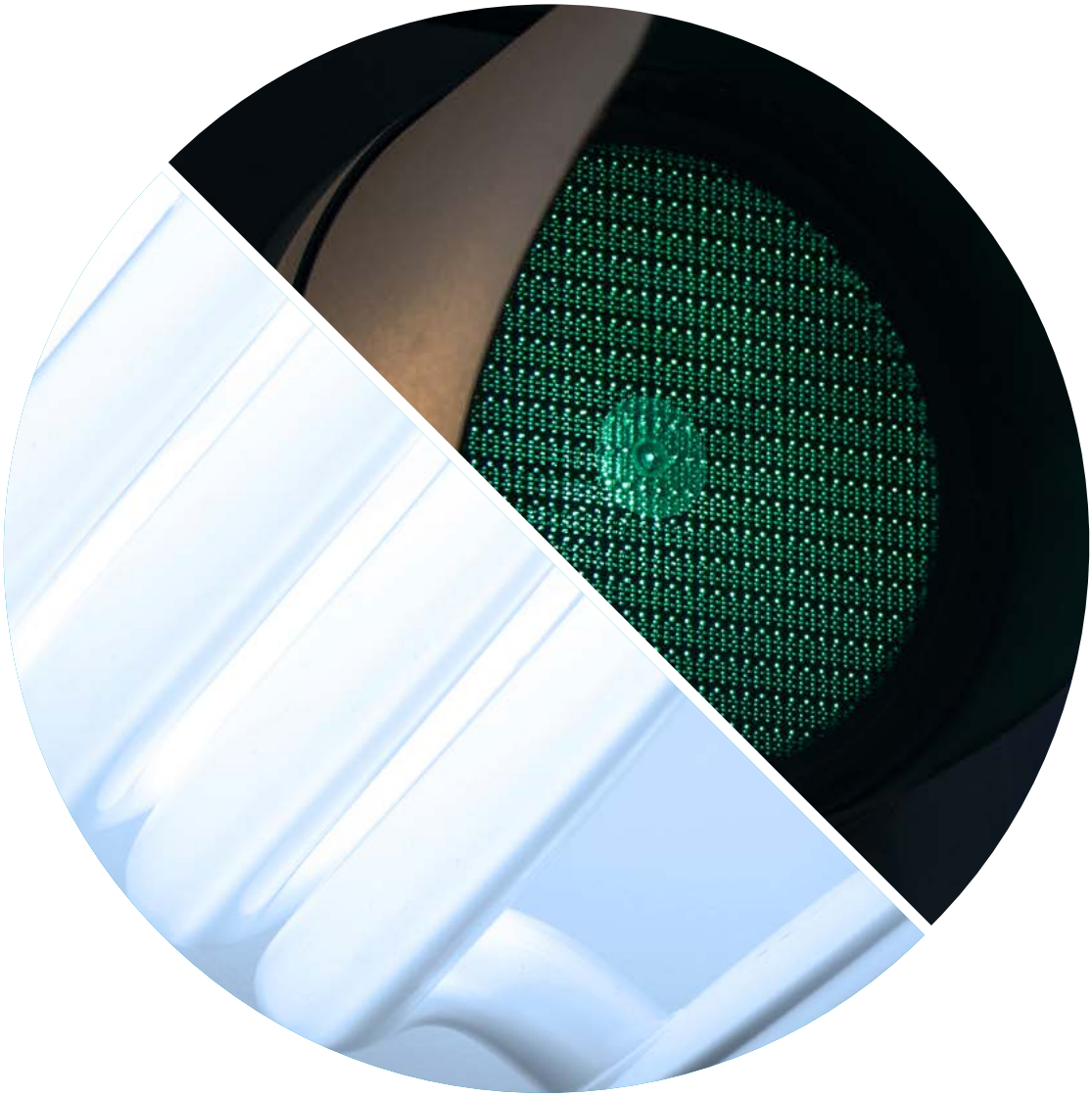
ISO 50001:2018
Energy Management Systems

Your implementation guide



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ISO 50001
Energy management systems

Used by organizations across the world to manage and reduce energy use and costs, ISO 50001 is an excellent framework to help implement an energy management system (EnMS). From large retailers to smaller manufacturers and small businesses, the standard offers organizations the opportunity to become more resilient against energy costs and availability. Whether you're interested in certifying to ISO 50001 to reduce costs, comply with legislation or improve your sustainability, implementing the standard provides a systematic approach to achieving all three.

