# Research on Accounting Recognition and Measurement Related to Energy Management Contract

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**Abstract**. The energy crisis of the 1970s prompted Western developed countries to explore ways to save energy by improving energy efficiency. The United States is the first to propose an energy management contract model that relies on market mechanisms to promote energy conservation. Its development has obvious bottom-up, market-driven economic characteristics. In the 1990s, the energy management contract mechanism was introduced into China, and its development has obvious top-down, policy-driven economic characteristics. Energy management contract is a relatively new business model. With the advancement of society, the form of energy management contract has gradually increased. At present, the accounting system for this type of business model has not been formed. Based on this situation, there are more and more problems in energy management contract. So far, China still lacks a unified accounting business accounting standard, and there have been many disputes in accounting practice. This has greatly affected the promotion and implementation of the new mechanism of domestic energy management contract, which inevitably has a certain impact on the development of the contract energy industry.

## 1. Overview of energy management contract

In the 1970s, energy management contract originated in the United States. In Europe and the United States, where the market economy is highly developed, energy management contract, as a market-oriented means of energy conservation, has gradually developed at the enterprise level and has received increasing attention from the government. The energy management contract mechanism is an energy-saving retrofit financing model that pays the full cost of energy-saving renovation projects with reduced energy costs. We can understand the energy management contract model more intuitively through Figure 1.

From the perspective of contract type, it is generally divided into energy-saving benefit sharing type, energy saving quantity guarantee type, and energy cost custody type. In practice, China implements the energy-saving benefit sharing model, while the United States and Japan implement the energy-saving guarantee model.

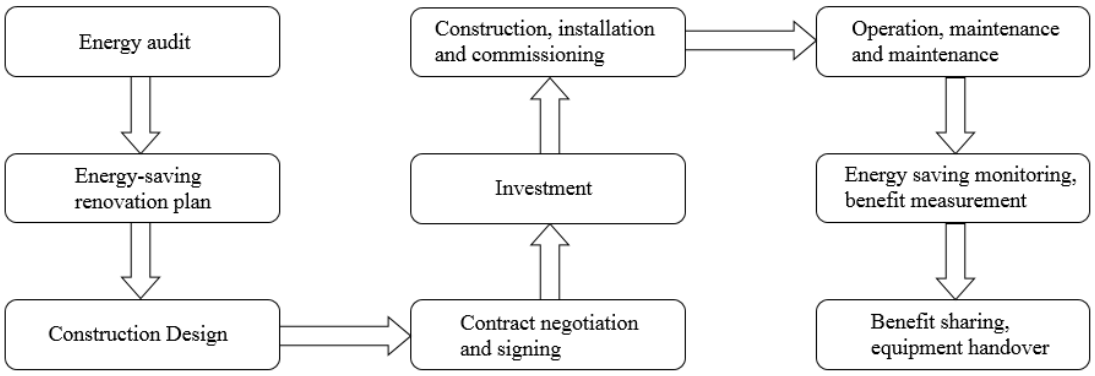


**Figure 1.** Energy management contract model

## 2. The situation of energy management contract in China

### *2.1. Development and characteristics in China*

The original development of energy management contract in China is to introduce a new market-oriented energy-saving mechanism, and its development is top-down government behavior. The specific characteristics are: a) the development of the industry is not good; b) the investment in energy management contract projects is obviously slowing down; c) energy management contract has become a means of tax avoidance.

### *2.2. The main problems faced by energy management contract development in China's practice*

*2.2.1. Lack of systematic support for government support*. First of all, the "energy-saving benefit sharing type" has unclear operational boundaries in practice, which has led some companies to dare to carry out energy management contract projects. Some local government policies are inconsistent with central government policies, which also restricts the development of energy-saving service industries. Second, the General Principles of Technology become a formal rather than a substantive requirement for energy management contract. When the tax bureau audits, it usually pays attention only to whether the form of the contract is compliant, and does not pay attention to the essence of the energy management contract economic business. On the other hand, regardless of the actual operation status of the contract project, as long as the contract is stipulated and the contract terms meet the formal requirements, the corresponding fiscal and tax preferential policies can be enjoyed, causing the country to suffer losses. Finally, the threshold for energy conservation has been set, and the policy threshold for tax incentives for energy management contract has been artificially raised, making it impossible for the project to enjoy relevant tax incentives, which is not conducive to the business expansion and sustainable development of small and medium-sized energy service companies.

*2.2.2. Social credit system is imperfect*. During the implementation of the project, energy-using units, energy-saving service companies, governments, financial institutions, audit institutions, equipment manufacturers and other stakeholders will use their information advantages to maximize their own interests.

*2.2.3. Inadequate detection methods and mechanisms*. At present, the lack of third-party testing institutions, authoritative testing methods, project evaluation systems, and credit evaluation of energy-saving service companies are the main reasons for the chaos in the energy-saving service market.

*2.2.4. Inaccurate accounting system*. The accounting treatment of energy management contract is scattered in various newspapers and magazines, and is mostly a statement. There is no unified accounting and increased the difficulty of accounting and increased tax risk.

*2.2.5. Financing difficulties. Funds are the lifeblood of enterprise development.* At present, the financial incentive mechanism and tax incentive mechanism of energy management contract are more focused on blood transfusion. In the hematopoietic mechanism of financing of energy-saving service companies, relevant supporting policies are relatively lacking.

