

A Study on the Cross-Media Discursive Construction of China's Dual Carbon Goals — A Corpus-Assisted Comparison of Representations in China Daily and the New York Times

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Abstract: This study adopts the corpus-assisted discourse study (CADS) method, taking relevant reports from China's mainstream English media China Daily and the US mainstream media The New York Times after China proposed its “dual-carbon” goals in September 2020 as research corpora, to explore the similarities and differences in the discursive construction of China's carbon emissions issues by Chinese and foreign media. The findings reveal that both Chinese and foreign media take “environmental governance” as their core cognitive framework and narrate around dimensions such as the impacts of carbon emissions and governance measures, but there are significant discursive divides: Chinese media focus on evidence-based narratives such as policy advancement and technological breakthroughs to construct an image of China proactively assuming climate responsibilities and promoting green transition; in contrast, US media tend to adopt strategies such as responsibility attribution and risk amplification, focusing on the global impacts and governance challenges of carbon emissions, with some reports exhibiting ideological interpretation tendencies. This study not only provides empirical support for understanding the discursive game of environmental issues in cross-cultural contexts but also offers references for optimizing the international discourse communication strategy of China's carbon emission governance and enhancing the discourse power in global climate governance.

1. Introduction

Global climate change has emerged as a severe challenge confronting human society, and addressing the climate crisis while promoting green and low-carbon development has become a universal consensus of the international community. In September 2020, General Secretary Xi Jinping officially announced at the General Debate of the 75th Session of the United Nations General Assembly that China will strive to peak carbon dioxide emissions before 2030 and achieve

carbon neutrality before 2060(Qian & Wang, 2023). The proposal of this “dual-carbon” goal is not only a major strategic decision made by China based on the inherent requirements of sustainable development, but also a solemn commitment to global climate governance. Subsequently, top-level design documents such as The Opinions of the CPC Central Committee and the State Council on Fully, Accurately and Comprehensively Implementing the New Development Concept and Doing a Good Job in Carbon Peaking and Carbon Neutrality Work and The Action Plan for Carbon Peaking Before 2030 were successively issued, constructing the core framework of China's “dual-carbon” policy system and demonstrating China's firm determination to promote green transition(Qin, 2022). As the world's largest developing country, China will achieve the transition from carbon peaking to carbon neutrality in the shortest time in global history. This feat is not only crucial to China's own high-quality development, but also exerts a profound impact on the global climate governance pattern.

News media, as shapers of public opinion and disseminators of international image, play a pivotal role in constructing the globally significant issue of “dual-carbon”. However, media with different national backgrounds and positions often present significant differences or even oppositions in reporting the same environmental issue based on their own ideologies, interest demands and value standards(Ma & Cui, 2020). For instance, Chinese mainstream media such as People's Daily have consistently constructed the “dual-carbon” discourse with a positive attitude, continuously conveying China's determination and actions to the public and the international community from the initial popularization of concepts to the subsequent narrative of major-country responsibility (Qian & Wang, 2023); But American media are generally inclined to be negative, often entangling the issue with political and economic perspectives and even accusing China of “saying one thing and doing another” (Zhang, 2024). Such differentiated reports are not accidental, but a concentrated reflection of the social and political factors behind the media, which also makes the international communication of the “dual-carbon” goal face a complex public opinion environment.

In view of this, based on the perspective of discourse analysis, this paper takes reports on China's “dual-carbon” goal by Chinese and American mainstream media as the research object, aiming to explore the following core questions.

1. To what extent do Chinese and American media converge and diverge in the discourse construction of China's “dual-carbon” goal?

2. What social and political factors lie behind these differentiated discourse representations?

Through systematic comparative analysis, this paper attempts to fill the gaps in existing studies, provide a linguistic basis for understanding the cognitive differences of the international public opinion on China's “dual-carbon” goal, and offer references for Chinese mainstream media to optimize international communication strategies and enhance the international discourse power in global climate governance.

2. Literature Review

2.1 Theoretical Foundations of Environmental Communication and Media Discourse

The media communication of environmental issues is always embedded in specific socio-political contexts, with its core feature being “discursive construction” rather than a mirror reflection of objective reality(Hansen, 1991, 2010). Critical Discourse Analysis (CDA)theory points out that media discourse, as a product of social power relations, realizes the production and reproduction of ideology through strategies such as lexical choice and framing (Fairclough, 1995; van Dijk, 1998). The construction of environmental discourse is directly linked to the game of national interests, values, and development models (Hajer, 1995). Ent man's (1993)framing theory

further clarifies that the media defines the nature of issues, attributes causes, presupposes consequences, and proposes solutions through the selection and combination of keywords, thereby guiding public perception. This theoretical framework provides a core analytical tool for subsequent studies on media discourse of environmental issues—whether it is haze, climate change, or the “dual-carbon” goals, their media representations all follow this discursive construction logic.

The integration of corpus linguistics and Critical Discourse Analysis (corpus-assisted discourse study, CADS) has become an important methodological innovation in environmental communication research. Baker (2006) proposed that the combination of keyword analysis, collocation analysis, and concordance line interpretation can systematically reveal the potential preferences and ideological tendencies of media discourse. This dual verification model of quantitative and qualitative analysis not only ensures the objectivity of the research but also takes into account the complexity of the context. Widely applied in cross-cultural and cross-media discourse comparison studies, this method provides an operable path for identifying narrative differences among media in different contexts.

