



Lancaster Passes Wind Energy Ordinance



Good news from the Lancaster(Texas) City council. They voted unanimously to pass a comprehensive wind energy ordinance that will allow Lancaster residents and business owners the opportunity to install larger wind turbines inside the city limits. This makes Lancaster a city moving in the right direction to become a "Green City". Special thanks to Green Watt Energy's efforts.

A new Fire Station with a bright green future.

A V200 Energy Ball adorns the top of the newest McKinney Fire Station #8 in suburban McKinney, TX. Erection was accomplished via a Skytrac 50, Assembly and erections required approximately 3 hours.

Fire, Police and other emergency agencies are prime opportunities to mate the Energy Ball with community needs and goals.



Linden Project – Seattle, WA – May 2010
V100 Erected by Northwest Windpower

Justification for Alternative Energy Products

If a dealer never gets beyond equipment cost plus installation cost, and only deducts the Federal exemption, there's a pretty good chance the bottom line numbers won't look as good to the customer as he/she had hoped.

There are a lot of reasons people choose to install renewable energy products; wind, solar, biomass or others. But, at some point the conversation generally points to the return on investment. Let's consider a few important considerations that are generally overlooked:

According to a study by the National Renewal Energy Laboratory; homes with wind or solar electric systems appreciate 62% faster than non-alternative energy equipped homes.

Based on a study by ICF Consulting (funded by HUD and EPA) energy saving measures such as alternative energy can add \$20- or more home value for every \$1- of yearly cost savings (that's \$20,000.00 of value for every \$1,000.00 that alternative energy provides).

Consider the current cost of utilities and whether your expectation is for them to increase or decline or the next 5, 10, 20, 30 years? Averages utility rate increases average 3 ½% nationally. Texas is averaging about 7% annually (for the past 6 years).

In some states there are no sales taxes (8.25% average) on renewable energy products. (see www.dsireusa.org)

In some states there are no property tax (valuation) increases due to installation of alternative energy systems. See www.dsireusa.org

Commercial installations have additional costing benefits: tax write-offs, leasing options, accelerated depreciation, etc. Commercially installed alternative energy should be a no brainer. "Energy is the single largest expense for the retailer after payroll. . . Even a one-percent reduction can have a significant impact on a corporation's bottom line. Every dollar saved on energy is pure profit." Bill Lyon, Vice President for Energy, Federated Department Stores E News March/April 1999

Home Energy Americas' renewable energy products offer exceptional value when you include product life to the equation. Do your customers a favor and show them the whole picture. Use all the available incentives, identify all the value add benefits, and where necessary, fight for code variance and zoning exceptions. And if you need help, don't hesitate to contact your dealer or technical support personnel. We're part of your team.

Robert S. Thompson
CEO

HEA Celebrates Earth Day

With our Mobile Demonstration Unit in tow, HEA participated in two Earth Day Events, promoting the Energy Ball, Solar PV, Solar Thermal Heat Tubes, DC Air Conditioning and the EV Island. Others contributing to our exhibits included GPRM, Miles Motors, & Pat Loeb Toyota.



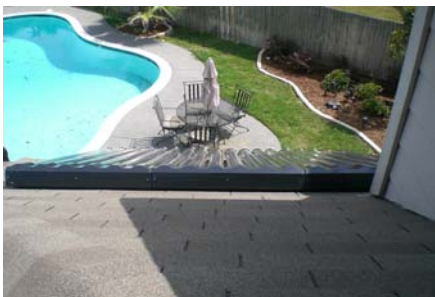
Erik Aurik of HEI and Helmut Richter of August Solar visited HEA in May to provide training and support to the HEA corporate team. Excellence!





HEA Solar Thermal Heat Tubes

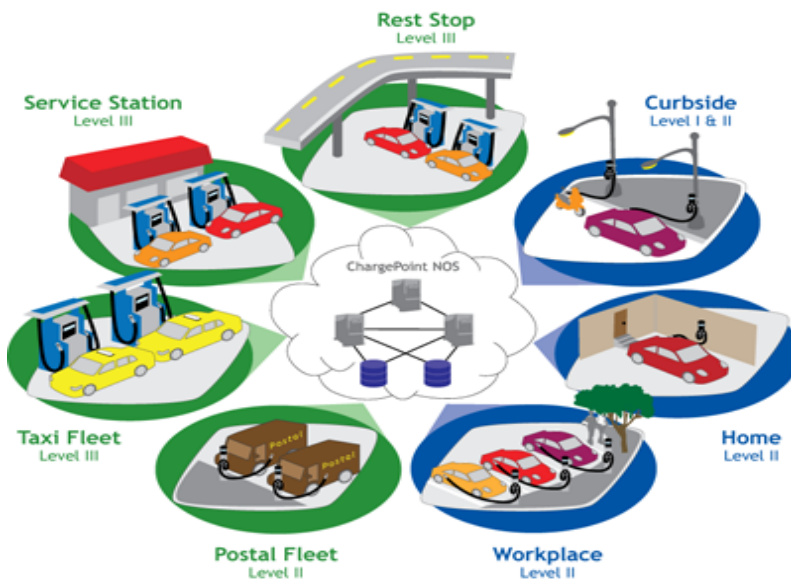
An exceptional set of solar heating appliances with best case ROI. Visit our .net site for new data & spec's. See the application examples below for some residential & commercial inspirations.



