

Energy Efficiency Solutions for the Mining Industry

Helping mining companies be more productive,
efficient, and aware of their energy resources

Make the most of your energySM

Schneider
Electric

The importance of energy



Energy costs are typically between 20% and 40% of a mining facility's operational expenses.

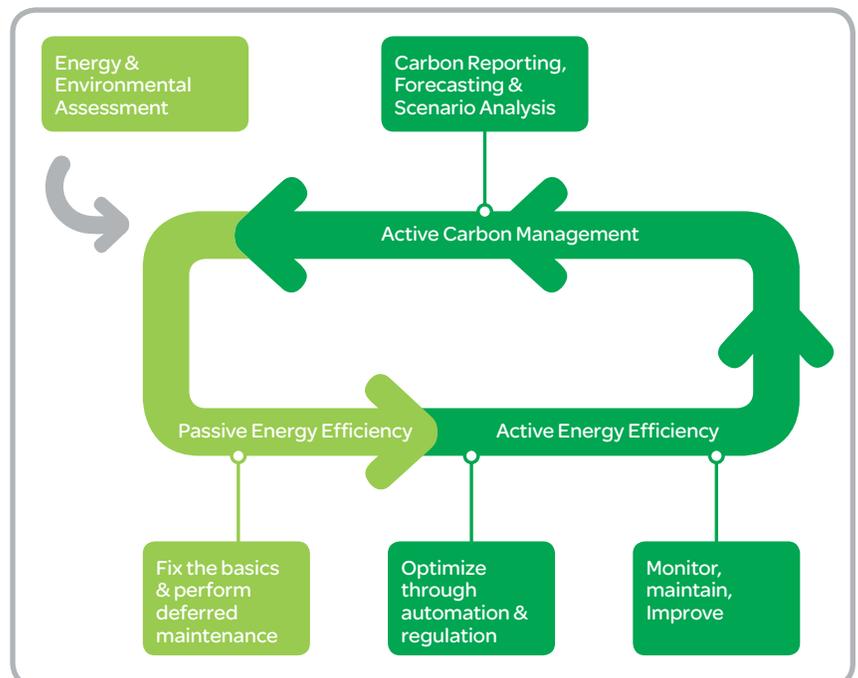
Identifying the best energy and cost reduction strategies to apply to the beneficiation process is a challenging task for most mining facilities. In addition, the ability to track the results of energy efficiency efforts and establishing accountability can also be difficult.

The energy action plan



As the global leader in energy management, Schneider Electric looks at energy differently and we encourage our customers to do the same. This starts by developing a comprehensive energy strategy that treats energy efficiency improvements as a continuous process that goes beyond sporadic actions that momentarily reduce energy consumption.

Our energy action plan is your long-term roadmap to energy savings and efficiency.



The first, truly enterprise-wide energy management solution

Your energy action plan is the first step toward actively managing your energy usage as a strategic competitive advantage. To enable the full spectrum of control, Schneider Electric has expanded its offer to include our EcoStruxure™ system architecture. This one-of-a-kind solution combines five key domains of expertise (power, process & machine, IT, building, and security) to deliver proven compatibility across these critical business functions. As a single system of information and control, EcoStruxure gives you a clearer picture of your energy usage and the ability to manage it across your entire enterprise.

Integrated into the EcoStruxure solution are key performance indicators (KPIs) and advanced analytics that measure energy in financial terms to help you gain unique insight into the performance of your business. Stakeholders from management to operations will be empowered by actionable energy intelligence to discover opportunities, isolate problems, and drive costs and risk reduction strategies.

The EcoStruxure system architecture is composed of unifying applications that complement and extend the benefits of existing energy-related data resources. This can include power monitoring and process control systems, substation automation, and enterprise business applications.

The personalized, browser-based dashboards and innovative visualization and modeling tools help you accurately monitor, validate, predict, and ultimately control all energy-related expenses and risk.

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SQUARE D
by Schneider Electric

