within the framework of climate policy, where they are considered as an important element of the global carbon balance. According to international organizations, forests accumulate hundreds of billions of tons of carbon, which determines their importance as a strategic resource [11].

One of the main mechanisms is the integration of forest potential into the climate regulation system, within which control over resources is used to influence the distribution of obligations and financial flows. Forest resources allow states to adjust their own positions, using the potential for carbon absorption as a tool to increase influence. In practice, this is manifested in the use of the forest factor to obtain financing and create favorable conditions for participation in global mechanisms. For example, in 2023-2024, Brazil directly linked the rate of reduction in deforestation in the Amazon to the volume of international financial support, using this resource as a lever of influence in relations with developed countries [5].

In the climate and resource policy of the European Union, regulatory instruments are used as a form of external influence, as they establish binding environmental requirements for producers outside its territory. This is most clearly manifested in the CBAM mechanism, which is applied to imported products when they access the EU internal market.

CBAM involves adjusting the cost of goods depending on the volume of carbon emissions that occurred during their production, if there are no comparable climate restrictions in the country of origin. This creates a situation in which foreign manufacturers are forced to change technological processes in accordance with EU standards, since it is these standards that determine the conditions for market access.

Combined with the policy of reducing emissions and expanding natural carbon sinks through forest ecosystems, a single climate regulation system is being formed, in which forest potential acquires the status of a measurable instrument for fulfilling environmental obligations. The EU's carbon dioxide removal targets by 2030 integrate forest resources into the emissions management mechanism as a structural element of the decarbonization policy [7].

In the foreign policy dimension, such a model ensures the spread of EU regulatory standards beyond its territory, since access to the internal market becomes dependent on their compliance. As a result, a mechanism of regulatory influence is formed, in which climate requirements become an instrument for regulating the economic behavior of other states in the international trade system.

The forest as a geosystem has strategic value, since it accumulates significant amounts of biomass and carbon, which determines its role in the global balance of matter and energy [10]. It is this ability that makes the forest resource an object of political interest, since control over it allows key geopolitical actors to influence the economic restrictions and conditions for participation in global market mechanisms for other subjects of world politics.

At the same time, leading geopolitical actors form the resource dependence of individual developing countries through the inclusion of forest geosystems in the system of trade and climate regulations, where access to markets and financial flows is determined by compliance with established standards. Forest resources are used as a tool of geoeconomic competition, since restrictions on wood exports or changes in certification standards can significantly affect the economic sectors of other countries. For example, Russia has repeatedly used its significant share of world wood exports to form the resource dependence of developing countries, such as Belarus and Kazakhstan. This dependence, in turn, can be used by Russia to support its own geopolitical ambitions. Confirmation of this can be found, in particular, in the votes of Belarus and Kazakhstan on the resolutions of the UN General Assembly, which concerned Russia's military aggression against Ukraine. During the 4 years of the full-scale military campaign (February 2022 – February 2026), Belarus and Kazakhstan did not support a single UN resolution that directly or indirectly condemned Russia's actions (Table 1).

Table 1. Vote of Belarus and Kazakhstan on the UN General Assembly Resolutions condemning Russia's military aggression against Ukraine (February 2022 – February 2026)

Resolution	Date	Subject of voting	Voting result	
			Belarus	Kazakhstan
ES-11/1	02.03.2022	Condemning Russia's invasion and demanding the withdrawal of troops	Cons	Abstained
ES-11/2	24.03.2022	Humanitarian consequences of aggression against Ukraine	Cons	Abstained
ES-11/3	07.04.2022	Suspension of Russia's membership in the Human Rights Council	Cons	Cons
ES-11/4	12.10.2022	Territorial integrity: condemnation of annexations	Cons	Abstained
ES-11/5	14.11.2022	Creation of a mechanism of reparations in favor of Ukraine	Cons	Abstained
ES-11/6	23.02.2023	The "Peace Formula" and the principles of the UN Charter	Cons	Abstained
A/RES/78/316	11.07.2024	Safety of nuclear facilities of Ukraine (including ZNPP)	Cons	Abstained
A/RES/79/184	17.12.2024	Human rights situation in the temporarily occupied territories of Ukraine	Cons	Abstained
ES-11/7	24.02.2025	Advancing a comprehensive and just peace	Cons	Abstained
ES-11/8	24.02.2026	Supporting sustainable peace in Ukraine	Cons	Abstained

Source: Created by the author.

