

OUTLOOK

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ENERGY EFFICIENCY FOR BUSINESS

In association with:



Overview

Key reasons cited by SMEs for not implementing energy efficiency projects:



They are time poor.



They lack an understanding of how energy is used.



Cash is required for other priorities.

Average Cost



The average manufacturer spends €114,000 per annum on energy.

€114,000



The average retailer spends nearly €50,000 per annum on energy.

€50,000

Challenges

54% expect their operating costs to increase over the next 3 years. Some are planning on reducing...



Margins



Product Range



Staff hours/wages



33% of SMEs don't understand their electricity bills well at all.

While **45%** of SMEs don't understand their gas bills.



23%

of SMEs feel that energy costs are preventing them from expanding into new markets.

Opportunities



62%

own their business premises and are more likely to initiate efficiency measures, potentially leading to job creation.



86%

agree there is potential to reduce energy costs.



1 in 7

will seek finance in the next 12 months. The typical payback is less than **3** years.



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A SENSE OF URGENCY



AT THE LAUNCH OF THE OUTLOOK REPORT ON ENERGY EFFICIENCY WERE HEAD OF BUSINESS BANKING, AIB, KEN BURKE, THE MINISTER FOR COMMUNICATIONS, ENERGY AND NATURAL RESOURCES, PAT RABBITTE, TD AND DIRECTOR OF PERSONAL, BUSINESS & CORPORATE BANKING, AIB, BERNARD BYRNE.

Welcome to the fifth in the series of Outlook reports covering key sectors within the Irish economy.

Energy costs have a significant impact on every SME in Ireland. Reducing energy consumption saves SMEs money and those savings go straight to the bottom line. This report analyses energy consumption, the understanding of energy bills and the appetite to undertake energy initiatives to reduce costs. The report also provides expert opinion, guidance and advice from some of the key stakeholders in the energy sector and provides insights into how AIB is working to support the growth of energy efficiency. We are pleased to partner with the Sustainable Energy Authority Ireland and the Irish Green Building Council on this report.

With some industries in our survey spending over €110,000 per year on energy bills there is a real sense of urgency for SMEs to seek assistance in assessing their options and take the first steps towards reducing their energy consumption.

In the past many SMEs have switched energy

provider to save money but this is only a short term measure and they need to look at how and when they use energy to achieve real and sustainable savings. SMEs need to break away from thinking that energy costs are uncontrollable and move towards a more positive action-oriented approach to reduce costs if they are to remain competitive locally and internationally.

At a macro level Ireland's second national Energy Efficiency Action Plan to 2020 reaffirms our target to reduce energy consumption by 2020. Legislation around building regulations has improved significantly as a result. However we know that many Irish SMEs are operating out of old buildings that require deep retrofits. This should contribute to the creation and sustainment of much needed jobs within the economy.

AIB is launching new Energy Efficiency Finance solutions to support SMEs that want to drive down their costs and increase competitiveness. A key part of our proposition is that the savings which will be generated from the energy efficiency measure will be factored into the repayment capacity.

Historically SMEs have tended to finance energy measures through their own cash reserves. With so many competing demands on their cash, energy efficiency fails to get on the agenda and with payback periods often less than 3 years there are compelling reasons for all SMEs to proactively manage and reduce their energy consumption.

Our Energy Efficiency Finance propositions are supported by a new sectoral approach within AIB Business Banking. The Energy & Clean Technologies team has been formed to ensure that our frontline staff have the information and support required to engage with customers.

AIB wants to be the leading bank in Ireland when it comes to financing SMEs and their energy efficiency projects. It's good for Ireland Inc, it's good for SMEs and their competitiveness, it's good for the environment and it makes good business sense for AIB. We are committed to playing our part in realising the enormous potential that a focus on energy efficiency can bring to our country.

KEN BURKE
HEAD OF AIB BUSINESS BANKING

BOOSTING IRELAND'S COMPETITIVENESS

Energy costs now account for around 9% of operating costs in most businesses according to a survey carried out by Amárach Research on behalf of AIB. In the case of manufacturers it amounted to 7% while for retailers it accounted for 11% of operating costs.

According to the survey, excluding transport costs, the average manufacturer surveyed spends over €9,500 on energy per month, equating to over €114,000 per annum. The average retailer, meanwhile, spends around €4,100 per month or around €50,000 per annum. The average SME spends around €5,500 per month or around €70,000 per annum.

The survey also shows that the majority of SMEs don't fully understand the drivers of their energy costs even though they know that cost savings can be made by implementing energy efficient initiatives.

One of the key findings from the survey is the degree of uncertainty with business decision makers in Ireland. Most expect their energy costs to increase but there is little clarity about how they will respond. Instead of looking at how and when they use energy, some are looking at measures which will cut costs in the short term but will also limit their business growth in the long term, e.g. cut-backs in their staffing requirements. ●



KEY RESEARCH FINDINGS

- Over half of the buildings SMEs operate in are 10-50 years old which has implications for the quality of building in terms of energy efficiency including heating, cooling and lighting.
- Many SMEs are not able to distinguish between different sources of energy costs with only 21% able to fully quantify their lighting costs.
- Only 21% of SMEs understand their electricity energy bills very well and just over half are satisfied with the information provided on their bill.
- The majority of SMEs have switched electricity energy provider in the last 5 years for cost savings.
- Almost 1 in 4 don't know how they compare to their competitors on energy consumption.
- 1 in 7 SMEs expect to look for bank finance to fund an energy project in the next 12 months. The majority expect to need less than €25,000.
- 9% of all SMEs plan to change/upgrade machinery in next 2 years.
- 59% of all SMEs would consider an energy efficiency solution if they could access finance.

ENERGY EFFICIENCY FINANCE OPTIONS

According to the Amárach Research Irish SMEs realise investing in energy efficient projects will save them money. Many types of business, regardless of size can potentially reduce their operating expenses through energy efficiency projects. These include high energy users, businesses investing in new equipment or replacing it and businesses that have significant lighting, refrigeration and/or heating requirements.

The research also highlights that 59% of all SMEs surveyed would consider investing in an energy efficient initiative if finance was available.

AIB has launched a €100 million fund for businesses wishing to invest in energy efficient projects.

- Range of finance options available.
- Flexible repayment options that reflect seasonal changes in a SME's cash flow.
- We will take into account the additional repayment capacity resulting from the reduction in energy bills when assessing the credit application.
- A dedicated Energy & Clean Technologies team throughout the AIB network.

To find out more about our energy efficiency finance options ask at any branch or Business Centre, call 1890 47 88 33 or click on www.aib.ie/energy

THE GREAT ENERGY CHALLENGE

Energy costs make up a considerable part of a SME’s operating costs, yet many Irish SMEs are still grappling with how they can save money by embracing energy efficiency initiatives in the workplace, according to a survey carried out by Amárach Research on behalf of AIB.

Rising energy prices are a big challenge for SMEs as they strive to manage their cost base while trying to grow their businesses. At the same time, however, it affords them plenty of opportunities to take greater control of this cost base by embracing, and investing in, energy efficiency initiatives in the workplace.

As the Amárach survey found, electricity is a significant cost for most businesses with the typical SME spending an average of €4,200 per month on electricity, rising to around €6,000 per month for a typical manufacturer.

For those using mains gas, a similar variation by sector is apparent. While the monthly average gas bill is just over €2,000, it rises to over €4,000 for manufacturers, but falls to a little over €1,000 for retailers. However, when the combined monthly expenditure of

manufacturers, retailers and other SMEs (excluding transport) is analysed, the costs are substantial. The average manufacturer in the survey, for example, spends over €9,500 on energy per month which equates to over €114,000 per annum. The average retailer, meanwhile,

spends over €4,100 per month or nearly €50,000 per annum.

Not surprisingly, energy costs account for roughly 9% of total operating costs in most businesses according to the survey – rising from 7% for manufacturers to 11% for retailers. The majority of businesses surveyed -54%- also expected that their energy costs, as a percentage of operating costs, would continue to rise over the next few years.

With no fewer than eight different suppliers operating in the market for gas and electricity, competition is rife and thanks to deregulation, consumers and businesses now enjoy greater choice, more competitive pricing as well as a fair degree of transparency. However the bulk of Ireland’s energy requirements are still imported which means that the local retailers have little control over the international wholesale prices. Irish SMEs have to contend with the vagaries of the international market as global demand intensifies and ultimately dictates retail prices to Irish SMEs.

Managing future energy cost increases may prove to be difficult for many SMEs and most of them have given some thought to how they will deal with this eventuality. According to the survey some 23% of those manufacturing companies that expect energy costs to increase, indicated that “they would have to accept reduced margins while

METHODOLOGY

Amárach Research conducted a telephone survey of 451 SMEs throughout Ireland in October 2013. The sample included booster samples for two sub-segments, including 75 manufacturers and 75 retailers. The balance of 301 SMEs were then randomly sampled from a range of other business categories.

Interviews were conducted with those responsible for managing operating costs – including energy costs – in their organisation. The majority of respondents were CEO/MD/Financial Director level.



26% said that they would have to hike the price of their product or service. Furthermore another 15% indicated that they were likely to shop around more for new suppliers and/or review costs. A small minority also said that they might have to review staff costs either through a reduction of wages or a reduction in the headcount.

Retailers are also in the same boat, according to the survey. Of those

retailers that expected energy costs to increase, 28% said that they might be forced to accept reduced margins while 17% indicated that they may be forced to pass any increased costs on to the customer. Once again, a small minority of retailers said they may have to review staff costs and employee numbers. (Figure 1)

Given that energy costs make up such an important part of the overall operating costs

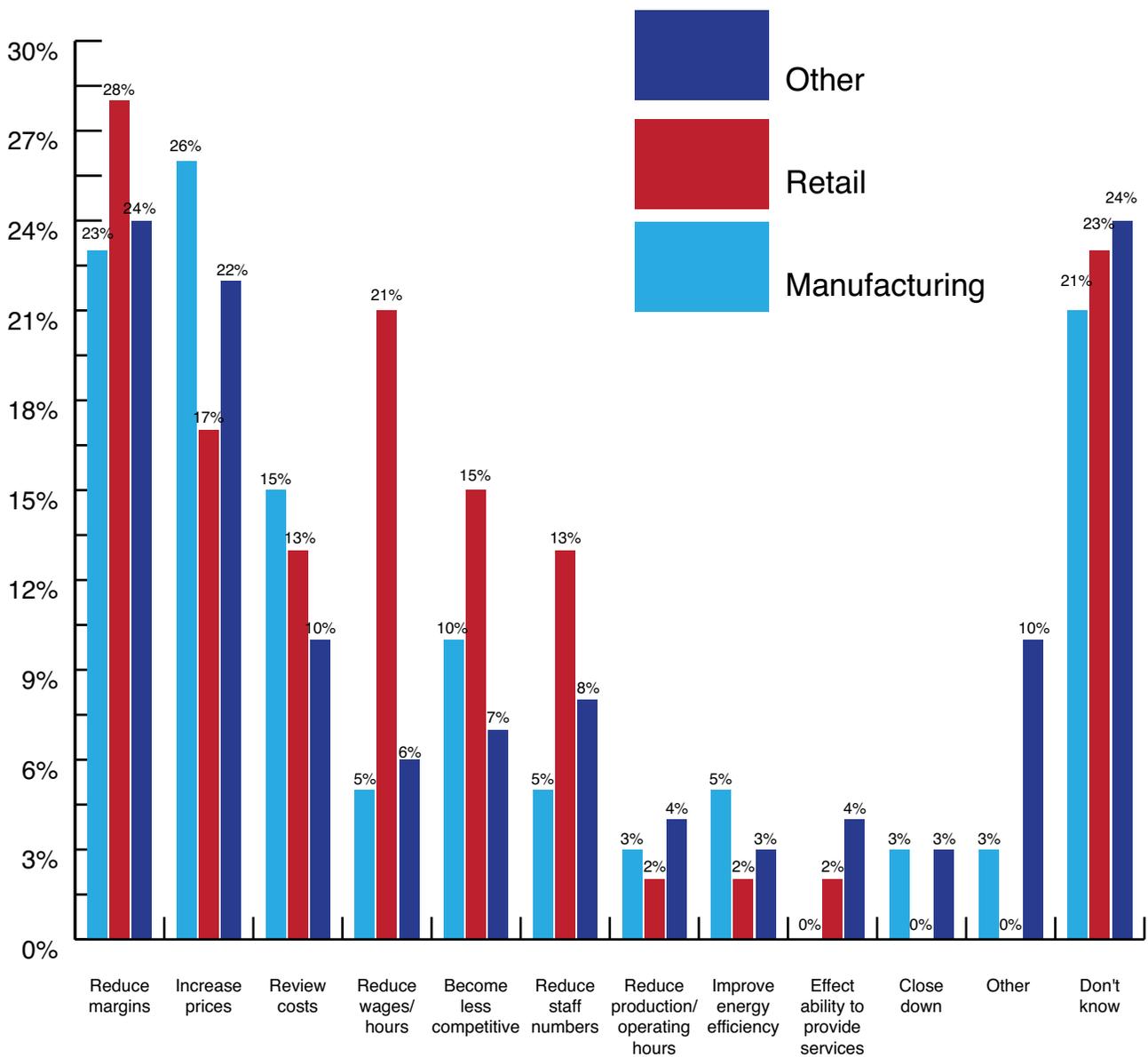
of most businesses, when it comes to actually managing and identifying them, it would appear that Irish SMEs are facing a number of issues.

