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TOTAL

Low carbon is the future

Much needed legislation to promote low carbon energy production, make businesses more energy efficient and to secure the UK's power supplies, have been proposed by the new Government

It is hoped the new 'Energy Bill' will provide a step change in the provision of energy efficiency measures to homes and businesses, and to put in place a framework to deliver a future with secure, low carbon energy supplies and fair competition in the energy markets.

Energy and Climate Change Secretary, Chris Huhne said: "The programme makes clear that energy security and taking real action to tackle climate change aren't add on extras for this new Government, but are vital to our national interest.

"The Bill is designed to ensure our energy system is fit for the 21st century."

Let's all hope that Mr. Huhne is as good as his word and he doesn't succumb to the previous regime's policy and find himself replaced in a few months.

It is understand the policy could introduce powers to regulate the emissions from coal-fired power stations, reform energy markets to deliver security of supply and ensure fair competition, and put in place a framework to guide the development of a smart grid that will revolutionise the management of supply and demand for electricity.

These are policies the MEUC has been pressing ministers to consider for many years. Mr. Huhne be warned, the energy industry is watching your every move!

Peter Roper,
Editor



In this issue...

4 Energy Concerns

Andrew Buckley calls on the Government to provide a clear energy strategy

6 Understanding emissions

Antony Turner offers a visual way to understand your carbon emissions

8-9 Interview

Roland Gribben talks to Michael Dent of Total to find out what makes him so aware of major energy users' needs

10 Credit risk

Is your business managing its energy risks effectively? asks Dave Cockshott

11 Feed-in tariffs

How to boost your bottom line with on-site generation

12 Renewables

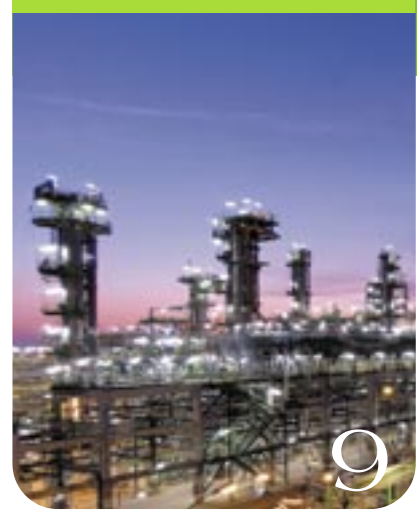
Are feed-in tariffs a mechanism to make smaller renewables more desirable?

13 Carbon reduction

A strategic approach to carbon reduction will reap rewards, says Bobby Collinson

14-15 Water privatisation

Scotland has been a global testing ground for a competitive non-domestic water market, and it has proven it can work, says Mark Powles



16 Energy Ministers

A run-down of the new Government team in charge of your energy future

16 Market risks

Peter Roper finds out whether large energy users are really concerned about the increasing level of risk facing them

18 Water

How one supplier changed its working practices for better customer communication

18 Notice Board

Key meetings for your diary

20 Carbon emissions

Government is criticised for inadequate CRC guidance

21 Monitoring

Vilnis Vesma sets the standard for effective energy management

22 Green energy

Get the right lighting and cut costs

*What issues are concerning energy users?
Can you help solve a colleague's problem?
Have you a concern that needs a solution?
Are you up-to-date with energy events?
Do you know the latest on key issues?*

Check it all out on the
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This magazine is also available in electronic format. If you would prefer to download B+UU rather than receive a print version please email: alison.emery@meuc.co.uk with your contact details.

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CLEAR DIRECTION IS NEEDED...



With world stock markets plummeting again, this time due to worries over sovereign debt, British industry is clearly not out of the woods yet. The need to prop up the weaker Euro economies is alarmingly close to home for British exporters, whilst the expenditure cuts now going forward in our own economy raise inevitable concerns over domestic demand.

Setting a clear direction for affordable and available energy supplies to support recovery therefore takes on added urgency. Labour left office with its own Regulator raising real concerns over a looming generation gap within six or seven years and the prospect of on-going and large-scale price hikes to customers over and above the future vagaries of the international oil and gas prices. These to accommodate our transition to a low carbon economy with cost estimates of around £200 billion largely expected to be paid for through higher customer bills.

No wonder two thirds of delegates to our five business energy roadshow meetings around the country said that concerns over future energy supplies and prices are now impacting their forward business plans. With the new climate change and energy team in place, the time is right for Secretary of State Chris Huhne supported by the experienced Charles Hendry, Greg Barker and Lord Marland to give the direction so long called for by both business customers and suppliers alike.

Much press focus is likely to be directed towards how the Secretary of State can square the circle of his own long-held anti nuclear views with the seemingly inevitable development of the new generation of Euro reactors, relied on to help relieve our fossil fuel dependency in the future. The difference between maintaining a floor price for carbon and avoiding subsidies for future nuclear investment may prove more than a debating point.

But, for industrial and commercial consumers and the gas and electricity suppliers near term issues need to be addressed without further delay. The arrival of LNG supplies in quantity and the commissioning of the West Wales terminals have done much to calm gas availability concerns, albeit at the cost of greater dependency on future world gas supplies. Worries over bridging the power generation gap, however, remain. 2016 is thought to be the crunch year as coal and aging nuclear plants are retired before the Euro reactors can make a contribution. Additional gas-fired plant will be needed, but suppliers are hesitant to invest until clearer guidelines are forthcoming as to the extent and support the government expects to provide for wind power and other alternative sources.

Affordability is another real worry that must be addressed. And there are two issues here. Clearly dwindling North Sea oil and gas supplies mean that we must rely for more of our supplies on imports, much of which come from countries dependent on maximising their export revenues. But for many businesses the real worry is maintaining price competitiveness for their goods in international markets. So when world gas and oil prices rise the effect on UK plc is not so serious given that competitors in other countries should face similar increases.

But, the real worry is whether we can afford a low carbon future and avoid exporting more of our jobs overseas to countries where combating climate change does not figure so highly on the political agenda. Of course most will argue that we cannot afford not to have a low carbon future but the new government team must understand how important it is to keep our energy prices in step with our competitors.

Providing affordable and available energy over the next five years is a prerequisite to our industrial recovery. We at the MEUC are looking forward to engaging with the new team on these and other issues of direct relevance to our Members.

Andrew Buckley, Director-General

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I have for several years been convinced that a fundamental reason why people don't 'get' climate change is that we don't see the 80 million tonnes of carbon dioxide we release into the atmosphere every day, mainly from burning fossil fuels. As a species we're hard-wired to react to visible things. For most people sight is our number one sense and has served us well. Now, the biggest threat we face is caused by something invisible and intangible.

