



BUSINESS ASSURANCE

VIEWPOINT REPORT

Saving energy today for a brighter tomorrow

JUNE 2015



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FOREWORD

According to the World Energy Outlook by the International Energy Agency¹, world primary energy demand will be 37% higher in 2040, putting more pressure on the global energy system. This pressure would be even greater without efficiency measures that play an important role in keeping under control the global demand growth.

We rely on energy throughout our day to heat and light our homes, power our computers and equipment at work, and fuel our cars and trucks to get where we need to be. Our lives, and indeed our entire economies, rely on the use of energy. Over time, our use of energy has increased significantly.

Therefore, an efficient management of energy is not only important but also needed. This is especially true of companies, since energy consumption has become a key metric for them: saving energy is saving operational costs.

Moreover, managing energy efficiently doesn't simply mean cutting costs; it opens the way towards competitive advantage and offers new business opportunities, as was recently highlighted also by The Global Opportunity Report 2015.²

INTRODUCTION

The global certification leader DNV GL - Business Assurance, supported by the international research institute GFK Eurisko, has investigated how companies in different sectors in Europe, North America, South America and Asia deal with energy efficiency.

The survey was conducted in April 2015 and investigated companies' approach to energy efficiency, the main drivers and the main obstacles to sustainable energy management, together with the initiatives implemented by DNV GL - Business Assurance customers.

The survey of 1,557 professionals from the primary, secondary and tertiary sectors³ highlights that energy efficiency is undeniably a key topic: not only at a personal and societal level but from a business perspective too. It is undoubtedly something companies are working at, even adopting ad hoc strategies and setting goals.

However, progress has just started and companies are far away from a mature management of energy efficiency issues. Energy efficiency is an ambition, rather than a condition applying to all organizational levels of the business. Firms are mainly focussing on reduction of costs and consumption - which is already good in itself - but they lack a strategic, well-rounded approach that would make the difference.

In this context, a group of companies (hereinafter "leaders") is a step ahead and can act as a model for all other players interested in managing energy in an efficient way, with all the returns going with it.⁴

¹ World Energy Outlook 2014, IEA (International Energy Agency).

² The Global Opportunity Report 2015 is realized by the Scandinavian think tank Monday Morning Global Institute, the Norwegian certification group DNV GL and UN Global Compact.

³ Primary: i.e. agriculture; secondary: i.e. manufacturing; tertiary: i.e. service, transportation.

⁴ The Leaders' characteristics are reported in the text boxes throughout the report and summarized in the final section "Profiling the leaders".

METHODOLOGY AND SURVEY SAMPLE

- The survey was conducted in April 2015. It involved 1,557 professionals who work at companies in the primary, secondary and tertiary sectors across different industries in Europe, North America, Central & South America and Asia.
- The sample consists of DNV GL's customers and is not statistically representative of worldwide companies.
- 18 % of companies belong to energy intensive sectors.
Energy intensive companies belong to the following sectors: mining and quarrying; electricity, gas and water supply; manufacturing of wood and of products of wood and cork, except furniture;

manufacturing of articles of straw and plaiting materials; manufacturing of pulp, paper and paper products; publishing, printing and reproduction of recorded media; manufacturing of coke, refined petroleum products and nuclear fuel; manufacturing of chemicals and chemical products; manufacturing of rubber and plastic products; manufacturing of other non-metallic mineral products; manufacturing of basic metals; recycling.

- The sample includes 67 companies defined as "leaders".
The classification of a company in the leaders' category is based on the satisfaction of a group of set requisites specifically defined by DNV GL.
- The questionnaire was administered using the CAWI (Computer Assisted Web Interviewing) methodology.



ENERGY EFFICIENCY

THE BASIC REQUISITES FOR BEING A LEADER

- Having an energy efficiency strategy.
- Setting measurable goals on energy efficiency.
- Setting Reduction goals at
 - Company level
 - Facility level
 - Area level
- Having invested in energy efficiency initiatives in the last 3 years.
- Quantifying the amount of energy savings from these initiatives.
- Being able to rate the overall cost/benefit ratio of the actions undertaken.

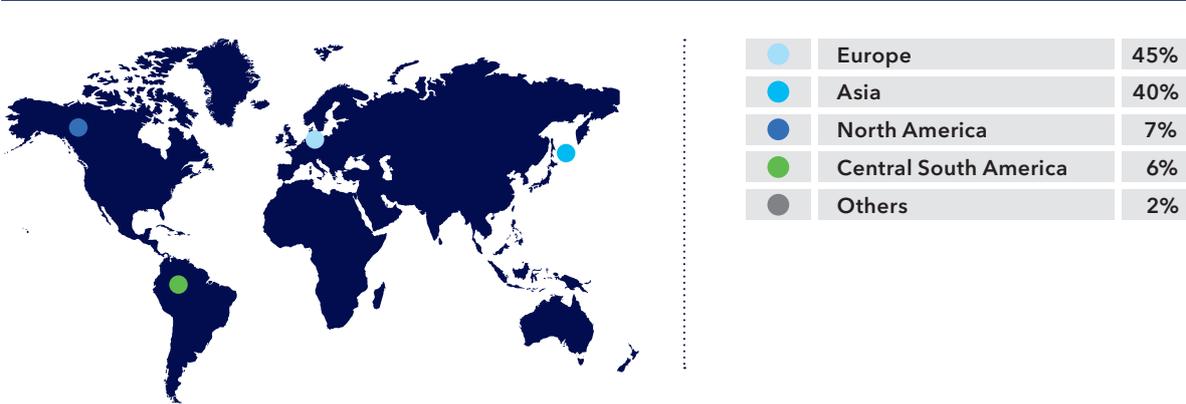


Figure 1: Companies in the sample. Geographies

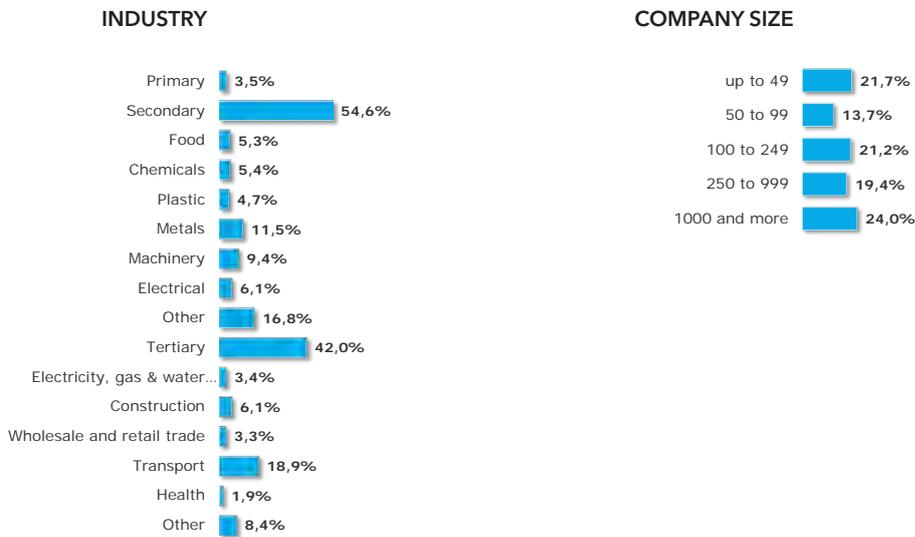


Figure 2: Companies in the sample. Industries and sizes (n° of employees)