Arguably one of the biggest issues is the inability of many SMEs to distinguish between the different sources of energy costs arising from the different activities within their business. In addition many companies have difficulty in understanding their energy bills.

According to the survey's findings, only 31% of retailers and 17% of manufacturers are able to fully break down their costs when it comes to lighting their premises. In addition just 19% of retailers and 25% of manufacturers can break down their heating and ventilation costs.

The survey also shows that only 21% of those responsible for monitoring energy costs felt that

Figure 1: Impact of High Energy Costs on Business



Base: All who expect energy costs to increase in next 3 years. Manufacturing 39, Retail 47, Other 157



they actually understand their electricity bills very well, rising to just 25% for manufacturers. Around 42% of them feel they understand their electricity bills quite well. However, somewhat worryingly, a third don't understand their bills well at all. Moreover, this rises to 38% of manufacturers and these are the companies that spend the most, on average, on electricity.

A similar picture emerges for gas – even though it tends to have fewer applications within businesses. Almost half, or 45%, of gas users admit they don't understand their gas bills. Not surprisingly the level of satisfaction with information from gas providers about their organisation's consumption is weak as well.

On the plus side, however, a slim majority of 53% of businesses are actually satisfied with the information provided by their electricity provider regarding their organisation's electricity consumption and there is little change across the different sectors.

The one energy expense that is more clearly delineated in business operations, however, is the cost of petrol and/or diesel for transportation. Indeed, this ranks number one when it comes to ranking the different energy costs that SMEs face

nowadays (across all sectors), followed at some distance by lighting, heating, ventilation and air-conditioning (HVAC) and by electric power for appliances and machinery.

Another complicating factor for energy management is the variability in their energy needs. For example, a third of businesses have regular energy consumption peaks (on a daily, weekly or monthly basis), rising to 39% of retailers. On the other hand, two thirds have fairly steady energy consumption patterns throughout the year, which makes their planning and budgeting more straightforward. Best practice would suggest that SMEs that have peaks in their energy consumption should look at local generation or process changes to manage the offset peaks and reduce associated costs. Indeed, the survey shows that those with consumption peaks are slightly more likely to use locally generated energy (broadly defined) – though some two thirds don't.

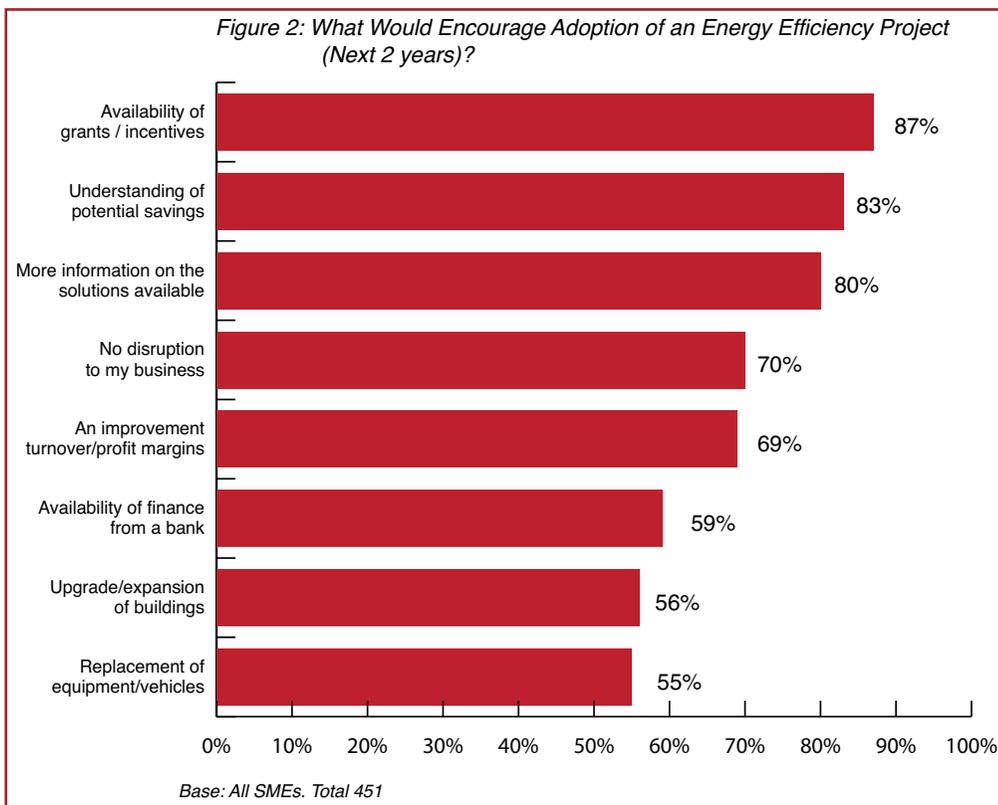
ENERGY INSIGHT

Energy is a significant cost of doing business, averaging nearly €70,000 a year for the typical SME in the survey. However, there is limited transparency for most SMEs about the drivers of their energy costs. Given the continuing high prices for electricity, gas and motor fuel, SMEs will have to get a better handle on their energy costs if they are to remain competitive locally and internationally.

THE ENERGY CHALLENGE

Despite the challenges they face, Irish SMEs are not passively waiting for price rises, nor have they in the past. Indeed the survey finds that many have already cut energy consumption in the past two years while some have trained staff to be more energy efficient. In other cases, SMEs have actually invested in energy-saving equipment and technologies.

Figure 2: What Would Encourage Adoption of an Energy Efficiency Project (Next 2 years)?





As for how they will respond to rising costs over the next two years, their options are less certain. Many, in their opinion, have already done all they can to reduce energy consumption. The most common response is that they will do something but, they're just not sure what exactly that will be. In this regard, the concept of offering SMEs a simple menu of energy efficiency options, as discussed in the AIB-hosted "round-table" discussion on Page 15, could be crucial.

Business owners and managers also understand the importance of responding to the energy challenge. While some companies have already picked at the low hanging fruit, they are also open to persuasion when it comes to doing more. Asked what would encourage

"SMEs will have to get a better handle on their energy costs if they are to remain competitive locally and internationally"

them to adopt energy efficient solutions in the next two years, the availability of grants and other financial incentives top the list for nearly 90% of those surveyed right across all sectors. They could also be persuaded by better clarity and information about what can be done and, more importantly, how much money they can save their business. (Figure 2)

When it comes to their own levels of preparedness, however, a slim majority of just 51% admitted that they would know what to do if an energy audit was required of their business. This falls to just 43% of manufacturers.

According to the survey, SMEs recognise that there are immediate opportunities to

reduce energy costs. Indeed 86% of SMEs agree there are opportunities for their businesses while 23% of them feel that their energy costs are actually preventing their expansion into new markets. That said, most feel their energy consumption is similar to their competitors, although it would appear that manufacturers are less certain about this. (Figure 3)

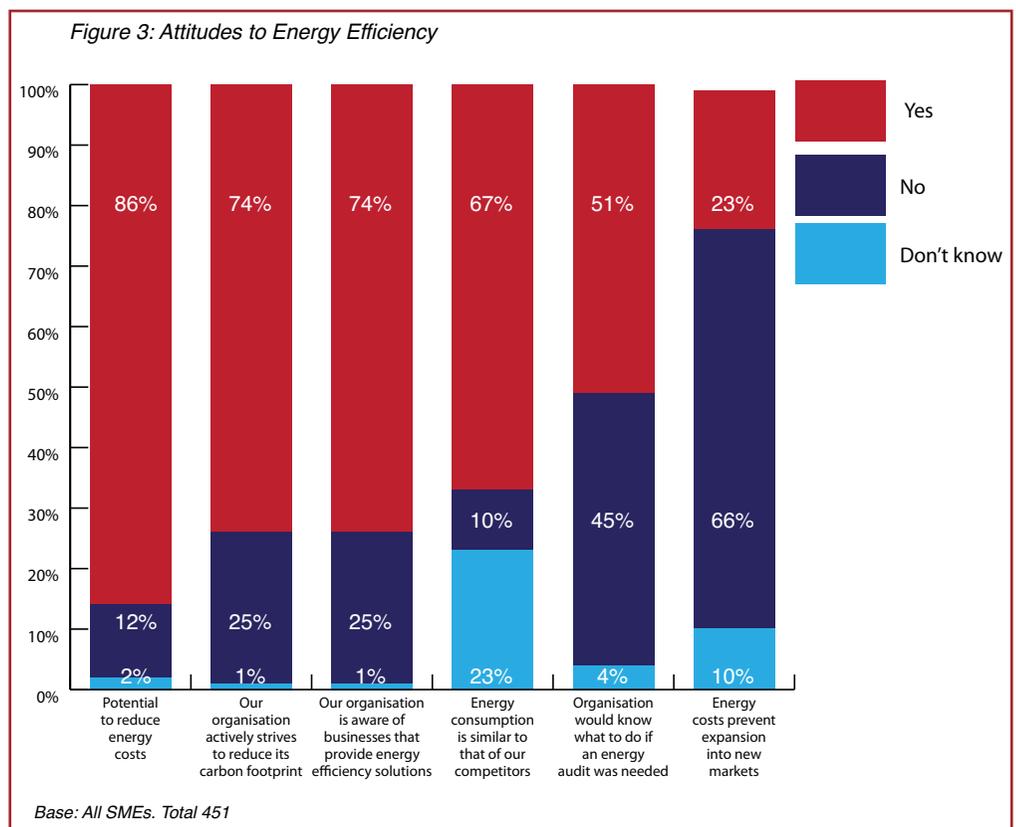
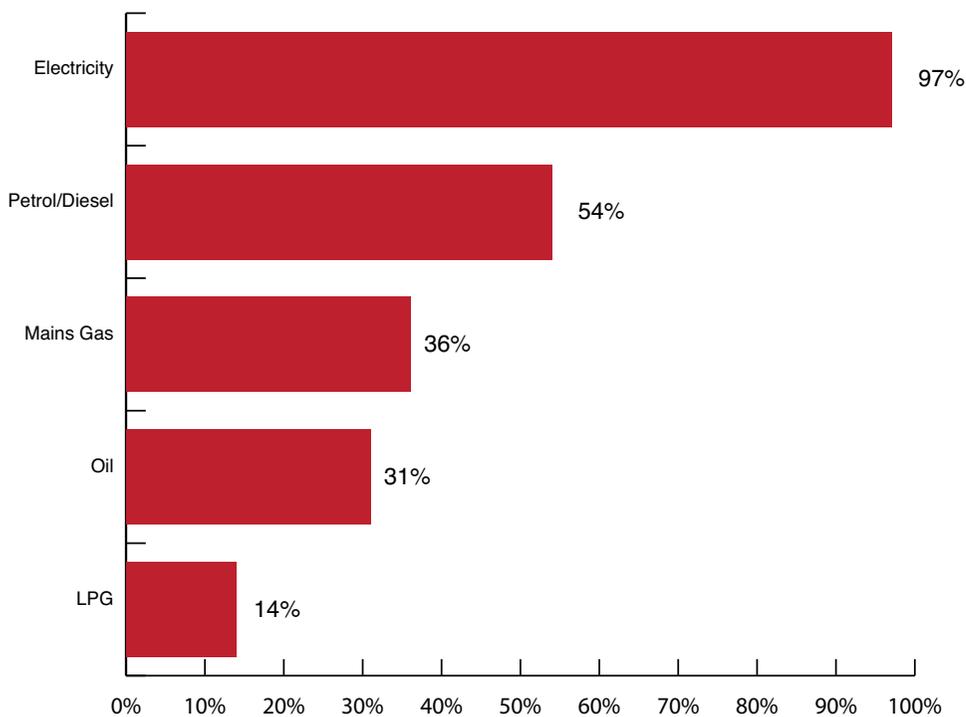


Figure 4: Types of Energy Used



Base: All SMEs. Total 451

ENERGY INSIGHT

SMEs are somewhat conflicted about energy. On the one hand they see the issue in terms of efficiency and environment, but on the other hand when 'push comes to shove' the decision to buy equipment is based on the sticker price and not the combination of the sticker price and cost of running that equipment. SMEs are not armed with nor seek out the running cost information of equipment they buy. Even with this information the cash may not be there to do the most sustainable thing.



