



3 Ways to Save Energy (and \$) in Your Printing Company



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Renaissance Hotel

Schaumburg, IL

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Sustainability: *It's In the Budget*

■ Energy Efficiency

- Upgrade existing buildings systems to operate at maximum efficiency while also providing valuable facility enhancements.

■ Energy Procurement and Risk Management

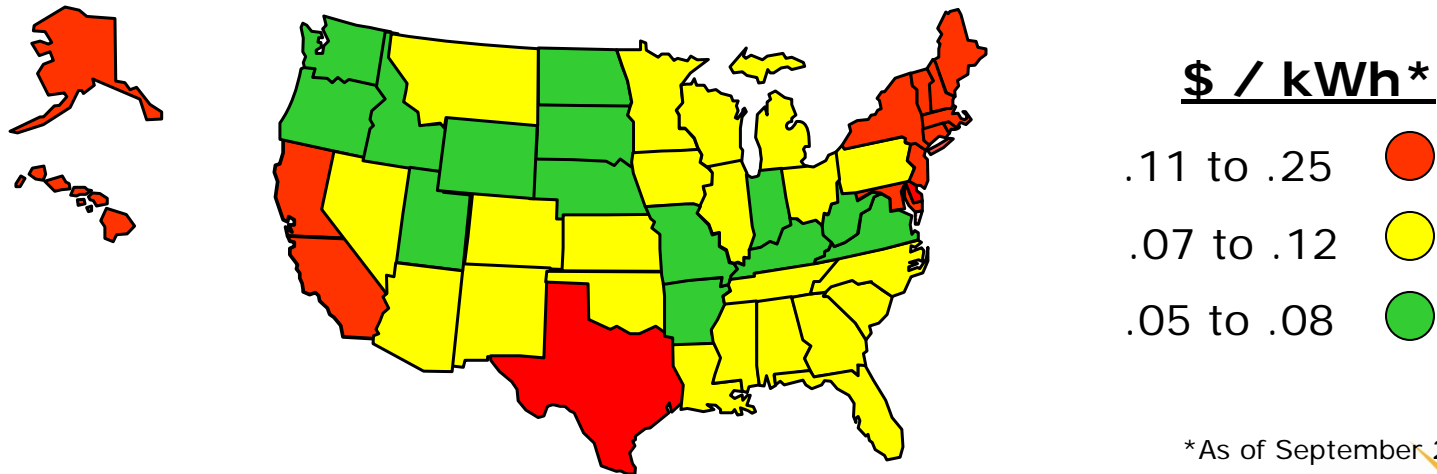
- Hedge against inflation. Limit exposure to market volatility. Purchase Green Energy.

■ “Green” Credentials – *The Client Side*

- Carbon Footprint Tracking
- USGBC LEED (EB) Certification
- Differentiate from the Competition

Current Market Conditions

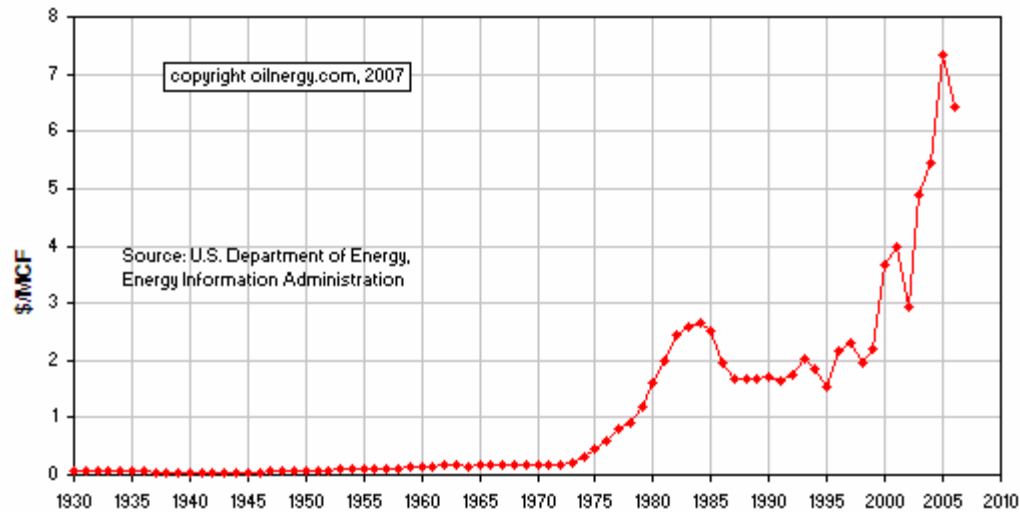
- Rising US Energy Prices
- Utility Rate Increases up to 70%
- Consumers Exposed To “Real-Time” Market
- Maximize Energy Efficient Rebates and Tax Incentives
- Traditional Energy Management Solutions Do Not Address New Energy Dynamics



