

LOCAL AUTHORITY
ENERGY INDEX



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Peer Review

Element Energy acted as an external reviewer for the report. They are a leading low carbon consultancy specialising in low carbon buildings, transport and power generation. Element works with policymakers, suppliers of low carbon products and with customers to identify the best ways to reduce the energy consumption and emissions of the UK's building stock.



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The Local Authority Energy Index - Introduction

Local Authorities can have a dramatic effect on the energy that people and businesses use.

This report considers how a selection of Local Authorities has worked to influence the local energy and energy efficiency agendas. It highlights best practice and explores barriers that exist for Councils trying to reduce energy bills for residents, businesses and their own estate.

The business case for large scale energy efficiency is robust with research from Cambridge Econometrics demonstrating just what a hugely positive story improving UK homes makes. Insulating 6 million homes by 2025, as part of a wider energy efficiency plan up to 2030, will create 108,000 jobs, provide a threefold increase in GDP for every pound spent by government and return £1.20 to HM Treasury for every £1 Government invests.¹ The new jobs created will be near the regions benefitting - so local jobs creating local energy bill savings recycled into the local economy.

Many Councils have already taken steps to improve the energy efficiency of homes, offices and local transport both within their estate and outside. Indeed, we recognize the excellent work many are undertaking, usually in difficult circumstances dealing with 'stop-start' central Government programmes and always with constrained budgets. Nothing in this report should be taken as criticism.

Leading authorities are proactively addressing the changes in the energy industry and the move towards decentralization and both community-led and municipality owned energy service companies. However, to pick one area, after a decade of schemes, our housing stock is still not fit for purpose.

There is always room for improvement and things to learn from best practice. We encourage the leadership within all Local Authorities to re-consider and re-invigorate their efforts in this vital area. We hope the Energy Index will be seen in this light; recognising and sharing best practice, benchmarking activity where possible and offering a platform for debate.

Making homes energy efficient:

- Benefits local economies and communities across the UK
- Could create over 100,000 new jobs
- Could save £8.61 billion a year from domestic energy bills

¹ Building The Future by Cambridge Econometrics p4-5, www.energybillrevolution.org/resources/

This Index is designed as a pilot tool to measure the state of play in local authority energy efficiency and to assist authorities that want to improve their performance in this vital area.

For this initial edition, 25 Local Authorities have been selected from England. They cover a range of Metropolitan, London and Unitary authorities, as well as a range of geographies and diverse socio-economic conditions. The selected authorities account for 14.59% of the population and 14.62% of energy use in England.

All UK Local Authorities have been under considerable financial constraints for the last few years. Initial findings suggest that in response to these challenges, many have reduced the resources they deploy into energy efficiency measures and programmes. This includes internal energy management efforts.

Four areas have been used to compare the different approaches taken by Local Authorities.

1. Energy management of own buildings

A major way in which local authorities can affect energy use is by implementing and maintaining an effective energy management programme within their own property portfolio. The following areas were used to assess different approaches.

i. Targets and plans

Many Local Authorities have carbon emissions reduction targets, and most of the published carbon reduction plans incorporate intentions to reduce energy use and increase renewable supply.

Just over half the selected authorities report corporate energy consumption annually through the Carbon Reduction Commitment (CRC) or through their own initiative. However, surprisingly few have a published, formally adopted target for reducing corporate energy use. If carbon emissions are used as a proxy for general energy use, some measures will not be assessed correctly. This may mean that some energy saving benefits, including cost reduction, are missed.

Many Local Authorities have stated ambitions to install significant renewable energy measures in their own estate and within the wider community, but only six had published their commitment in terms of a quantified target for generation capacity and/or green electricity procurement.

ii. Independent assessment

Around half of the assessed Local Authorities have commissioned an independent third-party audit of their energy use.

Thirteen responded that participation in CRC represented the extent of their energy use Measurement and Verification (M&V) activity, or that they had no past or on-going independent third party M&V in this area. Uptake of the internationally recognised ISO 50001 tool, which creates a standard reporting framework, proved scarce among the selected Local Authorities.

iii. Performance and organisational membership

None of the selected local authorities has any service centres with DEC ratings higher than C. Only five of our selected authorities are LGACL signatories, though membership in this body is only one pathway to energy efficiency performance among many.

The top four scoring authorities on the energy management criteria were Southampton, Barking and Dagenham, Coventry and Peterborough.

2. Improving energy efficiency in the community

Proactive local authorities are developing programmes to encourage local building owners – both domestic and non-domestic – to undertake energy retrofits, and the majority of the selected Local Authorities have some type of programme encouraging retrofits in at least the domestic sector. Planning and development policies drive energy efficiency over the longer term, and a majority of the selected Local Authorities have adopted planning policies imposing rules for new development that exceed the national building regulations in their building energy efficiency or onsite micro-generation capacity requirements.

Local authorities can also encourage community wide and grass roots community-led energy efficiency programmes aimed at households and other building owners or users.

The overwhelming majority of the selected authorities do support such programmes in some form. Roughly half of the selected Local Authorities have policies or programmes in place to support the community-led development of renewable energy micro-generation projects.

The leading authorities on these indicators are Barking and Dagenham, Kingston-Upon-Hull, Leeds, Plymouth, Richmond-upon-Thames and Southampton.

3. Improving energy efficiency in housing

The percentage of households in fuel poverty among our selected authorities ranged significantly but was largely clustered around the 2011 national mean of 11% for England. For this reason among others, improving energy efficiency in housing should be a major focus of both national and local efforts to address energy problems.

This report uses the number of CERT measures per household and the total number of CESP measures as proxies for local authority effectiveness at delivering these programmes, which ran from 2008 to 2012 and 2009 to 2012 respectively. Considerable local economic benefits were achieved through the implementation of CERT and CESP insulation measures in the form of FTE jobs and inherent GVA added. Although current Energy Company Obligation and Green Deal programmes also rely heavily on local authority involvement, they are not included in this initial Index as recent programme changes make the data unclear. They will be incorporated into future versions.

The four leading authorities in energy in housing are Kingston-upon-Hull, Manchester, Milton Keynes, Wirral.

4. Energy infrastructure

Local Authorities can play a major part in the development of energy infrastructure. This falls into three main categories.

- i. District heating and local electricity networks –**
Among the selected Local Authorities a range of distributed energy systems including major district heating schemes and small-scale CHP have been implemented.
- ii. Municipally owned or led companies –**
Only a few Local Authorities have established a municipal energy company or ESCO to manage energy efficiency delivery or local generation and supply. Several other authorities have made policy commitments to creating an ESCO, but full implementation of these policies will take some time.
- iii. Installation of micro-generation –**
Installed micro-generation capacity spanned a surprisingly large range (from 7.98 to 64.83 watts per capita) among our selected areas. However, the direct impact of local authority programmes on such activity is hard to determine from available data.

The four leading authorities on energy efficiency in infrastructure are Peterborough, Coventry, Leeds and Telford and Wrekin.

5. General

Two further indicators have been used to compile the Index alongside the four categories set out above.

- A measure of domestic energy use per capita.**
This measure is affected by the historical quality of the housing stock in energy terms (i.e. levels of insulation and air tightness) and the nature of the housing stock in terms of density and spatial layout.
- Energy use per Gross Value Added.**
This indicator is largely determined by the structure of industry and commerce in an area, but is relevant to the wider picture of energy efficiency and usage.

It needs to be recognised that primary factors affecting these two indicators are outside of local authority control. However, related secondary factors do have specific links to local authority activity. Including these indicators in this first version of the Index also means that future versions can track the impact of local policies on the energy consumed by people and businesses over time.

The four leading authorities on these general indicators are Bristol, Barking and Dagenham, Southampton and Plymouth.

Best practice recommendations

Different areas of the country face different pressures. However, the following suggestions are broadly relevant examples of best practice, and should be of use to Local Authorities wishing to make significant impacts in their areas.

1. Energy management in own buildings:

- Set a public target for energy reduction and report progress against that target.
- Commission a third party audit and M&V of operational energy use data.
- Adopt the ISO 50001 tool to improve energy management.
- Have a comprehensive rationalization strategy and retrofit programme for Council buildings and other local authority building stock.
- Develop local micro-generation, especially on Council-owned property, or purchase low or zero carbon energy.
- Implement energy efficiency as a procurement criterion.
- Run education and behaviour change campaigns among council employees.

2. Energy in the community:

- Initiate programmes to encourage building retrofits in all building types including information and access to funding.
- Partner with energy companies (for ECO) and Green Deal providers and raise public awareness and understanding of these programmes.
- Support community-led micro-generation projects and fast-track related planning permission (where required).
- Adopt planning rules in advance of national building regulations (where possible).

3. Energy in housing:

- Design programmes to access maximum available funding from schemes such as ECO, Green Deal and EU funds.
- Promote uptake of ECO and ensure that vulnerable residents receive maximum benefit.
- Provide information on domestic energy efficiency, renewable energy and available grants and discounts.

4. Energy infrastructure:

- Review opportunities for developing District Heating, Combined Heat and Power and other energy infrastructure including generation and storage.
- Consider the opportunity for a municipal energy company / Energy Service Company (ESCO).

The Local Authority Energy Index

Background

Energy – in the form of electricity and fuel - is essential to the delivery of services that we all rely upon every day; a comfortable temperature, light, motive power, transport and communications. The systems that deliver our energy, however, are subject to numerous stresses and strains including:

- threats to energy supplies from physical resource constraints
- geo-political forces and terrorism – both physical and cyber – threatening energy supplies
- increasing and volatile energy prices – leading to increased economic and health pressures for many people in fuel poverty
- global and local environmental constraints.

Over the last few years the large potential for mitigating these problems through improving energy efficiency has been increasingly recognized but, despite being the cheapest, cleanest and fastest way of delivering energy services, the potential for improved energy efficiency remains under-utilized for a number of structural and historical reasons. It is important to stress that by energy efficiency we mean providing the same level of service, or better, with less energy input – it is not about reducing levels of service. As well as the obvious energy cost savings and reductions in emissions, investing in energy efficiency has been shown to bring many co-benefits including amongst many others:

- improved productivity
- improved health and well-being
- improvements in local economies through retaining money in the community job creation
- reduced need to invest in energy supply infrastructure in transmission and distribution systems
- improved local and global environment.

Recent work by the International Energy Agency² has highlighted the value of these co-benefits but this value has not yet been universally recognized.

² Capturing the Multiple Benefits of Energy Efficiency. International Energy Agency, September 2014

Local Authorities have many touch points with energy and can affect levels of energy efficiency in different ways. They own or control considerable portfolios of non-domestic buildings that use energy, some of which have the potential to become local energy hubs. They provide services to vulnerable people, many of whom will be affected by fuel poverty. Some authorities own or control residential property portfolios, and they can impact energy use in other buildings within their area through planning policies and programmes designed to help local people and businesses improve energy efficiency in both domestic and non-domestic stock. Local transport policies, as well as decisions about Local Authority fleets, can also influence overall energy efficiency.

Some local authorities in the UK and around the world have shown leadership in energy efficiency and we believe all authorities are well placed to make a significant impact on improving energy use within their areas.

We believe that those authorities which proactively address this matter will reap benefits through improved health and welfare, improved finances and local economic development.

The Local Authority Energy Index, developed by Knauf Insulation, is a pilot attempt to measure and rank local authorities' work on energy efficiency. It uses a combination of quantitative and qualitative measures to produce an overall index of performance in energy efficiency. It is not intended to be critical of individual authorities, and like all indices it has to be interpreted with care. It is intended to show best practice and where local authorities can improve their performance.

All UK local authorities have been under considerable financial constraints for the last few years and our research has found that many local authorities have reduced the resources deployed into energy efficiency, including their own internal energy management efforts. We believe this to be a mistake as effective energy management programmes are self-funding – particularly if all the benefits are correctly identified and valued.

The Local Authority Energy Index is designed to be a tool to both measure the state of play in local authority energy efficiency and assist authorities that want to improve performance in this critical area. We envisage publishing it on a periodic basis and expanding it to a wider selection of authorities in future.

Selection of local authorities

For this initial edition of the Local Authority Energy Index we have selected 25 local authorities from England covering a range of Metropolitan, London and Unitary authorities as well as a range of geographies. The local authorities selected cover 14.59% of the population and 14.62% of energy use in England (measured as the total sales of electricity and natural gas), although of course most of that energy use is not under the direct control of the local authority. Due to differences in record keeping and policy in England and Wales, we have confined the current study to English local authorities, but we envision finding ways to circumvent the challenges presented by these differences and expanding the Index to cover as many local authorities as possible.

In addition to geographic diversity, we have made an effort to ensure the socio-economic diversity of our selection. To that end we have drawn on The Chartered Institute of Public Finance and Accountancy's (CIPFA's) Nearest Neighbour Model (NNM), 2009. For any given local authority X, the NNM identifies the 15 most similar other local authorities based on socio-economic criteria; these 15 authorities are known as local authority X's comparators.

Given our study's focus on urban and peri-urban areas, some degree of socio-economic similarity amongst our selection was inevitable. Nonetheless, in making our selection of 25 local authorities, we have tried to avoid a large amount of NNM comparator overlap. All but two of the selected authorities have one or more of their respective comparators included in our selection of 25, and none of them have more than seven. The mean comparator overlap (calculated per authority as the number of NNM comparators present in the selection \div 15) in our selection is 26.1%.

Table 1: Local authority selection with key statistics.

Local Authority	Metropolitan/ London/ Unitary	Population (2011)	Density (person per hectare)	Latitude	NNM Comparators in selection	Domestic energy consumed (GWh 2012)	Commercial & industrial energy consumed (GWh 2012)	Total homes (2011)
Barking & Dagenham	London	185,911	51.5	51.6	0	1,039.08	625.76	71,079
Bedford	Unitary	157,479	3.3	52.1	4	1,086.55	699.81	67,333
Birmingham	Metropol.	1,073,045	40.1	52.5	6	7,237.11	5,926.50	423,633
Brighton & Hove	Unitary	273,369	33.1	50.8	7	1,803.95	1,018.94	124,417
Bristol	Unitary	428,234	39.1	51.5	7	2,744.49	1,932.56	188,438
Cheshire East	Unitary	370,127	3.2	53.1	1	2,967.64	2,858.61	166,236
Coventry	Metropol.	316,960	32.1	52.4	3	2,155.53	1,675.20	132,891
Derby	Unitary	248,752	31.9	52.9	5	1,747.30	1,328.25	106,509
Doncaster	Metropol.	302,402	5.3	53.5	1	2,202.62	1,886.70	130,819
Kingston-upon-Hull	Unitary	256,406	35.9	53.7	1	1,750.85	1,661.83	116,495
Leeds	Metropol.	751,485	13.6	53.8	5	5,701.58	4,439.35	331,819
Manchester	Metropol.	503,127	43.5	53.5	7	3,041.06	3,461.31	213,529
Milton Keynes	Unitary	248,821	8.1	52.0	5	1,675.49	1,510.62	102,012
Newcastle-upon-Tyne	Metropol.	280,177	24.7	55.0	7	2,033.60	1,991.62	121,761
Peterborough	Unitary	183,631	5.3	52.6	6	1,220.26	1,042.40	76,760
Plymouth	Unitary	256,384	32.1	50.4	6	1,481.98	1,083.61	113,069
Richmond-upon-Thames	London	186,990	32.6	51.4	0	1,593.49	668.05	82,482
Southampton	Unitary	236,882	47.5	50.9	6	1,336.14	1,167.95	100,596
Stockton-on-Tees	Unitary	191,610	9.4	54.6	2	1,437.89	1,236.79	82,237
Sunderland	Metropol.	275,506	20.0	54.9	2	2,170.51	1,586.06	123,367
Swindon	Unitary	209,156	9.1	51.6	6	1,398.76	1,307.51	91,128
Telford & Wrekin	Unitary	166,641	5.7	52.7	2	1,111.41	1,066.93	68,714
Thurrock	Unitary	157,705	9.7	51.5	5	1,011.36	1,569.96	63,869
Wirral	Metropol.	319,783	20.4	53.3	4	2,500.24	1,428.62	145,693
Wokingham	Unitary	154,380	8.6	51.4	3	1,246.58	654.36	62,474

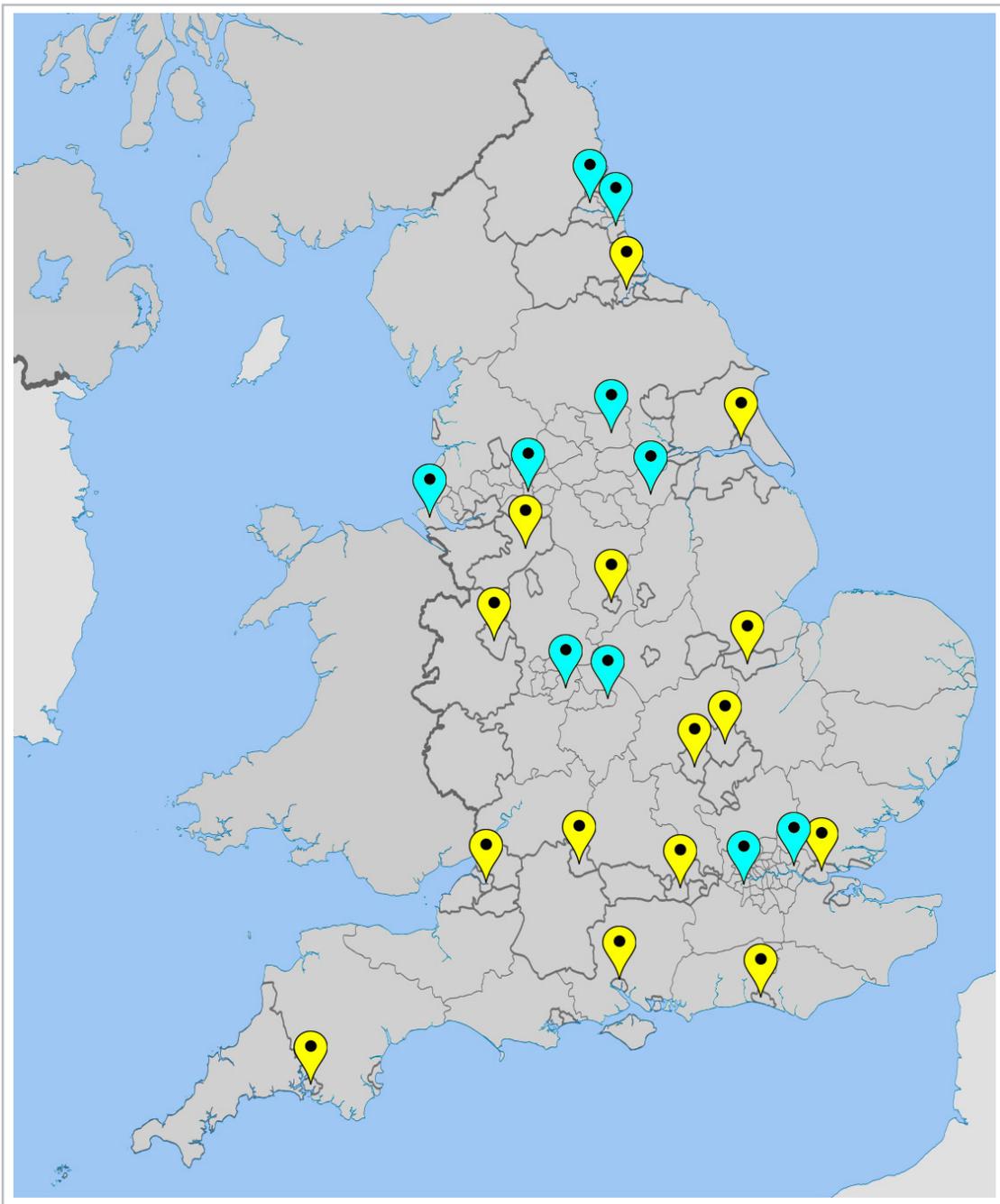


Figure 1: Locations of selected local authorities, with metropolitan and London authorities in blue, and unitary authorities in yellow.

This image is an adaptation derived from the image titled "English administrative divisions 2010. svg", whose original author is Nilfanion, available at http://commons.wikimedia.org/wiki/File:English_administrative_divisions_2010.svg.

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Throughout the data collection process, we have made every effort to consult directly with relevant local authority employees³. Naturally, it has not always been possible to get full information - Council energy and carbon reduction personnel operate under time constraints, and were not always available for consultation by telephone.

Several local authority energy managers were only able to respond in brief via email, and this limited the nuance of their input. In some instances, local authority policy was found to be in transition: under review or in draft form for the upcoming period, and we have done our best to account for this.

In several cases, the responses of council employees seemed slightly at odds with or confusing in light of their council's online communications, and we have drawn conclusions based on a synthesis of available information. Whenever council employees were unable to comment, online council communications were used as the exclusive data source.

³ Our methodology for assessing the indicators has been as rigorous as possible; however—this being a pilot Index—some errors may have found their way into the final dataset. Should you disagree with any of our findings, please contact us at laenergyindex@knaufinsulation.com. We welcome any feedback.

The indicators

We have broken down local authority responses to energy efficiency into four areas:

- Energy management of the authority's own buildings
- Improving energy efficiency in the community
- Improving energy efficiency in housing
- Energy infrastructure.

As major owners or operators of property, covering a wide range of facilities including offices, residential care-homes, leisure centres, depots and others, local authorities can control the energy use of their portfolios through implementing effective energy management programmes. Effective energy management programmes aimed at both controlling day-to-day energy use and identifying and implementing projects to reduce energy use have been shown to be very cost-effective over a long period. Such programmes require both commitment from senior leadership and capability at the operational level and organizations need to work on both these dimensions⁴. Our indicators seek to assess the quality of the authorities' energy management programmes.

Local authorities exist to provide services to the community and there are various activities that authorities can undertake to help various sectors of the community, including businesses, the voluntary sector and individual residents, improve their energy efficiency. Our indicators look to assess the quality of authorities' efforts in this area.

Housing is responsible for 29% of total final energy consumption which is obviously split between privately owned and public/social owned housing stock. Although not all Local Authorities control housing stock, improving the energy efficiency of housing is an important area that brings many co-benefits including reducing health and social problems caused by fuel poverty. It can also have a direct economic benefit by reducing householders expenditure on energy. In 2013 UK households spent more than £35.7 billion on energy, £16.6 billion on gas, £16.5 billion on electricity and £2.6 billion on oil, solid fuel, other fuels and heat. Most, if not all, local authorities will have an interest in energy efficiency in housing and our indicators look to measure these activities.

In the last fifty years responsibility for energy infrastructure has largely sat with the energy supply companies, the distribution companies and the National Grid. With the rise of distributed energy technology there is a trend towards local ownership of energy assets, either in the hands of organizations or even individuals. We see local authorities taking an increasing role in planning, developing and catalysing energy infrastructure within their areas and our indicators look to measure this activity.

In addition to these four areas we have added two indicators which measure domestic energy use per capita and commercial and industrial energy per Gross Value Added (GVA). Although these are affected by many factors outside the direct control of authorities we see them as important indicators which over time could be used to measure local authority effectiveness in energy efficiency.

The twenty indicators chosen for the Index are a mix of quantitative and qualitative measures and are described in the next section.

⁴ Measuring energy management commitment and capability. Steven Fawkes. <https://www.2degreesnetwork.com/groups/2degrees-community/resources/measuring-energy-management-commitment-and-capability/>

Indicator weighting and scoring

We weighted the indicators through the uneven distribution of 100 total possible points. Table 2 summarizes the indicators and the points available per each one. We allocated the most points to those indicators whose outcomes are theoretically within local authorities' direct control and whose implementation we believe has the best potential to drive progressive energy efficiency improvements.

We have allocated more points to criteria related to municipal energy management capacity because we consider it to be the fundamental building block of any authority's response to the energy situation.

Quantitative indicators received fewer points on the whole, as they typically present a snapshot of local authority energy performance, and would better be evaluated in terms of year-on-year improvement (or backslide).

When scoring many of the quantitative indicators, full points were awarded to the top performing local authority. In these cases, a fraction of full points was awarded to the other authorities based on the ratio of their individual performances to that of the top scorer.

The most robust responses to the challenges posed by each qualitative indicator received full points. However data for these indicators often did not always present a black and white outcome. Where appropriate, we therefore identified tiers of qualitative performance, and awarded points accordingly. Even though an authority might not strictly satisfy the criteria of a given qualitative indicator to score full points, it may have policies or practices that go part of the way towards that end and be judged to deserve partial points. More detail on our scoring methodology is available in the discussion of the findings for each indicator.

Table 2: The indicators, and points available for each

INDICATOR No.	Points available	INDICATOR
<u>ENERGY MANAGEMENT OF OWN BUILDINGS</u>		
1	10	Does the LA have a published, formally adopted energy use reduction target in place for its own operations?
2	6	Does the LA show progress, performance or management of EE strategy through annual reporting?
3.1	4	Has the LA's operational energy use data been assessed/ audited by a third party?
3.2	4	Does the LA show progress, performance or management of EE strategy through third party evaluation, measurement and verification (M&V)?
3.3	3	Specifically, has the LA applied ISO 50001?
4	4	Does the LA have a published renewable energy or electricity target?
5	1	Is the LA a member of Local Government Association Climate Local?
6	3	Primary Service Centre(s) average DEC EE rating
<u>ENERGY IN THE COMMUNITY</u>		
7	8	Does the LA have a programme to encourage other building users to retrofit their buildings (e.g. Cambridge)?
8	8	Does the LA have design requirements for new buildings in excess of Building Regulations in terms of EE or on site micro-generation?
9	6	Does the LA have community-wide EE initiatives or programmes?
10	6	Community energy programmes: is there active support from the LA?
<u>ENERGY IN HOUSING</u>		
11	4	Percentage of households in fuel poverty
12	4	Measures (total cavity wall and loft insulation) carried out under CERT ÷ total number of homes per LA
13	4	(Total) Measures carried out under CESP
14	3	Percentage of homes installed with cavity insulation since 2008
15	3	Percentage of homes installed with loft insulation since 2008
<u>ENERGY INFRASTRUCTURE</u>		
16	6	Does the LA have a distributed energy system in place (district energy, medium/ large-scale CHP)?
17	5	Has the LA established its own ESCO with community ambitions (e.g. Bluesky Peterborough)?
18	2	Installed microgeneration potential per capita
<u>OVERALL INDICATORS</u>		
19	4	(Domestic) Energy use per capita
20	2	(Commercial & Industrial) Energy use per unit GVA

Energy management of own buildings

A major way in which local authorities can affect energy use is to implement and maintain an effective energy management programme within their own property portfolio. The Carbon Trust has estimated that local authorities use some 26 billion kWh of energy a year with an expenditure of £750 million and carbon emissions of 6.9 Mtonnes of CO₂. Capacity in energy management declined in the 2000s as energy prices were relatively low and there has been, and continues to be, a need to rebuild energy management commitment, capacity and capabilities in local authorities and indeed all large organizations.

The quality of local authority energy management programmes is variable and bringing them all up to the highest standard would in itself reduce energy consumption and costs. In the 1980s the Audit Commission implemented energy management data collection and training programmes for all local authority auditors

which served to raise the issue at senior levels and improve the quality of energy management. Local authority organisations and government should consider the value of implementing a similar programme today but updated to utilise automated data collection and “big data” analysis techniques.

