



GREEN ENERGY IS NOW EVERYWHERE!

IT IS HIGH TIME FOR YOUR HOME AND BUSINESS!

**Put an end to high electricity bills with rooftop and
ground-mounted solar energy systems (SPP)!**





About Us

As Eksper Enerji, we are proud to be one of the leading and pioneering companies in Türkiye's renewable energy sector. We have a dynamic, innovative and experienced team specialized in solar energy. Our company has made it a principle to manage consulting, project design, engineering, installation and maintenance processes professionally from start to finish and to offer tailored solutions to its customers. Since our founding, our goal has been to make the transition to clean energy easier by offering our individual and corporate customers the most suitable, eco-friendly and sustainable solutions for their energy needs. In this direction, we develop turnkey projects that provide optimum benefit both economically and technologically.

Among the services we provide as Eksper Enerji are:

- **Consulting Services:** Feasibility studies, needs analysis and system design for solar energy projects.
- **Project Design and Engineering:** We design the most suitable project with technical and economic analyses and plan all components of the system to high engineering standards.
- **Installation and Assembly:** We install solar panels, inverters, battery systems and other equipment in line with quality and safety standards.
- **Maintenance and Service:** We continuously monitor system performance and ensure maximum efficiency with regular maintenance and repair services.

In addition, we offer a wide portfolio of different solar energy solutions such as Off-Grid, On-Grid, Hybrid, Agricultural Irrigation, Uninterruptible Solar Energy Unit, Carport, Mobile Energy Solutions and Heat Pump systems. By installing energy systems in a wide variety of areas, from steel construction structures to bungalow houses and from industrial facilities to commercial businesses, we add value to the sector. Our vision is to light the way to the future with sustainable solutions in the energy sector and to contribute to our country with projects that support energy independence. Our mission is to be a reliable solution partner in the sector with our high engineering standards, customer-satisfaction-focused approach and cost-effective solutions.

As Eksper Enerji, with our innovative technologies, eco-friendly approaches and professional service mindset, we invite you to join the energy transformation too. We are taking action today for the energy of the future!

Solar Energy Plants (EPC)

On-Grid Systems

An on-grid system is a grid-connected electricity generation system powered by solar energy.

Page 5-6

Hybrid Systems

A hybrid system is a solar energy system that is grid-connected and can store energy.

Page 7-8

Off-Grid Systems

An off-grid system is a system that works independently of the grid and stores energy in batteries.

Page 9-10

Agricultural Irrigation Systems

Solar-powered agricultural irrigation systems are systems that supply the energy needed for irrigation from the sun.

Page 15-16



Sustainable Green Energy Solutions

Uninterruptible Solar Energy Unit

The Uninterruptible Solar Energy Unit is a solar energy storage system with a lithium battery.

Page 11-12

EV Charging - Carport

An EV Charging Carport is a system that protects vehicles while charging them with solar energy.

Page 13-14

Mobile Solar Energy Living Solutions

Mobile Solar Energy Living Solutions provide sustainable energy for caravans, yachts and trucks.

Page 17-18

Heat Pump Solutions

Heat pump solutions are systems that provide energy-saving heating and cooling.

Page 19-20

What is solar energy?

The energy obtained by making use of the sun is solar energy. The use of renewable energy sources is growing rapidly all over the world. The sun rises for us every day. So why shouldn't we benefit from it?

How can we benefit from solar energy?

The sun is a source of both heat and light. We use the heat from the sun in areas such as water heating, home heating, cooling or ventilation. Another use of the sun is electricity generation. Solar panels are semiconductor materials that convert the sunlight reaching their surface directly into electrical energy. With the recent drop in photovoltaic system costs and rising electricity bills, installing the system has become very attractive. With the drop in photovoltaic system costs, the payback period is getting shorter every day.



What are the uses of solar energy systems?

Solar energy systems are flexible systems that can be installed on all rooftops and land. They can be installed in many areas such as land, factories, homes, logistics centers, agricultural businesses, livestock businesses, business centers, shopping malls, gas stations, stadiums, hotels, warehouses and parking lots; you can generate electricity from clean and sustainable energy and save on your bill.

It is high time for your solar PV investments!

With the solar PV plant to be installed, you can meet your electricity needs, and you can also sell the surplus electricity you produce to the grid with a purchase guarantee under monthly net metering. With the monthly net metering mechanism, you can feed the surplus electricity you generate during the day into the grid and take it back from the grid in the evening or on other days when your consumption is high. Moreover, if the amount of electricity you fed into the grid is greater at the end of the month, you can make a profit by selling the difference to the distribution company at the active energy price for 10 years. The two-way electricity meters used in the systems measure both electricity generation and consumption, and monthly net metering is performed at the end of the month according to the difference.

What are the advantages of being a solar PV investor?

With the solar energy system you install on your roof, you can lower your business's energy costs and expenses and increase your competitiveness in the market. You can be more competitive at a lower cost.



Why should we choose it?