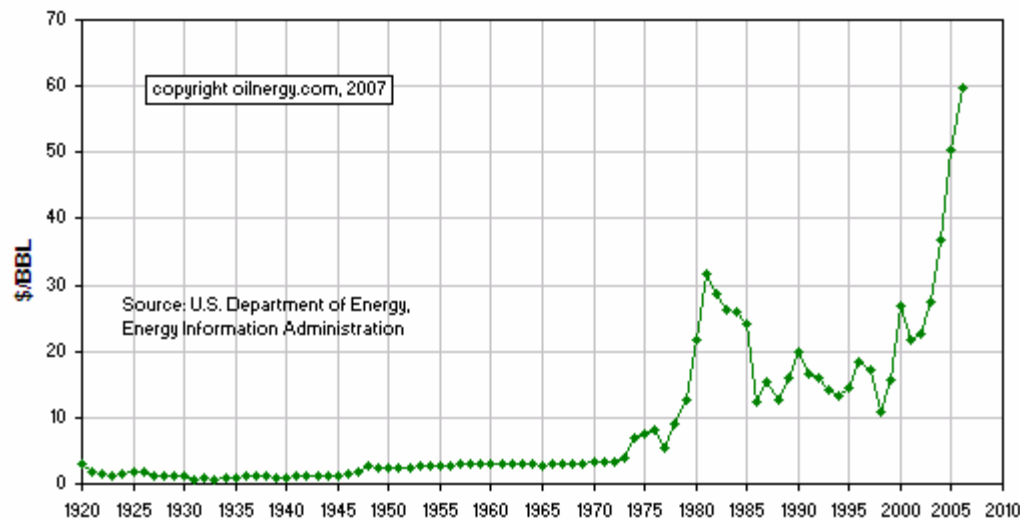
Energy Market

Energy Prices: A Steady Climb Up

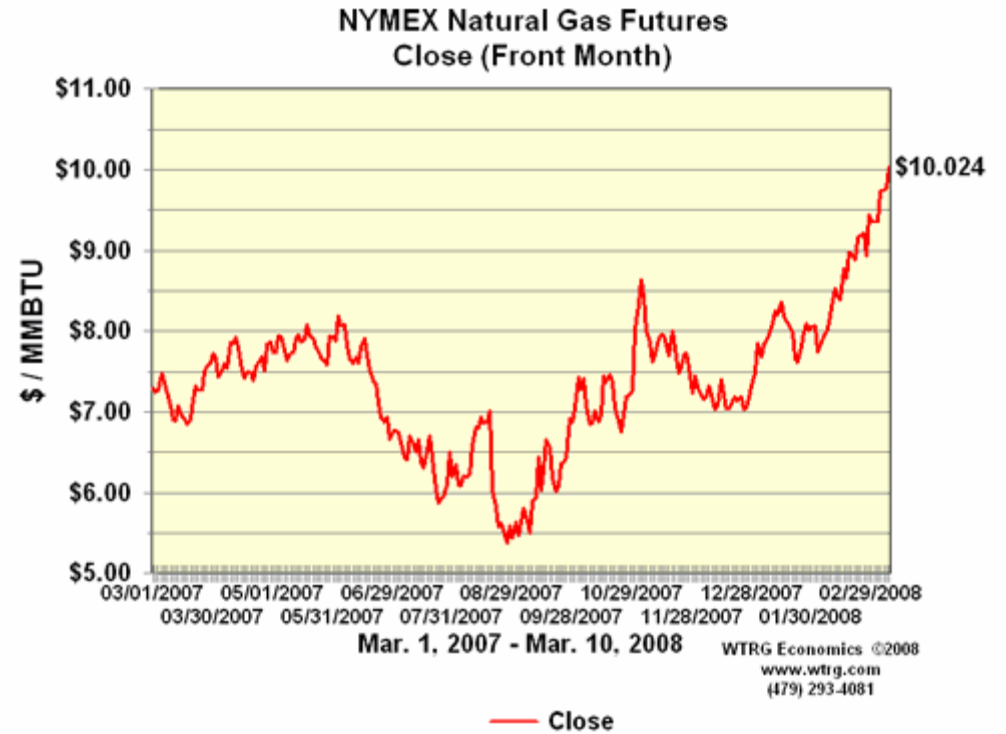
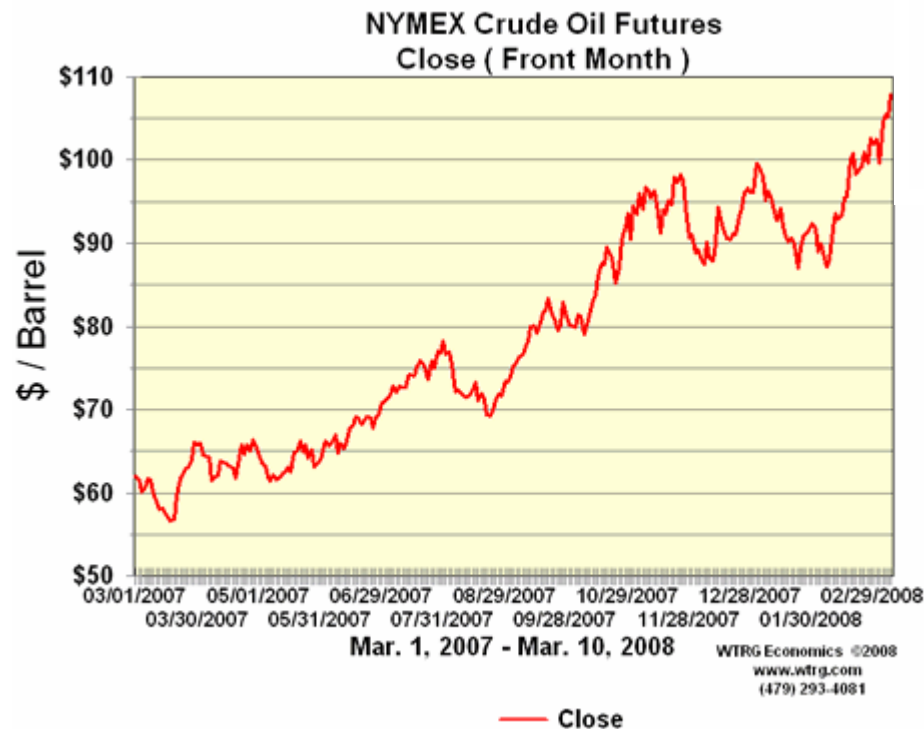
U. S. Wellhead Natural Gas Price



U. S. First Purchaser's Crude Oil Price



Recent Energy Market: Straight UP!



Energy Efficiency

■ Energy Efficiency

- Upgrade existing buildings systems to operate at maximum efficiency while also providing valuable facility enhancements.
 - Simple, Cost Effective Energy Improvements:
 - Lighting System Upgrades
 - HVAC Improvement
 - Wireless Energy Management Systems

