FLOWBOX

FLOWBOX ISO 50001

ISO 50001 without spreadsheets, chaos or administrative overload

Digital support for implementing, maintaining and preparing your energy management system for ISO 50001 certification.

Energy savings | Lower energy intensity | ISO 50001 certification



OUR GOAL

Not just a certificate. Real savings.

Our goal goes beyond compliance: we help you achieve lasting reductions in energy consumption and energy intensity.

CHALLENGE

Energy managers spend more time searching for data than improving energy performance

Energy management under ISO 50001 is built on measurement, evaluation and action. In practice, though, much of the time is spent gathering data, merging spreadsheets and preparing audit documentation. The result is a system that exists mainly on paper.

Plenty of data, no real savings

Consumption data in the monitoring system, significant energy uses (SEUs) in Excel, the energy baseline in another file, corrective actions in emails and the management review in Word. The data exists, but nobody can quickly see where energy is being wasted. Deviations only show up on the invoice, actions are never evaluated and savings stay on paper. Instead of improving energy performance, energy managers spend weeks re-entering data for the audit.

Energy management depends on one person

Often only the energy manager understands the spreadsheets, calculations and links between the data. When they are on holiday or leave the company, nobody knows where the numbers came from, why a particular energy performance indicator (EnPI) was chosen or how the energy baseline was set. There is no shared system and no auditable change history.

Everyone sees everything – or nothing

The energy manager has detailed data, production teams often have no access to it and top management receives complex reports without context. The result is limited awareness of energy performance, poor collaboration and delayed responses to deviations and opportunities for improvement.

SOLUTION

FLOWBOX ISO 50001

The software digitalizes the key processes of your energy management system – from data collection to audit documentation. Everything is available in one place, keeping the whole team informed.

Efficient implementation

A guided process and automated data collection shorten the path to certification, save energy managers time and reduce preparation costs. Less manual work and less need for external support.

Real savings

FLOWBOX doesn't just document energy use – it tracks consumption against the baseline and reveals where energy is wasted. You implement the measures; the system verifies the savings. The result is not a certificate in a drawer, but lower energy bills.

Stay on top of compliance

Keep compliance evidence readily available. Documentation for surveillance audits is compiled throughout the year, not in a rush before an audit. You can demonstrate compliance at any time and help reduce the risk of penalties under applicable national law.

LEGISLATION

EU Energy Efficiency Directive: does it apply to your company?

Under the recast Energy Efficiency Directive (EU) 2023/1791, the energy audit and energy management requirements under Article 11 are based on energy consumption rather than company size. The largest consumers need a certified energy management system; others must carry out regular energy audits or implement an energy management system, such as one certified to ISO 50001.

23,611 MWh

average annual consumption (85 TJ) above which a certified energy management system is mandatory

2,778 MWh

average annual consumption (10 TJ) above which an energy audit is required at least every four years

3 years

consumption is assessed as the average over the previous three years

4 years

maximum interval between energy audits (above 2,778 MWh, without an EnMS)

WHICH THRESHOLD APPLIES TO YOUR COMPANY?

2,778 – 23,611 MWh

Choice

An energy audit at least every 4 years plus a published action plan – or an energy management system such as ISO 50001, which exempts you from the audit. For multi-site companies, ISO 50001 can be the cheaper option.

above 23,611 MWh

Obligation

An energy management system certified by an independent body – in practice ISO 50001. Deadlines and penalties are set by national law.



HOW IT WORKS

Four steps to effective energy management

FLOWBOX guides your company through the energy management cycle under ISO 50001.
Each step builds on the previous one and runs automatically.

1 Energy data collection

All data in one place

- → Live data from production lines
- → Invoices and manual meter readings
- → Meter register and metering plan

2 Analysis and target setting

Know where to focus

- → Overview of energy types
- → Identification of significant energy uses
- → Analysis of how production parameters affect energy consumption
- → EnPIs and target values

