Reduce energy spend and optimise equipment performance

Energy Performance for Manufacturing

Energy cost is one of the largest operating expenses for most manufacturers. Improving energy efficiency can result in a huge reduction in operating costs and gains in profitability. Designed for manufacturing operations, Energy Performance links energy data with operational data to provide visibility and insights into energy consumption of production operations, enabling manufacturers to identify critical energy efficiency gaps for optimisation.

The need for effective energy management in manufacturing plants

Over the past years, environmental awareness and regulations have increased significantly the cost of energy continues to rise. As a result, companies are becoming more focused on energy efficiency and sustainability. Improving energy efficiency can lead to a significant boost in profitability as energy is one of the largest operational costs in a manufacturing plant.

Monitoring energy consumption and transforming energy data into relevant contexts are the foundation for effective management of energy consumption. However, the different software systems that have been implemented to address various areas of production tend to create data silos in the plant. Combining these data silos with energy data to provide relevant contextual insights is a complex challenge. The availability of energy data and a solution's ability to unify data from disparate sources are crucial to generating useful energy KPIs for energy management.

Introducing Energy Performance for Manufacturing

Energy Performance is a complete solution that converts data from disparate sources into actionable information, empowering manufacturers to reduce energy consumption. Its modular design allows companies to get started quickly to meet immediate needs, and the scalable solution can easily be expanded to meet evolving energy management needs.

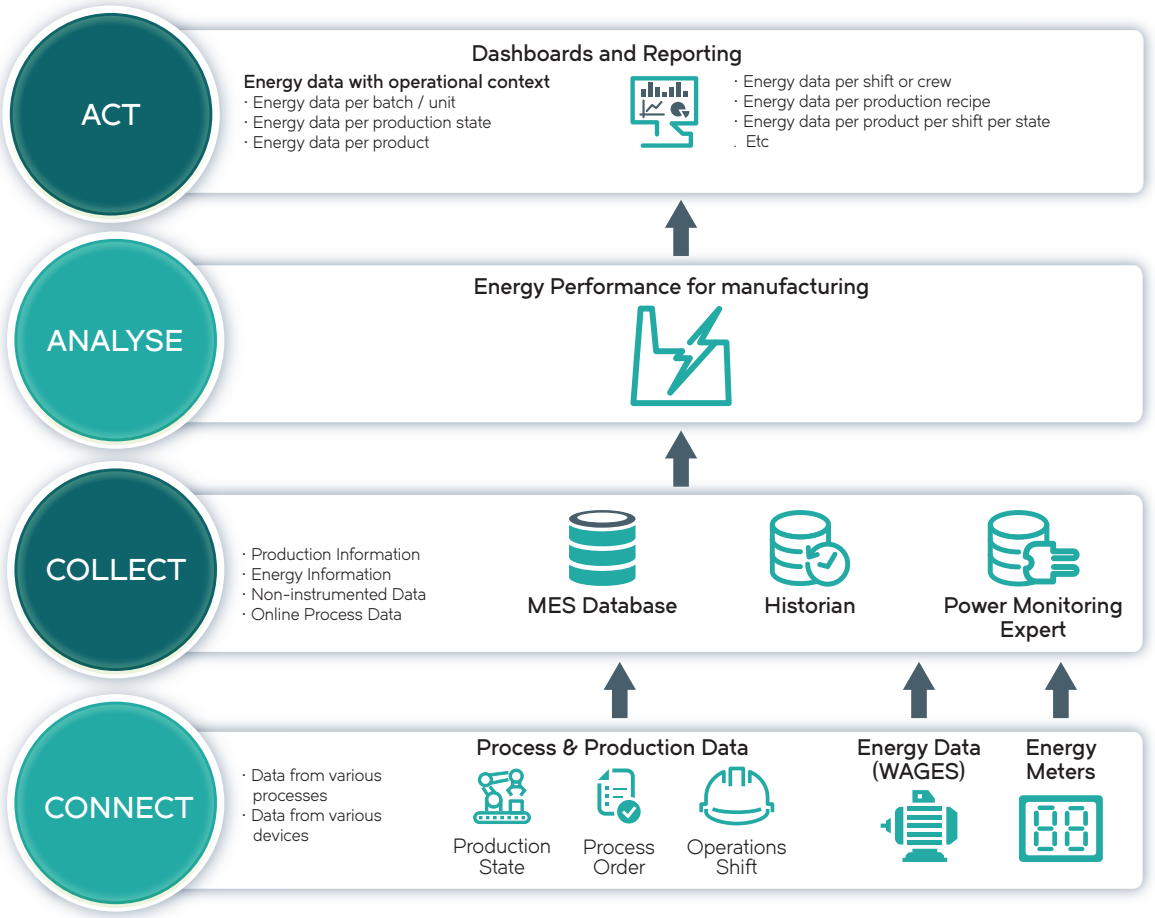


Figure: Energy Performance – a comprehensive energy management solution

Energy Performance combines powerful data acquisition and analysis technology with easy-to-use software interfaces, simplifying energy management.

