Grid Solutions

ENERGY EFFICIENCY SOLUTION (EES)

Energy costs are significant expenses for many industries and infrastructures, particularly those that are energy-intensive or operate heavy machinery. Between 5% and 25% of the expenses in these organizations are allocated to energy payments, with up to 15% of this energy consumption being wasted during their operations.

Energy also accounts for approximately 60% of the world's greenhouse gas emissions (GHG). Industries and infrastructures globally contribute at least 20% of the world's GHG emissions.

GE Vernova's Energy Efficiency Solution is a software-centric solution that revolutionizes the management and optimization of energy consumption within industrial and infrastructure organizations, while effectively curbing GHG emissions. By empowering organizations, the solution propels them towards a greener and more sustainable future.

EES is the first best policy for reducing energy bills, monitoring contextualized consumption, and tracking associated GHG emissions.

Key Benefits

- Potential cost savings of up to 20% on existing energy consumption for industrial and infrastructure companies.
- Possibility to reduce GHG emissions over existing systems by real-time monitoring and management of carbon footprint.
- Expected Opex reduction by leveraging GE Vernova's managed services and scalable pay-as-you-grow offerings.
- Enhanced operational efficiency by providing real-time insights for informed decision-making and turnkey project management.
- Increased sustainability as DES helps lower carbon footprint and effectively manage GHG emissions.
- Regulatory alignment ensured as DES adheres to IPMVP, ISO 50001 and ISO 14046 standards.

Industrial IoT

- Cloud or on-premise deployment
- Internet / Private APN / LoRa-WAN
- Distributed sites, facilities and assets
- Versatile real-time data ingestion
- Customizable dashboard
- Text and email smart alerts

Energy Management

- Meter data management
- Energy usage analytics
- Energy performance indicators
- Influencing factors analysis
- IPMVP compliant savings calculation
- Energy project management

Sustainability

- Per commodity GHG emissions rate
- Corporate GHG reporting for Scope 1 & 2
- Renewable energy integration
- Utility contract modeling

3rd Party Integrations

- Utility meter data
- Weather data
- Enterprise resource planning
- Manufacturing execution system
- Building management system

Cybersecurity

- Role based access
- IEC 62443 compliant architecture

GE VERNOVA

System Architecture

The EES system architecture is a robust and scalable framework that integrates data from various sources, including sensors, meters, and IoT devices, to provide real-time energy monitoring and optimization. It leverages advanced algorithms and cloud-based infrastructure to enable seamless data analysis, decision-making, and energy management across industrial and infrastructure facilities.

Real-time Monitoring

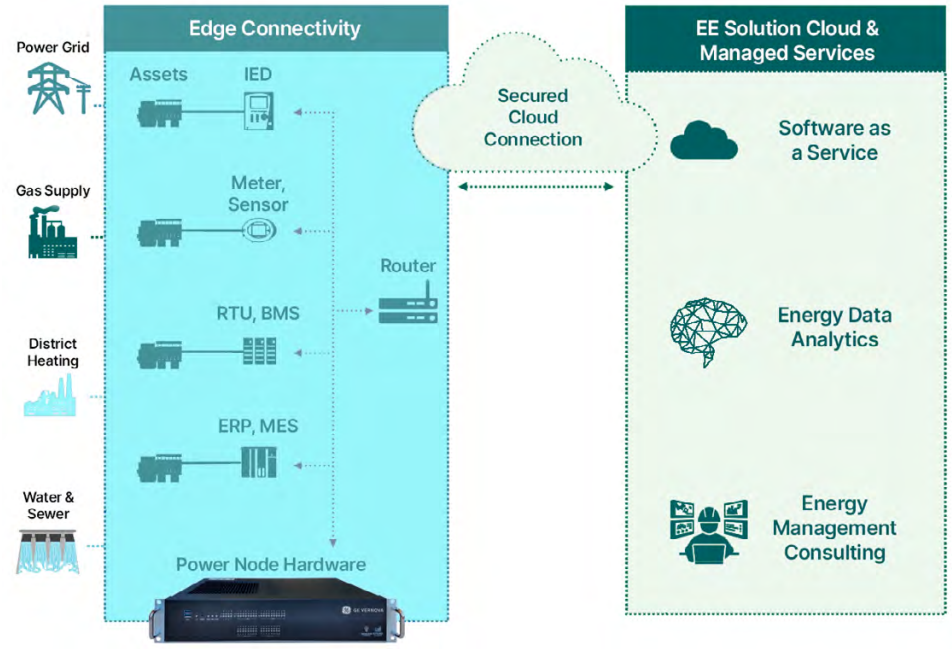
EES architecture incorporates real-time monitoring and integration with various data sources such as Private 4G APN, LoRaWAN, SCADA, and smart meters. This allows comprehensive energy data collection, enabling organizations to optimize energy usage, gain insights, and efficiently manage energy assets.

