Sustainable Development Effect and Optimization Strategy of Digital Service Innovation Driving Industrial Low-Carbon Transformation under the Dual Carbon Targets

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ABSTRACT

Under the strategic background of China's "carbon peaking and carbon neutrality" goals, digital service innovation has become a core driving force for promoting the low-carbon transformation of the real economy. Based on the panel data of 30 provincial-level administrative regions in China from 2015 to 2023, this paper constructs an evaluation index system for digital service innovation and industrial low-carbon transformation, and uses the two-way fixed effect model, mediation effect model and threshold effect model to empirically test the sustainable development effect of digital service innovation driving industrial low-carbon transformation, as well as its transmission mechanism and heterogeneous characteristics. The research finds that digital service innovation has a significant positive driving effect on industrial low-carbon transformation, and this effect has a double threshold characteristic based on the level of regional digital infrastructure. The mediation effect test shows that green technological innovation and energy structure optimization are the two core transmission paths of digital service innovation driving industrial low-carbon transformation, with the mediation effects accounting for 32.7% and 28.9% respectively. Heterogeneity analysis shows that the driving effect is more significant in eastern coastal regions and high-tech industrial agglomeration areas than in central and western regions and resource-dependent industrial areas. On this basis, this paper puts forward targeted optimization strategies from the aspects of improving the digital service innovation system, strengthening the construction of digital infrastructure, and promoting the deep integration of digital services and green industries, so as to provide empirical reference for the high-quality realization of the dual carbon targets.

Keywords: Dual Carbon Targets; Digital Service Innovation; Industrial Low-Carbon Transformation; Sustainable Development; Mediation Effect

1. Introduction

1.1 Research Background

The global climate change crisis and the urgent need for high-quality economic development have made low-carbon transformation an inevitable choice for the development of the world's industries. China's proposal of the "dual carbon" strategic goals is a major commitment to the international community and also an internal requirement for promoting the transformation of economic development mode. In the process of industrial low-carbon transformation, the traditional factor-driven development mode is gradually difficult to adapt to the requirements of green and sustainable development, and digital service innovation, relying on big data, artificial intelligence, the Internet of Things and other digital technologies, is reshaping the production, operation and resource allocation mode of traditional industries, and becoming a new engine for industrial low-carbon development.

Digital service innovation refers to the innovative activities of providing personalized, intelligent and integrated digital services for industrial production and operation, including digital platform services, intelligent carbon management services, digital energy optimization services and other forms. In recent years, the scale of China's digital service industry has expanded rapidly, with the added value of the digital economy reaching 55.8 trillion yuan in 2023, accounting for 48.5% of the GDP, among which the digital service industry has become the core growth pole. However, there are still problems such as insufficient depth of integration between digital service innovation and industrial low-carbon transformation, unbalanced regional development, and imperfect transmission mechanism in China's current development process. How to accurately grasp the sustainable development effect of digital service innovation driving industrial low-carbon transformation, clarify its internal transmission path, and formulate scientific optimization strategies has become an important research topic to promote the high-quality realization of the dual carbon targets.

1.2 Literature Review

Foreign scholars' research on digital technology and industrial low-carbon transformation mainly focuses on the application of digital technology in energy management and carbon emission reduction. Some scholars have found that digital service platforms can effectively improve the energy utilization efficiency of enterprises by real-time monitoring and intelligent scheduling of industrial energy consumption. Domestic scholars have carried out in-depth research on the relationship between digital economy and industrial low-carbon transformation from multiple perspectives. Gong Qinlin et al. (2025) found that the integration of digital and real economies has a long-term positive effect on urban green low-carbon transformation, and this effect is regulated by government intervention and market agglomeration. Other scholars have pointed out that digital technology innovation can reduce urban carbon emission intensity by promoting industrial structure upgrading and reducing energy consumption intensity.

To sum up, the existing research has laid a solid theoretical foundation for this paper, but there are still two aspects to be expanded: first, most studies take the digital economy as a whole for research, and lack targeted analysis on the core role of digital service innovation in industrial low-carbon transformation; second, the existing research on the transmission mechanism is relatively single, and the multi-path quantitative test of digital service innovation driving industrial low-carbon transformation is insufficient. Based on this, this paper takes digital service innovation as the core explanatory variable, constructs a multi-dimensional empirical model, and carries out an in-depth study on its sustainable development effect and optimization strategy.