1. Existence of an energy efficiency target (for LA's own property portfolio)

The first step in managing energy, or any other resource, is to establish a baseline consumption, establish a monitoring system and then set a target. Energy efficiency requires measurement (see section on measurement and verification) and clear targets to be set.

In recent years the rise of the carbon agenda has led many authorities to set carbon targets. Reducing carbon emissions can come about in three ways which should be implemented in this order:

- Reducing energy use (through improved energy efficiency)
- Switching energy sources from high carbon to low carbon (e.g. switching oil fired boilers to gas boilers)
- Switching to low or zero carbon energy sources (e.g. electricity generated from renewable energy or some kind of renewable fuel such as biomass)
- Purchasing low or zero carbon electricity.

Local authorities, or indeed any organization, seeking to reduce their carbon emissions should evaluate opportunities in all these areas and any overall carbon reduction target should

have sub-targets based on achievable potentials within each of these categories.

Setting an energy efficiency target, either as part of an overall carbon target, or independently, is one indicator of a sound, well managed energy efficiency programme.

Given the importance of energy use reduction targets as a first step towards improved performance, we have allocated ten points (the heaviest weighting) to this indicator. In assigning this heavy weighting, we have also considered the power of published policy to boost public accountability and galvanise administrative action, as well as the potential for local authorities to lead the way by setting a public example. Non-published energy use reduction targets received fewer points, and carbon reduction targets fewer points still.

Table 3: Published energy reduction target, maximum points available: 10

	LOCAL AUTHORITY	POINTS SCORED	DOES THE LA HAVE A PUBLISHED, FORMALLY ADOPTED OPERATIONAL ENERGY USE REDUCTION TARGET?	
1	Bristol	10	YES	
2	Cheshire East	10	YES	
3	Southampton	10	YES	
4	Sunderland	10	YES	
5	Telford & Wrekin	7	Internal target	
6	Wokingham	7	Internal target	
7	Plymouth	6	CR target w/ EE measures funded	
8	Barking & Dagenham	6	CR target mixed w/ an EE target	
9	Bedford	5	CR target	
10	Birmingham	5	CR target	
11	Brighton & Hove	5	CR target	
12	Coventry	5	CR target	
13	Doncaster	5	CR target	
14	Kingston-upon-Hull	5	CR target	
15	Leeds	5	CR target	
16	Manchester	5	CR target	
17	Newcastle-upon-Tyne	5	CR target	
18	Peterborough	5	CR target	
19	Stockton-on-Tees	5	CR target	
20	Wirral	5	CR target	
21	Milton Keynes	4	Community-wide CR target	
22	Richmond-upon-Thames	3	In development	
23	Thurrock	3	NO, but have an internal CR target	
24	Derby	0	NO	
25	Swindon	0	NO	

EE = Energy efficiency; CR = Carbon reduction

← NO YES →

Discussion

Very few, only four out of 25 local authorities, had a published, formally adopted corporate energy use reduction target in place. Carbon emissions reduction targets were common, and most published carbon reduction plans incorporated a discussion of the importance of and opportunities for municipal energy use reduction and an increase in the use of renewable energy supplies. Conversations with authority energy managers revealed that some councils had unpublished, internally mandated energy use targets, but it is unclear why these were not made public. A small minority had no published corporate carbon or energy use reduction targets.

In the course of our research, we discovered that carbon reduction targets were often confused with energy use reduction targets by council personnel.

We should acknowledge here that the distinction between energy and carbon targets was apparent to and quickly noted by some council energy personnel. In a number of cases however, energy team personnel initially stated that they did indeed have a published energy target (of x% with a baseline year and delivery deadline). Upon further scrutiny, many of these turned out to be carbon reduction targets including un-quantified (and sometimes unspecified) energy efficiency ambitions. In each case, our conclusions on this point were of course based on our conversations and a best possible scan of published council documents, but it is entirely possible that we have missed some items. In ambiguous cases, where it was difficult to resolve the claim of a council

employee with the results of online research, we gave authorities the benefit of the doubt; the lack of clarity in these responses definitely warrants further investigation in future editions of the Index. Clarity of objectives, or lack of clarity, is an indicator of management effectiveness.

For those local authorities using carbon emissions as a proxy for energy use, there is a risk that the specific value of an energy use reduction target may be overlooked or under-estimated. Energy use should be assessed in common units of energy (e.g. kilowatt hours - kWh). Focusing purely on a carbon reduction target could create the false sense that energy efficiency is being adequately pursued in council policy whereas in fact it is not. There is a concern that energy management capacity still needs to be increased in many authorities; energy management programmes should address energy use per se in order to build capacity and avoid sub-optimal outcomes.

2. Shows progress through annual reporting

As well as setting of a target for improved energy efficiency, good practice energy management for local authorities would include annual public reporting. Such reporting functions as an anchor for administrative processes driving year-on-year improvement, and we have allocated six points to this indicator to reflect its importance.

As with the previous indicator, public reporting sets an example and boosts public accountability while the use of common energy units (versus greenhouse gas or carbon units) represents best practice. Internal reporting receives less than full points, and reporting on greenhouse gas or carbon emissions fewer points still.

Emissions reporting is useful, but does not provide direct visibility into operational consumption, which is better quantified in energy terms e.g. kWh. For example, Wirral reports on energy consumption per energy and fuel type, but quantifies the report in terms of CO₂-equivalent (CO₂e). A focus

per energy and fuel type is a step in the right direction. Quantifying consumption in terms of kWh provides a better metric for energy performance management. Using carbon as a metric obscures the difference between low-carbon/ green energy procurement and energy efficiency.

3.1 Third party assessment of energy use

3.2 Third party measurement and verification (M&V) of energy savings

We consider these two related indicators together.

Two foundations of an effective energy management programme are energy audits, of particular buildings or a whole portfolio, and on-going measurement of savings. We would expect well-run programmes to have had some independent verification of energy use and identification of opportunities for energy savings – an energy audit - and on-going third party Measurement & Verification of savings, using at least as a guide the International Protocol on Performance Measurement and Verification (IPMVP), with assessment carried out by a certified M&V professional.

Given the importance of external audits and M&V in supporting robust energy management, we have allocated these two indicators a heavy combined weighting of eight points (four apiece). Commissioned private sector audits received maximum points, while academic studies were scored somewhat lower.

Discussion

Twelve local authorities from our selection have commissioned an independent third-party audit of their energy use. Nine of these maintain on-going third party M&V of their progress, performance or management of energy use year on year. Strong performers on this indicator include Peterborough, whose energy performance contract with Honeywell bundles bulk energy buying, software management of all council energy bills, use analysis and identification of savings opportunities. Where a building is not performing optimally, Honeywell alerts the council's energy team, and action is taken to remedy the cause.

Table 5: Energy use assessed by third party, maximum points available: 4

	LOCAL AUTHORITY	POINTS SCORED	ENERGY USE ASSESSED/ AUDITED BY A 3RD PARTY?	
1	Barking & Dagenham	4	YES	-----+-----
2	Bristol	4	YES	-----+-----
3	Cheshire East	4	YES	-----+-----
4	Coventry	4	YES	-----+-----
5	Kingston-upon-Hull	4	YES	-----+-----
6	Leeds	4	YES	-----+-----
7	Manchester	4	YES	-----+-----
8	Milton Keynes	4	YES	-----+-----
9	Newcastle-upon-Tyne	4	YES	-----+-----
10	Peterborough	4	YES	-----+-----
11	Richmond-upon-Thames	4	YES	-----+-----
12	Southampton	4	YES	-----+-----
13	Plymouth	3	Academic study in 2011	-----+-----
14	Bedford	0	NO	+-----
15	Birmingham	0	NO	+-----
16	Brighton & Hove	0	NO	+-----
17	Derby	0	NO	+-----
18	Doncaster	0	NO	+-----
19	Stockton-on-Tees	0	NO	+-----
20	Sunderland	0	NO	+-----
21	Swindon	0	NO	+-----
22	Telford & Wrekin	0	NO	+-----
23	Thurrock	0	NO	+-----
24	Wirral	0	NO	+-----
25	Wokingham	0	NO	+-----

← NO YES →

For their part, Coventry and Leeds both signed up to the Carbon Trust Standard and had their energy use audited accordingly. Leeds has ongoing M&V through the EU Eco-Management and Audit Scheme (EMAS). Coventry commissioned ongoing M&V from a Carbon Trust assessor until the renewal of the scheme, when they discontinued the service; they are now considering taking up ISO 50001 to replace this gap in M&V service. Most of the authorities in our selection qualify for the UK Carbon Reduction Commitment (CRC) Energy Efficiency Scheme, but only Southampton and Manchester reported third party assessment of their CRC data. Thirteen authorities responded that participation in CRC represented the extent of their energy use M&V activity, or that they had no past or on-going independent third party M&V in this area.

Table 6: Use of third party Measurement and Verification, maximum points available: 4

	LOCAL AUTHORITY	POINTS SCORED	TRACKING PROGRESS, PERFORMANCE OR MANAGEMENT THROUGH 3RD PARTY MEASUREMENT AND VERIFICATION?
1	Barking & Dagenham	4	YES 
2	Bristol	4	YES 
3	Coventry	4	YES 
4	Kingston-upon-Hull	4	YES 
5	Leeds	4	YES 
6	Milton Keynes	4	YES 
7	Newcastle-upon-Tyne	4	YES 
8	Peterborough	4	YES 
9	Southampton	4	YES 
10	Bedford	0	NO 
11	Birmingham	0	NO 
12	Brighton & Hove	0	NO 
13	Cheshire East	0	NO 
14	Derby	0	NO 
15	Doncaster	0	NO 
16	Manchester	0	NO 
17	Plymouth	0	NO 
18	Richmond-upon-Thames	0	NO 
19	Stockton-on-Tees	0	NO 
20	Sunderland	0	NO 
21	Swindon	0	NO 
22	Telford & Wrekin	0	NO 
23	Thurrock	0	NO 
24	Wirral	0	NO 
25	Wokingham	0	NO 

← NO YES →

3.3 ISO 50001

ISO 50001 – Energy Management, was introduced in June 2011 to standardize energy management systems. ISO 50001 is based on the management system model of continual improvement also used for other well-known standards such as ISO 9001 or ISO 14001. This makes it easier for organizations to integrate energy management into their overall efforts to improve quality and environmental management.

ISO 50001 provides a framework of requirements for organizations to:

- Develop a policy for more efficient use of energy
- Fix targets and objectives to meet the policy
- Use data to better understand and make decisions about energy use
- Measure the results
- Review how well the policy works, and Continually improve energy management.

ISO 50001 is a powerful tool for improving the quality of energy management and hence the uptake of cost-effective energy efficiency measures.

The global uptake of ISO 50001 has been rapid – the number of certificates issued in the first twelve months exceeded those issued in the first twelve months of the environmental standard ISO 14001 and rivalled those of the quality standard ISO 9001⁵. Adoption of ISO 50001 by local authorities would be a good strategy for improving the quality and capacity for energy management and hence maximizing the uptake of energy efficiency potential.

Though we believe strongly in the value of this standard and encourage its adoption, we have allocated only three points to this indicator in light of its relative newness.

Discussion

Uptake of ISO 50001 proved scarce among the selected local authorities which given that it is relatively new is perhaps not surprising. Some energy or carbon reduction managers we spoke to were not especially familiar with ISO 50001, and some replied 'no' but specified that they had indeed applied ISO 14001. Only Coventry reported application of ISO 50001, though they have only completed the first tranche of the standard relating to policies and procedures. Newcastle indicated that uptake of the standard was currently under review. We would like to see more local authorities adopt ISO 50001 in the next few years.

⁵ Global growth in the uptake of ISO standards – ISO 50001
<http://antariconsulting.wordpress.com/2013/12/11/global-growth-in-the-uptake-of-iso-standards/>

Table 7: Adoption of ISO 50001, maximum points available: 3

	LOCAL AUTHORITY	POINTS SCORED	ADOPTED ISO 50001?	
1	Coventry	3	YES	
2	Newcastle-upon-Tyne	1	Under consideration	
3	Barking & Dagenham	0	NO	
4	Bedford	0	NO	
5	Birmingham	0	NO	
6	Brighton & Hove	0	NO	
7	Bristol	0	NO	
8	Cheshire East	0	NO	
9	Derby	0	NO	
10	Doncaster	0	NO	
11	Kingston-upon-Hull	0	NO	
12	Leeds	0	NO	
13	Manchester	0	NO	
14	Milton Keynes	0	NO	
15	Peterborough	0	NO	
16	Plymouth	0	NO	
17	Richmond-upon-Thames	0	NO	
18	Southampton	0	NO	
19	Stockton-on-Tees	0	NO	
20	Sunderland	0	NO	
21	Swindon	0	NO	
22	Telford & Wrekin	0	NO	
23	Thurrock	0	NO	
24	Wirral	0	NO	
25	Wokingham	0	NO	

4. Published target for use of renewable energy

Although energy supply, whether it is generated by renewable technologies or not, is not strictly speaking energy efficiency we have included this indicator because of the rise of renewable energy – both locally generated by technologies such as photovoltaics (PV) and as a procurement option for local authorities – and recognition of the role of renewable energy in an integrated energy programme. We have allocated a maximum of four points to this indicator to reflect the significance of this role, without giving it undue weighting. As with energy efficiency targets a clear target for renewable use within the local authorities building portfolio is an indicator of good energy management. This can either be a) direct use of locally generated renewable energy e.g. from PV or biomass Combined Heat and Power, or b) through the purchase of renewable electricity and/or fuel. Since the former approach fosters an increase in local distributed energy generation capacity, we have awarded full points to published targets associated with the direct use of local generation, and fewer points to targets associated with green procurement policies alone.

Table 8: Published renewable energy/electricity target, maximum points available: 4

LOCAL AUTHORITY	POINTS SCORED	PUBLISHED RENEWABLE ENERGY/ ELECTRICITY TARGET?	
1 Peterborough	4	YES	
2 Stockton-on-Tees	4	YES	
3 Wokingham	4	YES	
4 Barking & Dagenham	3	Procurement policy	
5 Newcastle-upon-Tyne	3	Procurement policy	
6 Thurrock	3	Procurement policy	
7 Coventry	2	Some contractual obligations	
8 Plymouth	2	Projected returns from W2E*	
9 Sunderland	2	NO, but previously a wind target	
10 Brighton & Hove	1	Aspirations, but no specific target	
11 Bristol	1	Aspirations, but no specific target	
12 Bedford	0	NO	
13 Birmingham	0	NO	
14 Cheshire East	0	NO	
15 Derby	0	NO	
16 Doncaster	0	NO	
17 Kingston-upon-Hull	0	NO	
18 Leeds	0	NO	
19 Manchester	0	NO	
20 Milton Keynes	0	NO	
21 Richmond-upon-Thames	0	NO	
22 Southampton	0	NO	
23 Swindon	0	NO	
24 Telford & Wrekin	0	NO	
25 Wirral	0	NO	

*W2E = Waste-to-energy

← NO YES →

Many local authorities have stated ambitions to implement significant renewable energy measures in their own estate and within the wider community. Only six had published their commitment in terms of a quantified target for generation capacity and/or green electricity procurement. Others have quantified commitments or expectations in the form of contractual delivery obligations (Coventry's waste-to-energy facility) and projected returns from a jointly owned venture (Plymouth Energy Community). Among the authorities with no quantified target, there was nonetheless a prevailing attitude of doing 'as much as possible' in this area, emphasizing the importance of local renewable energy generation in local authority policies and programmes.

A few council contacts asserted that they did have a published renewable electricity target, but this was not readily apparent in

the respective councils online publications⁶. It is possible that these respondents were referring to their Core Strategy requirements for renewable energy in new development.

Peterborough and Stockton-on-Tees had the top performance on this indicator. Peterborough's target takes the form of generation targets for the authority's ESCO, Blue Sky Peterborough, which relies exclusively on renewable generation. Stockton-on-Tees has published a goal "...to achieve an effective zero carbon energy supply by 2040 thus exceeding current Government targets which are for an 80% reduction in carbon emissions by 2050." Some of the selected authorities have energy procurement policies mandating a minimum percentage of green renewable energy. These include Barking and Dagenham (100%), Newcastle (20%) and Thurrock (10%).

5. Member of the Local Government Association's Climate Local programme

Membership in the Local Government Association's Climate Local programme (LGACL) commits authorities to measurement and data gathering actions, as well as corporate strategic planning and development related to energy use and carbon emissions. Authorities commit to "Reviewing the area's potential for energy efficiency improvements and renewable energy generation"⁷.

⁶ Our conclusions on this point were of course based on a best possible scan of published council documents, but it is entirely possible that we have missed some items.

⁷ Menu of commitments and actions for Climate Local Authorities http://www.local.gov.uk/c/document_library/get_file?uuid=e32f319e-fb15-4930-8e61-c4e346ecd5a3&groupId=10180

Table 9: Membership of LGACL, maximum points available: 1

	LOCAL AUTHORITY	POINTS SCORED	LGACL MEMBER?	
1	Bedford	1	YES	-----+ (blue dot)
2	Kingston-upon-Hull	1	YES	-----+ (blue dot)
3	Manchester	1	YES	-----+ (blue dot)
4	Thurrock	1	YES	-----+ (blue dot)
5	Wirral	1	YES	-----+ (blue dot)
6	Barking & Dagenham	0	NO	-(blue dot)-----
7	Birmingham	0	NO	-(blue dot)-----
8	Brighton & Hove	0	NO	-(blue dot)-----
9	Bristol	0	NO	-(blue dot)-----
10	Cheshire East	0	NO	-(blue dot)-----
11	Coventry	0	NO	-(blue dot)-----
12	Derby	0	NO	-(blue dot)-----
13	Doncaster	0	NO	-(blue dot)-----
14	Leeds	0	NO	-(blue dot)-----
15	Milton Keynes	0	NO	-(blue dot)-----
16	Newcastle-upon-Tyne	0	NO	-(blue dot)-----
17	Peterborough	0	NO	-(blue dot)-----
18	Plymouth	0	NO	-(blue dot)-----
19	Richmond-upon-Thames	0	NO	-(blue dot)-----
20	Southampton	0	NO	-(blue dot)-----
21	Stockton-on-Tees	0	NO	-(blue dot)-----
22	Sunderland	0	NO	-(blue dot)-----
23	Swindon	0	NO	-(blue dot)-----
24	Telford & Wrekin	0	NO	-(blue dot)-----
25	Wokingham	0	NO	-(blue dot)-----

← NO YES →

Discussion

Only five of our selected authorities (20 per cent) are LGACL signatories. Membership in this body is only one pathway to energy efficiency performance among many, and we have therefore weighted this indicator quite low. Coventry, for example, is not an LGACL member, but are in the process of adopting the ISO 50001 standard, which we believe to be a more effective and comprehensive approach to energy management.

Some other non-LGACL member authorities subscribe to or participate in related local or international bodies such as APSE, the Association for Public Sector Excellence which has an Energy group with 35 members who are collaborating on the energy agenda. As members of the London Energy Project, Barking and Dagenham must explore energy efficient approaches to carbon emissions reduction, are subject to an annual energy audit and must engage an external auditor as part of the programme. Milton Keynes is a member of the European Covenant of Mayors (ECM), a body with its own independent auditing system. Members of ECM commit to energy use and renewable energy targets and to submit an action plan for the delivery of said commitment; ECM monitors its members every few years. Although these programmes all have their value they cannot be a substitute for a high quality energy management programme as required to comply with ISO 50001.

6. Primary Service centre(s) Display Energy Certificate rating(s)

Display Energy Certificates (DECs) were introduced in 2008 following European legislation and require all public sector buildings to display a DEC that shows actual energy usage in the building (as opposed to Energy Performance Certificates which only show theoretical energy usage). To date well over 150,000 DECs have been issued and as required by law put on display "in a prominent place". The DEC provides an annual snapshot of actual energy use, labelling the building's energy performance from A to G.

Ideally the Energy Index would access all the DECs for an individual local authority and measure improvement over time, but we have instead chosen to look at the DEC(s) for the major customer service centre(s) only. These facilities are in many cases not at the same address as the Town Hall. Given that these are likely to be some of the major energy consuming buildings within local authorities' portfolios, we consider that the DECs for these buildings provide a snapshot of energy efficiency performance for each authority. In local authorities that have energy inefficient heritage Town Halls, shifting community-facing activities to external service centres can contribute significantly to operational energy efficiency. Many local authorities had several DEC-rated service centres across their areas.

In these cases, we have averaged the DEC ratings using a numerical substitute for the letter scores: A=100%, D=50% and G=0%. An averaged rating of 100% corresponds to full points, and 0% to none. We have allocated this indicator three points to reflect the importance of energy management of municipal building stock while recognising that service centres are merely a proxy for each authority's full property portfolio.

Town hall and/ or service centre DECs were available via the Non-Domestic Energy Performance Register (NDEPR), operated by Landmark Information Group.

Local authorities are both responsible for upgrades to and rationalization of their corporate building stock, but they are also disadvantaged in many cases by inefficient historic town halls. We therefore allocated only three points to this indicator. As with several other indicators we would envisage transitioning this indicator to show improvement over time in future and as mentioned above we would like to include

DECs for all the buildings under the control of each local authority.

Strategies to improve performance on this indicator would include:

- Building stock rationalisation
- Retrofitting operational facilities
- Other measures including energy management systems at relevant facilities and energy efficiency as a procurement criteria.
- Education and behaviour change campaigns among council employees
- Micro-generation for Council facilities

Comments on energy management programmes

We have three specific concerns about energy management in local authorities that arise from our enquiries. Firstly we are concerned that the focus on carbon over the last decade or so has, perhaps paradoxically, tended to distract from energy efficiency and energy management. Several authorities we contacted stated that they had carbon reduction targets but not energy efficiency targets. We find this concerning as carbon reduction is most cost-effectively achieved through energy efficiency and this should be targeted first, ahead of on-site renewables and low carbon “green” electricity purchases.

The existence of feed-in tariffs for on-site renewables may have distorted the energy management market to the detriment of energy efficiency. Our second concern is that austerity programmes imposed since the financial crisis may have led to energy management efforts being down-sized – despite the fact that an effective energy management programme will be self-financing. Our final concern is that energy management staff have to spend a very high proportion of their time compiling and reporting information for compliance with national regulations e.g. the Carbon Reduction Commitment, rather than managing energy use and developing and implementing energy efficiency projects. This concern applies to all large organisations.

Local authorities have responsibilities to the community in the widest sense and a leadership position which can be used to help improve energy efficiency in all sectors of the community.

The design of any programmes should be based on local needs but we would expect certain common elements aimed at:

- Assisting building owners to improve the energy efficiency of existing buildings with actions ranging from integrated programmes with built-in financing mechanisms to communication campaigns
- Ensuring new buildings are efficient (both in design and construction)
- Encouraging community groups to deliver their own energy efficiency projects.

7. Existence of programme to encourage building owners to undertake retrofits

As well as implementing energy management in their own property portfolio proactive local authorities are developing programmes to encourage building owners – both domestic and non-domestic – to undertake energy retrofits. Programmes can range from simple information to provision of technical assistance and access to financing.

Examples include the Cambridge Retrofit⁸. We have allocated eight points to this indicator to reflect the importance of such programmes and to emphasise the local authority's responsibility for fostering improvements in the energy efficiency of community building stock.

⁸ Cambridge Retrofit website <http://www.cambridgeretrofit.org/default.aspx>

8. Requirements for new development above building regulations

Planning and development policies drive energy efficiency over the longer term. Local authorities can implement policies that require energy performance of new buildings to exceed those set out in the Building Regulations. As well as energy performance of individual buildings, other requirements that drive energy efficiency such as layouts, housing density and preference for district heating connections, can be implemented by authorities. The most famous example of a local authority driving stronger targets than required in Building Regulations is the Merton Rule which was introduced in 2003, requiring new developments to generate ten per cent of their energy requirements from on-site renewables. The Merton rule was widely adopted by local authorities.

In 2014 the Secretary of State for the Department of Communities and Local Government (DCLG) raised the possibility of preventing local authorities implementing policies such as the Merton rule as part of the Housing Standards Review. The Ministerial Statement regarding the final decision specifically said:

- (1) A local planning authority in England may in their development plan documents, and a local planning authority in Wales may in their local development plan, include policies imposing reasonable requirements for –
- (a) A proportion of energy used in development in their area to be energy from renewable sources in the locality of the development;
 - (b) A proportion of energy used in development in their area to be low carbon energy from sources in the locality of the development;
 - (c) Development in their area to comply with energy efficiency standards that exceed the energy requirements of building regulations.

However, the Deregulation Bill, which had its second reading in the House of Lords in July 2014 and is expected to reach committee stage in October 2014 includes a clause that disapplies Section 1 1(c) of the Planning and Energy Act 2008 (as above) to dwellings. The original rationale was that the government remained committed to implement the zero carbon homes requirement from 2016.

The government has announced that it is scrapping the Code for Sustainable Homes. Under proposals currently being debated developers will be permitted to use “Allowable Solutions” to demonstrate compliance with zero carbon homes requirements. Allowing an excessive level of Allowable Solutions could reduce the pressure for truly efficient dwellings.

Currently some 55 per cent of local authorities in England have included requirements to meet the Code for Sustainable Homes or the BREEAM rating system into their local plans¹⁰. We would encourage all authorities to implement planning requirements that drive energy efficiency standards beyond those in building regulations for buildings other than dwellings including the use of internationally proven standards such as BREEAM and Passivhaus¹¹. The co-benefits such as economic development, health and reduced environmental emissions (to name only a few) should make this a priority.

As with community retrofit programmes, planning policy has – at least until recently – been an area where local authorities could exercise broad control and take responsibility for fostering a high standard of energy efficiency in most new additions to community building stock. We have therefore allocated this indicator a heavy weighting of eight points. Thoroughgoing rules scored full points, while recommendations and conditional rules (that might apply, for example, only to development on council-owned land) scored partial points.

¹⁰ BREEAM web site <http://www.breeam.org/page.jsp?id=333>

¹¹ Passivhaus website <http://www.passivhaus.org.uk/standard.jsp?id=122>

Discussion

Seventeen of the selected authorities have adopted planning policies imposing rules for new development that exceed the national building regulations in their building energy efficiency or onsite micro-generation capacity requirements. These policies form part of the authorities' core strategies/ development plans.

In certain cases, these policies are directly related to regeneration plans, and are intertwined with broader planning ambitions beyond the individual building level. For example, Barking Town Centre, a major regeneration area, was designated an Energy Action Area by the Greater London Authority. The implementation plan for this Energy Action Area sets out a strategy to reduce carbon emissions from new development by one-third more than current building regulations. The stated intention is to achieve this reduction through connection of new developments to a town centre district heating network (in planning) and through on-site micro generation.

Other authorities, such as Birmingham, have planning policies that include above-building regulations measures, but only in the form of recommendations, which may be more or less stringently enforced in planning permissions. Brighton and Hove, for their part, only mandate above-regulation measures for development on council-owned land, thus spatially limiting the impact of the supplementary requirements.

