A Research on Improvement Design of Legal System for Renewable Energy Based on Stakeholders

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Abstract

As one of the most important energy sources, renewable energy is characterized by renewable and environmental-friendly, which also provides impetus for the development of renewable energy. In this context, the rise of a great number of renewable energy related industries has led to a critical period for the management of renewable energy industry. Therefore, in this paper, the author elaborates the basic connotation of stakeholder theory and the formation of stakeholder network system. The author also analyzes the problems existing in the legal system for renewable energy, concludes that there are some problems such as the weak enforcement of laws, the phenomenon of environmental pollution, the lack of network connectivity and the ignorance of information platform, and then puts forward some suggestions on how to design the legal system for renewable energy based on stakeholders, which is discussed from the aspects of making clear design ideas, expanding public communication channels, building a legal platform and establishing energy supervision mechanism, aiming to accelerate the construction of the legal system for renewable energy and promote the development of renewable energy.

Keywords: Stakeholder, Legal System for Renewable Energy, Design Method.

1. BACKGROUND

1.1 Summary of research

The renewable energy industry has gradually become prosperous in China in recent years, which breaks the traditional energy structure. In the process of development, coal and oil are mainly used as the main energy sources in China. However, since coal and oil are all non-renewable energy sources, they not only cause the decrease of resources in the use but also create certain environmental pollution. The emergence of renewable energy has greatly alleviated this problem. Although renewable energy may also cause a certain amount of environmental pollution in its use, it is relatively small compared with that caused by non-renewable energy (Zhang and Zhang, 2014). Besides, the rise of the renewable energy industry has injected new vitality into the energy industry in China. However, as the renewable energy industry is rising as a kind of emerging industry, it lacks the corresponding laws and regulations in production and operation. Its development direction cannot be regulated and its interest cannot be protected by using the relevant laws and regulations. And in the process, due to the unsound regulations of renewable energy law in China, it cannot form a constraint on the development of renewable energy (Chang and Li, 2014). In the face of this situation, the reconstruction of renewable energy law is the main direction of its development. The stakeholder theory provides the corresponding ideas for the construction of the legal system for renewable energy. The application of stakeholder theory in the legal system for renewable energy makes it combined with computer technology, which results in an efficient legal model. At present, the literature on the construction of the legal system for renewable energy mainly focuses on the construction and use of the legal system (Zhang, 2014). The author puts forward different points of view on the construction, providing ideas and directions for the design of the legal system for renewable energy.

1.2 Research objectives

In this paper, the author takes the stakeholder theory as the starting point and shows that it gradually formed its own characteristics in the development process. Besides, in the process of development, the stakeholder theory constantly incorporates new elements, thereby promoting its continuous innovation (Guo, 2014). Today's stakeholder theory has been integrated with the Internet technology and forms a development model with the characteristics of the times. And in the process, it forms the Internet data model, which can be applied in various
fields. The stakeholder theory has also been gradually applied to the design of the legal system for renewable energy, which provides ideas and direction in the system design, making the legal system for renewable energy be more in line with the development of the times in the design process. And in this process, by studying the problems in the legal system for renewable energy, exploring the factors that affect its formation and expanding ways of thinking, it provides a variety of design methods for the design and is consistent the actual renewable energy development.