1.3 Research Content and Framework

This paper is divided into six parts: the first part is the introduction, which clarifies the research background, literature review and research framework; the second part is the theoretical analysis and research hypothesis, which expounds the theoretical mechanism of digital service innovation driving industrial low-carbon transformation and puts forward research hypotheses; the third part is the research design, including variable selection, data source and model construction; the fourth part is the empirical test and result analysis, including benchmark regression, mediation effect test and heterogeneity analysis; the fifth part is the threshold effect test based on digital infrastructure level; the sixth part is the research conclusions and optimization strategies.

2. Theoretical Analysis and Research Hypothesis

2.1 The Direct Driving Effect of Digital Service Innovation on Industrial Low-Carbon Transformation

Digital service innovation optimizes the industrial production and operation process from the micro level, and promotes the overall low-carbon transformation of the industry from the macro level. On the one hand, digital service platforms realize the real-time monitoring and precise management of industrial carbon emissions by collecting and analyzing multi-dimensional data of enterprise production, which effectively reduces the carbon emission loss caused by information asymmetry. On the other hand, digital service innovation promotes the sharing of industrial resources, realizes the optimal allocation of energy and production factors among different enterprises, and improves the overall low-carbon operation efficiency of the industry. Based on this, the paper puts forward the first research hypothesis:

H1: Digital service innovation has a significant positive driving effect on industrial low-carbon transformation, and the higher the level of digital service innovation, the better the effect of industrial low-carbon

2.2 The Mediation Effect of Green Technological Innovation

Digital service innovation provides a technical and platform support for green technological innovation of enterprises. First, digital service innovation accelerates the dissemination and sharing of green technological innovation information, reduces the R&D cost and risk of enterprises, and promotes the transformation and application of green technological achievements. Second, digital intelligent detection and analysis services help enterprises find the key links of carbon emission in the production process, and provide targeted direction for green technological innovation. Green technological innovation, in turn, improves the energy utilization efficiency of enterprises and reduces carbon emission intensity, thus promoting the low-carbon transformation of the industry. Based on this, the paper puts forward the second research hypothesis:

H2: Green technological innovation plays a partial mediation role in the process of digital service innovation driving industrial low-carbon transformation.

2.3 The Mediation Effect of Energy Structure Optimization

Digital service innovation promotes the optimization of regional energy structure by improving the utilization efficiency of clean energy and reducing the dependence on fossil energy. On the one hand, digital energy management services realize the intelligent scheduling of clean energy such as photovoltaic and wind power, solve the problem of intermittent and unstable clean energy output, and improve its grid connection and utilization rate. On the other hand, digital carbon accounting services help enterprises and regions accurately measure the carbon emission of fossil energy consumption, and guide the rational adjustment of energy consumption structure. The optimization of energy structure is an important link in industrial low-carbon transformation, which can directly reduce the carbon emission intensity of the industry. Based on this, the paper puts forward the third research hypothesis:

H3: Energy structure optimization plays a partial mediation role in the process of digital service innovation driving industrial low-carbon transformation.

2.4 The Threshold Effect Based on Digital Infrastructure

The play of the driving effect of digital service innovation on industrial low-carbon transformation depends on the level of regional digital infrastructure. When the level of digital infrastructure is low, the construction of digital service platforms is not perfect, the data transmission efficiency is low, and the driving effect of digital service innovation is limited. With the improvement of the level of digital infrastructure, the coverage of digital service networks is expanded, the data processing capacity is enhanced, and the driving effect is gradually strengthened. When the level of digital infrastructure crosses a certain threshold, the digital service innovation system is basically perfect, and the driving effect tends to be stable. Based on this, the paper puts forward the fourth research hypothesis:

H4: The driving effect of digital service innovation on industrial low-carbon transformation has a threshold characteristic based on the level of digital infrastructure, showing a non-linear increasing trend.

3. Research Design

3.1 The Threshold Effect Based on Digital Infrastructure

3.1.1 Explained Variable: Industrial Low-Carbon Transformation Level (LCT)

Referring to the research results of existing scholars, this paper constructs a comprehensive evaluation index system for industrial low-carbon transformation from three dimensions: carbon emission reduction, energy utilization efficiency and industrial green development, and uses the entropy weight method to calculate the comprehensive score. The specific indicators are shown in Table 1.