One gauge of the importance of energy efficiency to an organisation is the things they consider and prioritise when buying new plant and machinery. According to the Amárach survey, one in four SMEs has bought new machinery over the past two years, while a further 10% have leased plant or machinery. Not surprisingly, manufacturers dominate this trend.

This is a sizeable share of SMEs. So how important was the energy efficiency of the machinery when they bought it? The findings of the survey show only one in ten chose on the basis of energy efficiency alone. Many made the decision on the basis of a combination of efficiency and cost, while nearly as many made the decision on the basis that there was no alternative equipment available. Retailers were more likely than other sectors to buy solely on the actual sticker price without factoring in the future running costs of the equipment or machinery. This

would suggest that SMEs often take a short-term view when it comes to energy efficiency and the view can be clouded by the immediate desire to conserve cash.

ENERGY CONSUMPTION

Not surprisingly, most of the SMEs surveyed rely on a combination of energy types (electricity, gas or oil) on a day-to-day basis. While electricity is ubiquitous, petrol and/or diesel is regarded as the second most important energy source for SMEs, most likely because many of them have company vehicles on their books. Mains gas is also important for around 36% of SMEs in this survey although this rises to 44% of the manufacturers surveyed and 19% of retailers. (Figure 4)

The mains gas issue is important for those businesses that are not connected to the national gas grid (evidenced, perhaps, by a high dependence on LPG and oil). As noted in the supplier

“roundtable discussion” on Page 21 of this report, extending the gas grid and connecting businesses to it, will create a real opportunity to develop combined heat and power (CHP) production in Ireland, by substituting out LPG and oil consumption. There is also the opportunity for CHP owners to benefit from rebates for each tonne of CO₂ avoided in their emissions although, to date, the number of new CHP licenses that have been issued has been somewhat disappointing.

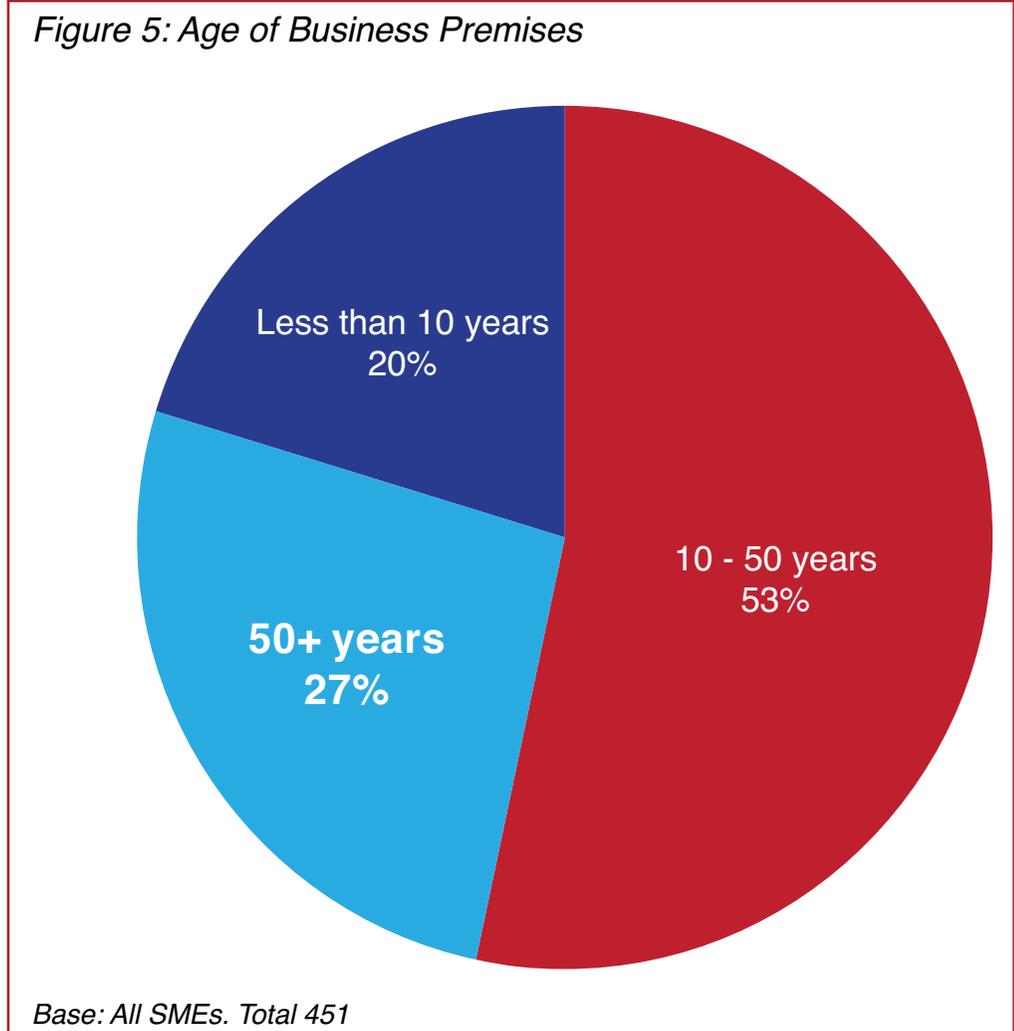
TYPES OF PREMISES

The type of premises a company occupies is also an important factor when it comes to its energy costs. According to the survey, 68% of the Irish SMEs are operating out of standalone buildings, whether it's a standalone office, factory or retail unit as opposed to occupying part of a larger building complex. This varies little across manufacturing, retail or other business types but it has obvious implications for the energy requirements of the SMEs, particularly those companies that are tied into leases or those occupying older, and more expensive to heat, premises.

This is borne out by the fact that those in leased premises are less likely to have implemented any energy efficiency measures over the past two years. In fact 20% of those who lease their premises

ENERGY INSIGHT

There is a worrying degree of uncertainty among many business decision makers in Ireland. Most expect their energy costs to rise, but there is little clarity about how they will respond beyond hoping they can ‘weather the storm’. While many have undertaken initiatives in the past two years, there is clearly room for more in the next two years.



have done nothing to reduce energy consumption in the past two years. By comparison 14% of the SMEs that fall into the owner occupier category haven't done anything either.

Around 36% of the SMEs surveyed fall into this category while the remaining 62% actually own their premises, again with little variation across the different sectors.

The issue of whether or not an SME owns or leases its premises is an important one from an energy perspective. Indeed there appears to be a widely-held belief amongst the survey's participants that neither landlords nor tenants have any incentive to improve the energy efficiency of their premises as the

gains in terms of energy cost savings are not 'shared'.

The age profile of the buildings that SMEs occupy is also an important consideration and the research shows that just over half, or 53%, of the buildings are 10-50 years old while just 20% of them are less than 10 years old. The remaining 27%, however, are over 50 years old and this has implications for the quality of the buildings in terms of their energy efficiencies. (Figure 5)

As can be seen in Professor Owen Lewis's interview on page 16 of this report, there is a disincentive for landlords to invest in retrofitting their properties as they feel they will not realise the upfront costs back from tenants and tenants feel that they may not be getting the full benefit.

ENERGY PROVIDERS

When it comes to choosing an energy supplier, Irish SMEs have never had it better. The energy market in Ireland has been transformed in recent years by deregulation and greater competition between energy providers. Some providers have expanded their offering to provide both electricity and gas 'combo' bundles. In the survey, over a third of businesses using both electricity and gas source their electricity and gas requirements from the same provider. This falls to 31% of manufacturers, and rises to 46% of the retailers surveyed.

Despite a high level of uncertainty – and the apparent weak levels of satisfaction – about what drives energy costs, 72% of businesses have switched their electricity



provider in the past five years while 45% of gas users have also made the “big switch.”

Retailers tend to show a greater propensity to switch than manufacturers or other business types, which may reflect the fact that many are managed and run by their owners on site, so it is easier for energy sales people to get to the ‘decision maker’.

The primary motivation for switching either gas or electricity supplier is, of course, price. The vast majority of switchers did so because of lower prices and better value. Other factors such as customer service or a supplier’s green image had little influence on the decision-making process.

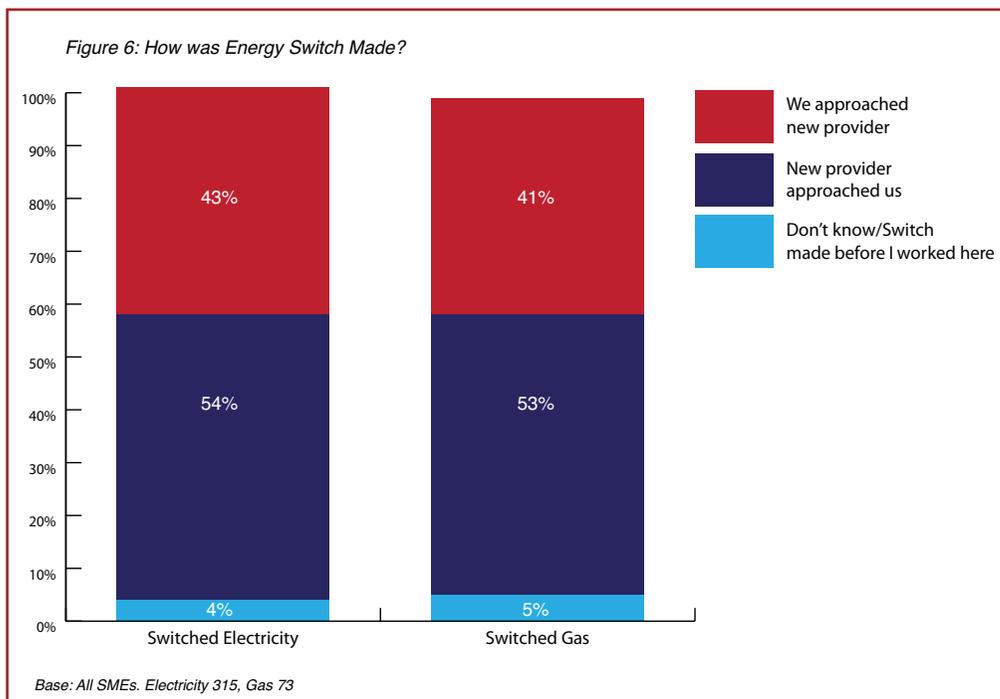
The impact of deregulation and greater competition is also evident

in the role of direct sales in driving switching. For example, 54% of SME electricity switchers did so as a result of a direct approach from a new provider, according to the survey. This was also the case with gas switchers, with 53% saying that they switched as a result of a direct approach. (Figure 6)

Of the SMEs that did switch, however, manufacturers were

more likely to take the initiative themselves. According to the survey, 49% of manufacturers said they made the approach to a new electricity supplier while 42% said they approached a new gas supplier. Of the retail SMEs that made the switch to electricity, 38% said they approached the provider while 43% of those that switched to gas say they made the approach to the supplier.

However, one of the more remarkable findings from the survey is that despite deregulation and competition, many SMEs have not switched their providers. This can be read as indicating a high level of satisfaction with the incumbents or it may indicate that managing energy costs are beyond their control. Indeed, there is relatively little difference, say, in the average monthly electricity bill of a business that has switched electricity provider, and one that hasn’t. Some SMEs could have found that switching is only a short term measure and that real gains are only made by implementing internal projects to reduce consumption.