NOTES TO THE READER

- In the graphs contained herein, red circles highlight data significantly below average. Green circles highlight data significantly above average.
- Graphics in figures from 1 to 9 and 11, 14, 15 and 19 refer to single answer questions, with answers adding up to 100%. All other graphs refer to questions with multiple-choice answers.
- All the graphs below report the scores obtained by the total of respondents, by respondents in different regions, by companies belonging to energy intensive sectors and by leaders (with the exception of figures 3, 4, 5, 7, 20).
- For the reader's convenience, the word "average" has been used throughout the text to indicate the scores obtained by all respondents.

CURRENT SCENARIO

THE IMPORTANCE OF ENERGY EFFICIENCY

From a personal and societal perspective

Energy efficiency is perceived as a question of crucial importance either at personal or at societal level: professionals interviewed consider it might impact "their daily life" (77%), "their country" (81%) and "the world as a whole" (79%).

There are some geographical differences. North Americans care above average (84%) for the

influence on their everyday life. Central and South Americans stand out with below average rates when it comes to social issues: only 59% see energy efficiency as an issue affecting their country and even fewer - 55% - the global society. This is probably because the region is not experiencing energy problems for the time being but it does not necessarily mean that management fully respects environmental and societal surroundings. What is certain is that Latin Americans do not feel directly threatened by energy issues, as emerged from a recent DNV GL study⁵ on water questions.

TO WHAT EXTENT DO YOU SEE ENERGY EFFICIENCY AS AN ISSUE IN YOUR DAILY LIFE?

Figure 3: Energy efficiency as an issue in daily life



⁵ "Is Water the next carbon", survey managed by DNV GL - Business Assurance and GFK Eurisko, December 2014. <https://www.dnvgl.com/assurance/viewpoint/viewpoint-surveys/ViewPoint-Winter-2015-water-the-next-carbon.html>

TO WHAT EXTENT DO YOU PERCEIVE ENERGY EFFICIENCY AS AN ISSUE TO YOUR COUNTRY?

Figure 4: Energy efficiency as an issue for one's country



TO WHAT EXTENT DO YOU SEE ENERGY EFFICIENCY AS AN ISSUE TO THE GLOBAL SOCIETY?

Figure 5: Energy efficiency as a global issue



From a business perspective

Energy efficiency plays an important role also from a business perspective. It is relevant for the strategies of 69% of companies surveyed (percentages reach 79% among firms belonging to energy intensive sectors).

For North American companies and Asians, the percentage rises to 73%. Europeans (66%) follow, while Central-South Americans are at the bottom of the list (61%).

However, confidence with the topic is still low. On a scale from 1 to 5 (from "beginner" level to

"cutting-edge" level) that measures maturity in managing energy efficiently, about 1 in 3 rated their companies as advanced (level 4 and 5).

87%

of LEADERS consider energy efficiency issues to be relevant for their business strategies.

TO WHAT EXTENT ARE ENERGY EFFICIENCY ISSUES RELEVANT TO YOUR COMPANY OVERALL BUSINESS STRATEGY?

Figure 6: Relevance of energy efficiency for business strategies



WHERE WOULD YOU POSITION YOUR COMPANY ON A 5 POINT MATURITY SCALE FOR ENERGY EFFICIENCY, WHERE 1 IS BEGINNER AND 5 IS LEADER?

Figure 7: Maturity scale for efficient energy management



STRATEGIES AND GOALS FOR ENERGY EFFICIENCY

Energy efficiency is undoubtedly something companies are working at: 57% of them have an energy efficiency strategy and 55% set measurable goals. Percentages are around 10 points higher for companies belonging to energy intensive sectors.

With percentages around 60% for either strategies or goals, Europeans and Asians are the most committed. This is not surprising; energy regulation is particularly strict in the old continent and

costs are high, while in Asia, especially in China and Japan, energy efficiency is a priority due to the environmental problems. In India, as well, the energy situation is challenging because of the many shortages they experience.

LEADERS set strategies and specific goals for energy efficiency.

Despite a high sensitivity, North Americans record below average rates when it comes to turning generic concern into business strategies (49%) or into quantifiable targets (45%). With only 41% adopting energy efficiency strategies and 41% setting measurable goals, Central South Americans are once again the ones who pay least attention to the topic.

Companies are still very far from a holistic approach. Energy efficiency is a generic ambition, rather than a reality. Goals are mainly set at company level (37%). Relatively few set targets at facility level (22%), area level - such as production line or building - (14%) or equipment level (10%).

Rates for companies belonging to energy intensive sectors are slightly higher but their conduct does not vary a lot from the average, though it

certainly should do. When the usage of energy is high, setting reduction goals is a must.

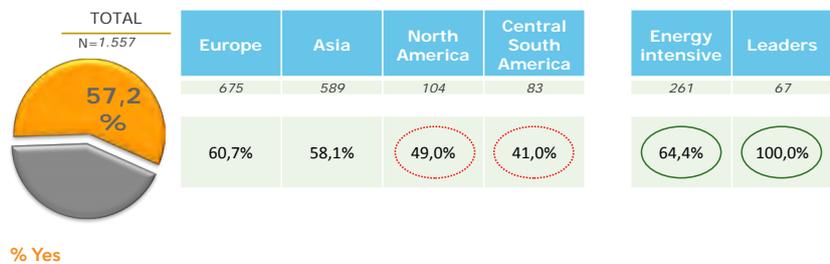
Central-South Americans stand out again with below average percentages, confirming the lack of familiarity with energy efficiency issues.



LEADERS set goals at company, facility and area level. They tend towards a well-rounded approach; in fact, 75% set targets also at equipment level.

DOES YOUR COMPANY HAVE AN ENERGY EFFICIENCY STRATEGY?

Figure 8: Adoption of strategies for energy efficiency



DOES YOUR COMPANY HAVE MEASURABLE GOALS ON ENERGY EFFICIENCY?

