REVOLUTIONIZING CHINA'S ENERGY GOVERNANCE: AN ANALYSIS OF THE ENERGY LAW 2024

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Abstract

On November 8, 2024, the Energy Law of the People's Republic of China was adopted by the Twelfth Meeting of the Standing Committee of the Fourteenth National People's Congress and will come into force on January 1, 2025. The enactment of this law marks a significant milestone in China's energy governance, addressing long-standing systemic gaps in legal regulation, market efficiency, and environmental sustainability. This essay begins with the historical and policy context behind the enactment, examining pre-legislation challenges and the drivers that necessitated this comprehensive framework. It then analyzes the legislative logic and key provisions of the law, including its emphasis on energy security, renewable energy development, market-oriented reforms, and technological innovation. Finally, it explores the broader implications of the law on China's domestic energy policies and global energy leadership, highlighting its alignment with the country's dual-carbon goals and commitment to sustainable development. Through this review, the essay aims to provide a deeper understanding of the significance of the Energy Law 2024, its transformative impact on China's energy landscape, and its role in fostering a clean, secure, and efficient energy future.

Keywords: *Energy Law; Energy Governance; Renewable Energy Transition; Market-Oriented Reforms; Energy Security*

I. INTRODUCTION

Energy is the lifeblood of modern economies, powering industrial development, technological innovation, and societal progress. However, the global energy landscape is undergoing a profound transformation. In recent decades, escalating climate change concerns, geopolitical tensions, and rising energy demands have forced nations to rethink their energy policies. The global push for renewable energy, decarbonization, and sustainable development has given rise to new energy governance models, while challenges

such as energy security and market volatility remain critical for both developed and developing nations.[1] Against this backdrop, China's role as the world's largest energy producer, consumer, and carbon emitter has placed it at the forefront of global energy policy debates.[2]

Globally, governments are grappling with the transition to cleaner energy systems while ensuring economic stability. The European Union has implemented its Green Deal to achieve net-zero emissions by 2050,[3] and the United States is pursuing renewable energy expansion through policies such as the Inflation Reduction Act.[4] Meanwhile, developing nations in Asia, Africa, and Latin America face the dual pressures of ensuring energy access and mitigating environmental degradation.[5] In this global context, China's Energy Law 2024[6] stands as a critical development.[7] As the first comprehensive energy law in the country's history, it establishes a unified framework to address the dual challenges of energy security and environmental sustainability, aligning China's domestic energy strategy with its international climate commitments.

China's adoption of the Energy Law 2024 is both timely and significant. Domestically, it consolidates fragmented regulatory frameworks into a cohesive legal structure, addressing inefficiencies, market monopolization, and environmental concerns.[8] Internationally, it signals China's commitment to its dual-carbon goals—peaking emissions by 2030 and achieving carbon neutrality by

1 Int'l Energy Agency, World Energy Outlook 2023: A Global Energy Crisis Perspective 5 (2023).

2 China's Energy Transition, State Council Information Office of the People's Republic of China (Aug. 2024), available at https://english.scio.gov.cn/whitepapers/2024-08/29/content_117394384.htm.(last visited Dec. 28, 2024).

3 The European Green Deal, European Commission, https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/story-von-der-leyen-commission/european-green-deal_en.(last visited Dec. 28, 2024).

4 Inflation Reduction Act to Impact Renewable Energy, Jones Day, https://www.jonesday.com/en/insights/2022/08/the-inflation-reduction-act-impact-on-renewable-energy.(last visited Dec. 28, 2024).

5 International Energy Agency, World Energy Outlook 2022: A Focus on Developing Economies, https://www.iea.org/reports/world-energy-outlook-2022 (last visited Dec. 28, 2024).

6 Nengyuan Fa（能源法）[Energy Law] (promulgated by the Nat'l People's Cong., Nov. 8, 2024, effective Jan. 1, 2025) (Chinalawinfo).

7 China Enacts Energy Statute with Significant Implications for the Climate, Institute for Governance & Sustainable Development (Nov. 8, 2024), available at https://www.igsd.org/china-enacts-energy-statute-with-significant-implications-for-the-climate/.(last visited Dec. 28, 2024).

8 China Passes New Energy Law to Boost Renewable Energy and Low-Carbon Transition, Effective January 2025, EnergyTrend (Nov. 11, 2024), available at https://www.energytrend.com/news/20241111-48760.html.(last visited Dec. 28, 2024).

2060—while positioning the country as a global leader in renewable energy and clean technology. With its emphasis on renewable energy development, market liberalization, and technological innovation, the law not only strengthens China's energy governance but also has the potential to set new standards for other nations navigating their own energy transitions.[9] As global energy systems become increasingly interdependent, the success of China's energy reforms will have far-reaching implications for international efforts to combat climate change and achieve sustainable development.

This essay seeks to analyze the Energy Law 2024 in detail, examining its historical and policy context, legislative structure, and substantive provisions. By exploring the challenges that preceded the law's enactment, the drivers that shaped its framework, and the innovations it introduces, this analysis sheds light on how the law addresses the complex interplay between energy security, sustainability, and market reform. Furthermore, it evaluates the broader implications of the law for China's role in global energy governance, offering insights into its potential to influence international energy systems. Through this comprehensive review, the essay aims to contribute to a deeper understanding of the Energy Law 2024 and its transformative impact on both China's domestic energy landscape and the global energy transition.