Benefits of a Lighting System Upgrade

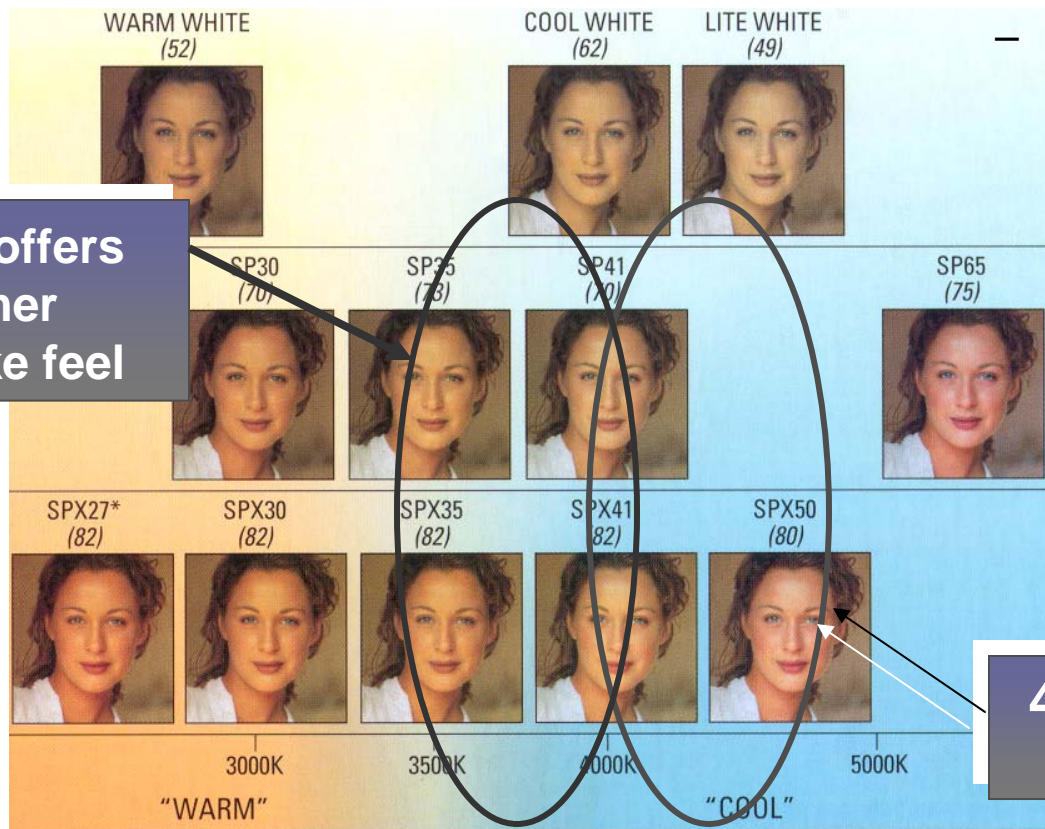
- Reduce **Energy** Costs by 50%
- Improve the Quantity & Quality of Light
- Reduce Cooling Costs
- Reduce Maintenance Costs
- Improved Productivity

Lighting System Upgrade

- Replacing high energy use lamps with more energy efficient lamps/fixtures.
 - T-12 Magnetic to T-8 w/ Electronic Ballast
 - Incandescent lamps to Compact fluorescent lamps
 - Incandescent exit signs to LED exit signs
 - Metal Halide or High Pressure Sodium Hi-Bay fixtures replaced with T5 fluorescent fixtures

Improve Not Only Your Savings But Also Your Quality

Color Rendering Index (CRI) and Color Temperature...



– Natural Sunlight has a Color Rendering Index (CRI) of 100

- T-12 lamps CRI 60
- T-8 lamps CRI 85
- Metal Halide CRI 65
- T-5 Lamps CRI 83

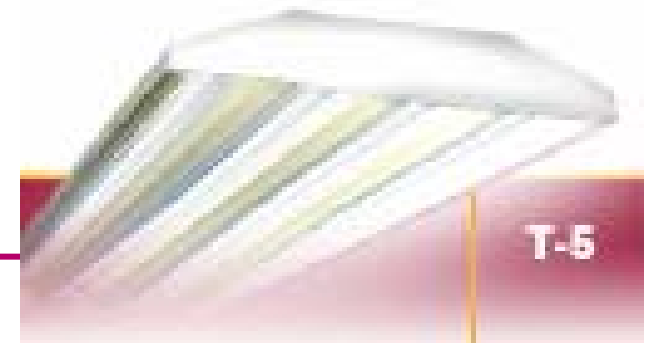
3500K offers warmer homelike feel

4100K offers crisp clean look

In Either temperature your actual appearance is seen more naturally with higher CRI

What is the Latest in Lighting Technologies?

- T-5's for high ceiling, large area lighting
- T-5 consume **50% less energy** than metal halide, pulse start metal halide and high pressure sodium fixtures
- T-5 Lighting is fully controllable. Providing:
 - **Instant on**, instant re-strike, dimming options, daylight harvesting and motion sensor capabilities
- Improved Color Rendering and Color Temperature
80 – 90 CRI (5000k)



A Case Study: Lighting Upgrade For a Commercial Print Shop (146,000 sq. ft.)