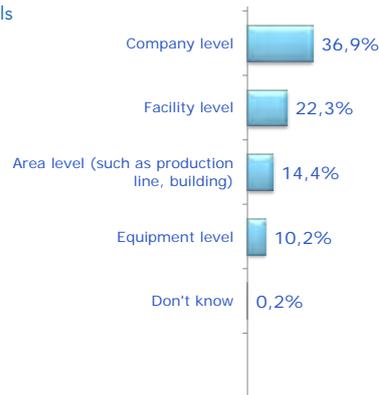
Figure 9: Goals on energy efficiency



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ON WHICH LEVEL DOES YOUR COMPANY SET ENERGY REDUCTION GOALS? (Multiple responses)

Figure 10: Level of goals



	Europe 675	Asia 589	North America 104	Central South America 83	TOTAL N=7.557	
					Energy intensive 261	Leaders 67
	40,0%	38,2%	26,0%	28,9%	45,2%	100,0%
	23,9%	21,6%	27,9%	8,4%	27,2%	100,0%
	14,7%	15,6%	11,5%	13,3%	21,1%	100,0%
	13,0%	9,0%	6,7%	4,8%	12,6%	74,6%
	0,0%	0,3%	0,0%	0,0%	0,0%	0,0%

KEY INITIATIVES UNDERTAKEN

67% of world companies invested in energy efficiency initiatives in the last three years, with Europeans among the most active ones (72%).

Costs are driving sustainability: 46% invested either in more efficient devices or in reducing energy consumption and costs. Companies are making concrete efforts to optimize their projects and look for short-term opportunities but they seem to be lacking a clear conception and a long-term view. Only 26% prepared an energy management plan. More sophisticated initiatives such as training the staff (21%), establishing energy managers (20%), performing audit and assessments (20%) or using benchmark data (17%) play a minority role.

Analyzing activities implemented according to a PLAN - DO - CHECK - ACT⁶ approach, it turns out that the most common actions are mainly limited to the DO phase.



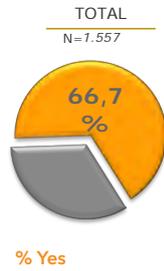
LEADERS invested in energy efficiency initiatives in the last 3 years. They record higher rates for all actions: for cost related initiatives but also for the ones that are more sophisticated.

72% of them prepare energy plans and, differently from what happens at a general level, most of them carry out training activities and use benchmark data too. More than 1 in 2 also have an energy manager and perform audits and assessments.

⁶ PDCA (plan-do-check-act) is a four-step management method used in business for the control and continuous improvement of processes and products. The PLAN phase starts off by analysing which are the most significant aspects for the organisation and understanding why. This is a critical first step before deciding how to manage them. The DO phase focuses on raising awareness in the organisation and taking action in the chosen areas. The CHECK phase monitors the impact of the activities undertaken and evaluate progress. In the ACT phase, the approach gets reviewed and updated before going ahead again with the cycle.

HAS YOUR COMPANY INVESTED IN ENERGY EFFICIENCY INITIATIVES IN THE LAST 3 YEARS?

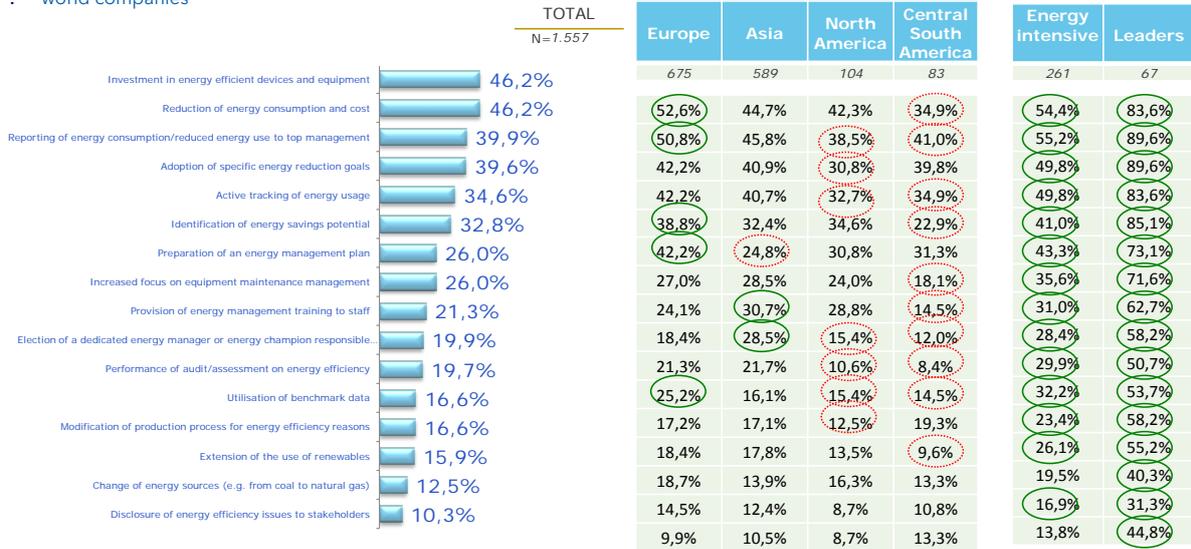
Figure 11: Investments in energy efficiency initiatives in the last 3 years



Europe	Asia	North America	Central South America	Energy intensive	Leaders
675	589	104	83	261	67
72,0%	64,5%	58,7%	63,9%	75,5%	100,0%

WHICH OF THE FOLLOWING INITIATIVES REGARDING ENERGY EFFICIENCY HAS YOUR COMPANY UNDERTAKEN? (Multiple responses)

Figure 12: Energy efficiency initiatives undertaken by world companies



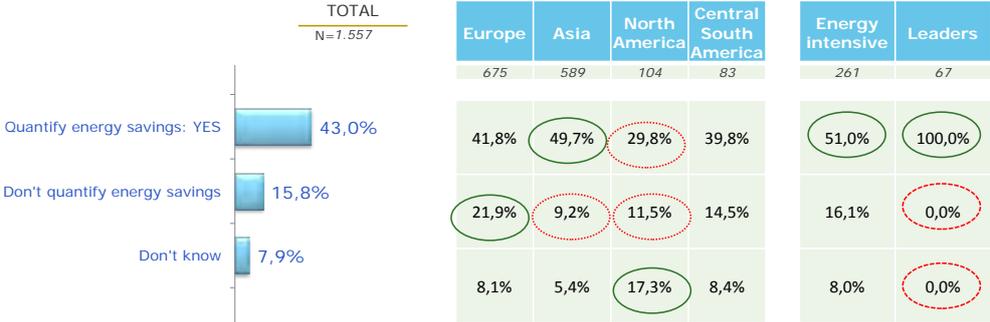
The improvement of energy management has just started and companies are still lacking a structured approach. Only 43% of the companies surveyed are able to quantify the energy savings from energy efficiency initiatives. Numbers are just slightly bigger (1 in 2) for energy intensive firms.



LEADERS are able to quantify the energy savings obtained.

HAS YOUR COMPANY SPECIFICALLY QUANTIFIED THE AMOUNT OF ENERGY SAVINGS FROM THESE INITIATIVES?

