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The Future of Energy:
The UK Manufacturing
Opportunity

A report from Siemens

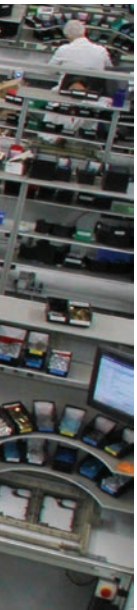
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Contents

3	Introduction
4	Key findings commentary
	Results from the sectors
8	Aerospace
9	Automotive
10	Glass & Solar
11	Food & Beverage
12	Chemicals & Pharmaceuticals
13	Metals & Aggregates
14	The Future of Energy: The UK Manufacturing Opportunity



Every business is influenced by energy. From the largest manufacturer to the smallest start up, no company is immune from the combination of rising energy costs and environmental responsibilities, as well as the significant impact regulatory compliance has on the effective day-to-day running of any organisation.

Steve Barker,
Head of Energy Efficiency & Environmental Care

Introduction

Every business is influenced by energy. From the largest manufacturer to the smallest start up, no company is immune from the combination of rising energy costs and environmental responsibilities, as well as the significant impact regulatory compliance has on the effective day-to-day running of any organisation.

Energy efficiency is rapidly becoming the 'fifth fuel' of industry – and the technologies associated with energy reduction have the ability to transform manufacturing into a clean and green sector of the UK economy.

With energy prices predicted to continue to escalate over the long-term, companies seeking to maximise efficiency and minimise use have to look at energy in a whole new light. The days of cheap energy provision are over. Energy-intensive manufacturers are being forced to reassess their relationship with one of the most critical areas of their operation.

To better understand the current state of play across the UK manufacturing landscape, Siemens has recently commissioned research to assess general attitudes, strategic planning and practical steps being taken when it comes to tackling their current and future energy requirements. 600 senior decision makers, including board directors and energy managers, within manufacturing companies were questioned on a range of energy-related topics to allow a picture to be formed of where British industry currently sits on its energy journey.

The research looked in-depth at six key manufacturing sectors to unearth the energy management story for each

market. Not only has this highlighted some great progress and examples of best practice, it also illuminates important areas where efforts need to be even more focussed. As a country we need to be more ambitious when it comes to energy management – we need to invest more in critical technologies required to radically reduce consumption so we can tackle the twin challenges of rising costs and rolling back the tide of climate change.

We hope the enclosed content is thought provoking and can act as a stimulus for those charged with energy efficiency obligations. We also hope that organisations continue to build upon the successes already achieved and remain focussed on vital areas where improvement can still be obtained.

Energy use and cost, will continue to be a key battleground for manufacturing organisations wishing to remain competitive as competition on a local, national and international stage accelerates. Energy has to be positioned near the top of the business priority list and afforded the time and resources its importance warrants. But, is this the case for the majority of manufacturers in 2014 and which sectors are leading the way? Siemens Industry's The Future of Energy: The UK Manufacturing Opportunity report has some of the answers.

Steve Barker

Head of Energy Efficiency & Environmental Care,
Siemens UK & Ireland



Key Findings commentary

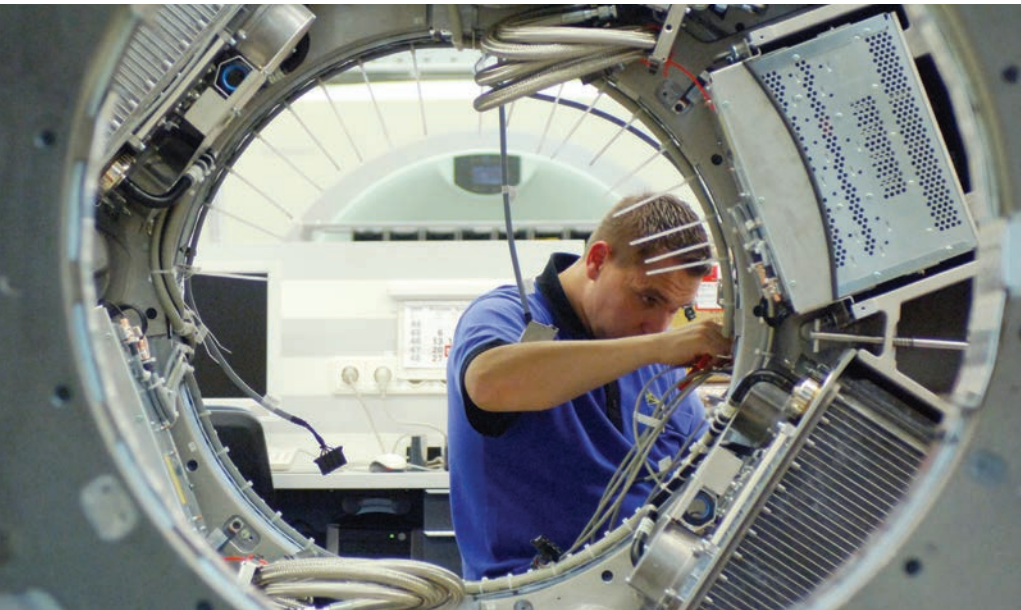
Leading from the Top?