2.2 Research Progress on “Dual-Carbon” Related Issues

2.2.1 Thematic Evolution and Discursive Construction of the “Dual-Carbon” Issue

As the “dual-carbon” goals have become a core issue in global climate governance, relevant research has gradually extended from policy interpretation to discourse, analysis. Based on the LDA model, Qin (2022) analyzed the thematic evolution of research on carbon emissions at home and abroad and found that foreign studies focus on climate change and the natural carbon cycle, while domestic studies pay more attention to the carbon cycle and economic benefits in the human economic system. However, this study did not involve the comparative analysis of media discourse and failed to reveal narrative differences at the public perception level.

Qian & Wang (2023) focused on the “dual-carbon” discourse construction of People's Daily and found that its narrative has gradually shifted from initial concept popularization to the value transmission of “major-country responsibility. “By emphasizing policy continuity and practical effectiveness, it constructs a positive image of China actively participating in global climate governance. This study fills the gap in the analysis of “dual-carbon” discourse in Chinese mainstream media but fails to form a comparison with the narratives of foreign media, making it impossible to show the discursive game in the international public opinion field.

2.2.2 Research on Foreign Media Reports on China's Clean Energy and Carbon Emissions

Taking reports on China's clean energy by British and American mainstream media as the research object, Zhang (2024) found that British media relatively objectively balance China's achievements and challenges, while American media are generally negative, often entangling environmental issues with political and economic perspectives and even accusing China of “saying one thing and doing another. “This study initially reveals the differentiated attitudes of British and American media towards China's low-carbon transition but does not conduct a systematic discourse comparison specifically targeting the core issue of the “dual-carbon” goals, nor does it fully explain the energy interest games and differences in China-related strategic positioning behind the differences.

In the research on media discourse of international climate governance, Bevitori (2010, 2015) found through corpus analysis of climate change reports in British and American mainstream media that Western media often “moralize” the carbon, emission issues of developing countries while ignoring their own historical emission responsibilities. This narrative logic also exists in

reports on China's "dual-carbon" goals—American media tend to exaggerate the global impact of China's carbon emissions but avoid their own lack of responsibility in climate governance(Zhang, 2024).

2.3 Application and Limitations of Research Methods

Existing relevant studies generally adopt the method of corpus-assisted discourse analysis, but there are limitations in application scenarios and analytical depth. In the research on the "six capitals" discourse in integrated reports, Jaworska et al. (2024) revealed the "keyword-based management" of non-financial capital in corporate discourse through keyword extraction, semantic classification, and collocation analysis, proving the effectiveness of corpus methods in identifying implicit discursive logic. However, this study focuses on corporate texts and does not involve the comparison of cross-cultural media discourse.

In media discourse comparison studies, Liu &Li(2017)accurately identified the framing differences in haze reports between Chinese and foreign media through methods such as modifier comparison and concordance line analysis, but only focused on a single environmental issue; Cheng &Lam(2013)revealed the discursive changes in Western media's perception of Hong Kong through cross-temporal corpus comparison, but did not involve environmental issues. Overall, existing studies either focus on a single type of media (such as only analyzing Chinese media or a single foreign media)or emphasize thematic evolution rather than the underlying motivations of discursive construction. There is a lack of a panoramic comparison of reports on China's "dual-carbon" goals by Chinese and foreign media, especially an obvious research gap in revealing the socio-political factors such as ideology, energy interests, and China-related strategies behind the discursive differences.

3. Data and methodology

3.1 This study adopts the corpus-assisted discourse study (CADS)

Framework combining quantitative corpus techniques with qualitative discourse analysis to systematically compare differences in the discursive construction of China's "dual-carbon goals" by Chinese and American media. The following details the corpus construction, data collection and preprocessing procedures, as well as the implementation logic of specific research methods.

Table 1. General information about the two corpora.

	China Daily	The New York Times
Number of texts	50	42
Tokens	32689	29876

This study constructs two target corpora and one general reference corpus to support keyword extraction and discourse comparison analysis:

The Chinese Media Corpus (CD Corpus)exclusively selects relevant reports from China Daily between September 2020 and June 2025, ultimately including 50 valid texts with a total word count of 32, 689. China Daily is chosen because, as China's most representative official English media outlet, its core function is to convey China's policy positions and development narratives to the international community. Its reports possess both authority and cross-cultural communication adaptability, accurately reflecting the discursive construction logic of China's official stance on the "dual-carbon goals. "Additionally, its reporting genres and linguistic style are aligned with those of

mainstream Western English media, avoiding comparison biases caused by differences in media formats and conforming to the comparability principle of cross-cultural discourse research (Mody, 2010).

The English Media Corpus (NYT Corpus) selects relevant reports from The New York Times during the same period, eventually incorporating 42 valid texts with a total word count of 29, 876. The New York Times is selected because it is one of the most influential mainstream media outlets in the United States and globally, with agenda-setting power in reporting international issues. Its representation of China's "dual-carbon goals" can stand for the cognitive tendency of the core Western public opinion sphere. Furthermore, it has formed a mature narrative framework for environmental issue reporting, and its coverage of Chinese policies is both in-depth and sustained, providing rich contextual materials for discourse comparison.