Figure 13: Quantification of energy savings





ISO 50001

AN OVERVIEW OF ISO 50001 - ENERGY MANAGEMENT SYSTEM

Energy management standards were first implemented in the United States in the year 2000 and since then have been implemented in many countries. The image below summarizes the brief history of energy management standards, culminating with the first international standard ISO 50001 in 2011.



ISO 50001 supports organizations in all sectors to use energy more efficiently, through the development of an energy management system. ISO 50001 provides a framework of requirements for organizations to:

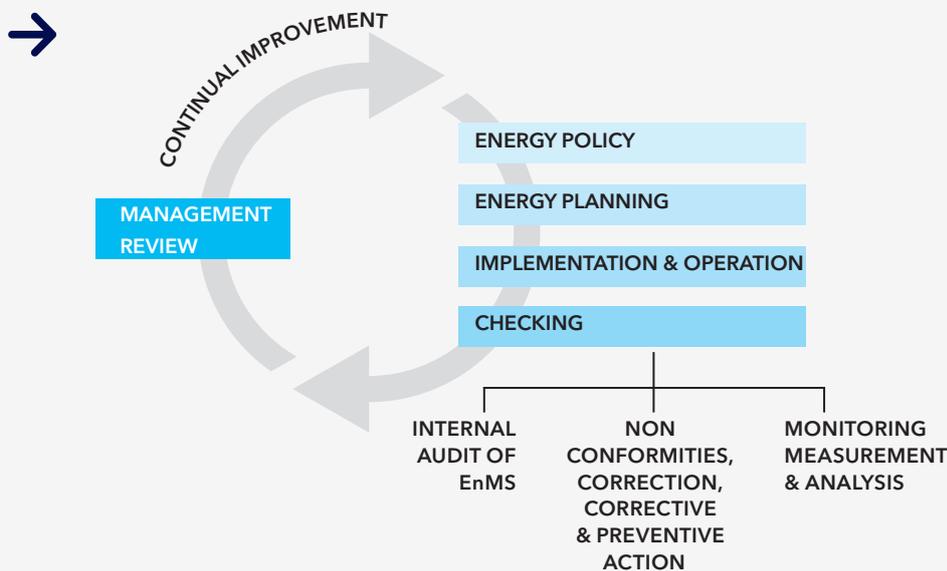
- Develop a policy for more efficient use of energy
- Set targets and objectives to meet the policy
- Use data for better understanding and decision making on energy use
- Measure the results
- Review how well the policy works, and
- Continually improve energy management

With the arrival of ISO 50001:2011 the certification of energy management systems really started on a global scale. According to the official ISO survey 2013, up to the end of December 2013, at least 4,826 ISO 50001:2011 certificates had been issued. A growth of 116 % (+2,590), with

certificates issued in 78 countries and economies, 18 more than in the previous year. The top three countries for the total number of certificates and growth in number of certificates in 2013 were Germany, the UK and Italy.

What, then, are the typical challenges companies or organizations might face when implementing energy management systems according to ISO 50001? We can quickly have an idea by checking our database and analysing the non-conformances (findings) registered. The top 3 clauses where DNV GL auditors found non-conformances compared to the requirements are:

- 4.4.3 Energy Review
- 4.4.6 Energy objectives
- 4.6.1 Monitoring, measurement and analysis.



4.4.3 Energy Review

The Energy Review is the analytical part of the energy planning process of an EnMs¹. Energy Planning provides the foundation for developing an EnMs that is based on the understanding of an organization's energy performance. The quality of the energy review is influenced by the availability, quality and analysis of the data collected.

- Analysing the findings, it is clear that there is a general lack of understanding and awareness on how to conduct energy reviews. The very concept of the Energy Review was misinterpreted in many cases.

4.4.6 Energy objectives, energy targets and energy management action plans.

Setting objectives and targets allow energy policies to be transformed into actions. The outputs from the Energy Review are used for defining either objectives, or targets. Systematic action planning and investment of sufficient resources are the basic elements for achieving set objectives and targets.

- Among the findings related to this requirement, lack of awareness and lack of understanding were frequently found as causes. Moreover, it is clear that in many cases

companies experience difficulties in defining methods for verifying the improvements obtained in their energy performance after implementing specific actions.

4.6.1 Monitoring, measurement and analysis

The purpose of monitoring, measurement and analysis is to obtain and to analyse data in order to determine whether energy performance is improving and how much, in addition to checking if operational control is being maintained. An energy measurement plan should be the outcome of the energy planning process to ensure that the EnPI's², other energy performance measures and critical parameters necessary for effective operations or maintenance are systematically measured. (ISO 50004 4.6.1)

- The findings relating to this requirement are typically linked to missing/insufficient measurement plans, clarity about what to measure and missing records. A significant amount of organisations don't have a clear view on the cost – benefit ratio when it comes to energy efficiency efforts.

¹ EnMs stands for Energy Management System

² EnPI stands for Energy Performance Indicator





IT ALL STARTS WITH MEASUREMENT. CLIMATE CHANGE AND ENERGY EFFICIENCY, THE EU EXAMPLE

Cop 21 is getting close. At the end of November, the twenty-first annual Conference Of the Parties - the organ of the United Nations Framework Convention on Climate Change (UNFCCC) - is taking place in Paris, with world countries' representatives negotiating to try to contain and reduce CO2 emissions into the atmosphere and thus counteract global warming and climate change. From this meeting, the adoption of a new global agreement is expected. It will affect all countries of the international community: the industrialized ones, already working to control the current concentration of Co2 in the atmosphere - such as US and EU - and emerging or developing countries, which have considerably increased their emissions in recent years, such as China and India. EU is at the forefront of these international negotiations, pressing for an agreement that is comprehensive and ambitious. After all, EU has always been ambitious with its own objectives too.

Preventing dangerous climate change is a key priority for the European Union. Europe is working hard to reduce its greenhouse gas emissions with the intention to cut most of them (by 80-95%, compared to 1990 levels) by 2050. Moreover, EU has set three key objectives also for the short term. They are known as the "20-20-20" targets (raising the share of EU energy consumption produced from renewable resources to 20%; 20% improvement in the EU's energy efficiency and 20% reduction in EU greenhouse gas emissions from 1990 levels) and EU aims to reach

them thanks to a combination of regulations and financial support for specific initiatives.

Energy efficiency will be a key driver of the transition. EU took two major steps towards this purpose with the 2011 Energy Efficiency Plan, including several measures and initiatives, and with the 2012 Energy Efficiency Directive, establishing a set of binding measures which single countries were required to transpose at national level.

Among the aspects highlighted by the Directive, measurement turns out as an essential step for energy efficiency. Single countries have to ensure at national level incentives for SMEs to undergo energy audits and make it mandatory for large companies to carry out audits of their energy consumption so that they can identify ways to reduce it, in addition to establishing common criteria for energy audits (Directive 2012/27/EU, Article 8).

