



## BSA Submission - Helping businesses to improve the way they use energy: call for evidence

September 2018

### Introduction

The BSA welcomes the opportunity to respond to the government's call for evidence on helping businesses to improve the way they use energy. The BSA are supportive of the measures outlined in the government's Clean Growth Strategy and believe the ambitions set out in the consultation are ambitious but achievable.

The BSA - the Business Services Association - is a policy and research organisation. It brings together all those who are interested in delivering efficient, flexible and cost-effective service and infrastructure projects across the private and public sectors. The business services sector accounts for over 9.3 per cent of economy-wide gross value added to the economy with an annual turnover of around £263 billion, and employs 3.3 million people, or 10 per cent of the UK workforce.

There is a huge opportunity for members to help private *and* public sector organisations to improve the energy efficiency of their buildings and practices. All organisations would benefit from employing energy efficiency measures both in terms of potential financial savings and Corporate Social Responsibility (CSR) considerations; however, given pressures on budgets, many are reticent to invest or do not consider energy efficiency to be a priority. These issues and others are covered in our response.

### Consultation response

	Question	
<b>Vision</b>		
1	What do you see as the key developments and trends that will impact on the energy efficiency market over the next 10 years?	<ul style="list-style-type: none"> <li>• <b>Electricity</b> A further reduction in the carbon content of grid electricity.</li> <li>• <b>Demand Side Response</b> More flexibility in the up-take of Demand Side Response.</li> <li>• <b>Heating and Cooling Medium</b> Expect a move to focus on heat, heat recovery and decarbonisation of heating. More localised, as opposed to centralised generation of heating medium and cooling medium.</li> <li>• <b>Renewable Energy</b> Continued increase in the development of economically and technically proven renewable technologies.</li> <li>• <b>Carbon Commitments</b> This will have to be re-enforced to meet our EU INDC (40% against 1990 base year by 2030) under COP21 which will drive further increases in energy cost and in turn will benefit investment in energy efficiency options. Energy efficiency and carbon reduction are very important global issues linked to climate change. The government should continue to use economic and political powers to influence other countries like China or US.</li> </ul>

**BSA - The Business Services Association**  
2nd Floor, 130 Fleet Street, London, EC4A 2BH  
T: 020 7822 7420 W: [www.bsa-org.com](http://www.bsa-org.com)

The Business Services Association Limited is registered in England No. 2834529  
Registered office as above.



	Question	
		<ul style="list-style-type: none"> <li>• <b>Data</b> What is used and when to enable to understand there is cost to how much energy is used as well as when it is used.</li> <li>• <b>Storage / Micro grids</b> How battery storage can link with both renewables as well as discharging energy to be used at cheaper times of day. This will be driven by better understanding in the domestic market of electric vehicles and the ability of an organisation / individual to charge / discharge at times at advantageous times.</li> <li>• <b>Health and Wellbeing</b> Energy Efficiency is now linked to many social aspects such as Health &amp; Wellbeing, employee satisfaction and productivity. This trend will continue and we will no longer see energy as a standalone element linked only to financial savings but part of wider and bigger, social component.</li> <li>• <b>Flexible Working</b> Companies are more and more leaning towards working from home or flexible working arrangements. As a result companies now occupy less office space, using less energy in general. The savings from office space reduction could be used in investing in new technologies for existing buildings to support government targets.</li> <li>• <b>Rising Costs</b> Energy prices, growing population, food and fresh water demands will force us to think differently. There are several factors which will impact the energy efficiency market, one being cost - the increasing cost will improve the commercial benefits of energy efficiency projects and drive behaviour.</li> <li>• <b>Legislation / Government Schemes</b> Energy efficiency is ultimately commercially driven by cost. Current governance schemes seem to predominately drive efficiency via taxation and levies. There are numerous, numerous schemes and incentives available, but it's often confusing what is relevant and how each scheme is administered. A more universal approach would allow true concentration on reduction to occur. Where there is a legislative requirement this will drive behaviour.</li> </ul>
2	<p><b>What are your views on the level of ambition and how we could measure our progress?</b></p>	<p>The level of ambition at 20% reduction by 2030 appears reasonable and achievable, if the focus and uptake is truly UK-wide. There are enough measures are in place through existing legislation to allow adequate measurement of progress.</p> <p>The level of ambition also needs to be reviewed against our INDC commitments. Use of our existing and new Carbon budgets through to 2030 and beyond to 2050 are very effective to measure and track performance to meet INDC target.</p> <p>Government buildings and local authorities could lead the way on performance to help meet the goal. New technologies should be</p>