ENERGY FINANCE

For those prepared to proactively undertake measures designed to tackle rising energy costs head on, external finance may be required. Indeed, a significant

minority of businesses – about 1 in 7 – do expect to look for some form of financial support from their bank over the next 12 months specifically for an energy efficiency project. This

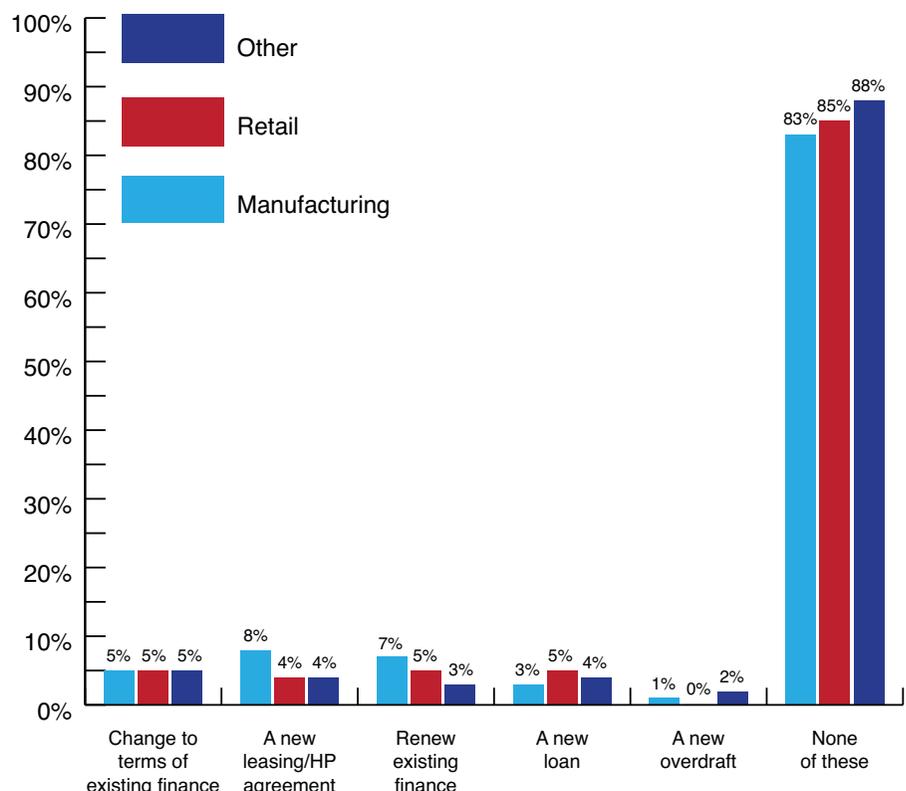
is particularly noticeable in the manufacturing sector. (Figure 7)

As for the sums involved, among an albeit small sub-section of businesses, more

than half expect to need less than €25,000. Not surprisingly, manufacturers may need larger amounts than the average with 8% saying they would need financing of between €150,000

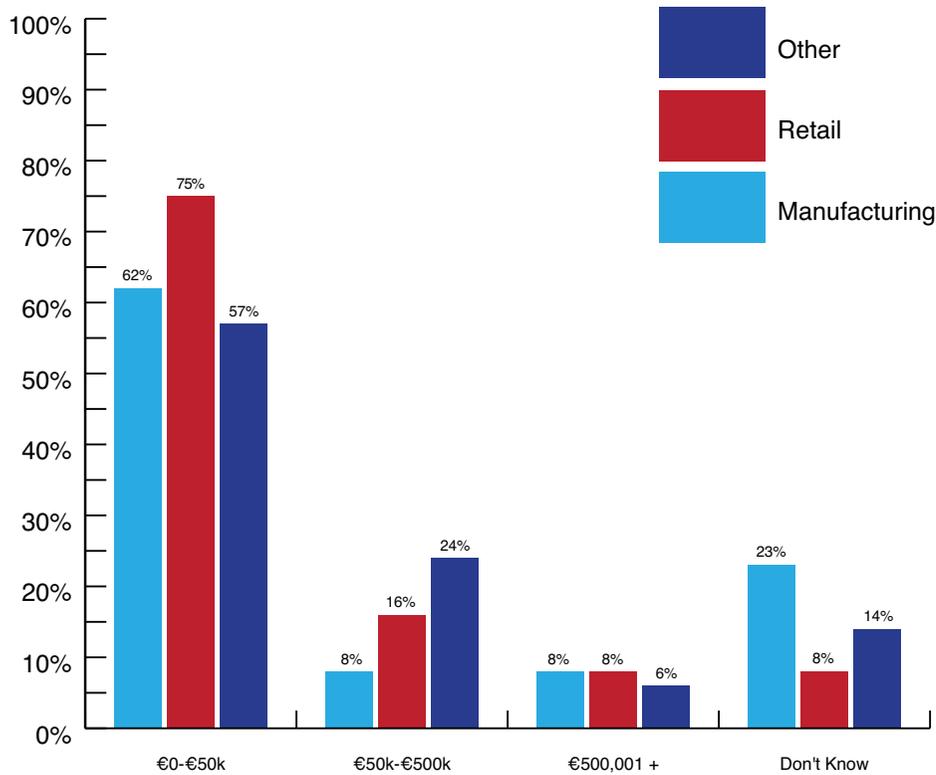
“Energy efficiency could prove to be a key element in sustaining employment in Ireland, not just the economy or the wider environment.”

Figure 7: Energy Efficiency Finance Requirements Next 12 Months



Base: All businesses. Manufacturing 75, Retail 75, Other 301

Figure 8: Likely Level of Funding Required



Base: All who will look for energy efficiency finance in next 12 months. Manufacturing 13, Retail 12, Other 37

and €300,000 while another 8% reckoned that the financing costs would exceed €1 million.

Bank finance is not the only influence on energy efficiency investment. Accelerated Capital Allowances are another important financial instrument, though the survey shows that just 3 in 10 businesses are aware of them while the figure for manufacturing is just 1 in 3. ●

ENERGY INSIGHT

The fact that a sizeable minority of SMEs are already anticipating investment in energy efficiency measures is a reassuring indicator of how well prepared some (though by no means all) are for the energy challenges – and opportunities – that lie ahead in the not too distant future.



AN ENERGY BOOST

THREE OF IRELAND'S LEADING ENERGY EFFICIENCY EXPERTS DISCUSS THE VARIOUS INITIATIVES THAT ARE CURRENTLY IN PLACE AND HIGHLIGHT THEIR OVERALL IMPORTANCE NOT JUST TO SMES BUT TO THE WIDER ECONOMY AS WELL.



BRIAN MOTHERWAY

BRIAN MOTHERWAY
CHIEF EXECUTIVE, SUSTAINABLE ENERGY AUTHORITY OF IRELAND (SEAI)

The value of investing in energy efficiency is something that cannot be underestimated. Irish householders have recognised this and over 250,000 of them have undertaken an energy upgrade of their home in the last number of years. These developments have created a vibrant retrofit sector that is worth hundreds of millions of euro and employs thousands of people.

This opportunity to save money on energy bills is not confined to the domestic household. Energy efficiency is one of the key profitability drivers for organisations and one of the easiest to control and manage. It is now a core topic for all businesses as energy prices continue to rise and recognition grows that measures can be taken to save money and maximise resources.



TO VIEW AN INTERVIEW WITH BRIAN MOTHERWAY, SCAN THE QR CODE WITH YOUR SMARTPHONE.

The Large Industry Energy Network is a group of companies facilitated by the Sustainable Energy Authority of Ireland (SEAI) that work together to develop and maintain robust energy management. There are now over 160 companies in the network including Glanbia, Intel and Vodafone and we facilitate them to implement continuous improvement through learning from energy experts and sharing knowledge and experiences. This delivers average annual savings of 2% in terms of energy efficiency; overall that's equivalent to over €16 million per annum in savings and adding to bottom line profitability.

This has led to the growth and development of indigenous companies to service these large international organisations in their energy improvements. For example Nualight in Cork, now provides most of the display lighting for Tesco in the UK, delivering large energy savings in lighting.

Increasingly, SEAI has been working with the SME sector so

that smaller companies can also benefit from energy efficient initiatives. In many cases savings of up to 10% of their energy costs have been achieved which is significant for smaller companies struggling to stay in the market and maintain margins. Cumulatively this is equivalent to €50 million in cash savings.

However, when you are dealing with smaller firms that are focused on sales and profitability, there are understandably a number of barriers when it comes to prioritising energy efficiency.

Traditionally, the response to higher energy prices has been to switch provider. But that only delivers a partial solution at best. Too often, business owners and managers react to energy costs as something over which they have little control and fewer options – they see it

as a fixed overhead cost such as commercial rates.

Some SME decision makers are worried that the promised savings from investments in energy efficiency are more illusory than a real business opportunity. Changing these perceptions takes time, and we have found that peer-to-peer influence and recommendations, based on real SME experiences, are usually the most powerful way to inspire action by others. Typically, SMEs don't want to be pioneers. Instead they want proof which is why we need to promote proven and common solutions that they can trust.

The second most significant barrier is finance. The fact remains that businesses must pay for changes now that will deliver savings later. The banks are an important partner in securing the gains from energy efficiency.



► EXPERT VIEWS

Perhaps understandably they have been cautious in their approach. A bank obviously has to lend on the strength of the company that is borrowing, not just on the likely savings from energy efficiency. Yet, too often, banks miss opportunities to make profitable loans to viable businesses that will become stronger customers as they gain from energy efficiencies. They just have to look at other businesses that have made the investments to see the returns that are there. The banks also need to recognise that investment in energy efficiency is a lot more tangible in its capacity to deliver a return than money spent on other functional areas like advertising or marketing.

There are a number of exciting new energy finance initiatives underway around Ireland, including Energy Services Companies (ESCOs). With the switch to 'pay-as-you-save' in energy efficiency policy, there will be a major opportunity for banks to be national leaders in the energy agenda.

The National Energy Services Framework being developed by SEAI will provide further clarity to businesses considering using ESCOs and energy performance contracting to finance their projects. SEAI recently recruited 22 exemplar energy projects from across the public and private sectors, including companies like Tesco and Carton Bros as well as hotels, hospitals and local authorities, to test our framework and take them through from project initiation right through to development, financing,

contracting and delivery. Collectively these exemplars will invest up to €55 million in energy saving measures. Projects vary substantially but many will see the pay back in under three years.

These projects, and others, will show businesses and banks the way forward in terms of the range of initiatives that are possible, and the many ways in which they can be funded. SEAI expects Irish banks to become increasingly involved in energy efficiency, launching new loan products that will meet the needs of a growing number of SME borrowers. In some instances, these will be backed up by proper performance measurement and monitoring through the auspices of ESCOs and other similar arrangements.

SEAI's SME Support Centre provides advice and training for businesses that are looking to reduce their energy spend and benefit their bottom line. We can provide access to successful case studies from other SMEs as well as provide an energy assessment of your organisation or organise training in energy management, all of which is designed to show smaller companies pathways toward a less costly and more energy efficient way of doing business.

Improving energy efficiency is a great opportunity for SMEs. It takes commitment, knowledge, support and access to appropriate finance to achieve but the rewards are substantial and SEAI will be there every step of the way.

"SEAI's SME Support Centre provides advice and training for businesses that are looking to reduce their energy spend and benefit their bottom line."



PROF. J. OWEN LEWIS
CHAIRPERSON
IRISH GREEN BUILDING COUNCIL
(IGBC)

We currently know too little about the buildings Irish SMEs occupy, in terms of their energy performance. The Building Energy Rating (BER) is now mandatory for all buildings being sold or rented, but while hundreds of thousands of ratings have been issued for Irish homes, so far there are far fewer BER certs in the commercial building sector. Publicly and privately owned buildings over 500m², frequently visited by the public, are required to exhibit a Display Energy Certificates (DEC). With more information relevant to the SME building stock, better quality decisions can be made as to what measures to target and incentives to provide.

IGBC has been working with the Government on its 'Better Energy Financing' (BEF) programme, due to be implemented in 2014. BEF will, over time, transition from the current range of grants to new financing mechanisms. Given that energy efficiency remains the cheapest way for Ireland to reduce our emissions and lower energy consumption, and that about half of all energy is used in making and operating buildings, we must greatly intensify our focus on making



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the building stock more energy efficient.

The National Energy Services Framework is designed to help develop the Irish energy efficiency market in the non-domestic sector. The Framework provides guidance on routes to project development, together with sources of finance and the support available from SEAI to help develop projects in the public and commercial sectors. The key aim of the Framework is to develop robust projects which are investment-ready for financing entities (such as the National Energy Efficiency Fund). This will stimulate the development of an Energy Services Company (ESCO) market, consisting of small, medium and large ESCOs, thereby supporting sustainable employment in construction and professional services.

