

The New Idea of Exploring Building Energy Efficiency from the Overall Point of View

Weidong WU¹, Renyi ZHU², Yi YANG²

¹South West Petroleum University, Chengdu 610500, CHINA

²School of engineering and civil engineering, South West Petroleum University, Chengdu 610500, CHINA

Abstract: This paper analyzes the potential of energy efficiency of new buildings, as well as some problems in the field of building energy efficiency at this stage. By analyzed the issues in the perspective of development, the paper make a study on the new concept of Building energy efficiency from the overall point of view. And then seven new entry points of Building energy efficiency was proposed by means of analyzing specific issues, which making great significance to the energy saving emission reduction work in the "Twelfth Five-Year Plan".

Keywords: Overall Point of View; Building Energy Efficiency; New Concept

1. Introduction

According to the characteristics of changes of domestic and foreign energy development environment, "National energy" made a regulation that the development of clean energy and non-fossil energy sources should be strengthened in the "Twelfth Five-Year Plan". In addition, the relevant government departments should taken effective measures to intensify energy-saving.

The construction industry is developing rapidly today. with the rising of the total construction and improving of residential thermal comfort, the consumption of building energy has accounted for 32% 40% of the country's energy consumption, which showing a trend of rising sharply. To achieve the goal of comprehensive energy efficiency to 38 percent formulated by the national 2015 Plan and effectively reduce energy consumption, the huge space and potential in the field of building energy efficiency has driven energy saving become focus areas of China's current energy conservation.

2. The energy conserving potential of the new buildings

Along with the rising of the total amount of construction and the improving requirements of comfort of living , the building energy consumption showed a sharp upward trend. In other words, If the building energy consumption levels have been reduced to a certain extent, then our country's energy conservation and emissions reduction will be achieved very good results.

It is estimated that by the end of 2020, the national new housing construction area will reach 30 billion square meters, of which 13 billion new urban housing area. Just

for towns, if all the buildings on the basis of the existing standard 50%, generally about 30%, of the energy efficiency, it can be calculated : $13000000000 * 0.02458 t * 20\% = 064$ million tons. Similarly, according to power consumption estimate coefficient that the residential building is 20Kwh / m².a (translated 0.02458 tons of standard coal), the national new housing can save about 148 million tons of standard coal each year.

In china, the public building area of approximately 4.5 billion square meters, of which the total amount of the commercial buildings with a large central air-conditioning, office buildings and hotels is 550 million square meters. If the residential buildings and public buildings can be implemented energy-saving transformation in accordance with the standards of national energy saving 50%, the annual savings can reach to approximately 203 million tons of standard coal. It is Visible that the building energy efficiency has great potential and space.

3. Problems of building energy efficiency

3.1. Energy efficiency policies can not be well implemented

In the process of construction, the supervision of certain administrative department is not well. More specifically, the phenomenon that "modifying the building energy saving design scheme" and "blindly compromise the construction unit" still exists in a certain range. The reason is that the construction unit usually save construction costs at the expense of ignoring the energy-saving design requirements, and even modifying energy saving design. Additionally, the designs and supervision units also usu-

ally obeyed the "unreasonable demands" of construction units driven by the interests, resulting in a building energy policy yet not well implemented.

3.2. Emerging energy saving technology lack of an objective evaluation system

The building energy conservation areas is still being lack of proper planning policy and technical planning guidance and emerging energy-saving technology lack of an objective evaluation system. Today's energy-saving policy failed to give the developers who Implemented the new energy-saving technology care in policy timely, which virtually dampening the enthusiasm of real estate developers and making a Obstacles for the popularization and application of new energy- saving technology.

In addition, the lack of concept of global optimization of energy system planning in our country led to new technology can not Cooperate well with the proven traditional techniques. It is not to play the advantages of the new technology that indirectly led to China's energy conservation and emissions reduction work not well implemented.