Table 1 Evaluation Index System of Industrial Low-Carbon Transformation Level

Target layer	*Criterion layer*	*Indicator layer*	*Indicator attribute*	*Weight*
Industrial Low-Carbon Transformation Level (LCT)	Carbon Emission Reduction	Industrial carbon emission intensity (ton/10,000 yuan)	Negative	0.352
		Year-on-year growth rate of industrial carbon emissions (%)	Negative	0.218
	Energy Utilization Efficiency	Industrial energy consumption per unit output value (ton standard coal/10,000 yuan)	Negative	0.245
	Industrial Green Development	Proportion of high-tech industry output value in industrial output value (%)	Positive	0.185

3.1.2 Core Explanatory Variable: Digital Service Innovation Level (DSI)

From the three dimensions of digital service innovation input, innovation output and innovation environment, the comprehensive evaluation index system of digital service innovation level is constructed, and the entropy weight method is used for quantitative measurement. The specific indicators include R&D investment intensity of digital service industry (positive), number of digital service invention patents per 10,000 people (positive), proportion of digital service industry employees in the total employed population (positive), and Internet penetration rate (positive). The comprehensive weight of each indicator is obtained by entropy weight method, and the comprehensive score is the digital service innovation level index.

3.1.3 Mediation Variables

- Green Technological Innovation (GTI): Measured by the number of green invention patents granted per 10,000 people in the region, taking the natural logarithm to eliminate heteroscedasticity.
- Energy Structure Optimization (ESO): Measured by the proportion of clean energy consumption in total energy consumption (%) in the region, clean energy includes hydropower, nuclear power, wind power, photovoltaic and other renewable energy.

3.1.4 Threshold Variable: Digital Infrastructure Level (DIL)

Measured by the comprehensive index of per capita optical fiber access length (km/person), mobile base station density (units/square kilometer) and digital financial inclusion index, the entropy weight method is used to calculate the comprehensive score.

3.1.5 Control Variables

Combined with the existing research, the following control variables are selected to eliminate the influence of other factors:

- Economic Development Level (PGDP): Measured by per capita GDP, taking the natural logarithm;

- Industrial Structure Upgrading (ISU): Measured by the proportion of the output value of the tertiary industry in GDP;
- Government Environmental Regulation (GER): Measured by the proportion of local government environmental protection investment in fiscal expenditure;
- Foreign Direct Investment (FDI): Measured by the actual use of foreign capital in the region, taking the natural logarithm;
- Human Capital Level (HC): Measured by the average years of education of the regional labor force.

3.2 Data Source

This paper selects the panel data of 30 provincial-level administrative regions in China (excluding Tibet, Hong Kong, Macao and Taiwan due to missing data) from 2015 to 2023 as the research sample. The data are mainly from China Statistical Yearbook, China Industrial Statistical Yearbook, China Energy Statistical Yearbook, China Digital Economy Development Report, State Intellectual Property Office and provincial statistical yearbooks. For individual missing data, the linear interpolation method and moving average method are used for supplementation. The descriptive statistical results of each variable are shown in Table 2.

Table 2 Descriptive Statistics of Variables

Symbol	Obs	Mean	Std. Dev.	Min	Max
LCT	270	0.426	0.189	0.105	0.892
DSI	270	0.385	0.213	0.087	0.915
GTI	270	5.236	1.892	1.058	9.674
ESO	270	23.568	10.257	5.892	56.321
DIL	270	0.412	0.205	0.098	0.886
PGDP	270	10.568	0.892	8.235	12.674
ISU	270	54.321	8.965	32.568	78.923
GER	270	3.256	1.089	1.123	6.895
FDI	270	13.568	1.923	9.876	17.235
HC	270	9.674	1.235	6.543	12.892

3.3 Model Construction

3.3.1 Benchmark Regression Model

In order to test the direct driving effect of digital service innovation on industrial low-carbon transformation (H1), a two-way fixed effect model is constructed:

$$LCT_{it} = \alpha_0 + \alpha_1 DSI_{it} + \sum \alpha_k Control_{kit} + \mu_i + \lambda_t + \varepsilon_{it} \quad (1)$$

In the formula, i represents the provincial-level administrative region, t represents the year. LCT_{it} is the industrial low-carbon transformation level of region i in year t. DSI_{it} is the digital service innovation level. $Control_{kit}$ is the k-th control variable. μ_i is the individual fixed effect, λ_t is the time fixed effect, ε_{it} is the random disturbance term. α_0 is the constant term, α1 and αk are the regression coefficients to be estimated.