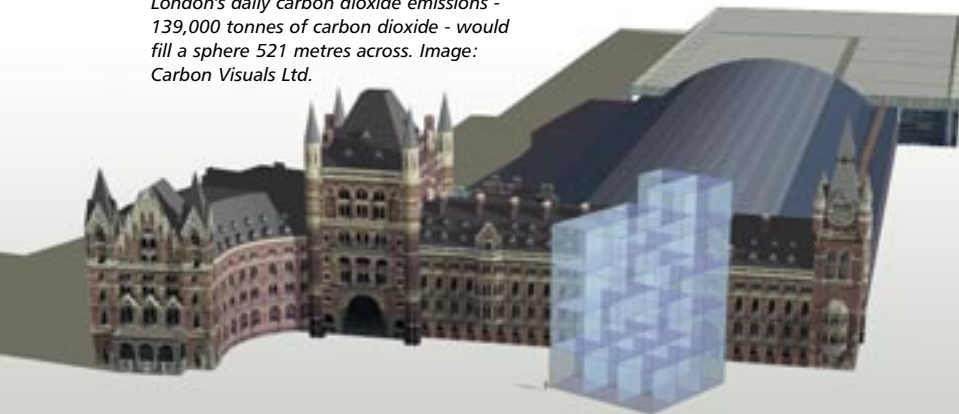
A way round this problem is to picture our greenhouse gas emissions - to illustrate the actual volume of gas. We can reveal current emissions, targets or savings (greenhouse gases that have been prevented from entering the atmosphere) in a visually compelling way. By showing these volumes of the gas at 100 per cent concentration as spheres, cubes or other shapes and placing them in landscapes familiar to the audience, then the problem starts to 'make sense'. Stakeholders recognise that the problem is real, reduction targets can be set and actions can be taken which have everyone's support.

Understanding carbon emissions is a difficult issue for most people to grasp. The gasses are invisible to the eye and therefore their weight is virtually impossible to visualise. However, during MEUC's 'Tomorrow's Energy World' meeting at the NEMEX Exhibition in Birmingham, Antony Turner, Managing Director of CarbonSense and CEO of the recently formed Carbon Visuals Ltd., had

the audience spellbound with a simple yet fully understandable visualisation method his organisation has created.



London's daily carbon dioxide emissions - 139,000 tonnes of carbon dioxide - would fill a sphere 521 metres across. Image: Carbon Visuals Ltd.



MAKING SENSE OF YOUR CARBON FOOTPRINT

Guardian News & Media's average daily carbon dioxide emissions for 2007/8 (39 one-tonne cubes). The principal audience for this image was Guardian employees. St Pancras station was chosen as the landmark that provides a sense of scale because the Guardian offices are close to St Pancras. This high view also shows the arched roof above the station platforms. This is a large enclosed volume that viewers are likely to have experienced and so provides another way to relate to the quantity. Image: Carbon Visuals Ltd.

The Carbon Quilt(tm)

IF THE daily 80 million tonnes of CO2 was a thin invisible layer over our heads at 100 per cent concentration it would be the thickness of a piece of paper - 80 microns. We have embarked on a giant 'wrap-the-planet' game with nature. But it looks like there won't be a winner. Of course nature adjusts - by absorbing half this quantity in forests, soils and oceans. But simple chemistry confirms that carbon dioxide absorption by oceans increases their acidity.

The other 40 million tonnes per day stays in the atmosphere so in effect we are building an extra 15mm of pure CO2 layer into the atmosphere every year. Before the Industrial Revolution, this 'layer' was just over 2 metres thick, vital for keeping the planet at a comfortable temperature. Now it is over 3 metres and thickening fast.

The Carbon Quilt and other volumetric representations of greenhouse gases help people to make sense of emissions and their contribution to climate change and can make an important contribution to carbon communication. Framing climate change as a problem of 'changing the atmosphere' helps people see the emissions arising from any human activity. Decisions and choices around home, work, food, energy and travel then have a reference point in people's real world. Behavioural research shows that a sense of ownership ensures people are more likely to take action.

Major energy users now have a choice. They can grumble about ever increasing Government 'red tape' around this issue, or they can radically reposition the issue as fundamental to their business. They can allocate the problem a minimum of resources and strategic thinking, or they can move into pro-active mode, recognising the enormity of the challenge and seek to find ways to be part of the solution, rather than just part of the problem.

Over the last five years we have been invited to help companies such as BT, TNT and the Scandinavian telecoms giant Telenor understand these issues and find ways to show leadership. We have used a framework called the Carbon Journey to help boards and senior managers chart a way towards a leadership position that minimises business risks and opens up opportunities whilst strengthening employee and other stakeholder engagement. And in the last two years we have increasingly used carbon visualisation as a way to help communicate carbon footprint information to both time-constrained people - typically boards and trustees - and wider stakeholder groups of employees, shareholders, customers and members of the local community.

A recent example of the success of this approach is Central Bedfordshire Council, which has become the first local authority in the UK to take the 'visual language' route to communicating carbon footprints and targets to key stakeholders and staff. The Guardian Media Group and the South Kensington 1851 Estate are also using this method for internal carbon footprint communication.

Major energy users have a financial interest in reducing their carbon footprints. But they are increasingly being asked to communicate to boards, management teams and external stakeholders. A clear climate change strategy that incorporates smart internal and external carbon communication will become increasingly important for these organisations.



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TOTAL - A UNIQUE APPROACH TO BUSINESS

In the start of a new series of interviews with top industry decision-makers, Roland Gribben talks to Michael Dent, Sales Director, Total Gas and Power about what makes him so aware of major energy users needs and concerns

Michael Dent, 36, has got the selling bug. It's not contagious although he has infected the people working directly with him at Total Gas and Power. He should really have gone into the legal profession after studying law at Northumbria University but he was attracted by the career opportunities in the deregulated electricity market a decade ago. "It was competitive, fast moving and a very young industry. The biggest appeal was not just the pace of things but the opportunity of dealing with large numbers of big national organisations," he recalls.

Northern Electric provided the introduction to the cut and thrust of the market for a local lad, Newcastle born. Total has widened his horizons and the responsibility for a business selling more than £1.1bn worth of gas and advice to 25,000 industrial and commercial customers around the country. The UK subsidiary of the French oil giant is now number two in the industrial gas market behind British Gas and gained rather than lost ground during the recession.