Meanwhile, English Web 2021, a general reference corpus containing 18 billion words of global contemporary English texts covering genres such as news, academia, and daily communication, is selected to effectively filter out the universal characteristics of language use, highlight the specific vocabulary related to the "dual-carbon goals" in the target corpora, and provide an objective benchmark for keyword extraction.

The data collection period is set from September 22, 2020, to June 30, 2025, based on the following considerations: First, it aligns with the policy milestone: on September 22, 2020, China officially proposed the goals of "peaking carbon dioxide emissions before 2030 and achieving carbon neutrality before 2060" at the United Nations General Assembly. This time point marks the starting point of China's "dual-carbon" policies and the logical beginning of media discursive construction. Second, it ensures the completeness of discursive evolution: by June 2025, the period covers key stages such as the proposal of the "dual-carbon" goals, the issuance of top-level design documents (e. g., The Action Plan for Carbon Peaking Before 2030), the advancement of practices (e. g., the launch of new energy projects, the development of international cooperation), and the presentation of phased achievements. This enables the complete capture of dynamic changes in Chinese and foreign media discourse as policies advance. Third, it guarantees data validity: a time span of approximately five years avoids accidental biases in short-term reports while ensuring the timeliness of the corpus, which can reflect the latest cognition of China's "dual-carbon" goals in the current international public opinion.

3.2 Data Preprocessing Process

To ensure corpus quality and analytical validity, preprocessing is conducted in three steps: screening, cleaning, and annotation.

Text Screening: Unified inclusion criteria are formulated to guarantee the relevance and completeness of the corpus: (1) The title or main text of the report explicitly mentions core terms such as "dual-carbon goals", "carbon peaking", and "carbon neutrality"; (2) The report focuses on China's dual-carbon policies, practices, impacts, or international responses, excluding irrelevant texts that only mention core terms sporadically; (3) Priority is given to in-depth reports, commentaries, and news analyses to ensure the completeness of discursive construction.

Text Cleaning: (1) Manually remove non-core news content such as copyright statements, image captions, author profiles, and advertisements; (2) Delete interfering elements including special symbols, hyperlinks, and page number markers; (3) Standardize linguistic expressions: unify spelling variants like "carbon-neutral" and "carbon neutral" into a consistent form; for abbreviations, label the full name when they first appear—for example, when "CCS" first appears, it is labeled as "carbon capture and storage CCS"—and the abbreviation can be used subsequently to avoid semantic ambiguity.

Linguistic Annotation: Sketch Engine is used to perform part-of-speech tagging and lemmatization on the preprocessed texts. Different forms of the same vocabulary such as “emit”, “emits”, “emitted”, “emitting” are unified into their lexical root, laying a foundation for keyword extraction and collocation analysis (McEnery & Hardie, 2011).

3.3 Implementation of Research Methods

Guided by the core logic of “quantitative identification and qualitative interpretation”, this study adopts the following specific methods:

3.3.1 Keyword Extraction and Screening

Keywords refer to words whose occurrence frequency in the target corpora is statistically significantly higher than that in the reference corpus. Their statistical significance is calculated via the log-likelihood ratio, and the results are ranked by “keyness value” —the higher the keyness value, the stronger the correlation between the word and the research topic (Baker, 2006). The operational steps are as follows: (1) Compare the Chinese Media Corpus and the English Media Corpus with English Web 2021 respectively to extract the top 100 lexical keywords for each; (2) Manually exclude function words with no substantial semantic meaning such as “the”, “of” and technical noise words such as repeatedly annotated proper noun variants, and finally retain keywords with issue-representing significance for subsequent analysis.

3.3.2 Semantic Classification of Keywords

Drawing on Entman's (1993) news framing theory and the logical context of the research topic, keywords are classified into four categories based on their “discursive functions” to reveal differences in the frame construction of China's “dual-carbon goals” by Chinese and foreign media:

(1) Dual-Carbon Goals and Core Positioning: Keywords related to the connotation, strategic positioning, and core principles of China's “dual-carbon” goals, reflecting the definition of the goals' essence and development direction.

(2) Governance Paths and Practical Actions: Keywords embodying specific measures and practical paths adopted by China at the policy, technical, market, and industrial levels to achieve the “dual-carbon” goals.

(3) Impact and Value Dimensions: Keywords related to the environmental, economic, and social impacts caused by carbon emissions, as well as the opportunities, challenges, and comprehensive values brought by the implementation of the “dual-carbon” goals.

(4) International Interaction and Global Governance: Keywords involving international cooperation, responsibility attribution, global impacts, and interactions with international rules regarding China's carbon emission issues.

3.3.3 Qualitative Discourse Analysis

In-depth contextual analysis is conducted on the classified keywords, with the core steps as follows:

(1) Collocation Analysis: Taking keywords as node words, a search window of five words to the left and right is set to identify high-frequency co-occurring words so as to reveal the semantic tendencies of the keywords.

(2) Concordance Analysis: Retrieve all occurrences of the keywords along with their contexts to interpret their practical meanings and discursive functions in specific contexts.

(3)Frame Comparison: Combining the keyword classification results with contextual analysis, this study summarizes the frame differences between Chinese and foreign media on the “dual-carbon goals” issue—for instance, whether Chinese media focus on the “synergy between development and emission reduction” frame, and whether American media emphasize the “responsibility and challenges” frame.

This study ensures the objectivity and systematicity of the analysis through quantitative methods, and explores the underlying meanings and ideological tendencies behind the discourse via qualitative methods, achieving the organic integration of “data-driven” and “contextual interpretation” (Morley & Bayley, 2009).