3 Continuous monitoring

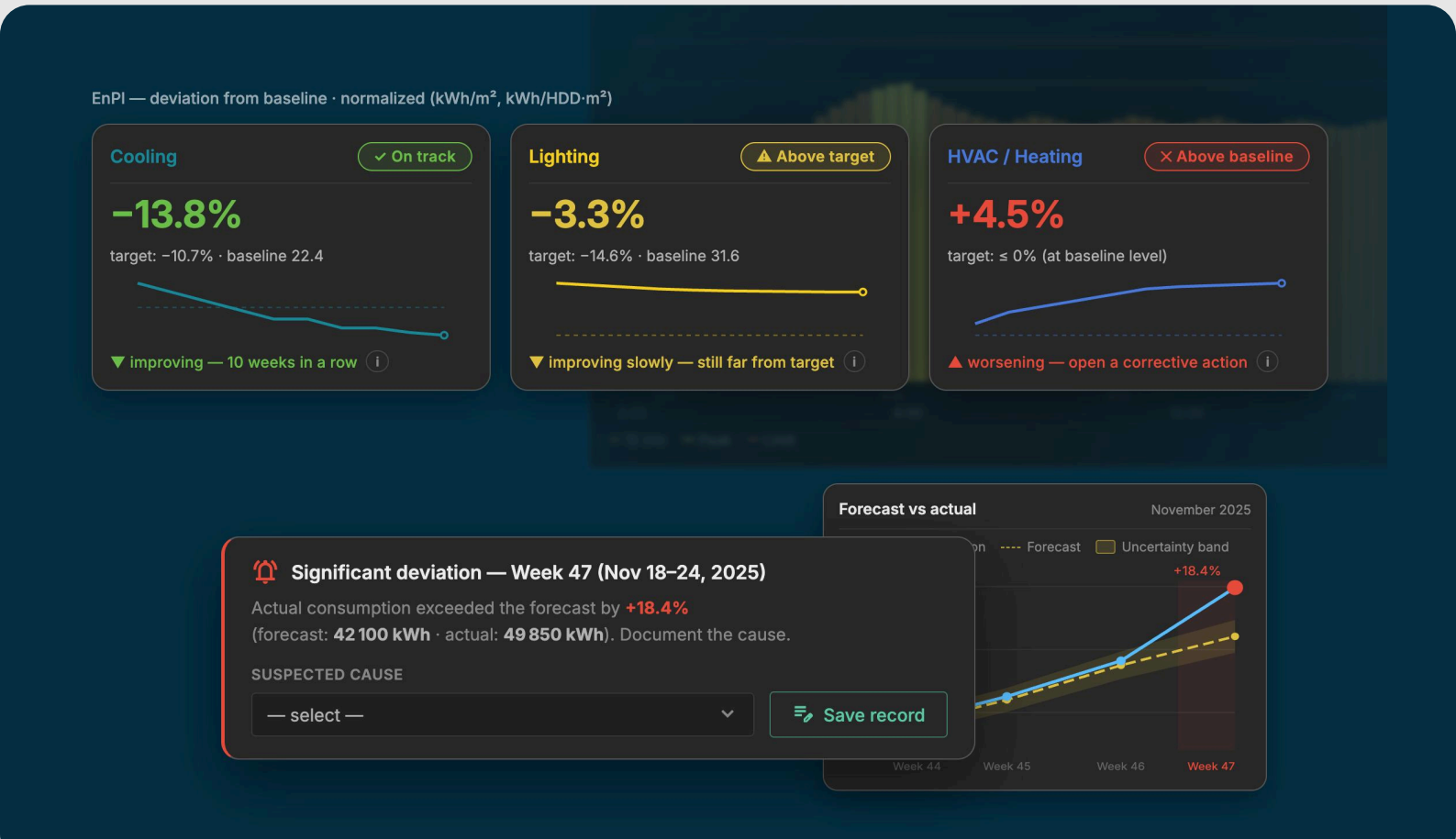
Detect deviations early

- → Real-time EnPI monitoring
- → Automatic alerts for deviations
- → Documented corrective actions and evidence of their effectiveness
- → Consumption forecasts for planning

4 Reporting and audit

Audit-ready at any time

- → Management dashboards and reports
- → Audit trail and audit evidence
- → Evidence for certification and surveillance audits



Supported by FLOWBOX | Partially supported | Organizational responsibility

How FLOWBOX supports your ISO 50001 energy management system

A clause-by-clause overview of how FLOWBOX supports ISO 50001:2018 requirements. FLOWBOX is a software platform and does not replace professional advice. It supports technical and data-related tasks; organizational decisions remain with you, supported by centrally available data.

