

ECO-STRATEGIC IMPERATIVE OF DIPLOMACY IN GLOBAL COMPETITION

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Abstract. *Purpose of the article.* The article aims to conceptualize the eco-strategic imperative of contemporary diplomacy as a system of principles, instruments, and mechanisms for reconciling the economic, environmental, technological, and security interests of states amid intensifying global competition. *Subject of the study.* The study focuses on the transformation of diplomatic practices under the influence of climate change, resource constraints, competition for critical minerals, the development of green technologies, and the fragmentation of the international economic environment. *Methodology.* The methodological framework of the study is based on systemic, institutional, comparative, and strategic approaches, complemented by elements of international policy analysis. A theoretical synthesis of recent academic publications and international reports provides a basis for viewing environmental diplomacy not as a narrowly specialized area of foreign policy, but as a cross-sectoral mechanism for strategic risk management and the development of competitive advantages. *Results.* The study establishes that contemporary competition extends beyond markets and resources to encompass standards, technologies, scientific knowledge, supply chains, and the rules governing the green transition. At the same time, environmental challenges remain global collective-action challenges, making international cooperation necessary even amid geopolitical rivalry. The study identifies priority areas for moving from reactive responses toward strategic resilience, including the development of joint technology projects, strengthened climate finance, and enhanced scientific and expert support for negotiations. *Practical implications.* The practical value of the study lies in the potential application of the proposed approach to the formulation of states' foreign economic, environmental, and diplomatic policies, as well as to the development of economic and expert diplomacy instruments.

Keywords: eco-strategic imperative, environmental diplomacy, strategic diplomacy, science and expert diplomacy, climate diplomacy, global competition, geo-economics.

JEL Classification: F53, F64, Q01, Q54, Q56

1. Introduction

The contemporary international environment is characterized by the simultaneous intensification of geo-economic competition, technological rivalry, resource constraints, and climate risks. In the Global Risks Report 2026, geo-economic confrontation is identified as the most significant risk over the near-term horizon. The prioritization of national interests over collective action complicates the formation of a new international order and the development of principles for future international cooperation. At the ten-year horizon, extreme weather events, biodiversity loss, and critical changes to Earth systems are among

the most severe global risks (World Economic Forum, 2026). This indicates not a decline in the significance of environmental issues, but rather their closer interconnection with security, trade, energy, technology, and competitiveness. In this context, the environmental dimension of diplomacy extends beyond a peripheral area of international interaction and is gaining strategic importance. It increasingly shapes the conditions for access to markets, investment, technology, financing, and strategic resources.

The WTO emphasizes that trade policy can contribute to decarbonization, the development of climate-friendly goods and services, the reduction

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of carbon intensity across supply chains, and adaptation to extreme weather events (World Trade Organization, 2026). At the same time, UNCTAD highlights the uneven distribution of financial and climate-related risks, particularly among countries of the Global South (UN Trade and Development, 2025).

The key challenge lies in the contradictory nature of contemporary environmental diplomacy and the absence of a coordinated policy in this area. Interstate dialogue develops amid a complex interplay between international commitments and national and regional interests. While supporting environmental initiatives at the international level, states may simultaneously create risks to the conservation of protected areas and ecosystems at the national or regional levels. On the one hand, climate, biodiversity, water resources, pollution, and the energy transition are areas in which no state can achieve long-term results on its own. On the other hand, the green transition creates new areas of competition for technological leadership, critical minerals, production chains, standards, investment, and market access. It is precisely this duality that shapes the eco-strategic imperative of contemporary diplomacy.

At the same time, academic research expands the conceptual boundaries of environmental diplomacy. In particular, diplomatic practice is evolving toward “reconciliation with nature,” moving beyond traditional treaty-based regulation (Constantinou, Christodoulou, 2024); geopolitical competition shapes the structure and nature of international interaction in the field of sustainable development (Li, Ren, Wang, 2024); 3) environmental projects simultaneously serve as instruments of technological cooperation, international reputation-building, and strategic positioning (Duarte, Rezaei, Mikkelsen et al., 2026).

Therefore, it is important to define the contemporary content of the eco-strategic imperative of diplomacy and substantiate the mechanisms for its implementation under conditions of global competition. To achieve this aim, the study pursues the following objectives: to identify the key areas of the greening of diplomacy; to examine the relationship between the green transition and global competition; to characterize the role of science and expert diplomacy; and to identify priority areas of diplomatic policy.