II. WHY CHINA NEEDS THE ENERGY LAW 2024

China's pre-2024 energy governance was fragmented, relying on sector-specific laws like the Electricity Law and Renewable Energy Law. [10] Challenges included regulatory inefficiencies, market monopolies, environmental concerns, and energy security vulnerabilities.[11] The Energy Law 2024 addresses these gaps, unifying governance, promoting competition, advancing sustainability, and aligning policies with national priorities and global commitments.

A. Pre-Legislation Landscape

9 China Passes First Energy Law, to Take Effect Jan. 1, China.org.cn (Nov. 8, 2024), available at https://www.china.org.cn/china/Off_the_Wire/2024-11/08/content_117535610.htm.(last visited Dec. 28, 2024).

10 Kevin Lo, Governing Energy Consumption in China: A Comprehensive Assessment of the Energy Conservation Target Responsibility System, 4 Energy Transitions 57, 57–67 (2020).

11 Shaofeng Chen & Charles Lees, Framing and Policy Change in China's Energy Sector: From "Above" and "Below," 27 J. Contemp. China 148, 148–164 (2018).

Prior to the enactment of the Energy Law 2024, China's energy governance relied on a fragmented and sector-specific regulatory framework, which lacked the cohesion and comprehensiveness necessary to address the complexity of the country's rapidly growing energy needs. Several key laws were instrumental in shaping specific aspects of energy governance, but they were insufficient to provide a unified and integrated approach. Among these, the Electricity Law[12], the Coal Law[13], the Renewable Energy Law[14], and the Energy Conservation Law [15] were the most significant, alongside administrative measures such as the Five-Year Plans for Energy Development.

The Electricity Law, enacted in 1995 and revised twice in 2009 and 2015, played a critical role in regulating the electricity sector, which forms the backbone of China's energy system.[16] Initially, the law focused on the generation, transmission, and distribution of electricity, with the primary goal of ensuring a stable and reliable power supply to support China's industrialization.[17] However, as the energy landscape evolved, the law's initial framework became increasingly inadequate. The 2009 revision sought to address emerging issues, such as environmental concerns and energy efficiency, by introducing provisions for the development of clean and renewable energy in the electricity mix. The 2015 revision further emphasized market reforms, aiming to liberalize the electricity sector by promoting competition and enabling private sector participation.[18] Despite these revisions, significant challenges remained, including the dominance of state-owned enterprises, limited private sector access to transmission and distribution networks, and inefficient market mechanisms.

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12 Dianli Fa（电力法）[Electricity Law] (promulgated by the Standing Comm. Nat'l People's Cong., Dec. 28, 1995, amended Dec. 26, 2009, amended Apr. 24, 2015) (Chinalawinfo)

13 Meitan Fa（煤炭法）[Coal Law] (promulgated by the Standing Comm. Nat'l People's Cong., Aug. 29, 1996, amended Aug. 27, 2009, amended Apr. 22, 2016) (Chinalawinfo)

14 Kezaisheng Nengyuan Fa（可再生能源法）[Renewable Energy Law] (promulgated by the Standing Comm. Nat'l People's Cong., Feb. 28, 2005, amended Dec. 26, 2009) (Chinalawinfo)

15 Jieyue Nengyuan Fa（节约能源法）[Energy Conservation Law] (promulgated by the Standing Comm. Nat'l People's Cong., Nov. 1, 1997, amended Oct. 28, 2007, amended July 2, 2016) (Chinalawinfo)

16 Hao Zhang, Antinomic Policy-Making under the Fragmented Authoritarianism: Regulating China's Electricity Sector through the Energy-Climate-Environment Dimension, 19 CHINA L. J. 34 (2019).

17 Philip Andrews-Speed & Stephen Dow, Reform of China's Electric Power Industry: Challenges Facing the Government, 28 ENERGY POLICY 335 (2000).

18 Xu & Pollitt, China's Energy Law Draft and the Reform of Its Electricity Supply Sector, 15 INT'L J. ENERGY 59 (2020).

The Coal Law, enacted in 1996 and amended in 2009 and 2016, serves as the foundational legislation governing the exploration, development, and utilization of coal resources.[19] It aims to regulate coal production, promote safe mining practices, optimize resource allocation, and protect the environment.[20] The law emphasizes the strategic importance of coal as a primary energy source while addressing the challenges of overextraction, inefficient mining practices, and environmental degradation.[21] Provisions in the law encourage the adoption of advanced technologies for clean and efficient coal use, support the development of coalbed methane as an associated resource, and require restoration and compensation for ecological damage caused by mining activities.

The Renewable Energy Law of 2006 was another landmark piece of legislation, focusing on promoting the development and utilization of renewable energy sources such as wind, solar, and biomass.[22] It introduced incentives like subsidies, tax benefits, and mandatory grid purchase policies for renewable energy.[23] While the law catalyzed China's rise as a global leader in renewable energy deployment, its implementation was hindered by grid integration challenges.[24] The lack of coordination between renewable energy producers and grid operators resulted in significant curtailment of wind and solar power, with renewable energy capacity often underutilized due to transmission bottlenecks and outdated grid infrastructure.

