Green Recovery of Ukraine: Analysis of Game Narratives

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ABSTRACT:

This article contributes to the discussion of the green growth narrative. It conducts a discourse analysis of materials presented by Ukrainian representatives at three conferences dedicated to Ukraine's post-war recovery (Lugano 2022, London 2023, Berlin 2024). The aim of the research is to uncover the key aspects related to the topic of Ukraine's green recovery in the analyzed documents. This study fills a gap in the analysis of various options for Ukraine's post-war recovery and is aimed at stimulating discussions about the substantive aspect of Ukraine's post-war recovery by demonstrating the different focuses of recovery in the presented documents. In this article, narratives are understood as stories about Ukraine's green recovery after the war, forming a chain of statements to convey a vision of events. In the context of this study, the concept of Jean-François Lyotard's game narratives is used as a framework for analyzing the key themes of Ukraine's post-war green recovery.

Keywords: green transition, Ukraine's green recovery after the war, narrative, discourse, language game.

1. Introduction

Narratives play one of the key roles in understanding current world events and shaping visions for the future. "For an evolving political entity such as the EU, narratives are crucial for the domestic process of legitimation but also for its external normative power" (Kovalevska and Braun, 2023, p. 110). The role of narratives becomes even more significant during times of crises and uncertainty (Kovalevska and Braun, 2023; Zetterberg et al., 2022). In such situations, established narratives can either strengthen or collapse due to the emergence of new narratives. "The European Union has over time developed a narrative of itself as the global green leader. This narrative has increasingly served as a complementary one to the EU's foundational peace narrative" (Kovalevska and Braun, 2023, p. 107). However, Russia's invasion of Ukraine in 2022 drastically changed the European security landscape. After the invasion, discussions on the domestic energy crisis caused by rising gas and oil prices brought Russia's war in Ukraine into the EU's climate narrative. This will have consequences for the European economy, as well as for the transition of European economies to climate neutrality (Zetterberg et al., 2022, p. 4).

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Since gaining independence in 1991, Ukraine has also made certain strides toward a green economy (Lukash and Namoniuk, 2024). "In 2021, Ukraine declared a new goal within the Paris Climate Agreement to reduce emissions to 35% from the base year (1990) and to reach carbon neutrality by 2060" (Policy briefs on Ukraine's recovery, 2022, p. 76). Russia's invasion in 2022 impacted these plans. On one hand, military actions have led to a decrease in industrial emissions due to the complete or partial destruction of industrial facilities in Ukraine. According to the integrated Environmental Performance Index in 2022, Ukraine ranked 52nd, having improved its score significantly from 109th place in 2018 (Environmental Performance Index, 2022). In the 2024 report, Ukraine further improved its ranking to 41st place (Environmental Performance Index, 2024). However, military actions have led to an increase in emissions from these very activities, including wildfires, the destruction of flora and fauna from explosions, and the use of various types of weaponry. On the other hand, the destruction of critical infrastructure and much of the outdated housing and utilities system, inherited from Soviet times, has raised urgent questions about how Ukraine should be rebuilt after the war. This is a complex issue that Ukraine will not be able to resolve without the help of its partners. By the end of 2023, Russia had occupied, damaged, or destroyed about 50% of Ukraine's installed energy capacities. However, what should the restoration of these destroyed facilities look like? (Heinrich Böll Stiftung, 2024).

It is important to note, however, that the reduction in emissions caused by the destruction of industrial facilities does not reflect genuine progress toward a green transition. Instead, it creates a paradoxical situation: statistical emission reductions occur alongside increases in pollution directly linked to military activities, including wildfires, ecosystem destruction, and the use of weaponry. This duality calls into question the alignment of such reductions with genuine environmental transformation goals. A true green transition can only be achieved through structural modernization and sustainable development, rather than through destruction, making the post-war recovery challenge particularly complex and multifaceted.

The post-war reconstruction of Ukraine presents a significant challenge. The complexity of planning, financing, and implementing reconstruction, especially during an ongoing war, is unprecedented. The recovery process requires the unification and consolidation of efforts from all stakeholders – the government, the public, and international partners (Andrusevych and Kozak, 2024; Zagoruichyk et al., 2023).

However, as of 2024, the planning for Ukraine's post-war reconstruction still seems to be a process (Heinrich Böll Stiftung, 2024) with varying priorities. The recovery is further complicated by the fact that key stakeholders – the government, partners, the public, businesses, and local authorities – have not yet developed a clear understanding of green reconstruction. Meanwhile, the reconstruction of Ukraine should be based on a clear, coherent, and comprehensive recovery concept (Andrusevych and Kozak, 2024, p. 9).

One of the main international processes for planning post-war recovery is the Ukraine Recovery Conferences (Ukraine Recovery Conference (2022); Ukraine Recovery Conference (2023); Ukraine Recovery Conference (2024). At each of these conferences, emphasis was placed on Ukraine's recovery priorities, allowing the program documents

from these events to be viewed as separate narratives. The materials presented at these conferences are the focal point of this research.