Table 12: : Rules for new development beyond Building Regulations, maximum points available: 8

	LOCAL AUTHORITY	POINTS SCORED	RULES FOR NEW DEVELOPMENT ABOVE BUILDING REGULATIONS?	
1	Barking & Dagenham	8	YES	-----+-----
2	Bedford	8	YES	-----+-----
3	Bristol	8	YES	-----+-----
4	Coventry	8	YES	-----+-----
5	Doncaster	8	YES	-----+-----
6	Kingston-upon-Hull	8	YES	-----+-----
7	Leeds	8	YES	-----+-----
8	Manchester	8	YES	-----+-----
9	Milton Keynes	8	YES	-----+-----
10	Peterborough	8	YES	-----+-----
11	Plymouth	8	YES	-----+-----
12	Richmond-upon-Thames	8	YES	-----+-----
13	Southampton	8	YES	-----+-----
14	Stockton-on-Tees	8	YES	-----+-----
15	Swindon	8	YES	-----+-----
16	Thurrock	8	YES	-----+-----
17	Wokingham	8	YES	-----+-----
18	Brighton & Hove	4	YES, as recommendations	-----+-----
19	Newcastle-upon-Tyne	4	Only for dev. on council property	-----+-----
20	Birmingham	0	NO	+-----
21	Cheshire East	0	NO	+-----
22	Derby	0	NO	+-----
23	Sunderland	0	NO	+-----
24	Telford & Wrekin	0	NO	+-----
25	Wirral	0	NO	+-----

← NO YES →

9. Encouraging community energy efficiency programmes

As well as encouraging energy efficiency within their own property portfolio, proactive local authorities can encourage community wide and grass roots community-led energy efficiency programmes aimed at households and other building owners or users. Such programmes are an important counterpart to community retrofit programmes, and can have benefits including increased awareness, education and behaviour change. We have therefore allocated a fairly strong weighting of six points to this indicator.

Discussion

Within the overwhelming majority of authorities that do support community energy efficiency programmes, Bristol stands out as an example of good practice. Their Strategic Energy Unit administers a *“£2.5 million technical assistance grant under the European Investment Bank’s European Local Energy Assistance (ELENA) programme to develop investment programmes in energy efficiency and renewable energy projects in Bristol and the wider sub-region – with an estimated potential investment of up to £140 million.”*¹² This grant funding will increase community-wide energy efficiency through district heating, public building retrofits, domestic retrofitting, external cladding and heat upgrades for council-owned housing.

Derby’s Home Energy Advice Bureau provides in depth advice to residents on domestic water and energy efficiency. The Bureau’s activity is limited to a phone and mail-out driven advisory service, and the council no longer offers grants for domestic energy efficiency measures. Such proactive advisory services should be promoted, but are second to grant programmes in their impact. The council’s ‘Bespoke’ programme, on the other hand, offers grants of up to £5,000 to SMEs to support *business* energy efficiency.

¹² <http://www.bristol.gov.uk/page/environment/strategic-energy-unit>

Table 13: Community energy efficiency programme, maximum points available: 6

	LOCAL AUTHORITY	POINTS SCORED	COMMUNITY-WIDE ENERGY EFFICIENCY PROGRAMME?	
1	Barking & Dagenham	6	YES	
2	Bedford	6	YES	
3	Birmingham	6	YES	
4	Brighton & Hove	6	YES	
5	Bristol	6	YES	
6	Cheshire East	6	YES	
7	Coventry	6	YES	
8	Derby	6	YES	
9	Doncaster	6	YES	
10	Kingston-upon-Hull	6	YES	
11	Leeds	6	YES	
12	Manchester	6	YES	
13	Milton Keynes	6	YES	
14	Newcastle-upon-Tyne	6	YES	
15	Peterborough	6	YES	
16	Plymouth	6	YES	
17	Richmond-upon-Thames	6	YES	
18	Southampton	6	YES	
19	Sunderland	6	YES	
20	Swindon	6	YES	
21	Telford & Wrekin	6	YES	
22	Thurrock	6	YES	
23	Wokingham	6	YES	
24	Wirral	4	YES, in past, now only online advice	
25	Stockton-on-Tees	0	NO, or very little	

← NO YES →

10. Support for community energy generation programmes and projects

Although local energy generation does not in itself improve local energy efficiency it can improve the efficiency of the total energy system efficiency through reducing transmission and distribution losses. Community-led programmes also bring other benefits such as community engagement and local employment. We have included it in the Index as we consider it a valid part of an integrated energy programme.

Local energy generation is a powerful counterpart to community building retrofits, and an important component of the move towards zero-carbon homes. Some local authorities have policies or programmes in place to support the community-led development of renewable energy micro-generation projects. These programmes tend to include collective efforts by the residents of a block or blocks of flats, or a consortium of landlords and homeowners. Often, domestic buildings, common spaces or public land are exploited for the installation of solar PV or wind power. Management of the installation and energy generated is commonly entrusted to a not-for-profit co-operative, as is the case with Brixton Energy¹³.

The development of independent renewable supply can have multiple benefits including:

- Increasing local energy resilience
- Providing affordable supply and potential FIT income for project beneficiaries/ members (albeit subsidized centrally)
- Reducing fuel poverty
- Eliminating transmission losses
- Reducing emissions from energy generation.

Considering these potential benefits, we have allocated a fairly strong weighting of six points to this indicator.

Local authorities can support such initiatives through advice and guidance on best practice, project financing and other 'in-kind' support. Councils can also expedite planning permission for such projects, and encourage housing associations (and residents) to look favourably on community-led efforts.

Most efforts in this area take place through domestic groups, and it is unusual to find local businesses partnering with one another or with their domestic neighbours on community energy projects. For the purposes of this indicator, we have emphasized the community-led aspect, but awarded one point to public-private partnerships such as local authority collaboration with an energy company to develop renewables on council-owned property (if the energy from those renewables is intended for local community consumption).

¹³ Brixton Energy website <https://brixtonenergy.co.uk>

Table 14: Support for community micro-generation, maximum points available: 6

	LOCAL AUTHORITY	POINTS SCORED	SUPPORT FOR COMMUNITY MICRO-GENERATION PROJECTS?	
1	Barking & Dagenham	6	YES	
2	Birmingham	6	YES	
3	Brighton & Hove	6	YES	
4	Kingston-upon-Hull	6	YES	
5	Leeds	6	YES	
6	Newcastle-upon-Tyne	6	YES	
7	Plymouth	6	YES	
8	Richmond-upon-Thames	6	YES	
9	Southampton	6	YES	
10	Wokingham	6	YES	
11	Sunderland	4	Best practice sharing w/ housing auth.	
12	Bristol	3	In development	
13	Cheshire East	3	In development	
14	Stockton-on-Tees	3	NO, but has been previously	
15	Peterborough	1	PPP between Council & Npower	
16	Bedford	0	NO	
17	Coventry	0	NO	
18	Derby	0	NO	
19	Doncaster	0	NO	
20	Manchester	0	NO	
21	Milton Keynes	0	NO	
22	Swindon	0	NO	
23	Telford & Wrekin	0	NO	
24	Thurrock	0	NO	
25	Wirral	0	NO	

← NO YES →

Discussion

Roughly half of the selected local authorities do support community-led micro-generation projects. This support comes in a variety of forms, and we were not able to obtain details on the specific nature of each council’s activity in this area. Those that do not support such activity cite issues such as budget constraints and the need to prioritize other agendas. Examples of good practice include Bristol, where a recommendation report will go to the Cabinet in the autumn to lease Bristol City Council assets for community investment in solar PV. Leeds takes a more light-touch approach, steering community initiatives through the ‘funding maze’ and offering guidance.

Accessing European Structural funds (not currently included as an indicator)

The European Union has made a significant proportion of its Structural and Investment Funds (SIFs) 2014-2020 available for aiding the transition to a low carbon economy and energy efficiency features heavily in the EU's policies and programmes.

The EU intends that in more developed areas more than 20 per cent of the European Regional Development Funds¹⁴ (one element of the SIFs) funds will be used for the low-carbon economy, energy efficiency and renewable energy. In the UK the preferred way of accessing Structural Funds is through the Local Enterprise Partnerships (LEPs). Energy efficiency is specifically mentioned in guidance to LEPs from government¹⁵ and many LEPs are developing or beginning to implement energy efficiency related programmes. We have not assessed these as they are only now emerging but in future editions of the Index we envisage including them in our review.

¹⁴ Managenergy website http://www.managenergy.net/sm_european_structural_and_investment.html

¹⁵ Technical Annex. Preliminary guidance to Local Enterprise Partnerships on development of Structural and Investment Fund Strategies

Nationally the domestic sector accounts for 37% of final energy consumption¹⁶. The sector accounts for 46% of gas consumption and 36% of electricity usage. Expenditure on fuel as a percentage of total household expenditure rose from 2.9% in 2003/4 to 4.7% in 2012. Improving energy efficiency in housing should be a major focus of both national and local efforts to address energy problems.

11. Percentage of households in fuel poverty

Fuel poverty – the inability to keep adequately warm at reasonable cost given the household's level of income – contributes to ill health and excess winter deaths. Over the last five years the average annual excess winter deaths in the UK were 26,000 (30,000 in 2012/13)¹⁷ and 30 to 50 per cent of these are attributable to cold indoor temperatures. Age UK estimates that illness caused by cold homes costs the NHS £1.36 billion¹⁸. It has been a rising social problem and despite government targets to reduce the incidence of fuel poverty increases in energy prices mean that the problem persists.

The percentage of households in fuel poverty in any area will be driven by both the quality of the housing stock (i.e. its thermal efficiency) and the proportion of low-income population.

Effective policies to combat fuel poverty include improving energy efficiency of the housing stock. The added benefits of reducing fuel poverty, e.g. health and excess winter mortality, need to be included in programme evaluations in a systematic way. Even where housing stock is outside the direct control of the local authority –

authorities can catalyse or encourage programmes to reduce fuel poverty.

For the purpose of this study, we have used DECC's sub-regional fuel poverty dataset from 2011¹⁹. As with other indicators we would expect in future to convert this measure to illustrate changes over time. As this is a critical issue with urgent social welfare implications, we have awarded four points (the maximum allocated to any individual quantitative indicator) to the top performer on this indicator.

¹⁶ Digest of UK Energy Statistics 2014. DECC. <https://www.gov.uk/government/statistics/energy-chapter-1-digest-of-united-kingdom-energy-statistics-dukes>

¹⁷ ONS. Excess Winter Mortality in England and Wales, 2012/13 (Provisional) and 2011/2012 (Final). 26 November 2013. http://www.ons.gov.uk/ons/dcp171778_337459.pdf

¹⁸ Age UK. Reducing fuel poverty – a scourge for older people. June 2014

¹⁹ National data suggests that the situation improved somewhat in 2012, but is projected to have worsened since then.

Considering only the majority of authorities falling into the middle category (those with fuel poverty rates close to the national average), in an effort to identify best practice, it is worth exploring which of these exhibited robust uptake of CESP and CERT. Manchester's high number of CESP measures delivered make it a good case study for implementing domestic energy efficiency measures in vulnerable homes. Similarly, Hull could be studied for lessons to learn from its approach to CERT.

Considering that the thermal character of inherited building stock is a powerful determinant of fuel poverty, and recognizing the urgency of local government action to combat fuel poverty, we opted to allocate four points to this indicator.

Strategies that local authorities could adopt to reduce fuel poverty include:

- Retrofitting housing stock within the Council's own portfolio (where this is still under local authority ownership)
- Encouraging housing authorities to do the same
- Promoting uptake of ECO and ensuring that vulnerable residents receive maximum benefit from ECO's Home Heating Cost Reduction Obligation, which targets low income and vulnerable households, making it easier for them to heat their homes
- Educating the public on domestic energy efficiency, renewable energy and available grants and discounts (e.g. hosting fuel poverty surgeries and publications like Liverpool's *Fuel Poverty Advice Booklet* ²²)

12. CERT measures per home (at end of scheme)

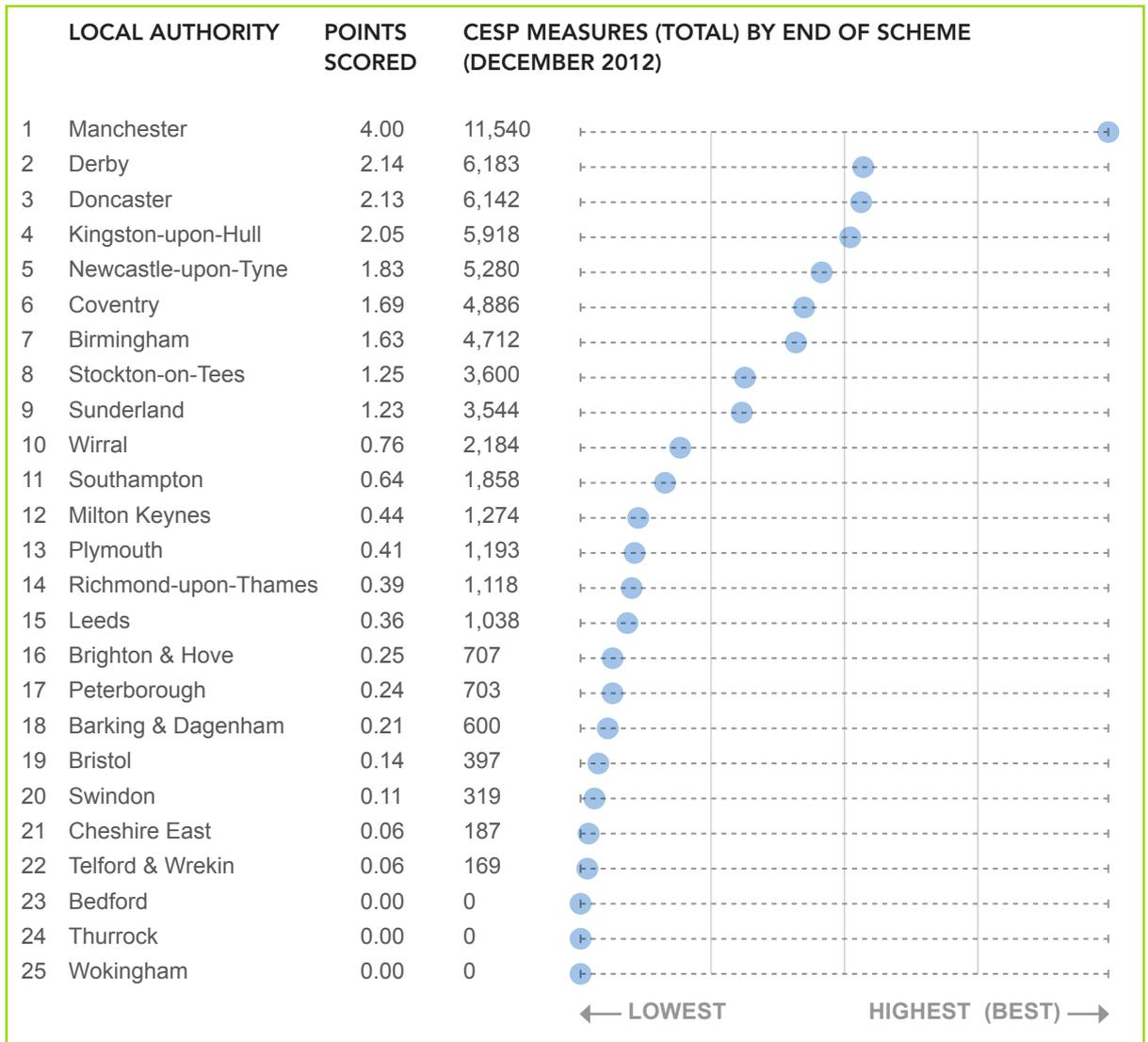
13. CESP measures by end of scheme

We will consider these two indicators together.

The CERT and CESP programmes, which ran from 2008 to 2012 and 2009 to 2012 respectively, covered a range of measures including:

- Solid wall insulation (external)
- Solid wall insulation (internal)
- Cavity wall insulation
- Virgin loft insulation (includes anything less than 60mm existing)
- Loft insulation top up
- Under floor insulation
- Flat roof insulation
- Draught proofing
- High efficiency glazing
- Fuel switch (to gas)
- Replacement of old boilers (G rated)
- Connection to a district heating scheme
- District heating system upgrade
- District heating heat meter for individual household billing
- Ground source heat pumps
- Air source heat pumps
- Micro-generation (PV, solar thermal, mCHP, biomass boiler, micro wind, micro hydro)
- New heating controls
- Compact fluorescent lamps.

²² <https://liverpool.gov.uk/media/49178/fuelpovertyadvicebooklet.pdf>

Table 17: Total CESP measures by end of scheme, maximum points available: 4

Discussion

Wirral demonstrated the best performance on CERT, with 0.356 measures per home by the end of the scheme. Richmond completed only 0.071 measures per home. Manchester carried out an impressive implementation of CESP with a total of 11,540 measures by the end of the scheme. Thurrock, Bedford and Wokingham had zero qualifying homes. We should reward districts that perform well on CESP, as they are on the front line in the fight against fuel poverty, and are improving the efficiency of lower-income housing.

One would expect to see improved performance on domestic energy use per capita following the implementation of CERT and CESP measures. But given the matrix of factors influencing domestic energy use, it is hard to see the specific effect of these schemes in the energy use data. Nonetheless, national data suggests there is an improvement: nationally, as has already been noted national energy use per capita has fallen significantly since 2000.

Though not directly contributing to the local authorities' scores, we felt it worthwhile to highlight the local economic benefits achieved through the implementation of CERT and CESP insulation measures in the form of full-time equivalent (FTE) jobs and inherent GVA added. These benefits are summarised in Table 18. All the economic figures in the table have been derived using a methodology developed by the Association for the Conservation of Energy (ACE) and DECC. Our calculations exclude flat roof insulation and other non-insulation CESP measures. Cavity insulation statistics are only available in aggregate, without distinction between standard and difficult installations.

The lower numbers in the table would apply if all cavity wall insulations were of standard difficulty, and the higher numbers would apply if they were all difficult. Likewise, solid wall insulation measures are also available only in aggregate; for the purposes of our calculations, the ratio of solid wall insulations for individual properties versus flats is assumed to be the same as the ratio of houses to flats in each local authority (as identified in the 2011 census). Insulation contractors tend to work within a radius of their home base, so the FTE jobs are assumed to be local. The range of FTEs and GVA is due to the differing values and time scales related to standard and difficult cavity wall insulations.

Table 18: Estimated full time equivalent jobs (FTEs) and inherent GVA from combined CERT and CESP insulation measures

Local Authority	FTEs added	GVA added (inherent in installed cost)
Barking & Dagenham	between 37 and 80	between £2,530,020 and £4,009,020
Bedford	between 43 and 134	between £2,951,550 and £6,091,050
Birmingham	between 320 and 784	between £20,356,200 and £36,307,200
Brighton & Hove	between 29 and 99	between £1,875,900 and £4,293,900
Bristol	between 85 and 221	between £5,495,952 and £10,186,452
Cheshire East	between 135 and 469	between £8,552,483 and £20,034,983
Coventry	between 221 and 342	between £12,746,646 and £16,901,646
Derby	between 98 and 217	between £5,829,600 and £9,940,600
Doncaster	between 147 and 291	between £9,087,737 and £14,018,237
Kingston-upon-Hull	between 149 and 349	between £9,389,192 and £16,269,192
Leeds	between 264 and 873	between £16,336,610 and £37,274,610
Manchester	between 306 and 651	between £17,152,043 and £28,986,043
Milton Keynes	between 92 and 258	between £5,835,633 and £11,557,633
Newcastle-upon-Tyne	between 130 and 325	between £7,653,098 and £14,373,598
Peterborough	between 73 and 156	between £4,676,731 and £7,523,231
Plymouth	between 84 and 225	between £5,341,357 and £10,196,357
Richmond-upon-Thames	between 32 and 56	between £1,804,504 and £2,609,004
Southampton	between 78 and 252	between £4,711,069 and £10,708,569
Stockton-on-Tees	between 131 and 260	between £7,861,169 and £12,310,169
Sunderland	between 96 and 298	between £6,299,391 and £13,247,391
Swindon	between 50 and 171	between £3,292,600 and £7,444,100
Telford & Wrekin	between 44 and 142	between £2,878,518 and £6,253,018
Thurrock	between 29 and 101	between £1,906,900 and £4,382,900
Wirral	between 167 and 422	between £10,837,226 and £19,610,226
Wokingham	between 35 and 123	between £2,235,700 and £5,257,700

The ECO Scheme

The ECO scheme was introduced in 2013 to replace CERT and CESP. ECO has three distinct areas:

- Carbon Emissions Reduction Obligation (CERO) – focused on hard-to-treat homes such as solid walls and measures that cannot be fully funded through the Green Deal
- Carbon Saving Community Obligation (CSCO) – focused on insulation and connections to district heating in areas of low income. A sub-target is that 15% of each supplier's CSCO must be achieved by promoting measures to low income and vulnerable households in rural areas
- Home Heating Cost Reduction Obligation (HHCRO) – requires suppliers to provide measures which improve the ability of low income and vulnerable households to heat their homes including measures such as boiler replacement.

The ECO programme has been subjected to controversial changes driven by the political debate about high energy prices. The March 2015 target under CERO has been reduced by 33% and these changes caused a political furore. In responding to the government's consultation document several local authorities and others stated that these changes would have an adverse effect on the installation supply chain and lead to cancellation of projects. These effects have already begun to be reported. According to a briefing from the Association for Public Sector Excellence:

'A number of APSE members that have concluded ECO deals have now found that they are unable to implement a programme of planned improvements including external wall insulation and the regeneration of tower blocks and other flatted properties. This will have an adverse effect on many hard pressed communities and individuals in fuel poverty for whom home insulation could have significantly reduced the rising costs of heating their homes.' ²³

A report by the Association for the Conservation of Energy identifies some of the results of the changes to CERO as:

'A very modest one-year rebate to households, easily swallowed up by a future round of gas and electricity price increases. . at the expense of permanent energy bill reductions for at least 264,000 households in this year alone (compared to business as usual)...' ²⁴

Because ECO is relatively new, and because of the uncertainty caused by the recent changes, we have chosen not to include ECO deployment as an indicator in this initial Index. In future years we are likely to include funds deployed under ECO as a criterion, as whatever the changes to the programme, local authorities can be expected to take a leading role in delivery.

²³ APSE Response to Consultation document on the Future of the Energy Company Obligation. April 2014. <http://www.apse.org.uk/apse/index.cfm/members-area/briefings/2014/14-20-consultation-response-eco-april-2014-with-letter/>

²⁴ The future of the Energy Company Obligation. ACE response to Consultation. April 2014. <http://www.ukace.org/wp-content/uploads/2014/04/ACE-Consultation-Response-2014-04-The-Future-of-the-Energy-Company-Obligation.pdf>

14. Percentage of homes installed with cavity insulation since 2008

15. Percentage of homes installed with loft insulation since 2008

We will consider these two indicators together.

For two decades governments have sought to increase energy efficiency through obligations on energy suppliers to implement energy efficiency measures. The Energy Efficiency Standards of Performance (EESoP) programme ran from 1994 to 2002, being replaced by the Energy Efficiency Commitment (EEC) from 2002 to 2008.

The CERT (Carbon & Energy Reduction Target) and CESP (Community Energy Saving Programme) ran from 2008 to 2012 before being replaced by ECO (the Energy Company Obligation). CERT was aimed at the general population while CESP incentivised suppliers to deal with hard-to-treat homes (especially those with solid walls). The programme was slow to start and the main activity occurred in 2012. In most of these programmes local authorities were (and still are) seen as the main delivery partners. Between April 2008 and March 2011 around 2 million GB households received professionally installed loft insulation, 1.6 million households received cavity wall insulation and 1.4 million households purchased subsidised DIY loft insulation²⁵.

According to DECC research, CERT measures were taken up across all income groups with the greatest relative take-up amongst home owners and social rented households in urban and suburban areas. The most effective delivery routes for CERT were found to be schemes involving the local authority, which was considered crucial (by delivery partners and householders) to reassure householders of a scheme's credibility. Accordingly, this delivery route was found to be one of the most significant in terms of relative size.

Statistics on the number of homes in each local authority installed with cavity and loft insulation since 2008 are available from DECC up to 2013.

We encountered data challenges in identifying the number of homes benefitting from cavity and loft insulation per local authority prior to 2008. However, data from the English Housing Survey does indicate significant regional variation in the baseline levels of insulation at the end of 2007. The DECC dataset is therefore only an estimated proxy for the overall percentage of homes benefitting from cavity or loft insulation. Acknowledging the limitations of our data, but wishing to emphasise the importance of domestic building stock thermal efficiency, we opted to allocate three points to the top performers on each of these indicators.

²⁵ DECC Research Report. Evaluation synthesis of energy supplier obligation policies. October 2011. https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/48209/3340-evaluation-synthesis-of-energy-supplier-obligation.pdf

Discussion

Figures for cavity insulation ranged from 1.95% of households in Richmond to 13.81% of households in Cheshire East. Figures for loft insulation ranged from 4.87% of households in Brighton and Hove to 23.44% of households in Wirral. Authorities boasting a high percentage of households with one type of insulation did not necessarily have a high percentage of households with the other type. For example, Cheshire East, the leader in cavity insulation, had only 14.85% of homes benefitting from loft insulation, just above the mean of 14.06%. There was, however, an overall trend linking presence of one type of insulation to presence of the other.

While it is difficult to explain these numbers, factors likely to be relevant include household income and the nature of the existing housing stock. Dwellings in blocks of flats may well have cavity walls, but are far less likely to have lofts suitable for insulation. Individual houses are far more likely to have lofts suitable for insulation.

The makeup of local housing may be favourable or prohibitive to one type of insulation or the other, and some homes will be designated 'hard to treat' altogether – particularly those with solid walls.

Table 19: Percentage of homes installed with cavity insulation since 2008, maximum points available: 3

	LOCAL AUTHORITY	POINTS SCORED	% OF HOMES BENEFITTING FROM CAVITY INSULATION (2012/13)	
1	Cheshire East	3.00	13.81%	
2	Leeds	2.74	12.62%	
3	Wirral	2.61	12.04%	
4	Southampton	2.59	11.92%	
5	Kingston-upon-Hull	2.55	11.73%	
6	Sunderland	2.45	11.26%	
7	Newcastle-upon-Tyne	2.40	11.04%	
8	Manchester	2.39	11.00%	
9	Milton Keynes	2.34	10.79%	
10	Stockton-on-Tees	2.34	10.77%	
11	Telford & Wrekin	2.13	9.82%	
12	Wokingham	2.10	9.67%	
13	Bedford	2.03	9.33%	
14	Swindon	1.98	9.11%	
15	Plymouth	1.86	8.59%	
16	Thurrock	1.68	7.75%	
17	Derby	1.65	7.60%	
18	Doncaster	1.64	7.54%	
19	Birmingham	1.64	7.53%	
20	Peterborough	1.61	7.42%	
21	Coventry	1.35	6.22%	
22	Bristol	1.08	4.98%	
23	Barking & Dagenham	0.90	4.16%	
24	Brighton & Hove	0.84	3.89%	
25	Richmond-upon-Thames	0.42	1.95%	

Traditionally the planning, development and operation of energy infrastructure has been dominated by the energy companies, the distribution companies and the National Grid. There is now a trend towards decentralized energy and local authorities can, and are, playing a larger part in the development of energy infrastructure such as district heating and local electricity networks. The following indicators provide a measure of these activities.