Energy Balls + Solar PV + EV Island = Sustainable Opportunities



Coulomb Technologies ChargePoint® Network





Over the past months we've received numerous requests for data regarding voltage drop over distance from the turbine (or Solar Power system) to the inverter/breaker box.. We hope you'll find the following information helpful. The same standards apply to both AC and DC current.

VOLTAGE DROP TABLE

- Voltage drop becomes important when the length of a run of wire or cable becomes very long. Usually this is not a problem in circuits within a house, but may become an issue when running wire to an outbuilding, well pump, etc.
- Excessive voltage drop can cause loss of efficiency in operation of lights, motors and appliances. This could result in lights that are dim and motors or appliances whose life is shortened.
- To avoid excessive voltage drop, select a wire size that will minimize voltage drop. You need to know the length of the wire run and the amp load or current that will be on the circuit. To determine amps, add up the wattage of all electrical devices that will be on the circuit and divide this total by the voltage of the circuit, 110 or 220.

Wire Size Selection for Long Runs

110 Volt, Single Phase, Max 3% Voltage Drop*

	Length of Run					Amp Load
	25'	50'	100'	150'	200'	
Copper	14	12	8	6	6	15 AMP
Copper	12	10	8	6	4	20 AMP
Copper	10	8	6	4	3	30 AMP
Copper	3**	3**	1	2/0	3/0	100 AMP
Aluminum	2	2	2/0	4/0	300 MCM	100 AMP
Copper	3/0	3/0	3/0	250 MCM	350 MCM	200 AMP
Aluminum	4/0	4/0	300 MCM	400 MCM	600 MCM	200 AMP

220 Volt, Single Phase, Max 3% Voltage Drop*

Copper	14	14	12	10	8	15 AMP
Copper	12	12	10	8	8	20 AMP
Copper	10	10	8	6	6	30 AMP
Aluminum	8	8	6	4	4	30 AMP
Copper	8	8	8	6	4	40 AMP
Aluminum	8	8	6	4	3	40 AMP
Copper	8***	8***	6	4	4	50 AMP
Aluminum	6	6	4	3	2	50 AMP

*The table above applies to the single phase systems, in steel conduit, at a conductor operating temperature of 75°C. It assumes a power factor of one. The table may be used for systems using non-steel conduit, but actual results for these conditions may result in a greater voltage drop.

**Type NMB cables may not be used for a 100 amp load.

***Must use 6 gauge if using NMB or UFB.

WARNING! Installation of electrical wire can be hazardous, if done improperly, can result in personal injury or property damage. For safe wiring practices, consult the National Electrical Code® and your local building inspector. Hiring a journeyman or master electrician is generally a good idea.

Still confused or simply want to take a short cut with input from a pro. Try the calculator below.

Voltage Drop Calculator:

http://www.electrician2.com/calculators/vd_calculator_initial.html





Testing to Begin:

We've installed V200 & V100 Energy Balls at the West Texas A & M University Small Wind Turbine Research and Testing Center as the critical part of the SWCC Certification Testing. Our thanks to Director Key Starchy and Asst. Dir. David Carr for their input, support and hospitality during our visit to Canyon, Texas.



Domestic Hot Water and Swimming Pool Heating

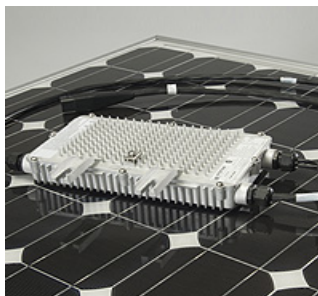
were the focus of two Heat Tube installations locally by HEA crews in May. Each install improves our planning and execution skills. Having Helmut Richter and Erik Aurik on hand substantially added to our knowledge base, expanding our training and better positioning our sales efforts.



Wind Energy actually works!

Wind is actually more variable than "intermittent"--a typical wind farm will generate some electricity 65% to 90% of the time, depending on the wind speed patterns. Much of the time, it will be generating at less than full capacity, which is why its "capacity factor" (its average generation divided by its full capacity) is more like 40% at the best sites.

Second, wind has a rapid "energy payback"--something that has been documented by numerous studies in the U.S. and elsewhere dating back to the 1980s. A wind turbine typically takes only a few months (3-8, depending on the average wind speed at its site) to "pay back" the energy needed for its fabrication, installation, operation, and retirement.



The Enphase Micro-inverter shifts DC to AC conversion from a large, centralized inverter to a compact unit attached directly to each solar module in the power system.

NEWS FROM DSIREUSA.ORG

- CA - Solar Water Heating Rebates Available, at Long Last
- CO - Fresh Renewables Rebate Program Uncorked
- CO - Co-Op Offers PV Rebates
- ID - State Caps PV Loans at \$15,000
- KY - Stimulus-Funded Rebate Program Kicks off
- NV - PV Rebates: Now You See Them, Now You Don't
- NH - PUC Solar Thermal Incentives Now Available
- SC - Solar Rebates Snapped Up
- UT - New Renewables Rebate Program Unveiled
- UT - Interconnection Rules Take Effect
- VT - Small-Scale Renewables Rebates Resuscitated

Visit HEA's Information and News BLOG at:

<http://homeenergyamericas.wordpress.com/>

Send your BLOG contributions to dgillespie@heamericas.com