The authors suggest that the ideas presented about Ukraine's green recovery after the war can be framed as narratives. In this article, narratives are understood as stories about Ukraine's green recovery after the war, forming a sequence of statements that convey a vision of events. The article applies Sovacool's concept that "the use of the narrative concept has an explanatory or interpretative meaning. A narrative can be used to explain cause-and-effect relationships" (Sovacool et al., 2018). The authors also draw on the understanding of narrative presented in the works of (Vezzoni, 2023), (Van Der Leeuw, 2024), (Ghorbani Sheikhneshin and Ahmadinejad, 2024), (Coeckelbergh and Reijers, 2016), (Riessman, 2008).

The existence of various narratives on Ukraine's green recovery, each differing in content and priorities, along with the absence of a clear and unified plan for phased reconstruction, lays the groundwork for linking these discussions to the concept of "language games". It was Ludwig Wittgenstein who initiated the understanding of language as a game: "the whole process of using words in a language can also be represented as one of those games through which people master their native language. I will call these games 'language games'. I will call a 'Language game'[...] a single whole: the language and the action intertwined with it. The use of words itself (Wittgenstein, 2009, p. 268). According to the Austrian philosopher, the use of words cannot simply be judged as right or wrong, because we live in a world where many language games operate simultaneously. The authors employ the idea of language games from French philosopher Jean-François Lyotard, who builds upon Wittgenstein's theory. "Wittgenstein focuses his attention on the effects of different modes of discourse; he calls the various types of utterances he identifies along the way language games" (Lyotard, 1984, p. 10). This research also applies Lyotard's interpretation of language games as narratives, as outlined in his work "The Postmodern Condition", to describe how various narratives interact and compete for legitimacy. Lyotard views language games as a form of narrative knowledge: "The narrative form, unlike the developed forms of the discourse of knowledge, lends itself to a great variety of language games" (Lyotard, 1984, p. 20). In relation to language games, the narrative sets boundaries or frames for them, while the language game itself represents the method or form of the narrative's existence, the way the entire message is interpreted. Lyotard argues that the concept of "language games" is applicable to various areas of human activity. Narratives cluster together or form small groups to address short-term tasks.

Lyotard's interpretation of narrative as a language game provides a flexible approach for analyzing the complex processes of Ukraine's green recovery after the war. In this research, the concept of "game narratives" (Lyotard, 1984) is used as a framework for analyzing the key themes of Ukraine's green recovery after the war.

Despite the diversity of narratives on Ukraine's green recovery reflecting a richness of ideas and priorities among various stakeholders, this plurality also presents coordination challenges. Competing narratives can stimulate innovation by introducing alternative solutions and approaches. At the same time, the absence of a unified consensus may lead to inefficiencies, duplication of efforts, and potential conflicts in resource allocation. The existing diversity of narratives, and the methodology applied here through

the lens of "language games," draws attention precisely to this duality, illustrating the full complexity and variety of the situation. Thus, the coexistence of multiple narratives represents both an opportunity for creative problem-solving and a challenge for effective, long-term reconstruction planning.

2. Literature review

Considering the lack of a unified concept for post-war recovery, it is possible to discuss the formation of narratives regarding Ukraine's reconstruction after the war. Currently, the narrative of Ukraine's green recovery has reached what Sander van der Leeuw (2024) describes as "tipping points" in existence, with numerous potential future scenarios for such recovery(Van Der Leeuw, 2024). For instance, N. M. Shtefan, A. S. Parfenenkova, and M. Yetchvi explore models for Ukraine's green recovery, focusing on "ambitious" and "pragmatic" models (Shtefan et al., 2023). The ambitious model envisions that the primary goals are green (such as a climate-neutral or green economy, green growth, and sustainable agriculture) together with the processes of their achievement. This model can be briefly described as Ukraine's Green [post-war] Course. Its vision is "a Green Ukraine as part of the global climate-neutral economy" (Resource & Analysis Center "Society and Environment", 2022, p.4). Separately, an Inertia Model is also identified, which entails specific environmental and climate tasks in line with current goals in these areas but does not strengthen or impact the objectives and implementation of other sectoral goals (essentially a "business as usual" scenario) (Domorenok and Graziano, 2023, pp. 15-16) discuss two possible scenarios for post-war recovery, which the authors describe as a supranational legitimacy scenario and an intergovernmental approach scenario. Authors (Bondarenko et al., 2024) propose a vision of how "green recovery" can be implemented in six sectors of Ukraine's economy (industry, agriculture, construction, transport, electricity, and governance). In the study "Can Ukraine go 'green' on the postwar recovery path", the authors analyze potential scenarios for Ukraine's post-war recovery, noting that the green path would only be 5% more expensive than the traditional recovery path, which relies on fossil fuels (Chepeliev et al., 2023). Ronja Ganster, Jacob Kirkegaard, Thomas Kleine-Brockhoff, and Bruce Stokes examine the stages of Ukraine's post-war recovery, which they define as aid, reconstruction, modernization, and accession to the EU(Ganster et al., 2022).

In addition to discussions about possible green recovery options for Ukraine, the theme of post-war reconstruction affects other related topics, shaping certain circles of discussion that are at the core of contemporary research.