PELCO
by Schneider Electric

APC
by Schneider Electric

Manufacturing enterprise system

Process command & control

Machine control

Motor control

Electrical distribution

Power monitoring & control

Security

Building management

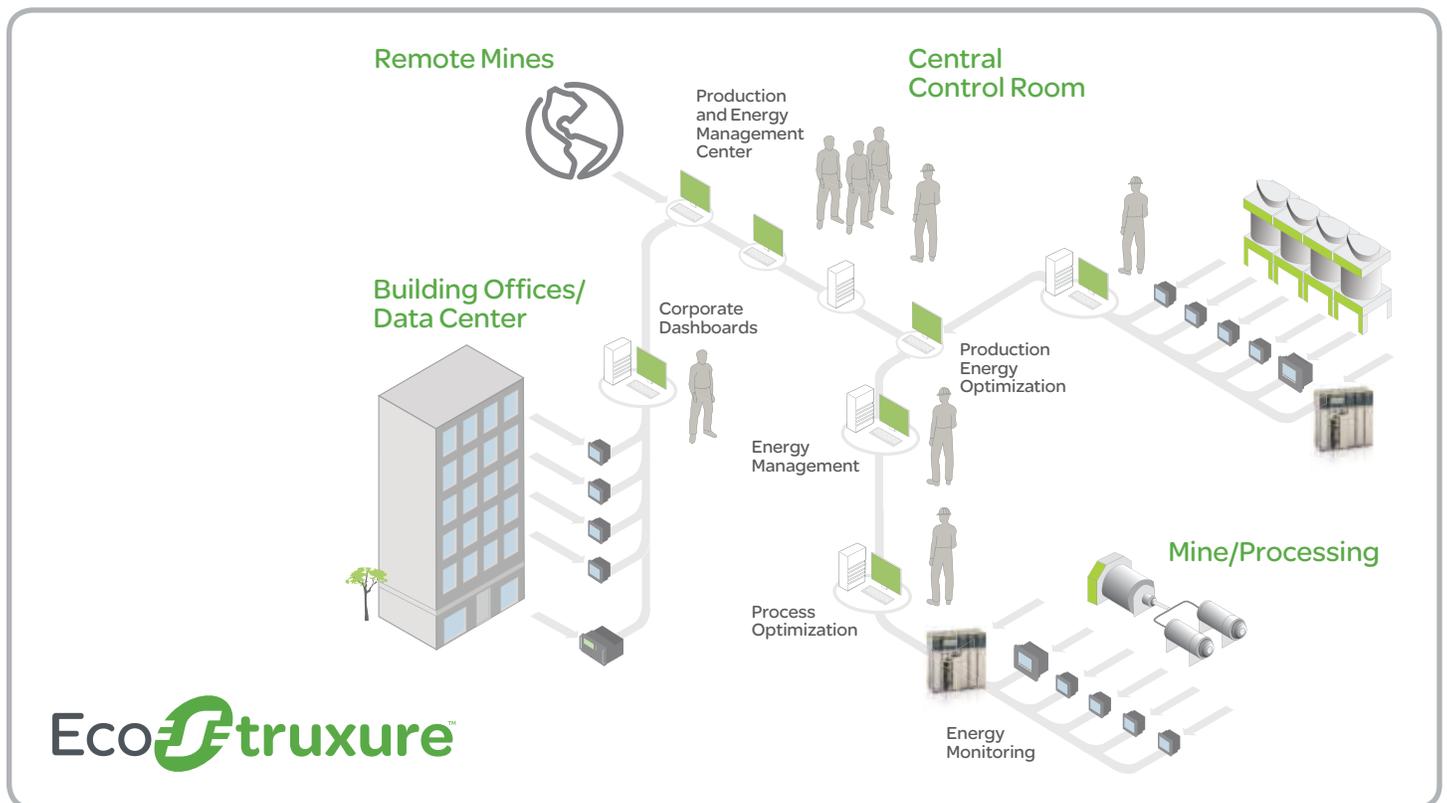
Critical power

EcoStruxure

The expertise of multiple applications in a single solution



The key components of EcoStruxure for mining



Process optimization

Some mineral operations can't be optimized using conventional control solutions. These processes are too complex and have multivariable characteristics that require a different approach. The Schneider Electric advanced process control technologies reduce energy consumption, increase throughput, and reduce variability.

Power metering, monitoring software, and energy management systems

Schneider Electric exposes the true drivers of energy efficiency through a comprehensive approach that integrates all energy related inputs. Our power metering solutions, monitoring software, and enterprise energy management systems help you control the cost, quality, and reliability of your energy.

Emissions

Summarize corporate emissions performance by aggregating data from all of your business units in a single solution. Then track performance and report on how well your organization's emission reduction projects are performing by comparing monthly CO₂ output to targets and base year totals made possible with breakdowns of CO₂ output by commodity. Our solutions enable you to categorize and calculate scope 1, 2, and 3 emissions, as well as promote recommendations to control and limit GHG emissions.

WAGES

Measure, manage, and control the entire spectrum of your energy utilization, including water, air, gas, electricity, and steam (WAGES). As a global energy specialist, Schneider Electric is making it possible for companies to capture this critical data accurately and effectively.

Motor control

Mining operation performance is strategically linked to the efficiency of the electrical motors that run countless operations across a plant. As the leader in automation and control, Schneider Electric is pioneering the efforts for safe, efficient, and reliable energy delivered through our motor control products. This emphasis is core to our energy savings initiatives.