3.3. Lack of green building standards

Green Building system follows the principles of ecosystem virtuous cycle, giving the building a "green life". It not only provided a comfortable space but also achieved the goal of "zero emissions, low consumption" when in use. With maximizing the conservation of resources and reducing environmental pollution, we human can in harmony with nature well.

Green building has a large proportion of the cost of the initial investment, while operating expenses will be reduced after the completion of the characteristics. Due to the lack of sound green building standards, the intensity of the government's macro-control, and not to give tax policy concessions, the developers and construction companies have consciously avoid to undertake green building projects, leading to a serious impediment to the healthy development of green buildings in our country.

3.4. Research and development of green energy is too limited

At present, the real estate industry's understanding of green energy is largely confined to the solar energy. Moreover, the use of solar energy has limited to the use of heating water, leading to the proportion of the total energy consumption of green energy is too small. Additionally, the use range of solar energy

It is too more limited in remote rural areas. solar water heaters, due to price reasons, can not be used by the vast majority of families. Straw and wood burning is generally used as alternatives, which not only hindering the use of green energy but increasing carbon emissions.

4. The new concept of building energy efficiency -Standing in a global perspective

Combined with the latest status in the field of construction, building energy efficiency was being explored in a new ideas from the perspective of the whole situation. It put forward the following Suggestions:

4.1. Build up the idea of terminal energy conservation priority

The public should build up the idea of terminal energy conservation priority. Firstly, it was a good way to use limited funds to terminal energy consumption (demand side) for building energy conservation. As a result, its efficiency is much higher than the benefits of investment in energy production. Good steel should be used in the blade. So the government, enterprises and institutions should put money into the terminal energy consumption to produce the largest benefit. Furthermore,

The new idea of "terminal energy conservation priority" on building should be popularized. with the awareness of "terminal saving priority," the user will have the priority to buy terminal energy saving products. Naturally, the target that energy conservation and emissions reduction of "Twelfth Five-Year Plan" will be achieved as soon as possible. In the process of the construction of new socialist countryside, the government should actively promote the "green lighting" project and encourage users to buy or update the energy-saving equipment. The government departments concerned should actively implemented the policy to support energy-saving lamps replacing incandescent lamp in remote rural, make building energy saving become a thing everyone can do.

4.2. Earmarking-Universal education of public energy conservation

Along with the increasing seriousness of global energy shortage, energy conservation has been playing a important role in people's lives, slowly becoming a lifestyle. Therefore, the government and society should take measures to increase the energy efficiency of public education. Simultaneously, the local financial departments should set aside a part of the special fund to cultivate the public consciousness of energy conservation. For example, building energy conservation knowledge training should be organize regularly to improve the awareness of construction workers ,such as the building side, construction workers, designers, supervisory personnel. Only in this way can they develop a good habits for building energy efficiency.

In addition, it was a wise move to popularize knowledge of energy saving education. More importantly, the energy saving education should be brought into the curriculum of nine-year compulsory education, prompting people to form the consciousness of "energy saving ".

4.3. The concept of "specific customer specific treatment"

At the beginning of the current building energy efficiency market formation, it is a Objective fact that the awareness of energy conservation is not high among the public, and energy efficiency evaluation system is not perfect. Only to develop specific energy-saving policy for developers can encourage the real estate .

The potential of energy conserving invisible can be tangible architectural energy saving power by means of the legalization. Specific customers should be treated specifically. It is suggested that the government should relax the credit policy for the developers and building enterprise to drive them to undertake green building projects with more passion. Moreover, the fixed asset investment direction adjustment tax of building enterprises who were effective for building energy efficiency should be reduced or exempted, but provide a certain percentage of grants and low-interest loans.

In addition, it is a good way to promote the energy-saving effect of exemplary building and Charge A certain proportion expenses on energy-intensive building. With the role of the government's macroeconomic regulation and control, the construction companies and the developers can move forward with the direction of the national energy strategy.

