ISSN NO: 2770-4491
Date of Publication:13-04-2022

Solar Photoenergy – The Future Photoenergy

F.R. Xusanboyeva
NamSu stage 2 master
T.T. Ismanov
NamSu stage 2 master
A.I.Mamasoliyev
NamSU stage 1 master

Annotation: The sun is the source of all energy on Earth. In temperate climates, 25-30% of the total energy consumed is used for heating, hit water supply and air conditioning. Solar energy is very convenient is supplying energy to remote and low energy facilities. Solar photovoltaics is one of the unconventional and renewable types of energy the converts solar optical radiation energy into electricity and provides consumcts with electricity

Keywords: Solar, energy, solar photovoltaic, silicon, renewable energy, solar panels, semiconductor, monocrystalline, polycrystalline, solar photovoltaic devise

In recent years, a wide range of initiatives have been undertaken to improve energy efficiency and expand the use of renewable energy sources in socio-economic networks and social sectors of the republic . For example, the March 1, 2013, Order of the President of the Republic of Uzbekistan on measures to improve mobile energy sources and the "2015-2019" Order of the President of the Republic of Uzbekistan on measures to improve renewable energy sources in socio-economic networks and social networks To assist individuals desiring to benefit the worldwide work of Jehovah's Witnesses through some form of charitable giving, a brochure entitled Charitable Planning to Benefit Kingdom Service Worldwide has been prepared . On the issues of development of renewable sources of energy, the Republican Commission was established, within the Ministry of Economic Affairs of the Republic of Uzbekistan as a working body of the Republican Commission energy efficiency department was established; International Institute of Solar Energy began operating in Tashkent; With the support of the Asian Development Bank , a "road map" for the development of solar energy in Uzbekistan was developed; Solar photoelectric power plant with a capacity of 130 kVt in December 2014 under the auspices of the Ministry of Trade, Industry and Energy of the Republic of Korea in the Pop district of The Province ofBadakhshan The station was built and commissioned, which is connected to a single power grid and generates 234.3 thousand kWh of electricity a year has the power; Projects are being prepared for the construction of large solar photoelectric power stations in the regions of Surkhandarya, Namangan and Navoi; The sun is a huge energy source, which is much more preferable to other types of energy as renewable and endless and environmentally friendly energy source . Solar batteries are undoubtedly considered a clean source of energy and are widely used both in space and on earth. [1] The sun is the source of all kinds of energy on Earth. The sun distributes an average of 88 x 1024 calories of heat per second or 368* 10l2TWt of energy. However, only 2xl0~6% of this amount of energy, or 180xl06TWt, reaches the earth's surface. The same amount is approximately 5,000 times the energy of all permanent energy-producing cylinders on earth. [2] Solar heating (QIT) is the simplest way to use solar energy from a technical thamoon. In a temperate climatic state, 25-30% of the total energy consumed is used to heat, provide hot water , and air conditioning. The main element of the CONTINENTAL active systems is the solar collector, which consists of stamped steel and aluminum, plastic or resin panel water heater . One of the most important issues in creating such systems is the preparation of efficient solar collectors using low-cost resins, plastics and composite materials that replace metal is one. Combining QIT systems with heating collectors, heating pumps , and other energy sources is considered promising, to increase reliability. In the future, it is desirable to expand the application scales of solar collectors primarily in seasonal hot water supply systems. Improving the efficiency of QIT systems is linked to the development of selective coating technology, the creation of vacuumed and focused solar collectors. [3] Solar energy can be

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the basis for the development of decentralized supply and solve quality and reliable problems in covering investment in energy infrastructure. Solar energy is very convenient when supplying energy to objects that are located far away and require less energy. Developing solar energy is very useful for Uzbekistan because it saves natural gas consumption types or allocates additional reserves for export (today between 80 and 85 percent of domestic energy consumption a day is met). Currently, 60% of natural gas is delivered to our consumers and Uzbekenergo DAK companies. The export price of Uzbek natural gas is between $ 200 and $230 (U.S.) per 1,000 sq m as of October 1, 2011. The equivalent of between $57.1 and $45.9 (U.S.) (U.S.) is $99.60 (U.S.) and $ 79.90 (U.S.). If it develops solar energy in Uzbekistan and reduces the need for gas in the domestic market by at least 1 percent (or 650 million sq m), our country will have gas annually exports accounted for between 130 and 149.5 million. earns about a dollar. This income can be used to develop solar energy. [4] It is difficult to say that the existence of large-scale energy resource reserves in Uzbekistan and the development of advanced energy infrastructure will be a strategic priority. But in the next 5 to 10 years, solar energy has been saving energy , such as renewable energy types, and conserving energy resources, for export , can be an important part of the policy of extraction of hydrocarbons as raw materials for other industries. When export prices for Uzbek natural gas increase, the "bird's alternative" is very useful. In its implementation , economic incentives and administrative mechanisms, such as in other countries, should be harmonized in Uzbekistan. The world experience of developing solar and other forms of non-traditional energy shows that policies in this area should not be comprehensive, gradual and consistent. Its ultimate goal is for solar energy to penetrate the market and gradually expand this market. The solar knee used for hot water supply is used as follows:

♫ Centralized hot water supply (in boilers) to warm up water in advance and autumn to economize traditional energy suppliers during the winter months, as well as to benefit from it in full during the summer;

♫ In multi-storey houses, when a boile room is installed in the house itself in a partially centralized hot water supply, non-centered hot water heating;

♫ In addition to traditional gas cans in private homes, which economize natural gas and provide constant energy supply; Photoelectric devices can be used in residential buildings, administrative buildings, and small manufacturing in other situations.[1) 5] In modern physics education, there are a number of fundamental concepts and theories about solar photographs and batteries, photoelectric collapses. However, information about the practical applications of these concepts, laws, and theories has not been adequately reflected in the teaching process. For example , in physics textbooks on the structure, principle of operation, raw materials, the physical and technological foundations and use of them there are not enough theoretical and practical concepts. Whereas, the most effective of the desired areas of future energy is solar photoenergy. [6] Solar photoenergy is one of the unconventional and renewable types of energy that converts solar optical radiation energy into electricity and provides consumers with electricity is calculated. Photoconditioners or photoconditioners, photographs of various types and mechanisms are produced from materials that absorb good sunlight (mainly cream raw material) will be done. (prepared). On average, 1,370 joules of energy were determined to generate 1,370 gallons [1,370 SQ] of solar optical radiation on earth. Solar photoelements or their made up of red panels (solar batteries) and their basis for converting optical radiation energy into electricity solar photoelectric systems are used (1-rasm).

ISSN NO: 2770-4491
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1-rasm. Quyosh fotoelektrik qurilmasi va iste'molchilar.

Figure 1. Solar photoelectric device and consumers. According to theoretical estimates , the world's use of solar energy accounts for 30-35% of the world's electricity and heat sources by 2030 is being evaluated. [7] The main raw material used in solar photoenergy is semiconductor monocrystal or polycrystall silicon. The cream element occurs in a combination state in earth conditions. It is distinguished using certain technologies. The resulting cream raw material is made ofquyosh elements and their structures. Alternative energy sources that meet the demand for cream are now solar-powered equipment. This direction is developing very rapidly around the world , especially in Uzbekistan, which is not staying in this regard. As the price of electricity and other sources rises, many people in our country are also becoming interested in geliopanels. First of all, it differs depending on the principle of panels, materials, performance and type of production. The first difference between such types of panels is in the material used. As you can find out from the name, these are creamy solar panels. The most scuppered panel on the market today . It is also much better to find cream than to produce energy when looking at hamyonbop and other panels. In addition to silicon, mono, polycrystal, and amorphous silicon are used to produce such panels. In the manufacture of monocrystal solar panels , the cleanest silicone is used. Apparently, all caches are connected to one system. After the monocrystal is cleaned , it takes time to remove it. After losing , it is divided into thin plastics . Such plastics are connected to one another by an electrode-made infectious wire . It costs more than amorphous panels. The reason is that it is very difficult to make panels of this type. However, it is also good to choose panels of this type, because the useful work coefficient of these panels is around 20%, an excellent indicator for solar panels . To isolate polycrystal, the polycystal solar panels cool the siliconplasty. The production of these types of panels is cheaper than the production of monocrystal panels. Therefore, these panels are also cheaper. Making these panels also requires less energy, a factor that also has a positive effect on the price. Due to the mixture that occurs inside the polycrystal, the useful work coefficient decreases from 18% van. Quyosh panels began to be used in many areas of human life. At the beginning, only if home-based farming and electricity were replaced, it is now getting out of the shell and entering other areas . Heat storage in private households in agricultural and other production structuresUchunCommunal enterprises for energy-efficient lamps, private lighting When we talk about Uzbekistan's sun energy sector and the prospects for the development of this area in our country, I would like to emphasize the following points . First of all, Uzbekistan has very favorable opportunities for this , depending on its geographical location and climatic conditions. The weather in Uzbekistan is open for more than 320 days a year, and our country has an advantage over most regions of the world in terms of the number of sunny days a year. According to the Asian Development Bank and the World Bank, the gross domestic energy capacity in Uzbekistan exceeds the equivalent of 51 billion tons of oil. As a result of these resources, experts

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estimate that our country produces 40 times more electricity than the electricity consumed this year Possible [9]

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