Energy audits are an essential tool to achieve energy savings. They are systematic procedures to assess energy consumptions and identify the whole range of opportunities to obtain savings, allowing also the identification and prioritization or ranking of opportunities for improvement. An energy audit may result in a technical recommendation, for example for the insulation of the piping in a factory, but also in suggestions for the optimization of operating procedures, control parameters, or logistic and layout setups.

The resonance that EU, at the forefront for these topics, gives to measurement also from a legislative point of view should act as an immediate warning for companies of the importance of approaching energy efficiency questions in a structured way. Adopting an energy management system is certainly the best solution. It requires enterprises to carry out detailed energy review processes, which also result in the systematic identification and reporting of energy saving opportunities.

MAIN REASONS FOR UNDERTAKING ENERGY EFFICIENCY INITIATIVES

Savings are the main driver for companies to undertake energy efficiency initiatives (55%). Internal policies (37%) and the possibility to gain competitive advantage or improve brand reputation (30%) follow, with a relevant gap. With above average rates for the top three reasons, Europeans once again demonstrate the highest sensitivity to the topic; Northern and Latin Americans the lowest.

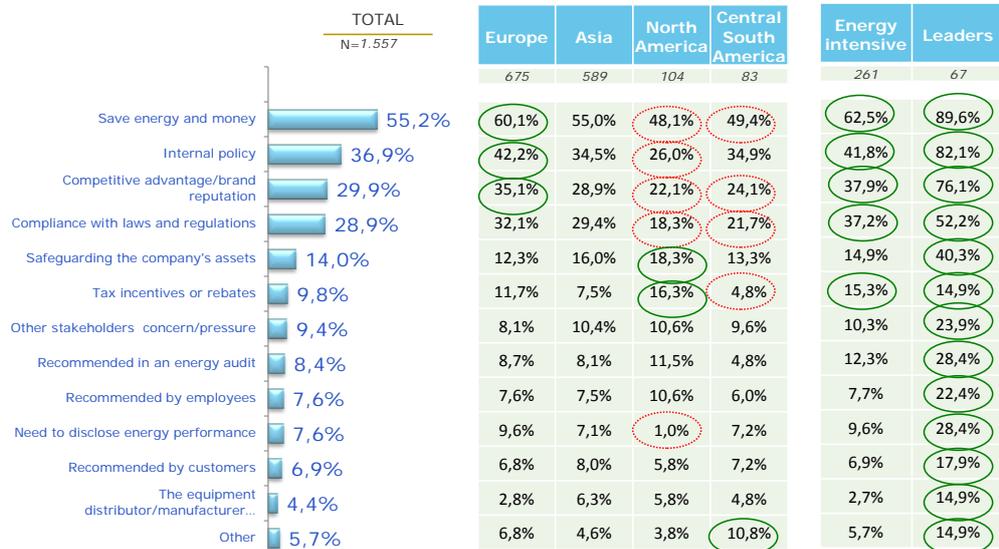
Compliance with laws and regulations (29%) is reason number four but, apart from that, there are no external pressures for energy efficiency. Companies do not seem to be particularly pushed by stakeholders (10%) and customers (7%).



Intensity is higher but ranking is the same. Savings (90%), internal policies (82%) and competitive advantage (76%) are the top three reasons for LEADERS too. However, they are motivated by the intention of safeguarding company assets in a proportion well above average (40%). Moreover, pressures from stakeholders and from customers are weighed more than twice the average.

WHAT ARE THE REASONS THAT LED YOUR COMPANY TO UNDERTAKE ENERGY EFFICIENCY ACTIONS? (Multiple responses)

Figure 14: Reasons driving companies to undertake energy efficiency initiatives









ENERGY EFFICIENCY AS COMPETITIVE ADVANTAGE

When our respondents were asked to state the reason for undertaking energy efficiency measures, two of the top three reasons were to save energy and money (55%) and competitive advantage/brand reputation (30%). Having a comprehensive understanding of the energy source, means of use, quantity and related cost is necessary in order to properly manage the key variable that energy consumption is. Properly handled, you save costs without reducing performance or convenience. But a company's approach to energy efficiency will often have consequences further down the supply chain.

Energy consumption has become a key factor in purchasing decisions for both businesses and consumers. For some end products, energy efficiency can be a deal breaker in itself, for instance the fuel consumption of a car or the heating costs of a house. But even if energy is not a key input factor in order to use the product, customers are increasingly considering a product's origin and its footprint regardless of industry. Has the product been manufactured in a responsible and sustainable way? Will I live well with my decision if I engage with this company and its products? Customers, employees, suppliers and partners increasingly expect businesses to act responsibly.

In a previous survey conducted in July 2014 among 2061 professionals worldwide¹, 96% of the respondents said they considered sustainability aspects when choosing a supplier or making buying decisions. 80% of them had also experienced pressure to demonstrate sustainability in their supply chains. Customers were the biggest group of stakeholders pushing for sustainability, indicated by nearly 80% of the respondents. Authorities (33%) and corporate policies (30%) followed next. Of the key initiatives undertaken to improve sustainability, energy use was one of the top four reasons, noted by 42% of the respondents. The frontrunners in the survey recognized that in order to excel and truly reap the benefits of their actions, they not only needed to make sustainable choices, but also communicate them properly to the market through external communication and CSR reporting.

The way energy is consumed, both in the production processes and in the use of an end product itself, is a key variable with a potential that should be fully harnessed. Considering the market trends and the shifting political winds on energy use, the greenest companies will have a significant competitive advantage in the coming years.

¹"Is your supply chain fit for the future?" survey managed by DNV GL - Business Assurance and GfK Eurisko, July 2014. <https://www.dnvgl.com/assurance/viewpoint/viewpoint-surveys/is-your-supply-chain-fit-for-the-future.html>

MAIN BENEFITS

For 59% of companies, benefits are certainly greater than costs.

In line with reasons why, they profited especially in terms of savings (54%), especially Europeans (61%). Although in an inferior measure, firms benefited also in terms of achievement of compliance with laws and regulations (28%) and increase in competitive advantage (24%). Demonstrating an encouraging level of awareness, 14% also reported a decrease of environmental accidents among positive side effects.

The less satisfied ones? Northern and Central-South Americans.



LEADERS profited much more than others did, either in terms of savings (87%) or of all other advantages. Competitive advantage and enhancement of brand reputation together with the decrease of environmental accidents were reported in a particularly significant proportion.

75% state that benefits are greater than costs: we might assume that the benefits they pursue aren't strictly finance-related.

