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Analysis of Power Marketing Strategies for Market-Oriented Thermal Power Enterprises

Weiyu Wang*

CHD Power Plant Operation Co., Ltd., Beijing 100031, China

Corresponding author: Weiyu Wang, Weiyu-wang@chdoc.com.cn

Abstract: For thermal power enterprises, the traditional business model of scale expansion and a single product line restricts the development of electricity marketing. Therefore, to achieve the transformation and upgrading of their electricity marketing, this study starts from the current situation of the electricity market and introduces in detail the market-oriented electricity marketing strategies of thermal power enterprises from four aspects: product strategy, price strategy, channel strategy, and promotion strategy. The analysis finds that a market-oriented electricity marketing strategy is not only an inevitable choice for thermal power enterprises to respond to current challenges but also an essential path for them to move toward high-quality development. Through continuous innovation and upgrading, thermal power enterprises will maintain a leading position in fierce market competition, achieve sustainable development, and make greater contributions to the prosperity and development of the energy industry.

Keywords: Market orientation; Thermal power; Electricity marketing

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1. Introduction

In the wave of global energy transformation and electricity market reform, thermal power enterprises, as an important component of traditional energy supply, are facing unprecedented challenges and opportunities. With the severe challenges of global climate change and the proposal of sustainable development goals, the rapid development and popularization of renewable energy, as well as the deepening of electricity market reform, have brought profound changes to the competitive landscape and user demand in the electricity market. Traditional thermal power enterprises not only need to face the pressure of substitution from clean energy but also need to respond to changes in the supply and demand relationship in the electricity market, the diversification and personalization of user demand, and intensified market competition. In this context, thermal power enterprises must shift from the previous resource-oriented production model to a market-oriented marketing model, actively adapt to market changes, and adjust business strategies to enhance competitiveness.

2. Analysis of the current situation of the electricity market

2.1. Supply and demand situation in the electricity market

In 2023, the overall supply and demand in the national electricity market were balanced, and electricity consumption showed a steady growth trend. The total electricity consumption of the whole society reached 9.22 trillion kWh, with a year-on-year increase of 6.7%, and the growth rate increased by 3.1 percentage points compared with 2022 [1]. This growth was mainly attributed to the rebound and improvement of the national economy, as well as the increase in electricity demand from various industries. See **Figure 1** for details.

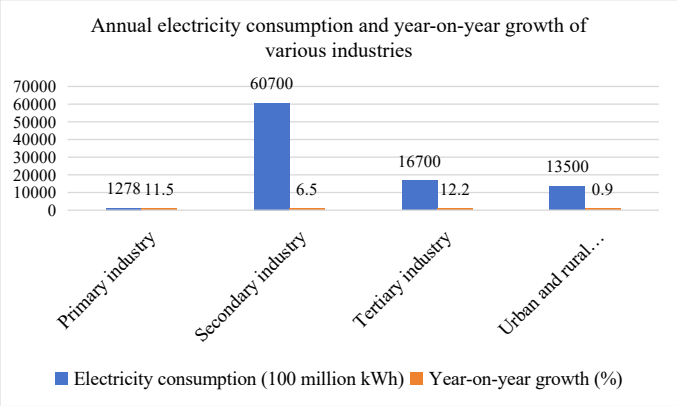

Figure 1. Annual electricity consumption and year-on-year growth of various industries in 2023

From the quarterly electricity consumption perspective, the year-on-year growth rates of total electricity consumption in each quarter were 3.6%, 6.4%, 6.6%, and 10.0%, respectively, showing a quarter-on-quarter increase. Especially in the fourth quarter, due to factors such as the low base in the same period of 2022 and economic recovery, the year-on-year growth rate of total electricity consumption increased significantly, with an average growth rate of 6.8% over the past two years, which was close to the average growth rate of the third quarter over the past two years.