Certification to the standard provides additional benefits to organizations:

- Decreased energy consumption and expenditures
- Customer, statutory and regulatory compliance
- Increased customer, stakeholder and consumer confidence in products
- Improved risk management
- Integration with other ISO management systems

The key changes to the standard include:

- A stronger emphasis on the responsibility of leadership
- Clarification of key concepts related to energy performance
- Improved compatibility with ISO 14001 and other ISO management system standards, through the alignment to the HLS
- Improved sections on data collection and normalization

Why has a new standard been published?

The last edition of the standard was published in 2011. Since that time both businesses and consumers have come to understand that their energy use impacts the environment we all share. Natural resources continue to deplete, which places a greater emphasis on energy security. Energy costs are also rising, and organizations are under constant pressure to reduce overhead costs. These pressures meant it was time to consider how the standard might better meet the needs of businesses and improve energy management systems (EnMS) altogether.

Additionally, during the development process the standard also adopted Annex SL. The high level structure (HLS) was introduced to align the implementation process of ISO management systems so that it was easier to adopt multiple management systems within individual organizations.

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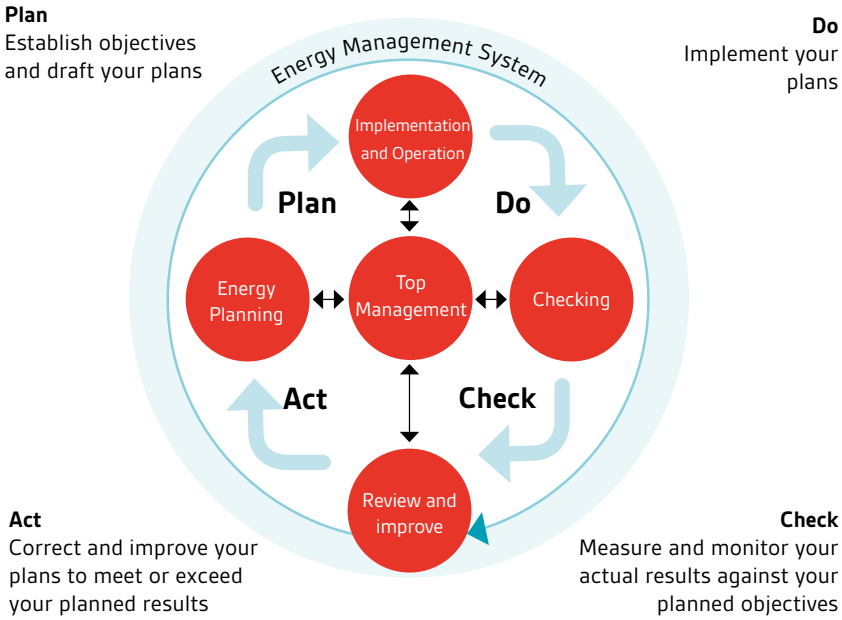
How **ISO 50001** works

ISO 50001 is based on the management system model of continual improvement. The standard provides a framework of requirements for organizations to:

- Develop a policy for more efficient use of energy
- Fix targets and objectives to meet the policy
- Use data to better understand and make decisions about energy use
- Measure the results
- Review how well the energy policy is working



The Plan-Do-Check-Act (PDCA) cycle is the operating principle of ISO management standards. By following this cycle, you can effectively manage—and continually improve—your organization's effectiveness.

