Energy insight to reduce costs and increase energy efficiency.

The challenge

Resource consumption is one of the largest factors affecting your profitability and competitiveness. Material, labour, and maintenance costs can be difficult to reduce without upsetting the delicate balance between product quality and process reliability. However, reducing energy costs and improving energy efficiency in your production processes is easier than you may think.

The solution

Cost-effective PowerLogic™ systems provide energy intelligence to help you proactively manage energy consumption and operating expenses while supporting strategic decision making and best energy management practices. It will help you to increase energy efficiency, to fully utilize existing assets, and cut emissions without compromising output or product quality.

Enterprise-level software gives all departments information to help improve competitiveness. Production personnel can efficiently monitor and react to real-time power system information to increase productivity, improve process efficiency, and maintain reliability. Energy managers can identify waste, benchmark their facility, and integrate energy management with business practices.

Our energy solutions can help any industrial enterprise reap the benefits of improved energy efficiency, reduce production costs, and increase overall productivity.

We have the ideal solution for industrial companies including:

- **Manufacturing**:
  - Automotive
  - Electronics
  - Bottling
  - Packaging

- **Batch process**:
  - Brewery
  - Pharmaceutical
  - Food and beverage

- **Continuous process**:
  - Petrochemical
  - Cement
  - Oil and gas refining
  - Pulp and paper
  - Mining/smelting
Intelligent metering, advanced software, an integrated solution

The right products for the job

A web-enabled PowerLogic system can monitor a plant, a nationwide business, or a global enterprise through networked intelligent energy meters linked to PowerLogic software. Meters can be selected to match to the requirements of the location being monitored. They use flexible communication methods to connect to software that retrieves, aggregates, and processes meter data, logs it, and notifies operations staff of alarm conditions. It can also integrate data from water, air, gas, electricity, and steam (WAGES) meters, plus existing building and process management systems, so you can incorporate energy efficiency into your industrial management systems.

It removes guesswork and helps you to discover which efficiency opportunities offer the quickest or highest payback potential. It can factor in cost variables such as utility rate schedules, real-time pricing, peak demand pricing, and time-of-day usage and more.
Applications

Cost allocation

Studies show that industrial energy efficiency is improved most when people have a stake in success. A PowerLogic solution encourages energy efficient behavior and supports cost accounting by accurately allocating energy overhead to different user groups or processes. You’ll discover where and when energy is consumed and you’ll be better able to motivate employees to meet corporate energy cost reduction goals.

Provides tools to:

• Automatically collect, calculate, and report costs for buildings, departments, processes, shifts, lines, or equipment.
• Remove electricity budgeting guesswork, minimize administrative costs, and reduce data entry errors.
• Determine the true impact of energy prices on all your production lines.

Procurement optimization

PowerLogic technology will help you make more informed energy procurement decisions. With a complete understanding of your energy profile, you’ll be able to compare which purchasing options provide the most benefit. It can help you reduce long-term financial risks associated with price volatility, lower your costs through bulk energy purchasing, and manage multiple energy supply agreements.

Also enables you to:

• Consolidate cost information into easy to understand reports.
• Participate in a spot energy market program.
• Track real-time Internet pricing feeds.
• Automatically start generators or shed loads when cost thresholds are reached.
• Integrate costs for fuel, environmental levies, maintenance, and interconnection.

Energy information is collected from key locations and distributed to the people who need it.
Measurement and verification

Industry-standard measurement and verification (M&V) techniques assure your energy efficiency investments realize maximum payback for the long term. You can benchmark processes for comparison against internal metrics or industry statistics in order to identify the optimal places to target improvement projects. Key performance indicators (KPIs) help you measure progress and identify necessary adjustments to ensure sustainability.

The M&V capabilities of a PowerLogic system can also ensure:

- You can benchmark against departments, processes, and industry KPIs.
- Your results can be forecasted and compared with different benefit scenarios.
- Energy efficiency initiatives minimize negative affects to people or productivity.
- Results are documented so you can verify efficiency program financial benefits.
- Performance-based energy service contract results are verified to a baseline.

Utility bill verification

Small billing errors can be a large cost. PowerLogic technology helps you validate utility bills, document errors, and measure energy supply contract compliance. Identify false penalty charges and authenticate the benefits of on-site generation.

Power factor correction

Your energy provider may penalize you for poor power factor, (a ratio of real to reactive power). PowerLogic technology helps you automatically manage power factor by alerting you to adverse trends so you, or your PowerLogic system, can take corrective action.