At the Connect and Collect layers, power and energy data is collected directly from Historian and hardware devices such as power meters and PLCs. Process and production data can also be acquired from any data source including Historian and MES databases.

At the Analyse layer, the combined energy and production data is synchronised and processed through the Energy Performance platform, turning it into process energy intensity information that enables tracking of energy usage in the operations and production contexts.

At the Act layer, pre-defined parameterised reports and configurable dashboards provide the energy information visibility in context with plant operations, delivering actionable insights to all stakeholders. By correlating energy data to production operations, users are empowered to allocate energy consumption across manufactured goods, production lines, operation shifts, operation crew, production activities, departments and processes more accurately, enabling identification of critical energy efficiency gaps for optimisation. This information can also be used to document and baseline projects for energy use reduction, operational efficiency improvements, becoming an essential part of the enterprise's continuous improvement programs.

Energy Performance Features:

Pre-defined Data Model: Energy Performance comes equipped with a pre-defined data model that fits the batch manufacturing environment. This reduces engineering time in developing the model, enabling fast and easy deployment. It also enables backfilling of data.

Self-configurable KPI dashboards: Support operational flexibility in responding to changes in business environment and providing an extensive set of user-friendly reports and dashboards for analysis. The highly intuitive interface is designed with operations personnel in mind; dashboards are configured via a point-and-click user interface.

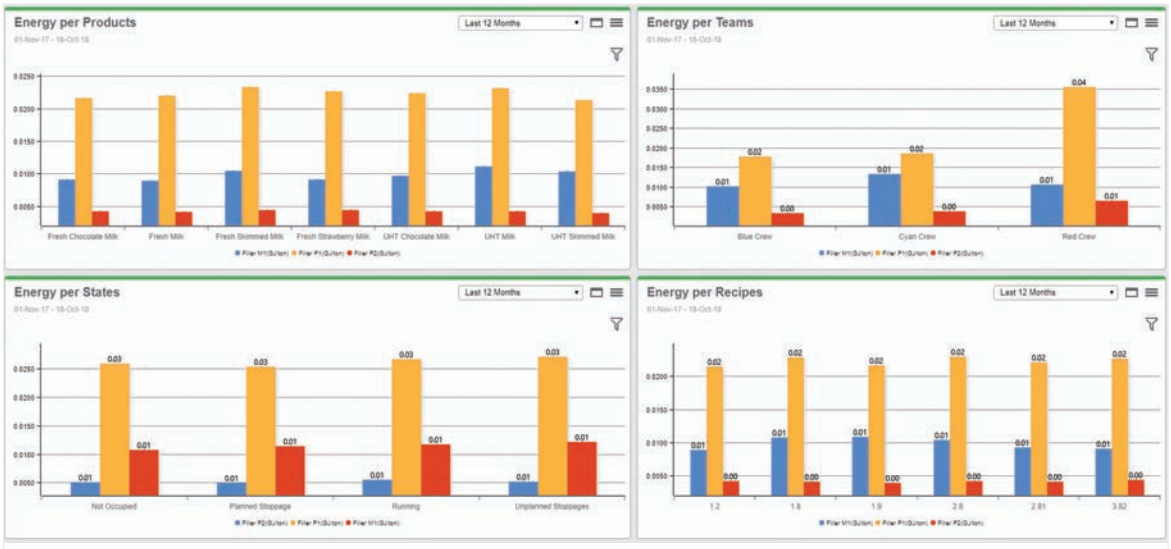


Figure: Self-configurable KPI dashboard for effective analysis

Standard Reports with Operational Contexts: Energy Performance provides standard reports with operational contexts, to enable insights into process energy consumption.