	Question	
		<p>implemented and case studies produced for private sector companies to follow.</p> <p>Anonymised energy consumption could also be reported centrally by energy suppliers which would remove some of the burden on businesses or should a central database for the streamlined carbon reporting come into effect this could be used to monitor commercial consumption without the need to collate data from several schemes which have varying inclusions and exclusions.</p>
3	<p><b>What other measures and energy efficiency potential might be available to businesses to reduce energy demand?</b></p>	<p><b>Financing</b></p> <p>A self financing incentive scheme providing financial reward for organisations who take the necessary steps to improve efficiency within their existing building stock.</p> <p>Mandatory Spend to save (StS) requirements</p> <p><b>Investment</b></p> <p>As a mechanism, re investment type scheme such as recycling fund available via Salix.</p> <p><b>BMS</b></p> <p>As a technology, a well run building via an optimised BMS is often underestimated. Capex projects are important to keep the building up to date. However, there is little point in having a building full of “Type A+” energy efficient products if they are all running simultaneously and fighting each other. A BMS, not just installed to run the building but to run it in the most energy efficient way is a far cheaper way of reducing consumption in terms of £/CO2 than most newly installed capex projects.</p> <p><b>Building Management</b></p> <p>Management of older buildings is always a challenge and this is the area where government should focus on going forward.</p> <p>A stronger message to landlords or legislation in terms of the leased property where tenant’s actions are limited in terms of investment and improvements is required.</p> <p>No response</p> <p><b>Consumption Data</b></p> <p>Greater onus to be put on utility suppliers to report and monitor consumption used for commercial customers. This would increase their liability to bill accurately and in a timely manner. Accurate and timely data allows customers to effectively monitor and track usage, which is detrimental to support efficiencies.</p>
4	<p><b>What evidence do you have on how increasing building standards could drive improved energy efficiency, or how energy efficiency improvements in</b></p>	<p>Increased building standards have certainly had a beneficial effect on improved efficiency in addition to providing wider benefits in terms of comfort conditions and improved working environment. The benefits to be achieved from ever increased building standards will however be finite and in turn will not provide sufficient benefit against increased cost both in terms of energy consumption or imbedded carbon.</p> <p>There is good evidence to show new build standards do drive efficiency improvements within new stock, but the majority of the buildings in the 2050 built estate, have already been built. New build targets are required along with solutions to drive efficiency improvement in existing stock, where there is the biggest potential. Newer buildings</p>



	Question	
	<p><b>buildings have resulted in wider benefits? Is there any evidence that increasing building standards would not drive improved energy efficiency?</b></p>	<p>typically consume less energy than older buildings; by increasing building standards this would drive a fabric first approach to energy efficiency. This improved energy efficiency would decrease costs and assist with commercial performance. Where staff are in a comfortable environment this may also generate productivity gains.</p> <p>DECs and EPCs provide operational and asset ratings for public funded operations and tenancy or sale of the building. The DEC is required annually and landmark already handles DEC/EPC lodgement process. We would recommend that all buildings undergo an annual EPC and DEC and introduce sliding mandatory performance requirements funded on guaranteed spend to save initiatives (self-funding).</p> <p>Smart metering should be made compulsory and accessible to all end users. Suppliers should be governed by stricter SLAs on data access and provision.</p>
<b>Buildings</b>		
5	<p><b>What evidence do you have on how increasing building standards could drive improved energy efficiency, or how energy efficiency improvements in buildings have resulted in wider benefits? Is there any evidence that increasing building standards would not drive improved energy efficiency?</b></p>	<p>High amenity businesses such as hospitals, hotels etc. that are required to operate continuous 24/7 operations should either be incentivised or made mandatory to adopt LED lighting technology. Campus type colleges, prisons, schools &amp; hospitals should be given an incentive or capital funding support to rationalise central boiler and chiller plant where a de-centralised option is vastly more efficient. Large commercial office buildings should be incentivised to improve on existing building performance and improved efficiency through adoption of free-heating and free-cooling strategies developed via more intelligent BMS controls.</p> <p>Without mandatory performance requirements the Hospitality and Retail sectors, which account for only 28% of non-domestic building consumption would likely respond quicker to efficiency measures than industrial or commercial sectors. Mandatory performance would ensure that industrial and commercial sectors are not left behind.</p> <p>This relates far more to exiting building stock and the longer term running of buildings. This also focuses on HVAC rather than building fabric which is key to driving down savings.</p> <p>Different sectors are likely to respond differently as their priorities are different and their customers will have differing expectations, while all commercial concerns have a financial aspect where energy is a smaller proportion of their base costs the impact of increasing or related costs will be smaller and they are likely to be less responsive to them.</p> <p>Another variation may be on knowledge and awareness; this is likely to be lower in certain sectors which may create an additional barrier.</p> <p>Greater governance on commercial landlord properties. Indirect utility cost impact seems to breed a less stringent focus on efficiencies and end user focus.</p>
6	<p><b>What level of minimum standards and supporting trajectories could work for</b></p>	<p>Introducing a recommended minimum energy consumption standard would not be beneficial.</p> <p>There are risks that such an initiative would inadvertently support life cycle asset replacement.</p> <p>Introducing an energy investment standard, whereby all Spend to Save (StS) initiatives with guaranteed pay backs of less than 3-5 years (tba)</p>



