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Research on the Reform Ideas of Virtual Share Rights in State-owned Distributed Solar Power Generation Companies

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Abstract: A more reasonable optimization of the company's distribution system is the fundamental method of company development. This paper analyzes the related theories of virtual equity, and proposes a simple and feasible reform idea based on virtual equity based on the actual situation of state-owned distributed solar power generation companies.

1. Introduction

The economic foundation determines the superstructure, and the economic distribution method determines the quality and speed of economic development. Today with highly developed productivity, the company's competition is very fierce, and the continuous optimization of the company's production relations is the key to the company's continuous maintenance and improvement of competitiveness. State-owned companies are the same as others. Only by continuously optimizing the company's own economic distribution system and enhancing the incentive effect of the system on people can the company's comprehensive competitiveness be more effectively improved.

In the entire power industry, although there are many distributed solar power stations, the installed capacity of a single distributed solar power station is very small, and its corresponding fixed assets are also the least. The reform of distributed solar power plants has the least resistance and the least risk. This article analyzes the theories related to virtual equity, and explores the reform of virtual equity based on the status quo of state-owned distributed solar power companies. A simple and feasible reform idea based on virtual equity rights is proposed to provide a reference for the reform of state-owned solar power companies.

2. Related theories

2.1 Supporting theories related to virtual equity

There are many theories related to virtual equity. This article mainly introduces Expectancy Theory, Goal-SettingTheory, and Stakeholder Theory.

2.1.1 Expectancy Theory

In 1964, the famous North American psychologist and behavioral scientist Victor H. Vroom formally put forward the Expectancy Theory in the book "Work and Motivation". Expectancy Theory believes that the motivation a person receives is the product of his expected value of the result and the probability of reaching the result. Only when employees believe that they can obtain the desired rewards through hard work, the company's incentives to employees will be effective.

2.1.2 Goal-SettingTheory

American scholar Edwin Locke proposed Goal-SettingTheory in 1967. Goal-SettingTheory is a theory that emphasizes that the characteristics of setting goals will affect the level of motivation and work performance. The theory believes that the motivation of the goal is the intrinsic attribute of the goal, so the goal can make people generate motivation to achieve the goal. Under the guidance of a common goal, people will work together in a common direction. The goal contains people's needs and expected results. Under the motivation of this goal, people's motives and actions are generated. This process is goal motivation. Employees with equity incentives are born with the right and motivation to participate in the discussion of goals. Although the decision-making power of major issues may lie with a small number of managers, the final decision-making should theoretically be subject to the interests of the vast majority of employees. Under the effect of equity incentives, employees will have a stronger subjective initiative to work hard for the realization of their goals.

2.1.3 Stakeholder Theory

Freeman proposed a relatively mature Stakeholder Theory in 1984. Simply put, the Stakeholder Theory is that the boss of a company must balance the interests of various stakeholders when managing the company. The Stakeholder Theory believes that the development of a company has a relationship with all stakeholders of the company, but the degree of closeness of the relationship is different. The most sensible thing for a company is to pursue the overall interests of the company’s stakeholders, and absolutely not the interests of some of the stakeholders. Freeman believes that the company’s goal should not only be to maximize the interests of shareholders, but also to create wealth for all the company’s stakeholders. The goal of corporate governance should be to stimulate the company’s 100% wealth creation potential, not just for maximum To optimise the wealth value of shareholders.

2.2 Research results related to equity incentives

The research results on equity incentives are mainly based on the virtual equity plans of listed companies, focusing on the implementation of virtual equity plans and shareholder behavior.

Research by Jensen and Meckling found that when a company’s managers hold a relatively small share of shares, the behavior of managers tends to be short-sighted, which is not in line with the company’s fundamental interests and will affect the company’s long-term development. And draw the conclusion that the shareholding ratio of the executives is proportional to the company's operating performance. [1] In 1990, Gomez-Mejia, Balkin and others found that after the company’s core employees received equity incentives, these core backbones formed a closer community of interests with the company, which was more conducive to the realization of the company’s strategic goals and the company’s Better development. [2] The research of Armstrong and Larcker found that it is necessary for companies to provide equity incentives to the company's management, but they need to consider the impact of stock price changes on the effect of equity incentives. Generally speaking, equity has a positive incentive effect. [3]

In general, the academic community now generally believes that the implementation of equity

incentives has a positive impact on company performance. Companies that have implemented equity incentives have relatively good development in the short, medium and long-term, but there is no research on virtual equity incentives specifically for power companies.

