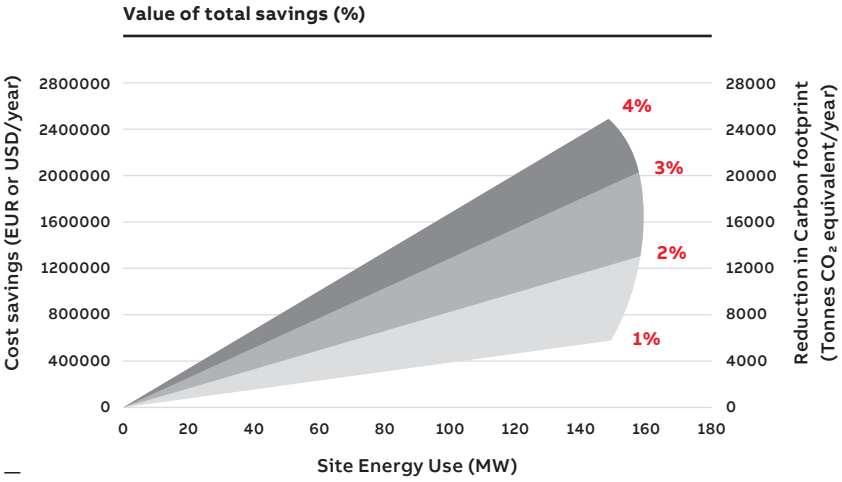
PULP AND PAPER

Energy Manager

ABB Ability™ Plant and Enterprise Level Applications



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01 Achieve 2-5% reduction of your company's total energy cost.

Energy cost, efficiency and environmental implications have top priority all over the world, particularly for heavy energy consumers. ABB Energy Manager offers the tools to help you reduce energy cost, improve your energy efficiency, and manage your carbon footprint.

Overview

Many companies consider reducing energy costs and improving their overall carbon footprint to be essential in today's economy. Energy Manager pulls together real-time data from your process monitoring systems, automation systems, production planning systems, and energy providers to help manage and optimize your energy operations.

Energy Manager includes applications to help reduce energy consumption by comparing the actual consumption against targets and identifying, in real time, the areas where improvement is required. Optimize energy use and supply with planning and scheduling applications. Energy balance management tools enable you to get the best price for the energy you require. Energy monitoring and reporting functions quickly and accurately analyze the use of energy and utilities.

Energy Manager is scalable and allows an implementation to start small and grow over time. It can be used as a single mill energy reporting application or can grow to a company-wide system serving hundreds of users who can manage energy planning and procurement for your corporation.

Features

- Load planning to predict and schedule energy demand
- Economic Flow Network model to balance energy demand and supply at optimal costs
- What-if scenarios and simulation to evaluate and compare alternative operating scenarios
- Load planning to predict short-term consumption and imbalance with supply plan
- Power monitoring to predict current period consumption
- Real-time monitoring and reporting

Benefits

- Lower electricity purchase prices due to accurate consumption plans and real-time power monitoring
- Avoidance of price peaks and penalty charges
- Lower balancing power and cost
- Utilization of optimal resources in electric power supply
- Enhanced awareness of energy consumption and energy costs
- Early detection of poor performance based on real-time monitoring
- Higher energy efficiency and reduced carbon footprint

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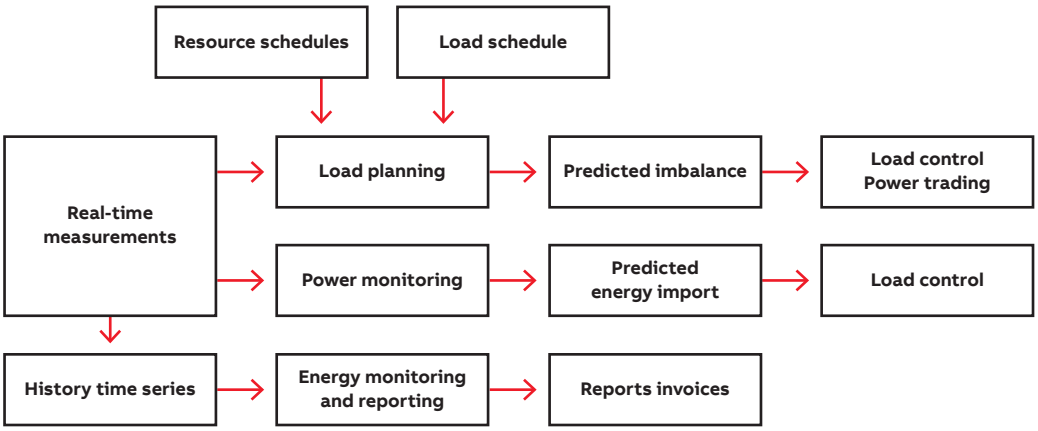
02 Energy Manager can monitor the real-time execution of power schedules.

Real-time monitoring and reporting



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Planning tools for energy scheduling
Energy Manager includes planning tools that are used to predict energy consumption and calculate the corresponding energy supply schedule. In the balancing process, tomorrow's schedules are calculated and agreed to daily. In strategic planning and budgeting, the schedules may extend over several months, or even years, while during real-time monitoring they may only cover minutes or hours.

Load planning
Predicted load schedules contain valuable information for power suppliers and can help optimize schedules and lower energy prices. Consumption schedules are calculated based on the planned production schedule. Load levels may be predicted using weekly load profiles, while the total facility load schedule is calculated as the sum of individual consumption unit schedules. Large energy consumers can plan and optimize their energy supply themselves using Energy Manager, while smaller mills may submit predicted load schedules to the power supplier.

Energy supply
Energy Manager balances time-varying energy consumption with supply resources. Your energy system is modeled as an Economic Flow Network, which considers the transfer and conversion of utilities, such as fuel to steam. Depending on your objectives, energy resources are scheduled to minimize the total energy cost or to maximize the total profit of the operation over a specified time range. This configurable model can be populated manually or automatically with data such as prices, volumes, and validity times.

Real-time balance monitoring
Energy Manager can be used during the real-time operating phase to monitor the execution of power schedules. This detects and reports deviations or unexpected events to help you minimize their costs. The load planning module automatically recalculates the load schedule based on changes in process measurements, production plans or user inputs. If an imbalance between predicted power consumption and planned supply is detected, the deviation from plan may be balanced through additional power trading.

Data management and integration
Included with the application is History, a relational database designed and optimized for high performance process data management. Industry standard interfaces, including OPC, SQL, and web services, are available for process data collection from various data acquisition systems and for accessing the collected information from external systems. There is no need for duplicate data definitions to connect to ABB System 800xA, improving engineering efficiency.

Savings calculator
Opportunities for cost reduction are greatest when energy consumption and prices vary over time. Typically, Energy Manager can help you achieve overall cost reductions of 2-5 percent of your company's total energy cost. Use this simple calculation to see what cost savings you could achieve:
- Payback results from reduced energy consumption and price
- Total savings (%) = consumption savings (%) + price savings (%)

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