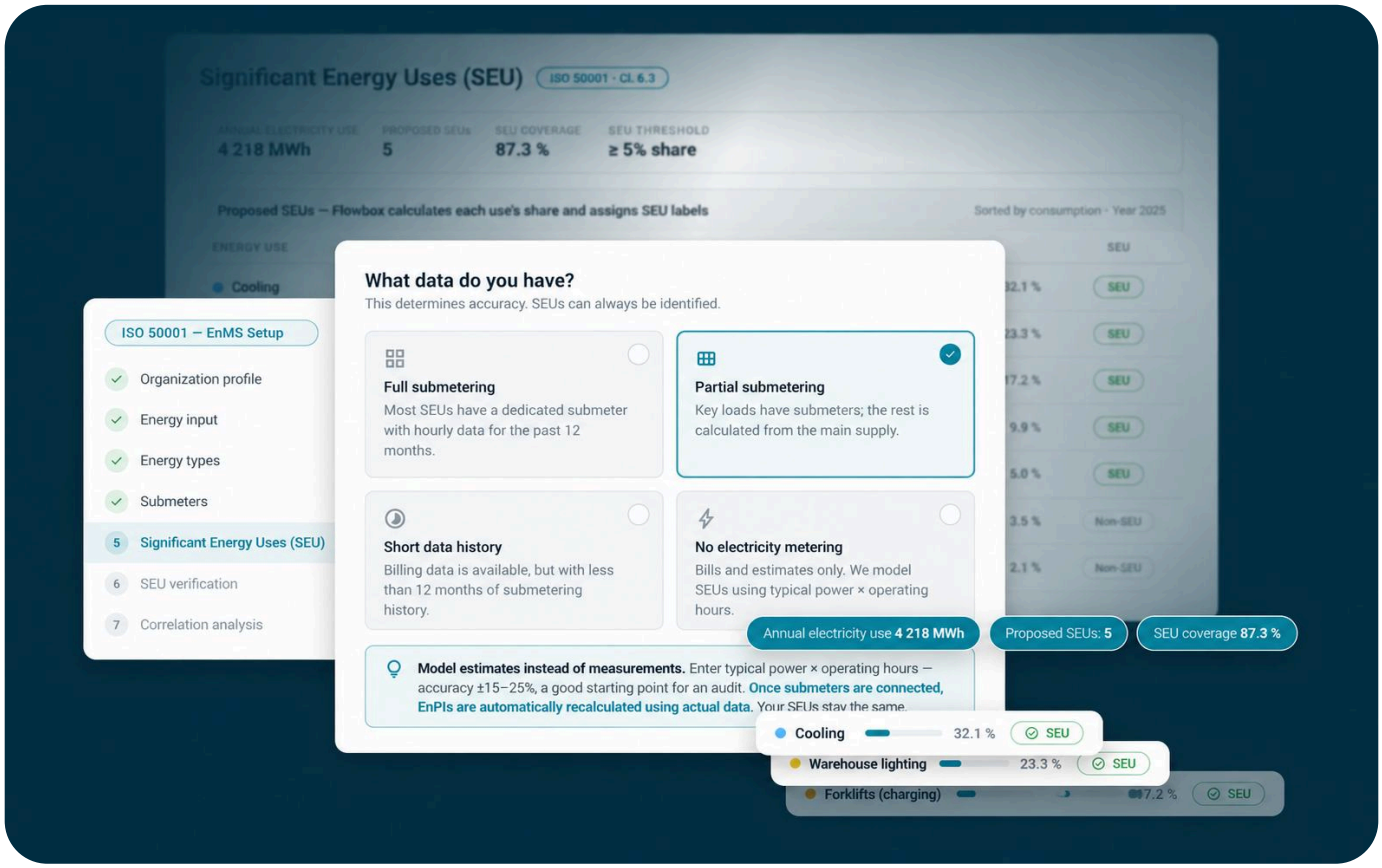
CL.	REQUIREMENT	HOW FLOWBOX HELPS	STATUS
Cl. 4 · Context of the organization			
4.1	**Context of the organization**	Data support – analysis of energy flows and consumption patterns across the whole organization.	Partially supported
4.2	**Interested parties**	The organization identifies interested parties and their relevant requirements.	Organizational responsibility
4.3–4.4	**EnMS scope and system**	Mapping of energy boundaries, overview of metering points and SCADA visualization. A central platform for data collection, monitoring and evaluation.	Supported by FLOWBOX
Cl. 5 · Leadership			
5.1–5.3	**Leadership, policy, roles**	The organization is responsible for securing top management commitment, establishing its energy policy and appointing an energy management team. Policy and objectives can be uploaded to the system.	Organizational responsibility
Cl. 6 · Planning			
6.1	**Risks and opportunities**	Monitoring consumption and EnPIs before and after an action proves its effectiveness. Risks and opportunities are identified and assessed by the organization.	Partially supported
6.2	**Objectives and action plans**	Progress towards measurable objectives is tracked in real time through reports and dashboards. Action plans in one place: actions, responsibilities, deadlines, resources and verification.	Supported by FLOWBOX
6.3	**Energy review**	Automated data collection and analysis, energy types, significant energy uses (SEUs), relevant variables and consumption forecasting.	Supported by FLOWBOX
6.4	**Energy performance indicators**	Support for defining EnPIs, analysing relevant variables using regression and assessing improvement against the energy baseline.	Supported by FLOWBOX
6.5	**Energy baseline**	Comparison of consumption across years as a basis for choosing the reference year. The year itself is chosen by the organization.	Partially supported
6.6	**Energy data collection plan**	SEU data, energy consumption, action-plan data and meter register. Operating conditions are added manually.	Supported by FLOWBOX
Cl. 7 · Support			
7.1–7.2	**Resources and competence**	The organization provides the necessary resources and ensures that staff have the required competence.	Organizational responsibility
7.3–7.4	**Awareness and communication**	Dashboards for individual sites – people see their own EnPIs and the impact of their work.	Partially supported
Cl. 8 · Operation		Operational control, design and procurement are outside the scope of the software.	Organizational responsibility
Cl. 9 · Performance evaluation			
9.1	**Monitoring and legal compliance**	Continuous monitoring of energy performance, automated data collection, and data and evidence to support evaluation of the EnMS and compliance with applicable legal requirements.	Supported by FLOWBOX
9.2	**Internal audit**	Internal audits are carried out by the organization or an external auditor.	Organizational responsibility
9.3	**Management review**	Inputs for management review: EnPIs, improvement opportunities, communication and awareness. Top management is responsible for the resulting decisions and actions.	Partially supported
Cl. 10 · Improvement			
10.1	**Nonconformity and corrective action**	The organization is responsible for addressing nonconformities and taking corrective action.	Organizational responsibility
10.2	**Continual improvement**	Visualization and analysis of energy data support the demonstration of continual improvement in energy performance.	Supported by FLOWBOX