At the same time, in contrast to the use of forest resources to form geopolitical dependence, the latter can be an element of strengthening the own foreign policy stability of key actors. This is clearly illustrated by the example of Canada, which is actively developing its forest industry and forest certification, which allows it to provide a domestic timber market and reduce dependence on imports. In turn, this increases its economic autonomy and resistance to external pressures, such as sanctions or trade wars.

Thus, forest geosystems acquire the importance of a strategic resource, which for key geopolitical actors can simultaneously provide economic autonomy and create instruments of indirect political influence on the behavior of other subjects of international politics. Table 2 summarizes the key mechanisms through which the main geopolitical actors integrate forest potential into their own economic and foreign policy strategies. Its content allows us to compare differences in approaches to the use of forest resources and trace how they are transformed from a natural asset into an instrument of geopolitical influence.

The transformation of forest resources into an instrument of geopolitical competition is implemented through a system of mechanisms that reflect different strategic approaches of the main

actors of world politics. The USA is focused on the formation of climate regulation rules through carbon accounting standards and the development of voluntary and regulated segments of carbon markets, in particular, the carbon credit market, which allows them to determine the conditions for states' access to financial compensation for climate actions and participation in the global climate finance market [2].

Table 2. Mechanisms of using forest potential by major geopolitical actors

Geopolitical actor	Main mechanisms for using forest potential	Strategic goal	Expected geopolitical effect
USA	development of carbon accounting standards (MRV), development of voluntary carbon markets, forest management in the Arctic	formation of climate regulation rules	control over carbon market mechanisms and influence on other states
China	investments in reforestation abroad, integration into projects in countries of the Global South, environmental diplomacy	expansion of economic and political presence	strengthening of influence in recipient countries and formation of dependencies
Russia	appeal to the role of the taiga in absorbing CO_2, use of forests in climate negotiations, resource diplomacy	reduction of external regulatory pressure	preservation of raw material exports and political influence
Canada	forest certification (FSC*), participation in climate initiatives, export of wood with high added value	ensuring access to highly regulated international markets and increasing the competitiveness of the forest sector	supporting the economic and technological dependence of partners on Canadian forest resources, increasing influence on international standards
EU	implementation of regulatory mechanisms (CBAM*), environmental import standards, green policies	establishing global trade rules	spreading regulatory influence to external markets
Japan	development of wood processing technologies, international environmental projects, investments in sustainable supply chains	ensuring resource stability	increasing technological impact
Brazil	participation in REDD+* programs, linking logging to international financing	obtaining resources and concessions	strengthening the negotiating position in relations with developed countries

**FSC (Forest Stewardship Council) is an international non-governmental organization that develops and implements standards for sustainable forest management and certification of forest products.*

**CBAM (Carbon Border Adjustment Mechanism) is a European Union tool for taxing imported goods according to the amount of carbon emissions associated with their production.*

**REDD+ (Reducing Emissions from Deforestation and Forest Degradation) is an international climate policy mechanism that provides financial support to countries that reduce deforestation, conserve forest resources, and increase their carbon absorption capacity.*

Source: Compiled by the author based on [1–6].

In practical terms, this is manifested through the activities of platforms such as Verra and Gold Standard, which establish methodologies for verifying forest carbon projects. For example, tropical forest restoration projects in Peru or Indonesia are able to be monetized after going through procedures developed by these structures, which actually reinforces dependence on American institutional standards.

The EU applies regulatory instruments, in particular CBAM and FSC certification, extending its own standards beyond the domestic market and forming external requirements for exporting countries. This is evident in the introduction of regulations on the import of products related to deforestation, which force wood suppliers from Brazil, Cameroon and Gabon to implement traceability systems. In many cases, this leads to the displacement of small producers from the European market due to the high cost of compliance with FSC certification requirements and EUDR norms.