2. Contemporary Imperatives of the Economic and Environmental Transformation of Diplomacy

Changes in the global environment are expanding the functional scope of diplomacy, strengthening the interconnection between economic interests and environmental and social risks. This increases the importance of preventive vulnerability management in areas such as climate migration, food security, and water security, providing a foundation for environmental and social resilience diplomacy (World Bank, 2021). Accordingly, environmental and resource factors influence foreign economic and trade policy. The eco-strategic imperative can be understood as an objective necessity to integrate environmental constraints, climate risks, and resource resilience objectives into this process. Its fundamental distinction from a narrow understanding of environmental diplomacy lies in viewing the environmental factor not only as a subject of international negotiations but also as a key condition for the long-term competitiveness of states.

The environmental factor of competitiveness encompasses natural resource potential, environmental quality, energy efficiency, technological capacity for decarbonization, the ability to comply with international environmental standards, and access to green finance. In the Global Resources Outlook 2024, UNEP links the climate crisis, biodiversity loss, and pollution to patterns of natural resource use and emphasizes the need for systemic transformation of production and consumption (United Nations Environment Programme & International Resource Panel, 2024). In this context, competitive advantages are increasingly determined not solely by the cost of resources, but by the ability to transform resource potential into sustainable technological and economic opportunities.

For example, in the Global Critical Minerals Outlook 2025, the IEA projects continued growth in demand for lithium, graphite, nickel, cobalt, rare earth elements, and copper, while highlighting the persistent high geographic concentration of their mining and processing. In the World Energy Outlook 2025, energy security is directly linked not only to the reliability of oil and gas supplies but also to the resilience of supply chains for critical minerals essential for power grids, batteries, electric vehicles,

digital technologies, and defense technologies (International Energy Agency, 2025). This is driving the emergence of a new area of diplomacy – critical resources diplomacy, within which issues of supply diversification, processing capacity, investment, technology transfer, and recycling are gaining strategic importance.

The second imperative is the integration of climate policy with trade policy. Decarbonization is reshaping the structure of international trade: in a 2025 study, the WTO models different decarbonization scenarios and shows that a profound transformation of energy systems could significantly alter the structure of energy trade and the specialization of exporters (Bekkers, Yilmaz, Tresa, et al., 2025). The diplomacy of the future will increasingly involve climate negotiations, the alignment of trade rules and carbon reporting standards, mechanisms to support industrial decarbonization, and market access.

The third imperative is climate finance. According to the UNEP Adaptation Gap Report 2025, the adaptation financing needs of developing countries are estimated at USD 310–365 billion per year by 2035, while international public adaptation finance flows amounted to USD 26 billion in 2023 (United Nations Environment Programme, 2025). This financing gap makes climate finance not only a development issue but also a subject of diplomatic negotiations, trust between the Global North and the Global South, international solidarity, and a just transition.

The fourth imperative is science and expert support for diplomacy. In the Science, Technology and Innovation Outlook 2025, the OECD emphasizes that geopolitical tensions and competition for critical technologies are reshaping international scientific cooperation, while science diplomacy is increasingly used for the strategic positioning of states (OECD, 2025). This is particularly important for environmental diplomacy, as climate models, risk assessments, technology scenarios, and resource data provide a direct evidence base for international decision-making.

Thus, the contemporary greening of diplomacy encompasses five interrelated dimensions: climate, resources, trade, technology, and finance. Their integration shifts environmental diplomacy from a predominantly normative domain toward a strategic and economic one.

3. Diplomacy in the Context of Global Competition and the Green Development Agenda

The green transition is increasingly extending beyond environmental policy, becoming an integral part of states' economic, technological, and security strategies. At the same time, global competition is reshaping its objectives and mechanisms: countries seek to reduce environmental risks while strengthening their industrial, technological, and trade positions. Consequently, green policy is becoming increasingly linked to industrial policy, energy security, and strategic autonomy. In 2025, the European Commission linked the Clean Industrial Deal to enhancing competitiveness and advancing decarbonization, while the CISAF state aid framework provided support for clean energy, industrial decarbonization, and clean technologies (Kivimaa, 2025).