- Solar energy increases your energy supply security.
- You can generate your own electricity where you consume it.
- You can save on your electricity bill.
- You are not affected by electricity price hikes.
- You have no need for raw materials.
- You can add value to your real estate.
- Your maintenance cost is low.
- It creates no waste and is eco-friendly.
- It prevents carbon emissions.
- You can take precautions against a possible future climate tax.
- You can easily find financing from banks on attractive terms.
- There is a 10-year purchase guarantee from the state.



Who can invest in solar PV?

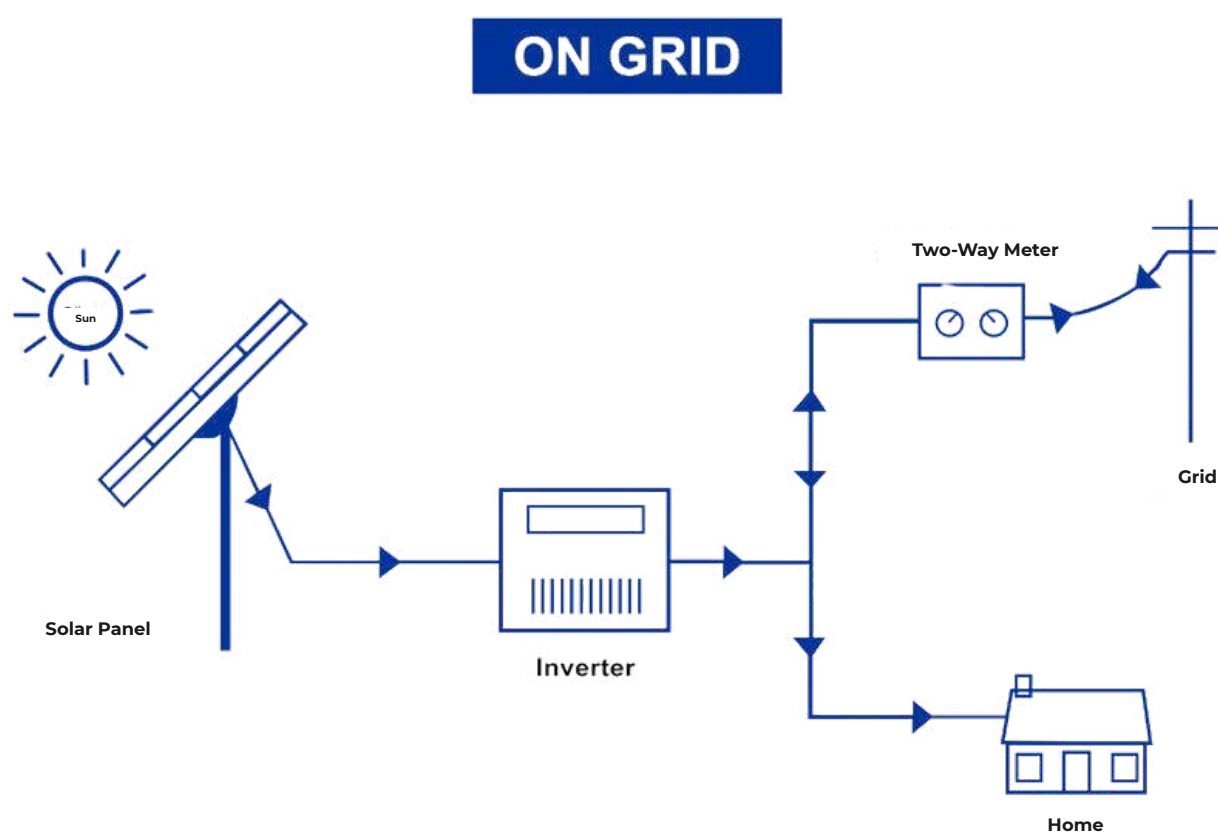
With solar systems that generate electricity, under current legislation any person or company that is an electricity subscriber can have a solar energy system installed to meet their own needs and benefit from operating it. While doing these jobs and procedures, they must comply with current laws. Factories in organized industrial zones, logistics warehouse areas, agricultural facilities, livestock facilities, hotels and hospitals obtain electricity with rooftop solar PV projects. Before a rooftop solar PV system is installed, the roof's slope, the roof's orientation, shading and the building's structural condition should be examined. As a result of these examinations, the project is prepared and the system is installed after obtaining opinions and approvals from the relevant official institutions.

On-Grid (Grid-Connected) System

An on-grid (grid-connected) solar energy system is a system in which the energy generated by solar panels is fed directly into the electricity grid. In this system, the direct current (DC) energy from the solar panels is converted to alternating current (AC) with the help of an inverter and transferred to the grid. The user meets the electricity they need primarily from the sun; when solar energy is insufficient, the missing energy is taken from the grid.

On-Grid System Components

- **Solar Panels:** Convert sunlight into electrical energy.
- **Inverter:** Converts direct current (DC) to alternating current (AC), making it compatible with the grid.
- **Two-Way Meter:** Measures the energy taken from and sent to the grid.
- **Grid:** The system in which surplus electricity can be stored and from which energy is purchased when needed.



On-Grid System Advantages

- Surplus energy can be sold to the grid.
- There is no need for batteries for energy storage, which lowers the cost.
- The system works integrated with grid electricity, ensuring continuous energy.