China is integrating forest potential into geo-economic strategies through investments in reforestation and carbon projects in countries of the Global South, combining financial participation with increased political influence [11]. This is evident in the financing of reforestation programs in Ethiopia and Laos, where Chinese companies provide forest planting to generate carbon credits and at the same time, gain access to the management of part of the resource and transport infrastructure, which forms the long-term economic attachment of these countries to China.

Canada and Japan use institutional mechanisms, certification systems, and wood processing technologies that ensure their participation in shaping global regulatory rules without direct dominance. This is evident through the spread of Canada's Sustainable Forestry Initiative, which is used as a standard for wood exports to the US and EU, and through Japan's J-Credit system, which incentivizes wood imports from Southeast Asian countries in conjunction with sustainable forest management projects in Vietnam and Malaysia.

The geopolitical motivation of the US in its pursuit of dominance in climate regulation is clearly strategic. Control over the rules of carbon markets allows Washington to consolidate its position as the key arbiter of the global climate order – one that determines not only environmental standards, but also the conditions of access to financial flows, technologies and international legitimacy. In geopolitical logic, this means the ability to exert indirect pressure on states seeking to obtain climate finance or access to carbon markets: they have to adapt their own economic and regulatory systems to the standards formed by American institutions. In this way, the US turns the climate architecture into a mechanism of soft power, which allows it to influence the behavior of other states without the use of direct coercion. In addition, this provides the US economy with competitive advantages: American technology companies, verification platforms and financial institutions occupy key positions in the infrastructure of climate markets, which forms a stable flow of income and consolidates technological primacy.

The formation of global forest management standards creates a separate level of competition, within which key geopolitical actors compete for control over certification criteria. This is manifested in the competition between the FSC and PEFC systems, which forces wood exporters from different regions to adapt to different requirements depending on the target markets of the EU, North America or Asia, forming a segmented nature of the global timber trade.

As a result, forest resources are integrated into broader strategies of geopolitical struggle, where not only political, but also economic, institutional and regulatory instruments of influence are combined. Thus, control over the rules of access to carbon markets and certification systems becomes an important factor in the redistribution of global resource flows.

At the same time, climate diplomacy and carbon regulation play the role of the institutional framework through which forest geosystems are included in the system of global redistribution of economic and political influences. The presented Table 3 systematizes how these mechanisms interact with each other and how they transform forest resources from an object of environmental policy into an instrument of international competition and regulatory influence between geopolitical actors.

Thus, forest resources function as an instrument of geopolitical competition, since control over them is determined not by their natural presence, but by the ability to include them in climate and carbon regulatory regimes. Through these regimes, a structure of dependencies is formed, within which access to financing, technologies and international legitimacy is transformed into an instrument of political influence. This is traced, in particular, in the practice of participation of the countries of the Amazon basin in REDD+ programs, where access to international financing, which is determined by key geopolitical actors of the West, directly depends on the fulfillment of the requirements of international verification agencies and donor structures, which effectively ties national forest policies to external regulatory standards. In the case of the USA, carbon markets and carbon accounting standards are used as a mechanism for consolidating institutional dominance in the field of global climate governance [2]. This allows not only to determine the rules for access to climate finance, but also to indirectly influence the domestic policy of states that are forced to adapt their environmental and economic strategies to the conditions defined within the framework of the American-centric financial and institutional architecture.

A similar logic is manifested in the functioning of the voluntary carbon credit market, where companies from the EU and Asia purchase credits through American platforms such as Verra, which actually concentrates control over carbon absorption assessment methodologies in a narrow circle of institutions.

