

Development of Clean Energy Discourse Studies: A Systematic Review of Chinese and International Linguistic Research

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Abstract: Clean energy has become a sustained focus in public discourse both domestically and internationally. Its development bears significance not only for environmental protection and economic growth, but also as a crucial national strategy for enhancing international influence and ensuring energy security. Based on searches of CNKI and WOS databases, this paper systematically reviews the development of clean energy discourse studies grounded in linguistic theories, aiming to provide references for researchers. The research indicates that domestic clean energy discourse studies emerged in the 1970s, while international research began in the 1980s. As the field entered its development phase, both the research content and analytical perspectives have become increasingly diversified.

Key words: Clean Energy, Energy Transition, Energy Discourse, Discourse Analysis

1. Introduction

Currently, global climate deterioration, fossil fuel scarcity, and environmental pollution are compelling the continuous optimization of traditional energy structures. Against this backdrop, promoting energy transition, achieving green and low-carbon development, and constructing a modern energy system have become the mainstream trends of contemporary development. Clean energy refers to energy sources that emit no pollutants and can be directly utilized for production and daily life. It encompasses both narrow and broad definitions. In the narrow sense, clean energy denotes renewable energy sources that can be naturally replenished after consumption, including hydropower, biomass energy, solar energy, wind energy, geothermal energy, and marine energy. In the broad sense, it includes not only the aforementioned renewable resources but also mineral resources that cause minimal or zero

pollution to the ecological environment during energy production and consumption, such as clean coal and nuclear energy. Drawing upon Zhao Xiufeng's [1] definition of energy discourse and based on the categorical relationship between clean energy and energy in general, this study further refines the definition of clean energy discourse as the discourse produced around various issues including clean energy production, transportation, consumption, policy formulation, and strategic planning. When clean energy evolves from a technical term into a global buzzword, what it carries extends far beyond technical discussions about solar panel conversion efficiency or wind power installed capacity—it becomes a grand narrative contest over development rights, dominance, and survival in the future world. Discourse plays a vital role in this process: it shapes public perception and influences policy-making. This study first traces the origins of clean energy discourse research and secondly reviews the relevant literature from a linguistic perspective, aiming to map out the field and provide references for future research.

2. Origins of Clean Energy Discourse Research

This paper uses "clean energy" or "clean energy discourse" as search terms to conduct a search in China National Knowledge Infrastructure (CNKI). The results indicate that domestic research on clean energy discourse originated in the 1970s. Studies from this period predominantly focused on introducing specific categories of clean energy, such as geothermal energy, nuclear energy, hydrogen energy, solar energy, and wind power [2], and had not yet ventured into in-depth exploration of clean energy, particularly from a linguistic perspective. On the other hand, this study set up the search query "TS= ((clean energy or nuclear or carbon or gas or wind or solar or tidal) and discourse)" in the Web of Science (WOS) database. According to the search results, relevant

international research emerged in the 1980s, with Dorothy Nelkin and Michael Pollak [3] publishing the first paper conducting energy discourse analysis, which examined the ideologies behind anti-nuclear movement discourse in Western Europe using France and Germany as examples.

3. Based on Linguistic Theory: Research on Clean Energy Discourse

Energy is a topic of sustained attention in public opinion arenas at home and abroad. Energy discourse carries ideology, power relations, and contests over energy hegemony, and should rightfully be incorporated into the purview of linguistic research. According to search results from CNKI and WOS, research on clean energy discourse has expanded significantly in recent years, demonstrating strong contemporary relevance and social engagement. Both research perspectives and thematic content have become increasingly diversified. Regarding research perspectives, scholars have examined clean energy discourse from multiple dimensions, including Critical Discourse Analysis (CDA), Critical Metaphor Analysis (CMA), Positive Discourse Analysis (PDA), and Ecological Discourse Analysis (EDA). Research content encompasses a wide range of topics, such as energy transition, energy white papers, dual-carbon discourse, and new energy.

First, regarding Critical Discourse Analysis (CDA), the primary methodologies employed are Fairclough's three-dimensional framework and Wodak's Discourse Historical Approach (DHA). Krzywda et al. [4] from a CDA perspective, focus on analyzing the constructive role of discourse in Poland's energy transition and coal phase-out. They point out that various discursive actors—such as the government, mining conglomerates, miners' union representatives, ecological organizations, politicians, and commentators—attempt to influence public opinion through discourse, thereby advancing the energy transition. Domestic scholars often integrate CDA with corpus linguistics methods. Kong Deliang and Han Hui [5] constructed a self-built "Corpus of New Energy Reports in *The Times*" and adopted a corpus-assisted critical discourse analysis framework to examine the characteristics and tendencies of new energy discourse through keyword analysis, collocation analysis, and concordance lines. Qian Yufang and Wang

Conghan [6] shift their focus to how domestic mainstream media self-construct and present energy initiatives. From a CDA perspective and using corpus methods, they investigate the discursive construction around "carbon peak and carbon neutrality" in the *People's Daily* over the past 15 years. Zhang Qinghua and Zhang Huijuan [7] analyze relevant reports on BYD's new energy vehicle website, employing a combination of the Discourse Historical Approach and corpus methods to explore the construction strategies of self-shaped and other-shaped corporate images from macro, meso, and micro levels.