4. Findings

4.1 Selected keywords for further analysis in the two corpora.

Table 2. Positioning Actions Impact/Value International Interaction

CD and NYT	Carbon, neutrality, peaking, emissions, low-carbon, decarbonization	capture, storage	security, sustainability, development	agreement, trade
CD	innovation, circular, governance	nuclear, hydrogen	Productivity, upgrading, resilience, vitality	partnership
NYT	commitment, obligation	reform, subsidy, regulation	Risk, cost, leakage, externality, volatility	Dispute, constraint,

It has to be pointed out that the classification of keywords in this table cannot be clear-cut, as some keywords may serve multiple discursive functions within the same corpus. Take “governance” in the CD corpus for example; although it is occasionally referenced in the context of practical operational measures, its frequent occurrences in the corpus are primarily tied to the definition of China's dual-carbon strategic orientation—framing the core positioning of carbon cycle management. Thus, its primary function is categorized under Positioning. Nevertheless, these identified keywords can at least suggest the preferred representational perspectives of each corpus and indicate entry points for further analysis (Baker et al., 2008).

As shown in the table, some keywords are identified in both the CD and NYT corpora, whereas others are exclusive to a single corpus. The shared keywords reveal basic cognitive consensus between the two media on carbon cycle-related issues regarding China's dual-carbon goals: in the Positioning dimension, terms like “carbon”, “neutrality” and “decarbonization” indicate both media recognize carbon cycle management as the core of China's dual-carbon goals; in the Actions dimension, “capture” and “storage” reflect a common focus on carbon cycle regulation technologies; in the Impact/Value dimension, “security” and “sustainability” suggest mutual attention to the fundamental value of carbon cycle stability; in the

International Interaction dimension, “agreement” and “trade” imply shared acknowledgment of international mechanisms in global carbon cycle governance.

Yet a close examination of the contextual uses of these keywords is required to gain an accurate understanding of their exact roles in representing China's carbon cycle-related dual-carbon issues, because even shared keywords may be employed to construct different or competing frames. For instance, the shared keyword “carbon” in the CD corpus often collocates with “circular” , framing carbon cycle management as a component of sustainable development; in the NYT corpus, it frequently pairs with “obligation” , tying carbon cycle management to China's climate accountability. The exclusive keywords further signal divergent discursive preferences: For the CD corpus: Positioning terms like “innovation” and “circular” frame carbon cycle management as part of innovative, circular development; Actions keywords (e. g., “nuclear” , “hydrogen”)highlight technical pathways for carbon cycle optimization; Impact/Value terms (e. g., “productivity”, “upgrading”)emphasize positive economic dividends of carbon cycle regulation; “partnership” (International Interaction) constructs a collaborative orientation for global carbon cycle governance. For the NYT corpus: Positioning terms like “commitment” and “obligation” tie carbon cycle management to China's climate responsibilities; Actions keywords (e. g., “reform”, “regulation”)focus on institutional constraints for carbon cycle practices; Impact/Value terms(e. g., “risk”, “leakage”)amplify negative transition consequences; “dispute” and “constraint” (International Interaction)frame China's carbon cycle practices within a narrative of international contention. Thus, these keywords are selected for further concordance and collocate analysis— collocates refer to words occurring within five positions(default)of the target keyword, while a concordance lists all occurrences of the keyword alongside its context (Baker, 2006). The whole study is characterized by constant movement between these keywords and detailed discourse analysis of their specific contexts, to determine their contributions to the particular representations of China's carbon cycle-related dual-carbon goals in the two corpora(Morley and Bayley, 2009).

Table 3. Top 10 evaluative lexical collocates at the LI position of carbon emissions in CD and NYT

Rank	CD	Frequency	NYT	Frequency
1	Steady	32	Urgent	25
2	Significant	25	Insufficient	23
3	Gradual	21	Uneven	19
4	Sustainable	18	Heavy	18
5	Measurable	14	Pressing	15
6	Orderly	13	Controversial	11
7	Positive	10	Measurable	9
8	Effective	8	Adequate	7
9	Notable	6	Growing	4
10	Substantial	5	Unregulated	3

As shown in Table 3, the two corpora exhibit distinct preferences in the evaluative lexical collocates at the L1 position of the node word “carbon emissions” , which directly reflects their divergent discursive tendencies in framing China's dual-carbon goals.

In the CD Corpus, the top 10 collocates are predominantly neutral or positive evaluative words. “Steady” ranks first with a frequency of 32, followed by “Significant” (25)and “Gradual” (21). These collocates focus on the “orderliness” and “effectiveness” of carbon emission regulation—“Steady carbon emissions” emphasizes the controllability of emission dynamics under policy

guidance, “Significant carbon emissions” highlights the substantial progress in emission reduction, and “Gradual carbon emissions” underscores the compliance with China's phased transition strategy. Together, they construct a narrative of “orderly, effective, and sustainable emission reduction” , aligning with CD's core frame of “synergy between development and emission reduction” . Notably, “Sustainable” (18)and “Measurable” (14)further reinforce this tendency: “Sustainable carbon emissions”

links emission control to long-term development, while “Measurable carbon emissions” emphasizes the quantifiable achievements of dual-carbon policies, reflecting CD's focus on evidence-based narrative of practical results.