The Energy Conservation Law, first enacted in 1997 and amended in 2007, aimed to improve energy efficiency across industrial, residential, and commercial sectors.[25] It introduced mandatory energy efficiency standards, energy audits, and incentives

19 Xu Tang, S. Snowden, B. McLellan & M. Höök, "Clean Coal Use in China: Challenges and Policy Implications," 87 Energy Policy 517 (2015).

20 Philip Andrews-Speed, Minying Yang, Lei Shen & Shelley Cao, "The Regulation of China's Township and Village Coal Mines: A Study of Complexity and Ineffectiveness," 11 Journal of Cleaner Production 185 (2003).

21 A. Homer, "Coal Mine Safety Regulation in China and the USA," 39 Journal of Contemporary Asia 424 (2009).

22 Sara Schuman & A. Lin, China's Renewable Energy Law and its impact on renewable power in China: Progress, challenges and recommendations for improving implementation, Energy Policy, Vol. 51, 89-109 (2012).

23 Peter Kayode Oniemola, Legal Response to Support Renewable Energy in China, Journal of Energy & Natural Resources Law, Vol. 32, 179-202 (2014).

24 Honggang Tan, Dynamics of Policy Change in China: A Case Study of the Renewable Energy Law, Chinese Public Administration Review, Vol. 4, 57-71 (2007).

25 Boqiang Lin & Jing Lin, Evaluating Energy Conservation in China's Heating Industry, 142 J. Cleaner Prod. 501, 501-12 (2017).

for adopting energy-saving technologies.[26] However, its enforcement mechanisms remained weak, particularly in industries dominated by SOEs, where compliance was often deprioritized in favor of production targets.[27] Moreover, the law did not address broader issues such as carbon emissions control or the structural inefficiencies of the energy market.

Beyond these sector-specific laws, China's energy governance relied heavily on administrative measures such as the Five-Year Plans for Energy Development, which set policy goals and investment priorities for the energy sector.[28] These plans were instrumental in shaping China's energy transition, particularly in expanding renewable energy capacity and improving energy efficiency. However, they lacked the legal enforceability needed to ensure consistent implementation and often resulted in misaligned priorities between central and local governments.

The fragmented nature of China's pre-existing energy governance framework created several systemic challenges that hindered effective regulation and management of the energy sector. One major issue was fragmented authority, with energy governance responsibilities divided among multiple agencies, including the National Energy Administration, the National Development and Reform Commission, and the Ministry of Ecology and Environment. This division of responsibilities led to inefficiencies, conflicting policies, and weak enforcement, as these agencies often lacked coordination in setting and implementing energy policies.[29] Another significant challenge was market inefficiencies, as SOEs dominated key sectors such as electricity, oil, and natural gas.[30] This concentration of power stifled competition, discouraged private investment, and limited innovation in these industries. Efforts to liberalize the energy sector were hindered by entrenched monopolies and a lack of transparent market mechanisms, further entrenching inefficiencies in the system. Environmental concerns also persisted despite China's rapid growth in renewable energy deployment. Coal

26 Kangyin Dong et al., Energy Intensity and Energy Conservation Potential in China: A Regional Comparison Perspective, Energy, 7299 (2018).

27 Li Li et al., Energy Conservation and Emission Reduction Policies for the Electric Power Industry in China, 39 Energy Policy 3669, 3669-79 (2011).

28 Jorrit Gosens et al., China's Next Renewable Energy Revolution: Goals and Mechanisms in the 13th Five Year Plan for Energy, 5 Energy Sci. & Eng. (2017)

29 Chen, Q., Fragmented Governance in China's Energy Sector: Challenges and Solutions, 45 Energy Pol'y 82, 83 (2017)

30 Wang, Y., & Chen, Z., Coal Dominance and Environmental Challenges in China's Energy Transition, 32 Renewable & Sustainable Energy Rev. 234, 236–37 (2019)

remained the dominant energy source, contributing significantly to severe air pollution and greenhouse gas emissions. While renewable energy capacity expanded, the absence of robust carbon control measures and weak enforcement of environmental regulations exacerbated these challenges, limiting progress toward sustainability goals. Finally, energy security risks posed a critical challenge for China's energy governance.[31] The country's heavy reliance on imported oil and natural gas—necessary to meet its growing energy demands—left it vulnerable to geopolitical risks and supply chain disruptions. This highlighted the need for a stronger legal framework to enhance energy security, including mechanisms to ensure reliable energy supply and reduce dependency on external resources.

These systemic challenges underscored the urgent need for a unified and comprehensive legal framework to address governance inefficiencies, foster market reforms, and align energy policy with national priorities. The Energy Law 2024 was introduced to provide the necessary foundation for overcoming these issues and modernizing China's energy governance.

B. Drivers of the Energy Law

The Energy Law 2024 was driven by a combination of domestic and international imperatives that underscored the need for a comprehensive legal framework to address China's energy challenges. These drivers reflect the country's strategic priorities, environmental commitments, and the evolving dynamics of its energy sector.