16. Distributed energy system such as District Heating

Distributed energy systems such as District heating (DH), possibly including Combined Heat and Power (CHP) and technologies such as thermal storage can bring about an overall improvement in energy efficiency and are used in many European cities and a few UK ones – notably Sheffield. With increased focus on the energy agenda several urban local authorities are developing district heating schemes, in some cases by linking existing local boiler houses or CHP plants. DH and CHP should be an integral part of any urban local authority energy programme. In rural areas, the lower energy density means that DH is not viable but of course individual building or campus level CHP plant may be attractive.

Table 21: District Heating and/or Combined Heat and Power; empty circles indicate local authorities with an overall heat density < 10 kWh/m² where DH is deemed to have low viability, and these receive an automatic (maximum) 6 points (unadjusted scores shown in grey) to avoid an unfair bias in favour of denser areas

	LOCAL AUTHORITY	POINTS SCORED	DISTRIBUTED ENERGY SYSTEM IN PLACE/ IN DEVELOPMENT?	
1	Birmingham	6	YES	-----●-----
2	Coventry	6	YES	-----●-----
3	Kingston-upon-Hull	6	YES	-----●-----
4	Leeds	6	YES	-----●-----
5	Manchester	6	YES	-----●-----
6	Milton Keynes	6 (6)	YES	-----○-----
7	Newcastle-upon-Tyne	6	YES	-----●-----
8	Southampton	6	YES	-----●-----
9	Cheshire East	6 (4)	In development	-----○-----
10	Peterborough	6 (4)	In development	-----○-----
11	Telford & Wrekin	6 (4)	CHP* + DH* in development	-----○-----
12	Bedford	6 (3)	DH at University	-----○-----
13	Sunderland	3	Small scale CHP	-----●-----
14	Thurrock	6 (3)	Small scale CHP	-----○-----
15	Barking & Dagenham	2	IN PLANNING	-----●-----
16	Bristol	2	IN PLANNING	-----●-----
17	Wirral	6 (2)	IN DEVELOPMENT (at a hospital)	-----○-----
18	Brighton & Hove	0	NO	-----●-----
19	Derby	0	NO	-----●-----
20	Doncaster	6 (0)	NO	-----○-----
21	Plymouth	0	NO	-----●-----
22	Richmond-upon-Thames	0	NO	-----●-----
23	Stockton-on-Tees	6 (0)	NO	-----○-----
24	Swindon	6 (0)	NO	-----○-----
25	Wokingham	6 (0)	NO	-----○-----

* CHP = Combined heat and power; DH = District heat

← NO YES →

Authority awareness of the benefits of district heating as one component of a community energy plan is widespread. It is common for authorities to have commissioned feasibility studies for district heat or to have expressed interest in district heat in council publications. As mentioned above, we acknowledge that district energy networks are not viable in areas of lower heat density. Therefore, local authorities with a total geographic heat demand below 10 kWh/m² have been exempted from this indicator, and their scores corrected accordingly. Given the great potential for DH and CHP to improve local energy efficiency, we have awarded six points to top performers (and authorities with low geographic heat demand) on this indicator.

Good performance on this indicator ranged from major district heating schemes in Newcastle to small-scale CHP in Thurrock leisure centre(s). Generally, systems serving the wider community (as opposed to serving only, say, a hospital) and exploiting recovered waste heat (e.g. from industrial processes) represent the highest performance on this indicator. A second-tier level of performance includes those authorities with district energy schemes in development.

17. Local authority owned Energy Services Company (ESCO)

In recent years there has been a surge of interest in community or municipal energy – the idea of a local authority creating and operating an energy supply company or an energy service company (ESCO) providing energy and/or services such as energy efficiency. Many local authorities have expressed interest or policy commitments to having a municipal energy company or ESCO but full implementation of these policies will take some time.

Municipal ownership of energy and energy services companies is an interesting model that could help disrupt the UK energy market and given the high degree of political interest in it, coupled with the high level of dissatisfaction with the “big six” energy suppliers, we would expect this kind of activity to expand in the next few years. Many practical issues about the scope of the business models, and their financing, remain to be answered and there is considerable scope for local authorities to innovate new models in this area. We may see a wide variety of models with some taking on energy supply while others remain focused on distributed generation and energy efficiency.

We have allocated five points to this indicator to acknowledge its importance and potential impact while accounting for

the fact that council-owned ESCOs are an emerging model. Authorities with ESCOs in planning phase received partial points, and those with stated intentions to establish an ESCO received one point.

One of the best known examples of a municipal owned energy services company is Blue Sky Peterborough (BSP) which is an ESCO owned wholly by the council and aims to be the first public micro utility in the UK. According to John Harrison, BSP’s MD, the aim is to generate up to 171 GWh of energy annually from a blend of renewable sources, fulfilling the council’s demand of 47 GWh and providing low-cost energy to the local community. BSP anticipates a profit from sales of its excess energy and that it will be scalable to other authorities.²⁶

²⁶ Peterborough City Council. ESCOs, Renewable Energy and Energy Efficiency.

BASE Birmingham, April 2013. <http://www.slideserve.com/lenka/peterborough-city-council>

Table 22: Council owned Energy Services Company, maximum points available: 5

	LOCAL AUTHORITY	POINTS SCORED	LA-OWNED ESCO WITH COMMUNITY AMBITIONS?	
1	Coventry	5	YES	
2	Peterborough	5	YES	
3	Plymouth	5	YES	
4	Bristol	3	YES, to be established in early 2015	
5	Leeds	3	NO, but in planning	
6	Birmingham	1	NO, but committed to establishing one	
7	Telford & Wrekin	1	NO, but will likely establish one	
8	Barking & Dagenham	0	NO	
9	Bedford	0	NO	
10	Brighton & Hove	0	NO	
11	Cheshire East	0	NO	
12	Derby	0	NO	
13	Doncaster	0	NO	
14	Kingston-upon-Hull	0	NO	
15	Manchester	0	NO	
16	Milton Keynes	0	NO	
17	Newcastle-upon-Tyne	0	NO	
18	Richmond-upon-Thames	0	NO	
19	Southampton	0	NO	
20	Stockton-on-Tees	0	NO	
21	Sunderland	0	NO	
22	Swindon	0	NO	
23	Thurrock	0	NO	
24	Wirral	0	NO	
25	Wokingham	0	NO	

18. Installed micro-generation per capita

As we have commented above the installation of micro-generation is not in itself energy efficiency although it may improve total energy system efficiency through reduced transmission and distribution losses.

The installation of micro-generation – particularly solar photovoltaics (PV) – has been greatly accelerated by the existence of Feed-in Tariffs (FiTs) which were introduced in April 2010²⁷.

Despite reductions in the level of the FiT the declining costs of solar PV panels has meant that installing solar remains a profitable investment for householders, local authorities and external investors. As well as financial benefits solar PV can also bring other benefits such as greater employee engagement²⁸.

As major property owners local authorities could be expected to have evaluated the potential for solar PV on their estate, especially as there are options for funding the installations without capital cost to the authority. In addition a coherent energy plan for an authority could include encouragement of householders and commercial building owners to install PV. To assess this indicator, we used June 2014 sub-national Feed-in Tariff Statistics from DECC.

²⁷ UK installed PV capacity has grown from 22 MW at the end of 2010 to 4,100 MW at the end of Q2 2014

²⁸ The Crowd. Launching The Energy Investment Curve. 1st July 2014
<http://www.thecrowd.me/launching-energy-investment-curve>

Discussion

Installed micro-generation capacity ranged from 7.98 watts per capita in Richmond, to 64.83 watts per capita in Doncaster – a surprisingly large range. Doncaster is an especially interesting case in its very large uptake of domestic solar. Interestingly, Richmond Council offers support to residents for community-led micro-generation projects, while Doncaster does not. In search of an explanation for Doncaster's high level of domestic solar capacity per capita, we spoke to a local renewable energy specialist company familiar with the area. Having installed solar PV in the north and south, our contact was not of the opinion that Doncaster has a pervasively high level of solar PV. He suggested the FiT numbers are either erroneous, or had been skewed by large installation of 'free' domestic solar PV capacity through so-called 'rent my roof space' schemes²⁹. Under such schemes, private companies looking to sell solar energy into the grid target areas with south facing roofs for 'multi-installations'. Indeed, companies operating such schemes have teams that search Google Earth for eligible swaths of housing. Our contact was aware of at least one local housing estate that appeared likely to be benefitting from such an arrangement.

The wide range of findings for this indicator can be explained by various factors, including:

- Urban architectural character and spatial layout, the presence of conservation areas and/or listed buildings (all of which affect the feasibility and ease of installing, for example, solar panels)
- Household income or availability of outside financing sufficient to support the capital expenditure required
- Local micro-climate
- Effective selling by local companies.

The proportion of domestic and non-domestic installed capacity varied greatly across the selected local authorities. In Wokingham, non-domestic installations represented only 6.4% of total micro-generation capacity, and in Swindon they represented 61.5%. Swindon was the only local authority in our selection where non-domestic capacity outweighed domestic capacity, presumably skewed by a small number of large non-domestic installations.

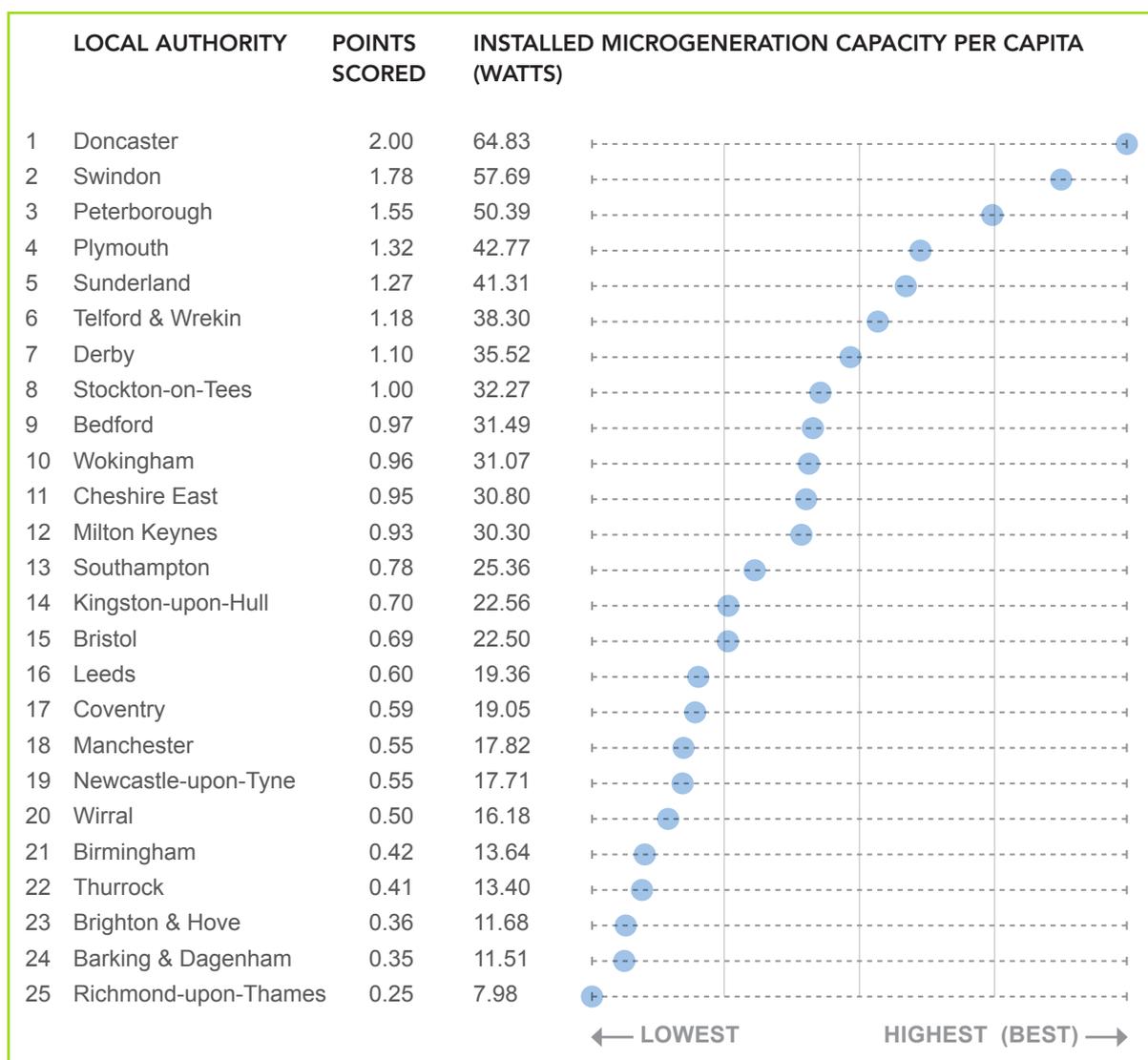
On average, installed domestic micro-generation capacity was 5.57 times larger than non-domestic capacity. This could be a function of the proportion of domestic to non-domestic properties within a given locality, but will have had other contributing influences as well.

The specific nature of potential sites, local schemes and private sector initiatives will have had a decisive impact on the amount of capacity installed, and on the extent to which these installations favour domestic or non-domestic sites. Government policy has been consistently skewed towards domestic roof top solar installations and away from large ground mounted systems.

According to a 2013 white paper published by WSP Environment & Energy³⁰, homes located in the country are more associated with extensive installation of solar PV capacity than urban homes. Sunny areas of the UK do tend to have more solar panels, but, as Doncaster's high performance on this indicator attests, the amount of sunshine in a given area has an inconsistent correlation to the amount of solar installations there (Doncaster is the sixth most northern local authority in our selection). Wealth appears to be a much less important factor than commonly assumed. Considering the geographic determinants associated with this indicator, and the limited direct contribution of micro-generation to local energy efficiency, we awarded a mere two points to the top performer on this indicator.

²⁹ <http://www.energysavingtrust.org.uk/Generating-energy/Choosing-a-renewable-technology/Solar-panels-PV/Free-solar-PV-offers>

³⁰ Solar Success? Space not cash the key for solar. <http://www.wspgroup.com/PageFiles/44596/White%20Paper%20-%20Solar%20Success%20final%20May%202013.pdf>

Table 23: Installed micro-generation per capita (domestic and non-domestic), maximum points available: 2

Local authorities can promote the installation of micro-generation capacity by:

- Supporting community-led projects (through direct funding or indirect subsidies, advisory services and micro-generation surgeries)
- Fast-tracking planning permission (where required) for installation of capacity
- Partnering with providers of energy from micro-generation (these may be large or small energy companies) to fund the installation of capacity in or on public buildings
- Encouraging the development and maintenance of appropriate infrastructure.

The following indicators are high-level measures of energy efficiency. In any particular local authority area they will be driven by factors out of the control of an authority such as; overall economic structure, nature and age of housing stock, and geography (urban versus rural). We have included them here for comparison purposes but allocated them a relatively low number of points (6 in total).

To an extent they are the outputs of efforts on energy efficiency over a long period of time. In future we would envisage measuring each authority by changes in these indicators over time, rather than by comparison between authorities. In future we would also consider including wider measures of energy use and energy efficiency such as transport energy per passenger-kilometre, particularly as local authority transport policies should have an impact on levels of transport energy efficiency.

19. Domestic energy use per capita

The domestic energy use per capita in any local authority area will be affected by a number of critical variables that are outside the direct control of the authority, most importantly the quality of the housing stock in energy terms (i.e. levels of insulation and air tightness) and the nature of the housing stock in terms of density and spatial layout. On average older housing stock will be less efficient and dense housing – particularly multi-household accommodation such as flats will tend to be more efficient than individual homes. Domestic energy use per capita will also be affected by the economic makeup of any particular area as those in less affluent areas tend to consume less energy due to income effects³¹.

Although not directly controllable by the local authority we would expect proactive local authorities to be able to influence domestic energy use per capita through successful use of funds such as those available from the ECO programme, and have therefore awarded four points to the top performer on this indicator. For now, we have not included uptake of ECO as an indicator in the current study, as the scheme is in too early a stage to gauge uptake, let alone impact. As well as ECO local authorities can take actions to increase the uptake of energy efficiency measures, including through the Green Deal.

National energy use per capita and per household has been declining consistently over the last decade. Average household energy use fell by 17% between 2002 and 2012. This is believed to be a combination of a price effect, people economising in response to higher energy prices, the effect of previous programmes such as CERT and CESP increasing the uptake of insulation and other measures, and

the impact of improved efficiency of appliances mitigating the growth in numbers of appliances such as mobile telephones and set top boxes. The cost impact of improved energy efficiency was far outweighed by energy price rises and between 2002 and 2012 average household spending on energy increased by 55% after inflation³².

We would expect this trend to continue as further efficiency measures are deployed and appliance efficiency increases in response to regulations. Local authority programmes could contribute to this improvement by the methods outlined above and over time we would expect to see this indicator decline.

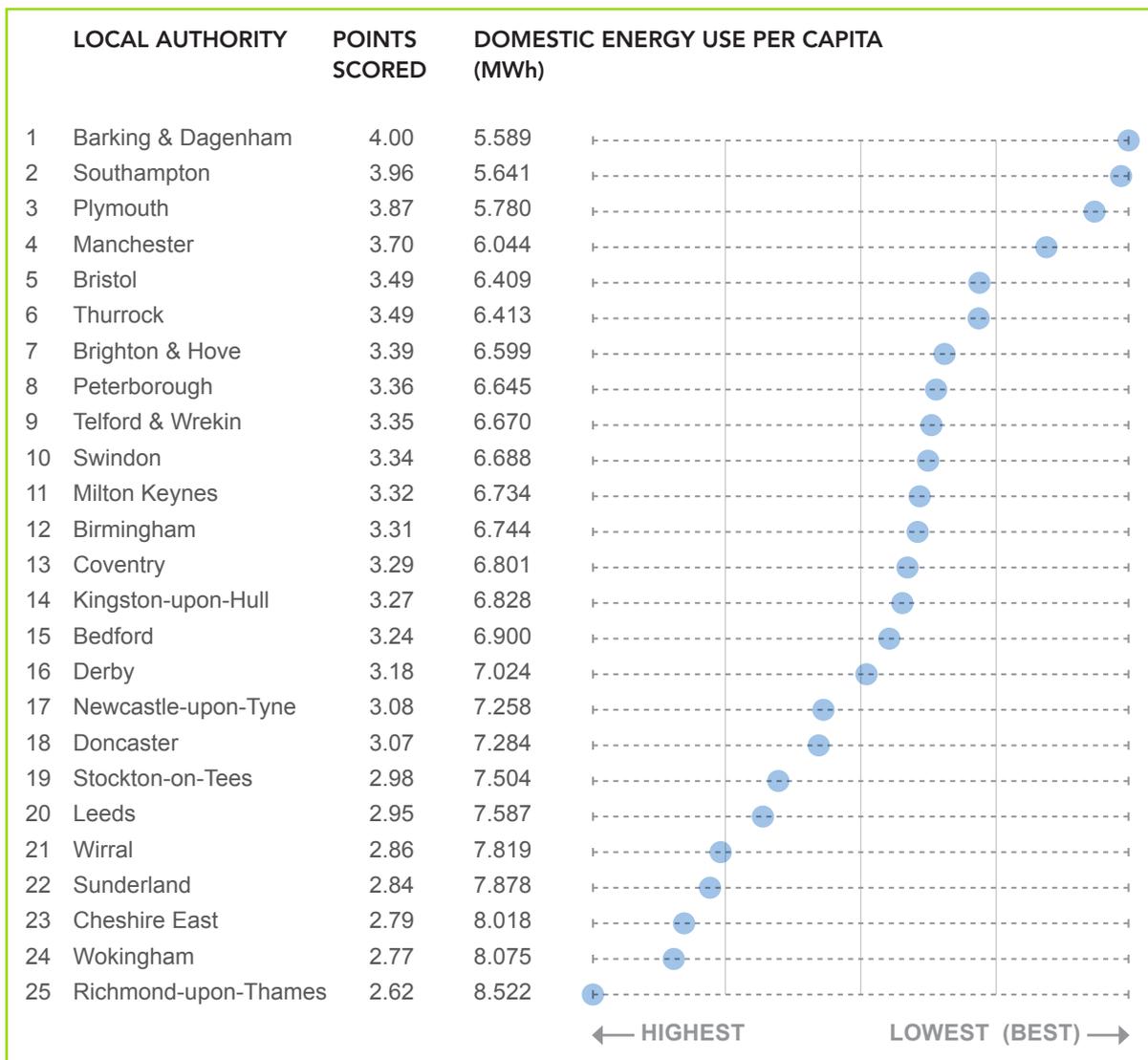
In an effort to gauge levels of personal energy consumption, this indicator was calculated using only domestic energy use (GWh of gas and electricity purchased)³³. Data on 2012 domestic energy consumption was taken from DECC publications. Population statistics came from the 2011 census.

31 Keirstead, James. Benchmarking Energy Efficiency, Energy Policy Volume 63, December 2013, Pages 575–587. DOI: 10.1016/j.enpol.2013.08.063

32 Full Report: Household Energy Spending in the UK, 2002-2012. Office for National Statistics. 3rd March

33 We address commercial and industrial energy consumption in our calculation and discussion of GVA per energy use, an indicator discussed below.

Table 24: Domestic energy use per capita, maximum points available: 4



Discussion

Results for this indicator ranged from a best performance of 5.59 MWh per capita in Barking and Dagenham, to 8.52 MWh per capita in Richmond upon Thames: a 27.3% difference between these London boroughs.

We considered other factors that might be correlated with personal energy consumption. One might expect some correlation between latitude and domestic energy consumption per capita, with northern locales consuming more energy for domestic heat. However (as Barking & Dagenham and Richmond’s extreme performances attest) any such correlation is highly inconsistent at best. Indeed, as discussed above, household incomes and the energy efficiency and density of the local housing stock are more important variables for this indicator. Freestanding and larger homes will require more heating energy than homes in blocks of flats.

However, it is worth noting that population density did not correlate with this indicator, nor did the percentage of homes benefitting from cavity or loft insulation.

Ultimately, performance on this indicator has to be evaluated over time. Year on year improvement in relation to a baseline year are a better yardstick to judge the quality of domestic energy efficiency progress than any single-year measurement. Local authorities can support improvement on this indicator over time, and we allocated four points to this indicator to reflect its significance without ascribing undue importance to its single-year measurement.

Steps that local authorities could take to improve performance on this indicator include:

- Implementing and maintaining community-wide energy efficiency programmes and initiatives
- Aggressive support for local implementation of ECO and Green Deal measures
- Promoting or requiring stringent energy efficiency standards and / or micro-generation capacity for new domestic development.

20. Energy use per Gross Value Added (GVA)

Gross value added (GVA) is a measure in economics of the value of goods and services produced in an area, industry or sector of an economy. Energy use per Gross Value Added is a measure of overall energy intensity (the inverse of energy productivity). Nationally energy use per GVA is declining – the need is to accelerate this decline through greater investment in energy efficiency.

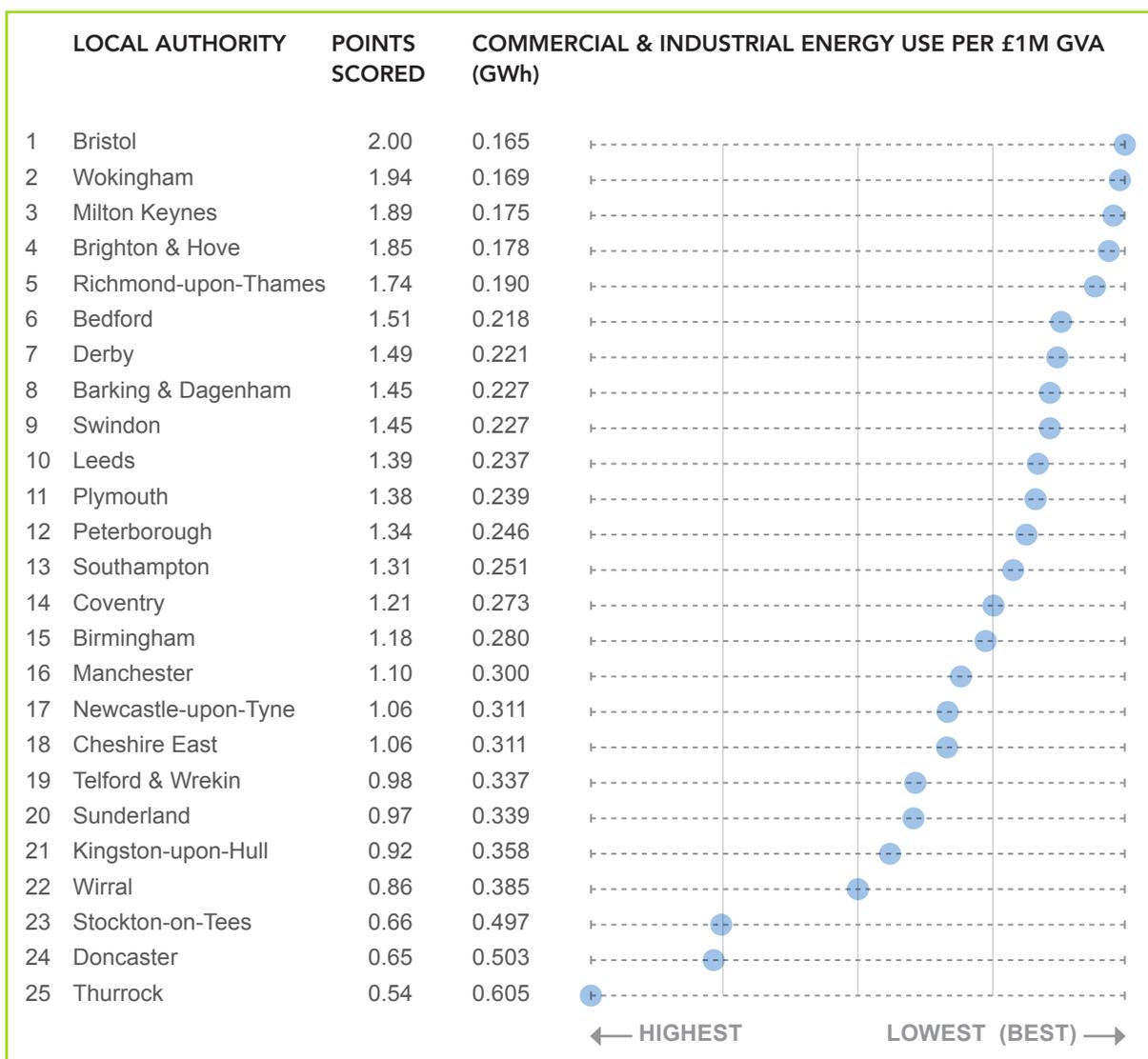
Energy use per GVA is largely determined by the structure of industry and commerce in an area. An area such as the North East will have a high energy use per GVA due to the presence of the highly energy intensive chemicals industry while London and the South East has a low energy per GVA due to the low energy intensity of office work and the high value add of financial services in the way that GVA is measured.