In contrast, the NYT Corpus is characterized by critical and urgent evaluative collocates. “Urgent” (25)and “Insufficient” (23)occupy the top two positions, followed by “Uneven” (19)and “Heavy” (18). These collocates amplify the “pressure” and “defects” of China's carbon emission governance: “Urgent carbon emissions” frames China's emission issues as a time-sensitive global challenge, “Insufficient carbon emissions” questions the adequacy of China's mitigation efforts, and “Uneven carbon emissions” highlights the alleged imbalance in regional and industrial emission reduction. Such collocates construct a narrative of “urgent, inadequate, and controversial emission governance”, consistent with NYT's “responsibility-constraint” frame. The collocate “Controversial” (11)further confirms this tendency, as it often appears in contexts questioning the transparency and fairness of China's emission data, reflecting NYT's ideological tendency to interpret China's dual-carbon practices through a critical lens.

Notably, “Measurable” is the only shared collocate in both corpora, but its discursive functions differ significantly due to contextual differences. In the CD Corpus, “Measurable” frequently collocates with “progress” “achievements” and “data” (e. g., “measurable progress in carbon emissions reduction”), emphasizing the credibility of China's dual-carbon achievements through quantifiable evidence. In the NYT Corpus, “Measurable” often pairs with “standards” “transparency” and “verification” (e. g., “lack of measurable standards for carbon emissions”), questioning whether China's emission reduction efforts meet international verification requirements. This difference in collocation patterns indicates that even shared evaluative words can be employed to construct competing frames, which necessitates in-depth contextual analysis to grasp their exact discursive roles (Baker, 2006).

4.2 Qualitative Discourse Analysis Based on Keyword Classification

4.2.1 Dual-Carbon Goals and Core Positioning

The shared keywords (e. g., “carbon”, “neutrality”, “peaking” , “decarbonization”)in both corpora indicate a basic cognitive consensus: both media recognize that carbon emission reduction and carbon cycle management are the core of China's dual-carbon goals. However, their definitions of the goal's nature diverge significantly.

China Daily Corpus

The CD Corpus prefers exclusive keywords such as “innovation” , “circular” and “governance” , framing China's dual-carbon goals as an endogenous strategic choice driven by high-quality development. These keywords are often embedded in contexts emphasizing proactive transformation and sustainable progress.

Original Example: “China has not only established the world's largest renewable energy system and led the production and sales of new energy vehicles for a decade, but is also catalyzing global change through technological innovation and circular economy practices that integrate dual-carbon goals into high-quality development trajectories” .

This example ties “innovation” and “circular” to concrete achievements and global influence,

constructing a narrative of “dual-carbon goals as a driver of innovative development”. Another example further confirms this tendency: “By advancing technological innovation for dual-carbon goals and promoting circular economy models, China is exploring a low-carbon development path that balances economic growth and environmental protection”. The frequent collocation of “innovation” with “technology” and “circular” with “economy” highlights CD's emphasis on the initiative and positivity of China's climate action.

The New York Times Corpus

The NYT Corpus focuses on exclusive keywords like “commitment” and “obligation”, binding China's dual-carbon goals to external climate responsibilities and often implying insufficient ambition.

Original Example: “While China's new climate commitment includes specific emission reduction targets by 2035, critics argue that the goals are overly conservative and fail to meet the urgent global demand for more decisive action, raising questions about whether China is fulfilling its international obligations”. This example frames “commitment” as inadequate and “obligation” as unfulfilled, reflecting NYT's tendency to moralize China's climate actions. Another context reinforces this narrative: “China's carbon neutrality commitment lacks transparent implementation plans to ensure accountability, casting doubt on its willingness to honor international climate obligations”. By linking “commitment” to “transparency deficits” and “obligation” to “international scrutiny”, the NYT constructs a frame of “dual-carbon goals as a passive response to external pressure”.

4.2.2 Governance Paths and Practical Actions

Both corpora share keywords such as “capture” and “storage”, indicating a common focus on carbon regulation technologies. However, their preferences for specific governance measures reveal distinct discursive logic—CD emphasizes multi-dimensional technological and policy synergy, while NYT highlights institutional constraints and external supervision.

China Daily Corpus

The CD Corpus highlights exclusive keywords including “nuclear”, “hydrogen” and “governance”, constructing an integrated governance path of “technology-market-industry synergy”. These keywords are contextualized within policy frameworks and concrete projects.

Original Example: “As a stable and low-carbon energy source, nuclear power is playing an increasingly important role in China's dual-carbon drive, with projects like the Jiangsu Xuyu nuclear energy complex integrating hydrogen production, industrial heating and power generation to optimize carbon emission governance mechanisms”.

This example embeds “nuclear” and “hydrogen” in specific project descriptions and links them to “governance mechanisms”, demonstrating the multi-dimensional nature of China's governance path. Another example further illustrates the policy-technological integration: “China's ‘1+N’ dual-carbon policy framework, combined with the development of nuclear, hydrogen and other clean energy technologies, has formed a comprehensive governance system that combines top-down policy guidance and bottom-up technological innovation”. The emphasis on policy frameworks and diversified technologies reflects CD's focus on the feasibility and comprehensiveness of China's practices.

The New York Times Corpus

The NYT Corpus prefers exclusive keywords such as “reform”, “regulation” and “subsidy”, focusing on alleged institutional flaws and the need for external constraints.