Indeed, this issue ties into the broader continuation of the European Green Transition following Russia's invasion of Ukraine (Mohammed et al., 2023), (Ciot, 2023), (Kovalevska and Braun, 2023), (Schreurs, 2023), (Kuzemko et al., 2022), (Wendler, 2023), (Nygaard, 2023), (Medinilla et al., 2022).

Further, the impact of the war in Ukraine on the economies of European Union countries, and the EU as a whole, deserves particular attention (Ah-Voun et al., 2024; Ciot, 2023; Skalamera, 2023; Zhou et al., 2023; Żuk and Żuk, 2022).

Moreover, the topic of Ukraine's green recovery is explored within the broader analysis of Ukraine's post-war future. Works by authors such as (Becker et al., 2022;

Bilokinna, 2023; Bulyk, 2023; Holovko and Haug, 2023; Iakovenko and Zachmann, 2024; Karlin and Prots, 2022; Khvesyk and Ilina, 2023; Kushnirenko et al., 2023; Saha et al., 2022; Sakun and Shkola, 2023; Ziabina et al., 2023) all contribute to this ongoing discourse.

3. Research methodology

To explore the essence of Ukraine's green recovery after the war, this article employs an interpretative approach (Engelkamp and Fuchs, 2016; Sovacool et al., 2018). A discourse analysis of materials presented by Ukrainian representatives at three conferences on post-war recovery (Lugano 2022, London 2023, Berlin 2024) was conducted. The authors understand discourse analysis as a collection of statements that shape and express specific ideas and societal relations. The interpretation of discourse analysis and the methods used in this study are based on the works of various researchers. Sovacool emphasizes that discourse analysis varies widely, making it difficult to ensure full transparency, but it allows for exploring depth, explanations, and meanings (Sovacool et al., 2018). Wortham highlights that "discourse analysis can be presented as a broad interdisciplinary field that includes theoretical and methodological approaches from linguistics, anthropology, and sociology." (Wortham and Reyes, 2021) The author also applied the approaches to interpretation and discourse analysis put forward by other researchers (such as (Domorenok and Graziano, 2023; Fleming et al., 2014; Gee, 2011; Mandravickaite and Krilavičius, 2019).

To identify themes related to Ukraine's green post-war recovery, content analysis of the documents presented at the three conferences (Lugano 2022, London 2023, Berlin 2024) was conducted. Qualitative and mixed-method software MAXQDA was used for data analysis.

Based on the European Green Deal (European Commission, 2019), eight codes were identified for analysis, two of which have subcodes. For instance, the "Energy Recovery" code includes 11 subcodes, while the "Resilience Recovery" code contains three sub-codes (for a full description of the codes and subcodes, see Appendix A). A list of the analyzed documents is available in Appendix B.

The documents were categorized into three groups. The first group consists of materials presented by Ukrainian representatives at the Ukraine Recovery Conference in 2022, the second group includes documents from the 2023 conference, and the third group comprises documents from the 2024 conference. A total of 16 documents were analyzed. This inductive coding was guided by the research question: "What specific aspects of Ukraine's green recovery after the war are represented in the materials presented by Ukrainian representatives?" Based on the results, the narrative of each conference regarding Ukraine's green recovery is presented.

It should be noted that this study relies exclusively on the analysis of materials presented by Ukrainian representatives at the three Ukraine recovery conferences (Lugano 2022, London 2023, Berlin 2024). Therefore, it does not claim to be comprehensive and does not account for public opinion, local initiatives, or empirical data from reconstruction sites. Nevertheless, the chosen approach allows for an in-depth analysis of official

discourses, identification of key themes, and demonstration of how narratives of Ukraine's green recovery are formed in different temporal contexts.

4. Research results

The comparison of the overall distribution of codes provides grounds to assert that each of the three conferences emphasized unique priorities regarding Ukraine's green recovery after the war. This suggests that each conference formed its own narrative on the subject. Naturally, each narrative reflected the current military-political situation in Ukraine during each year of the war.

4.1 The 2022 Narrative. (URC 2022) - July 4-5, 2022, Lugano, Switzerland.

At the Ukraine Recovery Conference held in Lugano (Switzerland), significant steps were planned for coordinating and planning the recovery efforts for Ukraine. Switzerland, in collaboration with Ukraine and supported by international partners, presented the "Lugano Declaration". This document laid the foundation for the political process of Ukraine's recovery. It served as a key driver, focusing attention on the future, recovery processes, and the necessary investments. The final document of URC 2022 outlined several actions, referred to as the 'Lugano Principles', which highlighted innovative approaches to recovery. These included a shift towards green energy, digital transformation, national and international innovative financing, sustainable financing, potential reparations, contributions from private donors, and the involvement of the private sector (Konstantynova, 2023).

A critical aspect of the discussions was the damage assessment caused by Russian aggression, initially estimated at \$95.5 billion. The preliminary cost for implementing the recovery plan was projected at around \$750 billion, covering approximately 850 projects. (UkraineInvest, 2021; United Nations in Ukraine, 2024).

The analysis of the documents presented at this conference reveals specific characteristics of the narrative around Ukraine's green recovery in 2022. A narrative of globality and complexity emerges, particularly regarding Ukraine's continued green transition after the war.