3. Introduction and status quo of A company

3.1 Introduction of Company A

Company A is a state-owned solar power company. Electricity production is the company's main business, and it makes a profit by selling electricity. The company has 28 distributed solar power stations with a total installed capacity of 98.48MW. The power station has been put into operation since 2016, and most of the power stations have been put into operation in 2017. The distribution of power stations has the typical characteristics of multiple points and wide areas. The company currently has 13 employees and another 9 temporary workers.

3.2 Company A's operating costs and management model

Company A's operating costs are mainly equipment depreciation and expenses incurred in production, operation and maintenance. Including the labor costs of operation and maintenance personnel, equipment maintenance costs, vehicle costs, and building maintenance costs. Company A adopts a process model of planning, budgeting, assessment, and incentive management. From the actual effect, the management system needs to be further optimized.

3.3 Current Challenges of A Company

As a typical state-owned distributed solar power company, the main challenges faced are as follows:

1) The power generation efficiency of power station components is low. The power generation utilization hours of the power station are relatively low compared to the same type of power station.

2) The company's profits are low. The company's high operation and maintenance costs, low power generation efficiency and other factors have caused the company's overall profit to be low.

3) Insufficient innovation ability. The company has almost no innovation patents.

4. Prerequisites and ideas based on the reform of virtual stock rights

4.1 Prerequisites for reform

State-owned companies are the institutional basis with public ownership as the main body, and company assets are owned by the whole people. Employees are employed by the company and receive labor remuneration based on distribution according to work as the main body. The reform of state-owned companies must meet the following three conditions:

1) To ensure that the nature of the company's state-owned assets remains unchanged;

2) To ensure that the company can grow bigger;

3) To ensure that employees can benefit more.

4.2 Reform plan design

The virtual shares mentioned in this article are different from ordinary shares in the market, but only as a tool for keeping accounts. The specific reform design is as follows:

4.2.1 The first step is to set up a virtual share incentive fund

Use part of the company's annual net profit after tax as the source of incentive funds. As a comprehensive consideration, the best annual net profit since the power station was put into commercial operation can be selected as the reference value. Assuming that the net profit increase value in the first year after the implementation of the virtual share management plan is W1 (valid when W1>0). The net profit of the year was C1, and the best annual net profit since the power plant investment was Max, namely:

$$W1=C1-Ma; \quad (1)$$

Part of the net profit added value W injected into the incentive fund is used for dividends of virtual shares. The larger the value of W, the more beneficial to the company. Part of the net profit added value W is injected into the incentive fund. Assuming that the injection ratio is k1, the part given to the country is (1-k1) W1. Assuming that the total amount injected into the incentive fund is E and the amount injected into the incentive fund in the first year is E1, then:

$$E1=k1W1=k1(C1-Max); \quad (2)$$

Part of the amount E1 injected into the incentive fund every year is used for the virtual share dividends at the end of each year. Assuming that the direct dividend ratio used at the end of each year is k2, the total amount of direct dividends for the shares in the first year is:

$$Z1=k2E1=k2k1W1=k2k1(C1-Max); \quad (3)$$

The remaining amount S1 of the fund after dividends in the first year is:

$$S1=E1-Z1=(1-k2)E1=(1-k2)k1W1=(1-k2)k1(C1-Max); \quad (4)$$

The specific purpose and method of use of the remaining funds after the annual direct dividends are determined by a dedicated fund management team.

4.2.2 Determine the grantees of virtual share rights

All employees who have contributed to the company have the right to enjoy the rights and interests of virtual shares. The greater the contribution, the greater the number. The specific basic conditions can be referred to as follows:

1) The employee has joined the company for more than one year, and applied to the company and passed;

2) After the employee leaves the company, he shall be deemed to have given up all rights and interests related to virtual shares.

4.2.3 Determine the number of virtual shares.

The number of virtual shares is determined according to the installed power generation capacity of the distributed solar power station, that is, 1 share represents 1W, and 98.48MW is 98.48 million shares. In this way, as the installed power generation capacity increases or decreases, the number of virtual shares also increases or decreases.

4.2.4 Determine the allocation method of virtual shares

Fully integrate the company's existing employee post-level system, and determine the number of virtual shares that employees can own based on the post level.

4.2.5 The management of virtual options

Set up a special virtual stock equity fund group to manage virtual stocks.

5. Conclusions and Discussion

This article chooses distributed solar power plants, which have the smallest individual volume in the power industry and the smallest reform risk, as the starting point. Combining with the company's actual situation, the reform ideas of state-owned distributed solar power plants based on virtual equity rights are proposed. It is expected that the reform will have good effects on the improvement of power generation capacity, the improvement of safety, the increase of innovation achievements, and the reduction of operation and maintenance costs of the power station.

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