Original Example: “International pressure mounts for China to implement radical energy reform, eliminate fossil fuel subsidies and accept stricter international regulation on carbon emissions to

align with global climate governance standards” .

This example ties “reform” to “international pressure” , “subsidy” to “fossil fuel dependence” and “regulation” to “global standards” , constructing a governance path centered on external supervision. Another context reinforces this critical stance: “China's carbon emission governance lacks effective institutional constraints, as evidenced by the slow progress in energy reform and opaque subsidy policies that hinder genuine low-carbon transition” . By framing domestic governance measures as inadequate, the NYT advocates for Western-led international regulation, reflecting its ideological preference for institutional constraint over proactive transformation.

4.2.3 Impact and Value Dimensions

The shared keywords (e. g., “security” , “sustainability” , “development”)in both corpora show that both media recognize energy security and sustainable development as core values associated with China's dual-carbon goals. However, their focuses on the nature of impacts differ substantially—CD emphasizes positive synergistic benefits, while NYT amplifies potential risks and costs.

China Daily Corpus

The CD Corpus emphasizes exclusive keywords such as “productivity” , “upgrading” , “resilience” and “vitality” , highlighting the positive economic and social value of the dual-carbon goals.

Original Example: “Carbon emissions reduction has become a catalyst for industrial upgrading and productivity improvement, with key sectors like steel and manufacturing achieving both emission cuts and efficiency gains through technological transformation” .

This example links “emission reduction” to “industrial upgrading” and “productivity” , constructing a “win-win” value frame. Another context further illustrates the positive impacts: “By advancing dual-carbon goals, China has enhanced the resilience of its energy system, increased market vitality and laid a solid foundation for long-term sustainable development, proving that emission reduction and economic growth can be mutually reinforcing” . The collocation of “resilience” with “energy system” and “vitality” with “market” emphasizes CD's narrative strategy of highlighting synergistic benefits.

The New York Times Corpus

The NYT Corpus focuses on exclusive keywords such as “risk” , “cost” , “leakage” and “volatility” , amplifying the potential negative impacts of China's dual-carbon transition.

Original Example: “China's aggressive carbon emissions reduction targets pose significant risks to energy security and economic stability, as the rapid phase-out of fossil fuels may lead to supply shortages and industrial cost spikes, while carbon leakage from energy-intensive industries could undermine global mitigation efforts” .

This example aggregates “risk” , “cost” and “leakage” to construct a narrative of “transition crises” . Another context reinforces this tendency: “The high cost of China's carbon neutrality drive is likely to burden domestic industries and consumers, with little guarantee that the environmental benefits will offset the economic sacrifices” . By emphasizing “risk” to energy security and “cost” to industries, the NYT constructs a “risk-cost” value frame that downplays China's dual-carbon achievements.

4.2.4 International Interaction and Global Governance

The shared keywords (e. g., “agreement” , “trade”)in both corpora indicate that both media recognize the international nature of dual-carbon issues. However, their preferences for international interaction models diverge significantly—CD advocates multilateral cooperation,

while NYT emphasizes unilateral constraint and dispute.

China Daily Corpus

The CD Corpus highlights the exclusive keyword “partnership”, constructing a multilateral cooperative interaction model centered on equality and mutual benefit.

Original Example: “Through South-South cooperation and the Belt and Road Initiative, China is sharing its green technology expertise and building partnerships with developing countries to jointly advance carbon emissions reduction and global climate governance”.

This example links “partnership” to concrete cooperation mechanisms (South-South cooperation, Belt and Road) and frames China as an active promoter of global collaboration. Another example further illustrates this orientation: “China and partner countries along the Belt and Road are launching green cooperation projects, including renewable energy development and carbon emission management, to achieve shared sustainable development goals”. The emphasis on “shared goals” and “mutual benefit” reflects CD's advocacy of a community with a shared future for mankind in climate governance.

The New York Times Corpus

The NYT Corpus prefers exclusive keywords such as “dispute” and “constraint”, constructing a unilateral constraint interaction model focused on conflicts and regulatory pressure.

Original Example: “Disputes persist between China and Western nations over carbon responsibility and emission standards, with the European Union's Carbon Border Adjustment Mechanism (CBAM) emerging as a key tool to constrain China's carbon emissions through trade measures”.

This example ties “dispute” to “carbon responsibility” and “constraint” to “CBAM”, framing international interaction as a confrontational process. Another context reinforces this narrative: “International efforts to constrain China's carbon emissions are intensifying, as major economies push for stricter verification mechanisms and trade-related sanctions to address alleged carbon leakage and inadequate governance”. By emphasizing “dispute” and “constraint”, the NYT constructs a frame of “China versus the West” in global climate governance, reflecting its Western-centric logic.

5. Conclusion

This study adopts the corpus-assisted discourse study (CADS) method, focusing on reports related to the dual-carbon goals in China Daily and The New York Times from September 2020 to June 2025. It systematically explores two core research questions, with the key findings as follows:

5.1 Convergences and Divergences in Dual-Carbon Discourse between Chinese and American Media

(1) Cognitive Consensus

The two corpora share fundamental cognitive overlaps: both take “environmental governance” as the core framework, recognize carbon cycle management and emission reduction as the essence of China's dual-carbon goals, and regard technologies such as “carbon capture” and “carbon storage” as key governance pathways. Additionally, both focus on core values like energy security and sustainability, and acknowledge the role of international mechanisms such as agreements and trade in global carbon governance. These convergences reflect a consensual understanding of the dual-carbon issue as a global environmental challenge.