Our range of motor management solutions (variable speed drives and motor starters) offer more efficient management of energy intensive applications such as ventilation, pumping, and compressed air installations. Our products can be integrated into new facilities or used to upgrade existing equipment.

Building automation and data centers

Schneider Electric delivers complete solutions for building management (HVAC, lighting, temperature control) and energy efficiency solutions for data centers.

Complementary systems

Schneider Electric offers a host of complementary systems critical to the mining industry such as:

- Transformers
- Power quality
- Power factor correction and harmonic filtering
- Advanced circuit breakers (with energy metering)
- Web enabled communications

Procurement

Purchasing and supply strategies are crucial to gaining a strong advantage in the marketplace. Our data management services help users get detailed and thorough reporting around every aspect of energy spend. Strategic sourcing and rate analysis experts enable optimal position to negotiate and leverage all appropriate utility and supply options. To ensure a complete procurement strategy, risk management, budget development, and market intelligence services are also available.

Sustainability

Schneider Electric helps organizations craft specific and tailored, sustainability programs covering a wide scope including carbon reporting, sustainability strategy, and renewable sourcing.

Production energy optimization (PEO)

Manufacturing execution systems (MES) combined with an energy management system provide the ability to optimize energy utilization. This approach, called production energy optimization (PEO), merges mining intelligence tools including production, maintenance, downtime, and financials with data contextualized to understand energy intensity. By generating an energy model against production scenarios, PEO provides users with real-time data production information associated with energy drivers and enables forecasting of energy usage.

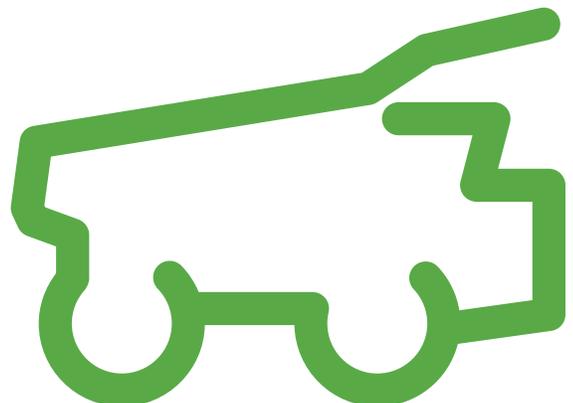
PEO technology also drives dynamic objectives with a new energy target that is aligned with a new production scenario. This provides a great advantage over fixed objectives that tend to have limitations when new production developments arise.

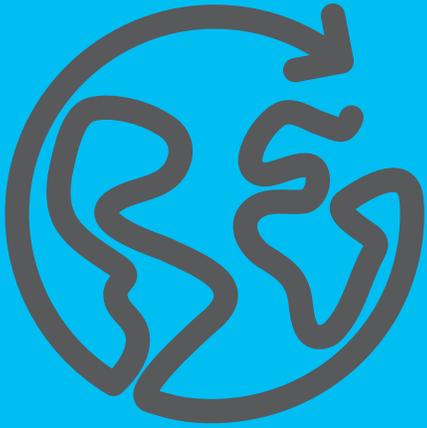
Another distinguishing PEO feature is the association of energy events with production information. This makes it possible to identify the process context within which energy events were triggered.

Services

As your trusted energy advisor, we apply our 100+ years of industry excellence to give you the right mix of energy efficiency solutions needed to stay competitive and profitable. The Schneider Electric turnkey professional services approach to managing each phase of your facility lifecycle (design, procure, install, operate, maintain, and improve) entails using a team of professional engineers with industry experience to understand your specific requirements as well as the certifications necessary to obtain or maintain government compliance and incentives. During this management we can perform a complete site assessment that includes:

- Data collection and analysis
- Financial analysis & ROI validation
- Planning of improvement plan
- Remote monitoring and optimization
- Training
- Greenhouse gas (GHG) emissions action plan





We have you covered through every stage of your system life cycle

When you're trying to solve a business or engineering challenge, you'll find most companies offer prepackaged solutions they sell to everyone. At Schneider Electric, we take a different approach. We've never been followers and neither have our customers.

As a global specialist in energy management and sustainable manufacturing, we're always coming up with new ways to help businesses work better, faster, more efficiently, and profitably. We do this by understanding and delivering just the right solution to meet your needs and budget. This includes expert services available globally and supported by a network of service centers and an unparalleled partner network that is at your disposal to deliver the solution you need.

For more information, visit www.schneider-electric.com/us
or contact your local Schneider Electric sales representative.

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