

The Intention to Install Solar Photovoltaic Panels on the Roof of the Households

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ABSTRACT

The purpose of this research is to study the intention to install solar photovoltaic panels on the roof of the households. It was found that Thailand places importance on clean energy. Push for more renewable energy, promote power generation systems that use natural energy to help reduce impacts on people's quality of life and the environment, it creates a good image for the international community. Solar power generation is a type of renewable energy specified in the renewable energy development plan. The government has a policy to support the use of solar energy to generate electricity as an alternative energy that does not affect the environment, encourage the industrial sector to install solar photovoltaic panels to save energy, and encourage households to install solar photovoltaic panels on the roof. The intention of installing solar photovoltaic panels must take into account that when installing solar photovoltaic panels on the roof, it will bring benefits to members and family members rather than harm by reducing electricity bills. Having their own backup electricity and not having damage from unstable state power system, etc. The head of the family considers the electrical energy options that will be provided by installing solar photovoltaic panels on the roof, comparing each option and choose the best option that will make the most of yourself and your family members is to install solar photovoltaic panels on the roof. Installation of solar photovoltaic panels on the roof is a method of generating solar electrical energy. The resulting electricity is therefore clean energy. The production process does not affect the environment or does not degrade the environment.

Keywords: The Intention To Install / Solar Photovoltaic Panels / On The Roof Of The Households

INTRODUCTION

Electricity is the energy that humans use in everyday life. In addition, electricity plays an important role in the development of the country and the economy of all sectors. Electric used in transportation, Electric train operation both underground and automobile, hospitality businesses, hotels, accommodation use electricity to serve tourists. The industrial sector uses electricity to generate mechanical energy instead of manual labor. Increasing the world's population also means increasing electricity consumption. The United Nations estimates that by 2040, the population will increase to 9.8 billion and will reach 11.2 billion by 2100. The country with the highest population is India, followed by China (United Nation, 2017). The increasing number of people reflects the awareness and importance of all countries in ensuring electricity security. Currently, the electricity demand of the world's

population in 2020 is 28 thousand terawatts/hour (1 terawatt equals 1,000,000,000 kW). By 2040, the world's population will use 28% more electricity, equivalent to 34 thousand terawatts/hour (U.S. Energy Information Administration, 2017). The increase in population and the support of the public and private sectors to promote economic growth, especially in the industrial sector, are the key catalysts of the continuously rising demand for electricity.

Countries around the world are accelerating power generation to provide sufficient electricity supply for domestic use and backup in emergency situations. In particular, electricity is an important indicator of industrial production. In addition, if more electricity is generated, it can be sold to neighboring countries as well. Currently, around the world there are companies that do business with regard to buying, (Dunnana, L., Erfenga, Guangyua & Zhendong, 2019). The demand for energy is constantly increasing. The industrial sector is increasingly dependent on electricity. In addition, many countries have started developing electric vehicles (EVs) instead of gasoline cars, encouraging more people to use electric vehicles. Electric cars are a popular vehicle around the world. In 2021, electric vehicles doubled from 2020 to 6.6 million units, with 53% of global sales (about 3.4 million units) in China. This is followed by the European market at 33 percent and the United States market at 11 percent. In addition, it was reported that in 2021, electric vehicle sales accounted for 8.6 percent of global car sales, that's up from 0.9% in 2016. Currently, it is estimated that there are more than 16 million electric vehicles in use worldwide, and the demand for electric vehicles is expected to continue to increase (International Energy Agency, 2021).

Impact of fuel-powered power plants, Various manufacturing sectors that affect people and communities. Therefore, countries give priority to generating electricity from non-fuel power plants. This includes encouraging and supporting the industrial sector to change production processes and use more electricity (Alam, Ahmad, Othman, Shaari & Masukujjaman, 2021). electric energy produced from non-fuel power plants as a clean energy source, Does not affect the environment, Therefore, it has become more popular and in demand. Solar energy is used to produce more electricity. This is especially true in rural areas of some countries with high temperatures, such as India, where solar energy is increasingly being used to generate electricity for community use (Prasad, Singh & Nagar, 2017). In addition to that, solar energy is recognized as one of the most important renewable and environmentally friendly energy. It is an excellent source of energy, and the technology used is also environmentally friendly. It is one of the approaches that play an important role in tackling energy issues for sustainable development. Therefore, the enormous amount of solar energy that is available every day is a very interesting resource for generating electricity. Intensive application of solar energy or solar photovoltaic panels (Maka & Alabid, 2022). From problems and obstacles and factors related to the installation of solar photovoltaic panels on the roof of households. As a result, researchers are interested in studying the intention to install solar photovoltaic panels on the roof of the households.

