

AUTOMATICA MUNICH
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Energy Data Management

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Today's agenda



Business benefits of energy data management?



The new „impact framework“



Bring value using data analytics



Organisational challenges



What's next?

Why is it important to manage energy data?

Key benefits



What is energy data management?

Energy data management refers to the processes, strategies, and systems implemented by organizations to effectively collect, analyse, and utilize energy-related data for various purposes.

It speaks to a company's ability to responsibly and sustainably grow their business and build resilience.

ENERGY EFFICIENCY

- Identify inefficiency
- Optimize energy consumption
- Reduce costs

DEMAND-SIDE MANAGEMENT

Enables business to:

- Monitor and analyze energy usage patterns
- Minimize peak charges
- Track and measure environmental impact

SUSTAINABILITY

Oversight of:

- Emission accounting
- Renewable Energy Integration
- Path to Net Zero

The new 'Impact Framework'



Probability for 2+ impact factors
at the same time: **>90%**



DEMAND

**Decrease in forecastability
and robustness of demand**

COVID-19 impact and
current economic downturn

Reliability of contracts



SUPPLY CHAIN VOLATILITY

**(Global) availability demands
flexibility in production lines**

Global supply chain stability
decreases

Trade barriers

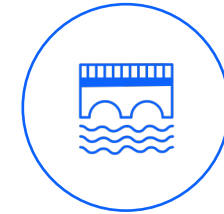
Geo-political conflicts



PRICE INCREASE

**Inflation, gas crises,
protection measures**

Energy markets become
turbulent



EMISSIONS

**Emission pricing increases
management of complexity**

Carbon emission certificates

Offsetting

Where to get all the data from?

Data Sources

IoT Devices

→ Devices equipped with sensors that collect real-time data on energy consumption and production.

Smart Meters

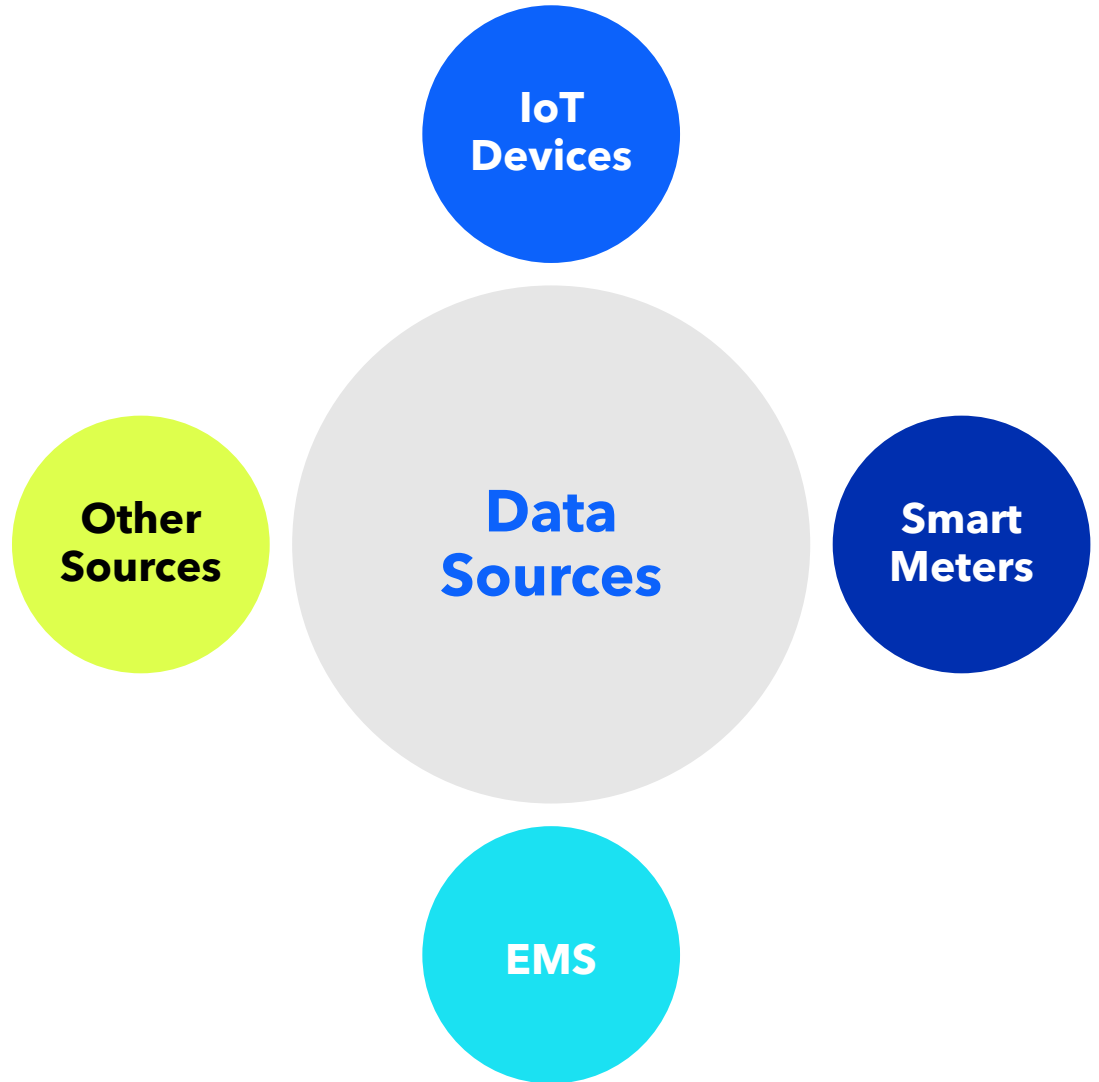
→ Devices which monitor and measure energy usage and provide real-time data.