Investment Summary

	Pre Upgrade	Post Upgrade	Annual Savings
Energy Cost	\$141,673	\$68,706	\$72,967

Utility Rebate: \$10,689

Project Cost: \$107,386

Project ROI: 68%

Investment Recapture: 18 Months

Carbon Foot Print Reduction: 260 Tons

Tax Incentive: \$87,600

Lighting Technology can save you Money & Improve your facility!

Energy Efficiency

2005 Energy Policy Act (EPACT)

- The 2005 Energy Policy Act provides tax deductions for energy efficient upgrades to building owners/operators that reduce their energy consumption in 2006, 2007 and 2008.

Energy Management

“You can’t manage what you can’t measure!”

1. Metering - “Real Time”

Measurement, Monitoring and Verification.

2. Control

Reduce Peak Demand and Kilowatt Usage

Reduce Carbon Emissions

Participate in Demand Response Programs

3. Procurement

Knowledge is power, understanding your load profile allows you to take full advantage of the deregulated market!

Real time energy purchasing: *hedging can minimize risks caused by market fluctuations in energy costs.*

- Real Time, Time of Use and Critical Peak Pricing

Wireless “Real Time” Energy Management System

- “Plug & play” wireless network and wireless power controllers.
- Obtain data & control any load source in a facility via an Internet browser.
- Verification & or Savings for this type of product can be up to 20% of total electric bill.

How does the Wireless EMS system work?

1

STEP #1 - Meter Connection

A device is placed on your electric meter that monitors the properties electricity usage every 15 minutes in order to make instant savings decisions and capture valuable energy data

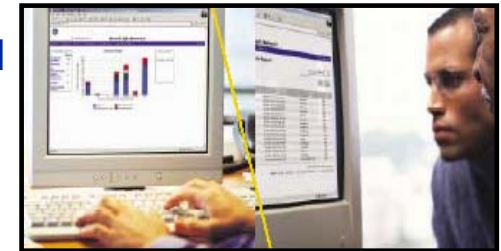


2

STEP #2 – Internet Software

The electricity information is then send to a web based software program to be analyzed instantly.

The system determines how much energy is being used, prices of energy is in the market, and makes energy saving decisions.



3

STEP #3 – Automatic Control

A wireless power switch can be installed to any energy load within the property in order to turn down power when a peak demand is reached.



The Wireless EMS Impact...

You can now impact both the “Odometer” and “Speedometer” of your energy bill.

– Odometer – Total Energy Usage

- *By communicating to each device, we can ensure that lights, HVAC, fans, motors, etc. are off when they are supposed to be off.*

