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Directions Renewable Energy - Options For Vietnam Urban

Dao Dang Quang, Luu Kieu Oanh
Thai Nguyen University of Technology

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Abstract: Renewable energy or renewable energy is energy from continuous sources that according to human standards are infinite. The basic principle of using renewable energy is to separate part of the energy from continuously evolving processes in the environment and put it into technical uses. These processes are often promoted especially by the Sun, wind, ocean waves, waterfalls, etc.
In all fields, energy saving architecture (using natural and renewable energy) is becoming a leading concern in the world today. The problem of climate change is becoming more and more serious around the world, the main cause being the use of energy, which has a negative impact on this change. Energy saving action programs are taking place across countries around the world.

Keywords: Traditional design principles, sustainable architecture, green buildings, ecological architecture, renewable energy.

I. INTRODUCTION

Renewable energy or renewable energy is energy from continuous sources that according to human standards are infinite. The basic principle of using renewable energy is to separate part of the energy from continuously evolving processes in the environment and put it into technical uses. These processes are often promoted especially by the Sun, wind, ocean waves, waterfalls, etc.

In all fields, energy saving architecture (using natural and renewable energy) is becoming a leading concern in the world today. The problem of climate change is becoming more and more serious around the world, the main cause being the use of energy, which has a negative impact on this change. Energy saving action programs are taking place across countries around the world

II. QUESTION

In the face of increasingly severe climate change and increasing pressure on economic growth, Vietnam is facing an energy revolution that must be implemented to ensure sustainable energy supply and reduce inflation. greenhouse gas emissions. In this context, renewable energy has become an important choice for urban Vietnam.

Specific issues that may be considered in the article include:

Renewable energy resources in Vietnam: Research on the potential and ability to use renewable energy sources such as solar energy, wind, hydroelectricity and bioenergy in Vietnamese urban areas.

Opportunities and challenges: Assess the opportunities and challenges of renewable energy deployment in cities, including economic, technical, and social aspects.

Policy and regulation: Evaluate the promotion and support of renewable energy through government policy and regulation, as well as the potential to improve the investment climate for renewable energy projects.

Estimating emissions reduction potential: Examines the impact of renewable energy deployment on reducing greenhouse gas emissions in cities, while creating a potential model for sustainable development.

Practical examples: Provide specific examples of successful renewable energy projects in Vietnamese urban areas and learn from this experience.

Looking to the future: The interaction between new technology and growing urban demands can create new opportunities and challenges in the renewable energy sector.

The article will focus on discussing the importance of renewable energy for the development of urban areas in Vietnam and how decisions and investments in this sector can shape the sustainable future of Vietnam. country.

III. APPLICATION OF SOLAR ENERGY TECHNOLOGY FOR LOW-RISE HOUSING

Regarding solar energy sources, due to its favorable geographical location, Vietnam is located between 80-230 North latitude in the tropical monsoon climate zone. Thai Nguyen city is located in the tropical monsoon region, showing quite clearly that the average number of hours of sunshine is about 2000 ÷ 2500 hours/year, the total average solar radiation

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energy is about 150kCal/cm2.year, the theoretical potential is estimated at about 43.9 billion TOE/year. Solar energy can be used in the following forms: Solar cells to generate electricity, solar water heating systems, solar dryers... That reduces the load on the national grid, and Save costs for consumers and the state for electricity production during peak hours.

A . Solar battery

Solar batteries are now a quite effective solution to absorb and convert solar energy into electrical energy for our use. With current techniques, we can install solar panels on the roof or install sun protection panels with integrated solar batteries (this has two effects: absorbing and converting energy). solar energy into electricity, while providing sun protection for the building).

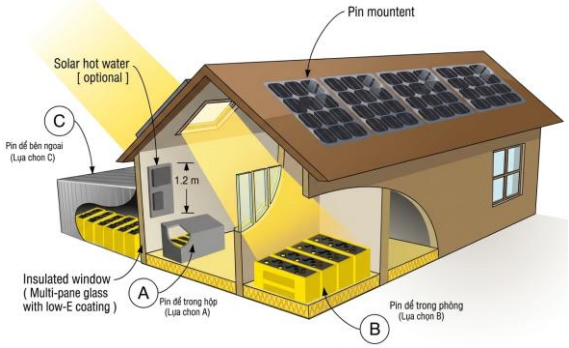

Figure 1. How to install solar batteries on the roof and plans to arrange solar power storage batteries

B. Solar energy

Using solar water heaters is one of the effective solutions to solve people's energy needs, while reducing the national energy load. With today's technology, there are many types and styles to choose from. We can mount them directly on the roof, or place them on the terrace, without much impact on the house's architecture.