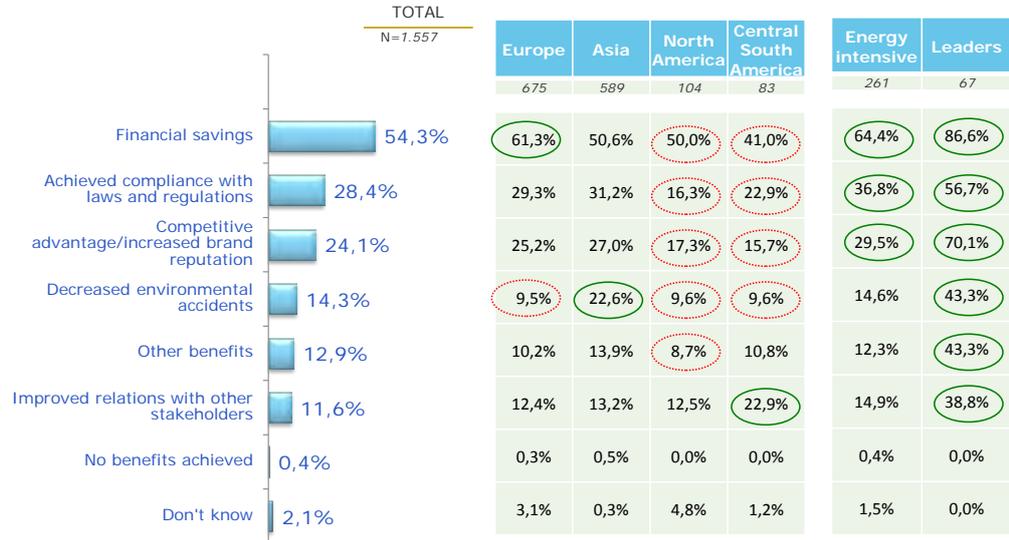
HOW DO YOU RATE THE OVERALL COST/BENEFIT RATIO FOR THE ACTIONS YOUR COMPANY HAS UNDERTAKEN?

Figure 15: Costs and benefits ratio



WHAT BENEFITS DID YOUR COMPANY ACHIEVE FROM THE ACTIONS UNDERTAKEN? (Multiple responses)

Figure 16: Benefits from energy efficiency initiatives







REDUCING ENVIRONMENTAL RISK THROUGH ENERGY EFFICIENCY

Energy efficiency has a range of benefits. Being able to provide the same level of service or perform the same quality of operation with a reduced intake of energy has of course a positive impact on your costs. Less energy consumed is also good for the environment. But energy efficiency can also play a key role in your risk management. 14% of the respondents in our survey state that their energy efficiency measures have led to a decrease in the number of environmental accidents¹.

A previous ViewPoint survey conducted in March 2014 which focused on environmental management identified the use of non-renewable energy sources as one of the top five environmental risks companies faced, emphasized by 30% of the companies surveyed. The concern was greatest for large companies with more than 250 employees (38%) and especially for European companies (38%).

Diminishing dependence on fossil sources like coal, oil and gas minimizes the risk for environmental accidents along the entire supply chain – from extraction and refining to transportation and ultimately where it is consumed. Replacing it with a renewable source

– be it from wind, solar, geothermal, wave, tidal, or hydro power – reduces the short term risk of accidents and damage to life, property and environment.

It also reduces long term risks since fossil sources are more exposed to future regulations from authorities. The European Union is committed to reducing greenhouse gas emissions by at least 80 per cent below 1990 levels by 2050. This will require a massive decarbonisation and a new approach towards energy consumption. Governments in other world regions are also posing stricter regulations on fossil sources and encouraging greener alternatives.

Proactive companies that invest in energy-efficient measures and greener sources are not only saying yes to a smarter use of energy today, contributing to the bottom line and reducing risks. They also have a more sustainable platform for operating their business in the future, reducing the risk of business disruptions from new regulations or loss of market share due to new customer demands.

¹ "Do companies care about our Environment?", survey managed by DNV GL – Business Assurance and GfK Eurisko, March 2014. <https://www.dnvgl.com/assurance/viewpoint/viewpoint-surveys/do-companies-care-about-environment.html>

MAIN OBSTACLES

Factors preventing companies from making more progress in energy efficiency relate to the lack of resources and economic constraints. Other priorities (36%), too expensive implementation and maintenance (33%), lack of return on investments (25%) and focus on short term results (24%), top the list.

It is not a problem of management awareness (18%) or of lack of staff skills (13%) but of how the issue is managed from a technical point of view. A systematic approach to energy efficiency would help firms to make the right investments and, most of all, to get the right returns out of them.

Asians, for instance, might have the resources (the distraction of resources due to other priorities is a problem only to less than 1 in 4) but they can't see the return (29%) and find implementation and maintenance too expensive (40%).



Costs are the main obstacle for LEADERS too but 21% do not see any barrier to making progress in managing energy efficiency.

WHAT FACTORS PREVENTED YOUR COMPANY FROM MAKING MORE PROGRESS IN ENERGY EFFICIENCY? (Multiple responses)

Figure 17: Obstacles to progress in managing energy issues



	Europe	Asia	North America	Central South America	Energy intensive	Leaders
	675	589	104	83	261	67
Other priorities demand resources	44,7%	23,4%	51,0%	47,0%	39,8%	35,8%
Implementation and maintenance is too expensive	28,7%	39,7%	29,8%	25,3%	37,2%	31,3%
Lack of return on investment	24,0%	29,0%	21,2%	12,0%	33,3%	28,4%
Focus is on short term results	22,5%	25,8%	14,4%	19,3%	24,5%	25,4%
Lack of management awareness	20,3%	14,4%	16,3%	25,3%	16,5%	11,9%
Too complex process/ production changes	14,4%	16,6%	7,7%	8,4%	15,3%	23,9%
Lack of staff competences	12,4%	13,9%	8,7%	15,7%	11,5%	11,9%
Lack of consensus about what to do	9,2%	13,8%	15,4%	9,6%	13,0%	11,9%
Other	9,5%	6,8%	7,7%	9,6%	8,4%	10,4%
No barriers perceived that prevent progress	7,7%	11,0%	5,8%	15,7%	8,4%	20,9%

ACTIONS TO RAISE AWARENESS

To raise awareness of what they are doing in terms of energy efficiency, 23% of companies published information in their corporate sustainability reports or in other official documents. 17% used an externally recognized certificate, 13% made claims in marketing activities and 4% made claims directly on the product labels. 1 in 5 undertook no action, the proportion increases to 1 in 4 in Central-South America.