On-Grid System Disadvantages

- A grid connection is required; the system may not work during a power outage.
- Since there is no energy storage capacity, energy is drawn from the grid at night or in cloudy weather.

On-Grid (Grid-Connected) System References

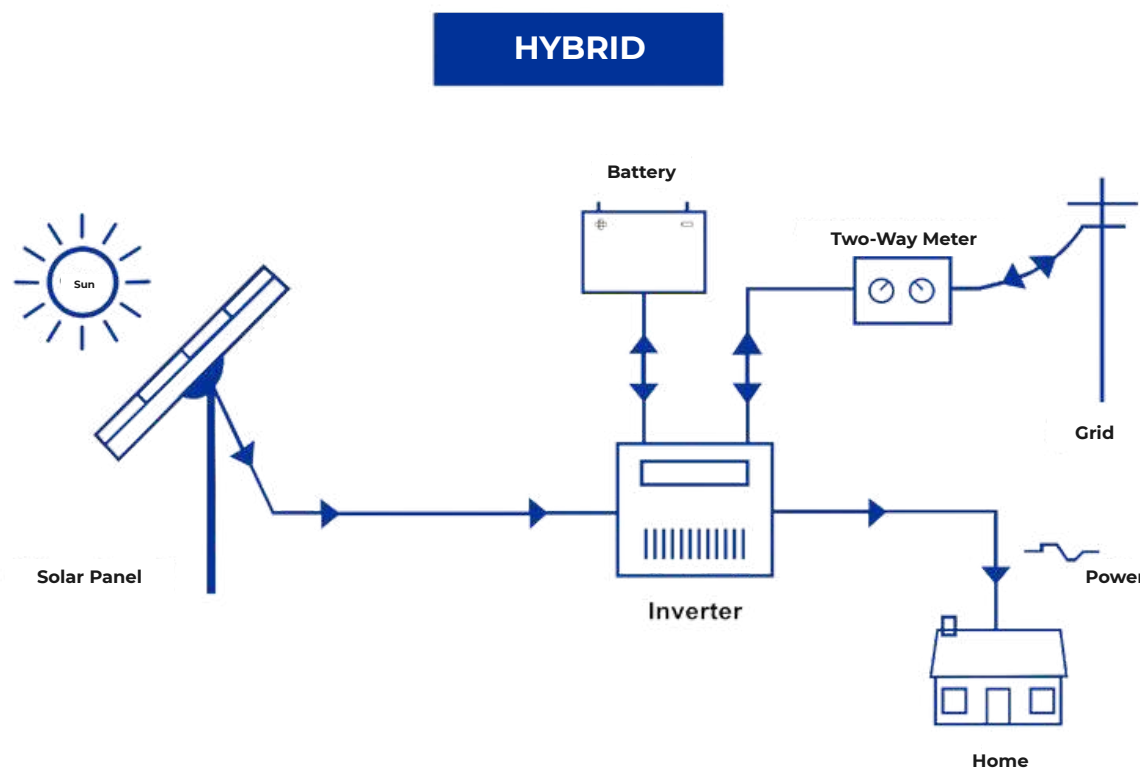


Hybrid (On-Grid + Off-Grid) System

A hybrid solar energy system is a system that combines the features of on-grid (grid-connected) and off-grid (grid-independent) systems. In this system, the energy generated by the solar panels can both be fed into the grid and stored in batteries. Hybrid systems, with the advantage of being able to sell surplus energy to the grid, can also provide energy during power outages thanks to their storage capacity.

Hybrid System Components

- **Solar Panels:** Convert sunlight into electrical energy.
- **Hybrid Inverter:** Converts direct current (DC) to alternating current (AC) and manages the energy flow between the grid, battery and loads.
- **Batteries:** Store surplus energy and make it available when needed.
- **Two-Way Meter:** Measures the energy taken from and given to the grid.
- **Grid:** Provides support when solar energy is insufficient, and surplus energy can be sold to the grid.
- **Load (Home or Appliances):** The devices that consume the stored or generated energy.



Hybrid System Advantages

- Energy can be sold to the grid and energy costs are reduced.
- Thanks to the batteries, energy can be supplied during power outages.
- It both saves energy and increases energy security.
- Because surplus energy generated during the day is stored, it can be used at night or in cloudy weather.

Hybrid System Disadvantages

- System cost is higher than on-grid and off-grid systems.
- Batteries may require regular maintenance and replacement over time.
- Efficiency decreases in places without a grid connection.