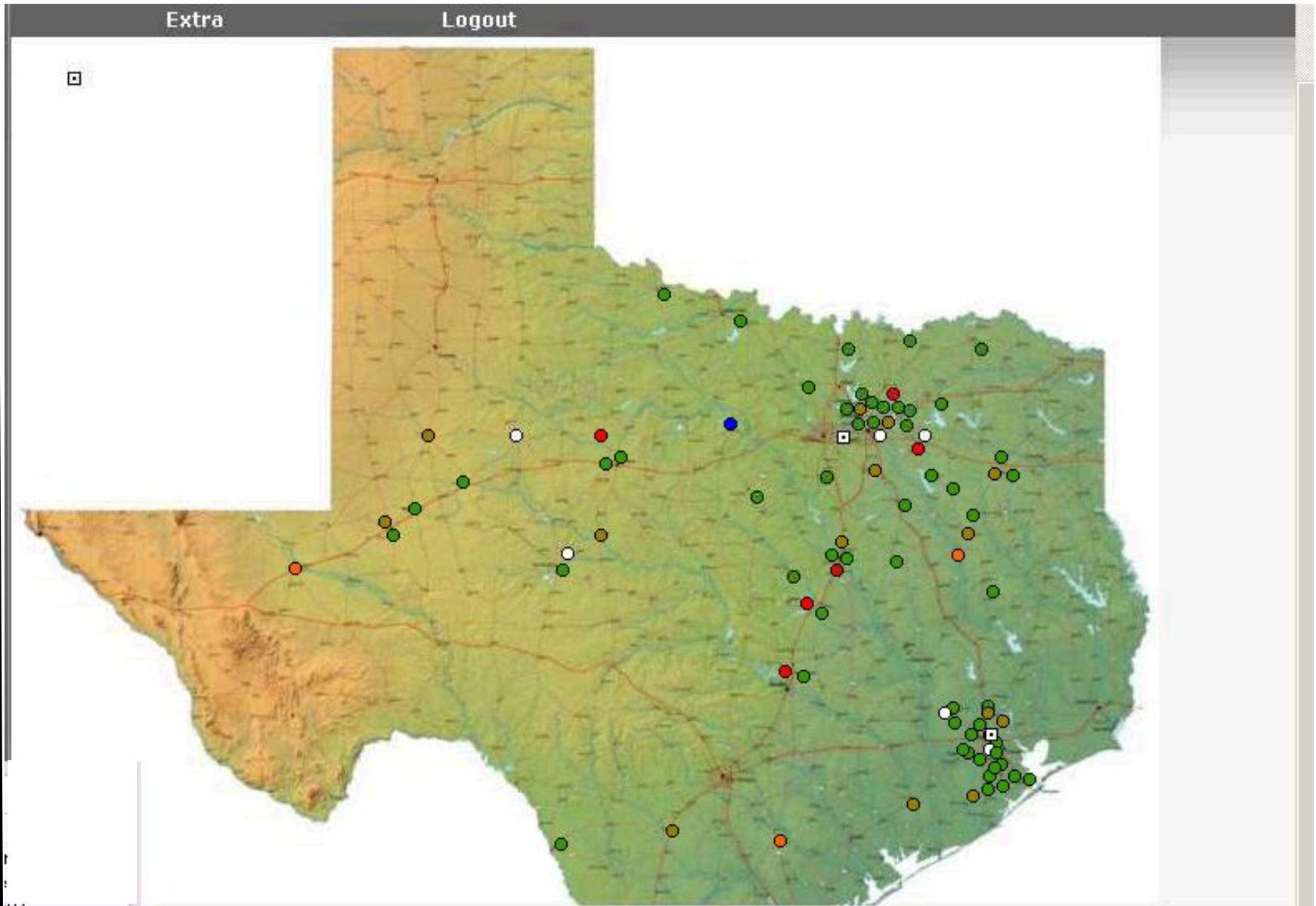
– Speedometer – Peak Demand Usage

- *Now we can identify peak demand periods and automatically reduce energy usage by controlling specific devices by implementing pre-arranged strategies.*

Automatically adjust control points to reduce demand!