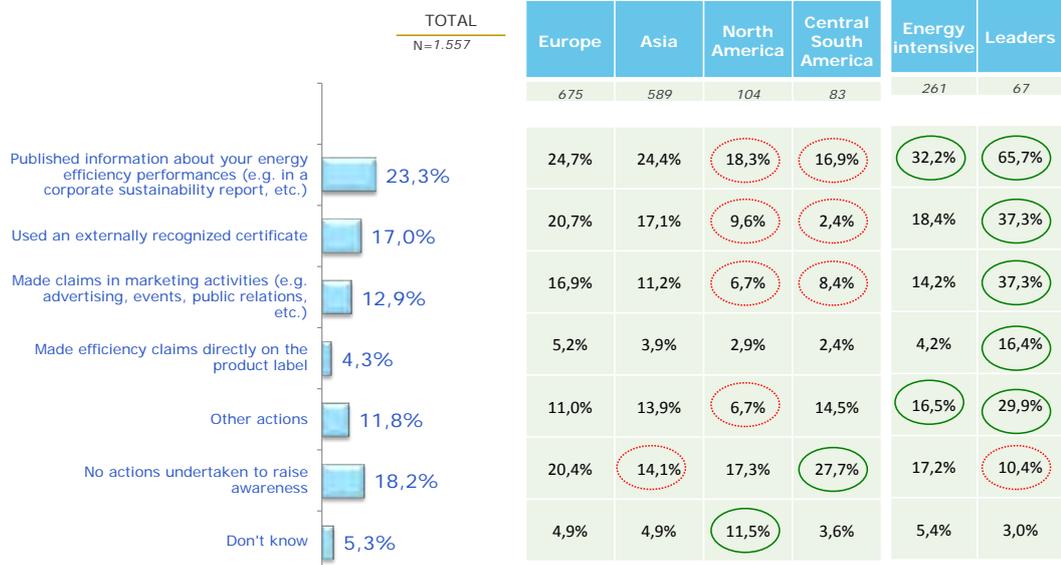


LEADERS record well above average percentages for all kinds of activities aimed at raising awareness.

In addition to concretely increasing savings, energy efficiency initiatives reinforce market performance when combined with communication initiatives, allowing companies to be recognized as sustainability players.

IN THE LAST 3 YEARS, HAVE YOU TAKEN ANY OF THE FOLLOWING ACTIONS TO RAISE AWARENESS OF WHAT YOUR COMPANY IS DOING? (Multiple responses)

Figure 18: Actions to raise awareness







WHAT IS A SUSTAINABILITY REPORT?

A sustainability report discloses companies' performances along social, environmental and economic parameters. Actually, it is also known as triple bottom line reporting. It also presents the organization's values, policies and governance model and demonstrates the link between the company's strategy and its commitment to a sustainable global economy.

Reporting can go a long way in satisfying stakeholders' demands for transparency on corporate responsibility issues. Credible communication strongly contributes to company's reputation and therefore to company's market position and value.

Sustainability reporting is also a method to internalize and improve an organization's commitment to sustainable development in a way that can be demonstrated to both internal and external stakeholders. It helps organizations to measure the impacts they cause or experience, set goals and manage change. To produce a regular sustainability report, organizations set up a reporting cycle: a program of data collection, communication, responses, etc. This way their sustainability performance is monitored on an ongoing basis and data can be regularly provided to senior decision makers, so that they can shape the organization's strategy and policies and improve performance.

Nevertheless, the nature of these reports is voluntary. Over the past few years, a debate developed around the usefulness of promoting regulations on the one hand, and groups such as trade unions and governments supporting voluntary frameworks, because of their advantages, on the other. As such, a combination of voluntary and mandatory approaches is becoming increasingly perceived as the most appropriate way forward.

An example of this increasing use of reporting is given by the "Directive 2014/95/EU on disclosure of non-financial and diversity information by certain large undertakings and groups" that amends the Accounting Directive 2013/34/EU. It is a legislative initiative with relevance for the European Economic Area (EEA). It requires companies concerned to disclose in their management report, information on policies, risks and outcomes as regards environmental matters, social and employee aspects, respect for human rights, anticorruption and bribery issues, and diversity in their board of directors. This will provide investors and other stakeholders with a more comprehensive picture of a company's performance.

The most used references for drafting sustainability reports are the guidelines of the Global Reporting Initiative (GRI)¹. They enable all organizations worldwide to assess their sustainability performance and disclose the results in a similar way to financial reporting.

¹ www.globalreporting.org

FUTURE OUTLOOK

FUTURE INVESTMENTS

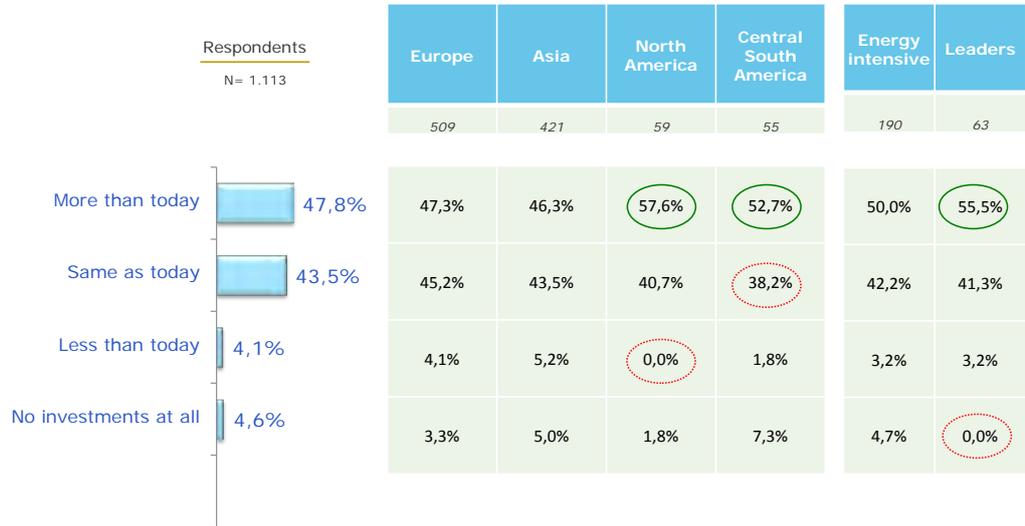
Omitting those who don't know how to answer, most firms plan to maintain or even increase investments in energy efficiency initiatives in the next three years. 48% intend to invest more than today.



More than 1 LEADER in 2 plans to increase investments.

IS YOUR COMPANY GOING TO INVEST IN ENERGY EFFICIENCY IN THE NEXT 3 YEARS?

Figure 19: Future investments



FUTURE INITIATIVES

Companies claim they will intensify their commitment for energy efficiency in the future with a more mature approach and a higher focus on measurement, planning and actions of improvement.