Some of the core concepts of ISO 50001 include:

Concept	Comment
Management responsibility	The actions that top management must take in order to support the successful implementation and maintenance of an EnMS
Energy review	The analysis of energy use and consumption and the following identification of opportunities for improving energy performance
Energy baseline	A reference point from which energy performance can be measured
Performance indicators	Measure that will be used to evaluate energy performance
Communication	Specific guidance on what needs to be communicated to whom as an EnMS is being planned, implemented, maintained or improved
Documentation	Required written details of the EnMS and supporting information such as energy consumption bills
Non-conformity and corrective action	Non-conformities are identified via the audit process as the non-fulfilment of a requirement of the standard, corrective actions are what the actions an organization must take in order to fulfil the requirement
Management review	The process by which management evaluates the progress and achievements of the EnMS

Key requirements of the standard

Clause 1: Scope

This clause details the scope of the international standard. This includes requirements about planning, implementation, maintaining and updating an EnMS as well as effective communications.

Clause 2: Normative references

There are no normative references within the standard. The clause is retained in order to maintain the same numbering scheme as all the other ISO management system standards.

Clause 3: Terms and definitions

This section provides formal definitions of important terms used throughout the standard.

Clause 4: Context of the organization

This clause establishes the context of your EnMS and underpins the rest of standard. You will need to identify external and internal issues and the needs and expectations of your stakeholders and interested parties, as well as how value is delivered to them. It also partly addresses the concept of the creation of value.

In this case the term 'issue' covers not only problems or potential problems, but also important topics for the system to address, such as changing circumstances, legal requirements and other obligations.

This clause also includes determining the scope of the energy management system. The scope is intended to clarify the boundaries that apply the EnMS. Additionally, Clause 4 requires you to establish, implement, maintain and continually improve the management system in accordance with the requirements of the standard.

Clause 5: Leadership

This clause is all about the role of "top management" which is the person or group of people who direct and control your organization at the highest level. The purpose is to demonstrate leadership and commitment by integrating the EnMS into the business' overall strategy.

Top management must demonstrate a greater involvement in the management system and need to establish the energy policy, which can include commitments specific to your organization's context beyond those directly required.

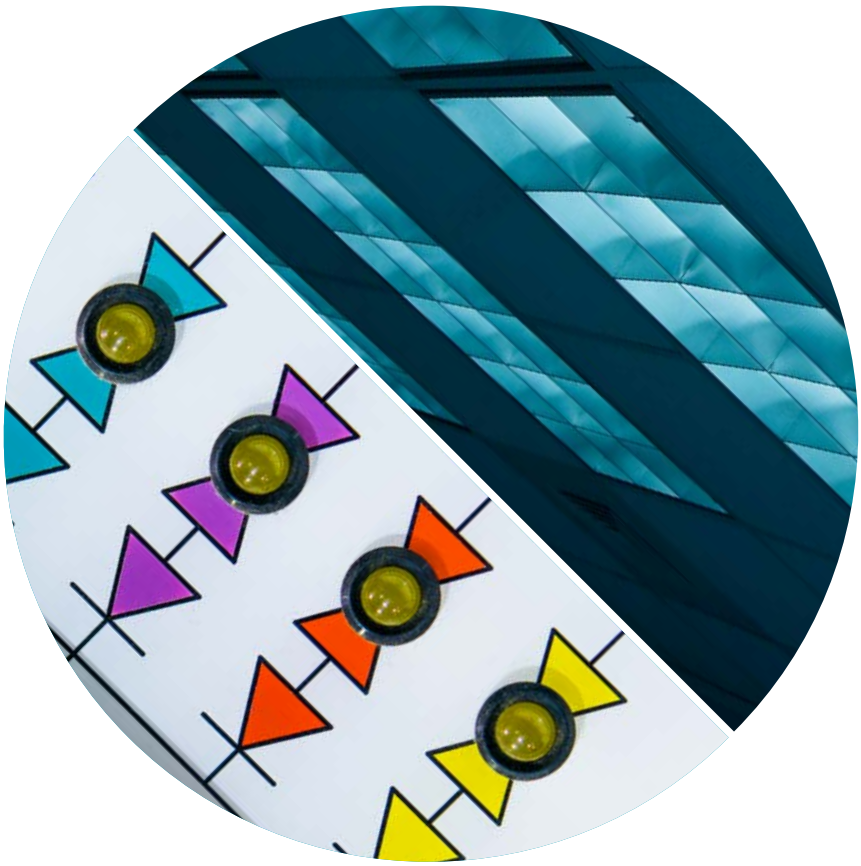
There is also more focus on top management's commitment to continual improvement of the management system. Communication is key and top management have a responsibility to ensure its structure and detail is made available, communicated, maintained and understood by all parties. They are also responsible for a suitable energy policy as well as developing the framework for the EnMS.