Table 3. The role of climate diplomacy, carbon regulation and international agreements in the geopolitical use of forest resources

Tool	Main means of implementation	Geopolitical function	Leading actors of the application	Regions of greatest activity	Expected geopolitical effect
Climate diplomacy	Paris Agreement, COP platforms*, bilateral agreements	shaping the negotiating position through climate commitments	USA, EU, China, Brazil, Indonesia	Arctic, Amazon, Southeast Asia, Africa	obtaining financing, political concessions and access to technology
Carbon regulation	EU ETS*, voluntary carbon markets, REDD+*, MRV systems*	control of financial flows through carbon accounting mechanisms	EU, USA, China, Canada	Europe, North America, Latin America, Africa	redistribution of investments and influence on the economic policy of other states
International agreements	Paris Agreement, UNFCCC*, Convention on Biological Diversity	securing own interests in global rules	EU, Japan, Canada, Norway	global level, especially countries of the Global South	forming coalitions and influencing international decisions
Forest climate finance policy	Green Climate Fund*, World Bank Forest Programs*	financial consolidation of influence through lending and grants	USA, EU, international organizations	Africa, South America, Southeast Asia	increasing the dependence of recipient countries and political ties
Environmental standardization	FSC*, PEFC*, CBAM*	control of access to markets through environmental requirements	EU, Canada, USA	Europe, Latin America, Asia	establishment of barriers and spread of regulatory influence
Technological diplomacy	satellite monitoring, digital MRV systems	data control and verification mechanisms	USA, Japan, EU	globally	consolidating technological superiority and dependence of other states
Regional climate regimes	Green Deal*, ASEAN frameworks	regional consolidation of standards and policies	EU, China	Europe, Asia	increased integration and control of regional markets
Bioresource diplomacy	CBD, Nagoya Protocol	control of access to genetic resources	Brazil, Indonesia, Congo	tropical regions	strengthening of negotiating position and influence on bioresource flows

** COP platforms (Conference of the Parties to the UN Framework Convention on Climate Change)*

** EU ETS (European Union Emissions Trading System)*

** REDD+ (Reducing Emissions from Deforestation and Forest Degradation)*

** MRV systems (Monitoring, Reporting and Verification)*

** UNFCCC (United Nations Framework Convention on Climate Change)*

** Green Climate Fund (Green Climate Fund) – an international financial mechanism to support climate projects in developing countries*

** World Bank Forest Programs – a set of World Bank initiatives in the field of sustainable forest management and financing of forest projects*

** FSC (Forest Stewardship Council) – an international sustainable certification system forest use)*

** PEFC (Programme for the Endorsement of Forest Certification, an international certification system for sustainable forest management)*

** CBAM (Carbon Border Adjustment Mechanism)*

** Green Deal (European Green Deal, the European Union's strategy for achieving climate neutrality).*

Source: Compiled by the author based on [1–10].

Russia, without integrating environmental standards into domestic policy as a strategic priority, uses forest resources as a tool for foreign policy bargaining in conditions of sanction isolation [6]. Through wood exports and participation in carbon schemes, a network of economic ties is formed with individual states dependent on resource flows. This is manifested in the supply of wood to China, India, and some Middle Eastern countries, which allows Russia to partially compensate for the loss of access to the European market, as well as to gain political support from the aforementioned countries, including through the latter's continued support for sanctions imposed by Western countries.

China uses climate diplomacy as a tool for structural expansion of influence, where investments in reforestation in the countries of the Global South form a long-term financial dependence, which is gradually transformed into political loyalty [11]. The formation of its own model of climate regulation serves to displace Western rules from critical segments of the global economy [13]. This is manifested in the implementation of programs within the framework of the Belt and Road Initiative [22], where Chinese companies finance forest projects in Indonesia and Africa, while simultaneously securing access to land resources and creating parallel systems for assessing carbon absorption, an alternative to Western standards. The European Union uses climate regulation as a tool for external economic influence by establishing conditions for access to its market [7]. At the same time, such a strategy simultaneously performs a restrictive function. This is evident in the introduction of the EUDR regulation, which effectively blocks access to the EU market for some soy and timber exporters from Brazil and Indonesia if they cannot prove the absence of deforestation after 2020, which forces producers to change production chains or lose key sales markets. At the same time, it is these environmental regulations that are a significant limiting factor for the EU in the context of geopolitical struggle. While the European Union is forming and trying to adhere to its own eco-standards for the use of forest resources, its competitors – China, Russia and the countries of the Global South – ignore similar restrictions, using forest resources to the full: in particular, they trade wood without certification restrictions and sell carbon quotas to those countries that do not have them. For example, Russia is purposefully forming a clientelistic dependence of poorer countries on its own forest resources. This dependence later becomes an instrument for implementing its expansionist geopolitical strategy: client states do not vote for UN resolutions (see Table 1) condemning Russia's aggression, or actively contribute to the functioning of the shadow oil fleet, which is one of the key sources of financing for the full-scale war in Ukraine – Moscow's main geopolitical project. Thus, the EU's environmental responsibility, positioned as a normative force, in real geopolitical competition limits Brussels' freedom of maneuver, while those who ignore such restrictions receive additional resources to realize their own geopolitical ambitions.

