

Solar Freedom™ PV Electric Packages

Residential Applications; DIY Starter Kits for entry-level solar photovoltaic [PV], combines immediate and reliable power backup, regular monthly utility savings, and the long term ability to expand the system to achieve total energy independence - an all-in-one modular package!!! System is grid-interconnected with battery backup storage.

Parts and Supplies; all Solar Freedom DIY Kits are supported by a complete line of solar electrical parts and supplies, along with many system enhancing accessories; solar PV panels, photovoltaic modules for both off-grid [stand-alone] and grid-interconnected [grid-tie] systems, solar charge controllers, inverters, deep-cycle batteries, solar PV panel fixed mounting racks, single and dual axis tracking units, miscellaneous hardware, all allowing easy expansion of the Solar Freedom Package system.

Solar Water Heating Systems

Residential Applications; Solar Water Heating [SWH] combines greatest return on investment and most efficient form of solar energy currently available. SWH is affordable and immediate way to start dramatically reducing electric, propane, or natural gas utility costs. Active and Passive residential SWH systems are both available.

Parts and Supplies; all Solar Water Heating Systems and DIY Kits are supported by complete line of solar water heating parts and supplies, along with many system enhancing accessories;

For Active Solar heaters: collector panels, glazing, changeout panels, absorbers, mounting hardware, struts, solar hot water storage tanks, drain pans, thermostats, elements, controls, pumps, valves, pressure relief valves, vacuum breakers, air vents, freeze protection valves, active heat exchangers, pressure expansion tanks and anti-freeze transfer fluids.

For Passive Solar Heaters: collector panels, glazing, changeout panels, mounting hardware, struts, valves, and fittings.

For Tankless Heaters: electronic components, plumbing components, temperature remote controllers, back flow prevention vents, mounting brackets for both electric and gas models.

For Instant Water Heaters: pumps, valves, fittings, remote wireless motion sensors and transmitters, controls and thermostats.

For Solar Showers: solar heating cylinders, controls, nozzles, fittings, extra daisy-chain tubes.

Commercial Applications; corporate, institutional, governmental, educational, and non-profits all incorporate solar energy in reducing staggering costs of water heating.

Organizations of various types - condominium and gated community, motel, hotel and private resort, sports complex, boat marina, RV, park and recreation camp, campus, school and dormitory, hospital, clinic and crisis center, industrial plant and warehouse, agricultural and livestock ranch, cottage and vacation rental, island beach resort and spa can all experience significant energy cost reductions along

with immediate, dramatic lowering of daily operating expenses.

SWH has a reputation for reliable operation, cost effective performance, even stand up to hurricane force sustained winds of 180 mph and gusts in excess of 230 mph.

Solar PV Lighting Systems

Residential Applications; cost-effective, 100% sun powered - no electric bills! Solar LED lights are powered by photovoltaic modules that generate electricity.

Self-contained with no wiring required, no trenching under sidewalks, or landscaping. Great for environment, solar PV panels reduce fossil fuel consumption and pollution.

Available for wide variety of applications; do-it-yourself kits, or complete custom designed packages:

Security Lighting; motion sensor activated for storage unit, deck, yard, garage, carport, porch, back door entrance, RV, cabin, camper. Optional alarm, increase safety!

Indoor Lighting; reduce energy usage by 2/3 for home or small business. Quality units. Blackout security.

Outdoor Lighting; fluorescent or LED lighting improves nighttime safety by illuminating hazards and brightening darkened areas around home. Sun charges batteries by day, turns on automatically at night - works on cloudy days!

Landscaping décor and safety accents for pool area, deck, patio, garden, driveway, walk, path markers, yard, porch, floating in pool or fountain, and tabletop accent.

Commercial Applications; solar fluorescent or LED lights are powered by photovoltaic modules that generate power. Self-contained industrial grade systems serve remote off-grid locations, eliminating need for running power cables, meters, or transformers, avoids trenching through existing roads, sidewalks, or landscaping.