Energy Management Systems (EMS)

→ Used to monitor and control energy usage. Provide real-time data on energy consumption.

Other Sources

→ Can include historical energy usage data, weather data, production data, and other relevant data sources.



Report & drive impact

“ Bringing value using data analytics starts with **seeable solutions.**”

Company-wide Analysis

Company wide analysis of load development, costs and distribution across sites. Find overall patterns in your energy consumption at certain weekdays or hours.



Overall Costs

Your total energy cost as a industrial company consist of your consumption costs and your peak load costs.

18,638,830€
Total energy costs



Peak Load price per kW

160,00 €

Consumption price per kWh

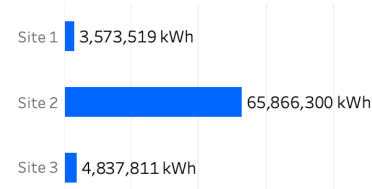
0,19 €

Select Timeline Period

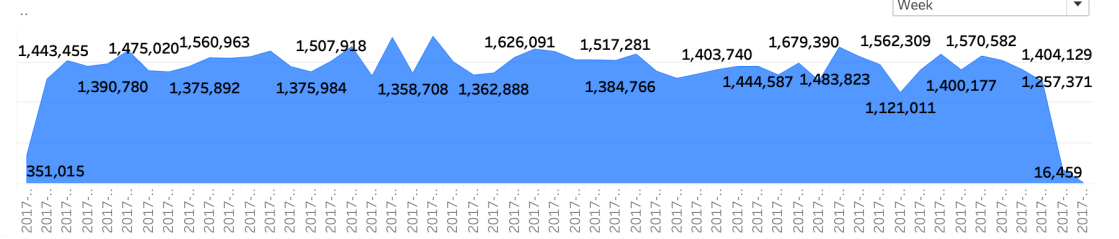
Week

Consumption by Site

Identify which sites are driving your consumption

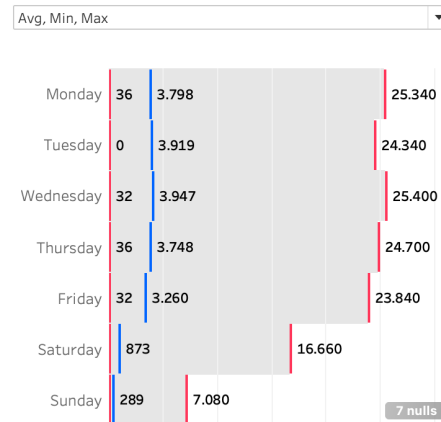


Energy Consumption by Week



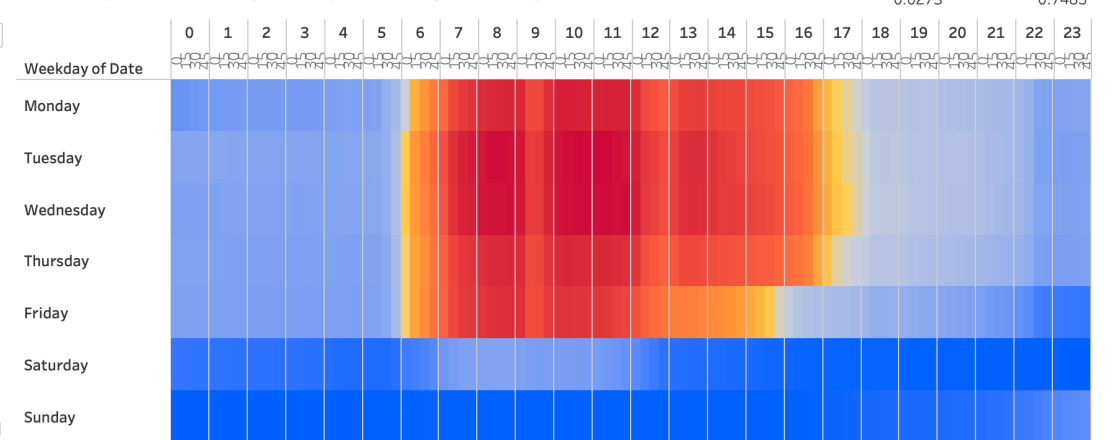
Weekday Load Trends

Identify irregularities inbetween workdays








Heatmap

The color represents the average consumption for every 15 min slot per week



Organizational challenges

BREAKDOWN SILOS	CHANGE MANAGEMENT	DATA IS EVERYTHING	FUTURE-PROOF TECHNOLOGY	STAKEHOLDER ENGAGEMENT
 <p>Energy data may reside in separate systems or departments</p> <ul style="list-style-type: none">• Integrate data from various sources• Implement data warehouses, dashboards etc. to access and share data across different functions	 <p>Changes in culture, processes, workflows, and technology</p> <ul style="list-style-type: none">• Plan and execute change management strategies• Ensure smooth adoption, minimize resistance• Leverage data literacy across organization	 <p>Data collection, integration, storage and management, processing</p> <ul style="list-style-type: none">• Data quality and data consistency• Data governance and privacy, compliance with regulations with a unified approach across the whole organization• Data skills and expertise in demand	 <p>Cloud-native technology with future-proof infrastructure</p> <ul style="list-style-type: none">• Technology with scalability and flexibility to meet needs of today and future• Data security management• IoT	 <p>Engaging stakeholders and aligned operations</p> <ul style="list-style-type: none">• Build seeable solutions• Secure buy-in and support from leadership• Ongoing training, clear communication, transparent process, effective support for team members

Accelerators to turbo charge your journey

Unlocking insights, efficiency, and speed

Reporting Guidelines

Leveraging ESG Risk Framework Outline and Standard Reporting Guidelines

