



The Stella Group, Ltd.

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The Stella Group, Ltd. is a strategic marketing and policy firm for clean distributed energy users and companies which include advanced batteries and controls, energy efficiency, fuel cells, geoechange and chp, heat engines, minigeneration (natural gas), microhydropower, modular biomass, photovoltaics, small wind, and solar thermal (including daylighting, water heating, industrial preheat, building air-conditioning, and electric power generation). The Stella Group, Ltd. blends distributed energy technologies, aggregates financing (including leasing), with a focus on system modularity, standardization and web-enablement.

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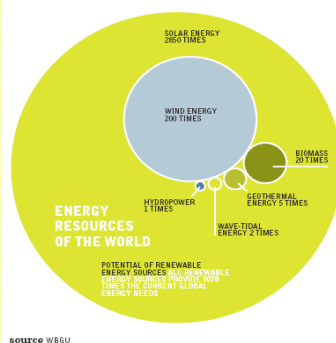
1. INDUSTRY APPLICATION FOCUS AND TRENDS

a. Industry overview: facts and trends.

“Energy Investments 2009 in renewable energy increased from \$39.24 billion in 2001 to \$336.78 billion in 2009 at a AGR of 30.8% during this period. (5/11/10)

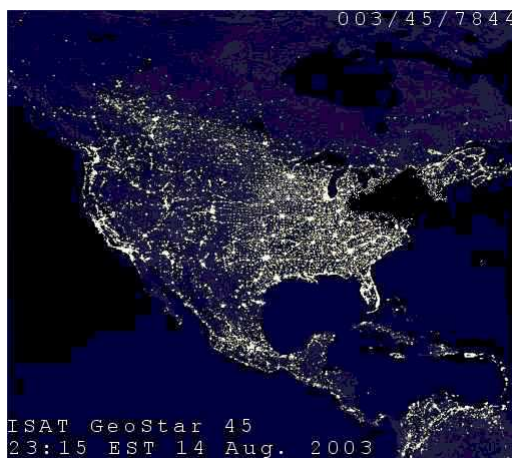
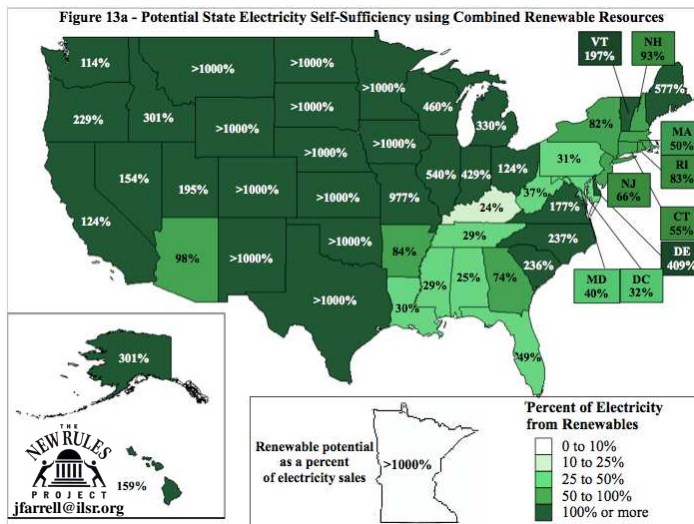
Bloomberg News

figure 30: energy resources of the world



Institute DLR, Institute of Technical Thermodynamics, Department of Systems Analysis and Technology Assessment, Stuttgart, Germany Ecotys BV, P.O. Box 8408, NL-3503 RK Utrecht, Kanaalweg 16-G

32 States can be Self-Sufficient



SQUIRRELS and the GRID

A parked car belonging to Lindsay Miller of Bayonne, NJ, burst into flames one October afternoon; authorities reportedly concluded that a squirrel had gnawed through the insulation on overhead power lines, caught on fire, and fallen close enough to the car to ignite as well. Cite; January 4, 2008, Washington City Paper

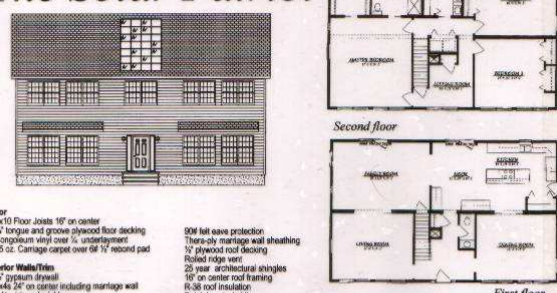
THE **STELLA** GROUP, LTD



Squirrel Electrocuted 2010 in Arlington County Causing One Hour Power Outage



The Solar Patriot



Floor
 2x10 Floor Joists 16" on center
 1/2 tongue and groove plywood floor decking
 Conglomerate vinyl over 1/4" underlayment
 25 lb. Cargille carpet over 5/8" 1/2" rebound pad