Canada integrates sustainable forest management into access to regulated EU and US markets, which ensures economic stability and political compatibility with Western institutions [3]. This is evident in the widespread use of the Sustainable Forestry Initiative (SFI) certification system, which allows Canadian companies to remain key suppliers of wood to the American construction sector while maintaining high environmental standards consistent with international standards. At the same time, a natural question arises: does such a strategy really strengthen Canada's geopolitical position, or, as in the case of the EU, on the contrary, create structural constraints for it in competition with less restrained actors? The desire for sustainable forest use and voluntary limitation of timber harvesting volumes creates a certain geopolitical price: while Canada adheres to international environmental obligations, Russia, China and Brazil use their forest resources without similar restrictions. This provides them with additional financial resources and leverage necessary to realize their own geopolitical ambitions. The Canadian model of sustainable forest management, therefore, is evidence of consistency with Western norms and values, but at the same time limits the possibility of using forests as an independent geopolitical tool of pressure or bargaining opportunities that its competitors do not hesitate to use.

Japan forms geopolitical influence not through its resource base, but through technological control over forest monitoring and certification systems [6]. This is implemented through the J-Credit system and satellite forest monitoring technologies used in Southeast Asian countries to verify the condition of forest areas, which effectively makes Japanese technological solutions the standard for assessing environmental efficiency in regional carbon projects. At the same time, a logical question arises: is Japan's technological model a sufficiently effective geopolitical tool compared to the strategies of actors that rely on direct control over resources? Japan does not have its own significant forest resources sufficient for geopolitical manipulation, and therefore, its influence depends entirely on the willingness of other states to voluntarily adopt its technological standards. If China or the United States offers competitive monitoring platforms on more favorable financial terms, Japan's technological influence in the region may quickly weaken. Thus, the Japanese strategy is geopolitically sophisticated but structurally vulnerable: unlike Russia or China, Tokyo cannot use forests as a direct lever of pressure or bargaining, and its positions depend on the support of a coalition of states that share the value of transparent technological governance.

Countries of the Global South use forest resources as a tool for accessing external financing through carbon mechanisms, the rules of which are determined by external regulatory centers [12]. This

is evident in projects in the Congo Basin and the Amazon, where states receive financing for forest conservation, but are forced to adhere to the conditions of international funds and verification organizations, which limits their autonomy in determining national forest policy.

Such a position generates a significant geopolitical contradiction: countries of the Global South, which are the owners of the largest forest ecosystems on the planet, in fact function as suppliers of ecosystem services to the global community, without having real control over the rules and conditions of this supply. They receive funding but do not gain influence. Compared to Russia or China, as well as the United States, which turn resource potential into an instrument of active geopolitical play, most countries of the Global South remain dependent participants in a system whose rules are determined by others. The exceptions are individual countries – primarily Brazil and Indonesia – that try to use their forest potential for negotiating pressure, threatening deforestation or refusing climate commitments in order to obtain additional financial concessions. However, this strategy remains reactive, not proactive: it does not form new rules, but only bargains within the existing ones.

The generalization of the above analysis allows us to move from the description of individual state strategies to their systematic comparison within the framework of global competition for forest resources. In this context, the forest ceases to perform a purely resource or ecological function and acquires the status of an element of geopolitical influence, which key actors convert in different ways – depending on their own geopolitical ambitions.