There was no sign of recession when he started his career with Northern before it was taken over by npower. He was thrown in at the deep end as an account manager after a spell in operations. "We didn't have any training in those days. It was training on the job, learning about the basics of the industry and its processes." Northern, top of the league in the commercial sector, was the ideal training ground for the young Dent who had already begun to make his mark.

But after an approach from a former Northern manager he was on the executive

ladder at Total in 2003. Total was already a major player back in 2003 having substantially developed a business that had stated out as AGAS, the first independent supplier in the post-privatisation era.

Dent has been an integral part of that growth. He had his first management assignment within six months of joining Total and has never looked back,

He had to make a variety of cultural adjustments in understanding the Total approach to business, its market priorities and philosophy although he was able to draw on his experience as a top class cricketer in Northumberland to demonstrate his team working abilities. The learning curve was fast and steep. "One of the things that struck me almost immediately was the amount of information flowing through the business. It was also important to appreciate the size of Total. This is one of the largest companies in the world and has vast financial muscle."

The Total approach to business embodies a variety of disciplines, not all of them unique but Dent has fully absorbed the principles and helped develop them in a rapidly changing market. "Selling is not simply about price. The whole ethos of what we do is innovation, We want to develop a very close and highly individualised relationships with customers. Solution lead propositions and imparting the knowledge we have whether about the market or anything else and help them make informed judgments."

Innovation crops up repeatedly in a conversation with Dent. He feels Total greatest strength is understanding the needs of its customers and providing solu-

tions. "Our x factor if you like is flexibility. Certainly there are a number of suppliers with similar offerings but where we aim to differentiate ourselves is on our servicing capability and the ability to bring new structures to contracts. For example everybody is talking about automated metering being a new solution but we've had this for more than two years."

Dent changes roles and imagines himself in the position of a buyer. "If I was a buyer it's not what the market is doing that's important to me but why it's doing it." The Total approach like a number of its competitors is about building and expanding relationships. "We are competitive. We always put a competitive price on the table but to us our main priority is to build a long-term relationship "

Just what sort of relationship and how long is long-term? "We're open to ideas that our customers suggest. Our sole aim is to enter into long-term relationships. It's not about what happens tomorrow but what happens over the next decade and beyond. There are unknowns in the market place and we want to try and help customers navigate through the difficult times ahead."

The uncertainties are growing and assuming more complex dimensions. For customers, suppliers and the government they range from price to security of supply. The transformation of the power industry's infrastructure with the emphasis on renewable, largely wind, resources represents, according to some critics, a considerable gamble.

Forecasts of a 70pc hike in electricity prices and a 30pc jump in gas prices to help



meet the estimated £200bn cost of the massive restructuring programme are being built into business models. Some analysts feel the impact could be considerably bigger.

The prospect of a power generating gap emerging in 2014-15 if the new capacity to replace old coal and nuclear plant does not arrive in time represents one of the biggest uncertainties overhanging the change in the colour of the energy industry from grey to green. The spectre of "the lights going out" is not yet causing sleepless nights but the issue is rising rapidly on the list of concerns about the future on the agendas of leading businesses.

Large scale businesses are also uneasy about the outlook for supplies. The rapid rundown in North Sea oil and gas and increasing dependence on imports from politically sensitive countries poses policy-makers with a series of awkward questions. And will foreign suppliers like Total be in a stronger position than their British counterparts to maintain the flow of oil and gas if trouble looms?

There are more questions than answers to the strategic issues. In the meantime Dent is focused on retention, growth and customers to satisfy. He is like others trying to help them drive through efficiency schemes and come to terms with the contentious Carbon Reduction Commitment. "One of our key differentiator is the flexibility we have introduced in our contracts which gives customers a lot of room to

manoeuvre when trying to manage price risk. It's also about the quality of information we give to customers."

Dent, who achieved Sales Director status in January, is planning to maintain a growth profile that has seen Total add a percentage point to its market share over the last five years. In 2005 it had 12pc of the UK industrial gas market. Now it has around 17pc and supplies 60,000 sites in the ownership of its 25,000 customers with around 1.5bn therms of gas a year.

He has worked his way up the Total ladder with five promotion steps and feels he has benefited from the group's approach to human capital or people. Nurturing talent is part and parcel of career development in companies the size of Total but Dent believes there is something more comprehensive and individualistic about the way the French oil giant analyses the people issues and implements policies. "Human capital is not just about pounds in revenue kilowatt hours going through the meter. The quality of staff is very important. I'm a sales person at heart and the biggest satisfaction I get is seeing other people succeed."

There is still something of the boyish enthusiasm about his job and role. "What do I enjoy about the job? It's innovation. I've been here just over seven years and found that the great strength of the business is the ability to be proactive and the speed it can embrace change. Innovation and relation-

ship building is the key to our business - and this is where we believe we add value for the customer.

Dent believes that the attention to detail and customer needs has helped Total contain any loss of business. "Take the recession. We suffered just like everybody else but our customer retention rate remained very high, around the 96pc-97pc range. This has all to do with the ethos of innovation, creativity and working through customers.

"We were still winning new customers during the recession. We were helped by having a strong but pragmatic credit policy. We've had this in place for a few years now so our customer base was strong and stable before the recession hit. Where we had problems we were able to navigate through them."

Public sector business, led by the Health Service, represents an important part of the Total customer base and the recent addition of Procurement Scotland, a contract covering every public sector site in Scotland has provided a further boost.

The challenges? "We don't know what's around the corner. Customers and Suppliers have to expect the unexpected. Yes I think all experts accept there's a gas bubble for the next two or three years but we don't know what's out there. We have to work together with customers to try and avoid the nasty surprises that may come. Long-Term relationships will be the key to mutual success"

IS YOUR BUSINESS MANAGING ITS ENERGY RISKS EFFECTIVELY?

Dave Cockshott, Corporate Markets Director at npower, is calling on businesses to put energy firmly on their management agenda and develop a comprehensive strategy to deal with the risks associated with energy.



As the UK recovers from recession it is essential that all businesses manage their risks carefully to ensure that nothing impedes their financial recovery.

The latest statistics on the state of Britain's economy show that it grew at only half the pace expected in the first quarter of the year, and at just 0.2 per cent growth, was down on the 0.4 per cent experienced in the last quarter of 2009. These figures may be revised but serve as a timely reminder that we are not out of the woods yet. There is much to be done before the economy is back on track and businesses need to do all they can to manage the risks that could impact on their performance and survival.

This financial landscape provides an interesting backdrop to the results of our seventh npower Business Energy Index (nBEI). This is an annual survey that tracks business opinion on energy use and carbon emissions. It found that energy is moving up the risk agenda for many businesses and is considered on a par with health & safety and security risks.