One of the primary drivers was China's "Four Revolutions, One Cooperation" strategy, introduced by President Xi Jinping in 2014.[32] This strategy provided the foundation for modernizing China's energy governance and included four revolutions: advancing energy consumption, improving energy supply, fostering technological innovation, and reforming energy systems. The strategy also emphasized international cooperation to secure energy resources and expand global partnerships. Institutionalizing this framework through the Energy Law 2024 was essential to ensure its consistent

31 Zhang, Y., & Andrews-Speed, P., Energy Security in China: Challenges and Policy Responses, 36 Energy Pol'y 779, 780–81 (2008)

32 Xi Jinping, Promoting the Energy Revolution: Ensuring National Energy Security, Speech at the 6th Meeting of the Central Leading Group on Financial and Economic Affairs (June 13, 2014), translated in China Energy News, June 15, 2014, at 3.http://www.qstheory.cn/wp/2024-06/13/c_1130162784.htm?utm_source=chatgpt.com.(last visited Dec. 28, 2024).

implementation and alignment with national objectives.

Another key driver was China's dual-carbon commitments, which aim to peak carbon emissions by 2030 and achieve carbon neutrality by 2060.[33] These ambitious targets require a fundamental transformation of the energy sector, shifting from fossil fuels to renewable and non-fossil energy sources, while improving energy efficiency and reducing carbon emissions. The Energy Law 2024 directly addresses these goals by embedding clean, low-carbon development as a core principle and introducing mechanisms to control carbon emissions and promote renewable energy development. This legal framework ensures that China's energy transition is guided by clear, enforceable rules that align with its climate commitments.

Economic reforms and market liberalization were also significant motivators for the law.[34] Historically, China's energy sector was dominated by SOEs, which controlled key areas such as electricity distribution, oil, and natural gas. This monopolistic structure hindered competition, discouraged private investment, and limited market efficiency. The Energy Law 2024 seeks to promote fair competition, open natural monopoly sectors such as electricity grids and oil and gas pipelines to private and foreign investors, and establish market-based pricing mechanisms. These reforms aim to create a more dynamic and efficient energy market while maintaining state oversight to ensure energy security and social equity.

Energy security concerns further drove the need for a robust legal framework. China's heavy reliance on imported oil and natural gas—more than 70% of its crude oil is imported in 2024 —makes it vulnerable to geopolitical risks, supply chain disruptions, and price volatility.[35] The Energy Law 2024 addresses these vulnerabilities by strengthening the country's strategic energy reserve system, enhancing emergency response mechanisms, and promoting the development of domestic energy resources such as unconventional oil and gas, nuclear power, and renewable energy. These measures aim to reduce dependency on external energy sources and enhance resilience in the face of global uncertainties.

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33 Nicholas Stern & Chunping Xie, China's New Growth Story: Linking the 14th Five-Year Plan with the 2060 Carbon Neutrality Pledge, J. Chinese Econ. & Bus. Stud. (2022)

34 Y. Kong et al., "How Does China Manage Its Energy Market? A Perspective of Policy Evolution," Energy Policy, 2020.

35 U.S. Energy Information Administration, China: International Energy Data and Analysis, at 6 (2020), available at https://www.eia.gov/international/analysis/country/CHN.(last visited Dec. 28, 2024).

Another critical factor was the role of technological advancement and digitalization in transforming China's energy sector.[36] As the country transitions to a modernized energy system, innovations such as energy storage, hydrogen energy, and smart grids are becoming increasingly important. The Energy Law 2024 prioritizes research and development in these areas, fosters collaboration between industry and academia, and provides incentives for integrating advanced technologies into the energy system. By encouraging innovation, the law aims to position China as a global leader in energy technology and accelerate its energy transition.

Lastly, global leadership in energy governance was a significant driver behind the law.[37] As the world's largest energy consumer and greenhouse gas emitter, China's energy policies have far-reaching implications for global energy markets and climate change. The Energy Law 2024 aligns domestic policies with international climate commitments, promotes cross-border energy infrastructure projects, and fosters international cooperation in energy research and development. By establishing itself as a leader in energy governance, China aims to shape the global energy transition and reinforce its role in addressing climate challenges.

In conclusion, the Energy Law 2024 was driven by the need to address systemic challenges in China's energy sector, align governance with strategic priorities such as the "Four Revolutions, One Cooperation" strategy, and meet international climate commitments. By fostering market reforms, enhancing energy security, prioritizing technological innovation, and promoting global leadership, the law provides a comprehensive framework to guide China's energy governance in the decades to come.

III. ANALYSIS OF THE ENERGY LAW 2024

The Energy Law 2024 establishes a comprehensive framework for China's energy governance, spanning energy planning, market reform, renewable energy promotion, technological innovation, and energy security. It prioritizes clean, low-carbon development, market liberalization, strategic reserves, and regulatory enforcement,

36 Jing Lan & Huwei Wen, Industrial Digitalization and Energy Intensity: Evidence From China's Manufacturing Sector, Energy Research Letters, 2021

37 David Sandalow et al., Guide to Chinese Climate Policy 2023, Columbia Univ. Sch. of Int'l & Pub. Aff. Ctr. on Glob. Energy Pol'y (2023)

ensuring alignment with China's dual-carbon goals and fostering sustainable, efficient, and resilient energy systems.