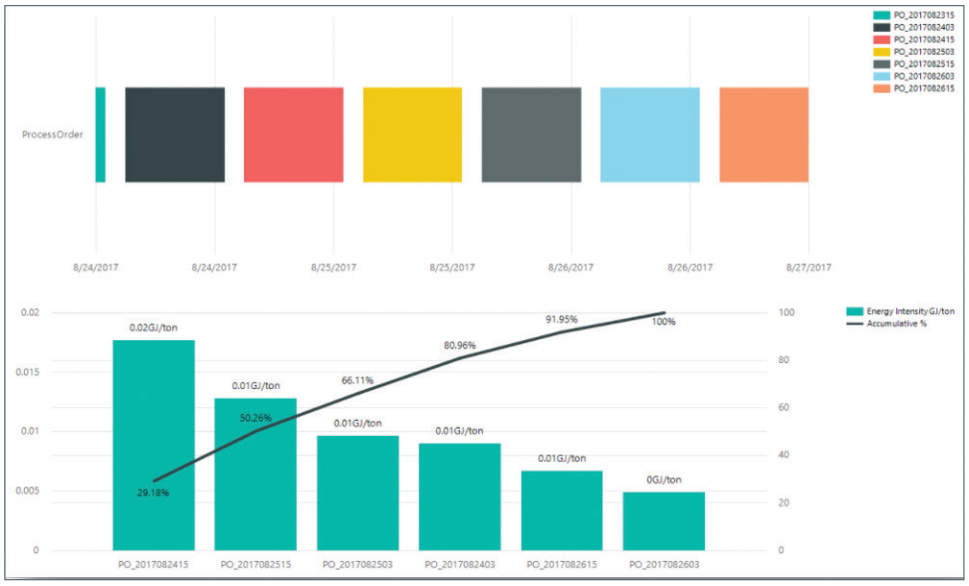
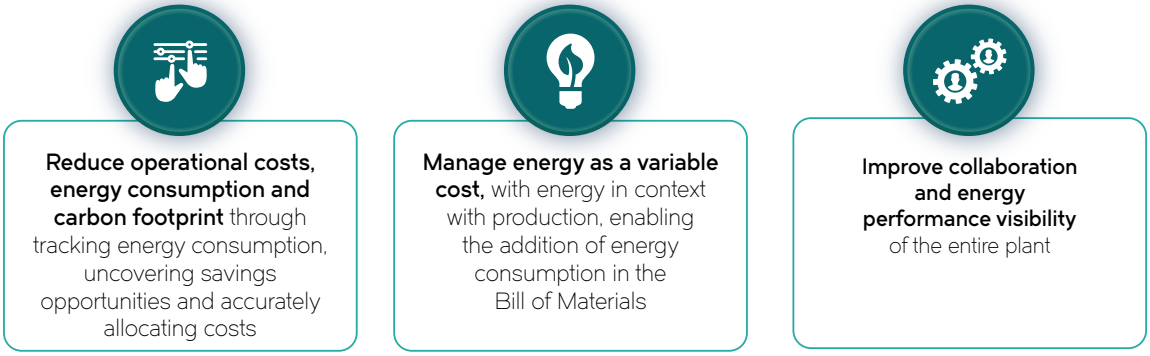


Figure: Line Performance provides standard reports with operational context.

Energy Performance Benefits

Energy Performance helps manufacturers improve energy efficiency and lower costs by means of:

- **Energy monitoring:** Track energy usage throughout the facility to understand consumption patterns; energy usage by operations, batch, shift, and equipment state can be measured and used as a baseline to establish an effective energy reduction plan with realistic targets.
- **Energy usage analysis:** Identify, correct and prevent excess energy consumption and waste. Identify a golden batch in terms of energy consumption. Determine the factors contributing to high energy usage. Monitor process energy and track energy intensity KPIs to maintain a high degree of energy efficiency.



Customer FIRST Software Maintenance and Support Program

Our Mission: Your Success

Energy Performance offers the award-winning Customer FIRST Software Maintenance and Support Program. Customer FIRST is a flexible portfolio of services that help protect and extend the value of your AVEVA software solution across its entire lifecycle. A Customer FIRST Agreement establishes a formal service relationship with AVEVA, enabling access to the latest software upgrades and providing expert technical assistance, optional services, and self-help tools to help you improve your operational effectiveness.

For more information on Customer FIRST for Industry Solutions, please visit: sw.aveva.com/support/customer-first

For more information, please visit: aveva.com/energy-performance