As with Domestic energy use per capita this value is not in the control of the local authority but over time effective local authority sponsored or managed programmes could have an influence upon it. We therefore awarded only two points to the top performer this indicator. Data on 2012 commercial and industrial electricity and gas consumption was taken from DECC data. 2012 NUTS3 level GVA statistics were taken from the Office for National Statistics. Since some NUTS3 areas include several local authorities, it was necessary to aggregate commercial and industrial energy consumption for those areas, calculating this indicator for the entire NUTS3 area as a proxy for the individual authority. We were obliged to take this approach for Barking and Dagenham, Doncaster, Manchester, Newcastle upon Tyne, Richmond upon Thames, Stockton on Tees and Wokingham.

Discussion

Bristol had the best performance (lowest result) for this indicator with 0.165 GWh per million GBP. Thurrock had the highest result, at 0.605 GWh per million GBP, a value 3.67 times greater than that of Bristol. This wide disparity can be explained by the differing natures of the local economies. Thurrock includes manufacturing, warehousing and distribution centres and until 2012, an oil refinery. The City of Bristol, on the other hand, is home to a number of service sectors including (but not limited to) media, financial and administrative services as well as academia. Improved performance on this indicator is in the hands of the private sector and outside the remit of local authorities. It may require business incentives - especially for heavy industry – incentives that can only be put into place by national government. An effort to attract less energy intensive businesses and to stimulate the local service and knowledge economies would shift the figures in the right direction but such efforts, however, should not be driven by the objective of improving local energy efficiency.

Table 25: Commercial and industrial energy consumption per Gross Value Added, maximum points available: 2



Although local authorities cannot be held responsible for the economic makeup of their areas they can however take a role in leveraging local business activity to engender overall community-wide efficiency gains. Regardless of the structure of economies there will be opportunities for improving energy efficiency through:

- Encouraging businesses with appropriate facilities and scale to develop their own CHP installations
- Encouraging manufacturing centres to act as heat and energy hubs for the local area
- Encouraging systemic solutions such as waste heat from industrial processes or waste to energy installation in district heat networks serving the private and/or public sector.

In districts where the economy is already energy-lean (e.g. urban areas dominated by service and financial sector businesses), there are still opportunities for continuous improvement. Evidence shows there is a large potential to improve energy efficiency in all buildings via well-proven technologies including:

- LED lighting
- Lighting controls
- Improved heating controls
- Voltage optimisation. Where buildings are being converted to new use this conversion should be seized as an opportunity to install the optimum level of energy efficiency measures using techniques such as integrated design.

As with energy use per capita, performance on this indicator has to be evaluated over time. Year on year improvements in relation to a baseline year will be a better yardstick than any single-year measurement.

The overall index

The overall index is presented below. Individual local authority data and score sheets are presented in Appendix 1.

The top five local authorities were:

- Southampton
- Kingston-upon-Hull
- Peterborough
- Leeds
- Coventry.

The bottom five local authorities were:

- Thurrock
- Wirral
- Brighton and Hove
- Derby
- Swindon.

Table 26: The overall Index

	LOCAL AUTHORITY	QUANTITATIVE POINTS (out of 29)	QUALITATIVE POINTS (out of 71)	TOTAL SCORE
1	Southampton	16.12	58.00	74.12
2	Kingston-upon-Hull	19.48	54.00	73.48
3	Peterborough	15.83	57.00	72.83
4	Leeds	15.64	56.00	71.64
5	Coventry	14.00	55.00	69.00
6	Barking & Dagenham	14.12	53.00	67.12
7	Newcastle-upon-Tyne	16.34	49.00	65.34
8	Plymouth	16.89	48.00	64.89
9	Bristol	13.64	50.00	63.64
10	Milton Keynes	19.52	44.00	63.52
11	Cheshire East	16.22	41.00	57.22
12	Wokingham	15.17	41.00	56.17
13	Manchester	19.28	36.00	55.28
14	Doncaster	17.50	37.00	54.50
15	Bedford	16.11	36.00	52.11
16	Birmingham	15.77	36.00	51.77
17	Telford & Wrekin	15.77	34.00	49.77
18	Richmond-upon-Thames	8.65	41.00	49.65
19	Stockton-on-Tees	16.13	32.00	48.13
20	Sunderland	16.78	31.00	47.78
21	Thurrock	12.73	35.00	47.73
22	Wirral	17.44	29.00	46.44
23	Brighton & Hove	11.92	34.00	45.92
24	Derby	16.90	20.00	36.90
25	Swindon	16.78	20.00	36.78

As well as energy management in their own estate local authorities should consider and value the co-benefits of improving energy efficiency generally within their area.

The many co-benefits include economic development and job creation as well as improved health and well-being, reduced emissions and reduced need to spend capital on energy supply infrastructure. Those authorities that have truly recognised these co-benefits, particularly economic development, are most likely to have vigorous energy management programmes both within and out-with their own estate, be developing new organisational forms such as municipally owned ESCOs, as well as have integrated energy plans, such as linking local heat producers in industry with local centres of heat demand through district heating. We think that local economic development is the most compelling argument for improved energy efficiency in the coming years.

As part of the economic development aspect we would expect local authorities to take a proactive role in improving, and encouraging other actors to improve, energy efficiency in their own buildings and facilities. This includes households, businesses and other organisations.

This effort can take many forms ranging from simple provision of information, through support for community based energy efficiency programmes, supporting building retrofit programmes, and working to bring in funds to energy efficiency including from ECO money and other sources e.g. through Local Enterprise Partnerships or other EU funds.

In short energy efficiency should be seen as an area of strategic importance to local authorities, one that can drive economic development and reduce social and health problems. Although some authorities are doing a lot and leading the way with innovations such as municipal ESCOs or encouraging community programmes there is always room for improvement, and many other authorities can improve their response to critical national and local energy issues by learning from the leading authorities.

We can only end this report by once again recognising the excellent work that many local authorities are undertaking on the various aspects of the energy agenda, usually in difficult circumstances and always with constrained budgets. As the various technological, economic and institutional changes in the energy market develop over the coming years we believe that local authorities can and will take even more of a leading role to the benefit of their communities.

<u>BARKING & DAGENHAM</u>		RESULT	POINTS SCORED / POINTS AVAILABLE
<u>ENERGY MANAGEMENT OF OWN BUILDINGS</u>			
1	Published, formally adopted energy use reduction target?	CR target mixed w/ an EE target	6.00 / 10.00
2	Shows EE progress through annual reporting?	YES	6.00 / 6.00
3.1	Operational energy use data assessed by a third party?	YES	4.00 / 4.00
3.2	Third party evaluation, measurement and verification?	YES	4.00 / 4.00
3.3	Has the LA applied ISO 50001?	NO	0 / 3.00
4	Published renewable energy or electricity target?	Procurement policy	3.00 / 4.00
5	Member of Local Government Association Climate Local?	NO	0 / 1.00
6	DEC rating(s) of Service Centre(s)	50.0% (D)	1.50 / 3.00
<u>ENERGY IN THE COMMUNITY</u>			
7	Programme to encourage other building users to retrofit?	YES	8.00 / 8.00
8	Rules for new buildings beyond Building Regulations?	YES	8.00 / 8.00
9	Community-wide EE initiatives or programmes?	YES	6.00 / 6.00
10	Active support for community energy programmes?	YES	6.00 / 6.00
<u>ENERGY IN HOUSING</u>			
11	Percentage of households in fuel poverty (2011)	9.90%	2.02 / 4.00
12	CERT measures + total number of homes per LA	17.49%	1.97 / 4.00
13	(Total) Measures carried out under CESP	600	0.21 / 4.00
14	Percent homes installed with cavity insulation since 2008	4.16%	0.90 / 3.00
15	Percent homes installed with loft insulation since 2008	13.40%	1.72 / 3.00
<u>ENERGY INFRASTRUCTURE</u>			
16	Distributed energy system in place (DH, CHP)?	In planning	2.00 / 6.00
17	Has the LA established its own ESCO?	NO	0.00 / 5.00
18	Installed microgeneration potential per capita	11.51 Watts	0.35 / 2.00
<u>OVERALL INDICATORS</u>			
19	(Domestic) Energy use per capita	5.589 MWh	4.00 / 4.00
20	(Commercial & Industrial) Energy use per unit GVA	0.227 GWh/£1M	1.45 / 2.00
RANKING/ TOTAL POINTS			67.12 / 100
			6th of 25
			← LOW (RELATIVE PERFORMANCE) HIGH →

Barking and Dagenham

The local authority had **high** performance on the following indicators:

- Shows EE progress through annual reporting? (2)
- Operational energy use assessed by a third party? (3.1)
- Third party M&V? (3.2)
- Published renewable energy or electricity target? (4)
- DEC rating(s) of Service Centre(s) (6)
- (Domestic) Energy use per capita (19)
- (Commercial & Industrial) Energy use per unit GVA (20)
- **The local authority had *somewhat low* performance on the following indicators:**
 - CERT measures ÷ total number of homes per LA (12)
 - Percent homes w/ loft insulation since 2008 (15)
 - Distributed energy system in place (DH, CHP)? (16)
- **The local authority had *low* performance on the following indicators:**
 - Has the LA applied ISO 50001? (3.3)
 - Member of LGACL? (5)
 - (Total) Measures carried out under CESP (13)
 - Percent homes w/ cavity insulation since 2008 (14)
 - Has the LA established its own ESCO? (17)
 - Installed micro-generation potential per capita (18)

Recommended strategies for improvement:

Below are recommended strategies for improvement in key areas for Barking and Dagenham, based on performance across the Index's energy indicators. These are high-level suggestions only; local authority personnel will no doubt have considered the issues carefully, and will have the best sense of what is appropriate given their area's specific situation.

High priority:

- Stimulate local uptake of ECO and the Green Deal by:
 - partnering with energy companies (for ECO) and Green Deal providers
 - raising public awareness and understanding of these programmes
 - raising public awareness of the environmental, financial and health benefits of a well-insulated, energy-efficient home.
- Promote the installation of micro-generation capacity by:
 - supporting community-led projects (through direct funding or indirect subsidies, advisory services and micro-generation surgeries)
 - fast-tracking planning permission (where required) for installation of capacity
 - partnering with providers of energy from micro-generation (these may be large or small energy companies) to fund the installation of capacity in or on public buildings
 - encouraging the development and maintenance of appropriate infrastructure
- Consider the financial and environmental benefits of applying ISO 50001
- Consider the benefits of joining Local Government Association Climate Local
- Learn from existing ESCO success stories (e.g. Blue Sky Peterborough)
- Carry out the feasibility studies to demonstrate the economic and environmental benefits of a council-owned ESCO.

<u>BEDFORD</u>		POINTS SCORED / POINTS AVAILABLE
<u>ENERGY MANAGEMENT OF OWN BUILDINGS</u>		
1	Published, formally adopted energy use reduction target?	CR target 5.00 / 10.00
2	Shows EE progress through annual reporting?	GHG only 2.00 / 6.00
3.1	Operational energy use data assessed by a third party?	NO 0 / 4.00
3.2	Third party evaluation, measurement and verification?	NO 0 / 4.00
3.3	Has the LA applied ISO 50001?	NO 0 / 3.00
4	Published renewable energy or electricity target?	NO 0 / 4.00
5	Member of Local Government Association Climate Local?	YES 1.00 / 1.00
6	DEC rating(s) of Service Centre(s)	50% (D) 1.5 / 3.00
<u>ENERGY IN THE COMMUNITY</u>		
7	Programme to encourage other building users to retrofit?	YES 8.00 / 8.00
8	Rules for new buildings beyond Building Regulations?	YES 8.00 / 8.00
9	Community-wide EE initiatives or programmes?	YES 6.00 / 6.00
10	Active support for community energy programmes?	NO 0 / 6.00
<u>ENERGY IN HOUSING</u>		
11	Percentage of households in fuel poverty (2011)	11.30% 1.77 / 4.00
12	CERT measures + total number of homes per LA	26.17% 2.94 / 4.00
13	(Total) Measures carried out under CESP	0 0 / 4.00
14	Percent homes installed with cavity insulation since 2008	9.33% 2.03 / 3.00
15	Percent homes installed with loft insulation since 2008	16.79% 2.15 / 3.00
<u>ENERGY INFRASTRUCTURE</u>		
16	Distributed energy system in place (DH, CHP)?	DH at University 6 (3) / 6.00
17	Has the LA established its own ESCO?	NO 0 / 5.00
18	Installed microgeneration potential per capita	31.49 Watts 0.97 / 2.00
<u>OVERALL INDICATORS</u>		
19	(Domestic) Energy use per capita	6.900 MWh 3.24 / 4.00
20	(Commercial & Industrial) Energy use per unit GVA	0.218 GWh/£1M 1.51 / 2.00
RANKING/ TOTAL POINTS		52.11 / 100
		15th of 25
		← LOW (RELATIVE PERFORMANCE) HIGH →

Bedford

The local authority had *high* performance on the following indicators:

- Member of LGACL? (5)
- DEC rating(s) of Service Centre(s) (6)
- Programme encouraging others to retrofit? (7)
- New build rules beyond Building Regulations? (8)
- Community-wide EE initiatives or programmes? (9)
- (Commercial & Industrial) Energy per unit GVA (20)

The local authority had *somewhat low* performance on the following indicators:

- Shows EE progress through annual reporting? (2)
- Percentage of households in fuel poverty (2011) (11)
- Installed micro-generation potential per capita (18)

The local authority had *low* performance on the following indicators:

- Operational energy use assessed by a third party? (3.1)
- Support for community energy programmes? (10)
- Third party M&V? (3.2)
- (Total) Measures carried out under CESP (13)
- Has the LA applied ISO 50001? (3.3)
- Has the LA established its own ESCO? (17)
- Published renewable energy or electricity target? (4)

Recommended strategies for improvement:

Below are recommended strategies for improvement in key areas for Bedford, based on performance across the Index's energy indicators. These are high-level suggestions only; local authority personnel will no doubt have considered the issues carefully, and will have the best sense of what is appropriate given their area's specific situation.

High priority:

- Commission a third party audit of operational energy use data
- Enlist a third party to perform ongoing evaluation, measurement and verification of energy efficiency strategy
- Evaluate the potential for and develop local micro-generation, especially on council-owned property
- Where the feasible local micro-generation capacity falls short, purchase low or zero carbon energy
- Support community-led micro-generation projects (through direct funding or indirect subsidies, advisory services and micro-generation surgeries)
- Fast-track planning permission (where required) for installation of micro-generation capacity
- Stimulate local uptake of ECO and the Green Deal by:
 - partnering with energy companies (for ECO) and Green Deal providers
 - raising public awareness and understanding of these programmes
 - raising public awareness of the environmental, financial and health benefits of a well-insulated, energy-efficient home
- Consider the financial and environmental benefits of applying ISO 50001
- Learn from existing ESCO success stories (e.g. Blue Sky Peterborough)
- Carry out the feasibility studies to demonstrate the economic and environmental benefits of a council-owned ESCO.

Medium priority:

- Establish systems for annual review and publishing of energy use data expressed in energy units
- Retrofit housing stock within the Council's own portfolio (where this is still under local authority ownership)
- Encourage housing authorities to do the same
- Promote uptake of ECO and ensure that vulnerable residents receive maximum benefit from ECO's Home Heating
- Cost Reduction Obligation, which targets low income and vulnerable households, making it easier for them to heat their homes
- Educate the public on domestic energy efficiency, renewable energy and available grants and discounts (e.g. hosting fuel poverty surgeries and publications like Liverpool's Fuel Poverty Advice Booklet)
- Promote the installation of micro-generation capacity by:
 - partnering with providers of energy from micro-generation (these may be large or small energy companies) to fund the installation of capacity in or on public buildings
 - encouraging the development and maintenance of appropriate infrastructure.

<u>BIRMINGHAM</u>		RESULT	POINTS SCORED / POINTS AVAILABLE
<u>ENERGY MANAGEMENT OF OWN BUILDINGS</u>			
1	Published, formally adopted energy use reduction target?	CR target	5.00 / 10.00
2	Shows EE progress through annual reporting?	YES, internally	4.00 / 6.00
3.1	Operational energy use data assessed by a third party?	NO	0 / 4.00
3.2	Third party evaluation, measurement and verification?	NO	0 / 4.00
3.3	Has the LA applied ISO 50001?	NO	0 / 3.00
4	Published renewable energy or electricity target?	NO	0 / 4.00
5	Member of Local Government Association Climate Local?	NO	0 / 1.00
6	DEC rating(s) of Service Centre(s)	66.7% (C)	2.00 / 3.00
<u>ENERGY IN THE COMMUNITY</u>			
7	Programme to encourage other building users to retrofit?	YES	8.00 / 8.00
8	Rules for new buildings beyond Building Regulations?	NO	0 / 8.00
9	Community-wide EE initiatives or programmes?	YES	6.00 / 6.00
10	Active support for community energy programmes?	YES	6.00 / 6.00
<u>ENERGY IN HOUSING</u>			
11	Percentage of households in fuel poverty (2011)	15.50%	1.29 / 4.00
12	CERT measures + total number of homes per LA	21.86%	2.46 / 4.00
13	(Total) Measures carried out under CESP	4,712	1.63 / 4.00
14	Percent homes installed with cavity insulation since 2008	7.53%	1.64 / 3.00
15	Percent homes installed with loft insulation since 2008	14.40%	1.84 / 3.00
<u>ENERGY INFRASTRUCTURE</u>			
16	Distributed energy system in place (DH, CHP)?	YES	6.00 / 6.00
17	Has the LA established its own ESCO?	NO, but committed to establishing one	1.00 / 5.00
18	Installed microgeneration potential per capita	13.64 Watts	0.42 / 2.00
<u>OVERALL INDICATORS</u>			
19	(Domestic) Energy use per capita	6.744 MWh	3.31 / 4.00
20	(Commercial & Industrial) Energy use per unit GVA	0.280 GWh/£1M	1.18 / 2.00
RANKING/ TOTAL POINTS			51.77 / 100
			16th of 25
			← LOW (RELATIVE PERFORMANCE) HIGH →

Birmingham

The local authority had **high** performance on the following indicators:

- DEC rating(s) of Service Centre(s) (6)
- Programme encouraging others to retrofit? (7)
- Community-wide EE initiatives or programmes? (9)
- Support for community energy programmes? (10)
- Distributed energy system in place (DH, CHP)? (16)

The local authority had **somewhat low** performance on the following indicators:

- (Total) Measures carried out under CESP (13)
- Percent homes w/ cavity insulation since 2008 (14)

The local authority had **low** performance on the following indicators:

- Operational energy use assessed by a third party? (3.1)
- Third party M&V? (3.2)
- Has the LA applied ISO 50001? (3.3)
- Published renewable energy or electricity target? (4)
- Member of LGACL? (5)
- New build rules beyond Building Regulations? (8)
- Percentage of households in fuel poverty (2011) (11)
- Has the LA established its own ESCO? (17)
- Installed micro-generation potential per capita (18)

Recommended strategies for improvement:

Below are recommended strategies for improvement in key areas for Birmingham, based on performance across the Index's energy indicators. These are high-level suggestions only; local authority personnel will no doubt have considered the issues carefully, and will have the best sense of what is appropriate given their area's specific situation.

High priority:

- Commission a third party audit of operational energy use data
- Enlist a third party to perform ongoing evaluation, measurement and verification of energy efficiency strategy
- Consider the financial and environmental benefits of applying ISO 50001
- Evaluate the potential for and develop local micro-generation, especially on council-owned property
- Where the feasible local micro-generation capacity falls short, purchase low or zero carbon energy
- Implement stringent planning rules for new commercial buildings and all development on council-owned property as part of the Core Strategy
- Retrofit housing stock within the Council's own portfolio (where this is still under local authority ownership)
- Encourage housing authorities to do the same
- Promote uptake of ECO and ensure that vulnerable residents receive maximum benefit from ECO's Home Heating Cost Reduction Obligation, which targets low income and vulnerable households, making it easier for them to heat their homes
- Educate the public on domestic energy efficiency, renewable energy and available grants and discounts (e.g. hosting fuel poverty surgeries and publications like Liverpool's Fuel Poverty Advice Booklet)
- Learn from existing ESCO success stories (e.g. Blue Sky Peterborough)
- Further consider the economic and environmental benefits of a council-owned ESCO
- Promote the installation of micro-generation capacity by:
 - supporting community-led projects (through direct funding or indirect subsidies, advisory services and micro-generation surgeries)
 - fast-tracking planning permission (where required) for installation of capacity
 - partnering with providers of energy from micro-generation (these may be large or small energy companies) to fund the installation of capacity in or on public buildings
 - encouraging the development and maintenance of appropriate infrastructure
- Consider the benefits of joining Local Government Association Climate Local.

Medium priority:

- Stimulate local uptake of ECO and the Green Deal by:
 - partnering with energy companies (for ECO) and Green Deal providers
 - raising public awareness and understanding of these programmes
 - raising public awareness of the environmental, financial and health benefits of a well-insulated, energy-efficient home.

BRIGHTON & HOVE		RESULT	POINTS SCORED / POINTS AVAILABLE
<u>ENERGY MANAGEMENT OF OWN BUILDINGS</u>			
1	Published, formally adopted energy use reduction target?	CR target	5.00 / 10.00
2	Shows EE progress through annual reporting?	YES	6.00 / 6.00
3.1	Operational energy use data assessed by a third party?	NO	0 / 4.00
3.2	Third party evaluation, measurement and verification?	NO	0 / 4.00
3.3	Has the LA applied ISO 50001?	NO	0 / 3.00
4	Published renewable energy or electricity target?	Aspirations, but no specific target	1.00 / 4.00
5	Member of Local Government Association Climate Local?	NO	0 / 1.00
6	DEC rating(s) of Service Centre(s)	58.3% (>D)	1.75 / 3.00
<u>ENERGY IN THE COMMUNITY</u>			
7	Programme to encourage other building users to retrofit?	YES, residential only	6.00 / 8.00
8	Rules for new buildings beyond Building Regulations?	YES, as recommendations	4.00 / 8.00
9	Community-wide EE initiatives or programmes?	YES	6.00 / 6.00
10	Active support for community energy programmes?	YES	6.00 / 6.00
<u>ENERGY IN HOUSING</u>			
11	Percentage of households in fuel poverty (2011)	11.30%	1.77 / 4.00
12	CERT measures + total number of homes per LA	9.76%	1.10 / 4.00
13	(Total) Measures carried out under CESP	707	0.25 / 4.00
14	Percent homes installed with cavity insulation since 2008	3.89%	0.84 / 3.00
15	Percent homes installed with loft insulation since 2008	4.87%	0.62 / 3.00
<u>ENERGY INFRASTRUCTURE</u>			
16	Distributed energy system in place (DH, CHP)?	NO	0.00 / 6.00
17	Has the LA established its own ESCO?	NO	0.00 / 5.00
18	Installed microgeneration potential per capita	11.68 Watts	0.36 / 2.00
<u>OVERALL INDICATORS</u>			
19	(Domestic) Energy use per capita	6.599 MWh	3.39 / 4.00
20	(Commercial & Industrial) Energy use per unit GVA	0.178 GWh/£1M	1.85 / 2.00
RANKING/ TOTAL POINTS			45.92 / 100
			23rd of 25
			← LOW (RELATIVE PERFORMANCE) HIGH →

Brighton and Hove

The local authority had *high* performance on the following indicators:

- Shows EE progress through annual reporting? (2)
- DEC rating(s) of Service Centre(s) (6)
- Programme encouraging others to retrofit? (7)
- Community-wide EE initiatives or programmes? (9)
- Support for community energy programmes? (10)
- (Commercial & Industrial) Energy per unit GVA (20)

The local authority had *somewhat low* performance on the following indicators:

- Published renewable energy or electricity target? (4)
- Percentage of households in fuel poverty (2011) (11)

The local authority had *low* performance on the following indicators:

- Operational energy use assessed by third party? (3.1)
- Third party M&V? (3.2)
- Has the LA applied ISO 50001? (3.3)
- Member of LGACL? (5)
- CERT measures ÷ total number of homes per LA (12)
- (Total) Measures carried out under CESP (13)
- Percent homes w/ cavity insulation since 2008 (14)
- Percent homes w/ loft insulation since 2008 (15)
- Distributed energy system in place (DH, CHP)? (16)
- Has the LA established its own ESCO? (17)
- Installed micro-generation potential per capita (18)

Recommended strategies for improvement:

Below are recommended strategies for improvement in key areas for Brighton and Hove, based on performance across the Index's energy indicators. These are high-level suggestions only; local authority personnel will no doubt have considered the issues carefully, and will have the best sense of what is appropriate given their area's specific situation.

High priority:

- Commission a third party audit of operational energy use data
- Enlist a third party to perform ongoing evaluation, measurement and verification of energy efficiency strategy
- Consider the financial and environmental benefits of applying ISO 50001
- Stimulate local uptake of ECO and the Green Deal by:
 - partnering with energy companies (for ECO) and Green Deal providers
 - raising public awareness and understanding of these programmes
 - raising public awareness of the environmental, financial and health benefits of a well-insulated, energy-efficient home
- Carry out the feasibility studies to demonstrate the economic and environmental benefits of district energy and/or medium/ large-scale CHP
- Learn from existing ESCO success stories (e.g. Blue Sky Peterborough)
- Carry out the feasibility studies to demonstrate the economic and environmental benefits of a council-owned ESCO
- Promote the installation of micro-generation capacity by:
 - supporting community-led projects (through direct funding or indirect subsidies, advisory services and micro-generation surgeries)
 - fast-tracking planning permission (where required) for installation of capacity
 - partnering with providers of energy from micro-generation (these may be large or small energy companies) to fund the installation of capacity in or on public buildings
 - encouraging the development and maintenance of appropriate infrastructure
- Consider the benefits of joining Local Government Association Climate Local.

Medium priority:

- Evaluate the potential for and develop local micro-generation, especially on council-owned property.
- Where the feasible local micro-generation capacity falls short, purchase low or zero carbon energy
- Retrofit housing stock within the Council's own portfolio (where this is still under local authority ownership)
- Encourage housing authorities to do the same
- Promote uptake of ECO and ensure that vulnerable residents receive maximum benefit from ECO's Home Heating Cost Reduction Obligation, which targets low income and vulnerable households, making it easier for them to heat their homes
- Educate the public on domestic energy efficiency, renewable energy and available grants and discounts (e.g. hosting fuel poverty surgeries and publications like Liverpool's Fuel Poverty Advice Booklet).