A. Legislative Logic

The Energy Law 2024 adopts a systematic and forward-looking legislative logic to address the multifaceted challenges of China's energy sector. At its core, the law aims to achieve three interconnected objectives: ensuring energy security, promoting sustainable development, and modernizing energy governance.[38] These objectives are carefully balanced through a comprehensive legal framework that unifies previously fragmented sectoral policies, ensuring coherence and consistency across the energy sector.[39] The law aligns closely with national strategies, including the "Four Revolutions, One Cooperation" strategy and the dual-carbon goals of peaking carbon emissions by 2030 and achieving carbon neutrality by 2060. By prioritizing clean and low-carbon development, the law establishes mechanisms to transition from fossil fuels to renewable and non-fossil energy sources while simultaneously safeguarding energy security through strategic reserves and domestic resource development.

The legislative logic is deeply rooted in balancing economic growth and environmental sustainability.[40] It integrates carbon reduction, energy efficiency, and technological innovation into its provisions, ensuring that economic modernization is aligned with environmental commitments. At the same time, the law advances market-oriented reforms, aiming to dismantle monopolistic practices and foster competition through private and foreign investment. However, it maintains state oversight to ensure fair competition, protect public interests, and address strategic priorities such as energy security.[41] A notable feature of the law is its emphasis on innovation

38 J. Xu & M. Pollitt, China's Energy Law Draft and the Reform of its Electricity Supply Sector, 20 Energy Policy Rev. 112 (2020).

39 Yuanyuan Zhang (张媛媛), Jian Duan Jun Heng Li Lun Xia Zhongguo "Neng Yuan Fa" De Li Fa Jiang Ju Ji Po Ju (间断均衡理论下中国《能源法》的立法僵局及破局) [Legislative Deadlock and Breakthrough of China's Energy Law under the Theory of Punctuated Equilibrium], 26 Beijing Ligong Daxue Xuebao (Shehui Kexue Ban) (北京理工大学学报(社会科学版)) 62 (2024)

40 Guoxing Xiao (肖国兴), Neng Yuan Ge Ming Yu "Neng Yuan Fa" De Zhi Du Zhi Wei (能源革命与《能源法》的制度之维) [Energy Revolution and the Institutional Dimension of the Energy Law], 51 Zhengzhou Daxue Xuebao (Zhexue Shehui Kexue Ban) (郑州大学学报(哲学社会科学版)) 32 (2018).

41 Junju Ma & Xiangqian Gong (马俊驹, 龚向前), Lun Neng Yuan Fa De Bian Ge (论能源法的变革) [On the Reform of the Energy Law], Zhongguo Faxue (中国法学) 147 (2007)

and adaptability, encouraging research and development in transformative technologies like energy storage, hydrogen energy, and smart grids. Furthermore, the law incorporates mechanisms for revising and adapting policies in response to technological advancements and shifting global energy dynamics.

The Energy Law 2024 also reflects China's ambition to integrate domestic governance with international commitments. It supports national objectives such as economic modernization and energy self-reliance while fostering international cooperation in areas like cross-border infrastructure development, energy technology transfer, and renewable energy promotion.[42] This alignment with global priorities, including the Paris Agreement, positions China as a leader in global energy governance. Additionally, the law emphasizes the integration of energy planning, regulation, and enforcement, ensuring that strategic objectives such as optimizing the energy mix and reducing carbon intensity are implemented through enforceable mechanisms and clear administrative accountability. Overall, the legislative logic of the Energy Law 2024 demonstrates a holistic approach, providing a robust foundation for modernizing China's energy governance system and advancing its economic and environmental objectives.

B. Legislative Content

The Energy Law 2024 consists of nine chapters and 80 articles, presenting a comprehensive framework for regulating China's energy sector. The law addresses various aspects of energy governance, from planning and development to market mechanisms, technological innovation, and supervision.

General Provisions (Chapter I)

The first chapter, encompassing Articles 1 to 14, establishes the foundational principles of the law.[43] Article 2 defines energy broadly, covering resources such as coal, oil, natural gas, electricity, and

42 Xinghua Chen (陈兴华), Yi "Neng Yuan Fa" Wei Ji Qi Kai Chuang Ling Yu Li Fa Xin Mo Shi: Jian Tan Ru He Po Chu "Neng Yuan Fa" De Li Fa Kun Jing (以《能源法》为契机开创领域立法新模式——兼谈如何破除《能源法》的立法困境) [Using the Energy Law as an Opportunity to Innovate Legislative Models: On Breaking Legislative Difficulties in Energy Law], Zhong Zhou Xue Kan (中州学刊) 61 (2022).