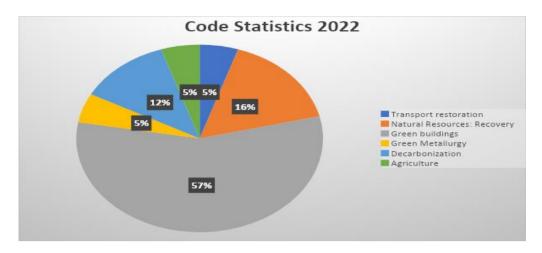


Figure 1: Code Statistics 2022

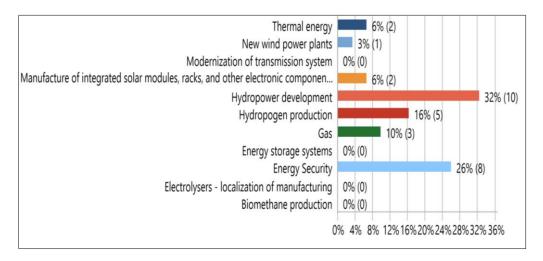


Figure 2: Code Energy Recovery Statistics 2022

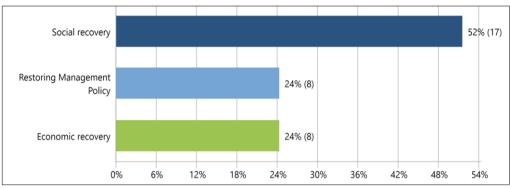


Figure 3: Code Resilience Recovery Statistics 2022

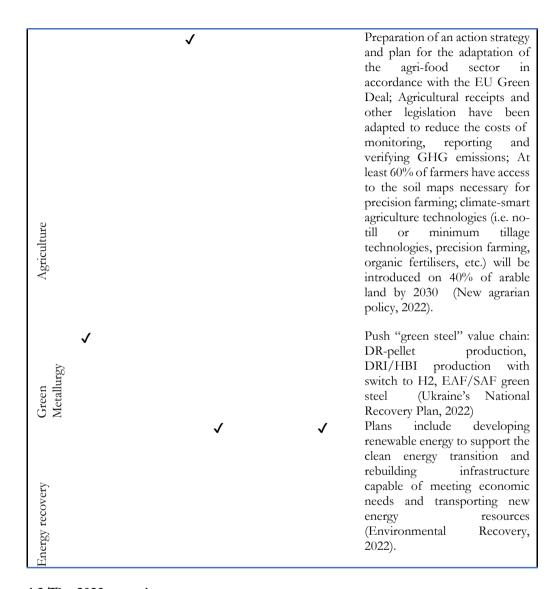
Table 1 presents the results of code prioritization with examples of quotes from the analyzed documents regarding Ukraine's recovery in 2022.

 Table 1: General Distribution of Codes with Priorities from the Materials of the Conference on

Ukraine's Recovery 2022

CKI anic s	3 Itees	7ery 2022					
		Documents					Examples of
Code							quotations
3040							quotations
	Ukraine's Recovery Plan	Ukrainian Recovery Conference Background Analytics Social Recovery	New agrarian policy	Energy security	Economic recovery	Environmental recovery	
	✓			,	/ /		Energy modernization of
							buildings and the construction
Green buildings							of new green buildings will
ldir							ensure the reduction of energy
lin'							poverty and the energy
n b							independence of Ukraine
ee							(Energy security: Draft Ukraine
5							
							Recovery Plan, 2022).

Decarbonization		√		√	Develop 30GW of RES to decarbonize the energy sector, cut air pollution, produce hydrogen, and export it to the EU to strengthen energy resilience and reduce dependence on Russia (Environmental Recovery, 2022). (Environmental Recovery, 2022).
Resilience recovery Decarbonization	✓	✓ ✓	✓	√	Ukraine is committed to a green recovery by establishing a transparent policy framework and digitalizing environmental monitoring to control air pollution (Ukraine's National Recovery Plan, 2022)
Transport restoration	√				Modernization and electrification of urban transport (Ukraine's National Recovery Plan, 2022).
Natural Resources: Recovery, and Processing of Transport Critical Materials	✓			✓	Develop forestry by managing forest clearance and planting new trees; • Ensure the safety of Ukrainian territories by conducting mine clearance; • Restore degraded lands and effectively use them; • Build facilities for effective waste management and circular use of materials; • Develop natural resources that strengthen the resilience of territories to natural disasters such as floods and fires; • Preserve and develop natural resources of Ukraine (Environmental Recovery, 2022).



4.2 The 2023 narrative

The Ukraine Recovery Conference 2023 (URC 2023), held on June 21-22 in London, aimed primarily at mobilizing international support for Ukraine's recovery and advancing it towards a modern and sustainable economic future (Ukraine Recovery Conference, 2024). This conference followed the previous one held in Lugano (Ukraine Recovery Conference, 2022). Numerous countries and international organizations announced financial support for Ukraine. Plans for the reconstruction and modernization of critical infrastructure, including transport corridors, energy systems, and communications, were presented. A new investment fund focused on attracting private capital for Ukraine's recovery was also announced. The conference took place against the backdrop of significant destruction and losses.

One year after the full-scale Russian military invasion, the total amount of direct documented damage to residential and non-residential real estate and other infrastructure exceeded \$143.8 billion (replacement cost) (KSE Institute, 2023, p. 5).