2.2. Electricity market competition landscape

In the electricity market competition landscape, thermal power enterprises still occupy an important position, but the installed capacity of non-fossil energy power generation continues to expand, and competition pressure is increasing. By the end of 2023, the national full-scale installed power generation capacity reached 2.92 billion kW, with a year-on-year increase of 13.9%. Among them, the installed capacity of non-fossil energy power generation exceeded the installed capacity of thermal power for the first time, accounting for 53.9% of the total installed capacity [2]. See **Table 1** for details.

Table 1. Installed capacity and proportion of various types of power generation

Type of power generation	Install Capacity (100 million kW)	Proportion (%)
Hydroelectric power	4.2	14.4
Nuclear power	0.5691	1.9
Grid-connected wind power	4.4	15.1
Grid-connected solar power	6.1	20.9
Thermal power	13.9	47.6

In terms of electricity generation, the total electricity generated by power plants above a certain scale in China reached 8.91 trillion kWh in 2023, with a year-on-year increase of 5.2%. Among this, coal-fired power generation accounted for nearly 60% of the total electricity generation, remaining the primary source of current electricity supply. However, with the expansion of non-fossil energy power generation installed capacity and technological advancements, its proportion of electricity generation has been increasing year by year, posing continuously growing competitive pressure on thermal power enterprises.

2.3. Policy environment of the electricity market

In recent years, the policy environment of the electricity market has been continuously optimized, providing strong support for the development of thermal power enterprises. On the one hand, the country has actively promoted the reform of the electric power system, accelerated the construction of a unified national electricity market system, and facilitated the marketization and standardization of electricity trading. On the other hand, the country has also introduced a series of environmental protection policies to encourage thermal power enterprises to accelerate their transformation and upgrading, improving energy efficiency and environmental protection levels.

Specifically, in 2023, the National Energy Administration released multiple policy documents, including the "Blue Book for the Development Planning of a Unified National Electricity Market (Draft for Comment)," aiming to promote further openness and competition in the electricity market. Simultaneously, the country has also increased its support for new energy power generation, encouraging cooperation between thermal power enterprises and new energy power generation enterprises to jointly promote the optimization and upgrading of the energy structure. Furthermore, the country has strengthened the supervision of the electricity market, cracking down on violations of laws and regulations and maintaining market order. The introduction and implementation of these policies have provided a favorable policy environment and market opportunities for the development of thermal power enterprises.

3. Analysis of electricity marketing strategies for thermal power enterprises under market orientation

3.1. Product strategy

In a market-oriented electricity marketing strategy, the product strategy is undoubtedly the key for thermal power enterprises to enhance their competitiveness, meet market demand, and achieve sustainable development. Improving power generation efficiency and applying environmental protection technologies are the primary tasks of the product strategy for thermal power enterprises. Faced with resource constraints and environmental protection pressures, thermal power enterprises must intensify technological innovation, improve power generation efficiency, reduce energy consumption, and decrease emissions. By introducing advanced power generation technologies and equipment, optimizing combustion systems, and implementing environmental protection measures such as flue gas desulfurization, denitrification, and dust removal, thermal power enterprises can effectively improve power generation efficiency, reduce pollutant emissions, and achieve a win-win situation in economic and environmental benefits. Simultaneously, thermal power enterprises should actively research, develop, and apply clean energy technologies, such as carbon capture and storage and biomass power generation, to further reduce carbon emissions and improve environmental protection levels.

Diversification of electric power products and customized services are important means for thermal power enterprises to meet market demand. With the gradual opening up of the electricity market and intensified

competition, user demand for electricity products is also increasingly diversified. Thermal power enterprises should actively develop various electricity products, such as peak-valley pricing, time-of-use pricing, and interruptible pricing, to meet the needs of different users. Additionally, thermal power enterprises should provide customized services, offering personalized electricity solutions based on users' electricity consumption characteristics and needs. For example, for large industrial users, thermal power enterprises can provide a stable electricity supply and professional energy management services, while for residential users, they can offer convenient electricity bill payment and electricity consumption inquiry services. Through the diversification of electricity products and customized services, thermal power enterprises can better meet market demand and improve customer satisfaction and loyalty [3].