The overwhelming majority (89%) of UK manufacturers now profess to discuss energy management at board level, with the automotive sector leading the way. Underlining its importance, 79% also agree that managing energy is now a business-critical function and 70% feel that energy management is on a par with other strategic decisions. More than two thirds (67%) said their organisation had a senior director charged with energy management responsibilities. It is heartening to witness the significance energy management is assuming at the top of UK manufacturing companies as this has not always been the case, even in the recent past.

Key Drivers & Barriers

When asked about key success criteria for energy management projects within their organisations, one message came through very clearly: to achieve a competitive advantage. However, for some, significant barriers to investing in energy management still remain such as a 'poor or uncertain return', 'budget and capital outlay', 'a lack of internal resource' and 'dealing with other priorities'. With the apparent importance attached to this area among senior management, there appears to be a disconnect between intentions around the boardroom table and actions on the ground.

The overwhelming majority (89%) of UK manufacturers now profess to discuss energy management at board level, with the automotive sector leading the way.



“Turning objectives into practical wins is at the heart of any energy management policy.”

Investment & Engagement

Turning objectives into practical wins is at the heart of any energy management policy. This means providing the necessary investment funds to make progress. Over the past 12 months, 59% of UK manufacturing businesses have increased the level of investment in energy management, and, looking ahead, 69% say they plan to increase investment levels within the coming year. Primary areas of investment include renewable and self-generation technology, which shows a real intent among these energy-intensive businesses to counter the risk of any future interruption to energy supply. A scenario where the lights go out would have potentially devastating implications for many manufacturers in terms of lost production and has to be considered a major business risk. Almost three quarters (72%) of manufacturers also say they have a strategic plan to manage energy price risk and help protect themselves from unforgiving fluctuations which put energy costs at the mercy of a volatile global market.

With staff engagement also widely acknowledged as a critical success factor in any energy management strategy, over three quarters (76%) of UK manufacturing companies report that they have an active and formalised training programme in place to support energy management initiatives. 76% also say they proactively feed back to staff how energy management projects are performing to help reinforce a sense of staff involvement. To help embed this further, 78% said they had the company energy policy on display so that all stakeholders, including employees, are continually reminded of the organisation's position.

Strategic Approach?

Knowing the starting point is vital if any progress in managing energy is to be accurately assessed. This starting point is energy cost. Of those questioned, 73% said they were aware of their annual company energy spend. This relatively high figure augurs well as a number of previous industry studies have indicated that total energy spend within companies was often largely unknown. This is a positive step forward, but a significant 27% still remain in the dark regarding their energy spend.

When it comes to future targets, 70% had put goals in place for the next 12 months around energy management, but this dropped to just 50% for five-year planning. It is the automotive sector that leads the way when it comes to long-term energy management planning and objective setting when compared to the other industrial sectors surveyed.

With ongoing measurement and monitoring a key part of any successful attempt to minimise energy impact, 76% said they have ongoing energy monitoring and measurement procedures in place. Despite this high percentage, it could be argued that the actual amount undertaken 'effective' measuring and monitoring is significantly smaller than this as, in the view of experts, it is only when measurement and monitoring effects real change and drives ongoing strategic decision-making that a culture of continual improvement over the long term can be achieved. Perhaps the true benefits of effective energy data analysis have yet to be totally understood.

Key Findings commentary

Reaping the Rewards?

The acid test for any company is the financial impact of any proposed activity. The vast majority (72%) of those questioned felt that their bottom line has improved as a result of taking energy management measures and as such is helping their organisation's fiscal wellbeing. From a sector perspective, this is most starkly epitomised by companies from the glass and solar industry. As high energy users, they are in a prime position to see a dramatic impact on their annual energy spend as they undertake measures to review, monitor and reduce their energy consumption levels.