In the energy sector, electricity generation and transmission systems have been severely affected by Russian aggression, with systematic attacks on production, transmission, and distribution facilities. Preliminary estimates put the total damage to these facilities at nearly \$6.5 billion. Since the beginning of the full-scale invasion, all Ukrainian-controlled thermal power plants (TPPs), hydroelectric power plants (HPPs), and 13 combined heat and power plants (CHPs) have been hit (KSE Institute, 2023, p. 23).

Renewable energy producers have experienced substantial losses due to the conflict. Approximately 13% of solar generation capacity is in occupied areas, with 8% damaged; around 80% of wind capacity is occupied, some of it damaged by shelling; and 2% of bioenergy capacity is under occupation, including at least four destroyed biogas plants. Direct losses to renewable energy producers (excluding large hydropower) are estimated at about \$220 million (KSE Institute, 2023). The conflict has also negatively affected air quality, soil, water resources, vegetation, and wildlife.

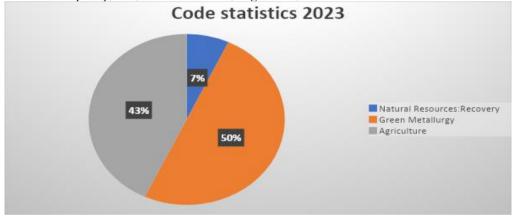


Figure 4: Code Statistics 2023

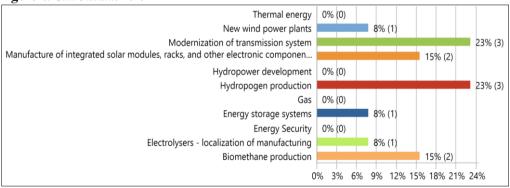


Figure 5: Code Energy Recovery Statistics 2023

Table 2 presents the results of code prioritization with examples of quotations from the analyzed documents on Ukraine's recovery in 2023

Table 2: General Distribution of Codes with Priorities from the Materials of the Ukraine

Recovery Conference 2023

Code	Documents				Examples of quotations	
	Energy power system	Gre en Met allur gy	Agri cult ure	Natural Resource s Mining and Processin g of Critical Materials	Trans port	
Gree n buildi ngs						
Decar boniz ation						
Resilien ce recover y						
Transp ort restorat ion						
Natural Resources: Recovery, Mining and Processing of Critical Materials				√		Ukraine proposes a wide range of mining investment opportunities (main mineral: Ilmenite, Rutile, Zircon, Lithium, Graphite, Nickel, Beryllium, Rare Earth Elements, Polymetallic, Zinc). Dobra lithium, Stremyhorodske titanium, and Novopoltavske phosphate/rare earth deposits offer long-term licenses and investment opportunities. About 100 projects of key critical raw materials could help close Europe's mining gap
Natural Recove and Pro Critical						(Natural Resources: Mining and Processing of Critical Materials, 2023).



A comparative analysis of post-war industrial recovery experiences can help contextualize the ambitions articulated at URC 2023. For instance, international experience of post-war industrial reconstruction (Deyneko et al., 2024) demonstrates that building sustainable industries amid disrupted supply chains and energy crises is an extremely challenging task. The cases of Kosovo and Iraq (Earnest & Dickie, 2012) illustrate that post-conflict countries often face serious delays in restoring industrial capacity, despite substantial international support. Moreover, lessons from Syria, Croatia, and Kuwait (KPMG, 2023) show that the combination of destroyed infrastructure, security risks, and the need for coordinated investment requires long-term strategic planning. These comparative examples suggest that while the 2023 Ukrainian narrative emphasizes the development of green metallurgy, agriculture, and sustainable industrial recovery, the country may face similar structural, logistical, and socio-economic constraints as observed in other post-war contexts. Thus, these findings highlight the importance of cautious optimism and adaptive planning in implementing the ambitious recovery goals presented at the London Conference.

4.3 The 2024 narrative

At the Ukraine Recovery Conference 2024 (URC 2024), held in Berlin on June 11-12, significant progress was made in the field of environmentally sustainable recovery for the country. The main focus was on transitioning to renewable energy sources, decarbonization, and supporting sustainable development. The creation of a Green Recovery Action Platform was announced, which will assist in the development of green policies and legislation, as well as in mobilizing international aid for green recovery (Platform for Action on the Green Recovery of Ukraine, 2024). Discussions emphasized the increased use of solar and wind energy in Ukraine, with a focus on reducing dependency on traditional energy resources (URC 2024). Ukraine presented its first integrated plans for achieving carbon neutrality, which include the establishment of legislative frameworks to support a green economy and sustainable development.

