

# Energy efficiency and cost reduction solutions for industry

PowerLogic™ application brochure

**Schneider**  
Electric

# 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 technology provides 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 utilise 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.

PowerLogic technology can help any industrial enterprise, no matter what it manufactures, or how economically it is already run, to reap the benefits of improved energy efficiency, reduced production costs and increased overall productivity.

We have the ideal solution for industrial companies including:

### Manufacturing:

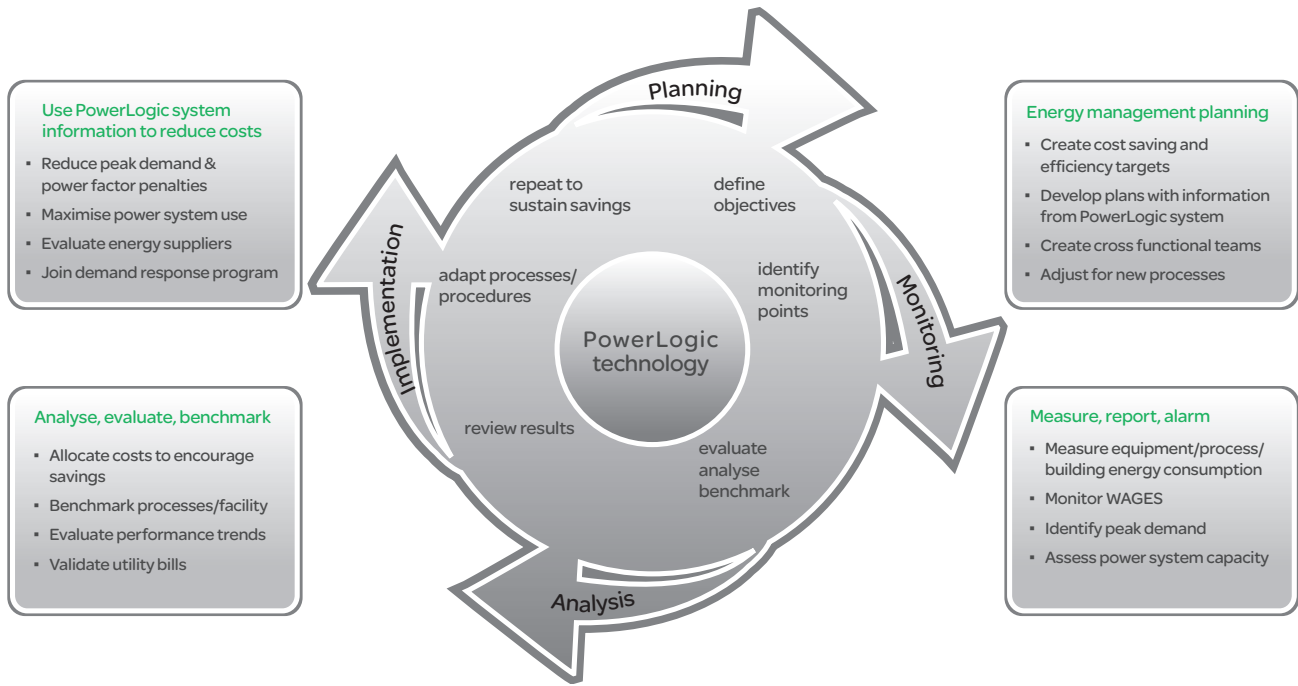
- Automotive
- Electronics
- Bottling
- Packaging

### 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 communications 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.



Schneider Electric, the global specialist in energy management, offers integrated solutions that make energy safer, more reliable, efficient and productive.

#### Why PowerLogic technology?

Our solutions help you exceed traditional energy management to unite your entire enterprise. With the world's largest, most advanced range of software and meters, systems work together to help reveal new energy cost reduction opportunities.

#### Business advantages:

- Tangible abilities provide a quick return on investment
- End-to-end interoperability enables data sharing across software/hardware platforms
- Products match your needs, portfolio and budget
- Solutions can grow with your energy management needs to resist obsolescence



# 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 behaviour 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.

PowerLogic technology provides tools to:

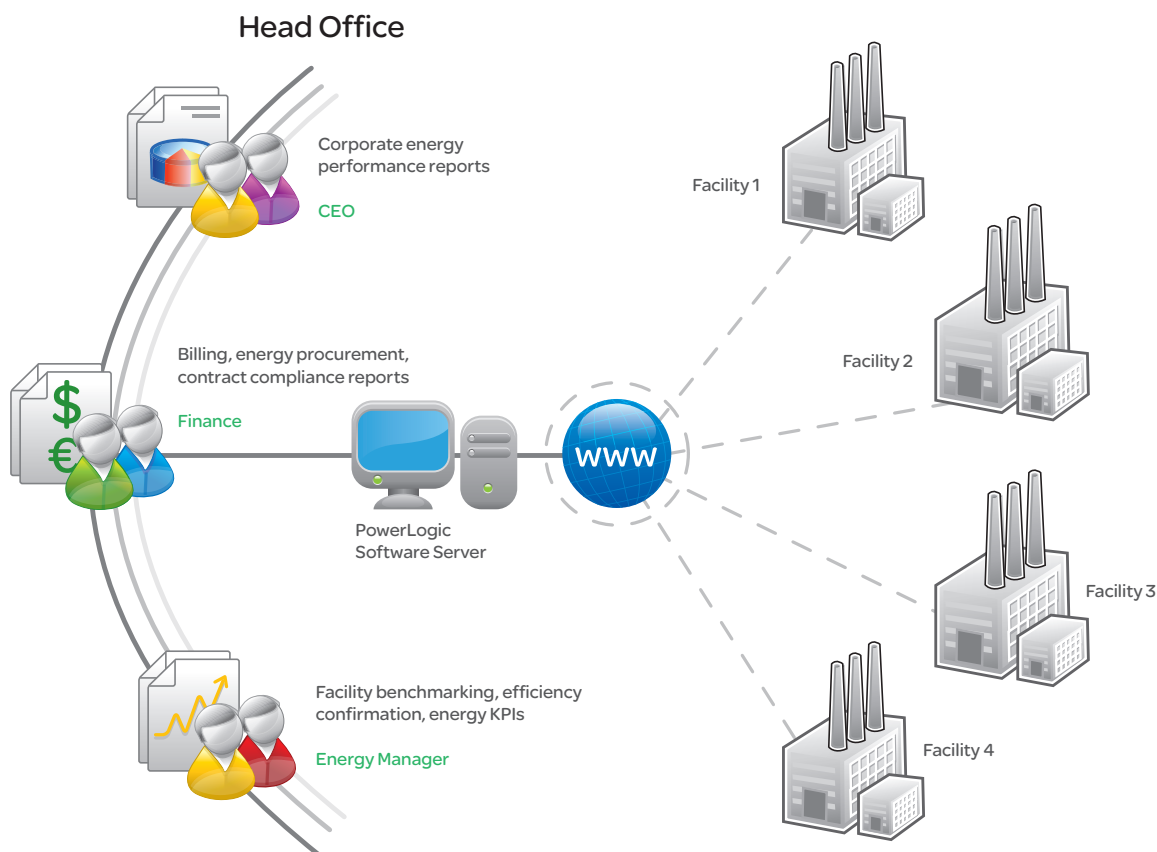
- Automatically collect, calculate and report costs for buildings, departments, processes, shifts, lines, or equipment
- Remove electricity budgeting guesswork, minimise administrative costs and reduce data entry errors
- Determine the true impact of energy prices on all your production lines

## Procurement optimisation

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.

PowerLogic technology also enables you to:

- Consolidate cost information into easy to understand reports
- Participate in a spot energy market programs
- 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



## Power factor correction

Your energy provider may penalise 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

## Measurement and verification

Industry-standard measurement and verification (M&V) techniques assure your energy efficiency investments realise 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 and 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 minimise 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.

# Infrastructure optimisation

## 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 labour costs with proactive maintenance

## Increase reliability

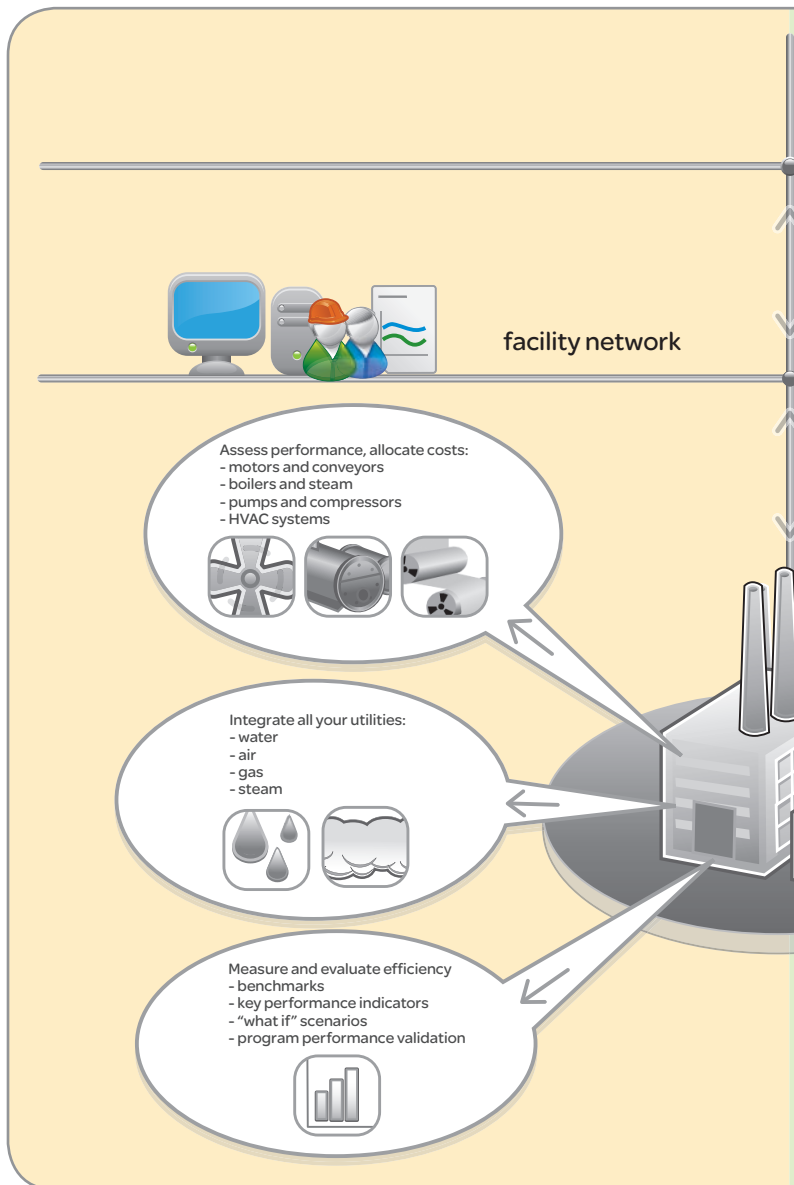
Downtime costs money. Power sags/swells, transients and harmonics damage equipment and interrupt production. PowerLogic technology will help you:

- 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

## Distribution system optimisation

Minimise capital expenses associated with overstressing or under utilising 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



## Demand response and load curtailment

Demand response programs enable you to negotiate lower rates by agreeing to reduce loads in response 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.

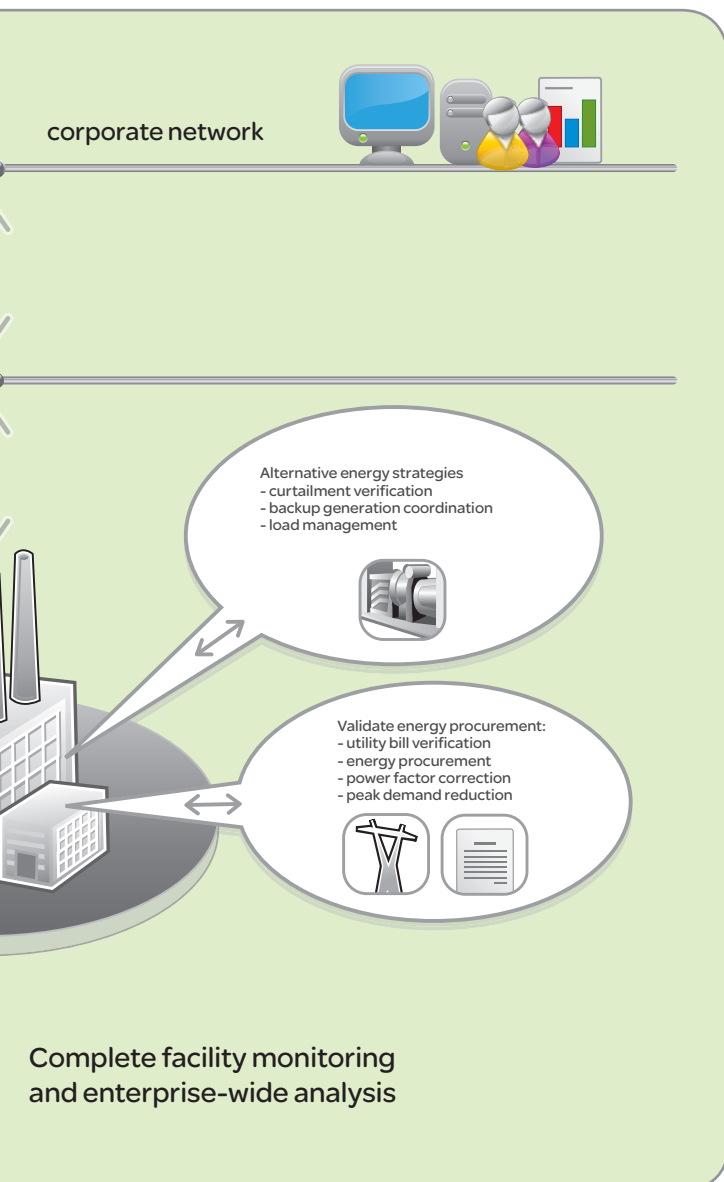
PowerLogic technology makes possible:

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

## 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



# Schneider Electric solutions

## Recommended products for energy efficiency and cost reduction

### Software:

PowerLogic PowerView™

PowerLogic ION™ EEM

PowerLogic ION Enterprise™

PowerLogic EnergyView Online™

### Power and energy meters:

PowerLogic ION8800

PowerLogic ION8650

PowerLogic ION8600

PowerLogic ION7650 | ION7550

PowerLogic PM800 series

PowerLogic PM700 series

PowerLogic ION6200



PowerLogic technology is your key to achieving sustained results. PowerLogic products together with Schneider Electric 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.schneider-electric.com](http://www.schneider-electric.com)

## 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<sup>2</sup>™ capacitors

Varpact™ power factor correction modules

## The global specialist in intelligent 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.

Let us help you discover new opportunities to make the most of your energy.

Visit [www.schneider-electric.com](http://www.schneider-electric.com)

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