It is most welcome to witness the progress organisations across many sectors feel they are making. Leadership from the top, strategic long-term planning, proactive staff engagement, increased investment levels and an improved bottom line thanks in part to better energy management, are all to be welcomed. However, on a practical note, from our own experience many companies also remain constricted by the plethora of constantly changing mandatory regulations they face around energy and environmental compliance. While there is no doubt that the vast majority of UK manufacturers will be compliant when it comes to satisfying the regulatory authorities, nonetheless the fear is that this could also mean the diversion of precious internal resources into compliance to the detriment of pursuing active and beneficial energy management policies within the organisation.

Strategic, technological and practical answers exist today to help manufacturers overcome the key barriers some cite as preventing them from engaging with energy management issues. Such solutions can help them seize the energy management opportunities that are available and they should be encouraged to do so. In addition, the 70% of manufacturers who view energy management as 'on par with other strategic business decisions' need to help inspire and educate others in the business community who say they still have to deal with 'other priorities' and which stop them from engaging in energy management activities.

Such organisations cannot afford to ignore the energy challenges that exist today and which will only intensify in the years to come.

Advancement is being made in many areas, but there is still plenty to do if companies across some key UK manufacturing sectors are to truly grasp the energy management opportunities that are here now.





“Manufacturers who view energy management as ‘on par with other strategic business decisions’ need to help inspire and educate others in the business community”



Aerospace

Leading from the top?

- 76% say that energy management is discussed at board level in their organisation
- 79% say managing energy is a business-critical issue
- 73% say energy management is on a par with other strategic decisions
- 91% say there is a senior director responsible for energy management in their organisation



Investment & Engagement

- 69% increased investment in energy management in the last 12 months, while 67% plan to increase investment in the year ahead
- 75% have formalised training in place for staff on energy management
- 67% have purchased energy saving technology
- 70% have invested in renewable / self-generation technology



Strategic Approach?

- 63% have energy management goals in place 1 year from now
- 51% have energy management goals in place 5 years from now
- 71% know the annual energy spend of their organisation



Key Drivers & Barriers

- The most important criteria for assessing the success of an energy management project are achieving a competitive advantage and staff morale
- 82% say the main barrier to investing in energy management projects is a poor or uncertain return on investment



Steve Barker, Siemens Industry, comments:

"It is encouraging to see the aerospace sector is well engaged at senior management level with increasing commitment to invest in energy efficiency solutions."

Reaping the rewards?

73% say the bottom line has improved as a result of energy management measures.



Leading from the top?

- 92% say that energy management is discussed at board level in their organisation
- 74% say managing energy is a business-critical issue
- 73% say energy management is on a par with other strategic decisions
- 70% say there is a senior director responsible for energy management in their organisation



Investment & Engagement

- 61% increased investment in energy management in the last 12 months, while 67% plan to increase investment in the year ahead
- 76% have formalised training in place for staff on energy management
- 70% have purchased energy saving technology
- 66% have invested in renewable / self-generation technology



Strategic Approach?

- 64% have energy management goals in place 1 year from now
- 51% have energy management goals in place 5 years from now
- 68% know the annual energy spend of their organisation



Key Drivers & Barriers

- The most important criteria for assessing the success of an energy management project are achieving a competitive advantage and staff morale
- 80% say the main barrier to investing in energy management projects is a poor or uncertain return on investment



Reaping the rewards?

62% say the bottom line has improved as a result of energy management measures.

Steve Barker, Siemens Industry, comments:

"The automotive sector has high engagement with the energy topic, but this is only held back by a lack of confidence in return on investment."



Glass & Solar

Leading from the top?

- 90% say that energy management is discussed at board level in their organisation
- 82% say managing energy is a business-critical issue
- 68% say energy management is on a par with other strategic decisions
- 68% say there is a senior director responsible for energy management in their organisation



Investment & Engagement

- 65% increased investment in energy management in the last 12 months, while 65% plan to increase investment in the year ahead
- 69% have formalised training in place for staff on energy management
- 75% have purchased energy saving technology
- 77% have invested in renewable / self-generation technology



Strategic Approach?

- 70% have energy management goals in place 1 year from now
- 56% have energy management goals in place 5 years from now
- 78% know the annual energy spend of their organisation



Key Drivers & Barriers

- The most important criteria for assessing the success of an energy management project are achieving a competitive advantage and staff morale
- 82% say the main barrier to investing in energy management projects is a poor or uncertain return on investment



Steve Barker, Siemens Industry, comments:

“Energy costs and environmental issues are key drivers for the glass & solar sector and the main restriction is allocation of investment to energy efficiency projects.”

Reaping the rewards?

79% say the bottom line has improved as a result of energy management measures.



Food & Beverage

Leading from the top?