According to World Bank estimates, Ukraine will need nearly \$500 billion for recovery, with part of this funding expected to come from the private sector (Smolentseva and Savchuk, 2024). As of early 2024, the direct losses to Ukraine's agricultural sector amount to \$10.3 billion. Direct losses to the energy sector are estimated at \$9 billion. Current direct losses to thermal power generation are estimated at \$2.6 billion for TPPs and \$320 million for CHPs. Direct damage to hydro and pumped storage plants is estimated at \$1.1 billion, with restoration costs likely higher due to equipment wear and obsolescence. In early June 2023, Russian forces blew up and completely destroyed the Kakhovka HPP, causing direct damage currently estimated at \$586 million. The construction of a new HPP with equivalent capacity will require about \$1 billion. (KSE Institute, 2024, pp. 21–22)

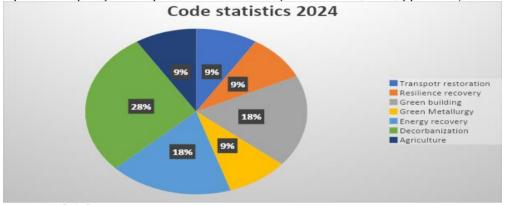


Figure 6: Code Statistics 2024

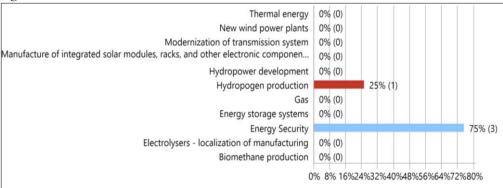


Figure 7: Code Energy Recovery Statistics 2024

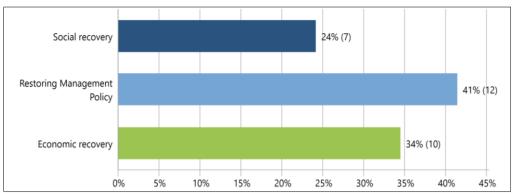


Figure 8: Code Resilience Recovery Statistics 2024

Table 3: Prioritization of Codes with Example Quotations from the Analyzed Documents on Ukraine's Recovery in 2024.

Code		D	ocuments		Examples of quotations
	Ukraine	Ukrai	Platfor	Inve	
	's-	ne	m for	stm	
	reforms	Facilit	Action	ent	
	-matrix	y	on the	guid	
			Green	e	
			Recove	Ukr	
			ry of	aine	
			Ukraine		
				✓	Approval of the 2050 Thermal
Green buildings					Modernization Strategy, setting minimum
l ild					energy efficiency standards for buildings
व					and products, and requiring energy
eeu					labelling and eco-design in public
Ğ					procurement (Investment guide
				,	Ukraine,2024). Ukraine follows the global trend towards
niż				√	decarbonisation and aims to end the use of
Decarboniz ation					coal in the energy sector by 2035
Decaration					(Investment guide Ukraine, 2024)
De ati					(investment garde Chrame, 2021)
	./	./	./	./	Integration of green/sustainable criteria
	v	V	V	v	into the process of transparent and
					economically justified selection of
y y					investment projects, primarily for
lier ver					economic recovery. (Investment guide
Resilience recovery					Ukraine, 2024)
R H					·

Transport	✓ Build an efficient, EU-aligned transport system supporting decarbonization and TEN-T standards. (Investment guide Ukraine, 2024)
Natural Resources: Recovery, Mining And Processing of Critical Materials	
Agriculture	✓ Ukraine's developing agriculture sector provides significant potential for biomethane production for export to the EU; the REPowerEU plan aims to increase production to 35 billion cubic meters by 2030. (Investment guide Ukraine,2024)
Green Metallurgy	 ✓ Green steel production is expected to grow dramatically over the next decade. Ukraine has the necessary prerequisites to become an important player in this market, namely access to high-quality iron ore and significant renewable energy development (Investment guide Ukraine, 2024) ✓ Coal-fired power will be replaced by
Energy	combined-fuel CHPs and TPPs using natural gas, biomethane, and biofuels from waste and biomass. (Investment guide Ukraine,2024).

5. Discussion and conclusion

The approach of Jean-François Lyotard to language games includes several key aspects that were applied in this study. Lyotard understood language games as methods of creating and maintaining different forms of knowledge and power in society. Extrapolating this idea to the research topic, we note that the interpretation of concepts related to the green recovery of Ukraine after the war forms a narrative of the inevitability of the green transition in post-war Ukraine, grounded in Ukraine's European future.

J. Lyotard started from the assertion of the multiplicity of language games: "There are many different language games—a heterogeneity of elements" (Lyotard, 1984, p. 2). For us, this idea represents the concept of multiple narrative games. Each narrative (2022, 2023, 2024) has its own distinct features and priorities, which are undoubtedly connected to the socio-political circumstances of those years. The analyzed documents from Ukrainian representatives at each conference suggest that a specific narrative on recovery was shaped at each event, reflecting Ukraine's own vision. However, this does not exclude

the possibility that other stakeholders, participants, or representatives from other countries may have different perspectives on Ukraine's future recovery.

Although this study examines Ukraine's recovery narratives as evolving "language games", it is important to consider the material and practical obstacles that may affect the implementation of these narratives. The theoretical legitimacy of the narratives does not guarantee automatic reconstruction success, as real constraints—including destroyed infrastructure, disrupted supply chains, energy instability, and financial limitations—can seriously impede the achievement of green recovery goals.