Hybrid (On-Grid + Off-Grid) System References

► Gebze - Kocaeli



► Beylikdüzü - Istanbul



► Sapanca - Sakarya



► İznik - Bursa



► Bölükbaşı Dental Hospital - Sakarya



► Sapanca - Sakarya

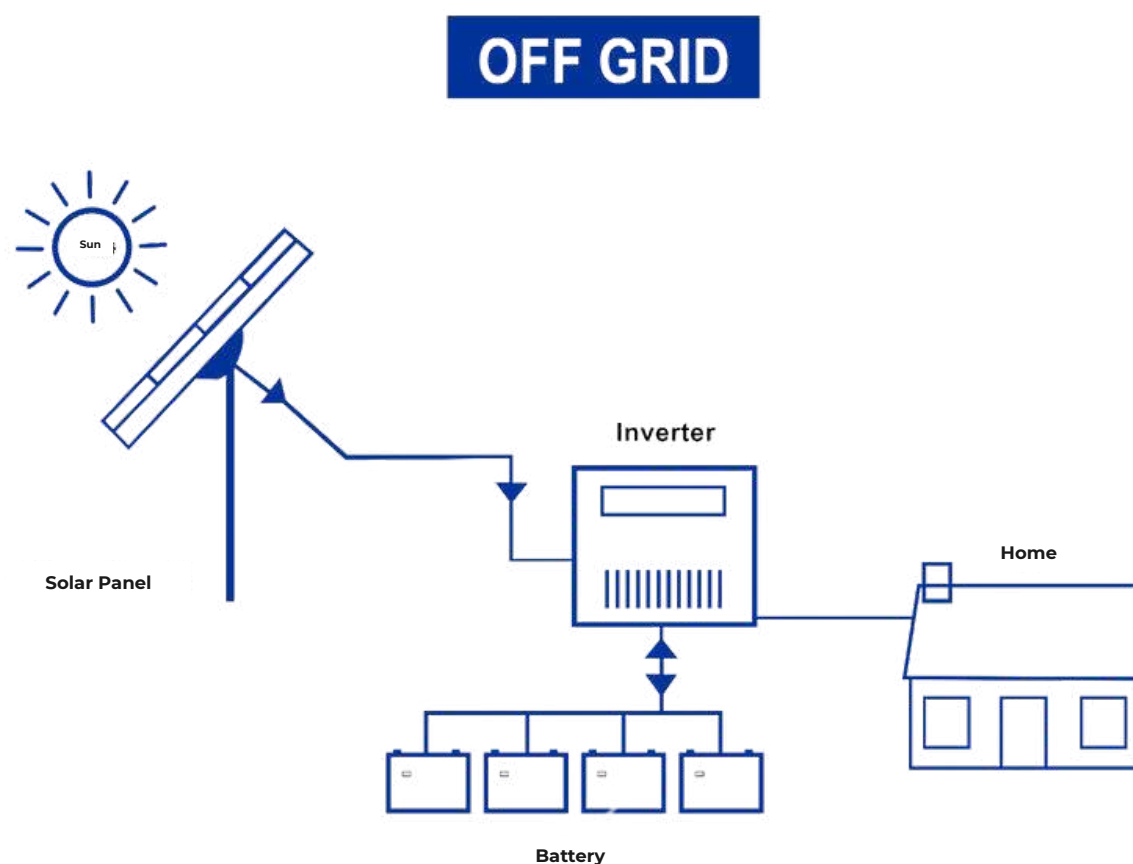


Off-Grid (Grid-Independent) System

An off-grid (grid-independent) solar energy system is a system in which all of the generated electricity is stored and used, and which is not connected to the grid. Batteries are used in this system to meet energy needs, and it is preferred especially in regions where there is no grid or where it cannot be reached. The user meets all of their energy needs from solar energy, and the stored energy is used when there is no sun (for example at night or in cloudy weather).

Off-Grid System Components

- **Solar Panels:** Convert sunlight into electrical energy.
- **Inverter:** Converts direct current (DC) to alternating current (AC), making it compatible with appliances.
- **Batteries:** Store surplus energy and make it available when needed.
- **Charge Controller:** Ensures batteries are charged safely and prevents overcharging.
- **Load (Home or Appliances):** The devices that consume the stored or generated energy.



Off-Grid System Advantages

- No grid is needed; it works completely independently.
- It is a reliable energy source in regions that electricity does not reach.
- It has the capacity to provide uninterrupted energy; when the batteries operate at full capacity, energy needs are easily met.

Off-Grid System Disadvantages

- Battery costs can be high and require maintenance or replacement over time.
- Energy production depends on sunlight and storage capacity; therefore energy saving becomes important.
- Surplus energy cannot be sold to the grid, which may cause a loss of income.

Off-Grid (Grid-Independent) System References

► Pamukova - Sakarya



► Kocaali - Sakarya



► Söğütlü - Sakarya



► Adapazarı - Sakarya



► Akmeşe - Kocaeli



► Geyve - Sakarya



Uninterruptible Solar Energy Unit

The Uninterruptible Solar Energy Unit eliminates the difficulties of traditional generators, providing silent, uninterrupted and long-lasting energy; it also removes problems such as refueling and maintenance.

Its flexible and customizable design, compatible with solar energy systems and requiring no extra hardware, provides eco-friendly and reliable energy support to both home users and industrial facilities.

Advantages of a Lithium-Battery Power Supply over a Generator

A lithium-battery power supply eliminates the drawbacks of traditional generators such as refueling, noise and maintenance, providing uninterrupted, silent and long-lasting energy. Compatible with solar energy systems, this system offers reliable energy support to both home users and industrial facilities with its flexible and eco-friendly design that requires no additional hardware.