Energy Data Management

The EES solution relies on efficient energy data management, allowing for the collection, analysis, and utilization of energy data. It enables detailed insights into energy consumption patterns through meter interval data calculation. Advanced analytics are utilized to identify anomalies, promptly notifying users of overconsumption or deviations. This empowers organizations to proactively optimize energy efficiency, prevent waste, and make informed decisions for cost reduction.

Energy Performance

EES collects and analyzes data from diverse sources to provide comprehensive insights on energy metrics, facilitating visualization through intuitive dashboards. This empowers organizations to track progress, identify areas for improvement, and make data-driven decisions for enhanced energy management.



Managed Services

GE Vernova's Managed Services encompass a comprehensive range of services designed to optimize energy management and drive sustainable practices within organizations.

Site Audits

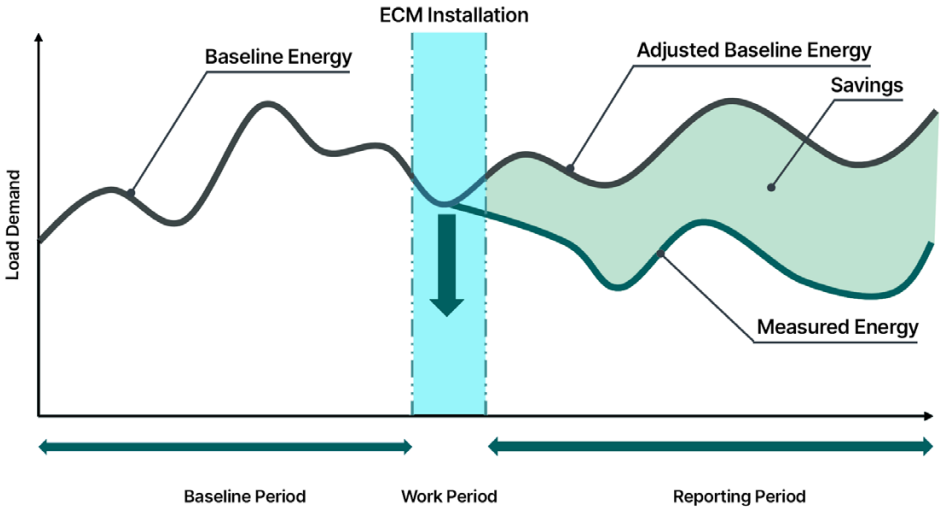
Made by experts, GE Vernova assesses energy usage and equipment efficiency, and identifies improvement areas. Tailored strategies are developed to optimize energy consumption and reduce costs based on the organization's energy landscape.

Energy Performance Follow-up

GE Vernova's energy performance services, supported by the expertise of energy consultants, offer comprehensive assistance in implementing energy policies and effectively monitoring their performance throughout time.