In the index, energy was rated at 6 out of 10 in terms of the risk it places on businesses, second only to cash flow and legislative risks. For major energy users specifically, energy was seen as the primary business risk, outstripping even staff risks.

In the past the risks associated with energy were less pressing as energy was freely available and the low carbon debate was still a niche interest. But the risks have grown rapidly and our research found that half of businesses say energy risk has become higher profile in their organisation over the last three years, as the considerations around energy use multiply due to the growing affects of price volatility, carbon reduction, climate change legislation, reputation and security of supply.

One clear example of a legislative risk that is affecting companies' energy use is the Carbon Reduction Commitment Energy Efficiency Scheme (CRC). This initiative has helped to send energy rapidly rising up the risk agendas of large businesses across all sectors, with the realisation that it brings with it reputational, financial and carbon considerations, all of which place a potential risk on participating businesses.

Despite this, our research found that nearly half of businesses that will participate in the scheme are unclear on how to forecast their CO₂ emissions and purchase carbon allowances - two of the scheme's principal actions - potentially exposing themselves to financial penalties.

Another major energy risk facing businesses and one that the readers of *Buying and Using Utilities* will be more than familiar with is the cost of energy itself.

At the moment, wholesale energy costs have fallen to pre-2008 levels, providing some respite for customers, but this scenario is far from guaranteed. It is widely speculated that the energy needs of developing economies in Asia and the demand this is placing on gas supplies, and the UK's investment in low carbon generation, may lead to a rise in energy costs. The costs of a transition to a low carbon economy - estimates to be in the region £200bn - could also put pressure on energy costs.

So what does all this mean to businesses who are trying to manage their energy journey in the best way possible? How can they best juggle all the risks associated with energy, including carbon and price risks which will continue to impact businesses in the future regardless of how the UK economy is performing.

Our answer is that there is a clear need for businesses to have a joined up energy strategy that brings together the demand and supply side of energy, but our survey found that strategies for managing energy risk are less developed than for all the other risks businesses face. Just 65 per cent of respondents said that they have a strategy for managing energy risks compared to 81 per cent who have plans in place for cash risks and 80 per cent for health and safety risks.

We believe energy now demands board level attention and a combined strategy that brings together purchasing and energy use. At present some companies can have one area of the businesses responsible for negotiating energy supply contract, which can be based on minimum usage guidelines, with another person in another department responsible for energy efficiency measures which reduce overall energy use! To avoid this conflicting approach to energy, it makes sense to join these two functions and appoint one internal energy director who can manage the energy journey in a more holistic manner.

We're working with businesses to achieve this and support them with the tools and tactics to better manage their energy, but ultimately it's down to them to make energy a priority within their organisation.

PURCHASER and supplier of independently generated electricity, SmartestEnergy, has become a voluntary feed-in tariff (FiT) provider.

The rates will be offered to qualifying grid-connected sites in the company's portfolio of existing generators as well as to new qualifying projects. It will also offer feed-in tariff payments to businesses developing their own eligible on-site power generation projects to lower their corporate energy bills.

Steve Armitage, Vice President of Commercial at SmartestEnergy, said: "We are offering all of our qualifying existing sub-5MW generators the option of feed-in tariff payments as well as all new generators signing up with us.

"We are under no obligation to offer FiTs, but are doing so as we believe that it offers greater security and stability for the independent project developer, with guaranteed levels of payments for generation and a minimum price for export, compared to the full market volatility of the Renewables Obligation.

"It also offers greater security for those businesses thinking of developing on-site generation to reduce or stabilise their corporate energy bills. Under the arrangements, they will earn a generation

tariff for the energy they produce even if they use it on-site.

"We think the FiT will encourage more people to see the business opportunities available in renewable project development and the creation of a new class of energy-entrepreneurs throughout the UK."

The feed-in tariffs, which were introduced on April 1, offer payments of up to 41.3 pence per kWh for generated power and an additional minimum 3 pence per kWh for exported power. These tariffs are index linked and guaranteed by the Government for up to 25 years at levels designed to give a 5 - 8 per cent return.

Long term power-purchase agreements provide project developers and operators the guaranteed incomes necessary to raise finance and see the project through to fruition.

The feed-in tariff only applies to wind, hydro, solar and anaerobic digestion projects of up to 5MW.

Mr. Armitage said: "At the upper end of the scale, where tariffs are less generous (above 1.5MW in the case of wind), many projects may opt for a Power Purchase Agreement backed by ROCs over a feed-in tariff. SmartestEnergy's flexible approach means we can easily accommodate and advise on either option."

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“Are FiTs a mechanism to make smaller renewables more desirable? That's for society to test. They must meet fundamental investment criteria.”

THE problem is that after the financing, technology, planning and connectivity are all resolved, whether it be for a wind farm, solar array, biomass plant, micro-CHP plant or marine installation - the economics don't always stack up.

The answer is a feed-in tariff (FIT). And these currently being adopted all over the world, could be the economic mechanism that make low carbon renewables an economic winner.

They are, put simply, a legal obligation on energy companies to buy electricity from renewable energy producers at a premium rate, usually over a guaranteed period. The effect is to make the installation of a renewable energy project economically secure and worthwhile.

FITs, then can overcome the various obstacles that renewable energy has so far encountered such as price distortions caused by subsidies and volatile commodity prices for rival power technologies, high capital costs, legal and regulatory barriers, technological risk and access to the electricity grid.

One of the world's foremost advocates, Miguel Mendonca of the World Future Council and the author of "Feed-in tariffs - accelerating the deployment of renewable energy," is in no doubt that this financial mechanism works.

"No other policy mechanism has produced more renewable energy more quickly," he says.

Describing them as a 'no brainer', Mr. Mendonca said: "In Germany, their law has made them a world leader in renewable energy. Generated billions of dollars a year in exports, created in the region of a quarter of a million jobs, saved 100 million tonnes of CO2 annually and set records for installed capacity across several technologies

[including solar], all at the cost of around \$1.80 per household per month."

He calls these results, 'staggering, especially in contrast with the results of other policies in other countries'. No wonder German Bundestag member and President of Eurosolar Hermann Scheer has described FITs as "the right legislative steps to get us towards an environmentally friendly and socially just energy system."

Mark Williamson, a Partner at Ernst & Young in London says that the ultimate test of FITs is whether they deliver something people can invest in.

"The big question is - does it facilitate investment? FITs do. They have the benefit of certainty - and they're simple.

"Of course whether it's a FIT or another mechanism doesn't really matter. Renewable energy certificates (ROCs) are fine if you are a larger developer.