4.4. Development of the concept of green building

Building energy efficiency are being paid more and more attention today. And the concept of green building are gradually understood by the general public. It is worth mentioning that the technology and management way of green building were also gradually used in the projects in some major cities. Green building system follows the principles of ecosystem virtuous cycle, giving the building a new "green life."

(1)"Free" Energy

It is a bright spot for green building to make full use of new energy, effective use of "free" resources in the natural world ,such as wind power ,solar energy. Additionally, effective measures should be implemented to encourage users to give priority to use the solar water heater, electric appliance relying on wind power etc.

(2)"Turning waste into treasure" - conservation of resources

Green building has three major feature ,such as rational utilization of resources, reducing waste of resources and the use of renewable resources as much as possible. The concept that "garbage is another kind of hair wrong location of the resource" is a emerging economical idea, which owned a high reference significance. For example, the reuse of existing pile foundation not only can cut down the cost of foundation treatment in new construction, and reduce carbon emissions, protecting the natural environment.

(3)"in harmony" with nature

It is the pursuit of harmony with nature that was a specialties of green building. By means of a natural thing to do an ornament to achieve artificial decorative embellishment effect, it can avoid the deliberately artificial decoration. It not only saved resources but also return to the nature of contemporary architecture to do so, which is becoming a kind of ecological beauty pursued by the contemporary Architectures.

4.5. Co-ordinate regulation of the interests chain among administrative, department, building side, construction units, design units and supervision side

The regulations that punishment by a fine of xx yuan to xx yuan in "Building Energy Conservation Management Regulations" was too general. Because the punishment did not has a deterrent effect on the personnel in violation of regulations, so it should be specific.The project owner should build in accordance with the building energy efficiency design requirements approved the relevant departments. If the building side failed to build in accordance with the design requirements of energy-saving building to save costs , it, once discovered, should be punished. And the punishment standards can refer to the energy-saving design costs of the building completed and the actual costs should be spent. Simultaneously, the construction unit should be warned and the fine should directly used to the building's energy transformation. At the same time, the design unit, the construction unit and the supervision department should be under investigation. The legal units should be praised as a basis for qualification upgrading. In contrast, the Illegal units should be to warned and confiscated the illegal income. For the administrative supervision departments, it should be distinguish clearly the administrative accountability and the responsibility to the people, hoping to dispel completely the illegal motives of the various stakeholders.

4.6. Actively promote the technology concept of "roof energy"

By promoting the application of" roof energy conservation" technology and strengthening the Roofing heat preservation and Roofing Heat Insulation, it will be a major move to reduce building energy consumption and achieve energy efficient buildings. In addition, the heat preservation and heat insulation effect of energy-saving roof was good, and the cost saved of energy-saving roof can offset the cost of purchase. Some technology of "roof energy" have been successfully applied, such as choosing bibulous rate high thermal insulation material, setting the vent in the roof to discharge water inside, using new roof efficient thermal insulation material (expanded perlite).

It difficult for people to accept the high price of energy-efficient roof due to a variety of objective reasons. So the

application scope of building "roof energy-saving" technology was not very widespread now. However, as long as the effective measures was taken to introduce the advantages of energy-saving roof and popularize knowledge of energy saving, technology of "roof energy-saving" will achieve very considerable results in the near future.

5. Conclusions

In a word, it is a significant measure to promote the new idea of green building and popularize knowledge of public energy saving. In addition, it is a wise move to encourage the public to use energy-saving equipment in new rural residential, which prompting the formation of public awareness of energy conservation in daily life. Effective measures should be taken to coordinate the state departments to participate together for improving itself awareness of energy conservation. It can effectively improve the efficiency of building energy conservation and reduce energy consumption by designing in accordance with the standards for energy conservation and strictly controlling the quality. And then, high-quality buildings, in the true sense, with many advantages of energy-saving, environmentally friendly, and comfortable can be built successfully, making significant contributions for the sustainable healthy development of the national economy.

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