	Question	
	the wide range of business buildings? What are the key risks?	are implement with government grant assistance, (money to be raised from carbon taxes) could be beneficial.
7	We would welcome your further views on how we can address the challenges of moving to higher building standards across the diversity of businesses and their buildings?	<p>By Setting a target based on StS investment criteria, you ensure that the least cost initiatives are taken forward, across the diverse non-domestic business sectors.</p> <p>Larger landlords will have a greater exposure to rising standards in rental properties, but they are likely to have greater resilience and awareness. Where rising standards affect existing building stock there are likely to be financial and technical barriers, there may also be an enforcement issues where these standards affect small concessions within a larger building</p> <p>Greater governance on commercial landlord properties. Indirect utility cost impact seems to breed a less stringent focus on efficiencies and end user focus.</p>
8	What type of data is important to you for measuring operational energy ratings of business buildings to help support or drive any future minimum standards?	<ul style="list-style-type: none"> <li>• Control setting and time schedule data</li> <li>• Estate data/operations/employee data</li> <li>• Standardised investment criteria</li> <li>• Standardised half hourly data.</li> </ul> <p>There needs to be a standard set of data that can be agreed and captured uniformly so it is easily understood and benchmarked.</p> <p>The data used should not be complex and amount only to energy consumption, building floor area, building volume, hours of use together with a categorisation of building use and any anomalous consumption as a result of data centre, IT load, significant catering consumption etc.</p> <p>Data already captured on the <a href="https://deep.eefig.eu/">https://deep.eefig.eu/</a> could be expanded.</p> <p>Important factors in measuring the operational rating should include: the fabric of the building, the air tightness, the fuel sources, the operational cost and the generation capacity.</p>
9	What evidence is there to support the effective use of voluntary standards within the UK? What opportunities exist for expanding voluntary standards?	<p>Whilst voluntary standards are seen to be effective in certain circumstances, experience suggests that the number and range of standards can lead to confusion and adoption on a piecemeal basis.</p> <p>Voluntary schemes such as BREEAM / LEED have been useful when a building is designed but can often be done as a tick box exercise and not have such glowing results when the scheme is running and needs to be a stronger link with schemes such as “BREEAM - in use” where the ongoing performance is measured.</p> <p>For large organisations they are essential as today’s market is very competitive. It is becoming for frequent during the bidding process to provide evidence of voluntary standards. The above standards are expected from large companies as they provide re-assurance and commitment to compliance and beyond.</p>