2. AN OVERVIEW OF STAKEHOLDER THEORY

The term of stakeholder was first proposed in the 18th century when it was not yet of special significance and stake was merely used to indicate the money risked on a activity (Zhang and Liu, 2015). With the changes of the times, the term of stakeholder has also seen different changes. With the development of society and economy, stakeholder is applied to the economic field. A stakeholder is a person or business that invests in an enterprise or a business activity and has a relationship of interest with each other. However, R. Edward Freeman has defined a broader definition of stakeholder – stakeholders can have influence on the enterprise in the process of business operation or a stakeholder is the person or organization that can help enterprise to achieve its goals (Ke, 2015). These organizations are defined as governments, communities, various civic organizations and others. In this context, the stakeholder theory gradually formed. The formation of this theory clarifies the social responsibilities of relevant organizations and has played a role in promoting social development to some extent. However, when dealing with the stakeholder theory, we should look at the issue from multiple perspectives and all aspects, and then we will find it can be applied in many fields (Xiao, 2012). And in this process, through the investigation and study, we found that in the process of the development of computer technology, the stakeholder theory incorporates computer technology into its development. In the context of a computer age, stakeholder theory has also made its own innovations. In the context of the Internet, the existence of stakeholders is not a one-way or two-way structure, in which stakeholders take themselves as virtual nodes, the interaction between each other forms the link between nodes, and together they form a network organization with open features. Based on computer technology, stakeholders transfer the information and resources in the networks so as to achieve the common goal among stakeholders (Chen, 2012). And the formation of this network relationship has been confirmed by theory of network governance, because in the process of network governance, most important is the interaction between network nodes. Theoretical research on stakeholders has been ongoing, mainly focusing on virtual management, governance research and integrated management (Yang, 2012). In the meantime, more and more attention has been paid to renewable resources in recent years - the emergence of renewable resources not only alleviates the pressure of energy use, but also reduces the problem of environment pollution, thus supporting the development of renewable energy is the key to building an energy-conserving society. In the process of development, renewable energy also needs the protection of relevant laws and regulations (Zhao, 2013). In this case, the stakeholder theory has been applied to the design of law system for renewable energy, which provides a new thought for the construction of law system for renewable energy and makes it combined with computer technology in the process of design, so as to improve the execution efficiency of law system for renewable energy (Zhao and Gao, 2011). Besides, in this process, the combination of the legal system for renewable energy and stakeholder theory has led to the increase of its scope of application, makes clear the responsibility of all walks of life in the legal system for renewable energy and promotes the development of renewable energy.

3. PROBLEMS IN THE LEGAL SYSTEM FOR RENEWABLE ENERGY

3.1 The enforcement of laws is poor and there are phenomena of environmental pollution

The legal system for renewable energy is the basis for the development of the renewable energy industry (Zeng and Dong, 2011). In the process of development, the renewable energy industry should plan its own development direction according to relevant legal policies. And in the legal system for renewable energy, various parts of the industrial functions and social responsibilities can be clear in the renewable energy industry, but there are some problems that affect the development of renewable energy industry (Liu and Yu, 2011). First of all, although the legal system for renewable energy has been adjusted in the light of the development of the times, the law enforcement is poor and cannot achieve the purpose of formulating laws and regulations. Since the renewable energy industry is an emerging industry, the corresponding legal system does not match the actual situation in the design process, this deviation of which results in a low awareness of renewable energy in the law renewable energy industry. In the course of production and operation, it cannot be in accordance with the relevant laws and procedures. Moreover, due to the weak legal consciousness, it cannot use the legal knowledge to safeguard its own rights and interests and promote the development of the industry (Cai and Guo, 2013).
Besides, because there are certain cognitive biases, people's understanding of the law of renewable energy is lopsided and they think its formulation has nothing to do with them, which causes them ignore their social functions and responsibilities. Secondly, although the use of renewable energy has achieved purpose of protecting the environment, there are still some problems of pollution during its use and production, which also puts forward the new requirements for the development of renewable energy industry. The law of renewable energy, in the process of planning, is supposed to address this problem. However, the actual situation is that due to the cognitive bias to renewable energy, the legal system for renewable energy has neglected this aspect. And due to the one-sided implementation of the legal content, some enterprises, some companies use renewable energy in the production and business operation activities but fails to handle the pollution caused by renewable energy sources in a targeted manner.

3.2 The network connectivity is deficient and the information platform is ignored

There are many categories of renewable energy such as wind power, hydro power and solar energy. These renewable energy sources are mainly used to generate electricity during their use (Zhao and Fan, 2010). However, in the process of electricity generation, it is affected by many factors. In the production process, renewable energy is highly influenced by the environment, resulting in some instability, which also makes it unable to connect with the grid system during the legal construction process. There are two causes for this. Firstly, the development of renewable energy is not accompanied by a information platform constructed with the corresponding technology, leading to its slow development. Moreover, the unsound legal system has resulted in the lack of legal protection of renewable energy in the development process. Secondly, the power grid will not incorporate renewable energy generation because of the characteristics of renewable energy generation. In the process of power generation, renewable energy is highly vulnerable to the weather and other factors, and power failure occurs. If the power grid supplies power from renewable energy sources, power failure cannot be handled in a timely manner, which can easily lead to power supply accidents. Therefore, in the construction process of the legal system for renewable energy, it needs not only to regulate the functions of various parts, but also to establish grid connection.

3.3 It lacks public channels and supervision mechanism is not sound

The legal system for renewable energy still lacks public channels. The establishment of a legal system for renewable energy is not only to regulate the development of the renewable energy industry, and establishment of law is not only for service or supervision by one party. Therefore, in the process of establishing the legal system, public channels should be established so that the public can understand the actual situation of the law through such channels. However, the lack of public channels to renewable energy law has led to the inability of the public to use such channels to carry out their duties. And in this process, the unsound supervision mechanism has a significant influence on the legal system for renewable energy. The lack of supervision system reduces the supervision of renewable energy enterprises. And the public also lack the appropriate response channels, which makes the implementation of renewable energy laws not in place and impacts the meaning of the law on renewable energy. Moreover, due to the unsound supervision channels, the public can not use their related rights and interests.