BRISTOL		RESULT	POINTS SCORED / POINTS AVAILABLE
<u>ENERGY MANAGEMENT OF OWN BUILDINGS</u>			
1	Published, formally adopted energy use reduction target?	YES	10.0 / 10.00
2	Shows EE progress through annual reporting?	YES, GHG excl. green procurement	3.00 / 6.00
3.1	Operational energy use data assessed by a third party?	YES	4.00 / 4.00
3.2	Third party evaluation, measurement and verification?	YES	4.00 / 4.00
3.3	Has the LA applied ISO 50001?	NO	0 / 3.00
4	Published renewable energy or electricity target?	Aspirations, but no specific target	1.00 / 4.00
5	Member of Local Government Association Climate Local?	NO	0 / 1.00
6	DEC rating(s) of Service Centre(s)	50% (D)	1.50 / 3.00
<u>ENERGY IN THE COMMUNITY</u>			
7	Programme to encourage other building users to retrofit?	YES, residential only	6.00 / 8.00
8	Rules for new buildings beyond Building Regulations?	YES	8.00 / 8.00
9	Community-wide EE initiatives or programmes?	YES	6.00 / 6.00
10	Active support for community energy programmes?	In development	3.00 / 6.00
<u>ENERGY IN HOUSING</u>			
11	Percentage of households in fuel poverty (2011)	11.30%	1.77 / 4.00
12	CERT measures + total number of homes per LA	15.30%	1.72 / 4.00
13	(Total) Measures carried out under CESP	397	0.14 / 4.00
14	Percent homes installed with cavity insulation since 2008	4.98%	1.08 / 3.00
15	Percent homes installed with loft insulation since 2008	9.81%	1.25 / 3.00
<u>ENERGY INFRASTRUCTURE</u>			
16	Distributed energy system in place (DH, CHP)?	In planning	2.00 / 6.00
17	Has the LA established its own ESCO?	YES, to be established in early 2015	3.00 / 5.00
18	Installed microgeneration potential per capita	22.50 Watts	0.69 / 2.00
<u>OVERALL INDICATORS</u>			
19	(Domestic) Energy use per capita	6.409 MWh	3.49 / 4.00
20	(Commercial & Industrial) Energy use per unit GVA	0.165 GWh/£1M	2.00 / 2.00
RANKING/ TOTAL POINTS			63.64 / 100
			9th of 25
			← LOW (RELATIVE PERFORMANCE) HIGH →

Bristol

The local authority had *high* performance on the following indicators:

- Published, formally adopted energy target? (1)
- Operational energy use assessed by third party? (3.1)
- Third party M&V? (3.2)
- DEC rating(s) of Service Centre(s) (6)
- Programme encouraging others to retrofit? (7)
- New build rules beyond Building Regulations? (8)
- Community-wide EE initiatives or programmes? (9)
- (Commercial & Industrial) Energy per unit GVA (20)

The local authority had *somewhat low* performance on the following indicators:

- Published renewable energy or electricity target? (4)
- Percentage of households in fuel poverty (11)
- CERT measures ÷ total number of homes per LA (12)
- Percent homes w/ cavity insulation since 2008 (14)
- Percent homes w/ loft insulation since (15)
- Installed micro-generation potential per capita (18)

The local authority had *low* performance on the following indicators:

- Has the LA applied ISO 50001? (3.3)
- Member of LGACL? (5)
- (Total) Measures carried out under CESP (13)

Recommended strategies for improvement:

Below are recommended strategies for improvement in key areas for Bristol, based on performance across the Index's energy indicators. These are high-level suggestions only; local authority personnel will no doubt have considered the issues carefully, and will have the best sense of what is appropriate given their area's specific situation.

High priority:

- Consider the financial and environmental benefits of applying ISO 50001.
- Stimulate local uptake of ECO and the Green Deal by:
 - partnering with energy companies (for ECO) and Green Deal providers
 - raising public awareness and understanding of these programmes
 - raising public awareness of the environmental, financial and health benefits of a well-insulated, energy-efficient home
- Consider the benefits of joining Local Government Association Climate Local.

Medium priority:

- Evaluate the potential for and develop local micro-generation, especially on council-owned property
- Where the feasible local micro-generation capacity falls short, purchase low or zero carbon energy
- Retrofit housing stock within the Council's own portfolio (where this is still under local authority ownership)
- Encourage housing authorities to do the same
- Promote uptake of ECO and ensure that vulnerable residents receive maximum benefit from ECO's Home Heating
- Cost Reduction Obligation, which targets low income and vulnerable households, making it easier for them to heat their homes
- Educate the public on domestic energy efficiency, renewable energy and available grants and discounts (e.g. hosting fuel poverty surgeries and publications like Liverpool's Fuel Poverty Advice Booklet)
- Promote the installation of micro-generation capacity by:
 - supporting community-led projects (through direct funding or indirect subsidies, advisory services and micro-generation surgeries)
 - fast-tracking planning permission (where required) for installation of capacity
 - partnering with providers of energy from micro-generation (these may be large or small energy companies) to fund the installation of capacity in or on public buildings
 - encouraging the development and maintenance of appropriate infrastructure

CHESHIRE EAST		RESULT	POINTS SCORED / POINTS AVAILABLE
<u>ENERGY MANAGEMENT OF OWN BUILDINGS</u>			
1	Published, formally adopted energy use reduction target?	YES	10.0 / 10.00
2	Shows EE progress through annual reporting?	YES	6.00 / 6.00
3.1	Operational energy use data assessed by a third party?	YES	4.00 / 4.00
3.2	Third party evaluation, measurement and verification?	NO	0 / 4.00
3.3	Has the LA applied ISO 50001?	NO	0 / 3.00
4	Published renewable energy or electricity target?	NO	0 / 4.00
5	Member of Local Government Association Climate Local?	NO	0 / 1.00
6	DEC rating(s) of Service Centre(s)	50% (D)	1.50 / 3.00
<u>ENERGY IN THE COMMUNITY</u>			
7	Programme to encourage other building users to retrofit?	YES, residential only	6.00 / 8.00
8	Rules for new buildings beyond Building Regulations?	NO	0 / 8.00
9	Community-wide EE initiatives or programmes?	YES	6.00 / 6.00
10	Active support for community energy programmes?	In development	3.00 / 6.00
<u>ENERGY IN HOUSING</u>			
11	Percentage of households in fuel poverty (2011)	11.60%	1.72 / 4.00
12	CERT measures + total number of homes per LA	28.82%	3.24 / 4.00
13	(Total) Measures carried out under CESP	187	0.06 / 4.00
14	Percent homes installed with cavity insulation since 2008	13.81%	3.00 / 3.00
15	Percent homes installed with loft insulation since 2008	14.85%	1.90 / 3.00
<u>ENERGY INFRASTRUCTURE</u>			
16	Distributed energy system in place (DH, CHP)?	In development	6 (4) / 6.00
17	Has the LA established its own ESCO?	NO	0 / 5.00
18	Installed microgeneration potential per capita	30.80 Watts	0.95 / 2.00
<u>OVERALL INDICATORS</u>			
19	(Domestic) Energy use per capita	8.018 MWh	2.79 / 4.00
20	(Commercial & Industrial) Energy use per unit GVA	0.311 GWh/£1M	1.06 / 2.00
RANKING/ TOTAL POINTS			57.22 / 100
			11th of 25
			← LOW (RELATIVE PERFORMANCE) HIGH →

Cheshire East

The local authority had **high** performance on the following indicators:

- Published, formally adopted energy target? (1)
- Shows EE progress through annual reporting (2)
- Operational energy use assessed by third party? (3.1)
- DEC rating(s) of Service Centre(s) (6)
- Programme encouraging others to retrofit? (7)
- Community-wide EE initiatives or programmes? (9)
- CERT measures ÷ total number of homes per LA (12)
- Percent homes w/ cavity insulation since 2008 (14)

The local authority had **somewhat low** performance on the following indicators:

- Percentage of households in fuel poverty (2011) (11)
- Installed micro-generation potential per capita (18)

The local authority had **low** performance on the following indicators:

- Third party M&V? (3.2)
- Has the LA applied ISO 50001? (3.3)
- Published renewable energy or electricity target? (4)
- Member of LGACL? (5)
- New build rules beyond Building Regulations? (8)
- (Total) Measures carried out under CESP (13)
- Has the LA established its own ESCO? (17)
- (Domestic) Energy use per capita (19)

Recommended strategies for improvement:

Below are recommended strategies for improvement in key areas for Cheshire East, based on performance across the Index's energy indicators. These are high-level suggestions only; local authority personnel will no doubt have considered the issues carefully, and will have the best sense of what is appropriate given their area's specific situation.

High priority:

- Enlist a third party to perform ongoing evaluation, measurement and verification of energy efficiency strategy
- Consider the financial and environmental benefits of applying ISO 50001
- Evaluate the potential for and develop local micro-generation, especially on council-owned property
- Where the feasible local micro-generation capacity falls short, purchase low or zero carbon energy
- Implement stringent planning rules for new commercial buildings and all development on council-owned property as part of the Core Strategy
- Stimulate local uptake of ECO and the Green Deal by:
 - partnering with energy companies (for ECO) and Green Deal providers
 - raising public awareness and understanding of these programmes
 - raising public awareness of the environmental, financial and health benefits of a well-insulated, energy-efficient home
- Learn from existing ESCO success stories (e.g. Blue Sky Peterborough)
- Carry out the feasibility studies to demonstrate the economic and environmental benefits of a council-owned ESCO
- Implement and maintain community-wide energy efficiency programmes and initiatives
- Aggressively support local implementation of ECO and Green Deal measures
- Consider the benefits of joining Local Government Association Climate Local.

Medium priority:

- Retrofit housing stock within the Council's own portfolio (where this is still under local authority ownership)
- Encourage housing authorities to do the same
- Promote uptake of ECO and ensure that vulnerable residents receive maximum benefit from ECO's Home Heating Cost Reduction Obligation, which targets low income and vulnerable households, making it easier for them to heat their homes
- Educate the public on domestic energy efficiency, renewable energy and available grants and discounts (e.g. hosting fuel poverty surgeries and publications like Liverpool's Fuel Poverty Advice Booklet)
- Promote the installation of micro-generation capacity by:
 - supporting community-led projects (through direct funding or indirect subsidies, advisory services and micro-generation surgeries)
 - fast-tracking planning permission (where required) for installation of capacity
 - partnering with providers of energy from micro-generation (these may be large or small energy companies) to fund the installation of capacity in or on public buildings
 - encouraging the development and maintenance of appropriate infrastructure

COVENTRY		RESULT	POINTS SCORED / POINTS AVAILABLE
<u>ENERGY MANAGEMENT OF OWN BUILDINGS</u>			
1	Published, formally adopted energy use reduction target?	CR target	5.00 / 10.00
2	Shows EE progress through annual reporting?	YES	6.00 / 6.00
3.1	Operational energy use data assessed by a third party?	YES	4.00 / 4.00
3.2	Third party evaluation, measurement and verification?	YES	4.00 / 4.00
3.3	Has the LA applied ISO 50001?	YES	3.00 / 3.00
4	Published renewable energy or electricity target?	Some contractual obligations	2.00 / 4.00
5	Member of Local Government Association Climate Local?	NO	0 / 1.00
6	DEC rating(s) of Service Centre(s)	16.7% (F)	0.50 / 3.00
<u>ENERGY IN THE COMMUNITY</u>			
7	Programme to encourage other building users to retrofit?	YES, residential only	6.00 / 8.00
8	Rules for new buildings beyond Building Regulations?	YES	8.00 / 8.00
9	Community-wide EE initiatives or programmes?	YES	6.00 / 6.00
10	Active support for community energy programmes?	NO	0 / 6.00
<u>ENERGY IN HOUSING</u>			
11	Percentage of households in fuel poverty (2011)	15.70%	1.27 / 4.00
12	CERT measures + total number of homes per LA	20.31%	2.28 / 4.00
13	(Total) Measures carried out under CESP	4,886	1.69 / 4.00
14	Percent homes installed with cavity insulation since 2008	6.22%	1.35 / 3.00
15	Percent homes installed with loft insulation since 2008	14.20%	1.82 / 3.00
<u>ENERGY INFRASTRUCTURE</u>			
16	Distributed energy system in place (DH, CHP)?	YES	6.00 / 6.00
17	Has the LA established its own ESCO?	YES	5.00 / 5.00
18	Installed microgeneration potential per capita	19.05 Watts	0.59 / 2.00
<u>OVERALL INDICATORS</u>			
19	(Domestic) Energy use per capita	6.801 MWh	3.29 / 4.00
20	(Commercial & Industrial) Energy use per unit GVA	0.273 GWh/£1M	1.21 / 2.00
RANKING/ TOTAL POINTS			69.00 / 100
			5th of 25
			← LOW (RELATIVE PERFORMANCE) HIGH →

Coventry

The local authority had *high* performance on the following indicators:

- Shows EE progress through annual reporting? (2)
- Operational energy use assessed by third party? (3.1)
- Third party M&V? (3.2)
- Has the LA applied ISO 50001? (3.3)
- Programme encouraging others to retrofit? (7)
- New build rules beyond Building Regulations? (8)
- Community-wide EE initiatives or programmes? (9)
- Distributed energy system in place (DH, CHP)? (16)
- Has the LA established its own ESCO? (17)
- (Commercial & Industrial) Energy per unit GVA (20)

The local authority had *somewhat low* performance on the following indicators:

- DEC rating(s) of Service Centre(s) (6)
- CERT measures ÷ total number of homes per LA (12)
- (Total) Measures carried out under CESP (13)
- Percent homes w/ cavity insulation since 2008 (14)

The local authority had *low* performance on the following indicators:

- Member of LGACL? (5)
- Percentage of households in fuel poverty (2011) (11)
- Support for community energy programmes? (10)
- Installed micro-generation potential per capita (18)

Recommended strategies for improvement:

Below are recommended strategies for improvement in key areas for Coventry, based on performance across the Index's energy indicators. These are high-level suggestions only; local authority personnel will no doubt have considered the issues carefully, and will have the best sense of what is appropriate given their area's specific situation.

High priority:

- Promote the installation of micro-generation capacity by:
 - supporting community-led projects (through direct funding or indirect subsidies, advisory services and micro-generation surgeries)
 - fast-tracking planning permission (where required) for installation of capacity
 - partnering with providers of energy from micro-generation (these may be large or small energy companies) to fund the installation of capacity in or on public buildings.
 - encouraging the development and maintenance of appropriate infrastructure
- Retrofit housing stock within the Council's own portfolio (where this is still under local authority ownership)
- Encourage housing authorities to do the same
- Promote uptake of ECO and ensure that vulnerable residents receive maximum benefit from ECO's Home Heating
- Cost Reduction Obligation, which targets low income and vulnerable households, making it easier for them to heat their homes
- Educate the public on domestic energy efficiency, renewable energy and available grants and discounts (e.g. hosting fuel poverty surgeries and publications like Liverpool's Fuel Poverty Advice Booklet)
- Consider the benefits of joining Local Government Association Climate Local.

Medium priority:

- Pursue building stock rationalization strategies to improve efficiency of the authority's real estate portfolio
- Retrofit operational facilities
- Implement energy management systems at relevant facilities and energy efficiency as a procurement criterion
- Run education and behaviour change campaigns among council employees
- Develop micro-generation capacity for Council facilities
- Stimulate local uptake of ECO and the Green Deal by:
 - partnering with energy companies (for ECO) and Green Deal providers
 - raising public awareness and understanding of these programmes
 - raising public awareness of the environmental, financial and health benefits of a well-insulated, energy-efficient home.

DERBY		RESULT	POINTS SCORED / POINTS AVAILABLE
<i>ENERGY MANAGEMENT OF OWN BUILDINGS</i>			
1	Published, formally adopted energy use reduction target?	NO	0 / 10.00
2	Shows EE progress through annual reporting?	YES	6.00 / 6.00
3.1	Operational energy use data assessed by a third party?	NO	0 / 4.00
3.2	Third party evaluation, measurement and verification?	NO	0 / 4.00
3.3	Has the LA applied ISO 50001?	NO	0 / 3.00
4	Published renewable energy or electricity target?	NO	0 / 4.00
5	Member of Local Government Association Climate Local?	NO	0 / 1.00
6	DEC rating(s) of Service Centre(s)	50% (D)	1.50 / 3.00
<i>ENERGY IN THE COMMUNITY</i>			
7	Programme to encourage other building users to retrofit?	YES	8.00 / 8.00
8	Rules for new buildings beyond Building Regulations?	NO	0 / 8.00
9	Community-wide EE initiatives or programmes?	YES	6.00 / 6.00
10	Active support for community energy programmes?	NO	0 / 6.00
<i>ENERGY IN HOUSING</i>			
11	Percentage of households in fuel poverty (2011)	14.60%	1.37 / 4.00
12	CERT measures + total number of homes per LA	22.62%	2.54 / 4.00
13	(Total) Measures carried out under CESP	6,183	2.14 / 4.00
14	Percent homes installed with cavity insulation since 2008	7.60%	1.65 / 3.00
15	Percent homes installed with loft insulation since 2008	15.04%	1.92 / 3.00
<i>ENERGY INFRASTRUCTURE</i>			
16	Distributed energy system in place (DH, CHP)?	NO	0 / 6.00
17	Has the LA established its own ESCO?	NO	0 / 5.00
18	Installed microgeneration potential per capita	35.52 Watts	1.10 / 2.00
<i>OVERALL INDICATORS</i>			
19	(Domestic) Energy use per capita	7.024 MWh	3.18 / 4.00
20	(Commercial & Industrial) Energy use per unit GVA	0.221 GWh/£1M	1.49 / 2.00
RANKING/ TOTAL POINTS			36.90 / 100
			24th of 25
			← LOW (RELATIVE PERFORMANCE) HIGH →

Derby

The local authority had *high* performance on the following indicators:

- Shows EE progress through annual reporting? (2)
- DEC rating(s) of Service Centre(s) (6)
- Programme encouraging others to retrofit? (7)
- Community-wide EE initiatives or programmes? (9)
- (Commercial & Industrial) Energy per unit GVA (20)

The local authority had *somewhat low* performance on the following indicators:

- Percent homes w/ cavity insulation since 2008 (14)
- Installed micro-generation potential per capita (18)

The local authority had *low* performance on the following indicators:

- Published, formally adopted energy target? (1)
- Operational energy use assessed by third party? (3.1)
- Third party M&V? (3.2)
- Has the LA applied ISO 50001? (3.3)
- Published renewable energy or electricity target? (4)
- Member of LGACL? (5)
- New build rules beyond Building Regulations? (8)
- Support for community energy programmes? (10)
- Percentage of households in fuel poverty (2011) (11)
- Distributed energy system in place (DH, CHP)? (16)
- Has the LA established its own ESCO? (17)

Recommended strategies for improvement:

Below are recommended strategies for improvement in key areas for Derby, based on performance across the Index's energy indicators. These are high-level suggestions only; local authority personnel will no doubt have considered the issues carefully, and will have the best sense of what is appropriate given their area's specific situation.

High priority:

- Set an energy use baseline, identifying areas of use for reduction and evaluating the potential for year on year improvement
- Commission a third party audit of operational energy use data
- Commit formally and publicly to an energy use reduction target
- Enlist a third party to perform ongoing evaluation, measurement and verification of energy efficiency strategy
- Consider the financial and environmental benefits of applying ISO 50001
- Evaluate the potential for and develop local micro-generation, especially on council-owned property
- Where the feasible local micro-generation capacity falls short, purchase low or zero carbon energy
- Implement stringent planning rules for new commercial buildings and all development on council-owned property as part of the Core Strategy
- Support community-led micro-generation projects (through direct funding or indirect subsidies, advisory services and micro-generation surgeries)
- Fast-track planning permission (where required) for installation of micro-generation capacity
- Retrofit housing stock within the Council's own portfolio (where this is still under local authority ownership)
- Encourage housing authorities to do the same
- Promote uptake of ECO and ensure that vulnerable residents receive maximum benefit from ECO's Home Heating Cost Reduction Obligation, which targets low income and vulnerable households, making it easier for them to heat their homes
- Educate the public on domestic energy efficiency, renewable energy and available grants and discounts (e.g. hosting fuel poverty surgeries and publications like Liverpool's Fuel Poverty Advice Booklet)
- Carry out the feasibility studies to demonstrate the economic and environmental benefits of district energy and/or medium/ large-scale CHP
- Learn from existing ESCO success stories (e.g. Blue Sky Peterborough)
- Carry out the feasibility studies to demonstrate the economic and environmental benefits of a council-owned ESCO
- Consider the benefits of joining Local Government Association Climate Local.

Medium priority:

- Stimulate local uptake of ECO and the Green Deal by:
 - partnering with energy companies (for ECO) and Green Deal providers
 - raising public awareness and understanding of these programmes
 - raising public awareness of the environmental, financial and health benefits of a well-insulated home
- Promote the installation of micro-generation capacity by:
 - partnering with providers of energy from micro-generation (these may be large or small energy companies) to fund the installation of capacity in or on public buildings
 - encouraging the development and maintenance of appropriate infrastructure.

DONCASTER

ENERGY MANAGEMENT OF OWN BUILDINGS

	RESULT	POINTS SCORED / POINTS AVAILABLE
1	Published, formally adopted energy use reduction target?	5.00 / 10.00
2	Shows EE progress through annual reporting?	6.00 / 6.00
3.1	Operational energy use data assessed by a third party?	0 / 4.00
3.2	Third party evaluation, measurement and verification?	0 / 4.00
3.3	Has the LA applied ISO 50001?	0 / 3.00
4	Published renewable energy or electricity target?	0 / 4.00
5	Member of Local Government Association Climate Local?	0 / 1.00
6	DEC rating(s) of Service Centre(s)	2.00 / 3.00

ENERGY IN THE COMMUNITY

7	Programme to encourage other building users to retrofit?	6.00 / 8.00
8	Rules for new buildings beyond Building Regulations?	8.00 / 8.00
9	Community-wide EE initiatives or programmes?	6.00 / 6.00
10	Active support for community energy programmes?	0 / 6.00

ENERGY IN HOUSING

11	Percentage of households in fuel poverty (2011)	1.75 / 4.00
12	CERT measures + total number of homes per LA	2.44 / 4.00
13	(Total) Measures carried out under CESP	2.13 / 4.00
14	Percent homes installed with cavity insulation since 2008	1.64 / 3.00
15	Percent homes installed with loft insulation since 2008	1.81 / 3.00

ENERGY INFRASTRUCTURE

16	Distributed energy system in place (DH, CHP)?	6 (0) / 6.00
17	Has the LA established its own ESCO?	0.00 / 5.00
18	Installed microgeneration potential per capita	2.00 / 2.00

OVERALL INDICATORS

19	(Domestic) Energy use per capita	3.07 / 4.00
20	(Commercial & Industrial) Energy use per unit GVA	0.65 / 2.00

RANKING/ TOTAL POINTS

14th of 25

54.50 / 100

← LOW (RELATIVE PERFORMANCE) HIGH →

Doncaster

The local authority had **high** performance on the following indicators:

- Shows EE progress through annual reporting? (2)
- DEC rating(s) of Service Centre(s) (6)
- Programme encouraging others to retrofit? (7)
- New build rules beyond Building Regulations? (8)
- Community-wide EE initiatives or programmes? (9)
- Installed micro-generation potential per capita (18)

The local authority had **somewhat low** performance on the following indicators:

- Percentage of households in fuel poverty (2011) (11)
- (Domestic) Energy use per capita (19)
- Percent homes w/ cavity insulation since 2008 (14)

The local authority had **low** performance on the following indicators:

- Operational energy use assessed by third party? (3.1)
- Third party M&V? (3.2)
- Has the LA applied ISO 50001? (3.3)
- Published renewable energy or electricity target? (4)
- Member of LGACL? (5)
- Support for community energy programmes? (10)
- Has the LA established its own ESCO? (17)
- (Commercial & Industrial) Energy per unit GVA (20)

Recommended strategies for improvement:

Below are recommended strategies for improvement in key areas for Doncaster, based on performance across the Index's energy indicators. These are high-level suggestions only; local authority personnel will no doubt have considered the issues carefully, and will have the best sense of what is appropriate given their area's specific situation.

High priority:

- Commission a third party audit of operational energy use data
- Enlist a third party to perform ongoing evaluation, measurement and verification of energy efficiency strategy
- Consider the financial and environmental benefits of applying ISO 50001
- Evaluate the potential for and develop local micro-generation, especially on council-owned property
- Where the feasible local micro-generation capacity falls short, purchase low or zero carbon energy
- Support community-led micro-generation projects (through direct funding or indirect subsidies, advisory services and micro-generation surgeries)
- Fast-track planning permission (where required) for installation of micro-generation capacity
- Learn from existing ESCO success stories (e.g. Blue Sky Peterborough)
- Carry out the feasibility studies to demonstrate the economic and environmental benefits of a council-owned ESCO
- Encourage businesses with appropriate facilities and scale to develop their own CHP installations
- Encourage manufacturing centres to act as heat and energy hubs for the local area
- Encourage systemic solutions such as using waste heat from industrial processes or waste to energy installations in district heat networks serving the private and/or public sector
- In districts where the economy is already energy-lean (e.g. urban areas dominated by service and financial sector businesses) foster office operational energy efficiency through:
 - LED lighting
 - lighting controls
 - improved heating controls
 - voltage optimisation
- Consider the benefits of joining Local Government Association Climate Local.

Medium priority:

- Retrofit housing stock within the Council's own portfolio (where this is still under local authority ownership)
- Encourage housing authorities to do the same
- Promote uptake of ECO and ensure that vulnerable residents receive maximum benefit from ECO's Home Heating Cost Reduction Obligation, which targets low income and vulnerable households, making it easier for them to heat their homes
- Educate the public on domestic energy efficiency, renewable energy and available grants and discounts (e.g. hosting fuel poverty surgeries and publications like Liverpool's Fuel Poverty Advice Booklet)
- Stimulate local uptake of ECO and the Green Deal by:
 - partnering with energy companies (for ECO) and Green Deal providers
 - raising public awareness and understanding of these programmes
 - raising public awareness of the environmental, financial and health benefits of a well-insulated home
- Implement and maintain community-wide energy efficiency programmes and initiatives
- Aggressively support local implementation of ECO and Green Deal measures.

KINGSTON-UPON-HULL		RESULT	POINTS SCORED / POINTS AVAILABLE
<u>ENERGY MANAGEMENT OF OWN BUILDINGS</u>			
1	Published, formally adopted energy use reduction target?	CR target	5.00 / 10.00
2	Shows EE progress through annual reporting?	YES	6.00 / 6.00
3.1	Operational energy use data assessed by a third party?	YES	4.00 / 4.00
3.2	Third party evaluation, measurement and verification?	YES	4.00 / 4.00
3.3	Has the LA applied ISO 50001?	NO	0 / 3.00
4	Published renewable energy or electricity target?	NO	0 / 4.00
5	Member of Local Government Association Climate Local?	YES	1.00 / 1.00
6	DEC rating(s) of Service Centre(s)	45.8% (< D)	1.38 / 3.00
<u>ENERGY IN THE COMMUNITY</u>			
7	Programme to encourage other building users to retrofit?	YES	8.00 / 8.00
8	Rules for new buildings beyond Building Regulations?	YES	8.00 / 8.00
9	Community-wide EE initiatives or programmes?	YES	6.00 / 6.00
10	Active support for community energy programmes?	YES	6.00 / 6.00
<u>ENERGY IN HOUSING</u>			
11	Percentage of households in fuel poverty (2011)	10.60%	1.89 / 4.00
12	CERT measures + total number of homes per LA	34.48%	3.87 / 4.00
13	(Total) Measures carried out under CESP	5,918	2.05 / 4.00
14	Percent homes installed with cavity insulation since 2008	11.73%	2.55 / 3.00
15	Percent homes installed with loft insulation since 2008	22.30%	2.85 / 3.00
<u>ENERGY INFRASTRUCTURE</u>			
16	Distributed energy system in place (DH, CHP)?	YES	6.00 / 6.00
17	Has the LA established its own ESCO?	NO	0 / 5.00
18	Installed microgeneration potential per capita	22.56 Watts	0.70 / 2.00
<u>OVERALL INDICATORS</u>			
19	(Domestic) Energy use per capita	6.828 MWh	3.27 / 4.00
20	(Commercial & Industrial) Energy use per unit GVA	0.358 GWh/£1M	0.92 / 2.00
RANKING/ TOTAL POINTS			73.48 / 100
			2nd of 25
			← LOW (RELATIVE PERFORMANCE) HIGH →

Kingston-upon-Hull

The local authority had **high** performance on the following indicators:

- Shows EE progress through annual reporting? (2)
- Operational energy use assessed by third party? (3.1)
- Third party M&V? (3.2)
- Member of LGACL? (5)
- Programme encouraging others to retrofit? (7)
- New build rules beyond Building Regulations? (8)
- Community-wide EE initiatives or programmes? (9)
- Support for community energy programmes? (10)
- CERT measures ÷ total number of homes per LA (12)
- Percent homes w/ cavity insulation since 2008 (14)
- Percent homes w/ loft insulation since 2008 (15)
- Distributed energy system in place (DH, CHP)? (16)

The local authority had **somewhat low** performance on the following indicators:

- Percentage of households in fuel poverty (2011) (11)
- Installed micro-generation potential per capita (18)

The local authority had **low** performance on the following indicators:

- Has the LA applied ISO 50001? (3.3)
- Published renewable energy or electricity target? (4)
- Has the LA established its own ESCO? (17)

Recommended strategies for improvement:

Below are recommended strategies for improvement in key areas for Kingston-upon-Hull, based on performance across the Index's energy indicators. These are high-level suggestions only; local authority personnel will no doubt have considered the issues carefully, and will have the best sense of what is appropriate given their area's specific situation.