Interior Walls/Trim
 1/2" gypsum drywall
 2x4s 24" on center including marriage wall
 3 1/4" white colonial base
 2 1/4" white colonial casing
 3 primed multi-leaf white 6 panel colonial doors
 Level lock sills
 Socks on windows

Ceiling
 Flat smooth/primed
 5/8" gypsum drywall
 8" height

Electric/Plumbing
 Front and rear door chimes
 Hard wired fire detectors as per code
 2 GFI outlets
 8" Single lever Moen faucet with sprayer
 8" stainless steel sink
 4" Single lever Moen Faucet
 30" vented range hood
 40 amp 200 AMP service panel
 Aler bathroom and bathtub
 Anti-slip Moen shower faucet
 Shut-offs at all fixtures
 Universal Runderl elongated 1.6 gpf toilets
 55 gallon electric water heater
 Wired for dryer and electric range
 Copper water feeds stubbed
 PVC drain, waste and vent lines
 2 phone jacks
 2 cable jacks

Exterior
 36x80 insulated 6 panel colonial door (front)
 8x8" steel lobby
 36x80 6 lite steel rear door (rear)
 12" Eaves
 12" eave and overhangs

908 fall eave protection
 Three-ply marriage wall sheathing
 1/2" plywood roof decking
 Rolled edge vent
 25 year architectural shingles
 16" on center roof framing
 R-38 roof insulation
 Dutch lap vinyl siding
 Outside Walls
 2x6 15" on center sheathed with 7/16" OSB
 R15 wall insulation
 MW Double hung windows with grills
 Window sills

Kitchen/Baths and Cabinets
 4" counter square Formica backslash
 Formica brand counter tops
 Richwood light cabinet doors
 Burnished brass pulls on kitchen door
 Calveed marble lavatory sinks
 Oak edge medicine cabinets
 Mirror, tissue holder, linen bar
 White vinyl coated ventilated shelving

Lighting
 Nature bath ceiling fan and light
 72" range vanity lights
 Croudeiler
 2 exterior coach lights on front
 1 rear exterior light
 Kitchen light
 Decora switches

ADDITIONAL OPTIONS
 8" ceilings
 8/12 storage truss
 20" overhangs on front of house
 1" exterior foam insulation
 R-21 exterior wall insulation
 Air infiltration whip
 40 year architectural shingles
 Oak, road and risers
 Railing package
 Double side lights

Contributors
 All Phase Electric
 Thompson Lighting
 Cargille Carpets
 Anticraft Cabinets
 Wolf Distribution
 Header House Millworks
 InHr Insulating Products, Inc.
 Moen Faucets
 LaSalle Bratol
 Bruce Flooring
 Patrick Industries
 M&W Millworks
 Keystone Building Products
 Customwood Siding
 IFO Shingles
 Seven D Industries
 Kraft Insulation
 Marcoll Building Products

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 WEB PAGE: designhometc.com

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TSG VA Office



2 LEED Platinum Leapfrog Houses near Lewis and Clark



- Energy from ground source heat and 6 kW grid-tied solar PV system

<http://www.theleapfroghouse.com/index.cfm?fuseaction=cDisplay.learnmore>
<http://www.jetsongreen.com/2008/08/platinum-leapfr.html>

- Ground source heat pump
- Hydronic floors, radiant panels, and hot water heated by heat pump
- 6 kW grid-tied solar PV system
- Efficient envelope with R30 walls and R40 ceilings
- Ventilation by Panasonic WhisperGreen fan
- Efficient lighting with fluorescents and LEDs
- Energy Star windows and appliances
- 6000 gallon potable water storage/purification system
- Galvalume roof and gutters for rainwater collection
- Dual-flush toilets and low-flow plumbing fixtures
- Plumbed for potential greywater re-use (upon legalization)
- High fly-ash content concrete
- Use of reclaimed and recycled materials from old house
- Extensive use of FSC-certified lumber, FSC formaldehyde free plywood
- Siding with recyclable steel and dry-process fiber cement (with fly-ash)
- Use of native and drought-tolerant landscaping, food garden beds
- Formaldehyde free cabinets and counter tops
- Use of no-VOC paints
- All electrical appliances ready for on-site green power
- Site located in close proximity to mass transit

WSU Energy House USDOE Building America Research



The nation's most energy efficient HUD-code home in 1996.