However, this process is contested and multifaceted. On the one hand, it stimulates innovation, creates new markets, and promotes the development of low-carbon technologies. On the other hand, it may intensify trade disputes when environmental standards are perceived as disguised barriers to trade or instruments of competitive policy. Therefore, diplomatic support for the green transition should focus on reconciling climate objectives, trade rules, and conditions for fair competition (World Trade Organization, 2026). The cooperation between Denmark and China in the field of the green transition provides an illustrative example. Research by Rezaei, Haakonsson, and Mikkelsen demonstrates that a strategic partnership can combine one party's technological expertise with the other's production scale and investment capacity, creating mechanisms for collaborative innovation (Rezaei, Haakonsson, Mikkelsen, 2026). Thus, competition and cooperation are not mutually exclusive: diplomacy can create institutional conditions under which competition for markets evolves into partially shared development of technological and environmental solutions.

Another example is the environmental dimension of the Belt and Road Initiative. Duarte et al. show that the Green Silk Road serves as an instrument for adapting China's foreign policy role to international expectations regarding responsible development and as a mechanism for strengthening the legitimacy of China's international presence (Duarte, Gasparyan, da Silva et al., 2026). From

a diplomatic perspective, it is important that the environmental component of infrastructure and investment projects simultaneously performs economic, reputational, and geopolitical functions.

Strategic differences between states are also reflected in their approaches to climate diplomacy. An analysis of India's climate diplomacy in 2025 demonstrates a shift from an emphasis on climate justice and the right to development toward a multidimensional approach that links climate policy with economic and geopolitical interests (Nachiappan, 2025). This shows that states may align the objectives of decarbonization, economic development, energy security, and strategic autonomy in different ways.

For advanced economies, the green transition is increasingly associated with technological leadership, new investment, and industrial modernization; for newly industrialized countries, with greater resource efficiency, the localization of production, and integration into new value chains; and for lower-income countries, with access to finance and technology and the opportunity to avoid becoming locked into resource- and carbon-intensive development models (United Nations Environment Programme & International Resource Panel, 2024; United Nations Environment Programme, 2025; UN Trade and Development, 2025). Therefore, diplomatic strategies should take into account differences in the structure of incentives and the uneven distribution of the costs of the green transition.

4. Diplomacy as a Catalyst for Strategic Change and National Competitiveness

In the contemporary context, catalyst diplomacy can be understood as a mechanism of multilevel interaction that accelerates the alignment of interests among state and non-state actors, mobilizes resources, and creates conditions for implementing joint strategic projects. Its functions extend beyond the negotiation process to include the coordination of knowledge, finance, technology, and institutional capacities. This approach is particularly significant within contemporary science diplomacy. The updated 2025 framework of the AAAS and the Royal Society identifies two interrelated directions of interaction between science and diplomacy: the influence of science on diplomacy and the influence of diplomacy on scientific activity (American Association for the Advancement of

Science & The Royal Society, 2025). Accordingly, relevant knowledge is generated not only by diplomats but also through the participation of scientists, technology companies, universities, international organizations, think tanks, and civil society.

The balance between openness and knowledge security is becoming particularly important. The OECD identifies a trend toward the "securitization" of science, whereby states simultaneously promote critical technologies, protect sensitive knowledge, and strategically shape international scientific networks (OECD, 2025). For environmental diplomacy, this creates a paradox: the sharing of data and technologies is essential for addressing global environmental challenges, while certain technologies and resources are acquiring strategic importance.

The study by Li, Ren, and Wang on scientific cooperation between the United States and China in the field of sustainable development shows that geopolitical competition can reshape the structure of international scientific interaction (Li, Ren, Wang, 2024). At the same time, the need for joint responses to global challenges remains. Therefore, strategic diplomacy should not only safeguard national interests but also maintain channels for selective cooperation in areas where mutual benefits outweigh the associated risks.

In this context, the following key functions of catalyst diplomacy can be identified: *analytical* – identifying environmental, resource, technological, and geo-economic risks; *expert* – integrating scientific data, forecasts, and technological expertise into decision-making; *negotiating* – reconciling the environmental and economic interests of states and other actors; *resource-mobilizing* – attracting financing, technologies, investment, and strategic partners; *normative* – contributing to the development of international rules, standards, and procedures; *coordinating* – aligning the actions of states, businesses, the scientific community, and international organizations; and *preventive* – preventing conflicts over resources, transboundary environmental risks, and supply chains. Thus, catalyst diplomacy facilitates the transformation of expert knowledge into a negotiating resource and diplomatic interaction into a mechanism for building strategic resilience. This functional orientation distinguishes it from predominantly reactive diplomacy.