Finally, top management need to assign relevant responsibilities and authorities, as well support the people who are involved as the system is developed, implemented and as it evolves. Depending on the skillset of the chosen implementation, maintenance and improvement team(s), management also has to make sure that all team members have the appropriate experience and/or receive training to successfully accomplish the tasks they are assigned.

Clause 6: Planning

This clause focuses on how an organization plans actions to address both the risks and opportunities identified in Clause 4. It focuses on the development and use of a planning process, rather than a procedure to address both a range of factors and the risk associated with such factors.

The requirements of this clause also include determining the objectives of, and energy targets for, the energy management system and what is required from both a financial and human resource perspective to fulfil both. There is also a focus on the energy review which evaluates which types of, as well as how much, energy is used by the organization and the determination of energy performance indicators, an energy baseline(s) and an energy data collection plan.



Clause 7: Support

This clause is all about the execution of the plans and processes that will enable your organization to successfully complete their EnMS responsibilities. This is a very powerful requirement covering all management system resource needs.

Organizations will need to determine the necessary competence of people doing work that, under its control, affects the management system's performance, its ability to fulfil its obligations and ensure they receive the appropriate training.

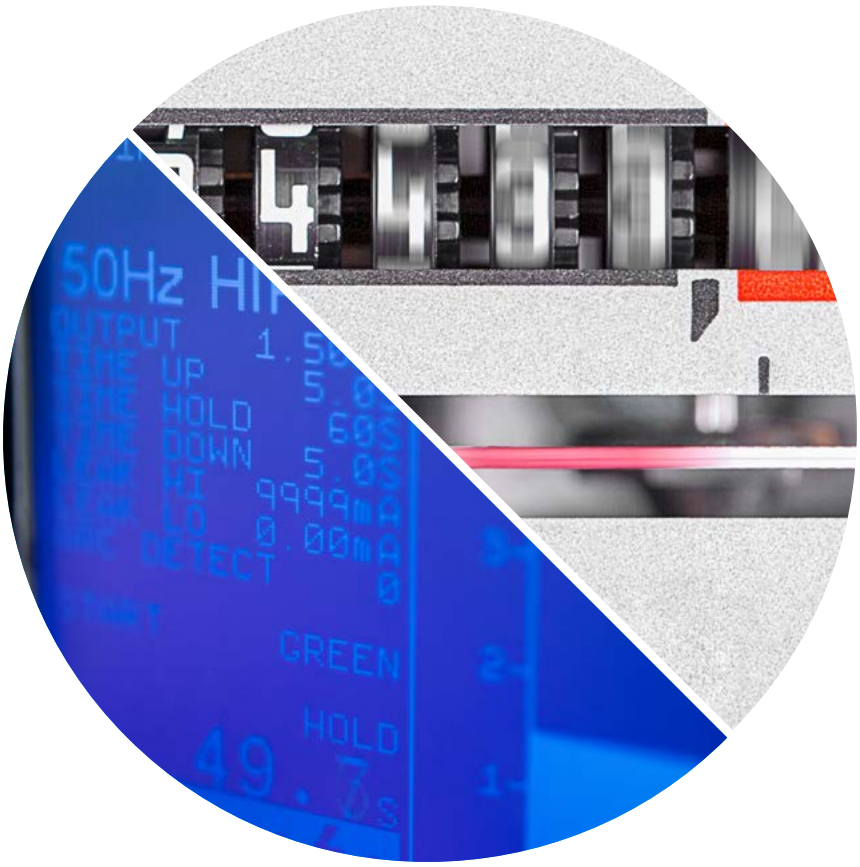
In addition, organizations need to ensure that all people doing work under the organization's control are aware of the energy policy, how their work may impact this and implications of not conforming to the EnMS. There are also the requirements for 'documented information' which relate to the creation, updating and control of specific data.