	Question	
10	<p><b>How can the barriers to the development of the energy services market be overcome? Does this differ between sectors? Is there a role for government?</b></p>	<p>Standardisation of the voluntary standards to be adopted would be beneficial with clear accountability recognised between owner/occupier, landlord and tenant. A move towards a more mandatory requirement, such as NABERS, would also be seen as beneficial. The barriers to such development are expected to be legislative.</p> <p>The barriers to development of the energy services can only be overcome through:-</p> <ol style="list-style-type: none"> <li>1) direct government performance/investment mandatory action or</li> <li>2) through government energy taxation (carbon tax) to drive voluntary investment</li> </ol> <p>Clarification on future energy and carbon reporting frameworks is required. This may be stated in the CGS that these policies will be continued to be supported but this is not generally well understood by customers. Therefore a clear position on these, including ESOS is required so an interest and understanding of these schemes is developed rather than just being a box ticking exercise.</p> <p>A wider approach is required to tackle the barriers of energy services and other associated matters like waste reduction or water efficiency. Media could play a very important part in raising awareness across UK population - a knock on effect of climate change with associated impacts on human life should be clear to all, including young generations.</p> <p>By raising the profile of preferred standards or providing exemptions for those that have them will increase the uptake.</p>
<b>Market Building</b>		
11	<p><b>How can the barriers to the development of the energy services market be overcome? Does this differ between sectors? Is there a role for government?</b></p>	<p>Most importantly there requires being a financial incentive for organisations choosing to implement efficiency measures and a financial penalty for organisations who fail to implement available energy efficiency opportunities. The incentive/penalty mechanism would be fiscally cost neutral and should be additional to the financial benefit achieved through the reduction in energy consumption alone. The scheme would require being sector specific and would require significant legislative involvement via UK government.</p> <p>In terms of ICT use, there may be some scope to publish Power Usage Effectiveness (PUE) or other measures of data centre energy efficiency to drive efficiency in these areas particularly in large commercial organisations.</p> <p>Clean Energy for Heating. This is a classic balance between construction costs and running costs. A much higher emphasis must be placed on longer term running costs when constructing new buildings to drive down consumption and to avoid a replication of the situation where new build apartments often rely on high carbon electricity for heating instead of having (lower carbon) gas due to the high initial cost of installing a gas main.</p> <p>A wider approach is required to tackle the barriers of energy services and other associated matters like waste reduction or water efficiency.</p>



	Question	
		<p>Media could play a very important part in raising awareness across UK population - a knock on effect of climate change with associated impacts on human life should be clear to all, including young generations.</p> <p>More generalised legislation makes reporting and guidelines easier to adhere to and follow.</p>
12	<p><b>What innovative business models for energy efficiency could be developed or are already operating in other countries? How are they are helping to overcome barriers to energy efficiency? What more needs to be done to accelerate their development?</b></p>	<p>As above, un-aware of other incentive/penalty schemes operating in other countries however to achieve a substantive move towards Clean Growth Strategy it is believed an innovative approach would be necessary.</p> <p>In some areas the UK is behind with visible energy efficiency initiatives. For example in Spain or Poland there are many innovative solutions which are noticeable on the streets or public spaces such as schools, hospitals, cinemas, shopping centres or government buildings which makes people think about environmental and sustainability issues such as energy efficiency.</p> <p>There are also many events organised by local authorities to educate people. The biggest challenge is the old buildings in UK and this is where the focus should be.</p> <p>Innovation and new technologies can create more jobs and economic opportunities so this should be an important part of government strategy</p>
13	<p><b>What more needs to be done to improve standardisation to drive investment in energy efficiency? What role could government usefully have, if any?</b></p>	<p>Sector specific energy consumption data compiled via mandatory schemes such as CRC, CCL &amp; ESOS requires to be compiled centrally and aligned with identified organisation and sector specific efficiency improvement opportunities such that government is able to prescribe in a more definitive fashion what uptake of new technologies and projects should be adopted.</p>
14	<p><b>Are the costs of M&amp;V a barrier to implementing projects? What could be done to overcome this?</b></p>	<p>Unfortunately it is believed M&amp;V and the stringent requirements of IPMPV have become an industry in their own right often resulting in disproportionate levels of resource and cost being required to develop and deliver smaller scale energy optimisation projects. A more flexible approach to M&amp;V should be considered based upon the scale of financial benefit being achieved.</p> <p>M&amp;V, Monitoring and Verification, is a very useful tool and the key to demonstrating successful energy projects and building trust and the case for further reinvestment. It is absolutely key to driving awareness in energy projects. IPMPV is very detailed and the costs can be perceived as prohibitive. However, the basic principles of:</p> <ul style="list-style-type: none"> <li>• What the baseline is</li> <li>• What the saving is going to be</li> <li>• How and when the saving is going to be measured</li> </ul>