Table 4 below systematizes the specifics of the approaches of key actors, recording the differences between them in the logic of using climate diplomacy, carbon mechanisms and regulatory instruments. Such a comparative format allows us to clearly identify how each of the actors transforms forest resources into a political instrument – from institutional control to resource exchange or technological containment.

An analysis of the strategies of the main geopolitical actors in the competition for forest resources shows that it is not about environmental regulation as such, but about different ways of transforming natural resources into an instrument of political influence. In this logic, forest resources act not as an object of protection, but as a resource through which access to financial flows, trade regimes and international support is built. The difference in approaches lies not only in the choice of instruments, but also in how rigidly each actor subordinates environmental restrictions to its geopolitical goals. The United States is building a model in which control over global rules for the use of forest resources is exercised through the architecture of carbon markets and carbon measurement standards formed by American institutions and private certification systems. In this construction, access to climate finance for other states depends on compliance with these rules, which actually consolidates the role of the United States as a regulator of the global climate order [18]. This position provides political leverage over governments that are forced to adapt national policies to externally imposed criteria, but this system remains stable only as long as its legitimacy is recognized by alternative centers of influence, primarily China.

China is developing a parallel logic in which climate instruments are used not to subordinate existing rules, but to create an alternative regulatory space. Investments in reforestation and environmental projects in countries of the Global South are integrated into long-term economic ties, which are gradually turning into political dependence on Chinese financial and infrastructure decisions. In this context, the formation of its own model of climate regulation allows Beijing to reduce the influence of Western standards and consolidate autonomous rules of access to resources and markets. Such a strategy reflects a broader geopolitical goal – the transition from adaptation to external norms to the formation of its own normative center of the global system. A similar logic of resource projection of influence can be traced in other elements of Chinese foreign policy influence, in particular in the use of critical materials as an instrument of dependence [17].

Russia applies a model in which forest resources and participation in carbon mechanisms are used as an instrument of foreign policy bargaining under sanctions pressure. In particular, through the export of raw materials and environmental quotas, it forms a limited circle of partnerships that provide partial access to financial flows and political concessions in international institutions. Such a strategy does not depend on environmental priorities, but instead aims to support its own foreign policy stability. Russia also applies this tactic to other resources available to it, in particular energy [4]. However, its effectiveness is limited by technological isolation and narrowing of access to key markets.

Table 4. Specificity of strategies of major geopolitical actors in competition for forest resources

Geopolitical actor	Strategic model of forest use	Geopolitical goal	Geopolitical risks in the behavior of major competitors
US	climate-institutional model of controlling global rules	preserving the role of the main regulator of the global climate architecture and controlling access to financial flows	- China is purposefully undermining the American architecture of carbon markets, promoting alternative carbon pricing standards and investing in its own verification systems in the countries of the Global South. - Russia, ignoring climate mechanisms, maintains resource attractiveness for states that do not have access to American financial infrastructure – forming a parallel geopolitical space where US influence is limited.
China	geoeconomic expansion through climate mechanisms	forming an alternative center of global climate regulation and expanding influence in the countries of the Global South	- The US and EU are pressuring recipient countries of Chinese investment by offering alternative financing or threatening sanctions for cooperating with Chinese forestry projects. - Japan is pushing for competitive forest monitoring technology standards to limit the spread of China's carbon footprint assessment system in Southeast Asia.
Russia	resource-exchange model of political influence	partial reduction of sanctions pressure and support for foreign policy maneuverability	- Western countries, led by the US and the EU, are exerting diplomatic and economic pressure on Russia's partner states to sever their resource ties with Moscow. The introduction of secondary sanctions against buyers of Russian timber and oil (in particular, to undermine the shadow fleet) directly threatens the main mechanism through which Russia monetizes resource influence and finances armed aggression in Ukraine.
Canada	institutional and regulatory model of integration into Western markets	securing access to the EU and US markets and maintaining a stable position in the Western economic bloc	- Russia and China, not bound by environmental restrictions, can purchase timber and carbon quotas on more favorable terms, weakening Canada's position in third-country markets. Trade pressure from the United States (for example, tariffs on Canadian lumber products) limits Canada's ability to fully take advantage of its own forest potential, even within the West.
EU	regulatory model of exported standards	shaping external economic influence through control of access to its own market	- Russia and China are actively creating competitive resource offers for countries that the EU is trying to attract through climate mechanisms, offering timber and quotas without any environmental conditions. Brazil and Indonesia are resisting the EUDR and CBAM regulations, threatening trade disputes or reorienting exports to Asian markets – which undermines the EU's regulatory influence.
Japan	technological deterrence model	deterring China and Russia through setting technological standards for resource management	- China is developing its own satellite monitoring and verification systems for forests, seeking to displace Japanese technology standards from regional markets in Southeast Asia. - Recipient countries of Japanese technology may switch to Chinese or American platforms if they offer more favorable financing terms for related projects.
The Global South	resource-dependent financial model	obtaining climate finance through integration into global regulatory mechanisms	- Competing major actors – the US, the EU and China – are trying to pull countries of the Global South into their own orbit of influence through forest financing, placing them in a situation of dependence on external rules. - Russia and China are offering alternative financing without environmental conditions, which weakens the negotiating position of countries of the Global South in relations with the West and deepens their structural vulnerability