Clause 8: Operation

This clause outlines the requirements your EnMS must meet for successful certification. Though they appear in a different clause number and sometimes in a different order, many of the concepts were included in ISO 50001:2011. Our ISO 50001 Mapping Guide can be downloaded from bsigroup.com if you'd like to better understand how the content has been restructured.

This clause covers:

- Operational planning and control
- Design
- Procurement



Clause 9: Performance Evaluation

This is all about measuring and evaluating your energy performance and energy management system to ensure that it's effective and helps you to continually improve. You will need to consider what should be measured, the methods employed and when data should be analysed and reported on. An energy data collection plan is also required (see section 6.6)

As a general recommendation, organizations should determine what information they need to evaluate energy performance and management system effectiveness.

Internal audits will need to be carried out, and there are certain "audit criteria" that are defined to ensure that the results of these audits are reported to relevant management. Finally, management reviews will need to be carried out and "documented information" of these reviews must be kept as evidence.

Clause 10: Improvement

This clause requires organizations to continually improve the suitability, adequacy, and effectiveness of the EnMS and they shall demonstrate continual energy performance.

There are some actions that are required that cover handling of corrective actions. Organizations need to react to the nonconformities and take action AND they need to identify whether similar nonconformities exist or could potentially occur. This clause requires you to determine and identify opportunities for continual improvement of EnMS.

Tips to make **ISO 50001** effective for you

Every year we have interactions with tens of thousands of clients. Here are their suggestions for maximizing your implementation and certification.

Top management commitment is key to making your EnMS effective and successful.

Keep staff informed of what's going on, create a team or assign a champion, as this will increase motivation. This could include a well communicated plan of activities and timescales.

Think about how different departments work together to avoid silos. Make sure the organization works as a team for the benefit of customers and the organization.

Review systems, policies, procedures and processes you have in place – you may already do much of what's in the standard and make it work for your business.

Speak to your customers and suppliers. They may be able to suggest improvements and give feedback on your service.

Train your staff to carry out internal audits. This can help with their understanding, but it could also provide valuable feedback on potential problems or opportunities for improvement.

And finally, when you gain certification celebrate your achievement and use the **BSI Assurance Mark** on your literature, website and promotional material.

Your **ISO 50001** Journey

Whether you're new to management systems or looking to enhance your current system, we have the right resources and training courses to help you understand and implement ISO 50001. But our support doesn't stop there. We can help make sure your EnMS delivers the best for your business.

	You need to:	We help you:
Understand and prepare	• Buy the standard and read it; understand the content, your requirements and how it will improve your business • Contact us, whether you've got year of experience with energy management systems or it's still really new, BSI can help	• Discover information on our website about the standard and sign up for webinars • Enrol in BSI's Introduction to ISO 50001 Energy Management Systems training course visit **bsigroup.com.my**
See how ready you are	• Ensure your organization understands the principles of ISO 50001 and the roles individuals will need to play, and review your activities and processes against the standard	• Enrol in BSI's Implementing ISO 50001 Energy Management Systems training course • BSI Business Improvement Software helps ISO 50001 implementation • Book a BSI gap assessment to see what modifications you might still need to make to meet all of the standard's requirements
Review and get certified	• Contact us to book your certification assessment • Ensure all the right people are available and prepared for the audit visit(s) • This generally involves more than one visit, duration will be based on the size of your organization	• Your BSI certification assessment • BSI Business Improvement Software helps you effectively manage your EnMS

Continually improve and make excellence a habit

Your journey doesn't stop with certification. We can help you to fine-tune your organization so it performs at its best.