Available for wide variety of applications; complete custom designed packages or do-it-yourself kits:

Marine Lighting; industrial grade, unsurpassed durability for reliable operation 365 days a year from any geographic location worldwide, minimum or no maintenance required! Battery backup allows operation for 3 weeks without sun.

Provides navigational or hazard markings on ports, lakes, rivers, oceans - virtually all navigable bodies of water for public, private, and commercial marinas, airfields, terminals, boat docks, anchorage, marker, mooring, and navigational buoys, harbor entrances, breakwater and channel markers, barges, bridges, offshore reefs and wrecks, dredging lines, oil containment booms, offshore drilling platforms, dive platforms, swim rafts, aquaculture farm perimeters.

Signage Lighting; fully custom engineered systems include photovoltaic panels, illuminating fixtures, electronic controller, and everything required for automatic off-grid operation.

Industrial grade systems provide lighting for billboards, highway signs, gates and main entrance signs, remote area lighting - guard houses, parks, campgrounds, recreation area restrooms, parking lot, and security camera systems.

Street Lighting; self contained systems providing reliable operation 365 days a year for use on roadways, parking and storage lots, remote developments and parks, community entrances, jogging and bike paths, warning signals.

Security Lighting; perfect anywhere security and off-grid convenience, with all weather performance is required for entrance ways at industrial plants, warehouses, construction sites, storage units, automotive garages, sales lots, secluded cabins and cottages, agricultural and livestock ranches, wilderness park and trail systems, isolated villages and islands, marinas, and virtually any remote location.

Solar PV Electric Systems

Residential Applications; from DIY Modular Starter Kits with the ability to expand into total energy independence for entry-level solar photovoltaic [PV], to fully custom engineered and configured systems utilizing both grid-interconnection or off-grid capabilities.

DIY Modular Starter Kits provide a highly cost efficient, ideal grow-as-you-go solution when stand-alone renewable power systems are ultimately desired, or required, for off-the-grid energy independent and sustainable living, based on family security precautions and environmentally sensitive concerns for the planet.

All residential applications in rural, suburban, urban, and inner-city locations provide immediate, reliable home power solutions, regular monthly utility savings, power backup for short-term blackout and disaster protection for both home and small home-based businesses, and protection from utility rate hikes - advancing from energy self-sufficiency into full energy independence.

DIY Kits are also available for specific functions, along with individual components, all parts and accessories, and even for portable power applications.

Parts and Supplies; all DIY Modular Starter Kits, all fully custom engineered and configured systems, and commercial applications utilizing both grid-interconnection or off-grid capabilities are all supported by a complete line of solar PV electrical parts and supplies; solar PV panels, single and multi-and poly-crystalline silicon PV [photovoltaic] modules for off-grid [stand-alone] and grid-interconnected [grid-tie], solar charge controllers, grid-interactive inverters, deep-cycle back-up power batteries, solar panel fixed mounting racks, single and dual axis tracking units, miscellaneous hardware such as combiners and disconnects, battery accessories, fuses, breakers - allowing easy expansion or repair of all types of systems, including Solar Freedom Package.

Commercial Applications; fully custom engineered configured systems utilizing grid-interconnection or off-grid capabilities for backup protection, significant energy savings, energy self-sufficiency, or full energy independence.

All commercial applications in off-grid, rural, suburban, urban, and inner-city locations provide cost effective power solutions for organizations of various types - condominium and gated community,

motel, hotel, and private resort, sports complex, boat marina, RV, park, recreation camp, campus, school, dormitory, hospital, clinic, industrial plant, warehouse, agricultural and livestock ranch, cottage, vacation rental, island beach resort and spa - can all experience significant energy cost reductions along with immediate, dramatic lowering of daily operating expenses.

Recreational Applications; flexible and mobile, PV power reduces or eliminates generator dependence, and provides free, quiet, clean, and safe power for recharging batteries, is a rugged, reliable, lightweight, easy-to-store power source for operating small appliances such as lighting, radios, and refrigerators and freezers found in recreational vehicles, and navigation and communication equipment used aboard boats of all sizes.