For example, data from 2024, including the European Business Association (EBA) report, showed that 74% of Ukrainian employers face a shortage of qualified personnel (European Business Association, 2024). This problem is particularly acute in sectors critical to the green transition, such as construction and energy. Moreover, reality demonstrates significant gaps between discourse and practice: in October 2024, "green" auctions failed due to low tariffs and regulatory instability (National Commission for State Regulation of Energy and Utilities, 2024). The debt owed to renewable energy producers at the beginning of 2025, amounting to UAH 22.3 billion, also remains a serious financial barrier (Ukrainian Institute of the Future, 2025), illustrating how material conditions can undermine even the most ambitious discursive frameworks.

Future research may explore how these narratives can be implemented in practice and examine mechanisms linking discourse to concrete recovery strategies, ensuring that the envisioned green transformation is both conceptually justified and practically feasible.

Among the key topics raised by Ukrainian representatives at the 2022 conference (Lugano) was the focus on "Green buildings," which includes various approaches aimed at creating a sustainable, ecological, and energy-efficient infrastructure. According to the 2022 results, the war led to significant destruction of infrastructure, a reduction in production capacity, losses in agriculture, mass displacement of the population, and the destruction of housing and social infrastructure. Roads, bridges, railways, airports, energy facilities, water supply systems, and utilities were damaged or destroyed, dealing a serious blow to Ukraine's economy (Kulish, 2023). Although the Ukraine Recovery Conference 2022 took place that summer, according to J. Lyotard, this reflects the "legitimation of this knowledge" (Lyotard, 1984, p. 28).

Recent public opinion surveys in Ukraine indicate that citizens prioritize the restoration of housing, social infrastructure, and environmentally safe buildings (Kyiv International Institute, 2024). These societal expectations align with the focus on "Green Buildings" presented at the 2022 conference, suggesting that the conference narrative partially reflects public sentiment.

The damage caused by the war was reflected in the narrative of 2022. The significance of the "Green buildings" indicator in 2022 also extended to the code "Energy recovery statistics," where the priority areas were "Hydropower development" and "Energy security", and to the code "Resilience recovery", where the priority was "social recovery." Therefore, the prioritization of "Green buildings" is partly an answer to the question: how will Ukraine's infrastructure be rebuilt after the war? "Green buildings" for Ukraine's post-war recovery encompass a range of approaches and technologies aimed at creating sustainable, environmentally safe, and energy-efficient infrastructure. In the context of post-war recovery, such buildings could play a key role in reducing

environmental impact, improving quality of life, and promoting sustainable regional development.

Furthermore, the 2023 conference focused on topics related to "Green metallurgy" and "Agriculture". Let's concentrate on the "Green metallurgy" indicator, which includes a range of elements: energy-efficient production technologies, recycling and metal processing, and the use of renewable energy sources. In 2023, Ukraine's industry suffered significant damage due to the ongoing war, affecting production capacities, disrupting supply chains, and reducing investments in the industrial sector. Additionally, severe disruptions in energy supply had a negative impact on the functioning of the industrial sector (Shcherbak, 2024). Thus, at the 2023 Ukraine Recovery Conference, a narrative emerged that legitimized, among other things, the need to restore the metallurgical industry based on "green economic priorities".

Public opinion surveys also emphasize the need to restore industrial capacity using environmentally friendly technologies (Edelman, 2024). This confirms the "Green Metallurgy" narrative at the 2023 conference, showing that the emphasis on sustainable industrial recovery aligns with public expectations.

This is also reflected in the "Energy recovery" code. It should be noted that the "Resilience recovery" code was not represented in the analyzed documents. However, this does not exclude the possibility that this topic was discussed in other conferences or documents, such as the Green Recovery (European Commission, 2023). Overall, the narrative around "Green Metallurgy" emphasizes that Ukraine's government plans to establish an environmentally sustainable and competitive metallurgical industry, contributing to the long-term economic development of the country.

Next, we turn to the priorities of the 2024 conference. One of the key priorities here is the "Decarbonization" indicator, which involves the process of reducing dependence on carbon-based energy sources and transitioning to low-carbon economic models. The restoration of destroyed infrastructure creates an opportunity to implement environmentally clean technologies. Transitioning to renewable energy sources, such as solar and wind, will help Ukraine reduce its dependence on fossil fuels, which is important both from a security standpoint and in the context of the global fight against climate change.

Surveys conducted in 2024 show growing public support for the transition to renewable energy sources and reducing dependence on fossil fuels (Kyiv International Institute, 2024). This societal perspective aligns with the conference emphasis on decarbonization and energy security, reinforcing the relevance of these narratives for planning post-war recovery.

The "Energy recovery" code is also centered on energy security. The "Resilience recovery" code reflects the Ukrainian government's focus on restoring governance policies oriented towards a green economy.