This uses 12,000 kWh/year (all electric) or 33 kwh/day
 Located near Olympia, Washington, in a marine climate.

PV streetlights are sturdy -- able to withstand hurricane winds and provide needed lighting when the electricity grid is down.



**Dade County
Florida USA**

After Hurricane Andrew, Picture facing N.W.

KATRINA – SOLAR_DRIVEN MUNICIPAL WATER PUMP

- **Driving motors - pipeline pumps** specialized for public systems, sewage pumps, fuel pipeline pumps, gasoline station pumps, and irrigation pumps
- **On-site power – with battery bank** for electric power at building or distribution lines.



9/28/2010

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DG 24-7 Solar/Wind powered disaster and emergency water filtering unit also removes arsenic and lead

- **Ultrafiltration removes 99.99% of bacteria, viruses, cysts, pathogens, medical waste**
- **Filtration media removes 99.99% of arsenic, lead and other heavy metals**
- **Robust, scalable with a small foot print**
 - 6500 gallons per day on solar power, 13000 gallons per day with upscaled solar power
- **Minimal/Versatile power requirements**
 - 24-7 can be solar/wind powered or attached to power grid/generator
- **Rapid deployment**
 - Small size, 6x6x5ft, designed to fit 463L pallet
 - Air, surface or surface ship deliverable
 - Setup in less than 30 minutes
- **Simple and reliable components**
 - Proven water filtering capability in austere environments



www.DynGlobal.com (888) 235-7755

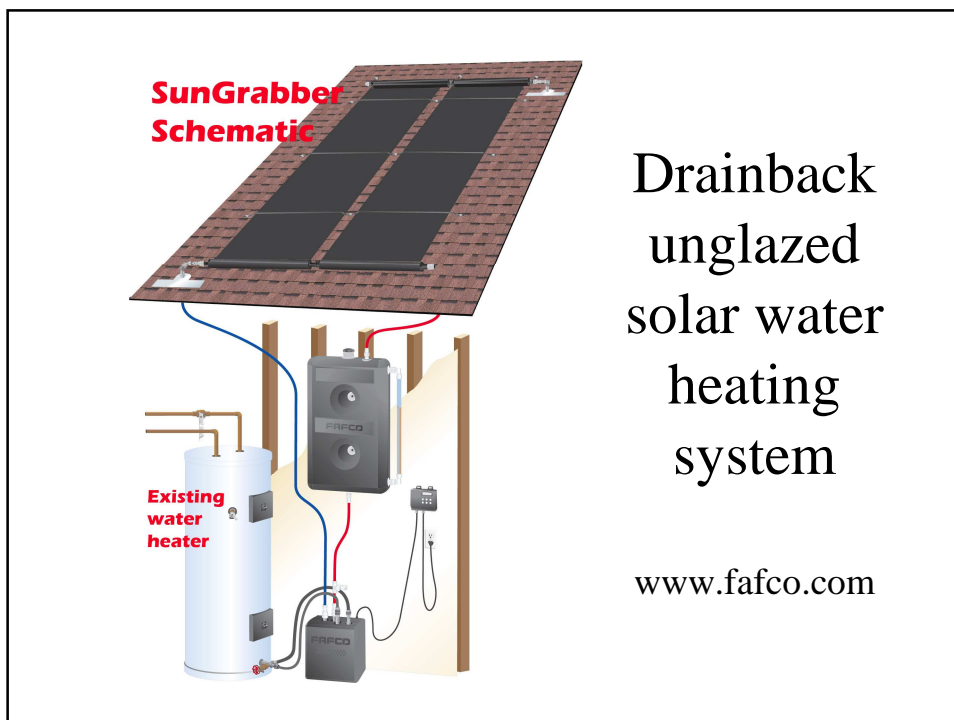
**LOWEST WATT LIGHTS
LOW ENERGY OUT, BETTER LUMENS OUT**



18 watts dimmable
cold cathode cfl 72 watt output



LED dimmable
flood 60 watt output



Biomass Gasifier: Distributed Energy



25 kw and 50 kw units
containerized units
Community Power Corp
(CO)

PowerCube 1.5 kw
www.reluminati.com



On-Site Generation Utilization List

- **Communications** — solar and wind-driven WiFi, cellular, field radios, AM radio, and networks



9/28/2010

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