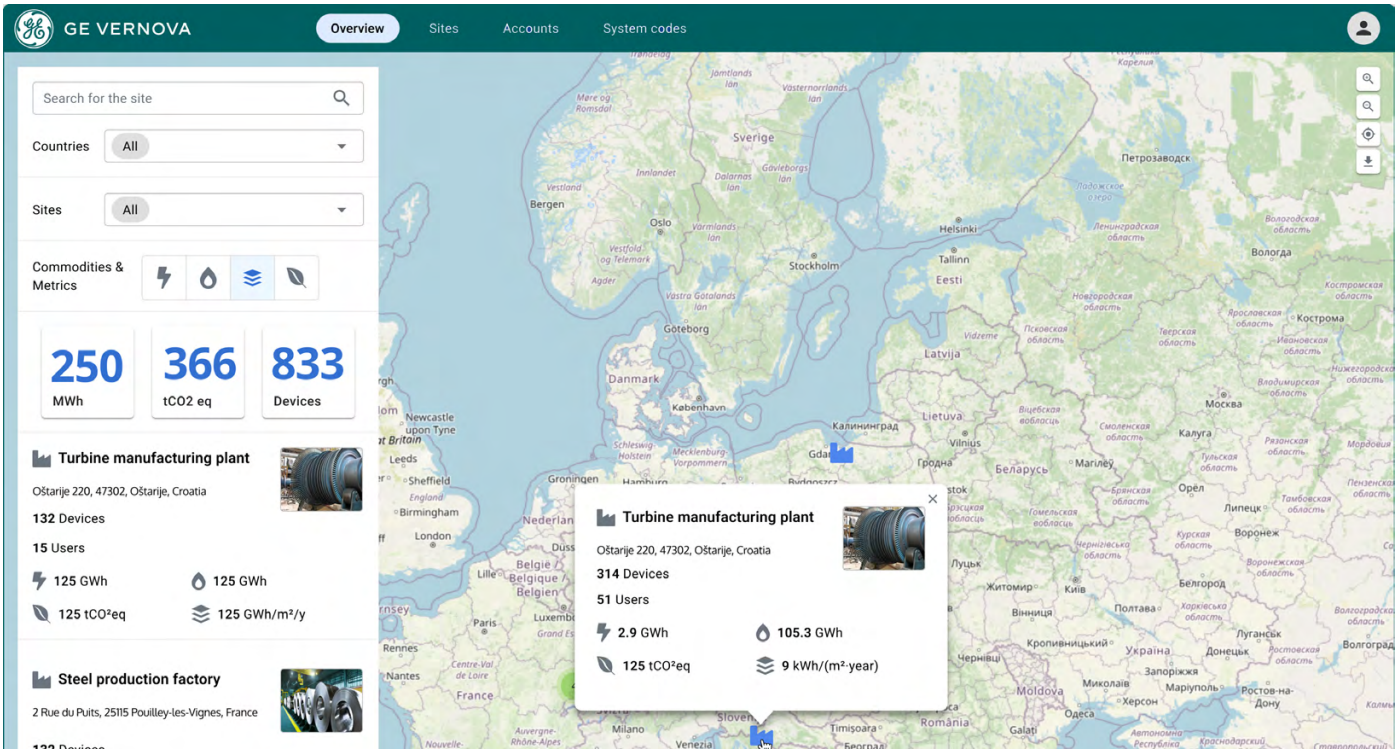
Benchmarking

Managed Services offer benchmarking to evaluate energy performance against industry standards, identifying improvement areas and driving continuous enhancement in energy management practices.



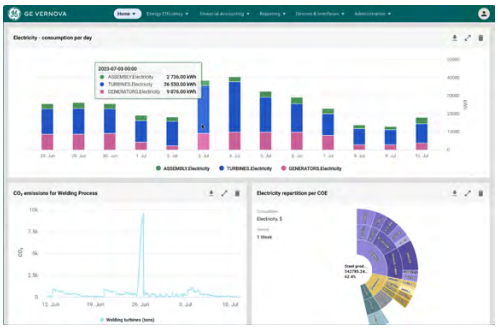
Web Interface

GE Vernova's EES uses a cloud-based application to store and display data for analytics and monitoring.



Customizable Dashboard

EES dashboard personalizes user experience by tailoring data views based on individual preferences. Users can select and share a range of widget types for effortless collaboration.

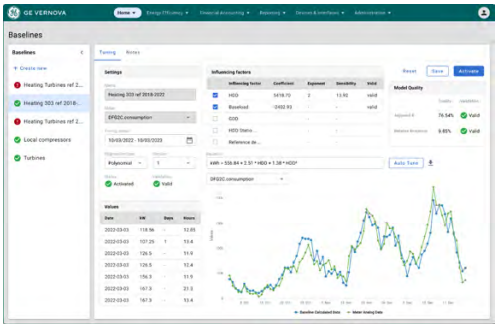


Energy Performance Indicators

Creating and configuring energy performance indicators using any data type is easy, which empowers users to track essential business metrics.

IPMVP Compliant Savings Calculation

A framework is provided to determine, and report verified energy, GHG, and financial savings, enabling reliable and actionable results towards the organization's sustainability goals.



Energy Projects Management

EES offers a holistic and integrated approach to rank, plan, implement, and track energy efficiency projects throughout the organization's real estate portfolio.

For more information
visit **gevernova.com/grid-solutions**

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