FITs make it easier for smaller developers, smaller installations."

The value of the ROC as an alternative is not lost on renewable energy advocate Dale Vince, CEO of Ecotricity. He insists: "FITs are the right answer to the wrong question. The UK RO does the same job - it provides support above that which the market alone would give. The RO is not the problem, so scrapping it for FITs won't achieve anything."

The Stern Report on climate change takes a more robust view of the ROCs versus FITs debate. Stern said that FITs have advantages over a quota system such as the UK's ROCs in that they give certainty and guarantees for investors, are easy to administer, promote diversity of supply and are flexible.

"Both sets of instruments have proved effective but existing experience favours price-based support mechanisms."

For Mr. Williamson, the value of FITs

against ROCs or other mechanisms must be tested.

"Are FITs a mechanism to make smaller renewables more desirable? That's for society to test. They must meet fundamental investment criteria."

He says that in encouraging and developing renewables worldwide investors have to look at where the barriers are greatest - "that might be grid connections, planning or permitting."

Just as renewable energy, enabled or not by FITs, takes in a number of different forms - not just onshore wind, but offshore wind, solar in its many forms, biomass, CHP, hydro, wind and wave, geothermal even heat pump technology - so energy generally has competing technologies with often powerful lobbies supporting them.

Advocates of nuclear power talk not only of its reliability, relative immunity from geopolitical issues and its economies of scale; but crucially its low carbon credentials. This latter factor is seen by some as a direct challenge to renewables, insofar as with low carbon credentials it could divert investment, the supply chain and skills.

The coal lobby too, talks enthusiastically about the potential of carbon capture and storage (CCS) and a way of giving coal generation a bright future. Given the amount of coal reserves available and also where they are - India, China and South Africa to name but three emerging economies - this argument can be persuasive. Gas, too could be given a new lease of life as a generation technology using CCS.

The introduction of tariffs that enable organisations, communities and even individuals to sell their self-generated green energy back to the grid, is an idea that seems to be gaining ground.

GETTING FIT FOR A CLEANER ENERGY WORLD

Paul Garrett says that in the world's emerging low carbon economy nearly everybody likes renewable energy, in principle at least.



written by Bobby Collinson

CRC - A Strategic Approach will Reap Rewards

The CRC Energy Efficiency Scheme is now in full swing, but many companies covered by its criteria are still grappling with registration, and getting into place the processes needed to stop it being an administrative nightmare for each year's reporting. If, in 2008, your organisation had at least one half hourly electricity meter, then you will be obliged to register for the scheme. There was a misconception that if you are a user of under 6 million kWh you would be exempt, but this is not the case, and up to 30,000 businesses and public sector organisations will need to register by the end of September 2010.

The delay in getting registered is not the result of laziness or a dismissive view of the scheme. A recent survey we conducted at a series of seminars with Board level executives across London showed that 60% feel the scheme will give them competitive advantage and a staggering 74% were confident that the scheme would reduce their carbon consumption. The desire to get the most from the scheme is strong, but 58% of respondents stated that preparations for the scheme had been tougher than they expected.

So once you have established that your business is covered by the scheme and you need to prepare for registration by September 2010, what is the best way to approach the scheme and what are the chief considerations? From our experience, here are our top tips on navigating phase one of the scheme and making sure it doesn't become a distraction from your core business:

Strategic considerations

Allow plenty of time – If you have not already started planning, you now have less than three months to complete the registration process. Being structured and organised is the only way to reduce errors and avoid high implementation costs, so start today and get a board level sponsor.

Could the CRC Energy Efficiency Scheme effect your reputation? – It is increasingly important that a company's brand is seen by its stakeholders and customers, as a 'green brand'. The most obvious mechanism for measuring a company against its competitors on this issue will be via the league table. So, a strategy should cover how success

will be exploited to the business' advantage, but equally companies should anticipate, and be prepared for, any failing that the CRC league table will show.

Involve tenants – If you have tenants or franchisees engage with them in preparing for the scheme. This not only spreads the workload, but it is in their interests for the company to perform well, as savings as well as costs will affect their businesses.

Cashflow for allowances – A strategy for the scheme needs to consider the cash requirements to purchase and sell CO2 allowances during the later phases. If your business is covered by the league table element of the scheme, your performance in this will have a direct impact on the buying and selling of allowances.

Phase one tactical considerations

Understand the structure of the business – It is helpful to draw up an initial view of the group, its assets and energy supplies in order to develop a strategy. Use this and background information on the scheme to present to the board. If you have struggled to get carbon reduction onto the Boardroom agenda, you will find a vital ally in the CRC Energy Efficiency Scheme. No board of directors would welcome its organisation being positioned at the bottom of the public carbon reduction league table, particularly when it can actually reduce its energy use and save money. Even if your organisation does need to make a financial investment, a bonus paid through the league table system will make this worthwhile.

Crunching the numbers – The next step is formal collection of data, a time-consuming but important task based around the organisation structure and the energy meters and consumptions. We have found the best technique is to set up a Request for Information based on existing information and we ensure our customers' systems are integrated together for this process.

Maintain your evidence pack – In terms of the technicalities of registration and setting up the subsequent phases a physical Evidence Pack that clearly shows compliance is a must. The company could be asked to provide this information at any time, and an audit does not need to be a painful experience. Make sure someone in the business has clear ownership over maintaining the evidence pack.

Make year one count – There is a chance to gain back money from year one, whilst also establishing a good reputation for the company. The Early Action Metric delivers equal weighting of voluntary AMR and carbon accreditation which can affect the ranking to such an extent that nearly 2% of your annual energy costs will be saved. The process is simple – in principle at least - install AMR meters on all supplies where AMR is not mandatory and apply successfully for accreditation under Carbon Trust Standard (or equivalent) for energy and carbon management.

Once you are registered and active in the scheme its onto phase two, our next article will highlight the next steps on forecasting, purchasing of CO2 allowances and reporting.

Please view this link to hear more from Power Efficiency on CRC www.powerefficiency.co.uk/crcinterview

At only two years old, it's still early days for competition, but it's my firm belief that it has delivered real benefit for customers and the environment during that time

We've found, to no great surprise, that customer expectations are rising and water is no longer thought of as the forgotten utility. The 'one size fits all', lowest-cost service is not what the market needs.

The Scottish market represents 140,000 supply points, served by 100,000 customers spread over the length and breadth of Scotland. Those customers' voices need to be heard and it is our response which will create the success - or otherwise - of deregulation.

There is a perception that the retail mix is purely about reading a meter, providing a bill and handling inbound customer service issues. However, much can be done to improve the customer experience and make these functions add value.