- 84% say that energy management is discussed at board level in their organisation
- 77% say managing energy is a business-critical issue
- 61% say energy management is on a par with other strategic decisions
- 66% say there is a senior director responsible for energy management in their organisation



Investment & Engagement

- 63% increased investment in energy management in the last 12 months, while 64% plan to increase investment in the year ahead
- 73% have formalised training in place for staff on energy management
- 74% have purchased energy saving technology
- 63% have invested in renewable / self-generation technology



Strategic Approach?

- 74% have energy management goals in place 1 year from now
- 61% have energy management goals in place 5 years from now
- 69% know the annual energy spend of their organisation



Key Drivers & Barriers

- The most important criteria for assessing the success of an energy management project are achieving a competitive advantage and staff morale
- 82% say the main barrier to investing in energy management projects is a poor or uncertain return on investment



Reaping the rewards?

70% say the bottom line has improved as a result of energy management measures.

Steve Barker, Siemens Industry, comments:

“Energy has a lower executive currency in the food & beverage sector compared to other sectors, but it has an increasing focus on energy and cost reduction.”



Chemicals & Pharmaceuticals

Leading from the top?

- 91% say that energy management is discussed at board level in their organisation
- 81% say managing energy is a business-critical issue
- 67% say energy management is on a par with other strategic decisions
- 66% say there is a senior director responsible for energy management in their organisation



Investment & Engagement

- 55% increased investment in energy management in the last 12 months, while 68% plan to increase investment in the year ahead
- 81% have formalised training in place for staff on energy management
- 74% have purchased energy saving technology
- 73% have invested in renewable / self-generation technology



Strategic Approach?

- 80% have energy management goals in place 1 year from now
- 44% have energy management goals in place 5 years from now
- 75% know the annual energy spend of their organisation



Key Drivers & Barriers

- The most important criteria for assessing the success of an energy management project are achieving a competitive advantage and staff morale
- 83% say the main barrier to investing in energy management projects is a poor or uncertain return on investment



Steve Barker, Siemens Industry, comments:

"While there is rapidly increasing awareness of energy efficiency across the chemicals & pharmaceuticals sectors, there are weaker medium-term implementation plans."

Reaping the rewards?

74% say the bottom line has improved as a result of energy management measures.



Metals & Aggregates

Leading from the top?

- 90% say that energy management is discussed at board level in their organisation
- 83% say managing energy is a business-critical issue
- 76% say energy management is on a par with other strategic decisions
- 76% say there is a senior director responsible for energy management in their organisation



Investment & Engagement

- 41% increased investment in energy management in the last 12 months, while 72% plan to increase investment in the year ahead
- 81% have formalised training in place for staff on energy management
- 80% have purchased energy saving technology
- 77% have invested in renewable / self-generation technology



Strategic Approach?

- 68% have energy management goals in place 1 year from now
- 33% have energy management goals in place 5 years from now
- 77% know the annual energy spend of their organisation



Key Drivers & Barriers

- The most important criteria for assessing the success of an energy management project are achieving a competitive advantage and staff morale
- 84% say the main barrier to investing in energy management projects is a poor or uncertain return on investment



Reaping the rewards?

76% say the bottom line has improved as a result of energy management measures.

Steve Barker, Siemens Industry, comments:

"A high awareness of energy issues in the metals & aggregates sector is being held back by the approach to investment opportunities."

The Future of Energy: The UK Manufacturing Opportunity

Conclusion

We believe this report has revealed some interesting – and perhaps surprising – findings. The main conclusion is that there are significant opportunities for businesses in the deployment of effective energy analysis, but that the barriers to implementing them remain.

For us, the research highlighted six key action areas for businesses:

1. Priority needs to be given to total cost of ownership – that is, the correct analysis of the long-term costs vs benefits of effective energy management.
2. There is a need to reappraise the efficacy of current of awareness and training regimes – while the report showed this is happening, it may not necessarily be effective.
3. A better understanding of the financial opportunities of energy efficiency is key – this was reported as the main barrier to implementing measures.
4. There needs to be an alignment of stated objectives with actions delivered.
5. While there is a focus on ad hoc measures, there needs to be more awareness of the benefits of a systematic approach.
6. The knowledge of the benefits of good practice' compared to compliance' are not well understood – more work needs to happen here.

Siemens already works with many UK manufacturers to help them meet their energy responsibilities. Tailored support via sector-specific programmes is beginning to turn the tide towards an increasingly energy efficient future, but more work remains to be done. Manufacturers need to be more ambitious.

Steve Barker

Head of Energy Efficiency & Environmental Care,
Siemens UK & Ireland





“There are significant opportunities for businesses in the deployment of effective energy analysis”



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