Source: Compiled by the author based on [17–21].

Canada follows a model in which sustainable forest management is used as a tool for integration into regulated Western markets, primarily the EU and the US. On the one hand, this strategy ensures stable trade access, but on the other hand, it narrows the possibility of transforming forest resources into an independent geopolitical lever, since environmental obligations limit the room for economic maneuver in relations with less-regulated competitors.

The European Union is forming a regulatory model of influence through mechanisms such as CBAM and a system of eco-standards that determine the conditions for access to its market. As a result, control is exercised not through direct ownership of resources, but through the regulation of access to consumer and trade channels. At the same time, such a model creates an internal constraint, since strict

environmental requirements reduce the EU's ability to compete in resource monetization with actors who do not limit themselves to similar standards, which gradually narrows its geopolitical flexibility in interaction with China and Russia.

Japan uses a technological influence model, in which satellite monitoring systems and digital certification of forest resources play a key role. Its goal is not to expand resource expansion, but to restrain the behavior of regional competitors by establishing technical standards that indirectly shape the rules of access to international markets. The dependence of the effectiveness of this model on the voluntary adoption of technological norms by other states simultaneously limits its influence outside the framework of alliance structures.

Countries of the Global South operate within the framework of asymmetric dependence, where access to climate finance is determined by participation in externally formed regulatory mechanisms, in particular REDD+. Forest resources in this case become an instrument of negotiated access to capital, but the lack of influence on the formation of rules consolidates their position as objects, rather than subjects, of global regulation.

As a result, competition for forest resources manifests itself as a struggle for control over the rules of their use, where each actor tries to turn environmental tools into mechanisms of political influence, while simultaneously facing limitations imposed by its own behavioral model and/or the conjuncture of modern geopolitical competition.

An extended analysis of the strategies of the main geopolitical actors in the competition for forest resources allows not only to outline the tools for their use, but also to group states depending on the nature of the involvement of forest potential in achieving geopolitical goals. In this context, it is advisable to distinguish four groups of actors. The first group includes actors who have significant forest resources, clearly formulated geopolitical ambitions and actively use these resources as a tool of influence, ignoring or bypassing any external (regulatory and other) restrictions. At the same time, the very presence of such restrictions (for example, environmental standards for logging) are used by these actors as an opportunity for geopolitical maneuver – in particular, blackmailing other foreign policy players by failing to comply with these rules, which will lead to environmental and economic consequences unacceptable to these players. First of all, this concerns Russia and China. They are characterized by the integration of forest potential into broader strategies of geoeconomics and political influence – from the manipulation of climate standards to the direct use of forest resources in international investment and infrastructure projects. Such behavior indicates a desire to strengthen their own positions in the geopolitical arena through the use of forest resources as an element of influence on other (less influential and more resource-dependent) geopolitical actors and/or bargaining with key geopolitical opponents.