## 3. Accounting issues in energy management contract

### 3.1. *Related to accounting aspects*

The concept of energy management contract mainly refers to the relevant indicators for energy-saving service enterprises to stipulate energy-saving projects in the form of signing contracts. These enterprises can provide diagnosis, design, financing, construction and other services for energy-saving projects in China. Its content relates to the following accounting aspects:

a) In the energy management contract accounting, the labor and material costs for equipment installation are their own measurement methods and subjects, and the energy-saving equipment in actual application may be generated by itself or at the same time. According to this, for energy-saving companies, whether the materials are issued with detailed subjects or commodity sales have certain measurement rules.

b) China's energy-saving project project funds are huge, and the financing interest belongs to it is also a big problem.

c) In addition, the project revenue problem in energy management contract accounting is not doubtful. Energy-saving projects are usually based on the income of energy-using units when determining income, so the income of each period is different. In addition, during the contract period, the equipment products used by the energy-using units are not fully clarified, and the depreciation problem needs to be solved urgently.

### 3.2. *Accounting recognition and measurement*

At present, most domestic energy management contract adopts energy-saving benefit sharing mode. Relevant scholars believe that this type of energy management contract can meet the relevant standards of financial leasing, so it advocates the use of "financial leasing" to deal with accounting problems in such contracts. Some scholars also have reservations about this because the form of financial leasing has not taken into account the security risks and transfer of income caused by asset ownership. In addition, there are some energy-saving projects that can be installed as fixed assets. Relevant units often use their own products in the installation of energy-saving projects, debit the "under construction" subject, after the completion of the project installation, and record the "fixed assets" subject. Once the financing expenses are generated, the “financial expenses” are debited, and the energy-using units are depreciated according to the fixed assets depreciation method. Through this method, enterprises have not separately calculated the energy consumption of unit equipment assets and enterprise fixed assets, resulting in various uncertain factors. This paper considers that there are mainly five kinds of accounting treatment methods for energy management contract, and summarizes the accounting treatment judgment model of energy management contract business (Figure 2).

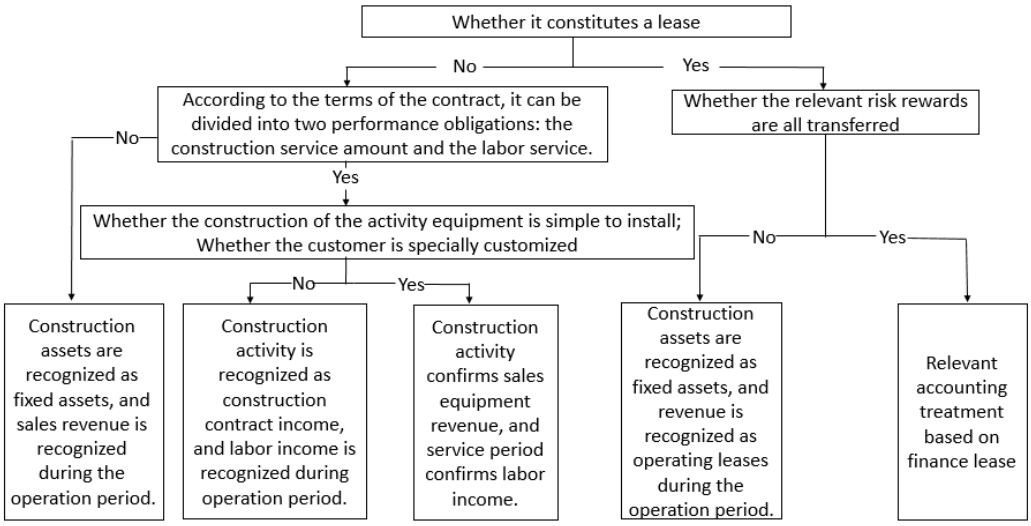


**Figure 2.** Energy management contract accounting treatment judgment model

In the specific practice, it will be in a variety of accounting environments, and it is necessary to accurately select the appropriate accounting treatment according to the actual situation.

### 3.3. *Accounting report*

In the "Accounting Standards for Business Enterprises", the form of the accounting report and the content of the report have been clearly defined. The issue of energy management contract accounting report is rarely involved in the current literature. From the financial information provided by the enterprise and the financial information required by the investors, the relevant departments should standardize the accounting reports of energy management contract, so that the accounting reports of the energy management contract parties should also differ in content and form.

## 4. Conclusion

Through the research on the current status of China's energy management contract accounting, we have found many problems. If these problems are not solved in time, it will have a serious impact on the development of energy management contract accounting. Based on this relevant unit, effective measures should be taken to improve the rationality of accounting subjects, standardize the initial measurement of assets, manage the subsequent measurement of assets, strengthen risk awareness and internal control awareness, improve the professional quality of relevant personnel, and apply financial management software. Intensify efforts to implement accounting and attach importance to the construction of accounting personnel. Only in this way can the efficiency of energy management contract accounting be improved, and the sustainable development of the energy management contract industry can be promoted. This is of great significance for realizing the transformation of the domestic economy and building a conservation-oriented society.

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