The initial focus has been on providing guidance and tools to support developing projects suitable for Energy Performance Contracting (EPC) and Energy Performance-Related Payments (EPRP). But smaller SMEs also need training and guidance in relation to best practice energy management as the energy spend rarely gets the same attention as other operating costs such as staff wages, rent or materials. This is surprising since, in some sectors, energy costs are the biggest outgoings.



Investment in energy efficiency for most businesses is a ‘no brainer’. Energy upgrades in a business can payback in two years or less, providing the business with an attractive return on investment beyond most competing investments. It creates profits within a business by reducing “energy waste”. In some cases, for example where companies lease a premises, disincentives can arise when it comes to investing in the building they occupy (insulation, heating, lighting etc). This is because of a ‘split incentive’ problem. A building owner does not want to pay for a retrofit to reduce energy-related costs as they are afraid they will not realise the up-front costs back from the tenants.

The tenant does not want to pay for the cost as they may believe they are not getting

“Investment in energy efficiency for most businesses is a ‘no brainer’. Energy upgrades in a business can payback in two years or less.”

the full benefit either as they don’t occupy the entire building or may not plan on staying in the premises long term. New York City through its Plan-NYC programme has tackled this issue and now promotes an Energy-Aligned Lease. This type of lease bases the owners’ cost recovery on predicted savings, but limits owners’ capital expense pass-through to 80% of such predicted savings in any given year (the 20% “Performance Buffer.”).

Apart from cost-savings, energy efficiency – and smarter energy

management in general – can also improve employee welfare and their productivity, boosting the overall competitiveness of the company. I like to call these “hidden wins”. For example, in offices a healthy indoor air quality is a key concern, while up to 85% of costs are wages, 10% is rent and only 1% goes directly on energy. In offices, days lost to sickness resulting from poor air quality are likely to have a much more substantial impact on the bottom line.

An example of a good energy efficiency policy at work can

be found at Google Ireland which has embraced the green buildings opportunity as well as the benefits of using healthy toxin-free building materials. Google’s offices in Dublin are some of the very first in Europe to have been built in accordance with the Living Building Challenge’s Red List. The Living Building Challenge sets the world’s highest standards of energy and environmental performance, and emphasises the use of sustainable materials which have no negative impact on human and ecosystem health. This has entailed avoiding Red Listed building materials, i.e. those materials that international agencies – including the European Commission – designate as harmful to living creatures, including humans.

There are a number of economy-wide benefits from tackling

“Apart from cost-savings, energy efficiency – and smarter energy management in general – can also improve employee welfare and their productivity, boosting the overall competitiveness of the company. I like to call these ‘hidden wins’.”

energy efficiency head-on. Firstly, we already generate considerable export revenues from Irish businesses selling their energy expertise abroad. For example, Ireland now has a number of consultants who have worked with large industries here and have been able to leverage their experience abroad. Furthermore, the ISO Standard 50001 for energy management systems was largely based on Irish developments and is now a global standard for best practice.

Secondly we have an opportunity to ‘retrofit’ Ireland’s building industry – from architecture to construction to energy management – around the emerging agenda for green buildings. The potential job creation opportunity is huge. But to do this we need to retool our construction workforce.

BUILD UP Skills is an EU wide initiative focused on the continuing or further education and training of craftsmen and other on-site construction workers and systems installers in buildings, after their initial education and training or after they have entered working life. It aims to develop a National Qualification Roadmap for each EU member state (including Ireland, where it’s co-ordinated by Limerick Institute of Technology).

Some of the objectives are to set up and agree national qualification roadmaps to achieve the sustainable energy policy objectives for 2020 and to support concrete qualification schemes on the basis of roadmaps to 2020 with identified needs and priorities.

The barriers to better energy management and efficiency in Irish businesses aren’t primarily technical. Success, however, is about co-ordinating and aligning the incentives of a number of players in the value-chain to make efficiency happen. We need to create awareness of the ‘energy waste’ that exists within SMEs. SMEs also need to take the time to consider their options and understand the cost savings they can make. In addition, financiers need to recognise that energy efficiency projects are a good opportunity to help SMEs generate more profits and that their finance can stimulate an entire sector into action. Suppliers also need to continue to provide best practice advice, services and technology to continue tooling up and becoming expert in energy efficiency solutions. Acting together, we can reduce the €6 billion annual haemorrhage now required to import coal, oil and gas, and instead create new businesses in Ireland while enhancing the competitiveness of Irish enterprise.



NORMAN CROWLEY
CEO & FOUNDER
CROWLEY CARBON

Operating since 2009, Crowley Carbon is one of the biggest energy efficiency consultants in Ireland. However, around 80% of our turnover is outside of Ireland, in countries like the UK, France and Dubai. We design, finance and implement large scale energy efficiency initiatives for large corporates around the world.

We recently decided to pull out of the SME sector. The economics of serving SMEs in relation to energy efficiency don’t add up for us right now. SMEs tend to want bespoke solutions – which are expensive to deliver – but in reality SMEs mostly need access to a range of standardised solutions.

Ireland is not unique in this regard: policies to encourage SMEs to adopt energy efficient practices have floundered in other countries as well, sometimes for the same reasons. Germany and the UK have had some modest success, however, through targeted incentives relating to heat pumps in the case of the latter.

Recently we have experienced a drop off in interest from Irish SMEs due to a lack of incentives. Like the other countries, there is the potential to co-ordinate the stakeholders in the Irish market

(Government, suppliers, banks, energy retailer) into a cohesive strategy that makes the ‘menu’ of options for SMEs easier to understand and financially a no-brainer to adopt. Only then is Ireland Inc going to unlock the savings and jobs potential.

There is still some potential in Ireland for larger energy efficient investments such as combined heat and power (CHP) for hotels. There are perhaps 50 hotels and a further 100 SMEs that have sufficient thermal demand (greater, say, than 1 megawatt) who could go down the CHP route. Then again, the payback period for CHP can be 4-5 years depending on scale etc. The bottom line is that you could fill all the existing market for CHP quite quickly in Ireland – grants or no grants.

There are bigger opportunities for SMEs in energy efficient lighting and space heating. Upgrading these systems will generate real savings where investments have not already been made.

The banks can play a role in supporting energy efficiency in Irish SMEs. One idea might be to create an online self-assessment tool for SMEs, letting them benchmark their performance against other SMEs, and giving them access to a clear, standardised set of options, with guidance on funding options. This will reduce the ‘cost to serve’ for SME energy efficiency needs, while providing a valuable service that motivates SMEs to take energy seriously, and not to delay decision making indefinitely.

Ireland needs its banks to lend for energy efficient investments – there is a real need out there and the spin off in terms of job creation, exports and reduced costs is very substantial. ●

THE DRIVE FOR GREATER EFFICIENCIES

AIB recognises the importance of supporting its SME customers and the need for them to invest in energy efficient initiatives if they are to remain competitive. **Ray O'Neill**, AIB's Head of Energy and Clean Technologies, outlines the bank's view on the importance of such investments, what customers can expect from AIB and how the bank has responded with new lending solutions.



There is no doubt that the global energy markets are changing rapidly as demand increases from emerging markets in the Middle East and Asia.

As a country operating on the periphery of Europe, Ireland is more reliant on imported energy than almost every other country in the European Union. Data compiled by Eurostat shows that Ireland's energy dependence rate, defined as net imports divided by gross consumption, stood at 88% at the end of 2011. In other

words, Ireland only produces around 11.1% of its total annual energy requirements. The average dependency rate for the whole of the European Union in 2011 stood at 54%.

Our heavy dependency on energy imports means that Irish businesses, and indeed domestic consumers, will continue to be subject to the vagaries of the international energy markets for the foreseeable future. Indeed as global demand increases, it seems inevitable that further

price hikes are on the cards for Irish businesses over the next few years.

As it stands, energy costs now account for a significant proportion of the day-to-day operating costs of most Irish businesses. As the Amárach Research survey for this Report shows, energy costs now amount to 11% of total operating costs for a typical SME. In the case of a manufacturer, the annual bill comes to around €114,000 a year while for retailers it

amounted to €50,000 and for others SMEs €70,000

At a time when many SMEs around the country have had to contend with the challenging economic circumstances over the past few years, with many under pressure to cut costs, the opportunity to tackle energy efficiency is coming to the fore.

The reality is that most SMEs do not have the in-house expertise to assess and implement energy efficient initiatives. As our survey shows, many SMEs are also finding it difficult to understand the breakdown of their utility bills while others simply do not have the time to devote to energy-related initiatives. However, SMEs know that they can save money and boost their competitiveness by changing consumption habits, investing in retrofits, switching providers or investing in newer and more efficient plant and machinery.

There is an abundance of evidence that shows cost savings can be made by SMEs that invest wisely in energy efficient



► THE SECTOR VIEW

initiatives. However, as some of the contributors to this Report have pointed out, the various stakeholders in the industry together with the different government agencies, need to realign their respective messages in a more structured, cohesive and effective manner before mass adoption takes place.

As part of this Report, AIB also hosted a round-table discussion with suppliers to gauge the challenges they were facing. One challenge in particular stood out and that was their sales are hard won. Many of them felt that they spend an inordinate amount of time trying to reach the decision maker within an SME and then trying to convince them, sometimes via free demonstrations, that savings can be made. When these views are reconciled with the findings of our survey, it is clear that both supplier and end-user need to do a lot more when it comes to engagement, education and validation.

SMEs that complete energy efficient projects can cut their energy costs, which contributes to the bottom line and helps them remain competitive. Every little bit counts, especially to those companies that are reliant on the domestic economy and may have encountered difficulties over the past few years during the economic downturn.

This Report has also provided AIB with a greater understanding of the issues facing SMEs when it comes to energy efficiency projects and initiatives. Increased awareness and understanding of these issues within AIB will enable the bank to lend more into the sector. We now know from the research that a lot of energy efficiency projects have short pay-back times leading to increased cash flows which can then be reinvested within the



business. This will also lead to an improvement in the quality of products and services on offer.

It is encouraging to see more and more of our customers seeking to control how and when they use energy to provide cost savings in the medium to long term.

The research also shows us that there is appetite from SMEs to undertake an energy efficiency measure with 1 in 7 SMEs stating that they will look for some kind of finance facility in the next 12 months. With half of those surveyed saying they will looking for finance for relatively small amounts of less than €25,000, it is conceivable that the market for energy efficiency related finance amongst SMEs could be in excess of €100m per annum.

AIB has developed a suite of Energy Efficiency finance options which are now available in all our branches, business centres and through the direct channels. The credit application process is much the same as our normal business credit terms but with one addition: the bank will now take into account the savings from the energy efficiency measure being undertaken by the borrower. If the energy efficiency project is strong, the

“The bank will now take into account the savings from the energy efficiency measure being undertaken by the borrower.”

payback will be reasonably quick. Often the payback is greater than the repayments and the savings are still benefiting the SME. This will be key to helping lots of SMEs access finance for energy efficiency projects.

The new application form takes into account what a borrower's energy bills are today and what they expect them to be in the future. Consideration will be given to the savings in tax from Accelerated Capital Allowances and the reduction in maintenance costs. It will also capture qualitative information about any other benefits the project may generate like a higher quality product or increased capacity. Payment holidays of up to two months in any one year are available on all the facilities to match off against peak times. If the borrower is undertaking a particularly large project, the bank can look at interest-only periods to help get the project bedded in and the savings realised.

To put energy efficiency on the agenda of every SME we will continue to promote awareness with our partners, develop our internal capability to grow with the market and to refine our offerings as we learn more and engage with our customers around energy efficiency. AIB is committed to working with SMEs that want to cut their bills and ultimately grow their bottom line. For both SMEs and AIB, it just makes sense. ●

Lending criteria, terms and conditions apply. Credit facilities are subject to repayment capacity and financial status and are not available to persons under 18 years of age. Security may be required. Flexible repayment arrangements may increase the cost of credit.

Allied Irish Banks, p.l.c. is regulated by the Central Bank of Ireland.

CHALLENGING TIMES

AIB hosted a round-table discussion with a number of key figures from the supply-side of the energy efficiency and energy management sector to flesh out some of the key issues and challenges they face. Some of the main ideas and points raised are summarised below.