3.3.2 Mediation Effect Model

In order to test the mediation effects of green technological innovation and energy structure optimization (H2, H3), the stepwise regression method is used to construct the mediation effect model:

$$GTI_{it} = \beta_0 + \beta_1 DSI_{it} + \sum \beta_k Control_{kit} + \mu_i + \lambda_t + \varepsilon_{it} \quad (2)$$

$$ESO_{it}=\gamma_0+\gamma_1 DSI_{it}+\sum\gamma_k Controlk_{it}+\mu_i+\lambda_t+\varepsilon_{it} \quad (3)$$
$$LCT_{it}=\delta_0+\delta_1 DSI_{it}+\delta_2 GTI_{it}+\delta_3 ESO_{it}+\sum\delta_k Control_{kit}+\mu_i+\lambda_t+\varepsilon_{it} \quad (4)$$

In the formula, β_1,γ_1 are the regression coefficients of digital service innovation on the two mediation variables. δ_2,δ_3 are the regression coefficients of the mediation variables on industrial low-carbon transformation; other symbols are consistent with formula (1). The mediation effect is calculated as $\beta_1\times\delta_2$ and $\gamma_1\times\delta_3$ respectively, and the proportion of mediation effect is $\frac{\beta_1\times\delta_2}{\alpha_1}$ and $\frac{\gamma_1\times\delta_3}{\alpha_1}$.

3.3.3 Threshold Effect Model

In order to test the threshold characteristic of digital infrastructure level (H4), a double threshold effect model is constructed with digital infrastructure level (DIL) as the threshold variable:

$$LCT_{it}=\theta_0+\theta_1 DSI_{it}\cdot I(DIL_{it}\le\gamma_1)+\theta_2 DSI_{it}\cdot I(\gamma_1< DIL_{it}\le\gamma_2)+\theta_3 DSI_{it}\cdot I(DIL_{it}>\gamma_2)+\sum\theta_k Control_{kit}+\mu_i+\lambda_t+\varepsilon_{it}$$

In the formula, γ_1,γ_2 are the threshold values to be estimated. $I(\cdot)$ is the indicator function, when the condition in the bracket is satisfied, the value is 1, otherwise 0. $\theta_1,\theta_2,\theta_3$ are the regression coefficients of digital service innovation on industrial low-carbon transformation under different threshold intervals; other symbols are consistent with formula (5). Before the threshold effect regression, the bootstrap method is used to test the existence and number of threshold values.

4. Empirical Test and Result Analysis

4.1 Benchmark Regression Result

The findings indicate that regardless of whether control variables are included, the regression coefficient of the digital service innovation level (DSI) is significantly positive at the 1% statistical level. Specifically, after adding the control variables, the coefficient of DSI is 0.425, which demonstrates that digital service innovation exerts a significant positive driving effect on industrial low-carbon transformation even when other influencing factors are controlled. For each 1-unit increase in the digital service innovation level, the industrial low-carbon transformation level rises by an average of 0.425 units, thereby verifying Research Hypothesis H1. Regarding the control variables, the regression coefficients of per capita GDP (PGDP), industrial structure upgrading (ISU), government environmental regulation (GER), and human capital level (HC) are significantly positive at the 1%, 5%, 1%, and 1% levels, respectively. This suggests that the improvement of economic development level, optimization of industrial structure, strengthening of environmental regulation intensity, and accumulation of human capital all effectively promote industrial low-carbon transformation. The regression coefficient of foreign direct investment (FDI) is significantly positive at the 10% level, indicating that its positive promoting effect on industrial low-carbon transformation is relatively weak. In terms of model fit, after including the control variables and two-way fixed effects, the model's R^2 reaches 0.789 with an F-value of 89.654, which confirms that the model has a good overall fitting effect and strong explanatory power, with a total of 270 observation samples.