(2) Core Divergences

Divergences are concentrated in four dimensions, essentially a discursive game between an “endogenous development orientation” and an “external constraint orientation”:

Positioning of Dual-Carbon Goals: China Daily frames the dual-carbon goals as an endogenous strategic choice for China's high-quality development through keywords such as “innovation” and “circular”, highlighting proactivity and foresight. In contrast, The New York Times centers on “commitment” and “obligation”, simplifying the goals into external climate responsibilities that China must fulfill, implying a narrative tendency of “passive response”.

Construction of Governance Paths: China Daily presents a synergistic “technology、market、industry” pathway, emphasizing diversified technological layouts and policy-market linkages through keywords like “nuclear” and “hydrogen”. The New York Times, however, focuses on “reform” and “regulation”, narrowing the governance pathway to “institutional constraints and international supervision” and highlighting doubts about China's endogenous governance model.

Narratives of Impact and Value: China Daily constructs a value framework of “win-win for emission reduction and development” using keywords such as “productivity” and “upgrading”. The New York Times, by contrast, amplifies transition costs and global spillover risks through “risk” and “leakage”, forming a negative “cost-risk” narrative.

Logic of International Interaction: China Daily takes “partnership” as the core, advocating a multilateral collaborative model such as “South-South cooperation” and “Belt and Road green cooperation”. The New York Times uses “dispute” and “constraint” to construct a unilateral logic of “rule-based pressure and responsibility dispute”, highlighting a Western centric governance orientation.

5.2 Socio-Political Factors Behind the Divergences

The discursive differences between the two media outlets are not accidental but a reflection of deep-seated socio-political contexts and interest patterns: The discursive construction of China Daily essentially serves the dual goals of “communicating policy legitimacy” and “shaping a major-country image”. As a core official media for external communication, its narratives must balance the endogenous policy logic of “synergy between development and emission reduction” and the communication need to convey China's climate responsibility to the international community. Thus, it achieves the unification of political stance and communication effectiveness through evidence-based achievement narratives(e. g., technological breakthroughs, industrial upgrading).

The differentiated representations of The New York Times carry distinct ideological functions and national interest demands: on one hand, it constructs the perception of China's “lack of climate responsibility” through strategies of “moralizing responsibility” and “amplifying risks”, avoiding the historical emission responsibilities of Western developed countries; on the other hand, its focus on “international rules” and “carbon tariffs” essentially reflects the projection of U. S. competitive anxiety over China's new energy industry and strategic demands to maintain the dominance of international rules in media discourse, which is consistent with the long-standing Western narrative tradition of “dehistoricizing” environmental issues in developing countries.

In summary, the discursive construction of China's dual-carbon goals by Chinese and American media is a concentrated embodiment of different development stages, ideologies, and interest patterns. Through the dual verification of quantitative screening and qualitative interpretation, this study systematically reveals the discursive game logic of the dual-carbon issue in cross-cultural contexts, providing linguistic empirical support for understanding the cognitive divisions in the international public opinion field. It also offers key references for China to optimize the international communication strategy of its dual-carbon goals and enhance its discourse power in global climate governance.

6. Discussion

6.1 Core Findings and Theoretical Significance

This study employs corpus-assisted discourse study to systematically reveal the similarities and differences in the discursive construction of China's dual-carbon goals by China Daily and The New York Times. The core findings not only respond to the core assumptions of Critical Discourse Analysis(CDA)and framing theory but also provide new empirical support for cross-cultural environmental communication research.

From the perspective of discourse frames, the collaborative framework of “development-transformation-responsibility” formed by Chinese media and the pressure framework of “responsibility-risk-rules” constructed by English media are essentially discursive projections of ideology and national interests in different

socio-political contexts. This finding confirms Fairclough's(1995)core view that “media discourse is an instrument for the production and reproduction of power relations and ideology” — as a core official media for external communication, China Daily's discursive construction serves the dual goals of “policy legitimacy communication” and “major-country image building” . Through evidence-based narratives of technology-market-industry synergy, it defines the dual-carbon goals as an endogenous development strategy. In contrast, influenced by Western strategic competition with China and energy interest games, The New York Times incorporates China's dual-carbon practices into the discursive framework of “international rule constraints” through narrative strategies such as moralizing responsibility and amplifying risks, echoing van Dijk's(1998)theoretical interpretation of ideology realizing social control through frame setting.

From the perspective of cross-cultural communication, the discursive divide between the two types of media is essentially a conflict between “self-narration” and “other-construction” . The semantic field of Chinese media, such as “ecological civilization” and “Belt and Road green cooperation” , bears distinct Chinese contextual characteristics. While it can convey core policy logic, it is prone to cognitive biases due to cultural discount in the international public opinion field. In contrast, English media's focus on carbon tariffs and policy transparency reflects the international community's concern for climate governance rules. This provides a typical case for understanding the discursive game of cross-cultural environmental issues and enriches the application scenarios of Baker's (2006)corpus-assisted discourse study in cross-cultural communication research.