This block contains three main components: 1) A table titled 'SUSTAINABILITY DISCLOSURE TOPICS & ACCOUNTING METRICS' with columns for 'Topic', 'Accounting Metric', and 'Coverage'. 2) A diagram titled 'ESG frameworks can help define risks & opportunities' showing various frameworks like GRI, SASB, TCFD, and others. 3) A flowchart titled 'ESG Risk Framework' showing the process from 'Governance & Transparency' to 'Material Topics' and finally to 'Disclosure & Reporting'.

Measures & Data Management

Leveraging Rationalized Impact Area Topics and Measures & Collection Worksheet

This block contains a series of overlapping worksheets for data management. The top sheet is 'ESG Category' with columns for 'Question/Metric' and 'Measure Substance'. Below it are worksheets for 'Social Impact Area', 'Environment Impact Area', and 'Data Privacy Impact Area', each with specific sub-topics and data collection instructions.

Assessment Briefs

Leveraging Impact Area Findings Brief & Improvement Guides

This block contains several assessment briefs. The top one is 'Energy and Emissions' with a progress bar. Below it are 'Waste' and 'Water' briefs. The largest one is 'Responsible Sourcing' titled 'How to Prioritize Environmental Impact', which includes a grid of impact categories like 'Emissions', 'Waste', 'Water', and 'Energy' with associated metrics and goals.

Governance Model

With Management Approach/Committees

This block contains two main components: 1) A table titled 'ESG Governance Oversight detail' with columns for 'Governance', 'Risk', and 'Compliance'. 2) A diagram titled 'Governance' showing the organizational structure for sustainability, including the Board, Executive Committee, and various committees like the ESG Committee and Risk Committee.

Framework & Roadmap

High-level Roadmap & Goals

This block contains a 'ESG 2030 Strategy' diagram showing a high-level roadmap with goals for 'Climate & Environment', 'Social & Community', and 'Governance & Transparency'. Below it is a 'Portfolio Detail' section with a 'GHG Emissions Tracking Program' overview, including a table of emissions data and a 'Report content' section.

Disclosure & Transparency

With Example Goals

This block contains a 'External Disclosure Framework' diagram showing 'Disclosure Levels' and 'Report content'. Below it is a 'Report content' section with 'Our 2020-2030 goals' and a table of goals for 'Climate & Environment', 'Social & Community', and 'Governance & Transparency'.

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Our purpose is to help people and organizations dream bigger, move faster, and build better tomorrows for all.

Started in 2001, we have today **14,000+** team members in **8 countries** and 45 markets around the world



Thank you!

Let's
connect



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