Jean-François Lyotard also emphasized that different discourses can legitimize various forms of knowledge (Lyotard, 1984, p. 33). He argued that in modern society, grand narratives or "metanarratives", which previously legitimized knowledge, are losing their significance. Knowledge becomes fragmented, and legitimacy is no longer based on a single, overarching narrative. Instead, the legitimacy of knowledge is defined locally and contextually, with emphasis placed on the diversity of perspectives and the multiplicity of

interpretations. In the context of Ukraine, this can manifest in how various "actors" interpret and legitimize recovery efforts – whether economic aid, political reforms, or cultural revival. At each conference, a specific narrative on Ukraine's post-war recovery was promoted, which can be viewed as a distinct language game about potential recovery. However, the presented narratives do not contradict or deny each other. According to J. Lyotard's idea of "narrative legitimacy" in discourse, Ukraine's post-war recovery currently represents various scenarios for such recovery. A unique feature of this narrative legitimacy is that it exists with a deferred perspective for full realization. This narrative exists only as a language game. Of course, this should be understood in the broadest sense, as critical infrastructure recovery in Ukraine is an ongoing process. However, until the end of hostilities, it is not feasible to fully implement any ideas for Ukraine's green recovery.

Language games are not static; they are subject to change. This is also the case with the language games surrounding Ukraine's green recovery. We can see that from year to year, this narrative evolves, with each having its own priorities, reflecting changes in the military and socio-political situation. It is likely that this dynamism will continue in the coming years if the war persists. Each of the three analyzed narratives is embedded in the context of the military-political and social situation of the war years 2022, 2023, and 2024. The legitimacy of these narratives depends on the context. Therefore, different communities and groups may engage in their own "language games", where the rules and criteria for truth differ. This is related to the concept of the dynamism of language games. These "games", considering various interests, conflicts, and competition in the modern "postmodern society" (Lyotard, 1984), can quickly change, adapting to the current situation. Thus, it is evident that Ukraine's green recovery after the war will inevitably have to balance between economic interests and environmental sustainability, the need to swiftly resolve complex recovery issues, and adhering to high European environmental standards for recovery. The search for investments for reconstruction may also involve potentially unpopular socio-political decisions for Ukraine's citizens, etc.

Although this study examines Ukraine's recovery narratives as evolving "language games," it is important to emphasize their dynamic nature. These narratives change from year to year, reflecting shifts in the military-political and socio-economic situation, which aligns with the postmodern understanding of discourse dynamics. Such dynamism also corresponds with the broader scholarly discussion on fragmented environmental governance in Europe, where multi-level and often conflicting approaches complicate the implementation of environmental policy (Domorenok & Graziano, 2023). Integrating Ukrainian narratives into the context of the European Green Deal allows them to be seen as part of a pan-European process, in which issues of decarbonization, sustainable industrial development, and a just transition face challenges of political coordination and institutional complexity (European Commission, 2019; Oberthür et al., 2023). Thus, the Ukrainian experience can be interpreted not in isolation, but as part of a wider postmodern landscape, where the green transition is shaped by multiple competing and intersecting discourses.

Of course, the presented analysis of Ukraine's green recovery after the war through the concept of narrative games is open to debate. The research conducted does not claim to offer exhaustive results. The authors acknowledge that the analysis and interpretation of the data are directly correlated only with the documents examined. By using an interpretive approach, the authors pursued a single goal: to clarify which specific aspects are related to the topic of Ukraine's green recovery in the analyzed documents. In the highlighted points, the authors identify a path toward developing a concrete narrative — the strategy for Ukraine's green transition (Terzi, 2020) after the war.

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Appendix A. Codes and Subcodes Used in the MAXQDA Program

Transport restoration

Natural resource

Green Building

Green metallurgy

Decarbonization

Agriculture

Energy recovery:

Gas:

Thermal energy;

Hydropower development;

Energy Security;

Biomethane production;

Electrolysers-localization of manufacture;

Hydrogen production;

Modernization of transmission system;

Energy storage system;

New wind power plants;

Manufacture of integrated solar modules, rack and other electronic

Resilience recovery:

Restoring Management Policy;

Economic Recovery;

Social recovery.

Appendix B. List of Analyzed Documents

The documents analyzed from the 2022 conference are as follows:

Ukraine's Recovery Plan 2022 (Ukraine's National Recovery Plan, 2022)

Ukrainian Recovery Conference Background Analytics 2022(Ukrainian Recovery Conference Background Analytics, 2022)

Social Recovery 2022 (Social recovery, 2022)

New agrarian policy 2022 (New agrarian policy, 2022)

Energy security 2022 (Energy security: Draft Ukraine Recovery Plan, 2022)

Economic recovery 2022 (Economic recovery, 2022)

Environmental recovery 2022 (Environmental Recovery, 2022)

The documents analyzed from the 2023 conference are as follows:

Energy power system 2023 (Energy. Power Systems for a Sustainable Recovery, 2023)

Green Metallurgy 2023 (Green Metallurgy. Rebuilding Ukrainian industry and integrating into European value chains, 2023)

Agriculture 2023 (Agriculture. Investing for the future, 2023)

Natural Resources Mining and Processing of Critical Materials 2023 (Natural Resources: Mining and Processing of Critical Materials, 2023)

Transport 2023(Transport, Logistics and Infrastructure, 2023)

The documents analyzed from the 2024 conference are as follows:

Ukraines-reforms-matrix 2024 (Ukraine's reforms matrix. Reforms and conditionalities, 2024)

Ukraine Facility 2024 (Plan for Ukraine Facility, 2024)

Platform for Action on the Green Recovery of Ukraine 2024 (Platform for Action on the Green Recovery of Ukraine, 2024)

Investment guide Ukraine 2024 (Investment guide Ukraine, 2024)