The construction of the Energy Internet and smart grids is an important support for thermal power enterprises to implement their product strategies. It helps to achieve transparency and efficiency in the electricity market, improving the reliability and flexibility of electricity supply. Thermal power enterprises should actively participate in the construction of the Energy Internet and smart grids, leveraging digitalization, informatization, and intelligentization to achieve real-time monitoring, smart scheduling, and optimized management of electricity production and consumption. Simultaneously, thermal power enterprises can utilize the platform advantages of the Energy Internet and smart grids to collaborate with other energy enterprises, jointly develop new energy projects, and promote the optimization and upgrading of the energy structure. Through the construction of the Energy Internet and smart grids, thermal power enterprises can further improve the quality and reliability of their electricity products, enhancing their market competitiveness.

3.2. Pricing strategy

In a market-oriented electricity marketing strategy, pricing strategy is a crucial aspect for thermal power enterprises to enhance their competitiveness, optimize resource allocation, and meet market demand. The pricing strategy under the bidding mechanism is an important way for thermal power enterprises to participate in market competition. With the gradual opening up of the electricity market, the bidding mechanism has become the primary trading method. Thermal power enterprises need to formulate reasonable bidding strategies based on market supply and demand, their generation costs, and competitors' offers. In the bidding process, they should fully consider the price elasticity of the electricity market, which refers to the degree of influence that price changes have on demand. By accurately predicting market demand and competitors' behavior, thermal power enterprises can develop reasonable bidding strategies to gain more market share and profits [4].

Peak-valley pricing and time-of-use pricing strategies are effective means for thermal power enterprises to optimize electricity resource allocation and improve the utilization rate of power facilities. Peak-valley pricing refers to implementing different electricity prices during peak and valley periods based on changes in grid load. Thermal power enterprises should flexibly adjust peak-valley prices according to grid load forecasts and electricity market demand, guiding users to consume electricity during valley periods, reducing the peak-valley difference in grid load, and improving the utilization rate of power facilities. Time-of-use pricing, on the other hand, involves dividing a day into multiple periods with different electricity prices for each. Thermal power enterprises should develop reasonable time-of-use pricing strategies based on the actual situation of the electricity market, encouraging users to reduce electricity consumption during peak periods and increase it during valley periods to achieve optimal allocation of electricity resources.

Price elasticity analysis and dynamic adjustment mechanisms are key for thermal power enterprises to

respond to market changes and maintain price competitiveness. Price elasticity refers to the sensitivity of commodity demand to price changes. Thermal power enterprises should use price elasticity analysis to understand the responsiveness of electricity market demand to price changes and formulate reasonable pricing strategies. Simultaneously, they should establish dynamic adjustment mechanisms to timely adjust electricity prices based on changes in market supply and demand, electricity production costs, and competitors' pricing strategies, maintaining price competitiveness. In the process of price adjustment, thermal power enterprises should fully consider user interests and social impacts, avoiding adverse effects on the electricity market and social stability caused by significant price fluctuations.

3.3. Channel strategy

Within the framework of a market-oriented electricity marketing strategy, channel strategy serves as a crucial link for thermal power enterprises to connect with the market, optimize resource allocation, and enhance sales efficiency. Specifically, cooperation and negotiation strategies with grid companies constitute the core of electricity sales channels for thermal power enterprises. As the primary buyers in the electricity market, grid companies' procurement strategies directly impact the sales situation of thermal power enterprises. These enterprises should actively establish long-term and stable cooperative relationships with grid companies, gaining a deep understanding of their procurement needs, price expectations, and development trends in the electricity market through in-depth communication. This provides a solid foundation for cooperation between the two parties. During negotiations, thermal power enterprises should fully demonstrate their power generation capabilities, environmental advantages, and service quality, striving for more preferential feed-in tariffs and more stable electricity sales volumes. Simultaneously, they should also pay attention to the strategic planning of grid companies and actively participate in cooperation projects such as grid construction and scheduling optimization to achieve mutual benefit and win-win results [5].