	Question	
		<p>These are actually very simple and can be achieved quite cheaply. A successful M&amp;V plan involves agreement on these 3 points by both parties before the project is completed. The more frequent / detailed the reporting the higher the cost will be and a realistic conversation with the client needs to be had.</p> <p>Where IPMVP is applied this cost can considerable affect the payback or projects particularly smaller ones. However it is important to monitor the successes and failures of projects in a standard way, this is more important where there are multiple stakeholders with differing financial interests</p>
15	<p><b>Would aggregation help businesses, particularly SMEs, access more services offering energy efficiency and finance? What are the main challenges facing aggregation of energy efficiency?</b></p>	<p>Aggregation may help SMEs, this may be easier when they are in one geographical location such as a trading estate, but legal advice on benefits and obligations would need to be provided. Whilst aggregation maybe useful in certain circumstances, such as the provision of funding the main challenge in this approach will always be due to collective decision making and aligning project delivery timescales particularly within SME's.</p>
16	<p><b>Would digitalisation and data analytics offer opportunities to improve the way businesses manage their energy use and make investment decisions? Please provide any evidence of whether this is already having an impact on the market for energy efficiency.</b></p>	<p>Whilst there is clearly benefit to be achieved from digitalisation and improved data analytics in large complex and energy intensive organisations for the most part opportunities for energy improvement are readily recognisable through simple survey and without the need for costly and resource hungry submetering/analytics systems. Indeed complex digitalisation and costly analytics systems can often be a distraction from the adoption of remarkably common sense and straightforward energy reduction opportunities. Whilst technological advancement is to be welcomed it should not be seen as a necessary and costly pre-requisite to the identification and implementation of energy reduction measures.</p> <p>The availability of data is key to making the best and most informed choices, however excessive collation of data when it is not used is not practical or useful. Should data analytics be available within supplier agreements, this would reduce the requirement for businesses to have their own analytics and make the data more accessible.</p>
17	<p><b>Would the ability to benchmark against similar businesses in the same sector be an effective means of spurring</b></p>	<p>Sector specific benchmarking of “relative” energy performance is certainly seen to be of benefit in encouraging the uptake of energy improvement projects. Most of the leaders are very competitive and this could drive the performance. It will also allow the customers/clients to compare the organisations and ability to choose to work with the best. A good example of this is the engagement to be seen by organisations within the CCL target setting which is</p>



	Question	
	<p>businesses to take action? Please provide evidence you have from industry initiatives or international examples.</p>	<p>administered through trade associations. International benchmarking is believed to hold less relevance than UK specific benchmarks.</p> <p>The benchmarking of businesses could promote awareness and action, but it would be important to group them appropriately, especially where there is a diverse building stock such as hospitals. There may also be concerns about the open sharing of data affecting competitiveness or financial interest in a business so how the data is collated and how it is anonymised would be important.</p>
18	<p>What more could be done to facilitate the availability of better data on energy use for businesses?</p>	<p>Further transparency of energy data should be made available and published centrally. The data requires to be “relative” in nature with metrics in relation to production output, floor area, No. of staff etc. clearly thought through for specific sectors of industry and commerce, i.e. data-centres, office accommodation, further education, hospitals etc.</p> <p>Mandating automatic metering has increased data availability and billing accuracy, however for some businesses this is not then used to understand the building or make further decisions. Should the suppliers have an analytical tool within the contract this may allow data to be visualised and understood more easily</p> <p>Accurate, timely availability of data is key. Smart metering needs to be mandatory with accessibility of data given to customers and managing agents.</p>
19	<p>Is uncertainty over the realisation of energy efficiency savings a barrier to lenders offering energy efficiency tailored products?</p>	<p>Yes, unfortunately energy consumption performance within an organisation will always be a dynamic function acted upon by a wide combination of factors, production rates, expansion plans, new technology, staff numbers, weather, environmental legislation etc.. Uncertainty can be a barrier to lenders offering energy efficiency products.</p>
20	<p>What types of incentive might help de-risk energy efficiency financing and stimulate lenders to provide commercially viable and attractive energy efficiency financing? Do you have evidence of</p>	<p>The additional financial incentive for organisations choosing to implement efficiency measures funded via a financial penalty for organisations who fail to implement available energy efficiency opportunities would certainly assist in de-risking investment decisions. The incentive/penalty mechanism would be fiscally cost neutral and should be additional to the financial benefit achieved through the reduction in energy consumption alone. The scheme would require being sector specific and would require significant legislative involvement via UK government.</p>