High priority:

- Consider the financial and environmental benefits of applying ISO 50001
- Evaluate the potential for and develop local micro-generation, especially on council-owned property
- Where the feasible local micro-generation capacity falls short, purchase low or zero carbon energy
- Learn from existing ESCO success stories (e.g. Blue Sky Peterborough)
- Carry out the feasibility studies to demonstrate the economic and environmental benefits of a council-owned ESCO.

Medium priority:

- Retrofit housing stock within the Council's own portfolio (where this is still under local authority ownership)
- Encourage housing authorities to do the same
- Promote uptake of ECO and ensure that vulnerable residents receive maximum benefit from ECO's Home Heating Cost Reduction Obligation, which targets low income and vulnerable households, making it easier for them to heat their homes
- Educate the public on domestic energy efficiency, renewable energy and available grants and discounts (e.g. hosting fuel poverty surgeries and publications like Liverpool's Fuel Poverty Advice Booklet)
- Promote the installation of micro-generation capacity by:
 - supporting community-led projects (through direct funding or indirect subsidies, advisory services and micro-generation surgeries)
 - fast-tracking planning permission (where required) for installation of capacity
 - partnering with providers of energy from micro-generation (these may be large or small energy companies) to fund the installation of capacity in or on public buildings
 - encouraging the development and maintenance of appropriate infrastructure.

LEEDS		RESULT	POINTS SCORED / POINTS AVAILABLE
<u>ENERGY MANAGEMENT OF OWN BUILDINGS</u>			
1	Published, formally adopted energy use reduction target?	CR target	5.00 / 10.00
2	Shows EE progress through annual reporting?	YES	6.00 / 6.00
3.1	Operational energy use data assessed by a third party?	YES	4.00 / 4.00
3.2	Third party evaluation, measurement and verification?	YES	4.00 / 4.00
3.3	Has the LA applied ISO 50001?	NO	0 / 3.00
4	Published renewable energy or electricity target?	NO	0 / 4.00
5	Member of Local Government Association Climate Local?	NO	0 / 1.00
6	DEC rating(s) of Service Centre(s)	42.2% (< D)	1.27 / 3.00
<u>ENERGY IN THE COMMUNITY</u>			
7	Programme to encourage other building users to retrofit?	YES	8.00 / 8.00
8	Rules for new buildings beyond Building Regulations?	YES	8.00 / 8.00
9	Community-wide EE initiatives or programmes?	YES	6.00 / 6.00
10	Active support for community energy programmes?	YES	6.00 / 6.00
<u>ENERGY IN HOUSING</u>			
11	Percentage of households in fuel poverty (2011)	11.00%	1.82 / 4.00
12	CERT measures + total number of homes per LA	25.39%	2.85 / 4.00
13	(Total) Measures carried out under CESP	1,038	0.36 / 4.00
14	Percent homes installed with cavity insulation since 2008	12.62%	2.74 / 3.00
15	Percent homes installed with loft insulation since 2008	13.06%	1.67 / 3.00
<u>ENERGY INFRASTRUCTURE</u>			
16	Distributed energy system in place (DH, CHP)?	YES	6.00 / 6.00
17	Has the LA established its own ESCO?	NO, but in planning	3.00 / 5.00
18	Installed microgeneration potential per capita	19.36 Watts	0.60 / 2.00
<u>OVERALL INDICATORS</u>			
19	(Domestic) Energy use per capita	7.587 MWh	2.95 / 4.00
20	(Commercial & Industrial) Energy use per unit GVA	0.237 GWh/£1M	1.39 / 2.00
RANKING/ TOTAL POINTS			71.64 / 100
			4th of 25
			← LOW (RELATIVE PERFORMANCE) HIGH →

Leeds

The local authority had *high* performance on the following indicators:

- Shows EE progress through annual reporting? (2)
- Operational energy use assessed by third party? (3.1)
- Third party M&V? (3.2)
- Programme encouraging others to retrofit? (7)
- New build rules beyond Building Regulations? (8)
- Community-wide EE initiatives or programmes? (9)
- Support for community energy programmes? (10)
- Percent homes w/ cavity insulation since 2008 (14)
- Distributed energy system in place (DH, CHP)? (16)
- (Commercial & Industrial) Energy use per unit GVA (20)

The local authority had *somewhat low* performance on the following indicators:

- Percentage of households in fuel poverty (2011) (11)
- Percent homes w/ loft insulation since 2008 (15)

The local authority had *low* performance on the following indicators:

- Has the LA applied ISO 50001? (3.3)
- Published renewable energy or electricity target? (4)
- Member of LGACL? (5)
- (Total) Measures carried out under CESP (13)
- nstalled micro-generation potential per capita (18)
- (Domestic) Energy use per capita (19)

Recommended strategies for improvement:

Below are recommended strategies for improvement in key areas for Leeds, based on performance across the Index's energy indicators. These are high-level suggestions only; local authority personnel will no doubt have considered the issues carefully, and will have the best sense of what is appropriate given their area's specific situation.

High priority:

- Consider the financial and environmental benefits of applying ISO 50001
- Evaluate the potential for and develop local micro-generation, especially on council-owned property
- Where the feasible local micro-generation capacity falls short, purchase low or zero carbon energy
- Stimulate local uptake of ECO and the Green Deal by:
 - partnering with energy companies (for ECO) and Green Deal providers
 - raising public awareness and understanding of these programmes
 - raising public awareness of the environmental, financial and health benefits of a well-insulated, energy-efficient home
- Promote the installation of micro-generation capacity by:
 - supporting community-led projects (through direct funding or indirect subsidies, advisory services and micro-generation surgeries)
 - fast-tracking planning permission (where required) for installation of capacity
 - partnering with providers of energy from micro-generation (these may be large or small energy companies) to fund the installation of capacity in or on public buildings
 - encouraging the development and maintenance of appropriate infrastructure
- Implement and maintain community-wide energy efficiency programmes and initiatives
- Aggressively support local implementation of ECO and Green Deal measures
- Consider the benefits of joining Local Government Association Climate Local.

Medium priority:

- Retrofit housing stock within the Council's own portfolio (where this is still under local authority ownership)
- Encourage housing authorities to do the same
- Promote uptake of ECO and ensure that vulnerable residents receive maximum benefit from ECO's Home Heating Cost Reduction Obligation, which targets low income and vulnerable households, making it easier for them to heat their homes
- Educate the public on domestic energy efficiency, renewable energy and available grants and discounts (e.g. hosting fuel poverty surgeries and publications like Liverpool's Fuel Poverty Advice Booklet).

MANCHESTER		RESULT	POINTS SCORED / POINTS AVAILABLE
<i><u>ENERGY MANAGEMENT OF OWN BUILDINGS</u></i>			
1	Published, formally adopted energy use reduction target?	CR target	5.00 / 10.00
2	Shows EE progress through annual reporting?	YES	6.00 / 6.00
3.1	Operational energy use data assessed by a third party?	YES	4.00 / 4.00
3.2	Third party evaluation, measurement and verification?	NO	0 / 4.00
3.3	Has the LA applied ISO 50001?	NO	0 / 3.00
4	Published renewable energy or electricity target?	NO	0 / 4.00
5	Member of Local Government Association Climate Local?	YES	1.00 / 1.00
6	DEC rating(s) of Service Centre(s)	33.3% (E)	1.00 / 3.00
<i><u>ENERGY IN THE COMMUNITY</u></i>			
7	Programme to encourage other building users to retrofit?	NO	0 / 8.00
8	Rules for new buildings beyond Building Regulations?	YES	8.00 / 8.00
9	Community-wide EE initiatives or programmes?	YES	6.00 / 6.00
10	Active support for community energy programmes?	NO	0 / 6.00
<i><u>ENERGY IN HOUSING</u></i>			
11	Percentage of households in fuel poverty (2011)	13.30%	1.50 / 4.00
12	CERT measures + total number of homes per LA	26.70%	3.00 / 4.00
13	(Total) Measures carried out under CESP	11,540	4.00 / 4.00
14	Percent homes installed with cavity insulation since 2008	11.00%	2.39 / 3.00
15	Percent homes installed with loft insulation since 2008	15.95%	2.04 / 3.00
<i><u>ENERGY INFRASTRUCTURE</u></i>			
16	Distributed energy system in place (DH, CHP)?	YES	6.00 / 6.00
17	Has the LA established its own ESCO?	NO	0 / 5.00
18	Installed microgeneration potential per capita	17.82 Watts	0.55 / 2.00
<i><u>OVERALL INDICATORS</u></i>			
19	(Domestic) Energy use per capita	6.044 MWh	3.70 / 4.00
20	(Commercial & Industrial) Energy use per unit GVA	0.300 GWh/£1M	1.10 / 2.00
RANKING/ TOTAL POINTS			55.28 / 100
			13th of 25
			← LOW (RELATIVE PERFORMANCE) HIGH →

Manchester

The local authority had *high* performance on the following indicators:

- Shows EE progress through annual reporting? (2)
- Operational energy use assessed by a third party? (3.1)
- Member of LGACL? (5)
- New build rules beyond Building Regulations? (8)
- Community-wide EE initiatives or programmes? (9)
- (Total) Measures carried out under CESP (13)
- Percent homes w/ cavity insulation since 2008 (14)
- Distributed energy system in place (DH, CHP)? (16)
- (Domestic) Energy use per capita (19)

The local authority had *low* performance on the following indicators:

- Third party M&V? (3.2)
- Has the LA applied ISO 50001? (3.3)
- Published renewable energy or electricity target (4)
- Programme encouraging others to retrofit? (7)
- Support for community energy programmes? (10)
- Percentage of households in fuel poverty (2011) (11)
- Has the LA established its own ESCO? (17)
- Installed micro-generation potential per capita (18)

Recommended strategies for improvement:

Below are recommended strategies for improvement in key areas for Manchester, based on performance across the Index's energy indicators. These are high-level suggestions only; local authority personnel will no doubt have considered the issues carefully, and will have the best sense of what is appropriate given their area's specific situation.

High priority:

- Enlist a third party to perform ongoing evaluation, measurement and verification of energy efficiency strategy
- Consider the financial and environmental benefits of applying ISO 50001
- Evaluate the potential for and develop local micro-generation, especially on council-owned property
- Where the feasible local micro-generation capacity falls short, purchase low or zero carbon energy
- Provide expertise and resources to engage the domestic and non-domestic building owners around the benefits of energy efficiency retrofits
- Publicise examples of good retrofit practice (e.g. Eco Open Houses) and retrofit success stories
- Partner with energy companies (for ECO) and Green Deal providers
- Raise public awareness and understanding of these programmes
- Raise public awareness of the environmental, financial and health benefits of a well-insulated, energy-efficient home
- Support community-led micro-generation projects (through direct funding or indirect subsidies, advisory services and micro-generation surgeries)
- Fast-track planning permission (where required) for installation of micro-generation capacity
- Retrofit housing stock within the Council's own portfolio (where this is still under local authority ownership)
- Encourage housing authorities to do the same
- Promote uptake of ECO and ensure that vulnerable residents receive maximum benefit from ECO's Home Heating Cost Reduction Obligation, which targets low income and vulnerable households, making it easier for them to heat their homes
- Educate the public on domestic energy efficiency, renewable energy and available grants and discounts (e.g. hosting fuel poverty surgeries and publications like Liverpool's Fuel Poverty Advice Booklet)
- Learn from existing ESCO success stories (e.g. Blue Sky Peterborough)
- Carry out the feasibility studies to demonstrate the economic and environmental benefits of a council-owned ESCO
- Promote the installation of micro-generation capacity by:
 - supporting community-led projects (through direct funding or indirect subsidies, advisory services and micro-generation surgeries)
 - fast-tracking planning permission (where required) for installation of capacity
 - partnering with providers of energy from micro-generation (these may be large or small energy companies) to fund the installation of capacity in or on public buildings
 - encouraging the development and maintenance of appropriate infrastructure

MILTON KEYNES		POINTS SCORED / POINTS AVAILABLE
<u>ENERGY MANAGEMENT OF OWN BUILDINGS</u>		
1	Published, formally adopted energy use reduction target?	Community-wide CR target 4.00 / 10.00
2	Shows EE progress through annual reporting?	YES, internally 4.00 / 6.00
3.1	Operational energy use data assessed by a third party?	YES 4.00 / 4.00
3.2	Third party evaluation, measurement and verification?	YES 4.00 / 4.00
3.3	Has the LA applied ISO 50001?	NO 0.00 / 3.00
4	Published renewable energy or electricity target?	NO 0.00 / 4.00
5	Member of Local Government Association Climate Local?	NO 0.00 / 1.00
6	DEC rating(s) of Service Centre(s)	50% (D) 1.50 / 3.00
<u>ENERGY IN THE COMMUNITY</u>		
7	Programme to encourage other building users to retrofit?	YES 8.00 / 8.00
8	Rules for new buildings beyond Building Regulations?	YES 8.00 / 8.00
9	Community-wide EE initiatives or programmes?	YES 6.00 / 6.00
10	Active support for community energy programmes?	NO 0.00 / 6.00
<u>ENERGY IN HOUSING</u>		
11	Percentage of households in fuel poverty (2011)	5.00% 4.00 / 4.00
12	CERT measures + total number of homes per LA	26.71% 3.00 / 4.00
13	(Total) Measures carried out under CESP	1,274 0.44 / 4.00
14	Percent homes installed with cavity insulation since 2008	10.79% 2.34 / 3.00
15	Percent homes installed with loft insulation since 2008	16.34% 2.09 / 3.00
<u>ENERGY INFRASTRUCTURE</u>		
16	Distributed energy system in place (DH, CHP)?	YES 6 (6) / 6.00
17	Has the LA established its own ESCO?	NO 0.00 / 5.00
18	Installed microgeneration potential per capita	30.30 Watts 0.93 / 2.00
<u>OVERALL INDICATORS</u>		
19	(Domestic) Energy use per capita	6.734 MWh 3.32 / 4.00
20	(Commercial & Industrial) Energy use per unit GVA	0.175 GWh/£1M 1.89 / 2.00
RANKING/ TOTAL POINTS		63.52 / 100
		10th of 25
		← LOW (RELATIVE PERFORMANCE) HIGH →

Milton Keynes

The local authority had *high* performance on the following indicators:

- Operational energy use assessed by third party? (3.1)
- Third party M&V? (3.2)
- DEC rating(s) of Service Centre(s) (6)
- Programme encouraging others to retrofit? (7)
- New build rules beyond Building Regulations? (8)
- Community-wide EE initiatives or programmes? (9)
- Percentage of households in fuel poverty (2011) (11)
- Distributed energy system in place (DH, CHP)? (16)
- (Commercial & Industrial) Energy per unit GVA (20)

The local authority had *somewhat low* performance on the following indicators:

- Published, formally adopted energy target? (1)
- Installed micro-generation potential per capita (18)

The local authority had *low* performance on the following indicators:

- Has the LA applied ISO 50001? (3.3)
- Published renewable energy or electricity target? (4)
- Member of LGACL? (5)
- Support for community energy programmes? (10)
- (Total) Measures carried out under CESP (13)
- Has the LA established its own ESCO? (17)

Recommended strategies for improvement:

Below are recommended strategies for improvement in key areas for Milton Keynes, based on performance across the Index's energy indicators. These are high-level suggestions only; local authority personnel will no doubt have considered the issues carefully, and will have the best sense of what is appropriate given their area's specific situation.

High priority:

- Consider the financial and environmental benefits of applying ISO 50001
- Evaluate the potential for and develop local micro-generation, especially on council-owned property
- Where the feasible local micro-generation capacity falls short, purchase low or zero carbon energy
- Support community-led micro-generation projects (through direct funding or indirect subsidies, advisory services and micro-generation surgeries)
- Fast-track planning permission (where required) for installation of micro-generation capacity
- Stimulate local uptake of ECO and the Green Deal by:
 - partnering with energy companies (for ECO) and Green Deal providers
 - raising public awareness and understanding of these programmes
 - raising public awareness of the environmental, financial and health benefits of a well-insulated, energy-efficient home
- Learn from existing ESCO success stories (e.g. Blue Sky Peterborough)
- Carry out the feasibility studies to demonstrate the economic and environmental benefits of a council-owned ESCO
- Consider the benefits of joining Local Government Association Climate Local.

Medium priority:

- Set an energy use baseline, identifying areas of use for reduction and evaluating the potential for year on year improvement
- Commission a third party audit of operational energy use data
- Commit formally and publicly to an energy use reduction target
- Promote the installation of micro-generation capacity by:
 - partnering with providers of energy from micro-generation (these may be large or small energy companies) to fund the installation of capacity in or on public buildings
 - encouraging the development and maintenance of appropriate infrastructure.

NEWCASTLE-UPON-TYNE		RESULT	POINTS SCORED / POINTS AVAILABLE
ENERGY MANAGEMENT OF OWN BUILDINGS			
1	Published, formally adopted energy use reduction target?	CR target	5.00 / 10.00
2	Shows EE progress through annual reporting?	GHG only	2.00 / 6.00
3.1	Operational energy use data assessed by a third party?	YES	4.00 / 4.00
3.2	Third party evaluation, measurement and verification?	YES	4.00 / 4.00
3.3	Has the LA applied ISO 50001?	Under consideration	1.00 / 3.00
4	Published renewable energy or electricity target?	Procurement policy	3.00 / 4.00
5	Member of Local Government Association Climate Local?	NO	0 / 1.00
6	DEC rating(s) of Service Centre(s)	33.3% (E)	1.00 / 3.00
ENERGY IN THE COMMUNITY			
7	Programme to encourage other building users to retrofit?	YES	8.00 / 8.00
8	Rules for new buildings beyond Building Regulations?	Only for dev. on council property	4.00 / 8.00
9	Community-wide EE initiatives or programmes?	YES	6.00 / 6.00
10	Active support for community energy programmes?	YES	6.00 / 6.00
ENERGY IN HOUSING			
11	Percentage of households in fuel poverty (2011)	12.10%	1.65 / 4.00
12	CERT measures + total number of homes per LA	25.79%	2.90 / 4.00
13	(Total) Measures carried out under CESP	5,280	1.83 / 4.00
14	Percent homes installed with cavity insulation since 2008	11.04%	2.40 / 3.00
15	Percent homes installed with loft insulation since 2008	14.66%	1.88 / 3.00
ENERGY INFRASTRUCTURE			
16	Distributed energy system in place (DH, CHP)?	YES	6.00 / 6.00
17	Has the LA established its own ESCO?	NO	0 / 5.00
18	Installed microgeneration potential per capita	17.71 Watts	0.55 / 2.00
OVERALL INDICATORS			
19	(Domestic) Energy use per capita	7.258 MWh	3.08 / 4.00
20	(Commercial & Industrial) Energy use per unit GVA	0.311 GWh/£1M	1.06 / 2.00
RANKING/ TOTAL POINTS			65.34 / 100
			7th of 25
			← LOW (RELATIVE PERFORMANCE) HIGH →

Newcastle-upon-Tyne

The local authority had *high* performance on the following indicators:

- Operational energy use assessed by third party? (3.1)
- Community-wide EE initiatives or programmes? (9)
- Third party M&V? (3.2)
- Support for community energy programmes? (10)
- Published renewable energy or electricity target? (4)
- Percent homes w/ cavity insulation since 2008 (14)
- Programme encouraging others to retrofit? (7)
- Distributed energy system in place (DH, CHP)? (16)

The local authority had *somewhat low* performance on the following indicators:

- Shows EE progress through annual reporting? (2)
- (Total) Measures carried out under CESP (13)
- Has the LA applied ISO 50001? (3.3)
- (Domestic) Energy use per capita (19)
- Percentage of households in fuel poverty (2011) (11)

The local authority had *low* performance on the following indicators:

- Member of LGACL? (5)
- Installed micro-generation potential per capita (18)
- Has the LA established its own ESCO? (17)

Recommended strategies for improvement:

Below are recommended strategies for improvement in key areas for Newcastle-upon-Tyne, based on performance across the Index's energy indicators. These are high-level suggestions only; local authority personnel will no doubt have considered the issues carefully, and will have the best sense of what is appropriate given their area's specific situation.

High priority:

- Promote the installation of micro-generation capacity by:
 - supporting community-led projects (through direct funding or indirect subsidies, advisory services and micro-generation surgeries)
 - fast-tracking planning permission (where required) for installation of capacity
 - partnering with providers of energy from micro-generation (these may be large or small energy companies) to fund the installation of capacity in or on public buildings
 - encouraging the development and maintenance of appropriate infrastructure
- Learn from existing ESCO success stories (e.g. Blue Sky Peterborough)
- Carry out the feasibility studies to demonstrate the economic and environmental benefits of a council-owned ESCO
- Consider the benefits of joining Local Government Association Climate Local.

Medium priority:

- Establish systems for annual review and publishing of energy use data expressed in energy units
- Consider the financial and environmental benefits of applying ISO 50001
- Retrofit housing stock within the Council's own portfolio (where this is still under local authority ownership)
- Encourage housing authorities to do the same
- Promote uptake of ECO and ensure that vulnerable residents receive maximum benefit from ECO's Home Heating Cost Reduction Obligation, which targets low income and vulnerable households, making it easier for them to heat their homes
- Educate the public on domestic energy efficiency, renewable energy and available grants and discounts (e.g. hosting fuel poverty surgeries and publications like Liverpool's Fuel Poverty Advice Booklet)
- Stimulate local uptake of ECO and the Green Deal by:
 - partnering with energy companies (for ECO) and Green Deal providers
 - raising public awareness and understanding of these programmes
 - raising public awareness of the environmental, financial and health benefits of a well-insulated, energy-efficient home
- Implement and maintain community-wide energy efficiency programmes and initiatives
- Aggressively support local implementation of ECO and Green Deal measures.

PETERBOROUGH		RESULT	POINTS SCORED / POINTS AVAILABLE
<u>ENERGY MANAGEMENT OF OWN BUILDINGS</u>			
1	Published, formally adopted energy use reduction target?	CR target	5.00 / 10.00
2	Shows EE progress through annual reporting?	YES	6.00 / 6.00
3.1	Operational energy use data assessed by a third party?	YES	4.00 / 4.00
3.2	Third party evaluation, measurement and verification?	YES	4.00 / 4.00
3.3	Has the LA applied ISO 50001?	NO	0 / 3.00
4	Published renewable energy or electricity target?	YES	4.00 / 4.00
5	Member of Local Government Association Climate Local?	NO	0 / 1.00
6	DEC rating(s) of Service Centre(s)	33.3% (E)	1.00 / 3.00
<u>ENERGY IN THE COMMUNITY</u>			
7	Programme to encourage other building users to retrofit?	YES	8.00 / 8.00
8	Rules for new buildings beyond Building Regulations?	YES	8.00 / 8.00
9	Community-wide EE initiatives or programmes?	YES	6.00 / 6.00
10	Active support for community energy programmes?	PPP between Council & Npower	1.00 / 6.00
<u>ENERGY IN HOUSING</u>			
11	Percentage of households in fuel poverty (2011)	10.30%	1.94 / 4.00
12	CERT measures + total number of homes per LA	23.63%	2.65 / 4.00
13	(Total) Measures carried out under CESP	703	0.24 / 4.00
14	Percent homes installed with cavity insulation since 2008	7.42%	1.61 / 3.00
15	Percent homes installed with loft insulation since 2008	16.63%	2.13 / 3.00
<u>ENERGY INFRASTRUCTURE</u>			
16	Distributed energy system in place (DH, CHP)?	In development	6 (4) / 6.00
17	Has the LA established its own ESCO?	YES	5.00 / 5.00
18	Installed microgeneration potential per capita	50.39 Watts	1.55 / 2.00
<u>OVERALL INDICATORS</u>			
19	(Domestic) Energy use per capita	6.645 MWh	3.36 / 4.00
20	(Commercial & Industrial) Energy use per unit GVA	0.246 GWh/£1M	1.34 / 2.00
RANKING/ TOTAL POINTS			72.83 / 100
3rd of 25			← LOW (RELATIVE PERFORMANCE) HIGH →

Peterborough

The local authority had **high** performance on the following indicators:

- Shows EE progress through annual reporting? (2)
- Operational energy use assessed by third party? (3.1)
- Third party M&V? (3.2)
- Published renewable energy or electricity target? (4)
- Programme encouraging others to retrofit? (7)
- New build rules beyond Building Regulations? (8)
- Community-wide EE initiatives or programmes? (9)
- Has the LA established its own ESCO? (17)
- Installed micro-generation potential per capita (18)
- (Commercial & Industrial) Energy per unit GVA (20)

The local authority had **somewhat low** performance on the following indicators:

- Percent homes w/ cavity insulation since 2008 (14)

The local authority had **low** performance on the following indicators:

- Has the LA applied ISO 50001? (3.3)
- Member of LGACL? (5)
- Support for community energy programmes? (10)
- (Total) Measures carried out under CESP (13)

Recommended strategies for improvement:

Below are recommended strategies for improvement in key areas for Peterborough, based on performance across the Index's energy indicators. These are high-level suggestions only; local authority personnel will no doubt have considered the issues carefully, and will have the best sense of what is appropriate given their area's specific situation.

High priority:

- Consider the financial and environmental benefits of applying ISO 50001
- Support community-led micro-generation projects (through direct funding or indirect subsidies, advisory services and micro-generation surgeries)
- Fast-track planning permission (where required) for installation of micro-generation capacity
- Stimulate local uptake of ECO and the Green Deal by:
 - partnering with energy companies (for ECO) and Green Deal providers
 - raising public awareness and understanding of these programmes
 - raising public awareness of the environmental, financial and health benefits of a well-insulated, energy-efficient home
- Consider the benefits of joining Local Government Association Climate Local.