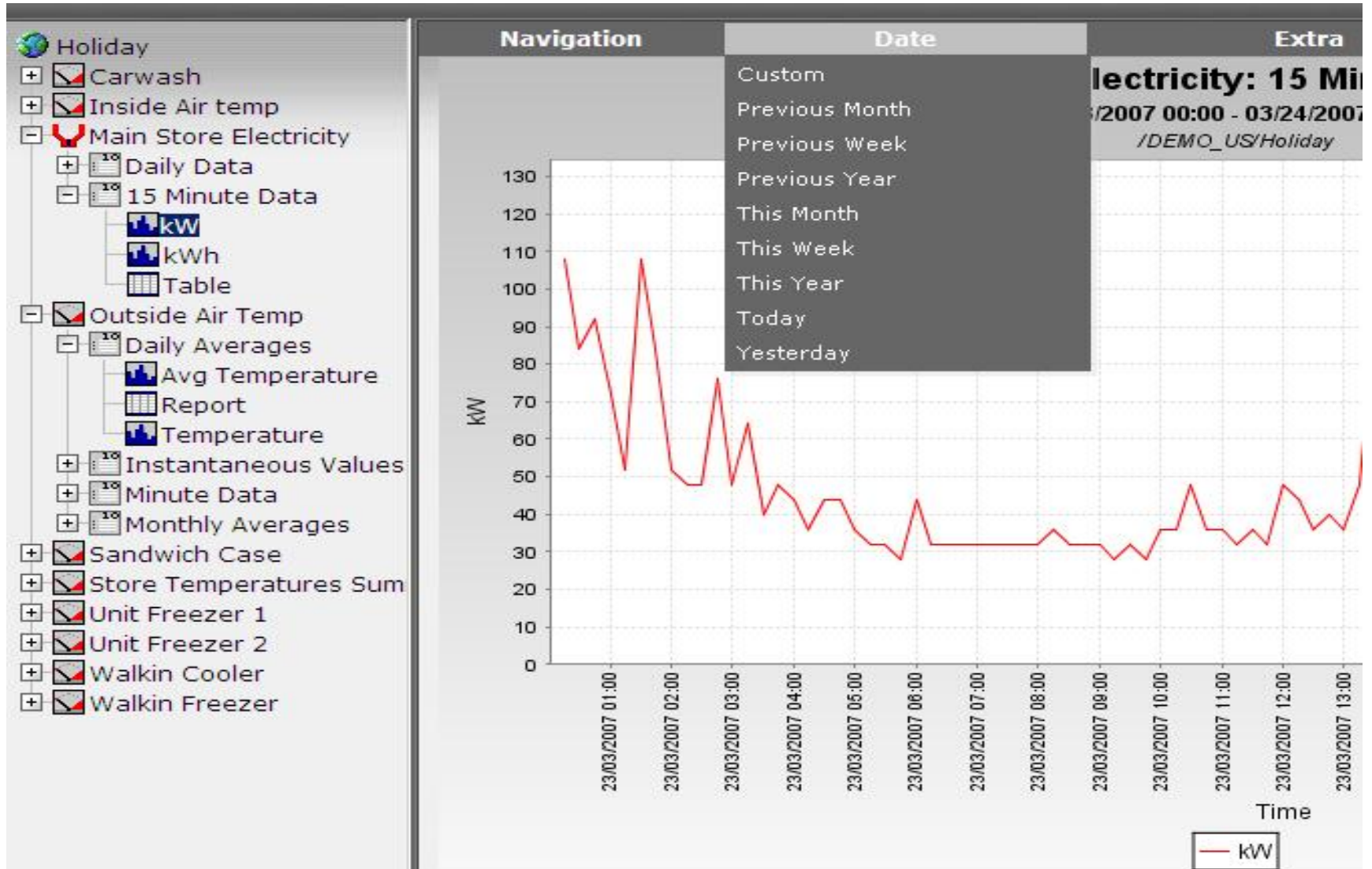


The Monitoring Center