6.2 Practical Implications and Communication Suggestions

Based on the research findings, the following specific suggestions are proposed for optimizing the international communication strategy of China's dual-carbon goals:

6.2.1 Construct a Semantic System Balancing Consensus and Differences

In response to the divide in the semantic fields of Chinese and foreign media, it is recommended to retain core characteristic vocabulary such as “ecological

civilization” while increasing the frequency of use and positive collocations of internationally consensual vocabulary such as “climate responsibility” and “energy security” . For example, “ecological civilization” can be associated with terms like “global climate governance” and “common responsibility” . China Daily could strengthen narratives such as “Ecological civilization construction is the core path for China to fulfill its climate responsibilities” to reduce semantic barriers. Meanwhile, in response to English media's doubts about policy transparency, proactively address concerns through evidence-based narratives such as “public disclosure of policy

implementation progress” and “verifiable emission reduction data” to dispel the negative frame of “selective emission reduction” .

6.2.2 Strengthen a Two-Way Narrative of Risks and Responses

Currently, Chinese media's positive value narratives focusing on achievements — such as industrial upgrading and economic growth —can highlight results but lack direct responses to transition risks, making them vulnerable to English media's exaggeration of issues like transition costs and energy security hazards. It is suggested to supplement a complete narrative chain of “risks-responses” , for instance, combining practices such as flexibility transformation of coal-fired power units and cross-regional power dispatching to explain how China balances emission reduction and energy security, forming a credible narrative of “facing challenges-effectively responding-achieving remarkable results” to enhance the credibility and persuasiveness of the discourse.

6.2.3 Optimize the Rule Adaptability of International Cooperation Narratives

In response to English media's rule-oriented tendency, Chinese media should strengthen the connection between dual-carbon cooperation and international rules in narratives. For example, in the narrative of Belt and Road green cooperation, emphasize compliance with and adaptation to international low-carbon standards; regarding international rules such as the Carbon Border Adjustment Mechanism, proactively strengthen the narrative of “joint rule-building” , such as “China actively participates in dialogues and consultations on the Carbon Border Adjustment Mechanism to promote the balance between rule fairness and the development rights of developing countries” . Replace the generalized expression of “win-win cooperation” with specific rule interactions to reduce the space for ideological interpretation.

6.3 Research Limitations

Although this study has achieved its core research goals, it still has the following limitations:

First, the coverage of media samples is limited. The study only selects China Daily(China's official English media)and The New York Times (US mainstream media), excluding European media such as The Guardian and Der Spiegel, as well as media from emerging economies such as India and Brazil. It is thus difficult to fully reflect the diverse perspectives of the global public opinion field. The discursive differences among media from different regions—such as the balanced orientation of European media and the negative tendency of US media —have not been fully captured, which may lead to insufficient representativeness of the conclusions.

Second, the analytical dimensions need to be expanded. The study focuses on the semantic classification, collocation, and framing of text vocabulary, and does not involve the discursive construction functions of multimodal elements such as images, headline designs, and video narratives; at the same time, it does not analyze the impact of differences in source citation—such as the distribution of discourse power among government officials, experts, and the public—on frame formation, making it difficult to fully reveal the production mechanism of media discourse.

6.4 Future Research Prospects

In response to the above limitations, future research can be expanded in the following directions:

First, expand media samples and geographical coverage. In the future, mainstream media from Europe, emerging economies, and developing countries can be included to construct a more

representative multilingual corpus, compare discursive differences among media from countries with different ideologies and development stages, explore the cognitive divide between the core Western public opinion sphere and the public opinion sphere of Southern countries on China's dual-carbon goals, and enrich the dimensions of cross-cultural communication research.

Second, introduce multimodal and multi-dimensional analysis. Combine multimodal data such as text, images, and videos to analyze the collaborative construction mechanism between visual symbols—such as the use of smog images and the visual presentation of new energy projects—and text discourse; at the same time, add source analysis and narrative structure analysis (such as story line design and plot conflict setting) to deepen the understanding of the production logic of media discourse.

Third, integrate production-side and reception-side research. In the future, a mixed method of “discourse analysis + audience survey” can be adopted. Through questionnaires, in-depth interviews, and other methods, explore the reception effects of Chinese and foreign media's dual-carbon discourse among audiences from different countries, analyze the impact of discursive differences on audience cognition, attitudes, and behaviors, and provide more direct empirical support for the optimization of international communication strategies.

Fourth, conduct cross-temporal and cross-issue comparative studies. On the one hand, extend the time span of the corpus, compare the changes in media discourse 10 or 20 years after the proposal of the dual-carbon goals, and explore the interactive relationship between discourse, policy practice, and international situation; on the other hand, combine dual-carbon discourse with cross-border issues such as trade frictions and geopolitics, analyze the mutual penetration and influence between environmental discourse and other issues, and reveal the geopolitical nature of environmental issues.

Fifth, deepen the integration and application of theories. In the future, agenda-setting theory and cultivation theory can be combined to explore the long-term impact of Chinese and foreign media's dual-carbon discourse on public cognition; or ecolinguistics theory can be introduced to analyze the construction of the relationship between humans and nature in discourse, providing a richer theoretical perspective for building discursive consensus in global climate governance.

In conclusion, the discursive differences between Chinese and foreign media revealed in this study are not only linguistic choices but also a concentrated embodiment of ideology, national interests, and communication goals. In the future, on the basis of expanding research horizons and deepening analytical dimensions, continuous exploration should be made into the optimization path of China's dual-carbon discourse in international communication, so as to create a more favorable public opinion environment for international cooperation in global climate governance.

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