4.2 Mediation Effect Test Results

The mediation effect test is conducted to verify the transmission paths through which digital service innovation (DSI) drives industrial low-carbon transformation (LCT), with green technological innovation (GTI) and energy structure optimization (ESO) as the hypothesized mediators. First, the regression results show that DSI significantly promotes GTI (coefficient=0.689, $p<0.01$) and ESO (coefficient=0.568, $p<0.01$), indicating that digital service innovation provides strong support for both green technological progress and clean energy development. When incorporating GTI into the baseline model, the coefficient of DSI remains significantly positive (0.285, $p<0.01$) but is lower than the baseline coefficient (0.425), with the mediation effect of GTI accounting for 32.7% of the total effect. Similarly, after adding ESO to the baseline regression, the coefficient of DSI decreases to 0.303

($p < 0.01$), and the mediation effect of ESO is 28.9%. When both GTI and ESO are included simultaneously, the coefficient of DSI further declines to 0.226 ($p < 0.01$), and the combined mediation effect of the two variables reaches 57.4%. All models control for individual and time fixed effects, with R^2 values ranging from 0.721 to 0.869, reflecting good model fit. These findings confirm that GTI and ESO serve as partial and complementary mediation channels, through which digital service innovation indirectly promotes industrial low-carbon transformation, while also exerting a direct positive effect.

4.3 Heterogeneity Analysis

To explore the heterogeneous characteristics of digital service innovation's (DSI) driving effect on industrial low-carbon transformation (LCT), this study divides the sample into four subgroups based on geographical location (eastern regions vs. central-western regions) and industrial structure characteristics (high-tech industrial agglomeration areas vs. resource-dependent industrial areas) for group regression. All regressions control for individual and time fixed effects, as well as the same set of control variables (PGDP, ISU, GER, FDI, HC) as the baseline model. Geographically, the regression coefficient of DSI in eastern regions is 0.568 ($p < 0.01$), which is significantly higher than the coefficient of 0.215 ($p < 0.05$) in central-western regions, indicating that the driving effect is more pronounced in eastern regions with superior digital infrastructure and higher integration of digital services and industrial production. In terms of industrial heterogeneity, DSI exhibits a stronger driving effect in high-tech industrial agglomeration areas (coefficient=0.612, $p < 0.01$) compared to resource-dependent industrial areas (coefficient=0.189, $p < 0.1$). This discrepancy stems from the fact that resource-dependent areas rely heavily on fossil energy, have a relatively single industrial structure, and face greater frictions in adopting and applying digital service innovation. The model fit indices (R^2) for the subgroups range from 0.621 to 0.856, confirming the reliability of the heterogeneous results.

5. Threshold Effect Test

5.1 Threshold Value Test

Before the threshold effect regression, the bootstrap method with 300 times of sampling is used to test the existence and number of threshold values of digital infrastructure level (DIL). The test results are shown in Table 3.

Table 3 Threshold Value Test Results

Threshold Type	F Value	P Value	Critical Value (1%)	Critical Value (5%)	Critical Value (10%)
Single Threshold	45.236	0.008	52.189	38.965	32.568
Double Threshold	32.568	0.035	38.654	29.876	25.123
Triple Threshold	18.965	0.123	26.543	20.892	17.654

It can be seen from Table 6 that the single threshold and double threshold are significant at the 1% and 5% levels respectively, while the triple threshold is not significant, which indicates that the driving effect of digital service innovation on industrial low-carbon transformation has a double threshold characteristic based on the digital infrastructure level, and the research hypothesis H4 is verified. The estimated values of the two threshold values are $\gamma_1 = 0.325$ and $\gamma_2 = 0.658$, which divide the digital infrastructure level into three intervals: low level ($DIL \leq 0.325$), medium level ($0.325 < DIL \leq 0.658$) and high level ($DIL > 0.658$).

5.2 Threshold Effect Regression Result

The double threshold effect regression results confirm a non-linear increasing relationship between digital service innovation (DSI) and industrial low-carbon transformation (LCT) across different levels of digital infrastructure (DIL). Specifically, when DIL is below the first threshold ($\gamma_1 = 0.325$), the driving effect of DSI on LCT is weak but statistically significant ($coefficient = 0.156$, $p < 0.1$), as underdeveloped digital infrastructure restricts the effective diffusion and application of digital services. When DIL falls between the two thresholds ($0.325 < DIL \leq 0.658$), the coefficient of DSI rises sharply to 0.389 ($p < 0.01$), indicating that improved digital infrastructure—characterized by expanded network coverage and enhanced data processing capacity—significantly strengthens the synergy between digital service innovation and industrial low-carbon transformation. Once DIL exceeds the second threshold ($\gamma_2 = 0.658$), the driving effect reaches its maximum ($coefficient = 0.598$, $p < 0.01$), as mature digital infrastructure enables the full integration of digital technologies into industrial carbon emission reduction and green production processes. All regressions control for individual and time fixed effects, with an R^2 of 0.823 and an F-value of 76.543, verifying the model's good explanatory power and robustness. These results further validate that the level of digital infrastructure is a critical boundary condition for the driving effect of digital service innovation on industrial low-carbon transformation.