The second group consists of actors who also have significant resource potential and have geopolitical interests, but are forced to take into account institutional and regulatory constraints. A prominent representative of this group is the USA. In this case, the use of forest resources is more indirect and is implemented through the formation of climate regulation rules, the development of carbon markets and technological tools. At the same time, domestic political factors and international obligations constrain the possibility of direct use of resources as a means of geopolitical influence.

The third group includes actors who have sufficient resource potential, but do not consider it as an important tool of geopolitical competition. These are the EU, Canada and Japan. Their policy is focused mainly on the development of environmental standards, technologies and international cooperation. In this approach, forest resources serve as a tool of environmental diplomacy and participation in overcoming global problems, rather than a means of direct influence on other geopolitical actors. The fourth group is formed by actors who own forest resources and have certain geopolitical interests, but are unable to fully realize them due to their economic and political vulnerability. These are, first of all, countries of the Global South, such as Brazil and Mexico. In their case, forest resources are more often used as an argument in negotiations for obtaining financial support or access to international programs, rather than as an independent tool of influence.

Thus, the proposed division shows that not only the amount of resources is decisive, but also the ability of states to use them as a tool for achieving geopolitical goals. At the same time, the presence of these goals plays a key role here, as do, in fact, the "red lines" (restrictions) on their achievement. It is in the analysis of these geopolitical ambitions of key geopolitical actors, as well as the restrictions that restrain them from realizing these ambitions that the prospect of further scientific exploration lies.

6. Conclusions

The results of the study confirm that in the conditions of modern global transformations, forest resources are gradually going beyond the limits of purely economic importance and are acquiring a distinct geopolitical dimension. They are becoming an instrument of influence on the distribution of financial flows, access to resources and the formation of international regulatory rules that determine the architecture of the geopolitical situation. It has been established that the geopolitical motivation of key actors in the use of forest resources is determined not by environmental priorities, but by the logic of the struggle for influence and strategic advantages. The United States seeks to maintain the role of the architect of the global climate order, since control over the rules of carbon markets provides an indirect influence on the economic behavior of other states without direct coercion. China uses forest and climate mechanisms to structurally expand its presence in the countries of the Global South – forming financial dependencies, which over time are converted into political loyalty and weakening the positions of the West. Russia, without building its own climate architecture, is turning forest resources and carbon schemes into geopolitical currency, which it uses to pay for the easing of sanctions pressure and support for its own foreign policy ambitions – primarily the continuation of armed aggression in Ukraine. The EU, Canada and Japan, in turn, demonstrate that compliance with environmental norms is both a source of normative influence and a structural constraint that narrows their geopolitical maneuver compared to actors who ignore such constraints. It has been confirmed that the geopolitical behavior of each actor in the field of forest resources is subordinated to its broader foreign policy goals and is a reflection of the general logic of its presence on the international arena. Those who put geopolitical expansion above environmental obligations receive additional instruments of influence – financial, resource and diplomatic. Those who comply with the norms gain legitimacy and access to regulated markets, but lose flexibility. This asymmetry is the key result of the study: the global climate architecture does not eliminate geopolitical competition for forests, but only changes its form – transferring the struggle from the field of direct resource control to the field of norm-setting, verification and access to financial flows.

As a result, various models of geopolitical behavior of key actors are formed, which can be conditionally grouped by the level of activity in using forest resources as an instrument of geopolitical strategy: from high (Russia, China) and limited-high (USA), to moderate (EU, Canada, Japan) and low (some countries of the Global South).

Thus, forest resources appear not only as an element of the natural environment, but as an important factor of modern geopolitical competition, where the decisive factor is not the resource itself, but the ability to influence its capabilities to achieve geopolitical goals.

Thus, forest resources are one of the main tools for achieving strategic geopolitical goals by key actors of world politics, and therefore a factor of geopolitical competition.

The prospects for further research should be linked to the possibility of their use for modeling the geopolitical behavior of key actors in international politics. Another important direction is the development of integrated methodological approaches to the analysis of the geopolitical value of forest resources as a component of natural capital, combining economic, environmental, and political parameters.

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