Second, Critical Metaphor Analysis (CMA). Energy discourse possesses distinct social characteristics, and as typical official energy discourse, China-UK energy white papers implicitly embody different value positions in how the two countries address energy issues. Some scholars have analyzed energy white papers from a CMA perspective, aiming to compensate for the cognitive dimension in energy discourse research. For example, Zheng Wei and Dong Baohua [8], within the framework of Conceptual Metaphor Theory, constructed a three-dimensional "embodied-cultural-cognitive" framework. Using the white paper *China's Energy Transition* (Chinese and English versions) as corpus data, they employed corpus analysis methods and metaphor identification procedures to explore the characteristics of energy metaphors and translation strategies under cross-lingual conceptual mapping relationships. Zhang Yuanyue and Chen Jining [9], based on Conceptual Metaphor Theory and Framing Theory, respectively established a corpus of 21st-century Chinese energy white papers and a corpus of UK energy white papers, conducting a comparative analysis of how China and the UK construct energy ideology and political power through metaphorical discourse. Furthermore, research combining CMA with energy extends beyond pure-text, single-modality studies to multimodal research integrating images and text. Zhao Xiufeng and Wu Yuxi [10], grounded in Deliberate Metaphor Theory, constructed a Critical Metaphor Scenario Analysis framework. Using the "health and illness" metaphor scenario in energy crisis cartoons as a case study, they analyzed how political energy cartoons represent illness metaphor scenarios. They further explored how the energy crisis impacts

fossil fuel production and consumption from the perspectives of the narcotic scenario and the medicine scenario.

Third, Positive Discourse Analysis (PDA). Some scholars have combined PDA with the Attitude system from Appraisal Theory to examine how China actively shapes its ecological image in specific contexts of energy discourse, thereby constructively building a positive national image. Motivated by the responsibility to build a “Community with a Shared Future for Mankind” and grounded in the realities of its domestic energy industry development, China officially committed to achieving the “dual carbon” goals in 2020. Consequently, dual-carbon discourse has become a focal point for researchers. For instance, Hu Qing [11] analyzed news reports on the dual-carbon goals from *China Daily*, employing Appraisal Theory’s Attitude system from a PDA perspective to investigate the use of attitudinal resources and their conveyed discursive meanings. Similar research includes the work of Ma Jingjing and Zhan Quanwang [12], who conducted a PDA of the English translation of *China’s Energy Development in the New Era* white paper, also based on Appraisal Theory’s Attitude system. They conducted an in-depth analysis of key terms and high-frequency collocations in the white paper, discovering that the deployment of Affect, Judgment, and Appreciation resources constructs a positive, constructive, beneficial, and responsible Chinese image. Additionally, Zhou Xiaochun [13] adopted a PDA perspective, selecting English-language reports on carbon peaking and carbon neutrality from *China Daily* as the research corpus. Using a combined corpus-based and discourse-analytical approach, the study examined three entry points—high-frequency content words, collocation networks of high-frequency terms, and concordance lines—to analyze the national image of China constructed by mainstream domestic media’s dual-carbon discourse. The conclusions of this research offer valuable insights for the development of dual-carbon discourse with Chinese characteristics and for the international communication of China’s national image.

Fourth, regarding Ecological Discourse Analysis (EDA), some scholars tend to integrate EDA with other theoretical perspectives—such as Corpus-Assisted Discourse Analysis, Critical

Discourse Analysis, and Systemic Functional Linguistics—thereby broadening the scope of EDA. Poole [14] combined EDA with CL, adopting a corpus-based ecological discourse analysis perspective to examine the dispute between an environmental organization and an international mining company over the construction of a copper mine in Arizona from three dimensions: keywords, parts of speech, and semantic features. Using corpus analysis tools, the study investigated the discursive construction characteristics presented in two self-built corpora, further revealing the underlying value positions, attitudinal tendencies, and ecological perceptions of the two interest groups. He Wei and Cheng Ming [15], drawing on text mining technology, combined sentiment analysis and topic modeling with corpus-assisted ecological discourse analysis to examine the themes and positions of U.S. clean energy tweets, aiming to reveal the ecological views embedded within them. These tweets reflected a beneficial ecological view regarding the relationship between energy and nature, an ambiguous and destructive ecological view concerning energy and society, and a destructive ecological view in relation to energy and the state. This study can provide references for monitoring relevant public opinion on U.S. energy politics. Zhao Xiufeng and Liu Chang [16] adopted an international ecological discourse system perspective, considering energy white papers as an important type of energy ecological discourse. They collected energy white papers published by China and the UK, creating two small-scale energy white paper corpora for Critical Discourse Analysis. Additionally, Ren Ran and Gao Ge [17], drawing on the transitivity system theory of Systemic Functional Linguistics and integrating the thematic system, quotation practices, and conceptual metaphor theory, conducted an ecological discourse analysis of ten English-language “dual carbon” reports from *China Daily* and *Xinhua News Agency*. They constructs a Chinese approach and ecological perspective on “dual carbon” discourse.

4. Conclusion

This study traces the overall trajectory of clean energy discourse research, examining existing scholarship from two dimensions: its origin and development. The main characteristics are as

follows:

First, regarding the origin stage, domestic research in this field began in the 1970s, with early-stage studies primarily focusing on introductions to specific categories of clean energy. International research emerged in the 1980s, with inquiries already beginning to concentrate on the ideologies underlying energy discourse. Second, as clean energy discourse research entered its developmental stage, both research content and perspectives diversified significantly. On one hand, energy research topics became richer and more specific; on the other hand, analytical perspectives multiplied to include Critical Discourse Analysis, Critical Metaphor Analysis, Positive Discourse Analysis, Ecological Discourse Analysis, among others. Interdisciplinary research has become the mainstream trend in current clean energy discourse studies. The issue of clean energy cannot be explored solely from technological or policy perspectives. It should also be interpreted through discourse analysis to uncover its deeper implications. So energy research requires more people-centered methodologies, interdisciplinary collaboration, and comparative analysis. Domestic researchers should actively apply interdisciplinary approaches to energy discourse studies to effectively tell China's energy stories.

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