Solar PV powers portable equipment enjoyed by outdoor lovers such as campers, amateur and pro photographers, and all eco-enthusiasts and their families who use electronic devices such as digital cameras, laptop and notebook style computers, cell phones, MP3 players, and portable games in remote settings.

Solar PV power also works effectively for extreme sports and adventure seekers such as hikers, remote trekkers, rock and mountain climbers, lightweight backpackers, backcountry skiers, mountain bikers, long distance road cyclists, 4x4ers, wilderness fishermen, hunters, canoeing, touring kayakers and river rafters, SCUBA divers, research scientists, and all daring explorers whose lives often depend on advanced field communications, battery maintenance, or constant power for satellite phones, walkie-talkies, ship-to-shore radios, cell phones, GPS units, lanterns, flashlights, headlamps, lighting, and emergency power.

Consumer Ready Applications; flexible solar panels provide true rollability for integrated portable solar powered battery charging system, offers ultimate in easy-to-transport remote power for recreational, professional, and emergency or medical support in the charging or direct powering of 12V wireless electronic systems utilizing almost all Lithium, NiCad, or NiMH batteries. Entire panel system rolls into tube shape for total ease of transportation, shipping, and on-site storage. All accessories, cables, and adapters are available.

Energy Savings Systems

Residential Applications; energy efficient appliances, electrical power saving products, and water saving products offer major financial savings during the washing of clothes, cooking of meals, refrigeration and freezing of food, bathing, showering, heating of water, lighting of home and garden, and other heavy energy consuming household tasks.

Pool and Spa Heating Systems

Residential Applications; from DIY Kits for an average skilled handy-person, up to custom engineered and installed systems, solar pool heaters, heat pump pool heaters, and gas pool heaters provide three unique and effective systems to maximize swimming pleasure by gently warming the pool, plus the swimming season can be dramatically extended - even in cooler climates - by as much as 50 percent with solar performing year round in warmer climates.

Solar Pool and/or Spa Heaters; utilizes free energy from the sun, is eco-friendly technology with zero

operating costs, generates heat worldwide, even in colder climates, maintains an 80-85°F or greater pool temperature, with option of being complemented with electronic controller unit that prioritizes automatically between heating pool and/or spa.

Solar Kits are configured in Standard, Deluxe, or Premium, with each level offering more inclusive kits that incorporate plumbing and control components and are designed for use with all inground pools, above ground pools, and inground or portable spa and hot tubs.

Heat Pump Pool and/or Spa Heaters; utilizes the sun's free heat by collecting and absorbing energy from the outside air, then compressing, extracting, and transferring heat to swimming pool and/or spa water.

Heat Pumps operate at 500-600% efficiency, have a very low operating cost, and work well when solar heating is not feasible. Generates heat worldwide, even in colder climates, maintains an 80-90°F or greater pool temperature, heats spa to toasty 104°F, the maximum legal limit, with many units offering one-touch effortless switching between pool and spa.

Heat pump technology can efficiently collect heat from the outdoor air down into the 45°F range. When the temperature is 45°F or more, a heat pump can warm your pool, rain or shine. For tropic and sub-tropic climates, this means that the pool can be maintained at 80-90°F under almost all conditions all year round. In cooler climates, a heat pump will greatly extend the swimming season.

Gas Pool and/or Spa Heaters; utilizing a natural gas or liquid propane burner system for the water heating process, gas heaters offer complete trouble free dependability of operation, and capitalize on the pool/spa investment.

Gas heaters easily and quickly warm water into 80-90°F range, all the way up to a toasty 104 degrees, the maximum legal limit, and dramatically extend swim season - up to 50% in cool climates!

When rapid heat up of pool or spa/hot tub water is required, or a constant temperature must be maintained regardless of outside temperature, then a gas heater may be the proper method of heating technology.

Designed to satisfy the most demanding of pool owners, gas heaters guarantee the perfect temperature year round, regardless of cold weather conditions. Perfect for pools or spas at residential and vacation home locations.