Not only using solar batteries simply, with current technology we can combine the creation of a technology that integrates the use of solar batteries and hot water heating. This reduces investment costs, increases equipment efficiency, and reduces occupied area.

IV. APPLYING WIND ENERGY TECHNOLOGY TO LOW-RISE HOUSING

Wind is an endless resource that can be used to generate electrical energy for homes. We use wind to generate electricity in many ways:

Install wind turbines on the highest position of the roof to collect wind. Or combine ventilation with electricity generation by mounting a wind turbine right above the skylight.

Figure 2. Installation of a wind turbine combined with a heat suction bridge

V.SOME PROPOSALS FOR APPLYING RENEWABLE ENERGY TECHNOLOGY INTO BUILDINGS.

We see that the use of renewable energy in life is increasingly widely applied. It aims to solve many pressing problems today such as: minimizing environmental pollution, minimizing electricity production costs, and ensuring a comfortable life for everyone. Furthermore, with the urban characteristics of Vietnam today, block houses are the most popular housing model, so let's propose and research some applications of renewable energy technology for this type of housing.

As for the layout of the Lo house, nothing has changed much:

+ First is the technical system,
+ Second is the layout of the facade.

Arranging the storage and operating system right at the foot of the stairs reduces the area and does not affect the aesthetics. The most obvious change is that the technical system is much more expanded than the previous technical box.

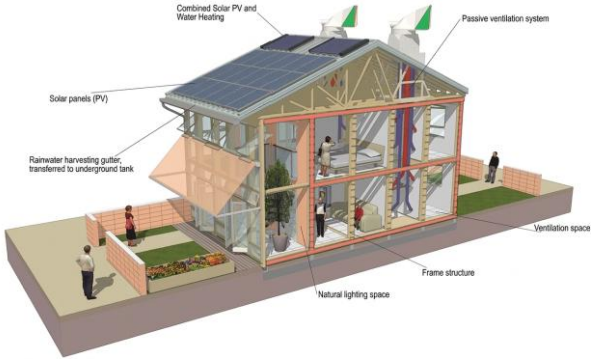

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Figure 3. Solution for combining solar energy and wind energy

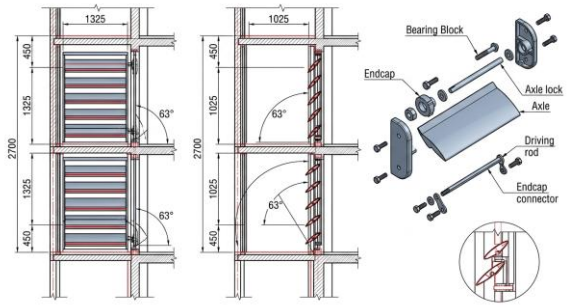

Figure 4. Sunshade solutions for facades

The technical box is where the geothermal and solar energy system is located. And other pipes. In addition, at the foot of the stairs we can arrange technological equipment, and is also a place to store energy provided by technology.

For 2nd and 3rd floors, use sunshades that use solar battery technology. This helps the house reduce direct sunlight entering the house, and also makes the facade form richer and more effective.

On the roof we arrange solar panels, or solar water heating panels, or wind turbines for rainy days, high wind speeds and lack of sunlight.

VI. CONCLUSION

Renewable energy has become an indispensable choice for the sustainable development of urban areas in Vietnam. Looking into the future, investing and promoting the use of renewable energy in urban areas not only helps minimize the impact of climate change and reduce greenhouse gas emissions, but also brings many economic benefits. and society.

by using energy sources such as solar, wind, hydropower, and bioenergy, vietnamese cities can reduce their dependence on fossil energy, helping to ensure supply. stable energy and reasonable price. this also has the potential to create many job opportunities in the renewable energy industry and related sectors.

however, to achieve this mission, support and commitment from government, industry and the community is needed. the government needs to establish policies and regulations that promote the deployment of renewable energy and create favorable conditions for related projects. industry needs to invest in research and development of new technologies to improve the performance of renewable energy systems. the community needs to participate in this process through creating awareness about the importance of using renewable energy and participating in related community projects.

In the challenging context of climate change and urban growth, renewable energy is not just an option, but a commitment to the sustainable future of Vietnamese urban areas. This transformation not only benefits the environment but also promotes economic development and improves the quality of life of urban residents. That is the importance and meaning of choosing renewable energy for Vietnamese urban areas in the 21st century.

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