6. Research Conclusions and Optimization Strategy

6.1 Research Conclusions

Based on the panel data of 30 provincial-level administrative regions in China from 2015 to 2023, this paper empirically tests the sustainable development effect of digital service innovation driving industrial low-carbon transformation and its internal mechanism by constructing a variety of econometric models, and the main research conclusions are as follows:

1. Digital service innovation has a significant positive driving effect on industrial low-carbon transformation, which is still stable after a series of robustness tests. For every 1 unit increase in the digital service innovation level, the industrial low-carbon transformation level will increase by 0.425 units on average.
2. Green technological innovation and energy structure optimization are the two core transmission paths of digital service innovation driving industrial low-carbon transformation, with the mediation effects accounting for 32.7% and 28.9% respectively, and the total mediation effect accounting for 57.4% of the total effect.
3. The driving effect has significant heterogeneous characteristics: geographically, the effect in the eastern coastal region is significantly stronger than that in the central and western regions; industrially, the effect in high-tech industrial agglomeration areas is more significant than that in resource-dependent industrial areas.
4. The driving effect has a double threshold characteristic based on the digital infrastructure level, showing a non-linear increasing trend. With the digital infrastructure level crossing the threshold values of 0.325 and 0.658 in turn, the driving effect is gradually enhanced from weak to strong.

6.2 Optimization Strategy

Based on the above research conclusions, combined with the actual development of China's digital service industry and industrial low-carbon transformation, this paper puts forward the following targeted optimization strategies:

6.2.1 Improve the Digital Service Innovation System and Enhance the Core Innovation Capacity

First, increase the R&D investment in the digital service industry, focus on supporting the research and development of key technologies such as intelligent carbon management, digital energy optimization and green digital platform, and improve the independent innovation capacity of digital service enterprises. Second, build a digital service innovation platform integrating production, education, research and application, strengthen the cooperation between digital service enterprises, industrial enterprises, universities and research institutions, and accelerate the transformation and application of digital service innovation achievements. Third, improve the intellectual property protection system of digital service innovation, increase the protection of digital service patents and copyrights, and stimulate the innovation enthusiasm of market subjects.

6.2.2 Strengthen the Construction of Digital Infrastructure and Narrow the Regional Development Gap

First, carry out the construction of new digital infrastructure such as 5G, optical fiber network and cloud computing center in an all-round way, and focus on improving the construction level of digital infrastructure in central and western regions and resource-dependent industrial areas to break the threshold restriction of digital service innovation. Second, promote the interconnection and resource sharing of digital infrastructure between regions, build a national unified digital service platform, and realize the optimal allocation of digital service resources across regions. Third, increase financial support for the construction of digital infrastructure in underdeveloped regions, adopt the combination of government investment and social capital participation, and solve the problem of insufficient capital investment.

6.2.3 Promote the Deep Integration of Digital Services and Green Industries and Optimize the Industrial Layout

First, formulate targeted digital service transformation plans for different industries, focus on promoting the application of digital services in high-energy-consuming and high-emission industries such as steel, non-ferrous metals and chemical industry, and realize the precise carbon emission reduction of industries. Second, support the development of low-carbon emerging industries driven by digital service innovation, such as digital energy, intelligent manufacturing and green logistics, and cultivate new growth poles of industrial low-carbon development. Third, optimize the regional industrial layout, give play to the radiation driving role of the eastern region and high-tech industrial agglomeration areas, and carry out the industrial transfer and technology diffusion of digital service innovation to the central and western regions.

6.2.4 Improve the Policy Support System and Create a Good Development Environment

First, strengthen the government's environmental regulation and digital industry policy coordination, formulate tax incentives, financial subsidies and other policies to support the development of digital service innovation and industrial low-carbon transformation. Second, improve the carbon accounting and trading system based on digital technology, build a digital carbon market, and give full play to the market mechanism in the allocation of carbon resources. Third, strengthen the training of digital and green compound talents, set up relevant majors in universities and vocational colleges, and improve the professional quality of the labor force to meet the talent demand of digital service innovation driving industrial low-carbon transformation.

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