- The panel included the following:**
- Donal Sugrue:** DCS Energy
 - Peter Egan:** Emerson Industrial Automation
 - Tony Lyons:** Finning Ireland
 - Tommy Tighe:** Invertek Drives
 - Liam Relihan:** ResourceKraft
 - Alan Fox:** HDS Energy Group
 - Brendan Lynch:** Filtrex
 - Michael Nolan:** Patina Lighting

The prospect of spending money on energy efficiency measures in order to save money is not a sales pitch Irish SMEs respond to very well. There are a number of reasons for this. We have all heard the expressions that “Time is Money” and “Cash is King” and in today’s economic climate these sayings have never been truer. Suppliers, consultants and state agencies need to get better at advising SMEs on their options and guiding the key decision makers through the process. At the same time a proper finance offering, designed for energy efficiency projects, can help keep cash in the business while it realises the savings from an energy efficient project.

Opportunities to apply energy efficient measures, with quick paybacks, are abundant. In a lot of cases, however, Irish SMEs tend to wait until a ‘crisis’ moment before making

a decision to invest in an energy efficiency project. “If it isn’t broken, don’t fix it” would appear to be the policy adopted by many SMEs and it is only when a piece of machinery breaks, and needs to be replaced, that they will consider an investment in a new machine, even though a pro-active replacement strategy a number of years before might have justified itself based on the savings to the energy bills alone. Another example of a crisis moment is when an SME receives a shock bill from its supplier.

“SMEs tend to wait until a ‘crisis’ moment before making a decision.”

DECISION MAKERS

He/she who holds the purse strings typically makes the decisions in most SMEs. The individual responsible for the facility or office typically has been given a cost-cutting agenda coupled with a small capital budget. As a result there is no capacity for this individual to make the decision to spend company funds on an energy efficiency project even if it paid for itself in less than a year. Therefore the suppliers need to engage with the CFO and educate them on the potential return on investment (ROI). This challenge is easier when the SME is spread over multiple sites as most measures can be scaled and the return amplified.

With a strong ROI case and available bank finance a CFO is armed with the required tools to make a decision, assuming the

technology risk is acceptable. There are countless examples of hotels, retail outlets, food producers and offices doing projects, funded by bank finance, that create greater energy savings than the cost of the bank finance.

LIFE TIME COSTS

A typical electrical motor costs only 1% of the total energy that same motor will use over time. Why is it then Irish businesses buy the cheapest motor with the highest energy consumption? The answer is probably two fold. First, the ‘cash is king’ issue once again comes to the fore and if SMEs do not believe they can get finance for the equipment then the availability of cash, or competing demands for cash, will influence the decision. Secondly, the level of comparative information about the running costs of each piece of machinery is poor.



“A typical electrical motor costs only 1% of the total energy that same motor will use over time.”

A FAST YES VERSUS A SLOW NO

When it comes to selling energy efficiency solutions to SMEs a smaller ‘menu’ of comprehensive solutions may be better than an ‘al la carte’ menu of open-ended solutions. Getting to a decision is also particularly frustrating for vendors and by narrowing the available solutions, in addition to focusing on specific industry segments, vendors can speed up the sales cycle. If it’s going to be a ‘No’ then vendors would like to hear that early on. Increasingly, customers are looking to their vendor for finance options. Vendor finance for energy efficiency projects is thin-on-the-ground and to date, banks haven’t really been open to this type of business. So, in the absence of a finance offering, some vendors have either moved up the value chain to larger SMEs, semi-state organisations and corporate clients, or they have reverted to a ‘try before you buy’ approach where they embed the solution into the organisation in the hope that the performance will close the deal.

ROLE OF ENERGY RETAILERS: COMPARISON TO THE USA

USA energy retailers play an integral role in energy efficiency projects. Over time, mandated levies on the retailer have been pooled for the sole purpose of supporting energy efficiency schemes. They are the key driver of energy efficiency



projects and, their funds provide the stimulus that the market requires to adopt energy efficient measures.

Irish energy retailers do not have such a fund. Instead, Irish energy retailers have obligations to reduce the energy consumption habits of their customers, pro-rata to the size of their customer base and each energy retailer has submitted a plan to make these reductions. As key market participants it is imperative that the energy retailers are appropriately incentivised and also compelled to help their customers as is the case in the USA.

INCENTIVES IN NORTHERN IRELAND Vs REPUBLIC OF IRELAND

Energy efficiency projects, especially those involving CHP, are more attractive if based in Northern Ireland, given the support mechanisms in place. Northern Ireland’s renewable heat incentive (RHI) is a scheme that provides financial support to non-domestic renewable heat generators. This incentive does not exist in the Republic of Ireland.

From 2010 onwards CHP plants in the Republic of Ireland directly avoided 500kt of CO₂ due to their efficiency levels. This additional benefit can come with a reward for CHP owners in the form of a rebate for each tonne of CO₂ avoided. However, to date there has been an alarmingly low number of CHP plants that have received a license to obtain this specific benefit.

Furthermore, for certain biomass plants, like Anaerobic Digesters, the equivalent off-take price is nearly double that of the REFIT scheme in the Republic. This creates a distortion in the market up and around the border counties, with feedstocks travelling north. The knock-on impact is that plants on the southern side of the border are unviable. In general, we need

a more consistent whole-island support scheme that is sufficient to make projects viable and attractive to businesses.

Accelerated Capital Allowances (ACA) are also available in the Republic of Ireland for all qualifying energy efficiency technology. This is a help but very few SMEs understand precisely what is available to them. Nor do they have the profits to fully benefit from this tax allowance in the first year.

When it comes to assessing energy efficiency grants for SMEs, there are pros and cons. The most obvious benefit is that a grant can reduce the cost of the overall project for the SME and, for marginal cases, it can create the tipping point required. Against this, however,

“As key market participants it is imperative that the energy retailers are appropriately incentivised and also compelled to incentivise their customers as is the case in the USA.”



unnecessary delays in getting a grant and getting a decision to proceed can be frustrating. For projects that create more savings than the cost of finance, a grant should not be required to make that decision. It just makes good business sense to do it regardless. In future it is expected that a combination of a state supported fund and the local banks will finance some of the projects going forward.

ESCO MODELS – CAN THEY WORK FOR SMES?

Energy Service Company (ESCO) models, designed to take single projects off-balance sheet and without any kind of aggregation of projects, are not viable for SMEs that want to undertake an energy efficiency project. The transaction costs, risk-sharing

and availability of finance are not sufficiently attractive to suppliers and/or financiers. To make an ESCO model work, a large supplier and off-taker (typically a corporate size business or semi-state) is required while the project size needs to be a minimum of €500,000 in spend to justify the extra legal and technical effort required to structure an ESCO arrangement. As a result, the more tried and tested model of banks providing finance to the SME, facilitated by the supplier, needs to be streamlined to give this part of the industry the shot-in-the-arm required.

LEGISLATION AND REGULATION

In some segments of the market legislation that sets a

benchmark for energy efficiency has dramatically improved the likelihood of SMEs buying energy efficient technology. In 2009 the European Parliament passed the “The Ecodesign Directive (2009/125/EC) which includes EuP (Energy Using Products) and ErP (Energy Related Products)” to ensure that every new machine bought (eg pumps, motors, boilers) meets a minimum standard energy rating. The first stage of the legislation came into Irish law in 2011. This has had a positive effect in removing the least efficient motors from the European market place. The second and third stages will become effective in 2015 and 2017. What is clear, however, is that similar legislation is required across the board to prevent

inefficient product from reaching the market.

Suppliers would also like to see more regulation in the market, particularly when it comes to the levels of quality service. As some energy efficiency solutions can require significant design and integration it is imperative that experienced qualified suppliers are promoted. Allowing suppliers with a short-term-gain attitude to operate in the market increases the risk of reputational damage to the industry if anything goes wrong. Stricter enforcement would be welcomed to prevent suppliers undercutting the market by selling sub-standard equipment/machinery with higher running costs.

MACRO CHALLENGES

To really get the industry moving in the right direction, a number of things are required.

First of all, SMEs will need a compelling reason to think about undertaking an energy efficiency project. Peer competition, in the form of specific industry benchmarks, can ignite demand.

Secondly, it is desirable that banks work with the industry in providing finance for strong projects. With the help of bank finance companies can keep their cash-flow intact and still benefit from the costs savings. Banks can also help educate their customer base and be a real catalyst in the marketplace.

Finally, legislation and regulation will be required if standards are to be raised and to stem the flow of inefficient equipment that is currently entering the country. Over time, the menu of options available will be confined to energy efficient equipment that will benefit all the stakeholders in the industry while at the same time achieving many of the targets that have been set. ●

THE FINE PRINT

Many SMEs don't fully understand what they are being charged for when their energy bills arrive in the post. Liam Relihan of ResourceKraft explains each of the items listed on a typical gas and electricity bill.

Your Gas Bill

The first step when comparing any bill is to check the billing period, as the number of billing days in each month varies. This will have an effect on the bottom line. Often SMEs will find gas bills that are either estimated (indicated by the letter E after the meter reading value) or have a consumption period that is not the standard calendar month due to manual meter readings.

When analysing the bill, companies should carefully go through it line by line, comparing each item with the previous month's bill as the consumption patterns can vary considerably depending on the operations at your site. They should also try and understand and be aware of these changes and how they can impact on consumption and cost. For any company wishing to cut its gas bill, there are two key ways of doing this, both of which are to be encouraged. The main one is to reduce the consumption of gas by whatever means possible. SMEs should also talk to their gas supplier or shop around for a better tariff.

Your Gas Bill...

Mr John Doe,
Street Name,
Town, Name,
County Name,
Country Name.

COMPANY XYZ

Consumption period: 01 April 13 - 30 April 13 4

Account number: 1234567890
Invoice number: 1094

Date of issue: 16 May 13

Capacity: 8996

Read Type: Actual

METER NO.	METER READINGS		CONVERSION		GAS USED	GPRN	AC BAND
	CURRENT	PREVIOUS	UNITS	CONVERSION FACTOR	kWh		
000001	973047	933673	39374m ³	11.3338	446257	0123456	Z

	AMOUNT €
5 Gas Commodity Tariff	€9,678.00
6 Carbon Tax	€1,651.00
7 Fixed Rate Charge	€2,075.54
8 Site Charge	€1,572.09
9 Gas Shrinkage Charge	€158.42
V.A.T. @ 13.5% on €15,135.05	€2,043.23

CREDIT FINANCE INCLUDED

None

PLEASE PAY BY

Overdue

TOTAL €

€17,178.28

Direct Debit - The easy way to pay your bill. Phone 555 123 456

Page 1 of 1

1. CONVERSION FACTOR

The conversion factor is a metric used to convert the m³ "meters cubed" of gas that you consumed and translates it into kWh "kilo Watt hours" of energy consumed. This metric is subject to minor changes on monthly basis from your utility supplier.

2. GPRN

"Gas Point Reference Number" is your unique identification code which identifies your meter and connection to the main gas network.

3. AC BAND – ANNUAL CONSUMPTION BAND

The AC Band is a letter that identifies the amount of energy you typically consume in a year. This can impact on your Gas Commodity Tariff which you negotiate with your utility supplier. The bands are as follows...

- A: Less than 6,000kWh
- B: 6,000kWh to 23,500kWh
- C: 23,500kWh to 73,000kWh
- X: 73,000kWh to 750MWh
- Y: 750MWh to 5,500MWh

4. CONSUMPTION PERIOD

Is the period of time that the bill is calculated in this example from April 1 – April 30.

5. GAS COMMODITY CHARGE

The gas commodity charge (cent per kWh) reflects the monthly unit rate of wholesale gas. Natural gas is purchased in sterling on your behalf in the UK natural gas wholesale market. The cost of natural gas varies according to demand and supply.

6. CARBON TAX

This is a governmental charge implemented to tax all CO₂ emissions. The amount of CO₂ emitted depends on how much energy you consume.

7. FIXED RATE CHARGE

The Fixed Rate Charge (c/kWh) incorporates those costs which depend on the volume of gas supplied where the appropriate rate of cost recovery (per kWh consumed) remains constant through the gas year and does not vary between customers. This charge consists of transmission commodity tariffs, distribution commodity tariffs, UK transportation

costs, swing flexibility and an approved margin on total costs. This is a per kWh charge for the provisioning of gas to your site.