- Celebrate and promote your success – download and use the BSI Assurance Mark to show you are certified
- BSI Business Improvement Software will help you to manage systems and drive performance
- Your BSI Client Manager will visit you regularly to make sure you remain compliant and support your continual improvement

Train with BSI

BSI is a world leader in helping clients develop the knowledge and skills they need to embed excellence in their organizations. Whether your organization is going to certify or is simply looking to implement a management system for energy use, our training can make sure the people responsible for making things happen understand all the important and relevant details.

Using the latest research, our accelerated learning approach is proven to fast-track learning and improves knowledge retention. Our experienced tutors can help you get to grips with the matters that concern you and your organization directly, whether the course is delivered in-house or as part of a public course where other delegates can share their experience.

Our courses that can help you understand, implement and successfully certify to ISO 50001 include:

Transition-specific courses

These courses are designed for organizations already certified to ISO 50001:2018 who want to make their transition to the new standard as:

- ISO 50001:2018 Transition Briefing (one day)
- ISO 50001:2018 Transition Seminar (half-day)

General Courses

These courses are suitable for people who work for organizations that are new to ISO 50001 or are transitioning from the older version to ISO 50001:2015:

- ISO 50001:2018 Senior Management Briefing (half-day)
- ISO 50001:2018 Requirements (one day)
- ISO 50001:2018 Implementing (two days)
- ISO 50001:2018 Internal Auditing (two days)
- ISO 50001:2018 Lead Auditor (five days)

CQI and IRCA-certified ISO 50001:2018 courses:

- ISO 50001:2018 Auditor Transition (two days)
- ISO 50001:2018 Lead Auditor (five days)

Visit **bsigroup.com.my** to learn more about the availability and timing of our energy management-related training opportunities.