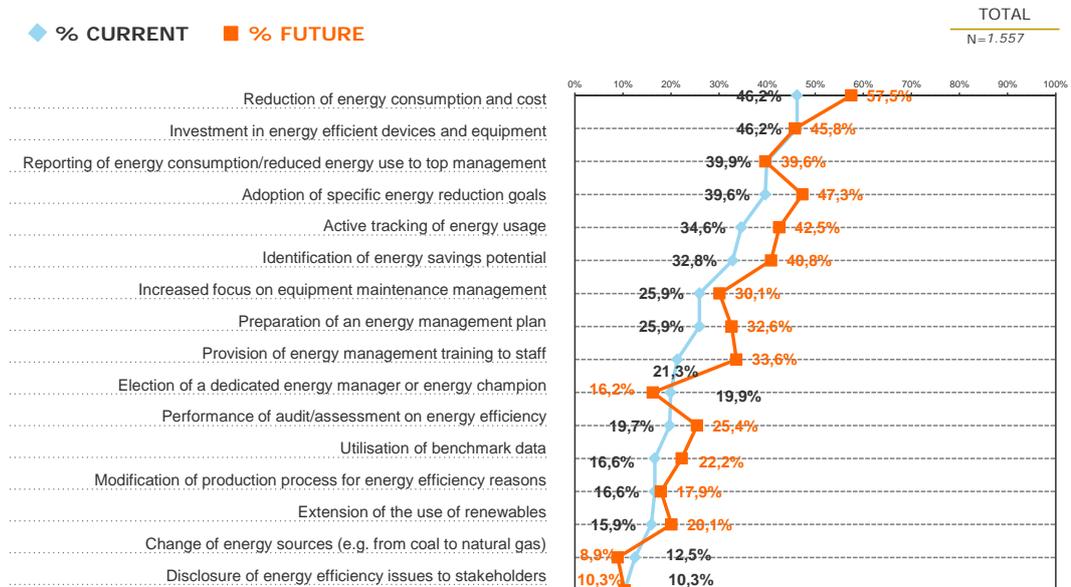
Most initiatives record increases. Activities related to costs and consumption reduction will remain the most common actions but there will be significant increases also in more strategic

actions like staff training (34%; +13% vs present), identification of energy savings potentials (41%; +8%), active tracking of energy usage (43%; +8%) and preparation of energy management plans (33%; +7%).

Training initiatives will increase all over the world, especially in North (29%; +25%) and Central-South America (44%; +22%). Asians will bet especially on the identifications of energy savings potentials (44%; +19%).

WHICH OF THE FOLLOWING INITIATIVES REGARDING ENERGY MANAGEMENT HAS YOUR COMPANY TAKEN?
WHICH OF THE FOLLOWING INITIATIVES AROUND ENERGY MANAGEMENT WILL YOUR COMPANY PROBABLY TAKE IN 3 YEARS' TIME?

Figure 20: Energy management initiatives in the future vs present



OUR FINAL THOUGHTS

Pressure for companies and organizations is particularly high nowadays, especially when it comes to environmental issues and to costs control.

Companies have to meet environmental quality standards (for example those connected to global warming and acid rain reduction), reduce costs and consumption to be competitive and, at the same time, make sure they can rely on energy supplies available without interruption and at costs that do not fluctuate too rapidly. None of these aims, essential for short-term survival and long-term success, can be met without efficient energy management.

Energy efficiency has been on the business and public agenda for many years. Nevertheless, there is still the potential to make further significant improvements. It is not a just a matter of technology and engineering. Around half of all the energy savings and improvements an organization can make can be achieved with no capital investment, simply through structural and behavioral changes or the reorganization of production processes. Implementing an energy management system according to ISO 50001 is a systematic way to leverage on this potential.

Sustainable development passes through the promotion of sustainable patterns of consumption and production. The ISO 50001 standard aims to:

- Assist organizations in improving energy efficiency, energy use and consumption;
- Create transparency and facilitate communication on the management of energy resources;
- Promote energy management best practices and behaviors;
- Assist in evaluating and prioritizing the implementation of new energy-efficient technologies;
- Provide a framework for promoting energy efficiency throughout the value chain;
- Encourage energy recovery, especially in the industrial sector;
- Facilitate energy management improvements

for greenhouse gas emission and environmental pollution reduction projects;

- Facilitate a sustainable use of primary energy sources;
- Allow integration with other organizational management systems such as environmental, and health and safety.

Basic steps to implement an effective energy management system can be easily summed up. Each company needs to:

- Analyze its situation and investigate opportunities. The involvement of senior management is fundamental at this stage. The analysis should be done either on a strategic level (to define the strategic direction in managing energy efficiency) and at operational level (to analyze what is the current energy performance). To be able to take informed decisions, it is important to carry out an initial energy review in three steps:
 - Analysis of energy use and consumption
 - On the basis of the analysis of energy use and consumption, identification of areas of significant energy use (management systems activities will have to focus on these areas)
 - Identify, prioritize and evaluate opportunities for improving energy performance
- Make a plan and develop an energy policy based on the strategic directions and the results of the analysis. The appointment of an energy manager (and of an energy team) would help: an energy manager is typically responsible for overseeing the development and implementation of the energy management system and acts as a link between senior management and the rest of the organization. Do a gap analysis (to analyze the present situation and the desired one) in order to be able to develop the energy system elements that are missing. Each organization is unique and it is important to align the energy management system with existing business priorities and systems.
- Implement the energy management system and establish a regular monitoring system for

energy performance indicators. The energy management system can be used also to spread the culture of energy efficiency to the whole organization and to empower employees for the development and implementation of initiatives that improve energy performance.

As part of energy management, energy audits should be undertaken on a regular basis and resources should be allocated where the most significant energy performance improvements can be achieved.

Moreover, the certification to the ISO 50001 standard ensures that the organization has put in place a “healthy” energy management system.

An efficient energy management system helps improve energy performance, including energy efficiency, use and consumption. A systematic management of energy using a management system approach leads to reduction in energy costs, greenhouse gas emissions and other related environmental impacts. It would certainly blaze a path for being “an energy efficiency leader”.

PROFILING THE LEADERS



LEADERS are used to dealing with energy efficiency issues and do not leave anything to chance. They plan energy management, adopting strategies and setting goals, with concrete efforts for their approach to be holistic and to include all levels of their organizations.

In addition to initiatives targeting reductions of costs and consumption, they opt for strategic actions such as the establishment of energy managers, training of the staff, performance of audit activities and use of benchmark data.

Initiatives do not end with implementation: LEADERS quantify the savings obtained and communicate what they do in terms of energy efficiency. To reap full benefits, companies have to be recognized as sustainability players by third parties.

LEADERS obtain significant benefits from energy related actions and will of course keep investing in the near future too.

LEADERS' APPROACH TO ENERGY EFFICIENCY

- 01 LEADERS consider energy efficiency issues in their business strategies.
- 02 LEADERS define strategies and set specific goals for energy efficiency.
- 03 LEADERS have a well-rounded approach: they don't set generic goals. Their view includes all organizational levels.
- 04 In addition to initiatives targeting reductions of costs and consumption, LEADERS establish energy managers, train the staff, perform audit activities and use benchmark data.
- 05 LEADERS are able to quantify the energy savings obtained from the activities they carry out.
- 06 Savings are not the only reasons motivating LEADERS to undertake energy efficiency initiatives. The intention of safeguarding company assets and pressures from stakeholders and customers motivate them.
- 07 LEADERS profit much more than others do, especially for the enhancement of brand reputation and for the decrease of environmental accidents.
- 08 LEADERS can face obstacles better than others do.
- 09 LEADERS communicate what they do in terms of energy efficiency.
- 10 LEADERS will increase their investments for energy efficiency in the future.





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