NAPS

Power of Light

Solar Electricity Systems

Experience and Expertise Since 1981

Naps Systems – The Solar Electri

Solar electricity is an ideal solution both for feeding into the electricity grid and for places where the grid does not reach. Solar power is economical, it is available everywhere and it has no adverse environmental effects. In recent years, solar electricity has become one of the fastest growing ways to generate electricity.

Naps supplies comprehensive solar electric solutions. After careful study of needs and requirements, we provide system sizing expertise and suggestions for the best and most cost-effective course of action. Components that are not designed and produced by us have been carefully selected and tested by our in-house specialists. Services to complement the deliveries are offered on request, from consulting to full turnkey solutions.

As our systems are always designed and planned meticulously down to the smallest detail, they will maintain their value for a long time. Since 1981, the Company has delivered over 200,000 systems to more than 120 countries all over the world. We are the solar electricity systems house.

Solar Electricity for Feeding the Grid

In a grid-connected solar electricity system, DC electricity produced by the solar cells is converted to AC electricity with an inverter, and fed into the grid. Arrays of solar modules can be retrofitted over roofs or walls, integrated into the building fabric, or mounted on the ground. Solar arrays can be installed practically everywhere, in sizes ranging from small domestic house installations to large centralized power plants.

The peak electrical demands of commercial and public buildings normally coincide with the peak in production from a solar electricity system. This means that the electricity produced can largely be used within the building. If excess energy is generated, that can be exported to the electricity network. The solar electricity system thus reduces, or can even exceed, the building's overall energy demand.

Naps offers a wide range of solutions and products for grid-connected systems and applications. Depending on the customer's desires we use either our standard solar modules or custom-designed partially transparent glass-glass solar modules. In addition, we supply all the other necessary hardware such as structures, cables, inverters and other accessories.

Grid-connected installations can be divided into three main categories; roof-top systems, building-integrated systems and power plants.

Roof-top Systems

Roof-top systems are normally designed to generate the maximum electrical energy output from a defined area or a budget. Typically they are installed on existing roofs, either tilted or flat, though they can also be built into new houses. In all cases the suitability of the roof construction needs to be checked and, if needed, strengthened. The appearance can be adapted to customers' preferences by selecting from different module sizes, frame colours, glass types etc.

Building-integrated Systems

Systems integrated into buildings are not only technically and economically wise but provide also fascinating architectural options. More and more systems are designed as an integral part of the building, as part of the roof or the walls.

Typically, the direct financial return on investment is not the only decisive factor for these systems, the environmental benefit, the aesthetics and the enhancement of the building also being important. These systems may be based on various shapes and sizes of modules, whether transparent or not, with different cell appearances and glass textures, etc.

Power Plants

Solar power plants will change the common understanding of power generation. They are large sites typically on the ground but sometimes also on roofs of large buildings. They are used simply to generate the maximum amount of electrical energy from the investment.

The total return is optimized according to such aspects as initial investment, operating costs, life time and generation profile over the life time. Designs vary according to location, size and shape of the plot, inclination, soil etc. One of the most important factors of large solar power plants is the high predictability of the generation cost over the entire lifetime of the system.

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Solar Electricity for Industrial Use

The industrial applications of solar electricity are numerous. In several cases solar electricity is the most economical and technically attractive choice. In remote locations solar electricity has yielded significant savings in operating costs by eliminating the need to transport fuel to the sites. Also, as there are no moving parts, the need for maintenance is very low.

In most cases, telecommunication stations can be powered solely by solar electricity. Surplus energy is stored in batteries for use during cloudy periods and at night. Naps' systems can be controlled and remotely monitored by a computerised control system. Our systems can collect data for long-term analysis of condition and performance.

Stations for controlling and monitoring the operation of oil and gas pipelines can also be powered with solar electricity. In addition to powering these stations, solar electricity can also power cathodic protection, which prevents the pipe from corrosion.

If there is a need to combine solar power systems with any other power source or with grid connection, Naps is able to deliver the optimal solution to control any such hybrid systems.

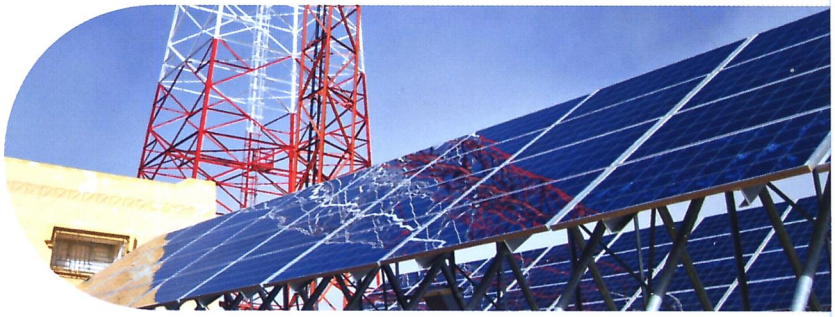
Naps has developed small custom-made solar electricity systems for its OEM partners. These systems are designed to be highly efficient and reliable, and are especially suitable for demanding applications such as weather stations and obstruction lights.

Solar Electricity for Rural Communities

Naps supplies solar electricity systems for rural energy needs in places where electricity for lighting, medical care, schools, water pumping and other basic requirements can improve the quality of life. The conditions encountered in such areas require maximum performance and reliability from the entire system.

Naps has been engaged in supplying thousands of health centres, staff houses, refugee camps, etc with solar electricity systems. The health centres are equipped with vaccine refrigerators and hospital equipment, radios and other electronic devices. Also, thousands of schools are able to operate effectively with proper lighting and the possibility to use modern equipment. Numerous villages rely on water pumping systems supplied by Naps.

Naps Power Pack, a standard compact system package, is used for VHF-radios and for general electricity supply. It is easy and fast to mount as most of the electrical connections are done by cables with preassembled plugs. Batteries and control units are integrated in a battery box with all sockets located at the front. The compact Naps Power Packs and Naps Vaccine Refrigerator Systems are considered to be top products of their type in the world.



Solar Electricity Systems for Private Use

Solar electricity may improve the quality of your free time by powering your holiday home, caravan or boat's navigation gear and other electronics. Naps' selection of solar electricity systems for consumers covers everything from standard systems for moderate energy consumption to systems designed for heavier year-round use.

Naps has high-power generating units particularly suitable for luxury holiday homes or permanent residences, or for other applications where independent normal AC power is needed. Later on, if grid connection is desired, the system can be connected to the main electricity grid.

Naps is a well-established supplier of solar electricity systems for private use in Northern European countries and in the Alps. Tens of thousands of consumers in these regions use Naps solar electricity at their holiday homes. The main reason for purchasing a solar electricity system is the high cost of building fixed-line connections to remote islands, lakes and mountain areas.

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Think

Think how you could make solar electricity work to your advantage. Then contact us to create your own success story. We will be delighted to provide you with an optimal solution based on our expertise gained from close to 30 years of experience.

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