5. Competitive Strategies and Mechanisms of Environmental Diplomacy

Under contemporary conditions, states' competitive strategies should be viewed not as strictly distinct models, but as a spectrum combining competition, protection, specialization, and cooperation. This approach helps avoid an overly simplified binary opposition between "competition" and "cooperation" and takes into account the multilevel and interdependent nature of the global green transition.

The specialization strategy involves focusing on green technologies, resources, or products in which a country has comparative advantages. At the same time, international partnerships can reduce competitive pressures through the allocation of functions across value chains. An example is cooperation between Denmark and China in the field of green energy, where technological and innovation capabilities are combined with the scale of the production system (Rezaei, Haakonsson, Mikkelsen, 2026).

The strategy of protective openness involves the simultaneous use of international cooperation and measures to protect strategic sectors. In the green economy, it is reflected in support for domestic producers of clean technologies, critical infrastructure, and the resource base while maintaining international channels of trade and technology exchange. The EU's policy under the Clean Industrial Deal illustrates the combination of competitiveness, decarbonization, and strategic resilience (Kivimaa, 2025).

The low-cost competition strategy may lead to delays in environmental modernization when competitive advantage is based on low labor costs, weak environmental regulation, or the externalization of environmental costs. In such cases, diplomacy should help mitigate a "race to the bottom" through international standards, supply chain transparency, and responsible investment mechanisms (United Nations Environment Programme & International Resource Panel, 2024; World Trade Organization, 2026).

The resource and technology concentration strategy is reflected in the high dependence of global supply chains on a limited number of suppliers of critical minerals and technological components. IEA data indicate a high degree of market concentration for several critical minerals, increasing supply chain vulnerabilities (International Energy Agency, 2025). Diplomatic

responses include partner diversification, joint investment, supply agreements, the development of processing capacity, and the use of secondary raw materials.

The transnational cooperation strategy is based on international rules, joint projects, and networks of state and non-state actors. It is particularly important where environmental challenges cannot be addressed within a single jurisdiction. The IPCC emphasizes that international cooperation can take place through multilateral, plurilateral, transnational, and private-sector formats (IPCC, 2023).

Therefore, the diplomatic toolkit should encompass not only traditional negotiations but also strategic partnerships, scientific networks, technology alliances, intergovernmental working groups, business dialogue, expert platforms, climate finance mechanisms, and critical resource agreements.

6. Conclusions

The analysis provides grounds for defining the eco-strategic imperative of diplomacy as the need to systematically integrate environmental, climate, and resource-related factors into strategies of international interaction, economic competition, and national security. Its substance is shaped by the intersection of five interrelated processes: decarbonization, intensifying resource competition, technological rivalry, the transformation of international trade, and increasing climate risks.

First, environmental diplomacy is acquiring a strategic dimension, encompassing negotiations on climate agreements, access to critical resources and green technologies, as well as investment, markets, and international financing. Second, it is becoming increasingly expert-driven, as the quality of diplomatic decisions depends on scientific evidence, forecasts, technological expertise, and the capacity to interpret complex systemic risks. Third, it is acquiring a competitive dimension, as the green transition is creating new centers of technological and resource power.

At the same time, global competition does not eliminate the need for cooperation. On the contrary, climate change, biodiversity, water security, critical supply chains, and adaptation to extreme events create areas in which even strategic competitors have incentives for selective cooperation. Diplomacy can serve as

a mechanism for reducing the transaction costs of cooperation, establishing rules, creating channels of communication, and reconciling competing interests with collective goals. Importantly, the eco-strategic imperative constitutes a cross-cutting principle of the transformation of diplomacy. Within this model, environmental, economic, expert, and strategic diplomacy form an interconnected system. Its instrumental framework encompasses critical resource diplomacy, trade and environmental diplomacy, climate finance, science diplomacy, technological partnerships, and multilevel environmental governance.

The practical significance of the findings lies in the potential to apply the proposed framework to the development of foreign economic strategies,

negotiation positions, international cooperation programs, and mechanisms for attracting green investment. For diplomatic services, this implies the need to strengthen analytical, scientific and expert, and technological competencies.

A promising direction for further research is the development of an indicator-based model of states' eco-strategic and diplomatic capacity, incorporating indicators of environmental and energy resilience, access to climate finance, the level of international cooperation, and negotiation potential. For Ukraine, such a model could serve as a comprehensive tool for assessing the role of diplomacy in ensuring sustainable post-war recovery, deepening European integration, and strengthening the country's international competitiveness.

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