8. SITE CHARGE

The standing charge that appears on customers' bills for both gas and electricity goes toward the maintenance of the countries gas and electricity infrastructure i.e. gas pipes and electricity pylons. This charge is a fixed daily rate, market pressures influence what the utilities choose to apply.

9. GAS SHRINKAGE CHARGE

Gas Shrinkage charge means the cost of the Natural Gas which is used by the Transporter for the operation of the Transportation System including, inter alia, at compressor stations and lost or otherwise unaccounted for from the Transportation System or any part of the Transportation System.

(Source: ResourceKraft)

Your Electricity Bill

While there are many SMEs throughout the country that do not use gas, every SME uses electricity and for the vast majority of them, it accounts for an increasing part of their overall operating costs. When checking any electricity bill, it is important that the billing period is examined first, as the number of billing days in each month varies. Companies should also check the tariff they are on to see if it is right for them. They should also be aware that some tariff types are seasonal.

When scrutinising the bill, they should continue through your bill comparing each line item with the previous months as the consumption patterns can vary depending on the operations at the site. They should be aware of these changes and try and understand how they impact on consumption and cost. Look for any one line item that appears to have increased considerably and question why this is. In addition look out for any surcharge items like Low Power Factor Surcharge as this indicates that they have been charged for abnormal usage at the site.

The reality is that there are three main ways SMEs can reduce their monthly electricity bill. The most obvious one is to reduce electricity consumption. In addition SMEs

should engage with their utility supplier and try and negotiate a more favourable tariff. Finally they should ensure that the Maximum Import Capacity (MIC) is correct and that

they are not paying for additional capacity that they don't use. Ideally, they should also seek professional advice when making any changes to the MIC.

Your Electricity Bill...

Mr John Doe,
Street Name,
Town, Name,
County Name,
Country Name.

COMPANY XYZ

ACCOUNT INFORMATION Bill no: 123456789
Account number 567890123
Accounting period 1 Apr 2013 to 30 Apr 2013
MPRN number 10305641868 **1**
DUoS/TUoS Cat Code DG6 Meter Conf Code MCC06 Profile 08 **2**
Maximum import capacity 1000 kVA

SUMMARY OF BILL Date: 16 May 2013
CURRENT SITE BILL AFTER ADJUSTMENTS €39,319.98

DETAILS OF CHARGES	TARIFF: Low Voltage Max Demand Billing Period: 1 Apr to 30 Apr 3		
4 Standing Charge	30 Days	€6.36 Per Day	€190.80
5 Day Units	134,500 kWh @	€0.160	€21,520.00
6 Nights Units	77,500 kWh @	€0.0745	€5,773.75
7 Service Capacity Charge (KVA)	1000 kVA @	€5.03	€5,030.00
8 PSO Levy	1000 kVA @	€1.98	€1,980.00
9 DUoS Capacity Charge	1000 kVA @	€0.0160	€16.00
10 TUoS Capacity Charge	1000 kVA @	€0.0266	€26.60
11 LPFS (Low Power Factor Surcharge)	0 kVrh	€0.008450	€0.00
12 Electricity Tax	212,000 kWh @	€0.0005	€106.00
VAT @ 13.5% on €34,643.15			€4,676.83

PLEASE PAY BY	TOTAL €
Overdue	€39,319.98

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1. MPRN

Metering Point Reference Number this is a unique number used to identify your meter network connection.

2. DG MC PROFILE

Used to identify user configuration and usage profile. The band which you fit into can dictate what rates you will buy your electricity at.

3. BILLING PERIOD

The period for when your electricity consumption is billed.

4. STANDING CHARGE

The standing charge that appears on customers' bills for both gas and electricity goes toward the maintenance of the countries gas and electricity infrastructure i.e. gas pipes and electricity pylons. This charge is a fixed daily rate and is site dependant.

5. DAY RATE

This charge is applied between the hours of 08.00 to 23.00, this rate is agreed upon during negotiations with your utility provider.

6. NIGHT RATE

This charge is applied between the hours of 23.00 – 08.00. This rate is also agreed upon during negotiations with your utility provider.

7. SERVICE CAPACITY CHARGE

Maximum Import Capacity (MIC) is the level of electrical capacity contracted between your business and ESB Networks. The service capacity charge on your bill is based on your contracted MIC level. The unit of measurement for MIC is the kilovolt ampere (kVA).

8. PSO LEVY

The Public Service Obligation (PSO) Levy is a charge relating to the costs of purchasing peat generated electricity and the output of renewable, sustainable or alternative forms of energy purchased under various Government schemes. All electricity suppliers are obliged by government to apply these charges in the interests of security of supply and environmental protection.

9. DUOS CHARGE

A DUoS charge is a fee that ESB Networks charges your Electricity Supplier for use of the Electricity Distribution System. This is a toll for the use of the ESB Networks Distribution network.

10. TUOS CHARGE

Transmission Use of System Charges are charges for the provision of access to the transmission network to transfer energy for trade in the market. This is a toll for the use of the ESB Networks transmission network.

11. LPFS

The low power factor surcharge applies when the metered wattless power is more than one third of the metered kWh (in any two monthly billing period). The charge is applicable to the kVArh in excess of one third of the kWh.

12. ELECTRICITY TAX

This is a charge applied by government on each unit of electricity consumed. ●

(Source: ResourceKraft)



ENERGY EFFICIENCY IN ACTION

Many Irish companies have benefited financially from implementing energy efficient initiatives over the past few years. Outlook examines four very different case studies to see how each of them managed to make considerable annual savings.

Garryvoe Hotel CASTLEMARTYR, CO. CORK.

Located in Castlemartyr, Co. Cork, the luxury four star Garryvoe Hotel has undergone a substantial expansion in recent years. With this expansion, a renewed focus on its energy costs was central to the hotel's business strategy.

In 2009, prior to its expansion, the hotel's annual expenditure on its electricity and gas requirements was in the region of €137,000 per annum. This covered the running of 40 hotel bedrooms, a ballroom with a capacity for 150 people, two kitchens, the Cave Bar and the popular Lighthouse Bar & Grill. The following year, the hotel

embarked on a major expansion by adding an additional 44 bedrooms, a health-club, including a general swimming pool, a 25 metre lane pool, a 40-piece gym, an outdoor hot-tub as well as a new kitchen and a second ballroom, capable of seating up to 350 guests. In the process, the hotel effectively doubled in size.

In 2010 the hotel began to strategically look at all the options open to it in terms of its future energy requirements. Consideration was also given to future energy cost increases as well as possible supply problems down the line. After an exhaustive research, the hotel settled on the installation of a full CHP plant that was fuelled on natural gas. In planning its

energy management programme, the hotel looked at all aspects of energy usage and conservation. Actions such as the following were used to become more energy efficient:

- Retro fitting all energy efficient light bulbs.
- Fully insulating wall, ceilings and attic spaces properly.
- Fitting a very high level of lagging and cladding on all pipe work.
- Installing heat recovery systems where practical.
- Rain water harvesting.
- Absorption chilling systems for its conference rooms and ballrooms.
- Electronic dimming systems on its public area lighting banks.
- Installation of a fully integrated Building Management System to monitor and control heat and hot water systems throughout the building.

If the hotel didn't invest in the energy management programme, its annual bill would have been in the region of €270,000 per annum. Despite doubling the size of the hotel, it was successful in keeping in check its energy costs with the average annual increase kept to around €57,000. As a result, the annual saving of around €80,000 has strengthened its loan repayment capacity while at the same time boosting the bottom line. The savings have also meant that additional resources have been freed up for marketing and product enhancement. On top of the obvious financial

benefit, there were numerous other advantages. The hotel now has reduced carbon emissions by 44% – the equivalent of removing the emissions of 150 cars from the roads every year. This meant the hotel received the Platinum Award from the Green Hospitality Association of Ireland. It also meant a reduction in its annual carbon tax payment.

The Garryvoe Hotel now also has enhanced security of energy supply. This means the hotel is no longer reliant on securing the majority of its electrical demands from the electricity grid.

Stephen Belton, Managing Director at the Garryvoe Hotel says about the initiative: "The development and installation of all our energy management systems, plant and machinery were integral parts of our overall business plan for the last number of years".

"Our development as a company could not have happened without the support of our local AIB Business Relationship Manager and the overall support given by our bank. Planning for increasing sales and indeed reducing and safeguarding cost levels have to be part of an effective business plan. Funding capital expenditure such as CHP plants, which have a direct cost saving simply makes commercial sense," he adds.

"As a result, the annual saving of around €80,000 per annum has strengthened its loan repayment capacity while at the same time boosting the bottom line."

Bewley's

CO. DUBLIN.

Tracing its origins back to the 1840s, Bewley's is synonymous with the foodservice sector in Ireland. At the company's Northern Cross headquarters in Dublin, it roasts and packs coffee as well as blending and packing tea all of which ends up in the retail and foodservice sectors. The company also manufactures products for other companies under contract. The Northern Cross facility also contains the central warehouse for bought-in ancillary ranges and equipment.

In 2011, there was a 14% increase in manufacturing volumes on the previous year. To manage the costs arising from the increase in energy consumption, Bewley's commissioned an energy audit of the facility which recommended a number of actions.

The first set of recommendations related to thermal energy consumption. These included improved insulation for its roasting equipment, the installation of two gas meters to

monitor consumption patterns and, following a HVAC services survey, a review and re-balance of its air handling unit system (air handling units are used to deliver heated air to spaces where employees work or to areas where product is stored and these areas must be kept at a particular temperature to maintain product quality or for worker comfort).

A second set of recommendations related to lighting. In the past Bewley's used high load light fittings throughout the factory and warehouse which were not energy efficient and did not facilitate sensor control. As there are some aisles in the warehouse which are infrequently visited Bewley's replaced the old fittings with energy efficient ones and, where appropriate, sensor controls.

The company has since developed and also installed an energy monitoring system which records and reports consumption data from significant users throughout the site.

Bewley's invested €65,790

in implementing the various recommendations and with a grant from SEAI, the payback period for the project was only 1.9 years. The energy saving measures implemented provided CO₂ emission reductions of at least 109t CO₂. This also meant a reduction in carbon offsetting costs.

Production has continued to increase, and was up by 17% in 2012 on 2011 volumes while the company continues to benefit from the savings accruing from the energy efficiency measures implemented.

"The development and successful completion of energy efficiency programmes is integral to Bewley's environmental policy as almost 50% of our carbon emissions are generated by energy consumption," says Kathryn Costello, operations director of Bewley's. "It also benefits us financially with growing production volumes and rising energy costs. The provision of grant funding by bodies such as SEAI for capital expenditure has meant that energy related projects with improved payback ratios were prioritised for completion," she says.

producing mushrooms for many private label retail brands and customers including Super-Valu, Centra, Superquinn and Tesco. The company also supplies independent retailers in addition to a wide variety of customers in the foodservice sector.

Adopting a strong eco image where crops are grown without the use of pesticides and steam is used to sterilise the growing houses, the family installed a woodchip bio-mass steamed boiler, to replace its existing oil fired boiler.

The biomass steam boiler is a low pressure 900 kW boiler fuelled by locally sourced wood chip. This keeps substantial funds in the local economy as it is typical to draw woodchip from distances of less than about 60 km. It also offers more stable pricing than fossil fuels which are dependent on currency and international market fluctuations.

The Kerrigan family is happy with its decision not only from an energy and environmental point of view but also a financial one. Running costs to date are approximately 30% less by using woodchip instead of oil saving €30,000 a year on oil alone.

To further reduce costs, Kerrigan's, with the support of the Sustainable Energy Authority of Ireland (SEAI), has recently installed a range of upgrades to its mushroom housing tunnels. The project includes a diverse range of measures such as improved air-tightness of the tunnels to reduce air infiltration, variable speed drives on pumps and fans, and new air-handling units to reduce electricity and improve ventilation. All of these will improve the energy performance of the operation. Training of drivers of company vehicles has also been undertaken to achieve more



Kerrigan's Mushrooms

KELLS, CO. MEATH

Based in Kells, Co. Meath, Kerrigan's Mushrooms was established in 1981 and is now one of the top mushroom producers in the country. A family-owned and managed enterprise, it employs 80 people and produces around 40 tonnes of mushrooms every week.

The company sells mushroom products under its own brand, Kerrigan's Mushrooms, as well as



JOHN KERRIGAN

savings. Overall, savings are expected to be approximately 147,000 kWh electricity, 590,000 kWh woodchip, 65,000 kWh kerosene and 22,000 kWh diesel. Combined, these initiatives have delivered cost savings in excess of €50,000 per annum.