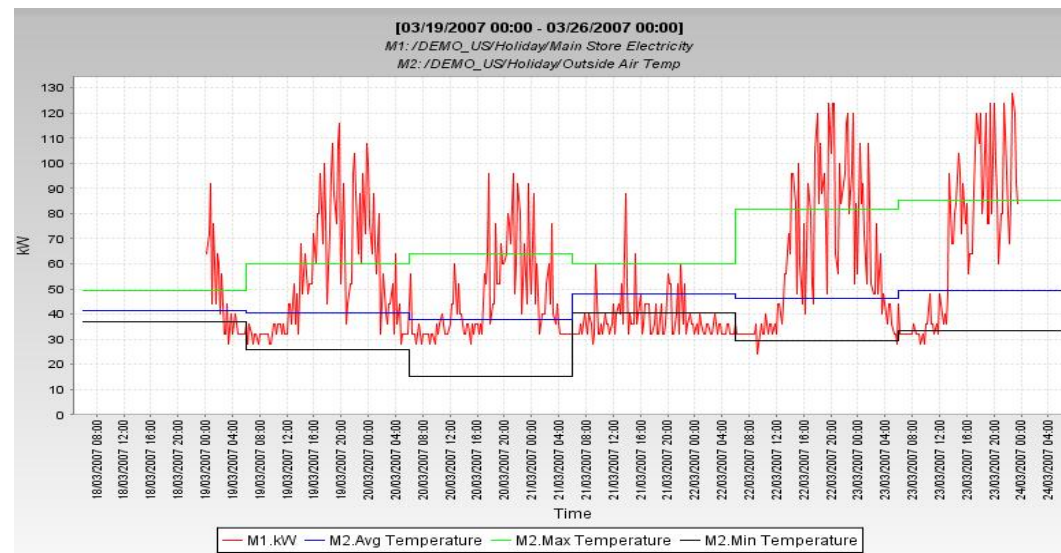
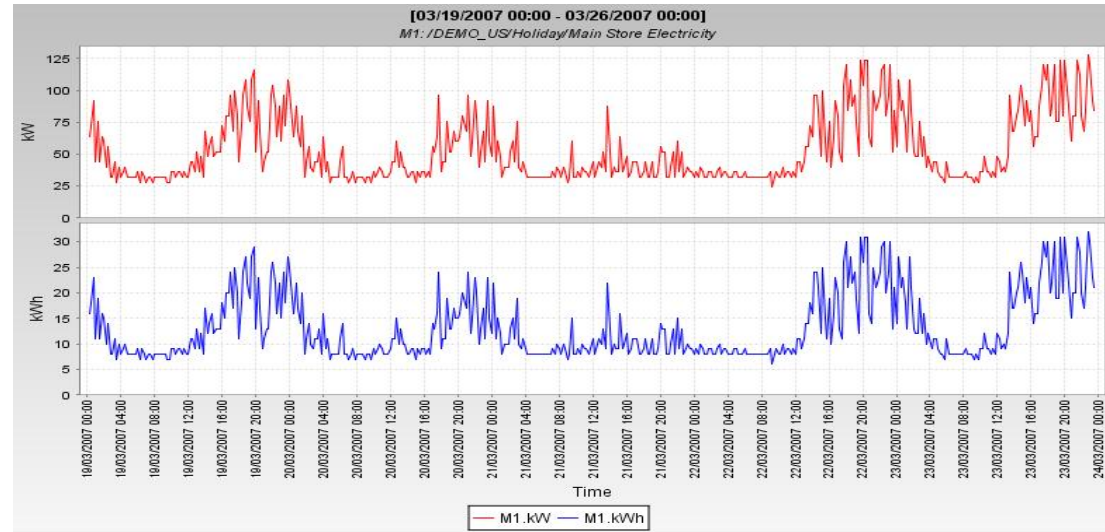