Use your PowerLogic system to monitor power factor and control:
- Capacitor banks
- Load tap changers
- Filter banks
Infrastructure optimization

Extend equipment life.
Well maintained equipment uses less energy, is more reliable, and contributes to improved productivity. A PowerLogic system supports preventive and proactive maintenance for a wide variety of your energy assets.

• Determine the optimum timing and frequency of maintenance instead of using an arbitrary schedule.
• Automatically track the number of relay or breaker trips, UPS operations, or charge remaining in batteries.
• Alarm on transformer temperatures, motor performance parameters and other wear indicators.
• Reduce effort and labor costs with proactive maintenance.

Distribution system optimization
Minimize capital expenses associated with overstressing or underutilizing your power distribution system. A PowerLogic system enables you to design a power system that meets but doesn’t exceed the requirements of new facilities, expansions, or retrofits.

• Design power systems according to actual usage patterns and accurate forecasts, not guesswork.
• Automatically generate load profiles to reveal historical and present load patterns and hidden capacity.
• Determine if your existing infrastructure will accommodate new processes.

Increase reliability
Downtime costs money. Power sags/swells, transients, and harmonics damage equipment and interrupt production. PowerLogic technology will help you:

• Identify the root cause of power quality issues.
• Rapidly communicate critical conditions before they escalate.
• Help coordinate backup power systems.
• Decide if harmonic filters are needed and size them appropriately.
Peak demand reduction

Reducing peak demand is one of the easiest ways to quickly lower your electricity bill. PowerLogic technology helps you “smooth out” your demand profile and avoid peak demand surcharges through:

- Automatic forecasting of energy consumption and demand
- Alerts that warn you when demand thresholds risk being exceeded
- Isolating specific power-intensive activities that you may choose to reschedule to off-peak hours
- Automatic load shedding or on-site generation start-up
- Sequencing of motor and HVAC to start-up to reduce instantaneous demand

Demand response and load curtailment

Demand response programs enable you to negotiate lower rates by agreeing to reduce loads in response to utility curtailment requests. A PowerLogic system provides the timely load profile, forecasting, and cost analysis information you need to participate. It will first help you decide when participation is economically advantageous and where and how much load you may be able to reduce for each curtailment request.

PowerLogic system used in a demand response program makes possible:

- Real-time verification of curtailment
- Coordination of backup systems
- Remote, automated, and aggregated load management
- Contract verification to ensure compliance by all parties

Complete facility monitoring and enterprise-wide analysis

Assess performance; allocate costs:
- Motors and conveyors
- Boilers and steam
- Pumps and compressors
- HVAC systems

Integrate all your utilities:
- Water
- Air
- Gas
- Steam

Measure and evaluate efficiency:
- Benchmarks
- Key performance indicators
- “What if” scenarios
- Program performance validation

Validate energy procurement:
- Utility bill verification
- Energy procurement
- Power factor correction
- Peak demand reduction

Alternative energy strategies:
- Curtailment verification
- Backup generation coordination
- Load management

Corporate network

Facility network
Schneider Electric solutions

Recommended products for energy efficiency and cost reduction

Software:
- PowerLogic PowerView™ software
- PowerLogic ION™ EEM
- PowerLogic ION Enterprise™ software
- PowerLogic Energy Online

Power and energy meters:
- PowerLogic ION8650
- PowerLogic ION8600
- PowerLogic ION7650 | ION7550
- PowerLogic PM800 series
- PowerLogic PM700 series
- PowerLogic ION6200

Complementary products

- PowerLogic branch circuit power meters
- Sepam™ protective relays
- Masterpact™ and Compact™ breakers
- Modicon™ programmable logic controllers
- Altivar™ variable frequency drives
- Tesys™ motor controllers
- Accusine™ harmonic filters
- Varplus™ capacitor modules
- Varpact™ power factor correction modules

Schneider Electric solutions are your key to achieving sustained results. PowerLogic products together with Schneider Electric software, services, and expertise will help you align strategic decision making and energy management best practices for a lower total cost of ownership.

Please visit www.powerlogic.com

The Global Specialist in Energy Management™

Schneider Electric provides innovative, integrated solutions that make energy safer, more reliable, and more efficient while making your operations more productive and sustainable.

From power distribution to energy management to expert services and support, our unique solutions are focused on energy efficiency, reliability, and safety. We help you reduce costs and emissions, stay connected at all times, and tap into a clean, secure, and uninterrupted power supply.

Make the most of your energy™