Source: internal analysis "FLOWBOX vs. ISO 50001", by clause of ISO 50001:2018. FLOWBOX does not replace a certification body or professional advice. Certification of the energy management system is carried out by an independent, accredited certification body.

DATA & INTEGRATION

Start with what you already have

No automated energy monitoring in place yet? No problem. We start with energy bills and manual meter readings, then connect additional data sources as needed. The platform works with equipment from different manufacturers.



Energy types and on-site generation

- Electricity
- Natural gas
- District heating, steam and heat
- Diesel, petrol, LPG and other fuels
- On-site renewable generation

Multiple data sources

- Live data from production lines
- Data imported from billing systems
- Manual readings and paper records
- Data from main meters and submeters

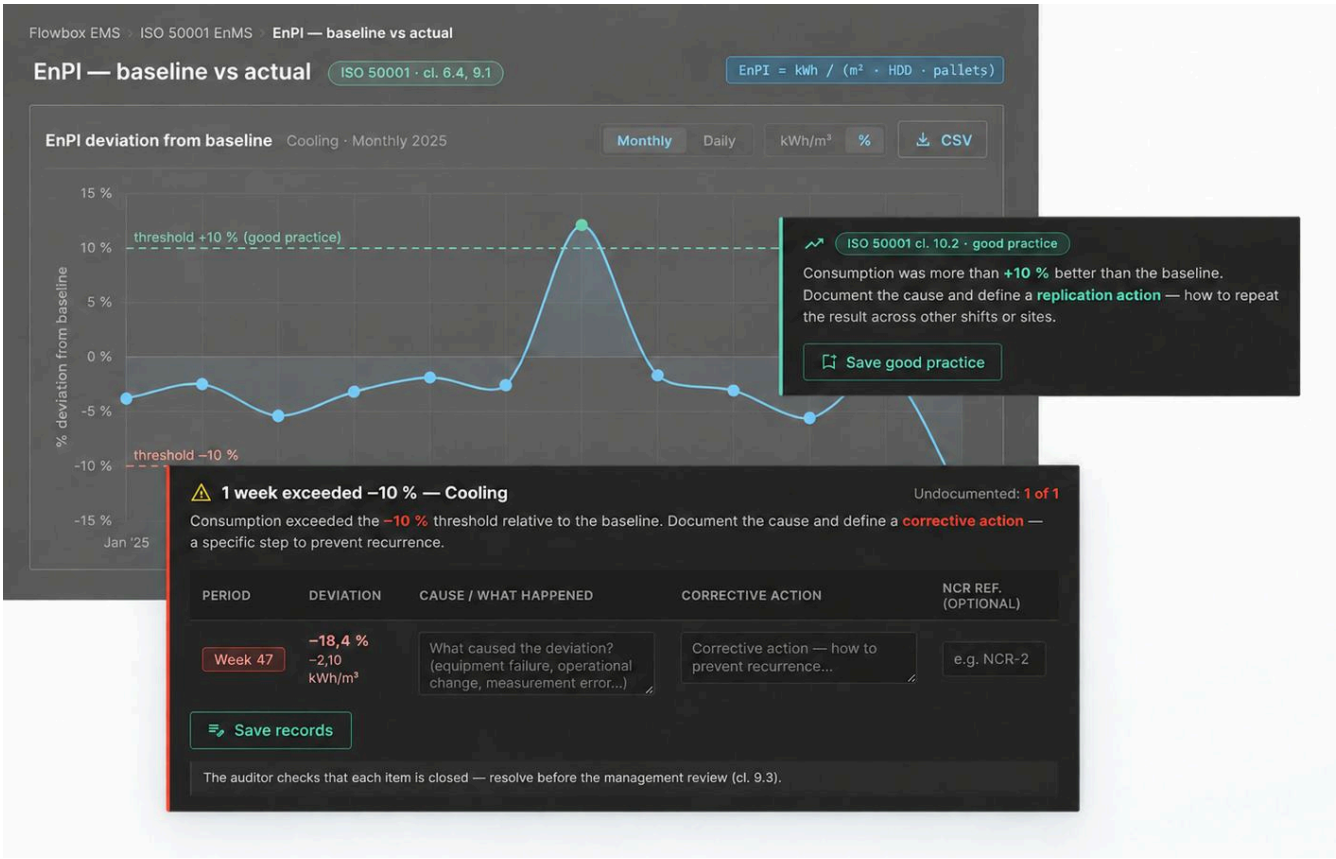
Modbus RTU | Modbus TCP | OPC UA | OCPP

Already using FLOWBOX EMOS? The ISO 50001 module connects to your existing platform for solar PV, battery storage and EV charging.

FOR THE WHOLE TEAM

Energy management no longer depends on a single person

Each team member sees the information they need for their role. Access is role-based and every change is time-stamped, so a documented change history supports auditability.



FULL CONTROL OF THE SYSTEM

Energy manager

Configures the system, manages data and creates reports.

OVERSIGHT ACROSS OPERATIONS

Production manager

Tracks indicators and deviations across all operations.

THEIR AREA OF RESPONSIBILITY

Operations manager

Views data and alerts for their area of responsibility.

QUICK OVERVIEW FOR DECISION-MAKING

Top management

Gets a concise overview of performance and reports.

Multiple sites, one platform

Consistent processes and comparable reports across sites.

Audit trail and access rights

Time-stamped change records and role-based access.