	Question	
	where it has worked in other countries or other sectors? Please provide details.	
21	What could be done by lenders and the supply chain to “green tag” their portfolios and/or their energy efficiency products and services?	Whilst lenders and supply chain organisations may take reputational benefit through a form of “green tag”, this can often be seen as window dressing and be seen as a mechanism for justifying what may or may not be higher risk, less robust investment decisions. What is believed to be preferable are more robust business cases being made for energy improvement investment with little or no risk attached to these investments?
22	Are lenders and the supply chain already utilising existing datasets (for example the energy performance certificate database) in the development of products and services? If so, is this data sufficient? What more is needed?	N.A
23	Could property fund managers and their investors be encouraged to deliver energy efficiency in their buildings? What are the opportunities and barriers to this model developing	Property fund managers and their investors will clearly be driven by financial reward and therefore will be encouraged only if the risk in energy investment projects is at low risk and rewards of significance. This would therefore be assisted through a more prescriptive mandatory incentive/penalty mechanism introduced via government. The barriers to such development are expected to be legislative.
24	How can government deliver a step-change in ETL promotion and awareness raising to increase the	The ECA scheme, as a driver to improve the up-take of energy efficiency improvement, has been ineffective and consideration should be given to its termination. The additional financial benefit that can be achieved by an organisation is unclear at outset which can only provide further uncertainty in investment decision making. Furthermore the inclusion of ETL technologies in company accounts to provide ECA benefit is an extremely arduous process and from experience rarely up-taken. This is an example of an over complicated mechanism introduced



	Question	
	number and diversity of actively engaged stakeholders, including manufacturers, suppliers, distributors, specifiers, advisers and end-users?	<p>to incentivise the up-take of energy efficiency projects but in retrospect does little other than to add complexity and confusion.</p> <p>The ETL can be viewed as very specific, and often smaller companies are not aware of its existence or the details of it when initially costing projects which affects the initial business case. Where suppliers highlight that this mechanism is available for their qualifying products within their quotes and provide appropriate information on the process of claiming this may assist end consumers.</p>
25	How can BEIS incentivise intermediary stakeholders (e.g. specifiers in the buildings sector) to use the ETL to encourage specification of ETL technologies and drive up take of ECAs claims?	See above response.
26	How could the ETL better drive market innovation and better reward new high performing products?	See above response.
<b>SMEs</b>		
27	What are your views on the availability and quality of information and advice on energy, and its appropriateness for SMEs?	Much of the energy advice available to SMEs is from suppliers of energy efficiency products and is not impartial. If they were offered impartial advice with tailored and realistic business cases and information on the funding available this would assist in informed decision making.
28	How do you think SMEs could be encouraged to take action on energy efficiency?	Larger SMEs are involved in mandatory legislation such as CCL and ESOS which encourages the reporting of energy performance, auditing and the identification of energy improvement opportunities. In delivering a substantive Clean Growth Strategy it would appear prudent to involve larger scale SMEs in the mandatory implementation of identified energy improvement opportunities where practical to do so and where attractive financial payback criteria is met. Small SME's should be encouraged by incentives.



	Question	
29	To what extent are large companies able to influence the energy efficiency performance of their supply chain? Please provide examples of where this is working well.	<p>Large companies can influence the supply chain considerably. The tender exercise is the best way to start the process.</p> <p>Each organisation should expect similar standards/strategies from our suppliers or partners. After the supplier is appointed the performance should be monitored and review should take place regularly to drive continues improvement.</p> <p>Large companies can influence the supply chain considerably though mandating their suppliers adhere to the same standards they do.</p> <p>It is the high user and key customers that effectively drive a supplier to manage an account with more care and time.</p>
30	What advice from trusted partners (e.g. banks, trade bodies etc) is available to SMEs on energy efficiency? Please provide examples of where this is working well.	N.A
	<b>Industrial Processes</b>	
31	What more can be done? What are the key barriers for industry (and how do they compare to those in wider businesses)?	<p>Scope for improvement within UK industrial processes is significant. Opportunities are broad and can range from, process integration, fuel substitution, adoption of free heating/cooling, improved heating medium, insulation, optimisation of compressed air generation, improved motive drive efficiency via VSD technology, adoption of renewable technologies etc. The main barriers will inevitably be down to availability of finance, investment risk and implementation resource. The additional barrier which exists in manufacturing organisations is the competition for investment between energy efficiency projects vs that of production development/expansion.</p> <p>The barriers are the cost of new investments and behaviour issues.</p>
32	What further energy efficiency potential is there in the diverse light industry sector? Please provide specific evidence and examples.	<p>This is perhaps the largest single area for efficiency improvement in that the light industrial sector takes in a wide range of differing processes, plant and services in addition to traditional office accommodation. This results in opportunities existing across, steam, heat, compressed air, cooling, ovens, cooling towers, air conditioning, pumps, fans, motive drives etc. and can be provided via traditional energy optimisation initiatives as well as more innovative solutions adopting technology and renewable energy solutions.</p>

