The use of renewable energy in high-rise buildings in seaside cities

Ri Un-Chol[a*], Ri Gum-Chol[b], Ri Kwang-Chon[a], Mun Gil-Woon[a], Han Sun-Hyok[b]

[a] **Faculty of Machine Engineering, Ham Hung University of hydraulics and power ,Ham Hung , Democratic People's Republic of Korea**

[b] **Faculty of Construction Engineering, Ham Hung College of Construction ,Ham Hung , Democratic People's Republic of Korea**

AUTHOR or CONNETION INFORMATION

* E-mail: riunchol@163.com

Abstract:

Solar energy is one of the cleanest energy sources. The proportion of renewable energy used in total building energy consumption is more than 5%. "Preferences:" The amount of renewable energy used in the total building energy consumption is more than 10%. "Explanatory Notes on the Indicators Explanatory Notes on Solar Hot Water the system description is: 5% the following indicators can be used to judge - if the cell

0 Introductions

Since the birth of life on the earth, it has mainly survived with the thermal radiation energy provided by the sun. Since ancient times, humans have also learned to sun-dried objects and used it as a method of making foods, such as salt and salted fish. With the declining fossil fuels, solar energy has become an important part of human energy use, and it has been continuously developed. The use of solar energy has two methods: photo thermal conversion and photoelectric conversion. Solar power generation is a new type of renewable energy. Solar energy in the broad sense also includes wind energy, chemical energy, and water energy on the earth.

1. Utilization of solar energy

• The application of solar energy heating has developed rapidly, with significant energy savings. In the energy consumption structure of a building, about 75% of its energy is used for building heating and hot water supply. Combining solar energy utilization with building energy-saving technologies can reduce energy consumption and reduce environmental pollution caused by energy consumption. This is an important approach for building energy conservation.

• A heat pump system that uses solar energy as an evaporator heat source is called a solar heat pump system. The main research areas of solar heat pump applications are winter solar heat pump—floor radiant heating system and non-heating season solar heat pump hot water supply system.

2. The current situation

A city in our country, Ham hung City, is a coastal city on the Korean Peninsula's East Sea.

Ham hung City is located on the seashore of Hamgyongnam Province, Ham hung City is the second largest coastal city in DPR of Korea.

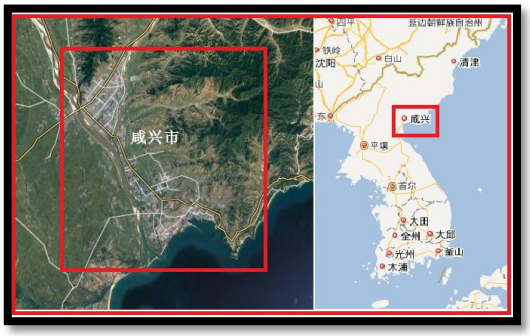


Figure 2-1。 current situation
（http://www.google.cn/maps/）

Because the city is located on the beach, it has abundant wind and solar energy resources.

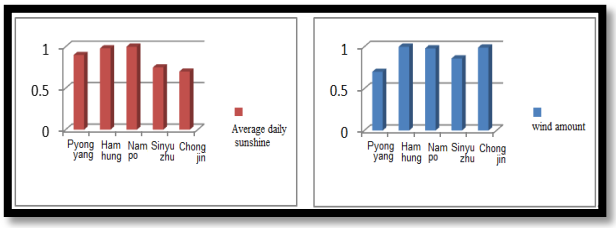


Figure 2-2 Average daily sunshine and wind amount in each city during the year (benchmark: maximum 1)

As can be seen from the figure, in our country's major cities, the annual average lighting and air volume in Ham hung City is relatively high.

Therefore, it is very important to use solar energy in urban buildings to ensure that their required power needs.

From this point of view, many buildings in the city, especially low-rise buildings, are actively studying the use of solar panels to obtain the necessary power, but they are used in high-rise buildings with small height and solar panels. Solar and wind energy research is still in the process of research.

Disadvantages: The issue of mounting the solar version appeared at building of high level. Did not meet the requirements of people living in high-rise buildings

The sun is facing the glass window. This part of the solar energy resources has not been used effectively.

Therefore, aiming at this problem caused by high-rise buildings in cities, this study aims to propose the issue of rational use of solar energy in high-rise buildings and proposes solutions to the problems.

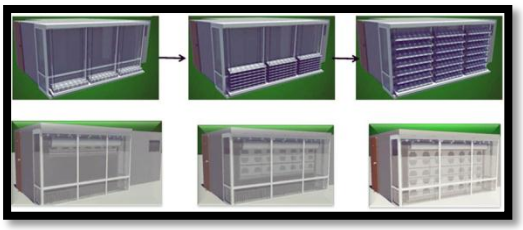
3. Distributed photovoltaic systems - White-leaf windows for high-rise buildings will solve this problem.

In general, in high-rise buildings, unlike other low-rise buildings, the installed area of solar panels is relatively small.

Therefore, the windows of high-rise buildings must be used rationally, leading to solar panel structures and the rational design of buildings and works of art.

In order to solve this problem, three types of solar panels that connect solar panels to the windows of buildings are proposed, and the characteristics of solar panels are revealed.

Opening Method 1: Top-down folding



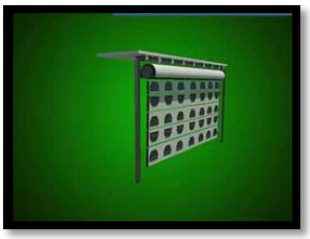
Office workers are usually not at home during the day.

If a photovoltaic solar power system is installed, it will effectively use clean energy to solve household electricity.

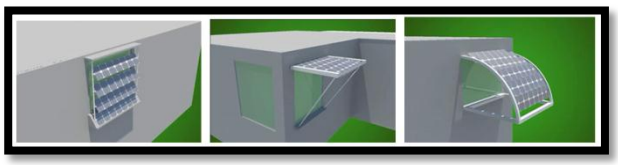
Blister type photovoltaic power generation system, effective sun protection, power generation, privacy protection

Particularly suitable for office workers who are not at home during the day

Method 2: Ordinary fold away



Mode 3: Bed Cloth



Advantage

Control the solar heat entering the room at any time, brightness

At the same time using solar power

So this kind of solar panel is used rationally through high-rise construction.

Thus , Building area can generate electricity and can satisfy customer needs

4 . Conclusions

The solar panels that can be installed on the various windows described on the right are good ways to use solar energy in a small area, high-height high-rise building to ensure the energy demand of users.

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