COMPARISON

Energy audit or ISO 50001?

With an annual consumption of 2,778–23,611 MWh (10–85 TJ), you have a choice. An audit meets the obligation; ISO 50001 with FLOWBOX also delivers savings and business value.

	Energy audit	ISO 50001 with FLOWBOX
AUDIT CYCLE AND ONGOING MANAGEMENT	At least every four years	Ongoing energy management with regular certification audits
MULTIPLE SITES	Separate audit for each site	One certificate for the whole organization
COSTS	Grow with every site	Grow more slowly
SAVINGS	Recommendations on paper	Measures implemented and their results evaluated
COMPLIANCE MONITORING	No checks for 4 years after the audit	Monitored continuously
BUSINESS VALUE	Limited	Advantage in tenders, ESG reporting and financing

WHY ISO 50001 PAYS OFF BEYOND COMPLIANCE

Lower costs

Systematic energy savings and higher profitability.

Higher efficiency

Better control over energy flows.





CASE STUDY

GRAMEX: ISO 50001 certification and savings without Excel

This Czech manufacturer of vehicle seats and seat covers deployed FLOWBOX in 2020 to control its production equipment and building systems. A year later, its energy management system was certified to ISO 50001.

up to 40%
estimated energy savings incl. PV integration

2021
successful ISO 50001 certification

3 months
implementation time, including 14 days of system integration

> *"ISO 50001 is primarily about measuring, evaluating and taking measures that lead to savings. FLOWBOX gives us all the tools we need to cover that. We no longer need any external Excel spreadsheets."*
>
> JIŘÍ PAJER · MANAGING DIRECTOR, GRAMEX S.R.O.

TRUSTED BY

Westfield · VOLVO · ASSA ABLOY · Valeo · AGC · LASSELSBERGER · BÜHLER · HAUK · Viscofan

FLOWBOX

Ready for ISO 50001 without spreadsheets?

See how FLOWBOX supports your energy management in real-world scenarios.

Book a demo

info@flowbox.com · www.flowbox.com