DIY Kits allow cost saving installations or change-outs that are feasible by the average handy-person, an average three hour do-it-yourself project using basic hand tools. Gas hook up must be performed by a licensed professional.

Parts and Supplies; all pool and spa heating DIY Kits and Installations are supported by complete line of pool heating parts and supplies, with many energy saving accessories; new and replacement collector panels, connecting kits and parts, plumbing kits and parts, mounting kits and parts, repair kits and parts, system controls, control valves, sensors, motor/actuators, 3-way valve and actuators, 2-way diverter valves, 3-way valves, check valves, vacuum valves, spring check valves, pressure relief combo valves, vacuum breakers, panel adapters, miscellaneous parts, rubber couplings, row kits, plumbing kits, split kits, double row kits, end plugs, straps, clips, and clamps, miscellaneous fasteners, pool water temperature sensors, and solar roof temperature sensors.

Commercial Applications; organizations of various types incorporate solar, heat pump, or gas heating in designing light-to-heavy-duty system installations to reduce staggering costs of pool or spa water heating - condominium and gated community, motel, hotel and private resort, sports complex, RV, park and recreation camp, island beach resort and spa can experience major increase in swimming pleasure along with a remarkable extension of swimming season, significant energy cost reductions along with immediate, and in the case of solar and heat pump use, a dramatic lowering of daily operating expenses.

Pool and Spa Energy Savings

Residential Applications; from DIY Kits for an average skilled handy-person, up to custom engineered and installed systems, pool blankets and pool covers used in conjunction with cover rollers, HeatSavr liquid cover used in conjunction with automatic injector pumps, spa and hot tub hinged hard top covers, and floating spa covers, all offer major financial savings during the heating of pools, spas and hot tubs.

Commercial Applications; organizations of various types incorporate pool blankets and pool covers, HeatSavr liquid cover, spa and hot tub hinged hard top covers, and floating spa covers in helping to reduce the staggering costs of pool or spa water heating - condominium and gated community, motel, hotel and private resort, sports complex, RV, park and recreation camp, island beach resort and spa can experience significant energy cost reductions along with immediate and dramatic lowering of daily operating expenses, along with a remarkable extension of swimming season.

Pool and Spa Accessories

Residential Applications; from DIY Kits for an average skilled handy-person, up to custom engineered and installed systems, pool chemistry controllers, automatic inground pool cleaners, pool purifiers and cleaners, solar powered floating water purifiers, salt-chlorine generator kits, magnetic water conditioners, mineral pool purifiers, ultraviolet pool and spa sanitizers, and swimming pool winter covers- all offer major financial savings, along with the killing of unsightly algae and harmful bacteria using nontoxic, completely safe, all natural processes, saving on maintenance time, the elimination of costly toxic pool chemicals and harmful chlorine levels, and the need for pool service contracts, during the maintenance and care of pools, spas and hot tubs.

Commercial Applications; organizations of various types incorporate pool blankets and pool covers, HeatSavr liquid cover, spa and hot tub hinged hard top covers, and floating spa covers in helping to reduce the staggering costs of pool or spa water heating - condominium and gated community, motel, hotel and private resort, sports complex, RV, park and recreation camp, island beach resort and spa can experience significant energy cost reductions along with immediate and dramatic lowering of daily operating expenses, along with a remarkable extension of swimming season.

Parts and Supplies

Residential and Commercial Applications; all DIY Kits and Installations are supported by complete line of parts and supplies for Solar Freedom™ PV electric packages, solar water heating systems parts for both active and passive solar heaters including tankless heaters, instant hot water heaters, solar PV

lighting systems, including marine lighting, signage lighting, street lighting, and security lighting, solar PV electric systems DIY modular starter kits, fully custom engineered and configured systems utilizing both grid-interconnection or off-grid capabilities, energy savings systems, pool and spa heating systems, solar pool and/or spa heaters, heat pump pool and/or spa heaters, gas pool and/or spa heaters, and pool and spa energy savings parts and supplies.