



THE **STELLA** GROUP, LTD

TOP 10: WHAT SHOULD I DO IN MY HOME OR OFFICE BUILDING?

A Guide by The Stella Group, Ltd.
Prepared in 2010 by Scott Sklar

PREPARE (KNOW YOUR BILL): Rates change seasonally and in some areas by time of day. Demand charges and peak power rates for businesses are common, and ratchet rates will begin to appear. Forget the 'combined rate' for natural gas, fuel oil, propane, and electricity – breakdown your rates, compare your bills by month, seasonally, and by year.

LIGHTING: Wherever possible use compact fluorescents or the new bundles LEDs – outdoor and stairwell lights, in closets, bathrooms and in lamps. Skylights and daylighting, and windows, glass brick also disperse light. Use lighting timers where possible.

APPLIANCES: Shop for highest rated appliances particularly refrigerators, window air-conditioners, and washer/dryer sets. Minimum SEER 10 for air-conditioners. Check out: **ENERGY STAR**, a government-created program helping businesses and individuals protect the environment through superior **energy** efficiency.
www.energystar.gov

POWER STRIPS: Buy surge protector power strips with "on/off" switches and use them for televisions, stereos, all transformer-based chargers for toys, cell phones, iPods, cameras, and other electronic devices – parasitic electric losses are now over 10 percent of residential energy bills. New construction, add on/off switches to certain room electrical outlets.

FANS (CEILINGS, ATTICS): Ceiling fans are worth every penny (particularly in winter), and attic vent fans save money (primarily in summer). Watch out for closet, bathroom and stove vent fans without timer switches – they cost you money.

INSULATION and THERMAL BARRIER PAINT: Keep heat in during winter and cooled air in during summer. Reduce attic heat in summer and increase heat in winter. Fastest payback after lighting investments. Don't forget double pane and triple pane gas-filled windows when renovating.

WATER (SPOUTS, SHOWER HEADS, LOW FLO TOILETS, DOWNSPOUT COLLECTION): Heating wasted water costs money as does wasted water – flow restrictors for sinks and showers have fast payback. Bend down the toilet float and buy low-flow toilets when renovating. Note – energy efficient washers use 40% of the water a regular washer uses at its lowest water setting! Buy rain-collector barrels for your gutter downspouts – stops water runoff and lowers your water bill all at the same time.

SOLAR WATER HEATING: Heating for swimming pools, water in buildings, and even radiators or radiant space heat are all possible and cost effective – paybacks under 5 years – when incorporated in mortgage, immediate positive cash flow. Need UNOBSTRUCTED southern exposure. Flat mount on roof. Only buy SRCC certified solar systems (www.srcc.org). Only use an experienced solar installer – see pictures and call references. MD, DC, VA – MDV-SEIA, E-mail: director@mdv-seia.org Website: www.mdv-seia.org.

SOLAR ELECTRIC OPTIONS (CONSUMER): Many great consumer products for home, business and garden, which include solar powered: pathway and security lights, porch and driveway lights, attic vent fans, cell phone and iPod chargers, backpacks, mole and vole evictors, pond and bird bath pumps and sprays, electric fences for gardens, window ornaments and plant pot turners, trickle chargers for electric lawnmowers, cars, and tools, and the list goes on and on and on

– other side –

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SOLAR ELECTRIC (PHOTOVOLTAICS), SMALL WIND, AND OTHER OPTIONS: What do you want to do? Make a statement? Protect expensive electronic equipment from surges, swells and transients? Provide back-up power for refrigerator, home office, frail/handicapped person, or for communications? Reduce higher costs electric or natural gas rates or heavily-used appliance? Zero out electric bill? Become an energy net producer? Be a high profile technology or environmental consumer?

If you want to – Make a statement. Zero out your electric bill? Become an energy net producer? Be a high profile technology or environmental consumer?) purchase a net-metered photovoltaics system – no batteries. Produce more electricity than you use and turn your electric meter backwards – purchase a photovoltaics (pv) or small wind system without storage.

If you want to – Protect expensive electronic equipment from surges, swells and transients? Provide back-up power for refrigerator, home office, frail/handicapped person, or for communications? Reduce higher costs electric or natural gas rates or heavy used appliance? Zero out electric bill? Make a statement?) – purchase a photovoltaics or wind system with a battery bank.

In either case, you need an UNOBSTRUCTED southern exposure. Flat mount on roof or ground mount. Only buy UL certified solar system components. Only use an experienced solar installer – see pictures and call references. MD, DC, VA – MDV-SEIA, E-mail: director@mdv-seia.org Website: www.mdv-seia.org.

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The Stella Group, Ltd. Office building in Arlington, Virginia has a 1 kW photovoltaic solar roofing shingles (by UniSolar), a .5 kW small wind turbine (by SW Windpower), an advanced 'smart' battery system (by GridPoint), and the first leased commercial 5 KW fuel cell in the US (GenCore by Plug Power), a solar daylighting tube (by HUVCO), a ductless heat pump (by Sanyo), and two high efficiency R-7 & R-9 windows (by Serious Materials) and the building has passive solar design with R50 insulation. The Stella Group's Washington, DC office building has a 1.5 KW photovoltaics system, financed in part, by an award from the DC Government, featuring modules from 10 PV companies. Stella Group CEO Scott Sklar has a 2 kW photovoltaics system on his Arlington, VA home which includes 0.5 kW of photovoltaics 'peal-and-stick' panels on the front porch's metal-seamed roof (by UniSolar), along with his 1.2 kW of photovoltaics by Solarex (now BP Solar), along with a solar water heating system (by SunEarth), LO/MIT thermal barrier (by Solec), double-paned argon-filled windows, R-38 insulation, and energy efficient fixtures and appliances including the Whirlpool Cabrio washing machine. Scott Sklar owns a Prius, a 2005 hybrid which routinely achieves 45 – 55 mpg.

The Stella Group, Ltd. is a strategic marketing and policy firm advancing the utilization of clean, distributed energy applications such as advanced batteries and controls, energy efficiency, fuel cells, geo-exchange, heat engines, microhydropower, minigeneration (natural gas), modular biomass, photovoltaics, small wind and solar thermal (air-conditioning, water and industrial process heat, and power generation); with blended financing and customer facilitation. Scott Sklar, the Group's founder and president, lives in a solar home in Arlington, Virginia, has solar on both his VA and DC offices, and his coauthored book, A Consumer Guide to Solar Energy, was re-released for its third printing while his Q&A and commentary columns appear on the largest renewable energy web portal: www.RenewableEnergyWorld.com.

Scott Sklar serves as Steering Committee Chair of the Sustainable Energy Coalition, composed of the renewable energy and energy efficiency trade associations and analytical groups, and sits on the national Board of Directors of the non-profit Business Council for Sustainable Energy, Renewable Energy Policy Project, and CoChairs the Policy Committee of the Sustainable Buildings Industry Council.