Research Objectives

To study the intention to install solar photovoltaic panels on the roof of the households

Research Methodology

Research on the intention to install solar photovoltaic panels on the roof of the households, the researchers used a qualitative research method by collecting data from documents (Documentary Research) by reviewing concepts and theories from relevant documents and researches.

Data Analysis

The researcher analyzed data from documents and analyzed content (Content Analysis) by studying various documents and research related to the study to be analyzed and compared in order to obtain accurate and reliable information and perform data validation and reliability with triangular data validation, i.e. Consider the consistency and differentiation of data from time sources, Sources of places and sources of people.

Findings

The intention to install solar photovoltaic panels on the roof of the households found that the majority of respondents agreed that installing solar photovoltaic panels on the roof had several limitations. In particular, traditional boat kitchens have not been prepared to support the installation of solar photovoltaic panels on the roof of houses due to the Ministerial Regulation No. 65 (B.E. 2558) issued under the Building Control Act B.E. 2522, determine the installation of solar panels of solar power generation systems on the roofs of residential buildings with an installed area not exceeding 160 square meters and a total weight not exceeding 20 kilograms per square meter. The results of the stability inspection must be performed and certified by the civil engineer according to the law on engineers that it can be installed safely and notified to the local authorities prior to operation.

Thailand prioritizes clean energy, push for more renewable energy. Promote power generation systems that use natural energy to help reduce impacts on people's quality of life and the environment, It creates a good image for the international community. Solar power generation is a type of renewable energy specified in the renewable energy development plan. The project aims to generate a total of 2,000 megawatts, divided into small systems for installation at the community level or households, as well as solar rooftop systems of 1,000 megawatts. Various agencies, both public and private, are aware and give importance to the use of renewable energy, hence the growing trend of various forms of solar power generation. It is an alternative energy that does not affect the environment, encouraging the industrial sector to install solar photovoltaic panels to save energy and encourage households to install solar photovoltaic panels on the roof. The intention to install solar photovoltaic panels must take into account that when installing solar photovoltaic panels on the roof, it will bring more benefits to members and family members than harms. In the manner of reducing electricity bills, having their own backup electricity and not having damage from unstable state power system, etc. Installing solar photovoltaic panels on the roof, is a method of generating solar electrical energy. The resulting electricity is therefore clean energy. The production process does not affect the environment or does not cause . The environment was degraded, so it was decided to install solar photovoltaic panels on the roof. In addition, the installation of solar photovoltaic panels on the roof is a method. The process of obtaining solar electricity is non-exhausting, does not generate greenhouse gases, or affects the environment or public health, so it is renewable energy of appropriate quality. As a result, the head of the family decided to install solar photovoltaic panels on the roof. The head of the family considers the electrical energy options that will be provided by installing solar photovoltaic panels on the roof, compares each option, and chooses the best option that will make the most of himself and his family members. Educated, find out more about installing solar photovoltaic panels on the roof and compare the data. It was found that the installation of solar photovoltaic panels on the roof reduced the electricity bill and can sell electricity to the Metropolitan Electricity Authority. Solar is energy that does not pollute, does not generate greenhouse gases and carbon dioxide to the environment. The cost of installing solar photovoltaic panels on the roof was assessed, as well as the payback period with not installing solar photovoltaic panels, and it was found that installing solar photovoltaic panels on the roof reduces electricity costs in the long run. As such, the public and private sectors have empirical data to promote, support and assist households in deciding to install solar photovoltaic

panels on the roof of more households, to create energy security at the households level and at the national level in the future. The results of the study will be an empirical body of knowledge that both public and private agencies can use to support the development of strategies to create attraction for the public sector to install more solar photovoltaic panels on the roofs of households. It also supports entrepreneurs to develop solar photovoltaic panels to be more quality and efficient.

Conclusion and Recommendations

From this research, it can be concluded that the government has data to support policy formulation to encourage households to install more solar photovoltaic panels on rooftops. The findings support the private sector. In particular, real estate development businesses related to housing have more solar photovoltaic panels installed in the project. The findings are that government executives and stakeholders are increasingly focusing on financial support to incentivize the installation of solar photovoltaic panels on the roofs of households.

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