43 Qian Chen (陈倩), Lun Wo Guo Neng Yuan Fa De Li Fa Mu Di: Jian Ping 2020 Nian "Neng Yuan Fa (Zheng Qiu Yi Jian Gao)" Di Yi Tiao (论我国能源法的立法目的——兼评 2020 年《能源法（征求意见稿）》第一条) [On the Legislative Purpose of China's Energy Law: A Review of Article 1 of the 2020 Draft Energy Law], 14 Zhongguo Huanjing Guanli (中国环境管理) 123 (2022).

renewable energy.[44] Article 3 declares China's energy security strategy—"Four Revolutions, One Cooperation"—to revolutionize energy consumption, supply, technology, and governance, while strengthening international cooperation.[45] Article 5 outlines the overarching goal to "construct a clean, low-carbon, safe, and efficient energy system" that aligns with China's dual-carbon commitments.[46] Articles 6 to 8 further elaborate on key principles, such as prioritizing domestic reliance, ensuring diversified supply, promoting conservation, and fostering green development. Additionally, the chapter specifies the need to establish three core systems: a unified energy market (Article 6)[47], a supply chain encompassing energy production, storage, and distribution (Article 7)[48], and a standardized regulatory system (Article 8).[49] Articles 12 to 14 clarify the administrative structure, assigning primary responsibilities to the State Council's energy authorities and local governments.

Energy Planning (Chapter II)

Articles 15 to 20 emphasize the role of energy planning as a guiding framework for achieving long-term energy goals. Article 15 defines energy planning as a tool for aligning development objectives, ensuring consistency across national, regional, and local levels.[50] Article 16 specifies the procedures for drafting and approving energy plans, with the State Council responsible for national-level strategies and provincial governments overseeing regional implementations.[51] Articles 18 and 20 ensure public participation, scientific evaluation, and periodic reassessment to adapt to changing energy demands and environmental requirements.

Energy Development and Utilization (Chapter III)

Spanning Articles 21 to 39, this chapter addresses energy development priorities and utilization policies. Article 22 mandates the optimization of China's energy structure, prioritizing renewable energy while ensuring the clean and efficient use of fossil fuels.[52] Article 23 introduces a renewable energy consumption assessment system, requiring enterprises and regions to meet minimum

44 Supra note 6, art. 2.
45 Id., art. 3.
46 Id., art. 5.
47 Id., art. 6.
48 Id., art. 7.
49 Id., art. 8.
50 Id., art. 15.
51 Id., art. 16.
52 Id., art. 22.

renewable energy quotas.[53] Specific policies for different energy sources are outlined. Renewable energy (Article 25): Encourages the development of wind, solar, and biomass energy while integrating these sources into the grid.[54] Hydropower (Article 24): Balances development with ecological preservation, limiting small-scale hydropower projects.[55] Coal (Article 28): Promotes clean coal technologies and prioritizes safety and environmental efficiency in mining.[56] Oil and natural gas (Article 29): Supports unconventional resource development, including shale oil, shale gas, and coalbed methane, to enhance domestic supply resilience.[57] Hydrogen energy (Article 33): Advocates for hydrogen industry development, including production and utilization.[58] Article 36 requires energy suppliers to ensure basic energy supply services, especially during emergencies[59], while Article 37 calls for the protection and modernization of energy infrastructure.[60] Article 38 prioritizes rural energy development, promoting clean energy access and infrastructure in underserved regions.[61]

Energy Market System (Chapter IV)

This chapter (Articles 40 to 46) focuses on the liberalization and integration of energy markets. Article 40 encourages private and public entities to invest in energy development[62], while Article 41 promotes the marketization of competitive segments within the energy sector, such as electricity generation and distribution.[63] Article 42 establishes a unified national trading system for coal, electricity, oil, and natural gas, ensuring transparency and fairness.[64] Article 45 reforms energy pricing mechanisms, linking prices to supply-demand dynamics, resource scarcity, and environmental costs.[65]

Energy Reserves and Emergency Response (Chapter V)

Articles 47 to 55 outline a robust energy reserve system to

53 Id., art. 23.
54 Id., art. 25.
55 Id., art. 24.
56 Id., art. 28.
57 Id., art. 29.
58 Id., art. 33.
59 Id., art. 36.
60 Id., art. 37.
61 Id., art. 38.
62 Id., art. 40.
63 Id., art. 41.
64 Id., art. 42.
65 Id., art. 45.

enhance energy security and emergency preparedness. Article 47 emphasizes the principle of government-led reserves complemented by corporate contributions, integrating physical stockpiles with production capacity and resource site reserves.[66] Article 51 establishes a forecasting and early-warning system for energy supply-demand fluctuations and geopolitical risks.[67] Articles 52 to 54 set up a tiered emergency response mechanism, coordinating efforts across national and local governments to mitigate energy crises.

Energy Technology Innovation (Chapter VI)

This chapter (Articles 56 to 62) highlights the importance of technological innovation in driving energy transformation. Article 56 calls for the establishment of a national energy technology system, integrating state-led research with enterprise-driven innovation.[68] Article 57 prioritizes research in renewable energy, energy storage, smart grids, and hydrogen technology.[69] Article 60 advocates for industry-academia collaboration,[70] while Article 62 focuses on cultivating a skilled workforce to meet the demands of a modern energy system.[71]

Supervision and Regulation (Chapter VII)

Articles 63 to 68 define the regulatory responsibilities of energy authorities. Article 63 assigns supervisory roles to the State Council's energy authority and local governments,[72] while Article 66 establishes a credit system to monitor compliance and accountability across the energy industry.[73] Article 67 provides mechanisms for dispute resolution, ensuring that conflicts between enterprises and regulators are efficiently addressed.[74]

Legal Liability (Chapter VIII)