Compared with generators, this system:

- 
No Fuel Required: No need for a continuous fuel supply.
- 
Low Maintenance: Thanks to fewer mechanical parts, it keeps maintenance costs to a minimum.
- 
Eco-Friendly: There is no fossil fuel consumption or harmful emissions. As a result, a lithium-battery power supply is an eco-friendly and sustainable alternative suited to modern energy needs.
- 
Silent Operation: Provides noise-free energy generation.



Uninterruptible Solar Energy Unit

Areas of Use



Detached Houses: Detached homeowners can zero out their electricity bills and achieve energy independence with lithium-battery systems. Uninterrupted energy provides a comfortable and safe life.



Offices: Clean, uninterrupted energy ensures business continuity in offices. By offering a safe solution against power outages, it increases efficiency and lowers energy costs.



Commercial Premises: Commercial businesses such as markets, restaurants and shops reduce their costs with energy independence while building an eco-friendly image. Solar-powered systems increase customer satisfaction by providing continuous energy.



Hospitals: A power outage is unacceptable in hospitals. These systems guarantee uninterrupted operation of medical devices, ensuring patient safety and reducing energy costs.



Bungalows and Similar Tourism Areas: Offers quiet and aesthetic energy solutions in tourist areas surrounded by nature. It meets tourists' needs without interruption and contributes to sustainable tourism with its structure that does not harm the environment.



Disaster Areas: In disaster areas where the electricity infrastructure is damaged, lithium-battery systems provide a fast and reliable energy source. With their mobile and independent structure, they save lives in times of crisis.

EV Charging - Carport

A solar-powered electric vehicle charging station is a system that allows vehicles to be charged with solar energy while parked. A carport is a structure in which vehicles can be parked under a roof covered with solar panels, and the vehicles' batteries are charged with the energy obtained from these panels. This system offers a sustainable solution for vehicle charging by using renewable energy sources.



EV Charging - Carport System Components

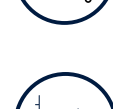
- **Solar Panels:** The main component that converts sunlight into electrical energy.
- **Inverter:** Converts the direct current from the panels into alternating current that vehicles can use.
- **Vehicle Charging Unit:** The special connection point used to charge electric vehicle batteries.
- **Battery Storage Unit (Optional):** Stores surplus energy so it can be used when there is no sunlight.
- **Support Structure (Carport):** The roof system on which the solar panels are placed. It protects vehicles from sun and rain.
- **Cabling and Connections:** Enable energy flow between the panels, inverter and charging unit.
- **Energy Management System:** A smart system that optimizes energy use by monitoring production, storage and consumption.

EV Charging System Advantages

-  **Eco-Friendly Energy:** Reduces fossil fuel consumption and does not harm the environment with zero emissions.
-  **Low Energy Cost:** Charges vehicles at a lower cost than grid electricity.
-  **Renewable Energy Source:** Solar energy is an unlimited and free energy source.
-  **Supplying Energy to the Grid (Optional):** Surplus energy can be sold back to the grid to earn additional income.
-  **Long-Term Economic Benefit:** Despite the high installation cost, it saves energy in the long run.
-  **Energy Independence:** Works independently of the grid and is not affected by power outages.



Carport System Advantages

-  **Energy Generation and Savings:** The possibility of generating your own electricity with renewable energy.
-  **Vehicle Protection and Durability:** Protects vehicles from weather conditions such as sun, rain, snow and hail.
-  **Economical and Long-Term Investment:** Pays back the investment cost through energy savings in the long run.
-  **Maximum Benefit from Natural Resources:** Increases energy efficiency by using solar energy effectively.



Agricultural Irrigation System

Agricultural irrigation with solar energy is an innovative irrigation method in which irrigation pumps are operated with the electrical energy generated by solar panels. By eliminating dependence on conventional energy sources, this system offers farmers a sustainable, economical and eco-friendly solution. Irrigation systems powered by solar energy both reduce energy costs and enable efficient irrigation in rural areas and regions without access to the electricity grid.

These systems are designed for more effective use of water resources in agricultural activities and deliver high performance in different climate and terrain conditions. Agricultural irrigation with solar energy is an important technology that increases agricultural productivity, especially in regions where water and energy resources are scarce.



Incentives and Grant Support for Solar-Powered Agricultural Irrigation Systems

1. Ministry of Agriculture and Forestry Support

Rural Development Investments Program (KKYDP):

Offers grant support of up to 50% to encourage the use of renewable energy systems in agricultural activities.

2. Agricultural Insurance and Solar PV Support

State-supported agricultural insurance for solar-powered irrigation systems offers additional coverage to ensure the safety and sustainability of the systems.

3. KOSGEB Support

KOSGEB offers loan and grant opportunities to entrepreneurs for technologies that improve energy efficiency in the agricultural sector.

4. Ziraat Bank and Agricultural Credit Cooperative Loans

Low-interest loans and long-term payment plans are offered for the installation of renewable energy systems.

5. European Union and International Grant Programs

Under IPARD (Rural Development Program), grant support of up to 70% is given to renewable energy projects.