John Kerrigan, Managing Director of Kerrigan Mushrooms said about the project: "Kerrigan's Mushrooms strives

to increasingly improve the sustainability of its produce. Using support from SEAI we have managed to achieve savings in excess of €50,000 by improving the energy efficiency of our mushroom housing tunnels. The advice and support provided was of immense help to us to find ways to reduce energy costs and become more environmentally friendly".

POULTRY FARMING

In Ireland's thriving poultry sector, SEAI, has worked with a number of firms around the country by helping them to upgrade their lighting and heat control systems

Artificial light and lighting controls are important to the poultry broiler sector and different light levels affect the birds' behaviour in terms of feeding, breeding, laying and sleeping.

A pilot project was recently completed to upgrade the lighting systems in more than 40 broiler sheds across Ireland. This involved replacing inefficient incandescent lights with energy efficient T5 fluorescent alternatives and daylight linked

and presence detection controls and also installing an energy cost meter at each site to record energy use and costs. When fully operational, average savings of 60% in lighting use and associated costs were recorded equating to over €1,700 saved in annual electricity costs per shed.

Other benefits included:

- Increased bird breeding and laying.
- More even distribution of light, leading to better bird distribution and reduced bedding costs.
- Lower maintenance costs, as the new lights last on average 20,000 hours.

SuperValu

CARRICKMACROSS,
CO. MONAGHAN

SuperValu in Carrickmacross, Co. Monaghan has been a family-run business for the past 40 years. With energy prices constantly rising, the O'Gorman family, which owns the store, was looking for a solution that would reduce its energy costs as well as optimising its consumption. According to Eugene O'Gorman, the annual energy bill was in the order of €100,000.

Energy consultants Endeco Technologies was commissioned to undertake an energy audit and implement an energy optimisation solution. The company identified the real energy saving opportunities which were then implemented using the Optimisation system. Some of the solutions included the following:

- Heating, ventilation and air-conditioning was turned off and left off when not needed.
- Chilling functions were managed more effectively by wireless sensors to ensure that the store is kept to the optimal temperature on a zone-by-zone basis.
- Lights were switched off when they are not required (manual control).
- Non-critical fridges were turned off when there was no requirement for them to be functioning.
- Optimisation of the refrigeration packs for their defrost cycles.
- Removing the risk of penalties for exceeding MIC levels and controlling MIC to the appropriate MIC level and reducing annual costs.
- Reducing any power factor charges.
- Optimisation against Smart tariffs so that electricity could be more effectively purchased.



EUGENE O'GORMAN

According to Eugene O'Gorman, they looked at the energy savings and technologies available and decided to go with predictive energy efficiency. Scheduling a day ahead is now part of the solution in order to reduce the cost of electricity by avoiding the peaks when costs are highest while at the same time taking advantage of low priced electricity.

The optimisation software now predicts when energy spikes are going to occur and automatically reduces consumption while maintaining overall operations. Slowing down consumption on site when peaks occur also avoids high costs and capacity penalties.

The project was financed through internal funding. Energy savings were about 160,000 kWh which was equal to around €22,000 savings a year, ensuring the return on investment was made in under 12 months.

"Our business has evolved over the years, into the state of the art premises and shopping experience we have today. Now, we are reducing our energy consumption. Our optimisation engine software is delivering us cashback. It's making us more cost effective. This in turn allows us to reduce our CO₂ emissions," says Eugene O'Gorman. ●

A COMPETITIVE MARKET

The Irish energy market has become very competitive since deregulation and Irish energy prices are now more or less on par with the rest of Europe.

Since deregulation of the Irish energy market began, the Irish energy landscape has changed beyond recognition with no fewer than eight Irish and international companies offering gas and electricity to Irish SMEs.

Competition in the energy market has led to greater choice for Irish SMEs while it has provided far greater transparency in the overall marketplace.

In the electricity supply market, Electric Ireland is the largest supplier in terms of customers across all segments of the market in terms of customer numbers and in terms of MWhs in both the domestic and large energy user (LEU) market. In terms of the number of customers it has, its market share of small business market alone, stood at 45.78% at the end of March 2013. This compares with its nearest rival, Energia, which ended Q3 with a 23.88% market share. However,

in terms of MWhs, Energia remains the largest supplier in the small and medium business markets with a market share of 33.92% compared to Electric Ireland's 32.42%. Airtricity's market share of the small business market, meanwhile, stood at 20.78% in terms of customers and 23.20% in terms of MWhs (Table 2).

In the gas market, competition is also intense with a total of seven players selling gas into the corporate market. Not surprisingly Bord Gáis Energy is the largest player both in terms of its customer base and in terms of GWhs output in the small business market. At the end of Q1 2013, it had 10,336 customers, giving it an overall market share of 44.88%. Its closest rival was Flogas with 5,938 customers giving it a market share of the small business market of 25.78%. Energia, meanwhile, ended Q1 2013 with 3,923 small business customers, giving it a market share of 17.03%. (Table 3)

SWITCHING

A central objective of Ireland's deregulation strategy has been to ensure the creation of a competitive environment that would allow businesses and indeed consumers to switch suppliers whenever they wanted to. Indeed switching is an important metric of both competition and consumer engagement in the retail markets. Switching is continuing in both the electricity and gas markets and switching rates are above 10% in both markets.

According to figures compiled by the Commission for Energy

Regulation (CER), reductions in switching were experienced in both electricity and gas between 2011 and 2012. The total number of switches completed in the electricity market in 2012 was 252,056.

The total number of switches completed in the gas market in 2012, meanwhile, was 110,579. (Table 4)

ENERGY PRICES

An open and competitive energy market should, in theory, lead to more competitive pricing tariffs. In the case of Ireland, however, specific market conditions outside the control of the different stakeholders can also influence price changes.

Energy prices in Ireland are made up of a number of different components, each of which is driven by differing factors. These include Government policy (Carbon tax, VAT, PSO levy), network costs, supply costs and, probably the most significant influencer, the actual wholesale cost of importing energy.

Ireland imports significant amount of its energy requirements. In 2011, approximately 88% of the country's energy requirements, worth around €6 billion, were imported. While this is down from 90% in 2006, according to figures compiled by Sustainable Energy Authority of Ireland, it still is a sizeable import requirement. Variations in global gas prices are outside the control of the different stakeholders in the energy industry in Ireland. It also means that any fluctuations in international gas price and exchange rates can significantly

TABLE 1
NON-DOMESTIC ENERGY SUPPLIERS

GAS	ELECTRICITY
Electric Ireland	Electric Ireland
Bord Gáis Energy	Bord Gáis Energy
Airtricity	Airtricity
Vayu	Vayu
Energia	Energia
Phoenix	Endesa (1)
Gazprom	

Source: Commission for Energy Regulation Annual Report 2012
1. Endesa was acquired by SSE Generation in October 2012

TABLE 2
SMALL BUSINESS MARKET SHARE OF ELECTRICITY SUPPLIERS: Q1 2013

	Customers	MWhs	Market Share (1)
Electric Ireland	86,757	322,418	45.78%
Airtricity	39,553	230,693	20.87%
Bord Gáis Energy	17,752	100,634	9.37%
Energia	45,259	37,332	23.88%
Others	202	3,440	0.11%
Total	189,513	994,517	100%

Source: Commission for Energy Regulation
Market share based on number of customers.



impact on retail energy prices as 62% of all electricity generation in Ireland is dependent on imported gas.

There are a large number of tariff plans available to both domestic and business customers and all suppliers operating in the Irish market are obliged to publish details of these tariffs to domestic customers. In case of the business market, many suppliers provide bespoke plans and information on such plans is not published.

Of the eight suppliers operating in the gas and electricity market, four of them operate in both markets. Two of these – Airtricity and Electric Ireland – actively

promote bundled dual fuel offers with price discounts for domestic customers that avail of both services from the same supplier. These dual fuel offers had a major impact on the market in both 2010 and 2011 although since then the proportion of customers purchasing electricity and gas from the same supplier stabilised in 2012.

In the case of electricity prices, the price of business electricity for the band which accounts for the highest consumption (band IB with a 31% consumption share) was on average 15.74 cents/kWh in the second half of 2012. While they are still above the euro area average, they have become more

TABLE 3

NDM MARKET SHARE OF GAS SUPPLIERS: Q1 2013 (1)

	Customers	GWhs	Market Share (2)
Bord Gáis Energy	10,336	268	44.88%
Airtricity	1,446	46	6.28%
Electric Ireland	852	14	3.70%
Flogas	5,938	212	25.78%
Energia	3,923	135	17.03%
Vayu	534	29	2.32%
Others	3	0	0.09%
Total	23,032	704	100%

Source: Commission for Energy Regulation. Non-daily metered industrial and commercial. Market Share based on customer numbers.

TABLE 4

TOTAL SWITCHING ACTIVITY

	Electricity	Gas
Q1 2012	64,788	26,705
Q2 2012	66,271	25,245
Q3 2012	63,730	27,276
Q4 2012	57,267	30,353
Q1 2013	63,574	30,783
% Change Q1 2012-2013	-1.9%	+15.27%

Source: Commission for Energy Regulation

favourable in comparison to the euro average since 2008.

In terms of gas, the prices in most consumption bands on offer to Irish businesses are

below the European average (except for prices in Band 13). However, prices for business gas and indeed gas for the domestic market have increased over the last 12 months. ●

WORLD ENERGY OUTLOOK

The global energy market is changing rapidly and these changes will have a significant impact on Ireland's future energy requirements.

A resurgence in oil and gas production in the USA, a retreat from nuclear power in some countries, the continued rapid growth of solar and wind technologies and a desire by many governments to become more energy efficient will all have a major impact on the global energy market. Global energy demand is expected to

increase by one-third between now and 2035 according to some industry experts, with emerging markets in the Middle East, India and China accounting for around 60% of this growth. During this period, energy demand in OECD countries is likely to show modest growth, although there is likely to be a shift away from oil, coal (and in some countries nuclear) towards natural gas and renewables.

According to the World Energy Outlook report for 2012, energy efficiency offers enormous opportunities to the key stakeholders around the world although it also points out that

there are significant barriers. "Energy efficiency is widely recognised as the key option in the hands of policy makers but the current efforts fall far short of tapping its full economic potential."

The report highlights various initiatives rolled out by China – which is targeting a 16% reduction in energy intensity by 2015 – and the EU which has committed to a cut of 20% in its 2020 energy demand. But a lot of work needs to be done if these targets are to be met.

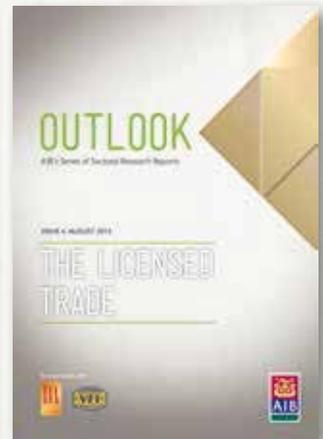
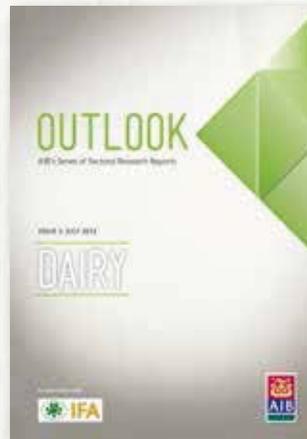
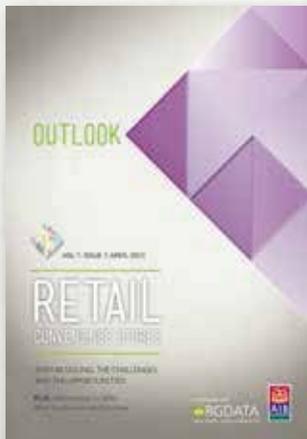
Tackling the barriers to energy

efficiency investment can unleash significant economic potential for countries the world over, notes the World Energy Report. "These gains are not based on achieving any major or unexpected technological breakthroughs, but just on taking actions to remove the barriers obstructing the implementation of energy efficient measures that are economically viable," notes the report. "Successful action to this effect will have a major impact on global energy and climate trends. The growth in global primary energy demand to 2035 would be halved," it concludes.

OUTLOOK

Outlook is a series of AIB reports that examine and analyse the key issues affecting particular sectors and sub-sectors within the Irish economy.

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