This chapter (Articles 69 to 74) specifies the penalties for violations of the Energy Law 2024. Article 70 imposes fines and administrative sanctions on enterprises that fail to meet renewable energy quotas or disrupt energy supply.[75] Article 73 holds individuals and organizations accountable for obstructing emergency responses

66 Id., art. 47.
67 Id., art. 51.
68 Id., art. 56.
69 Id., art. 57.
70 Id., art. 60.
71 Id., art. 62.
72 Id., art. 63.
73 Id., art. 66.
74 Id., art. 67.
75 Id., art. 70.

or violating environmental regulations.[76]

Supplementary Provisions (Chapter IX)

The final chapter (Articles 75 to 80) provides definitions of key terms, such as renewable energy, fossil fuels, and energy reserves, ensuring clarity and consistency throughout the law. Article 79 ensures alignment with international energy agreements, facilitating global cooperation in areas like clean energy development and technology transfer.[77]

The Energy Law 2024 integrates these provisions into a cohesive and enforceable framework, addressing key issues across the energy sector. By combining market-oriented reforms, strategic planning, technological innovation, and robust oversight mechanisms, the law provides a comprehensive roadmap for China's transition toward a sustainable, secure, and efficient energy future.

C. Key Highlights

The Energy Law 2024 represents a transformative milestone in China's energy governance, addressing long-standing systemic challenges while aligning with the country's dual goals of energy security and sustainable development. It establishes a unified and comprehensive framework for energy planning, development, and regulation, introducing innovative mechanisms to modernize the sector.

Central to the law is the codification of China's energy security strategy, "Four Revolutions, One Cooperation," which prioritizes advances in energy consumption, supply, technology, and institutional reform while emphasizing international cooperation. These principles are embedded across the law's provisions, driving the transition toward a "clean, low-carbon, safe, and efficient energy system. " To meet China's dual-carbon targets of peaking emissions by 2030 and achieving carbon neutrality by 2060, the law mandates binding renewable energy consumption targets and integrates renewable sources, such as wind, solar, and biomass, into national and regional grids. At the same time, it facilitates the substitution of fossil fuels with non-fossil alternatives while improving the efficiency and sustainability of fossil fuel utilization.

The law also introduces significant market-oriented reforms, addressing inefficiencies caused by state monopolies in key sectors. It

76 Id., art. 73.
77 Id., art. 79.

separates natural monopoly functions, such as grid operation, from competitive areas like power generation and distribution, while establishing unified national trading markets for coal, electricity, oil, and natural gas. Market-based pricing mechanisms are introduced to ensure that energy prices reflect supply-demand dynamics, resource scarcity, and environmental costs, thereby creating a more transparent and competitive energy market that attracts private and foreign investment.

To enhance energy security, the law institutionalizes a robust reserve and emergency response system. This includes government-led reserves supported by corporate contributions, mechanisms for forecasting supply-demand imbalances, and a unified emergency response framework to mitigate risks such as supply disruptions or geopolitical crises. These measures are crucial in ensuring China's resilience in a volatile global energy market. Simultaneously, the law prioritizes technological innovation, fostering collaboration between the state, private enterprises, and academia to advance research in areas such as energy storage, hydrogen, and smart grids. By establishing incentives for innovation and emphasizing talent development, the law positions China as a leader in global energy technology.

Finally, the Energy Law 2024 underscores the importance of equity and inclusivity in energy governance. It promotes the development of clean energy infrastructure in rural and remote areas, addressing disparities in energy access and supporting broader rural revitalization goals. Universal service obligations ensure that all citizens have access to basic energy supplies, contributing to social equity while reinforcing energy security.

The Energy Law 2024 reflects a forward-thinking approach to modernizing China's energy governance. By integrating sustainability, market liberalization, innovation, and equity, it lays the legal foundation for achieving China's energy transition and fulfilling its environmental and economic ambitions.

D. Potential Reforms

Policy legalization has become the most prominent feature of the Energy Law 2024, with the majority of its provisions focusing on the principles, direction, and guidance of China's energy policies.[78]

78 Aji (阿计), Neng Yuan Fa, Zhengce Fa Zhihua De Lifa Chuangxin (《能源法，政策法制化的立法创新》) [Energy Law: Legislative Innovation of Policy Legalization], Minzhu Yu Fazhi (《民主与法制》) 48 (2024).

However, this new legislative model of policy legalization faces significant challenges, particularly in how to translate policy-oriented legal texts into actionable and enforceable regulations.

A fundamental challenge in the Energy Law 2024 lies in the inherent tension between the flexibility of policy and the stability of law. Policies in the energy sector must evolve rapidly in response to technological innovations, shifting market dynamics, and changing international energy conditions. However, laws are designed to provide a stable framework for long-term governance. The Energy Law, while setting broad policy goals such as carbon neutrality and energy security, lacks the flexibility to adapt swiftly to new developments. Once passed, legal provisions are generally difficult to change and slow to respond to rapid shifts. This conflict can lead to a mismatch between the law's long-term framework and the urgent, ever-changing demands of the energy market.[79] For example, the energy sector's reliance on rapidly advancing technologies like renewable energy and smart grids requires adaptive legal mechanisms that can be updated regularly. To resolve this issue, the Energy Law could introduce mechanisms for periodic revisions or complementary legal tools that allow for adjustments without undermining the law's core stability. Such mechanisms would allow the law to remain relevant as technological and market changes continue to emerge.