Advantages of an Agricultural Irrigation System

- There is no fuel cost, so it is an economical solution in the long run.
- No electricity grid is needed; it can be used in rural areas.
- Maintenance cost is low; it is easy to operate thanks to fewer mechanical parts.
- It offers an independent system by continuously generating energy from sunlight.
- It ensures efficient and regular irrigation of farmland.
- It provides energy security with long-lasting systems.



Disadvantages of an Agricultural Irrigation System

- **High initial cost:** Installing solar panels, inverters and other equipment can be expensive.
- Dependence on weather conditions: Energy production may decrease on cloudy or rainy days.
- **Need for storage:** Batteries may be needed to supply energy at night or on days with little sunlight, which increases the cost.
- **Space requirement:** A large area is needed for installing solar panels, which may make it difficult to apply everywhere.
- **Limited performance:** The system may fall short during long periods of drought or high energy demand.

Mobile Solar Energy Living Solutions

The Solar Energy Systems we have developed for mobile living spaces and vehicles are the most sustainable way to meet your energy needs, whether on the move or at a fixed point. These systems can be used in various vehicles such as Mobile Disaster Coordination Centers, Mobile Child-Friendly Spaces, Mobile Dormitories, Mobile Kitchens, caravans and boats, and allow energy to be supplied in an uninterrupted and eco-friendly way.

Flexibility and Integration

Our systems can work in different configurations according to areas of use and needs:

- **Solar-Only Operation:** A completely independent and eco-friendly solution.
- **Grid-Integrated Operation:** Flexibility is provided by using solar energy and grid electricity together.
- **Generator-Supported Systems:** Energy security is increased by integrating with existing generator infrastructure.

Advantages of Mobile Solar Energy Living Solutions

- **Eco-Friendly Energy:** Reduces carbon emissions to zero and protects natural resources.
- **Silent Operation:** It is quiet compared to generators, offering ideal comfort especially for yachts and caravans.
- **Low Operating Cost:** Because it requires no fuel, it saves costs in the long run.
- **Energy Independence:** Eliminates dependence on grid electricity or fuel supply.
- **Mobility:** Offers the ability to generate and use energy anywhere.
- **Long-Lasting Technology:** Provides reliable performance for many years with quality components.

Disadvantages of Mobile Solar Energy Living Solutions

- **High Initial Cost:** Installation costs are higher than conventional systems.
- **Dependence on Weather Conditions:** Energy production may drop when sunlight decreases.
- **Space Requirement:** There must be enough space on the top or side surfaces of vehicles to mount the panels.
- **Need for Batteries:** Batteries are needed to store energy, which may create extra cost and weight.

Mobile Solar Energy Living Solution References



Heat Pump Solutions

A heat pump is a device that takes energy from the environment (air, ground or water) and uses it to meet heating, cooling and hot water needs. Using electrical energy, it transfers the energy it takes from the outside environment to the indoors. Its working principle is generally similar to that of a refrigerator, but it moves heat in the opposite direction.