4. METHODS FOR DESIGNING LEGAL SYSTEM FOR RENEWABLE ENERGY BASED ON STAKEHOLDER

4.1 Make clear design ideas and strengthen network connection

As for designing legal system for renewable energy based on stakeholder, firstly, the ideas for legal system design should be clarified. In order to understand the specific connotation of the stakeholder theory, we should understand the concrete connotation of stakeholder theory, form a correct understanding of the development of renewable energy in the design process, understand its development process, and then combine the actual operation conditions to construct the legal system. The application of stakeholder theory provides a idea for the design of the legal system for renewable energy and fully combines it with computer technology. And in this process, with the help of the concrete algorithm model of stakeholders, the legal system operation model is constructed, according to which, in the process of renewable energy law enforcement, it can be processed so as to better serve the renewable energy industry. We can determine renewable energy companies and put them together into the evaluation formula for calculation. The evaluation formula is \( P = \frac{1}{N \cdot j} \cdot (N^2 - j^2) \), where \( j \) is for the establishment of renewable energy companies and \( N \) is defined as the number of companies.
assessed. \( r = \sum_{0}^{1} (r_a - r_{a-1}) \). In case of the same enterprise under the same rating evaluation, 
\( p = \frac{1}{\text{rating}} \sum (r - l) \), and the meaning of \( r, j, l \) are roughly the same, so \( y_1 = \sum_{i=1}^{k} (l^2 - l) \). At the same time, 
strengthen the network connection in the process. Fully mastering the stakeholder theory knowledge and in 
combination with computer technology, we can form stakeholder network channels and the stakeholder 
connection network, and speed up the construction of the law system for renewable energy. Besides, we can 
build a transitive relation model, put the corresponding data into the algorithm model, and then we can make 
clear the direction of development and relationship. Put the asynchrony transitive relation between stakeholders 
\( et_\theta = et_0 + \sum_{t} et \cdot w_\theta \), and the overall synchrony relation is \( t = 1-et \). 4.2Improve the legal enforcement process and expand public channels

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**Figure 1. Implementation Process of the Legal System for Renewable Energy**

**Figure 2. Public Channels to Law of Renewable Energy**

In the process of designing the legal system for renewable energy, the application of stakeholder theory should 
be strengthened and the theory of stakeholder should be combined to form the appropriate network connection 
platform and law enforcement process. Law enforcement is the most intuitive manifestation of the legal system. 
Therefore, in the design process, we can use stakeholder theory to understand the people it serves so as to form 
relations among the stakeholders and form an open legal network platform. In the process of development, we 
can establish a workflow based on the stakeholder theory. (Figure 1 Implementation process of the legal system 
for renewable energy). The information of enterprises can be collected by using the stakeholder theory, and the law of renewable energy can be tested in this process.
Besides, the importance of the public in the law should be emphasized in the design of the legal system for renewable energy. Therefore, using the stakeholder theory to establish public channels is of great significance. As shown in Figure 2, public channels to law of renewable energy, the public give information feedback through the relations among stakeholders and the government implements legal evaluation by information processing, thus has certain promotion to the development of renewable energy.

4.3 Establish a legal system platform and build energy supervision mechanism

The improvement of the legal system for renewable energy is of great significance to the development of renewable energy industry. Therefore, in the process of designing its legal system, a legal system platform should be set up in the light of stakeholder theory so that enterprises and all sectors of society can communicate with each other through the platform and promote the construction of the legal system. And in the process, the process of supervision on law of renewable energy as shown in Figure 3 should be established, in accordance with the norms of which, behaviors in violation of the legal system for renewable energy can be dealt with, which can create a healthy development and operation environment for the development of the renewable energy industry.

![Figure 3. The Process Of Supervision On Law Of Renewable Energy](image)

5. CONCLUSIONS

The formation of the legal system for renewable energy is of great significance to the construction of a resource-conserving society. In the process of designing the legal system for renewable energy, through the application of the stakeholder theory, the establishment of information platform and adjustment of supervision mechanism and other methods, problems in law of renewable energy can be solved and the goal of promoting the establishment of the legal system for renewable energy can be achieved.

REFERENCE

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