The Stella Group, Ltd.

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, geothermal, 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


"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
32 States can be Self-Sufficient

Figure 13a - Potential State Electricity Self-Sufficiency using Combined Renewable Resources

Renewable potential as a percent of electricity sales

Percent of Electricity from Renewables

- 0 to 10%
- 15 to 25%
- 25 to 50%
- 50 to 100%
- 100% or more

[Map showing potential state electricity self-sufficiency using combined renewable resources]
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

Squirrel Electrocuted 2010 in Arlington County Causing One Hour Power Outage
TSG VA Office
2 LEED Platinum Leapfrog Houses near Lewis and Clark

- 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

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

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.

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- 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
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 footprint
  - 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

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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
Good planets are hard to find.