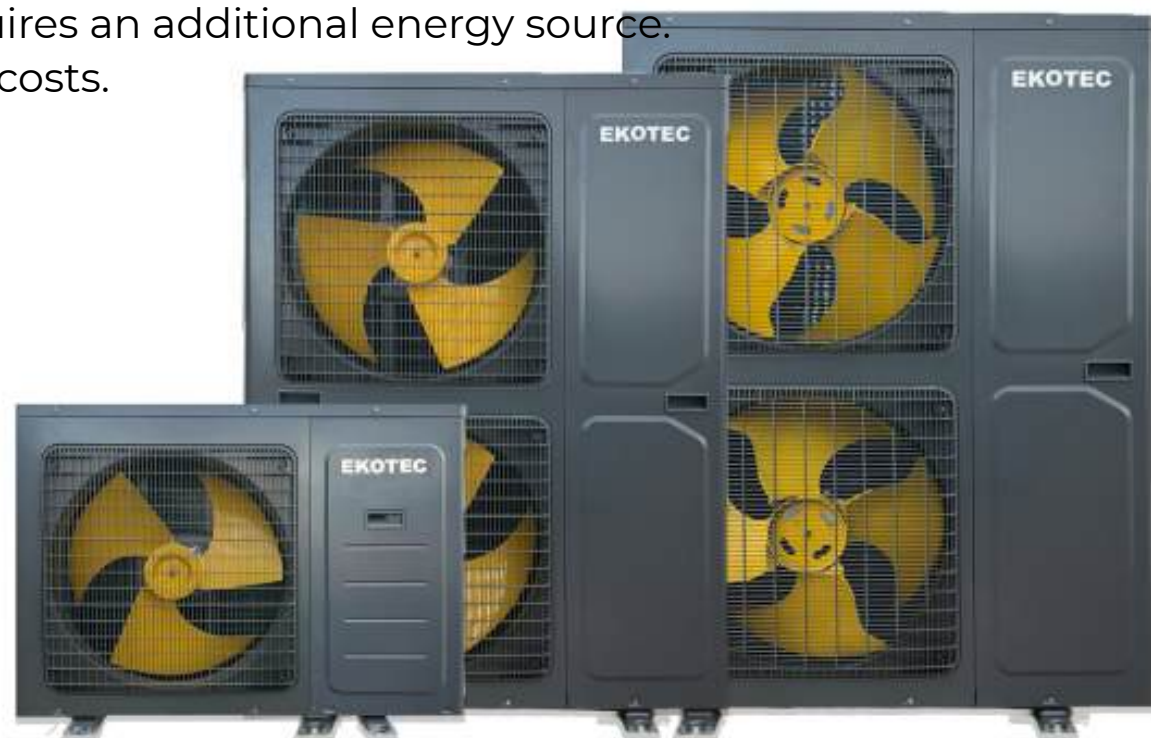


Heat Pump System Advantages

- It can be integrated with renewable energy sources (such as solar energy).
- It consumes less energy than traditional heating systems. With 1 unit of electrical energy it can produce 3-4 units of heat energy.
- Because it uses no fossil fuel, greenhouse gas emissions are low.
- It generates energy by using natural resources.
- It can both heat and cool.
- It can meet hot water needs.

Heat Pump System Disadvantages

- The initial installation cost is higher than traditional systems.
- For ground-source systems, infrastructure costs (such as drilling) may increase.
- Air-source heat pumps may lose efficiency in very cold climates.
- Performance fluctuations may also occur in extremely hot regions.
- A suitable area or resource may not be available for ground- or water-source systems.
- It does not work during power outages or requires an additional energy source.
- High electricity prices may increase operating costs.



Heat Pump Areas of Use

1. Residences

- **Home Heating and Cooling:** Used to regulate indoor temperature in apartments, villas and detached houses.
- **Hot Water Supply:** Provides hot water for areas such as the bathroom and kitchen.
- **Underfloor Heating Systems:** Compatible with low-temperature underfloor heating systems.

2. Commercial Buildings

- **Offices:** Used for heating, cooling and hot water supply so that employees can work in a comfortable environment.
- **Hotels:** Preferred for air-conditioning rooms and providing guests with uninterrupted hot water.
- **Restaurants and Cafés:** Ideal for heating and cooling customer areas.

3. Renewable Energy Projects

- **Systems Integrated with Solar Energy:** Works together with solar panels to provide maximum energy savings.



Compatibility of Heat Pumps and Solar Energy

The energy solutions of the future are being shaped by the combination of efficiency and eco-friendly technologies. Heat pumps and solar energy systems are the two strongest representatives of this vision. When these two technologies come together, an ideal match emerges for both saving energy and reducing the carbon footprint.

Why Heat Pumps and Solar Energy?

These two technologies offer a perfect combination for meeting the energy needs of modern life in an economical, eco-friendly and efficient way. While providing maximum benefit from natural resources, they allow you to adopt a sustainable lifestyle without compromising your comfort.

Eksper Enerji

With You at Every Step!

Offers turnkey services in the Photovoltaic Solar Energy sector for projects of every scale, from factories to homes, shopping malls, business centers and hotels.

1.Financing

Aiming to promote and contribute to the development of renewable and clean energy in Türkiye, Eksper Enerji enables you to realize your solar energy investments with long-term and cost-effective financing opportunities.

You have the chance to receive grants of up to 75% from the Agriculture and Rural Development Support Institution.

2.Equipment Supply

A high-efficiency solar power plant is a system that requires quality equipment in terms of design, production and durability. Photovoltaic panels, inverters, energy transmission and other electrical materials must be supplied so as to obtain maximum benefit from the sun. The Eksper Enerji expert team carries out the process by selecting and supplying, on time, products that have passed quality and performance tests. This contributes to your plant being commissioned on time and without problems, and to its 30-year useful life.



3.Installation

Eksper Enerji undertakes engineering, product procurement and installation (EPC) work in solar energy projects. In projects, design in accordance with current legislation and technical specifications, execution according to the work plan, product procurement and delivery to site, as well as testing and commissioning after plant installation, are under the Eksper Enerji guarantee.