The use of smart meters, which monitor consumption and can detect leaks, and the development of multi-channel services, such as electronic billing, all help to develop trust and loyalty and build a closer relationship with customers, allowing them to understand what they are paying for and manage their account in an effortless and cost effective way.

However, the retail mix is about so much more. It's about delivering products and services that give customers the tools to understand how, when and why they use water and providing solutions to help them use less and treat waste more effectively.

One of the most significant considerations of this, particularly for large-scale operations, is the proper management of trade effluent. There can be few less-glamorous business processes; however the importance of ensuring this area is given proper attention cannot be overstated.

Financial penalties await organisations which fail to properly manage trade effluent, and the cost of non-compliance can also include serious reputational damage. As well as allowing businesses to spread risk by ensuring compliance with the relevant legislation, outsourcing to an expert partner who can advise on proper efficiency measures can bring about significant cost savings and reduce the carbon footprint of many operations.

This is no longer about putting in place a token CSR policy. Climate change and environmental responsibility have become mainstream board-level issues, and the retail market has created a catalyst to support companies in reducing their carbon footprint in a commercially viable way.

Whilst price will always be a factor, the

WATER - IT'S NOT A ONE SIZE FITS ALL SERVICE

Scotland has been the global testing ground for a competitive non-domestic water market, says Mark Powles, Chief Executive of Business Stream.

Mark Powles



Mark Powles, Chief Executive of Business Stream (right), with James Summerbell, Tesco's senior buying manager for energy and water. They signed a deal in 2008 to supply Tesco's Scottish stores.



last two years have demonstrated to us the value placed on service. A 'pile it high sell it cheap' philosophy is short-sighted and detracts from issues of water efficiency and environmental responsibility.

The Regulator is keen to continue developing the market, and is currently consulting on the transfer of more customer-facing activities. More margin will be available to retailers in return for managing greater responsibility from trade effluent, developer services and meter connections and disconnections. This can only create a more dynamic retail market and stimulate greater innovation and service.

Since competition was introduced, we've seen our customer satisfaction rise by 19 per cent, and we've saved customers more than £7 million by helping them to reduce their water consumption. We've brought in almost £9 million of discounts to the market, and have developed more than 50 new services developed by listening to what customers want.

Many customers operating out of England and Wales regularly ask when the same opportunities will be available to them south of the Border.

Nevertheless, there is a common misconception that switching is the only measure of success for a competitive retail market. I think that misses the

point. Customers only switch if there is something better on offer.

There's no doubt that the market is still in its infancy, however, and a successful market comprises many things.

Full legal separation of incumbents allows the retail entity to operate independently, setting its own strategic direction without being compromised by Group decisions. It also reassures new entrants over a level playing field.

For arrangements to work effectively between wholesalers and retailers, there also has to be a robust market framework. A common contract which clearly details the obligations for all parties will reduce cost, avoid time-consuming negotiations and place focus back on the customer.

So, too, is it important that incentives and penalties are in place to govern performance. Performance standards must have 'teeth' to stop wholesalers frustrating the process and hiding behind the letter of the law of contracts.

Robust compliance frameworks must be established to regulate incumbent behaviour, ensuring fair competition. Switching protocols should be monitored to discourage mis-selling.

Any entrant to a competitive retail market should invest heavily in creating and maintaining an accurate market data set.

Data is used for pricing offers to potential customers, wholesale charging, switching, identifying assets and services and retail billing. Poor data can lead to cash flow difficulties and poor customer service.

For any market to be successful there has to be strong and clear regulatory direction. Whilst consultation will make sure that all voices are heard, the Regulator has to remain firm throughout the process. A clear timeline will force participants to take timely action and make sure the market opens on time.

Finally, we have seen over the last few years that profit margins, not the size of the customer base, will determine the amount of activity in the market. All participants must have the incentive to make a difference for customers, whether through keener prices, better service or innovation from products and services.

Most importantly, the customers who pay the bills will have a voice and be able to choose the right solution from the best provider who will support their individual needs and deliver the best results for them.

Ultimately, the competitive regime must change behaviours. If it brings better service, greater innovation, increased value for money and tackles the big issues of water scarcity and climate change, then we can judge competition to be a success.

Who's who in the new Department of Energy

THE Department of Energy and Climate Change may be the newest part of the Government machine in Whitehall, but it promises to be one of the busiest and the most important, post-financial crisis, says Roland Gribben.

Certainly it will be the greenest. David Cameron wants to make the coalition the "greenest government ever," leaving the department with the formidable task of delivering the greenery in a wide variety of shades.

Sounds fine and appealing, but what is the price? Renewable energy (wind power) is set to make an even bigger contribution in providing the basis for power generation and reducing emissions while questions remain over the ultimate contribution from nuclear power to keep electricity flowing through the networks.

The £200 billion estimated cost of transforming the UK from a high to low carbon economy and providing a totally new energy infrastructure carries considerable risks.

It represents either a massive gamble or a vote of confidence in the ability of Government to achieve radical change and the energy industry's willingness to provide the cash to ensure the lights don't go out and meet the ambitious emission reduction targets.

But first the ministerial team heading the department - one Lib Dem and three Tories so far - has to demonstrate that it can work effectively and collectively to turn paper promises into reality. The appointment of Chris Huhne as Secretary of State has inevitably been the focus of considerable attention because of his and the Liberal Democrats opposition to nuclear power.

The accommodation made on the issue - no support or opposition from Lib Dem MPs - could well be one of a number that emerge as the ministers set priorities, fudge differences and attempt to implement a strategy capable of delivering the goods.

The ministerial team

Chris Huhne (below left), Secretary of State. His anti-nuclear power credentials make him an intriguing choice to fill an overlord role with many challenges and many opportunities to make mistakes.

Charles Hendry (below right), Minister of State has served two stints as Shadow Energy Minister and his pro-nuclear power credentials counter balances the views of his boss to some extent, but Mr. Huhne will have to make the nuclear running whether he likes it or not.

Gregory Barker, Minister of State has since entering Parliament been heavily involved in climate change issues leading to his appointment as Shadow Minister for Climate Change two years ago.



Lord Marland, Parliamentary Under-Secretary (Junior Minister) has heavyweight business as well as political credentials.



Managing your risks

BOTH suppliers and customers are nervous of the increasing level of risks within the global energy market. That was the conclusion of a 'Corporate Risk Roundtable', hosted in London recently by npower and featuring representatives from major consumers.