PW

Energy Usage Reports



Overlay of Data for Strategizing



Wireless Control Module

Communicates with RTU

1. Transmit Usage Data
2. Control Any load – Dry Contacts
3. Read and Transmit Temperature
4. Read and Transmit Humidity



Can Control any load!

HVAC Comp. & Fans



Pumps, Fans & Motors



Multiple Ballasts (20AMPS)



Energy Procurement and Risk Management

■ Sky rocketing energy prices over the last 7 years

– Since 2001, energy prices have risen significantly in relationship to their historical range. Due to:

- sharp changes in supply and demand
- political uncertainty
- billions of hedge fund trading dollars that have entered the market – money flow adds volatility

■ Volatility in the Natural Gas & Electric Market

Price Volatility is caused by shifts in supply and demand

– Nat. Gas & Electricity are particularly volatile:

- Weather Conditions shift supply and demand quickly
- Increased Consumption Worldwide
- Local Storage limitations

Energy Procurement and Risk Management

■ Benefits of Green Power

- Climate Change and the Global Impact
- Client / Public – Brand differentiation, “green” credentials
- Employees – Compete for talent

■ Disadvantage of Green Power

- Premium cost 10%

■ Procurement of Green Power

- If retail competition is allowed – from an alternate energy supplier
- Green Power through your local utility if they offer a green pricing program
- Purchase Renewable Energy Certificates (RECs)

“Green” Credentials

- USGBC – U.S. Green Building Council A recognized international organization for the improvement of buildings to be environmentally & socially responsible
- LEED – Leadership in Energy & Environmental Design - a leading edge system for certifying design, construction & operations
- Carbon Footprint Tracking – monitor, measure, verify and report carbon dioxide reductions as a result of energy efficiency initiatives implemented in a facility.

Triple Bottom Line Effect:

- Cost Reduction = Increased Profits
- Improved Work Environment = Increased Productivity
- Socially Responsible Actions = Enhanced Market Presence

What to Expect From An ESCO

- Survey of your facility's existing systems (Lighting, Mechanical, Building Envelope, Pumps, Compressors, Motors)
 - Prepare a savings proposal detailing...
 - Projected Savings
 - Carbon footprint reduction
- Review utility bills
 - Present tariff structure
 - Develop a utility profile (kWhrs, kW, Therms,)
- Provide Energy Procurement Consultation
- Act as a Consultant in LEED certification

***If you have any question please feel free to
contact us***

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or

visit us on the web at www.nescorporation.com



“A Green Approach to an Improved Bottom Line”

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