BSI Business Improvement Software

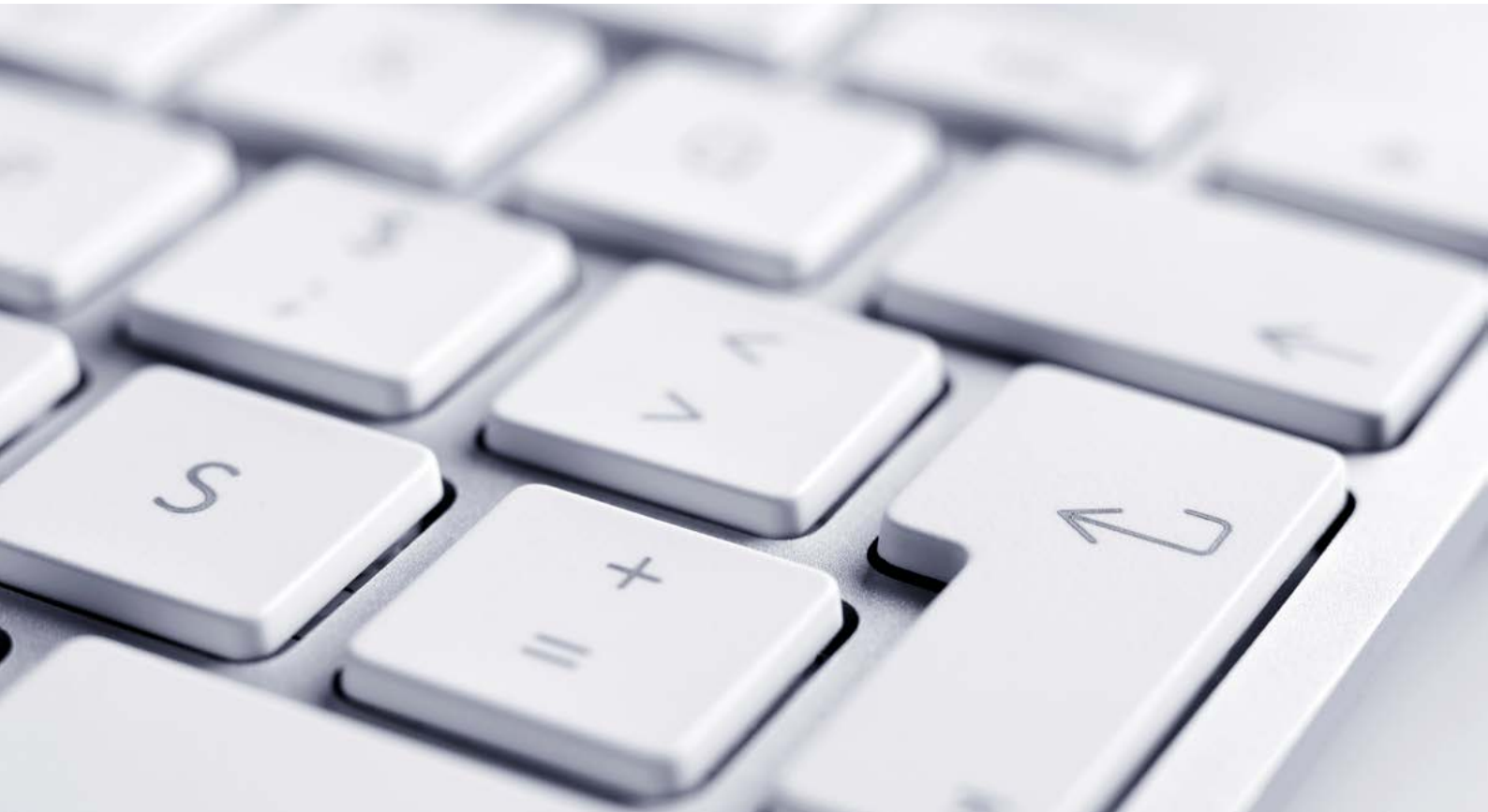
Accelerate implementation time and deliver continual improvements

The decision to implement the new ISO 50001 management system standard is a huge opportunity to drive business improvement; but initiating, implementing, and maintaining this can also be a challenge. Ensuring you get the most from your investment is a key driver to your future success. BSI Business Improvement Software provides a solution that can significantly reduce the cost and effort to an effective management system such as ISO 50001. It can be configured to the requirements of ISO 50001 and provide your organization with the tools necessary to manage essential elements of ISO 50001. The start of your ISO 50001 journey is an ideal time to implement BSI Business Improvement Software to support your management system.

It can help you to:

- Accelerate implementation time by up to 50%
- Effectively manage your document control
- Provide company-wide visibility on the status of your implementation of the standard so you know exactly where you are at any one time
- Easily and accurately input actions related to audits, incidents/events, risk and performance
- Have insight into trends that help you make business decisions early on and drive improvement through its customizable dashboards and reporting tools

The savings are the costs you avoid because you weren't able to see what was happening at the facility level.



Why BSI?

By Royal Charter

ISO 50001 Energy Management

"BSI is our supplier of choice. We have a good relationship with our contacts there, who keep in touch regularly so that we're informed about new standards, changes to existing standards or to legislation, and other developments. We're not interested in doing it on the cheap – it's about the all-round package, and you get what you pay for with BSI."

Denise Graham, Technical Manager, Tata Global Beverages

About BSI

BSI is the business improvement company that enables organizations to turn standards of best practice into habits of excellence. For over a century BSI has championed what good looks like and driven best practice in organizations around the world. Working with over 86,000 clients across 193 countries, it is a truly international business with skills and experience across a number of sectors including automotive, aerospace, built environment, food, and healthcare. Through its expertise in Standards Development and Knowledge Solutions, Assurance and Professional Services, BSI improves business performance to help clients grow sustainably, manage risk and ultimately be more resilient.

To learn more, please visit: bsigroup.com.my

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