The roundtable, chaired by Peter Roper, Editor of B+UU, formed an important part of the energy supplier's ongoing campaign to raise awareness of energy risk and assist businesses in managing those risks. For the major customers it offered an independent platform for open debate and to raise any issues of concern in an informal environment.

With businesses facing greater exposure to financial risk as a result of the recession it was clear from everyone taking part that there was no clear link between energy risk and the current economic position facing the UK.

"There's a whole bunch of risks facing every business including reputational risk, but now most boardrooms are making a big effort to increase their levels of awareness when purchasing energy," the customers said.

Indeed, one delegate pointed out that they now employed a team of five top legal professionals to check every single word of a potential contract. "It is now not a simple procedure to negotiate a deal with a new, or even an existing supplier. It can take many months to get a contract signed off. Everyone is nervous."

From the discussions that followed it was evident that energy buying and usage hit the boardroom about five years ago and finance directors are now playing an increasing role in all decisions.

"One problem is that directors tend not to fully understand energy supply contracts, or the reasons why we need to spend money to reduce usage in the longer term. As buyers we need to put forward very simplistic programmes to help them understand what is needed and why," another delegate added.

All the customers agreed there was now a major drive towards greater energy efficiencies and a reduction in CO2 emissions.

One said: "We want to go down the renewables route, but the Government doesn't seem keen to help. All we face are financial penalties rather than incentives. Is there a carbon incentive to go green rather than brown?"

"The CRC has been helpful in stimulating energy efficiencies and every single department manager has sustainability on their agenda. Our organisational structure is behind it now, especially as our customers are demanding we go green. I get the understanding that the whole of the energy supply industry also wants to do more. But the big stumbling block still seems to be the respective Government bodies."

All the delegates hoped the new Tory/LibDem Government would introduce a strategy to make it easier for businesses to implement greener energy programmes.



Some of the 'npower Roundtable' delegates. From l-r Chris Collicutt of PepsiCo Walkers, Andrew Houlston, BT Group and Anita Sainsbury of Orchid Leisure Group.

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Managing an effective billing process is a critical activity for every utility company. Guaranteed despatch and timely delivery are paramount, but there is also the need to manage environmental issues and data security.

One water provider has found a state-of-the-art billing solution that is not only improving performance in all these areas, but also saving money and transforming the way bills are viewed. They are no longer financial statements, but also a means of effectively communicating with customers in a way they appreciate.

Recognising the need to improve customer communications, in 2008 Southern Water sought a new partner to supply a printing and mailing solution for bills and other critical customer communications.

Following rigorous investigation it appointed Stralfors UK, to provide a complete solution encompassing design, stationery, printing, mailing and archiving.

"We needed a printing supplier that is able to fulfil all our printing needs in terms of bills, letters and plastic payment cards totalling about six million items a year," said Liz Barnard, Printing and Mailing Manager at Southern Water.

"Because of the variety and size of our customer base, we issue invoices daily and need a system that's extremely reliable."

One of the biggest service improvements is an ability to collate a number of documents into the same envelope, enabling customers to receive all information relating to their account at the same time.

As well as improving the whole customer experience, this has cut the number of envelopes sent to customers by 7 per cent, reducing postage costs dramatically.

Phil Lockett, Account Director at Stralfors, said: "At the same time as creating each paper bill we send a digital copy to Southern Water's Customer Contact Centre."

These are stored in an electronic archive, enabling it to deal with any bill-related queries from customers over the phone or by email more effectively.

"This solution is a major enabler to support our aim of 'first time customer resolution'," said Liz. "Our Contact Centre agents can view a copy of all bills and correspondences that have been sent to the customer and if necessary, they can quickly print a copy and send it by post again."

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BUSINESSES CRITICISE GOVERNMENT FOR 'INADEQUATE' GUIDANCE ON NEW EMISSIONS SCHEME



NEARLY half of businesses in the CRC Energy Efficiency Scheme believe Government advice on the new legislation is inadequate and are also unclear on how to forecast their carbon emissions and purchase carbon allowances - two of the scheme's principal actions - potentially exposing themselves to financial penalties.

These are among the findings of npower's annual survey tracking business opinion on energy use and carbon emissions.

The Carbon Reduction Commitment Energy Efficiency Scheme (CRC) went live on April 1 and affects many of the UK's leading retailers, banks, service businesses and large public sector organisations, who will need to purchase allowances to cover their CO2 emissions. The higher their emissions, the greater the number of allowances required.

The study reveals that 44 per cent of participants believe the level of guidance on the CRC has not been adequate, while 49 per cent said they do not understand what's required of them to buy carbon allowances, and 44 per cent are also unclear on forecasting their CO2 emissions.

This could potentially leave participants faced with unexpected costs further down the line as a result of miscalculation. Allowances are initially fixed at £12 per tonne of CO2, but businesses that buy too few allowances could need to top-up their purchases under the scheme's 'safety valve' mechanism or on the open market, at a higher price.

npower's research also casts doubt on whether participants will take action to reduce emissions under the CRC - nearly half (44 per cent) have no plans to take advantage of the scheme's early action incentives, which reward participants for being the first to adopt measures to improve energy efficiency, such as installing smart meters.

The finding is indicative of a general lack of business support for Government targets to reduce CO2 emissions and a waning belief in the commercial benefits of a small carbon footprint. The study reveals the majority of businesses (79 per cent) think the UK's legally-binding target to reduce CO2 emissions by 80 per cent by 2050 is unrealistic, while only a quarter thinks there are business benefits for reducing emissions.

In the wake of the economic downturn, 93 per cent of respondents also said they were currently more concerned with reducing costs than carbon.

Despite the downbeat opinion on carbon reduction, 69 per cent of businesses said they are likely to increase energy efficiency initiatives in the year ahead and while this was primarily for cost benefit, the same measures would also lead to lower emissions.

David Titterton of npower Energy Services, said: "As we come out of recession it's no surprise that businesses are relegating emission reduction in favour of managing costs, but it's important that they do not ignore the importance of reducing carbon in the long term. With the CRC there is now a direct link between participating organisations' carbon emissions and their bottom lines and businesses that fail to deliver carbon reductions in the future will face financial and reputational consequences.

"Our index suggests the Government needs to do more to communicate the benefits and opportunities of the CRC and give businesses the certainty they need to take action to improve energy efficiency. We're working with businesses to reduce energy consumption and make the most of the CRC, but at the moment there is clearly confusion around the scheme and, when coupled with the pressures of a recovering economy, it's leading to frustration."

BS EN 16001:2009: Energy management systems requirements with guidance for use is, in effect, a more specialised reworking of the environmental management systems standard ISO14001. It lays out the requirements for the managerial, procedural and administrative framework for effective management of energy in particular, and does so with a neat twist.