4.Operation & Maintenance

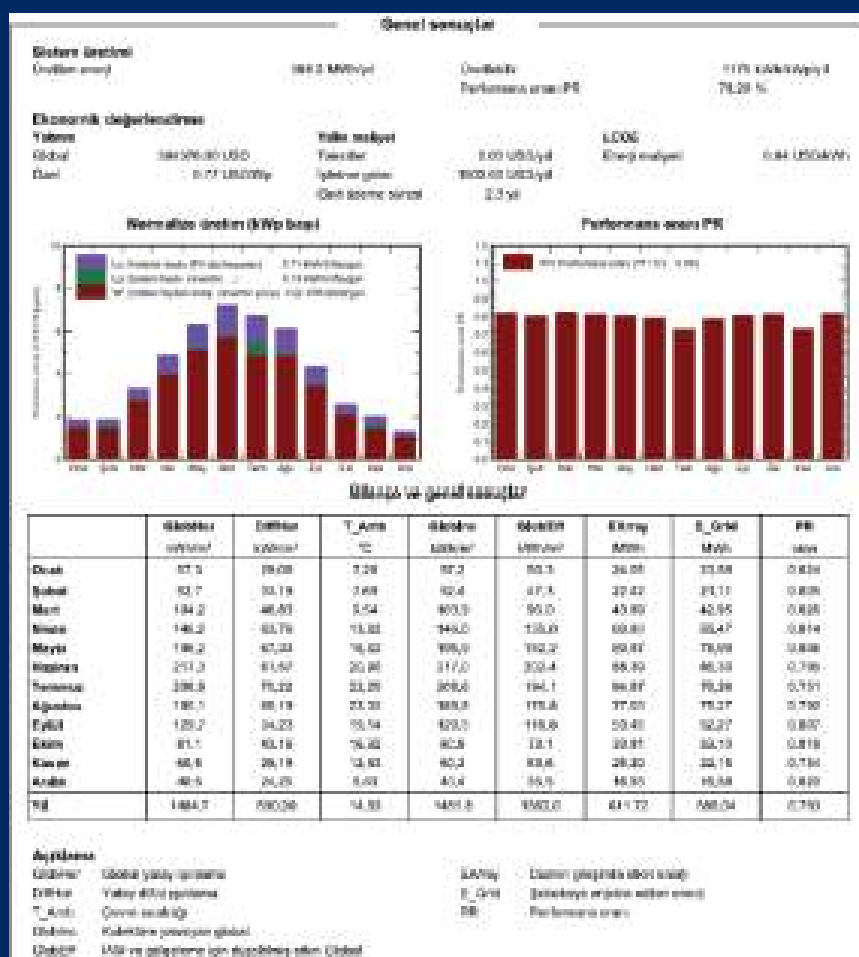
After installation, tests and reporting, commissioning and all periodic maintenance services your plant needs are provided by our expert and certified personnel.



5.Engineering

Solar energy systems, a business line that provides added value within the framework of sustainability, are carried out with turnkey solar PV activities from end to end, with expert sales managers and project engineers.

With its widespread sales and service network across Türkiye, it takes its expertise in sales, installation, acceptance, maintenance and repair processes to the highest level.



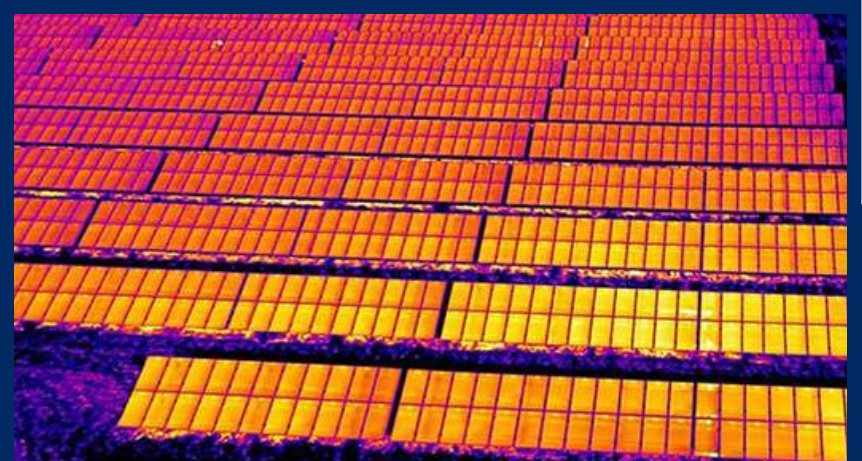
Radiation analysis is performed according to the project's location to measure the system's production efficiency.

Ay	Üretim	Tüketim	Karşılıklı Oran
Ocak	23.580,00 kWh	35.619,12 kWh	66,20%
Şubat	21.110,00 kWh	35.619,12 kWh	59,27%
Mart	42.950,00 kWh	35.619,12 kWh	120,58%
Nisan	59.470,00 kWh	35.619,12 kWh	166,96%
Mayıs	78.990,00 kWh	35.619,12 kWh	221,76%
Haziran	86.300,00 kWh	35.619,12 kWh	242,29%
Temmuz	76.260,00 kWh	35.619,12 kWh	214,10%
Ağustos	75.270,00 kWh	35.619,12 kWh	211,30%
Eylül	52.270,00 kWh	35.619,12 kWh	146,75%
Ekim	33.100,00 kWh	35.619,12 kWh	92,93%
Kasım	22.150,00 kWh	35.619,12 kWh	62,16%
Aralık	16.580,00 kWh	35.619,12 kWh	46,55%
TOPLAM	588.080,00 kWh	427.429,44 kWh	137,57%

The electricity generation/consumption coverage ratio is calculated.



A 3D layout plan is produced and shading analysis is performed.



Hotspot analysis is performed with thermal cameras.



EU Standards
Plant tests are carried out.



Experience Center:

**Yenigün Mahallesi 15 Temmuz
Bulvarı No:39 Adapazarı/Sakarya**

Warehouse:

**Hızırtepe Mah Fatih Cd No: 37/10
Adapazarı /SAKARYA**

**+90 532 432 44 08
www.eksperenerji.com**