A second challenge is the vague policy language used throughout the Energy Law, which often lacks the specificity required for clear legal interpretation and implementation. Many provisions in the law are expressed in general policy terms, such as "promoting energy transition" or "encouraging green development." While these goals align with national strategies, they fall short of providing actionable, enforceable legal norms. The law's broad provisions can lead to ambiguity in their application, creating difficulties for regulators and stakeholders in interpreting and implementing the law's provisions.[80] For example, the terms "energy structure optimization" and

79 Junyu Gao, Li Yin, and Xiandong Li (高君宇, 印丽, 李显冬), Lingyu Fa Shijiao Xia De Butong Faquan Jiegou: Yi "Kuangchan Ziyuan Fa" Yu "Neng Yuan Fa" De Gongxing Yu Huyi Zhankai (《领域法视角下的不同法权结构：以〈矿产资源法〉与〈能源法〉的共性与互异展开》) [Different Legal Right Structures from the Perspective of Sectoral Law: A Comparative Study of the Mineral Resources Law and the Energy Law], Zhongguo Kuangye (《中国矿业》) 04(2025).

80 Jian Ke and Zhanghong Li (柯坚, 李章鸿), "Neng Yuan Fa" Anquan Jiazhi: Yanbian Mailuo, Lifa Biaoda Yu Guifan Xietong (《〈能源法〉安全价值：演变脉络、立法表达与规范协同》) [The Security Value of the Energy Law: Evolutionary Context, Legislative Expression, and Normative Coordination], Hubei Shehui Kexue (《湖北社会科学》) 01 (2025).

"low-carbon transition" are not defined in measurable, legally binding terms. To make the Energy Law more effective, it needs more precise provisions that can guide both regulators and industries. This could include setting specific performance targets, deadlines, and clearer compliance standards. Additionally, complementary regulations and subordinate legislation will be required to translate these broad policy objectives into practical, enforceable laws that can be consistently applied across regions and sectors.

Despite its ambitious goals, the Energy Law 2024 lacks comprehensive enforcement mechanisms, which are crucial for ensuring that the law's provisions are effectively implemented. Many of the law's key objectives, such as promoting renewable energy, reducing carbon emissions, and enhancing energy efficiency, will require rigorous monitoring and compliance efforts. However, the law's current framework does not specify how compliance will be monitored at the regional or corporate level, nor does it offer clear penalties for non-compliance.[81] This gap in enforcement could lead to significant challenges in realizing the law's objectives. For example, while the law sets goals for renewable energy development, there is no clear system to track progress, or penalties for failing to meet renewable energy quotas. Strengthening the law's implementation would require the establishment of more robust monitoring systems and stricter penalties for non-compliance. This could include creating independent oversight bodies responsible for ensuring compliance, developing a more transparent reporting system for energy producers, and introducing financial or operational penalties for entities that fail to meet legally binding energy targets. These measures would increase accountability and help to translate the law's principles into real-world outcomes.

IV. CONCLUSION

The enactment of the Energy Law 2024 signals a transformative step in China's efforts to modernize its energy governance, address pressing domestic challenges, and assert itself as a global leader in sustainable energy policy. By integrating fragmented regulations into a comprehensive legal framework, the law sets the foundation for tackling key issues such as market inefficiencies, environmental

81 Hao Wang and Mengjiao Wang (王浩, 王梦佼), Zongti Guojia Anquan Guan Xia Xinnengyuan Hangye Jianguan Lunxi(《总体国家安全观下新能源行业监管论析》) [Analysis of New Energy Industry Regulation under the Holistic National Security Concept], Chongqing Sanxia Xueyuan Xuebao (《重庆三峡学院学报》) 04(2025).

degradation, and energy security risks. At the same time, it reflects China's commitment to its dual-carbon goals, emphasizing clean energy development, technological innovation, and international collaboration. The specific provisions of the Energy Law open new pathways for advancing research and policymaking in energy governance. For example, Article 36's focus on corporate responsibilities in ensuring stable energy supply provides a basis for analyzing the behavior of SOEs and private actors in meeting national energy demands while adhering to sustainability objectives.[82] Similarly, Chapter 6's emphasis on innovation highlights the role of emerging technologies, such as smart grids and energy storage, in achieving long-term energy security and carbon neutrality.[83] These legal developments not only set a precedent for China's internal policies but also position the country as a model for nations striving to balance energy access, economic growth, and environmental sustainability.

Looking ahead, the Energy Law will likely serve as a cornerstone for ongoing academic and policy exploration, offering a blueprint for refining governance mechanisms and fostering interdisciplinary research. Its provisions on rural energy development, market reform, and global cooperation underscore the law's multidimensional impact, balancing domestic needs with international commitments. As China continues to implement this law, rigorous analysis of its outcomes will be crucial in shaping a resilient, equitable, and sustainable energy future. By linking governance, technology, and market dynamics, the Energy Law underscores its potential to drive progress not only within China but also across the global energy landscape. This historic legislation will undoubtedly leave a lasting imprint on the evolution of energy governance worldwide.

82 Id., art. 36.
83 Id., art. 6.