Given the tsunami of red tape engulfing the energy manager of today, why should any organisation volunteer to get tangled up in more? Interestingly, a group of pilot users including SKF, Robert Wiseman Dairies, Virgin Trains and the Corporation of London gave it favourable reports at last September's launch in London. They agreed that trying to make your management systems comply with it (ignoring certification, which is optional) actually had benefits. They saw it creating a framework for continuity, for instance: no longer would energy management be hostage to the continued attentions of an enthusiastic individual. When the champion moves on, a clear gap is created, which needs to be filled; and the newcomer should find all the paperwork in order. EN16001 also obliges the organisation to have an energy policy and commit in principle to providing resources. This further contributes to the energy programme's stability and continuity.

Ireland, Sweden and Denmark already had national standards which were precursors to EN16001. Their standards, which have now been superseded, all included a requirement for the compliant organisation to measure its energy consumption using appropriately-calibrated and accurate meters. You needed to know how much you had used. Yet rather surprisingly (when you

think about it) there was no obligation to determine whether the amount you had used was appropriate. This is an extraordinary omission, given how often things go wrong unexpectedly and cause hidden but perfectly avoidable energy waste. Just think about frost-protection systems kicking in when not required, people tinkering with control settings, steam traps sticking open: the list is endless.

EN16001 has addressed that fundamental weakness. To comply, the organisation has to assess its energy consumptions at defined intervals (meaning weekly or monthly, for example, not annually) precisely to detect the accidental excess consumption that will occur in the wake of such faults. There is also a requirement to track the fate of the detected exceptions. The methodology propounded in EN 16001 is essentially that described at greater length in the Carbon Trust's guide to energy monitoring and targeting, CTG008. It has the following ingredients:

1. As well as measuring energy consumptions, you have to record the corresponding factors such as weather (expressed as degree days), production throughput, or whatever else explains the normal variation in demand.

2. You have to work out the relationship between the two in each case. To take a very common scenario, you might analyse your gas consumption and find that there is a fixed weekly consumption overlaid with a variable component proportional to degree days.

3. Once these performance characteristics have been established, they are used to compute expected consumption by feeding in the known values of driving factors.

Being able to compare actual consumption with an accurate estimate of expected consumption on (say) a weekly basis opens up huge potential for improved management of energy, particularly in the ability to expose unexpected waste. It is a subject which I will return to in future articles in this series.

EN16001 is due to be superseded, perhaps as soon as May 2011, by an equivalent international standard (ISO 50001) which is currently under development. Having served on the drafting committees of both, I can say that broadly speaking the same requirements appear in both, albeit not always in corresponding places. Significant differences are few; the present draft of ISO 50001 has stricter requirements relating to the verification of savings (which is a good thing in my view) and mentions energy procurement, which EN16001 does not. On the other hand, the present ISO draft lacks an explicit requirement to calculate expected consumption routinely as described above. This is a serious weakness, which hopefully will be corrected before final publication.

All in all, for those organisations that can see the benefits in having a more systematic approach to energy management, an effort to comply with EN16001 (and then, with a few tweaks, ISO50001) will be worthwhile. For those who want to gain certification, and who already have ISO14001, it can be done jointly. It is not necessary to go to the expense of being certified at all, and the availability of commercial templates means that even the cost of developing a compliant system from scratch is less than it might otherwise have been.

SETTING THE STANDARD FOR ENERGY MANAGEMENT

Many energy users are either drowning in consumption data they cannot make effective use of, or unaware of the value that can be extracted from very limited information. In this series of articles **Vilnis Vesma**, a specialist in the analysis and interpretation of energy consumption data, will introduce a number of simple concepts and techniques that will help you make sense of whatever data you are collecting"

Vilnis Vesma is a former energy manager and runs the free energy advice web site VESMA.COM. He is the author of Energy management principles and practice, published by BSI in September 2009 as a companion to BS EN 16001.





GET THE RIGHT LIGHT AND CUT COSTS

Selecting the most appropriate lighting source and control system is often the single biggest factor in reducing cost and energy performance in business - with 60 per cent savings not uncommon.

Getting it right can pay huge dividends, so businesses investing in industrial and commercial lighting systems can benefit from significant environmental and financial cost savings if they pay greater attention to what lighting is being installed for them rather than accept anything that "works".

This is the view of lighting specialist David Stone, Operations Manager for ENER-G Efficiency Solutions, who believes durable management technology will enable organisations to maximise value in a market increasingly driven by legislative requirements rather than immediate costs of installation.

"People often look at changing lighting systems based on installation costs, and forget that the cheapest short term option is not always the best long term solution," he said..

"What we are driving is a defined evaluation process based on the quality of the lighting; the efficiency for the light source; the influence of environmental management on running costs; and the control or management of a lighting system."

He continued: "Investment in lighting systems should be about identifying the correct solution for a particular commercial or industrial application. A major factor in all of this is achieving appropriate light quality for employees, who will be more productive and motivated if their working conditions are optimised.

"If we had a building with a large amount of day lighting, traditionally a dimmable fluorescent system would be recommended, but recent developments in electronic high intensity discharge (HID) lighting mean that this high-wattage "white" source can now do the same tricks."

Stone emphasises the difference between lighting controls and management technology, which produces ongoing, long-term data on the performance of the overall system, including the control element.

"If you are looking at management or control, management may cause the luminaire to be more expensive initially, but it will give you an ongoing ability to match the lighting operation with changing working practices In the long term. This may well reduce your operating costs over the life-time of the system," explained Stone

"This is because of the volatility of the energy procurement market and the increasing regulatory liability as we move further and further into a low-carbon economy through government measures such as the Energy Performance of Buildings Directive and CRC Energy Efficiency scheme."

"With the CRC, accurate management tools will become increasingly important to manage and report on energy consumption and therefore mitigate liabilities and penalties," commented Stone.

He is keen to point out that ENER-G is not backing a particular lighting product, but instead supports 'open' technologies such as the Dali and KNX protocol standards, both of which are supported by manufacturers that make products across the entire market range.

"The essence is about impartial selection based on light quality through the life of a system, where flexibility allows you to adapt to changing operational and economic factors," he said.

"For example, in three years' time someone who didn't take a longer term view may find that they have to replace a whole system part way through its operational life due to further changes in legislative and economic cost structures. Taking time to make an informed and comprehensive decision on the right system for your organisation over the long term is crucial. Getting it wrong can be very costly indeed - both in terms of financial and environmental performance."

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