The construction of direct and indirect sales channels is key for thermal power enterprises to expand their markets and improve sales efficiency. Direct sales channels are directly targeted at end customers such as large industrial and commercial users. Through a one-to-one service model, personalized electricity solutions and high-quality customer service are provided. Thermal power enterprises should strengthen cooperation with large users, establishing stable direct sales relationships to increase electricity sales volumes. Meanwhile, small and scattered users can establish indirect sales channels through partners such as electricity sales agents and retailers, delivering electricity products to a broader market. The construction of direct and indirect sales channels helps thermal power enterprises better understand market demand, improve sales efficiency, and reduce marketing costs.

Electricity trading platforms and e-commerce applications are important pathways for thermal power enterprises to broaden their sales channels and enhance market competitiveness. With the gradual opening up of the electricity market and the rapid development of Internet technology, electricity trading platforms, and e-commerce have become significant channels for electricity sales. Thermal power enterprises should actively embrace the Internet, utilizing electricity trading platforms for the listing, bidding, and trading of electricity products, thereby improving the transparency and efficiency of electricity sales. Simultaneously, they can conduct online marketing through e-commerce platforms, offering one-stop services such as electricity product information inquiries, electricity bill payments, and electricity consultation, enhancing customer experience and strengthening brand influence. The application of electricity trading platforms and e-commerce helps thermal power enterprises expand their sales channels, attract more potential customers, and boost market competitiveness.

3.4. Promotion strategy

In a market-oriented electric power marketing strategy, promotion strategy is an important means for thermal power enterprises to enhance brand awareness, strengthen customer loyalty, and shape a good social image. To achieve this, the first step is to establish a strong brand image and conduct effective market promotion. In the increasingly competitive electric power market, thermal power enterprises need to establish a distinct brand image to differentiate themselves from competitors and attract the attention of target customers. This includes disseminating positive information such as the company's core values, environmental protection concepts, and technological innovations through various channels like advertising, public relations activities, and social media to enhance brand awareness and reputation. Thermal power enterprises should also develop targeted market promotion plans based on market demand and consumer preferences, such as electric power product promotions and lectures on electricity usage for customers, to increase interaction with customers and improve the market recognition and acceptance of electric power products.

Secondly, customer relationship management and loyalty enhancement are the core of the promotion strategy for thermal power enterprises. These enterprises should establish a comprehensive customer relationship management system to deeply understand customers' electricity demands, consumption habits, and potential needs through data analysis and mining. This will enable them to provide personalized electric power solutions and high-quality customer service. Based on this, thermal power enterprises should also enhance customer loyalty and satisfaction through mechanisms such as reward points, exclusive discounts for members, and regular follow-up visits. By continuously managing customer relationships and enhancing loyalty, thermal power enterprises can establish a stable customer base, providing long-term and stable support for electric power sales.

Finally, social responsibility and public welfare marketing are important components of the promotion strategy for thermal power enterprises. As key players in the energy industry, these enterprises should assume corresponding social responsibilities and actively participate in public welfare undertakings to make contributions to society. By sponsoring environmental protection projects, supporting education, and participating in community development and other public welfare activities, thermal power enterprises can not only enhance their social image but also increase consumer favorability and trust. Simultaneously, thermal power enterprises can integrate public welfare activities with electric power sales, such as launching a "green electricity" initiative to encourage users to conserve electricity and use renewable energy. This not only fulfills social responsibilities but also promotes the sale of electric power products.

4. Conclusion

In summary, facing the profound changes of global energy transformation and electric power market reform, thermal power enterprises must be market-oriented and actively adjust their marketing strategies to adapt to changes in market demand and enhance their competitiveness. In the future, with the further opening of the electric power market and continuous technological progress, thermal power enterprises should continue to deepen the innovation and application of marketing strategies, actively explore emerging fields such as smart energy and integrated energy services, and constantly improve their core competitiveness. At the same time, thermal power enterprises should strengthen cooperation with other energy enterprises, jointly promote the transformation and upgrading of the energy industry, and contribute to building a clean, low-carbon, safe, and efficient energy system.

Disclosure statement

The author declares no conflict of interest.

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