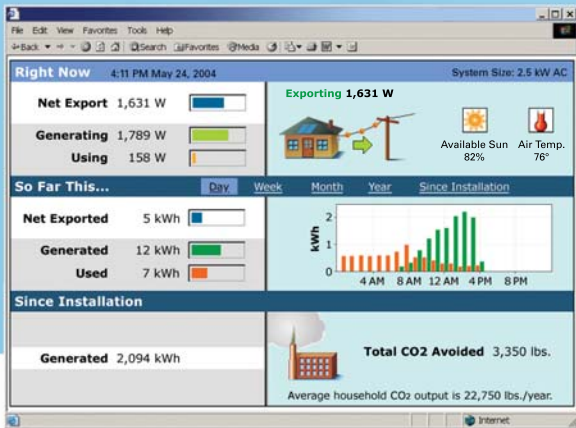# Why *Solar Monitoring?*

Visualize Renewable Energy℠

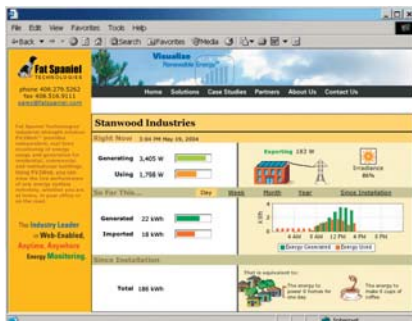## PV2Web™ Whole-Building Energy Monitoring

A solar roof is a great asset for any house, but what good is it if you don't know how much energy the system is producing? With Fat Spaniel Technologies monitoring, you get an accurate and real-time view of your savings and production, wherever you need it.

Maximize your savings by scheduling your heaviest use of electricity when energy is cheapest. Export energy to the grid during peak demand times. With optional energy use monitoring, you can identify energy-wasters and measure the impact of conservation strategies.

Share the Environmental Benefits with Your Friends

Help your friends and family understand the environmental benefits of solar energy. Clear and dynamic graphics show how much potential pollution you are preventing by generating solar electricity. You can access this data anywhere using Internet or mobile phone technology.

"Alert" programming stores maintenance and troubleshooting information, so your installation technician can monitor your system remotely, saving on travel and service charges. You can feel secure knowing that your installer will receive automated alerts if there are any performance issues.

From the Fat Spaniel Technologies global portal page, you can share your residential or commercial energy production and environmental benefits data with others.

http://monitor.fatspaniel.com.

Benefits

- **Reduce your electricity bill** through tighter management of energy production and usage.

- **Increase your awareness** of electricity use and encourage more energy efficient behavior.

- **Improve Net-metering results** by maximizing energy export and load-shifting.

- **View historical data** for seasonal or other comparisons.

- **Any time, anywhere access** to live system data (web, web-enabled mobile devices).

- **Real-time data** and performance assessment.

- **Download data** into spreadsheet-compatible files for more advanced analysis.

- **Turnkey, low-maintenance** operation.

Monitoring information is viewable on web-enabled PDAs and cell phones.

Flash views available as separate product.

No Computer Required

- No onsite computer necessary
- Monitoring software resides on the Fat Spaniel Technologies' servers

Internet Connectivity

- Internet connectivity is required for data collection at PV site
- Internet connectivity options include DSL, Cable, modem*, wireless*

Power/Electrical

US: Standard 110 AC
EU/UK: 220

Standard Data Collected

- AC voltage (Volts)
- AC current (Amps)
- AC power (Watts)
- AC total energy since start of operation (kWh)

Optional Data Collected

- DC current, voltage, power and cumulative energy
- Building voltage, power and cumulative energy
- Irradiance (W/M^2)
- Ambient Temperature and Cell Temperature (Degrees Celsius, Degrees Fahrenheit)
- Wind speed (mph, or m/s)
- Wind direction (Degrees)
- Battery input/out current, voltage, power and cumulative energy

Data Acquisition

- System stores data locally for up to 24 hours in the event of a network outage
- Data upload automatically occurs via Internet connection
- 2 years worth of live data available on the Fat Spaniel Technologies servers

Documentation

- Quick Reference Installation Guide
- Wiring Diagrams

Certifications

- California Energy Commission approved performance meter

* Requires separate accessory kit

Standard System Includes

- All required hardware, including sensors, loggers and communication equipment
- 5 years monitoring service
- 5 years of feature upgrades
- Executive View and Installer Administrative View
- 24x7 information accessibility via any internet enabled device

Hardware Components

- Enclosure: All PV2Web components are delivered assembled inside 1 or more enclosures
        - Steel or plastic
        - Outdoor rated, NEMA 3R
- Communication Gateway
        - Internet connectivity: TCP/IP
        - UL and CE listed
- Power adaptors and power cords
- Connectors and short run cabling

Additional Hardware Components if Needed

- Data logger
        - For building load and environmental monitoring
- Current transducers
        - Available Sizes: 3 ¼", 2", 1 ¼"
- Environmental sensors
- Pyranometer or light level sensors
- Thermister
- Anemometer

System Compatibility

- PV2Web is compatible with any inverter including models from:

SMA: Sunny Boy Series, Sunny central
Xantrex: Trace Series, Sun Tie, PV Series
Outback: FX, VFX, GTFX, GVFX
PV Powered: Star Inverter PVP1100, Star Inverter PVP1800, Star Inverter PVP2800
Fronius: IG, Sunrise, Solarix
Sharp: Sun Vista
Ballard: Ecostar

Note: Some systems require power meter