PLYMOUTH		RESULT	POINTS SCORED / POINTS AVAILABLE
ENERGY MANAGEMENT OF OWN BUILDINGS			
1	Published, formally adopted energy use reduction target?	CR target w/ EE measures funded	6.00 / 10.00
2	Shows EE progress through annual reporting?	YES, internally	4.00 / 6.00
3.1	Operational energy use data assessed by a third party?	Academic study in 2011	3.00 / 4.00
3.2	Third party evaluation, measurement and verification?	NO	0 / 4.00
3.3	Has the LA applied ISO 50001?	NO	0 / 3.00
4	Published renewable energy or electricity target?	Projected returns from W2E*	2.00 / 4.00
5	Member of Local Government Association Climate Local?	NO	0 / 1.00
6	DEC rating(s) of Service Centre(s)	50% (D)	1.50 / 3.00
ENERGY IN THE COMMUNITY			
7	Programme to encourage other building users to retrofit?	YES	8.00 / 8.00
8	Rules for new buildings beyond Building Regulations?	YES	8.00 / 8.00
9	Community-wide EE initiatives or programmes?	YES	6.00 / 6.00
10	Active support for community energy programmes?	YES	6.00 / 6.00
ENERGY IN HOUSING			
11	Percentage of households in fuel poverty (2011)	10.20%	1.96 / 4.00
12	CERT measures + total number of homes per LA	24.08%	2.71 / 4.00
13	(Total) Measures carried out under CESP	1,193	0.41 / 4.00
14	Percent homes installed with cavity insulation since 2008	8.59%	1.86 / 3.00
15	Percent homes installed with loft insulation since 2008	14.69%	1.88 / 3.00
ENERGY INFRASTRUCTURE			
16	Distributed energy system in place (DH, CHP)?	NO	0 / 6.00
17	Has the LA established its own ESCO?	YES	5.00 / 5.00
18	Installed microgeneration potential per capita	42.77 Watts	1.32 / 2.00
OVERALL INDICATORS			
19	(Domestic) Energy use per capita	5.780 MWh	3.87 / 4.00
20	(Commercial & Industrial) Energy use per unit GVA	0.239 GWh/£1M	1.38 / 2.00
RANKING/ TOTAL POINTS			64.89 / 100
			8th of 25
			← LOW (RELATIVE PERFORMANCE) HIGH →

Plymouth

The local authority had **high** performance on the following indicators:

- Operational energy use assessed by third party? (3.1)
- DEC rating(s) of Service Centre(s) (6)
- Programme encouraging others to retrofit? (7)
- New build rules beyond Building Regulations? (8)
- Community-wide EE initiatives or programmes? (9)
- Support for community energy programmes? (10)
- Has the LA established its own ESCO? (17)
- (Domestic) Energy use per capita (19)
- (Commercial & Industrial) Energy per unit GVA (20)

The local authority had **low** performance on the following indicators:

- Third party M&V? (3.2)
- Has the LA applied ISO 50001? (3.3)
- Member of LGACL? (5)
- (Total) Measures carried out under CESP (13)
- Distributed energy system in place (DH, CHP)? (16)

Recommended strategies for improvement:

Below are recommended strategies for improvement in key areas for Plymouth, based on performance across the Index's energy indicators. These are high-level suggestions only; local authority personnel will no doubt have considered the issues carefully, and will have the best sense of what is appropriate given their area's specific situation.

High priority:

- Enlist a third party to perform ongoing evaluation, measurement and verification of energy efficiency strategy
- Consider the financial and environmental benefits of applying ISO 50001
- Stimulate local uptake of ECO and the Green Deal by:
 - partnering with energy companies (for ECO) and Green Deal providers
 - raising public awareness and understanding of these programmes
 - raising public awareness of the environmental, financial and health benefits of a well-insulated, energy-efficient home
- Carry out the feasibility studies to demonstrate the economic and environmental benefits of district energy and/or medium/ large-scale CHP
- Consider the benefits of joining Local Government Association Climate Local.

<u>RICHMOND-UPON-THAMES</u>		RESULT	POINTS SCORED / POINTS AVAILABLE
<u>ENERGY MANAGEMENT OF OWN BUILDINGS</u>			
1	Published, formally adopted energy use reduction target?	In development	3.00 / 10.00
2	Shows EE progress through annual reporting?	YES	6.00 / 6.00
3.1	Operational energy use data assessed by a third party?	YES	4.00 / 4.00
3.2	Third party evaluation, measurement and verification?	NO	0.00 / 4.00
3.3	Has the LA applied ISO 50001?	NO	0.00 / 3.00
4	Published renewable energy or electricity target?	NO	0.00 / 4.00
5	Member of Local Government Association Climate Local?	NO	0.00 / 1.00
6	DEC rating(s) of Service Centre(s)	0% (G)	0.00 / 3.00
<u>ENERGY IN THE COMMUNITY</u>			
7	Programme to encourage other building users to retrofit?	YES	8.00 / 8.00
8	Rules for new buildings beyond Building Regulations?	YES	8.00 / 8.00
9	Community-wide EE initiatives or programmes?	YES	6.00 / 6.00
10	Active support for community energy programmes?	YES	6.00 / 6.00
<u>ENERGY IN HOUSING</u>			
11	Percentage of households in fuel poverty (2011)	11.10%	1.80 / 4.00
12	CERT measures + total number of homes per LA	7.12%	0.80 / 4.00
13	(Total) Measures carried out under CESP	1,118	0.39 / 4.00
14	Percent homes installed with cavity insulation since 2008	1.95%	0.42 / 3.00
15	Percent homes installed with loft insulation since 2008	4.92%	0.63 / 3.00
<u>ENERGY INFRASTRUCTURE</u>			
16	Distributed energy system in place (DH, CHP)?	NO	0.00 / 6.00
17	Has the LA established its own ESCO?	NO	0.00 / 5.00
18	Installed microgeneration potential per capita	7.98 Watts	0.25 / 2.00
<u>OVERALL INDICATORS</u>			
19	(Domestic) Energy use per capita	8.522 MWh	2.62 / 4.00
20	(Commercial & Industrial) Energy use per unit GVA	0.190 GWh/£1M	1.74 / 2.00
RANKING/ TOTAL POINTS			49.65 / 100
			18th of 25
			← LOW (RELATIVE PERFORMANCE) HIGH →

Richmond-upon-Thames

The local authority had **high** performance on the following indicators:

- Shows EE progress through annual reporting? (2)
- Operational energy use assessed by third party? (3.1)
- Programme encouraging others to retrofit? (7)
- New build rules beyond Building Regulations? (8)
- Community-wide EE initiatives or programmes? (9)
- Support for community energy programmes? (10)
- (Commercial & Industrial) Energy use per unit GVA (20)

The local authority had **somewhat low** performance on the following indicators:

- Published, formally adopted energy target? (1)
- Percentage of households in fuel poverty (2011) (11)

The local authority had **low** performance on the following indicators:

- Third party M&V? (3.2)
- Has the LA applied ISO 50001? (3.3)
- Published renewable energy or electricity target? (4)
- Member of LGACL? (5)
- DEC rating(s) of Service Centre(s) (6)
- CERT measures ÷ total number of homes per LA (12)
- (Total) Measures carried out under CESP (13)
- Percent homes w/ cavity insulation since 2008 (14)
- Percent homes w/ loft insulation since 2008 (15)
- Distributed energy system in place (DH, CHP)? (16)
- Has the LA established its own ESCO? (17)
- Installed micro-generation potential per capita (18)
- (Domestic) Energy use per capita (19)

Recommended strategies for improvement:

Below are recommended strategies for improvement in key areas for Richmond-upon-Thames, based on performance across the Index's energy indicators. These are high-level suggestions only; local authority personnel will no doubt have considered the issues carefully, and will have the best sense of what is appropriate given their area's specific situation.

High priority:

- Enlist a third party to perform ongoing evaluation, measurement and verification of energy efficiency strategy
- Consider the financial and environmental benefits of applying ISO 50001
- Evaluate the potential for and develop local micro-generation, especially on council-owned property
- Where the feasible local micro-generation capacity falls short, purchase low or zero carbon energy
- Consider the benefits of joining Local Government Association Climate Local
- Pursue building stock rationalization strategies to improve efficiency of the authority's real estate portfolio
- Retrofit operational facilities
- Implement energy management systems at relevant facilities and energy efficiency as a procurement criteria
- Run education and behaviour change campaigns among council employees
- Develop micro-generation capacity for Council facilities
- Stimulate local uptake of ECO and the Green Deal by:
 - partnering with energy companies (for ECO) and Green Deal providers
 - raising public awareness and understanding of these programmes
 - raising public awareness of the environmental, financial and health benefits of a well-insulated, energy-efficient home
- Carry out the feasibility studies to demonstrate the economic and environmental benefits of district energy and/or medium/ large-scale CHP
- Learn from existing ESCO success stories (e.g. Blue Sky Peterborough)
- Carry out the feasibility studies to demonstrate the economic and environmental benefits of a council-owned ESCO
- Implement and maintain community-wide energy efficiency programmes and initiatives
- Aggressively support local implementation of ECO and Green Deal measures
- Promote the installation of micro-generation capacity by:
 - supporting community-led projects (through direct funding or indirect subsidies, advisory services and micro-generation surgeries)
 - fast-tracking planning permission (where required) for installation of capacity
 - partnering with providers of energy from micro-generation (these may be large or small energy companies) to fund the installation of capacity in or on public buildings
 - encouraging the development and maintenance of appropriate infrastructure.

Medium priority:

- Set an energy use baseline, identifying areas of use for reduction and evaluating the potential for year on year improvement
- Commission a third party audit of operational energy use data
- Commit formally and publicly to an energy use reduction target
- Retrofit housing stock within the Council's own portfolio (where this is still under local authority ownership)
- Encourage housing authorities to do the same
- Promote uptake of ECO and ensure that vulnerable residents receive maximum benefit from ECO's Home Heating
- Cost Reduction Obligation, which targets low income and vulnerable households, making it easier for them to heat their homes
- Educate the public on domestic energy efficiency, renewable energy and available grants and discounts (e.g. hosting fuel poverty surgeries and publications like Liverpool's Fuel Poverty Advice Booklet).

SOUTHAMPTON		RESULT	POINTS SCORED / POINTS AVAILABLE
<u>ENERGY MANAGEMENT OF OWN BUILDINGS</u>			
1	Published, formally adopted energy use reduction target?	YES	10.0 / 10.00
2	Shows EE progress through annual reporting?	YES	6.00 / 6.00
3.1	Operational energy use data assessed by a third party?	YES	4.00 / 4.00
3.2	Third party evaluation, measurement and verification?	YES	4.00 / 4.00
3.3	Has the LA applied ISO 50001?	NO	0 / 3.00
4	Published renewable energy or electricity target?	NO	0 / 4.00
5	Member of Local Government Association Climate Local?	NO	0 / 1.00
6	DEC rating(s) of Service Centre(s)	16.7% (F)	0.50 / 3.00
<u>ENERGY IN THE COMMUNITY</u>			
7	Programme to encourage other building users to retrofit?	YES	8.00 / 8.00
8	Rules for new buildings beyond Building Regulations?	YES	8.00 / 8.00
9	Community-wide EE initiatives or programmes?	YES	6.00 / 6.00
10	Active support for community energy programmes?	YES	6.00 / 6.00
<u>ENERGY IN HOUSING</u>			
11	Percentage of households in fuel poverty (2011)	9.80%	2.04 / 4.00
12	CERT measures + total number of homes per LA	24.14%	2.71 / 4.00
13	(Total) Measures carried out under CESP	1,858	0.64 / 4.00
14	Percent homes installed with cavity insulation since 2008	11.92%	2.59 / 3.00
15	Percent homes installed with loft insulation since 2008	12.29%	1.57 / 3.00
<u>ENERGY INFRASTRUCTURE</u>			
16	Distributed energy system in place (DH, CHP)?	YES	6.00 / 6.00
17	Has the LA established its own ESCO?	NO	0 / 5.00
18	Installed microgeneration potential per capita	25.36 Watts	0.78 / 2.00
<u>OVERALL INDICATORS</u>			
19	(Domestic) Energy use per capita	5.641 MWh	3.96 / 4.00
20	(Commercial & Industrial) Energy use per unit GVA	0.251 GWh/£1M	1.31 / 2.00
RANKING/ TOTAL POINTS			74.12 / 100
			← LOW (RELATIVE PERFORMANCE) HIGH →

Southampton

The local authority had **high** performance on the following indicators:

- Published, formally adopted energy target? (1)
- Shows EE progress through annual reporting? (2)
- Operational energy use assessed by third party? (3.1)
- Third party M&V? (3.2)
- Programme encouraging others to retrofit? (7)
- New build rules beyond Building Regulations? (8)
- Community-wide EE initiatives or programmes? (9)
- Support for community energy programmes? (10)
- Percent homes w/ cavity insulation since 2008 (14)
- Distributed energy system in place (DH, CHP)? (16)
- (Domestic) Energy use per capita (19)
- (Commercial & Industrial) Energy per unit GVA (20)

The local authority had **somewhat low** performance on the following indicators:

- DEC rating(s) of Service Centre(s) (6)
- Percent homes w/ loft insulation since 2008 (15)
- Installed micro-generation potential per capita (18)

The local authority had **low** performance on the following indicators:

- Has the LA applied ISO 50001? (3.3)
- Published renewable energy or electricity target? (4)
- Member of LGACL? (5)
- (Total) Measures carried out under CESP (13)
- Has the LA established its own ESCO? (17)

Recommended strategies for improvement:

Below are recommended strategies for improvement in key areas for Southampton, based on performance across the Index's energy indicators. These are high-level suggestions only; local authority personnel will no doubt have considered the issues carefully, and will have the best sense of what is appropriate given their area's specific situation.

High priority:

- Consider the financial and environmental benefits of applying ISO 50001
- Evaluate the potential for and develop local micro-generation, especially on council-owned property
- Where the feasible local micro-generation capacity falls short, purchase low or zero carbon energy
- Stimulate local uptake of ECO and the Green Deal by:
 - partnering with energy companies (for ECO) and Green Deal providers
 - raising public awareness and understanding of these programmes
 - raising public awareness of the environmental, financial and health benefits of a well-insulated, energy-efficient home
- Learn from existing ESCO success stories (e.g. Blue Sky Peterborough)
- Carry out the feasibility studies to demonstrate the economic and environmental benefits of a council-owned ESCO
- Consider the benefits of joining Local Government Association Climate Local.

Medium priority:

- Pursue building stock rationalization strategies to improve efficiency of the authority's real estate portfolio
- Retrofit operational facilities
- Implement energy management systems at relevant facilities and energy efficiency as a procurement criteria
- Run education and behaviour change campaigns among council employees
- Develop micro-generation capacity for Council facilities
- Promote the installation of micro-generation capacity by:
 - supporting community-led projects (through direct funding or indirect subsidies, advisory services and micro-generation surgeries)
 - fast-tracking planning permission (where required) for installation of capacity
 - partnering with providers of energy from micro-generation (these may be large or small energy companies) to fund the installation of capacity in or on public buildings
 - encouraging the development and maintenance of appropriate infrastructure.

STOCKTON-ON-TEES		RESULT	POINTS SCORED / POINTS AVAILABLE
<u>ENERGY MANAGEMENT OF OWN BUILDINGS</u>			
1	Published, formally adopted energy use reduction target?	CR target	5.00 / 10.00
2	Shows EE progress through annual reporting?	YES	6.00 / 6.00
3.1	Operational energy use data assessed by a third party?	NO	0 / 4.00
3.2	Third party evaluation, measurement and verification?	NO	0 / 4.00
3.3	Has the LA applied ISO 50001?	NO	0 / 3.00
4	Published renewable energy or electricity target?	YES	4.00 / 4.00
5	Member of Local Government Association Climate Local?	NO	0 / 1.00
6	DEC rating(s) of Service Centre(s)	33.3% (E)	1.00 / 3.00
<u>ENERGY IN THE COMMUNITY</u>			
7	Programme to encourage other building users to retrofit?	NO	0 / 8.00
8	Rules for new buildings beyond Building Regulations?	YES	8.00 / 8.00
9	Community-wide EE initiatives or programmes?	NO, or very little	0 / 6.00
10	Active support for community energy programmes?	NO, but has been previously	3.00 / 6.00
<u>ENERGY IN HOUSING</u>			
11	Percentage of households in fuel poverty (2011)	11.80%	1.69 / 4.00
12	CERT measures + total number of homes per LA	27.40%	3.08 / 4.00
13	(Total) Measures carried out under CESP	3,600	1.25 / 4.00
14	Percent homes installed with cavity insulation since 2008	10.77%	2.34 / 3.00
15	Percent homes installed with loft insulation since 2008	16.69%	2.14 / 3.00
<u>ENERGY INFRASTRUCTURE</u>			
16	Distributed energy system in place (DH, CHP)?	NO	6 (0) / 6.00
17	Has the LA established its own ESCO?	NO	0 / 5.00
18	Installed microgeneration potential per capita	32.27 Watts	1.00 / 2.00
<u>OVERALL INDICATORS</u>			
19	(Domestic) Energy use per capita	7.504 MWh	2.98 / 4.00
20	(Commercial & Industrial) Energy use per unit GVA	0.497 GWh/£1M	0.66 / 2.00
RANKING/ TOTAL POINTS			48.13 / 100
			19th of 25
			← LOW (RELATIVE PERFORMANCE) HIGH →

Stockton-on-Tees

The local authority had **high** performance on the following indicators:

- Shows EE progress through annual reporting? (2)
- Published renewable energy or electricity target? (4)
- New build rules beyond Building Regulations? (8)

The local authority had **somewhat low** performance on the following indicators:

- Percentage of households in fuel poverty (2011) (11)
- (Total) Measures carried out under CESP (13)
- Installed micro-generation potential per capita (18)
- (Domestic) Energy use per capita (19)

The local authority had **low** performance on the following indicators:

- Operational energy use assessed by third party? (3.1)
- Third party M&V? (3.2)
- Has the LA applied ISO 50001? (3.3)
- Member of LGACL? (5)
- Programme encouraging others to retrofit? (7)
- Community-wide EE initiatives or programmes? (9)
- Has the LA established its own ESCO? (17)
- (Commercial & Industrial) Energy per unit GVA (20)

Recommended strategies for improvement:

Below are recommended strategies for improvement in key areas for Stockton-on-Tees, based on performance across the Index's energy indicators. These are high-level suggestions only; local authority personnel will no doubt have considered the issues carefully, and will have the best sense of what is appropriate given their area's specific situation.

High priority:

- Commission a third party audit of operational energy use data
- Enlist a third party to perform ongoing evaluation, measurement and verification of energy efficiency strategy
- Consider the financial and environmental benefits of applying ISO 50001
- Provide expertise and resources to engage the domestic and non-domestic building owners around the benefits of energy efficiency retrofits
- Publicise examples of good retrofit practice (e.g. Eco Open Houses) and retrofit success stories
- Partner with energy companies (for ECO) and Green Deal providers
- Raise public awareness and understanding of these programmes
- Raise public awareness of the environmental, financial and health benefits of a well-insulated, energy-efficient home
- Explore sources of funding for programmes targeting the wider community (domestic and non-domestic)
- Invest in resource-light initiatives such as advisory services or awareness campaigns
- Learn from existing ESCO success stories (e.g. Blue Sky Peterborough)
- Carry out the feasibility studies to demonstrate the economic and environmental benefits of a council-owned ESCO
- Encourage businesses with appropriate facilities and scale to develop their own CHP installations
- Encourage manufacturing centres to act as heat and energy hubs for the local area
- Encourage systemic solutions such as using waste heat from industrial processes or waste to energy installations in district heat networks serving the private and/or public sector
- In districts where the economy is already energy-lean (e.g. urban areas dominated by service and financial sector businesses) foster office operational energy efficiency through:
 - LED lighting
 - lighting controls
 - improved heating controls
 - voltage optimisation
- Consider the benefits of joining Local Government Association Climate Local.

Medium priority:

- Retrofit housing stock within the Council's own portfolio (where this is still under local authority ownership)
- Encourage housing authorities to do the same
- Promote uptake of ECO and ensure that vulnerable residents receive maximum benefit from ECO's Home Heating Cost Reduction Obligation, which targets low income and vulnerable households, making it easier for them to heat their homes
- Educate the public on domestic energy efficiency, renewable energy and available grants and discounts (e.g. hosting fuel poverty surgeries and publications like Liverpool's Fuel Poverty Advice Booklet)
- Stimulate local uptake of ECO and the Green Deal by:
 - raising public awareness and understanding of these programmes
 - raising public awareness of the environmental, financial and health benefits of a well-insulated, energy-efficient home
- Promote the installation of micro-generation capacity by:
 - supporting community-led projects (through direct funding or indirect subsidies, advisory services and micro-generation surgeries)
 - fast-tracking planning permission (where required) for installation of capacity
 - partnering with providers of energy from micro-generation (these may be large or small energy companies) to fund the installation of capacity in or on public buildings
 - encouraging the development and maintenance of appropriate infrastructure
- Implement and maintain community-wide energy efficiency programmes and initiatives
- Aggressively support local implementation of ECO and Green Deal measures.

SUNDERLAND		RESULT	POINTS SCORED / POINTS AVAILABLE
<u>ENERGY MANAGEMENT OF OWN BUILDINGS</u>			
1	Published, formally adopted energy use reduction target?	YES	10.0 / 10.00
2	Shows EE progress through annual reporting?	YES	6.00 / 6.00
3.1	Operational energy use data assessed by a third party?	NO	0.00 / 4.00
3.2	Third party evaluation, measurement and verification?	NO	0.00 / 4.00
3.3	Has the LA applied ISO 50001?	NO	0.00 / 3.00
4	Published renewable energy or electricity target?	NO, but previously a wind target	2.00 / 4.00
5	Member of Local Government Association Climate Local?	NO	0.00 / 1.00
6	DEC rating(s) of Service Centre(s)	33.3% (E)	1.00 / 3.00
<u>ENERGY IN THE COMMUNITY</u>			
7	Programme to encourage other building users to retrofit?	NO	0.00 / 8.00
8	Rules for new buildings beyond Building Regulations?	NO	0.00 / 8.00
9	Community-wide EE initiatives or programmes?	YES	6.00 / 6.00
10	Active support for community energy programmes?	Best practice sharing w/ housing auth.	4.00 / 6.00
<u>ENERGY IN HOUSING</u>			
11	Percentage of households in fuel poverty (2011)	11.90%	1.68 / 4.00
12	CERT measures + total number of homes per LA	28.27%	3.18 / 4.00
13	(Total) Measures carried out under CESP	3,544	1.23 / 4.00
14	Percent homes installed with cavity insulation since 2008	11.26%	2.45 / 3.00
15	Percent homes installed with loft insulation since 2008	16.94%	2.17 / 3.00
<u>ENERGY INFRASTRUCTURE</u>			
16	Distributed energy system in place (DH, CHP)?	Small scale CHP	3.00 / 6.00
17	Has the LA established its own ESCO?	NO	0.00 / 5.00
18	Installed microgeneration potential per capita	41.31 Watts	1.27 / 2.00
<u>OVERALL INDICATORS</u>			
19	(Domestic) Energy use per capita	7.878 MWh	2.84 / 4.00
20	(Commercial & Industrial) Energy use per unit GVA	0.339 GWh/£1M	0.97 / 2.00
RANKING/ TOTAL POINTS			47.78 / 100
			20th of 25
			← LOW (RELATIVE PERFORMANCE) HIGH →

Sunderland

The local authority had *high* performance on the following indicators:

- Published, formally adopted energy target? (1)
- Shows EE progress through annual reporting? (2)
- Community-wide EE initiatives or programmes? (9)
- Percent homes w/ cavity insulation since 2008 (14)

The local authority had *somewhat low* performance on the following indicators:

- Percentage of households in fuel poverty (2011) (11)
- (Total) Measures carried out under CESP (13)

The local authority had *low* performance on the following indicators:

- Operational energy use assessed by third party? (3.1)
- Third party M&V? (3.2)
- Has the LA applied ISO 50001? (3.3)
- Member of LGACL? (5)
- Programme encouraging others to retrofit? (7)
- New build rules beyond Building Regulations? (8)
- Has the LA established its own ESCO? (17)
- (Domestic) Energy use per capita (19)

Recommended strategies for improvement:

Below are recommended strategies for improvement in key areas for Sunderland, based on performance across the Index's energy indicators. These are high-level suggestions only; local authority personnel will no doubt have considered the issues carefully, and will have the best sense of what is appropriate given their area's specific situation.

High priority:

- Commission a third party audit of operational energy use data
- Enlist a third party to perform ongoing evaluation, measurement and verification of energy efficiency strategy
- Consider the financial and environmental benefits of applying ISO 50001
- Provide expertise and resources to engage the domestic and non-domestic building owners around the benefits of energy efficiency retrofits
- Publicise examples of good retrofit practice (e.g. Eco Open Houses) and retrofit success stories
- Partner with energy companies (for ECO) and Green Deal providers
- Raise public awareness and understanding of these programmes
- Raise public awareness of the environmental, financial and health benefits of a well-insulated, energy-efficient home
- Implement stringent planning rules for new commercial buildings and all development on council-owned property as part of the Core Strategy
- Learn from existing ESCO success stories (e.g. Blue Sky Peterborough)
- Carry out the feasibility studies to demonstrate the economic and environmental benefits of a council-owned ESCO
- Implement and maintain community-wide energy efficiency programmes and initiatives
- Aggressively support local implementation of ECO and Green Deal measures
- Consider the benefits of joining Local Government Association Climate Local.

Medium priority:

- Retrofit housing stock within the Council's own portfolio (where this is still under local authority ownership)
- Encourage housing authorities to do the same
- Promote uptake of ECO and ensure that vulnerable residents receive maximum benefit from ECO's Home Heating Cost Reduction Obligation, which targets low income and vulnerable households, making it easier for them to heat their homes
- Educate the public on domestic energy efficiency, renewable energy and available grants and discounts (e.g. hosting fuel poverty surgeries and publications like Liverpool's Fuel Poverty Advice Booklet)
- Stimulate local uptake of ECO and the Green Deal by:
 - partnering with energy companies (for ECO) and Green Deal providers
 - raising public awareness and understanding of these programmes
 - raising public awareness of the environmental, financial and health benefits of a well-insulated, energy-efficient home.

SWINDON		POINTS SCORED / POINTS AVAILABLE
<u>ENERGY MANAGEMENT OF OWN BUILDINGS</u>		
1	Published, formally adopted energy use reduction target?	NO / 10.00
2	Shows EE progress through annual reporting?	NO / 6.00
3.1	Operational energy use data assessed by a third party?	NO / 4.00
3.2	Third party evaluation, measurement and verification?	NO / 4.00
3.3	Has the LA applied ISO 50001?	NO / 3.00
4	Published renewable energy or electricity target?	NO / 4.00
5	Member of Local Government Association Climate Local?	NO / 1.00
6	DEC rating(s) of Service Centre(s)	1.50 / 3.00
<u>ENERGY IN THE COMMUNITY</u>		
7	Programme to encourage other building users to retrofit?	NO / 8.00
8	Rules for new buildings beyond Building Regulations?	YES / 8.00
9	Community-wide EE initiatives or programmes?	YES / 6.00
10	Active support for community energy programmes?	NO / 6.00
<u>ENERGY IN HOUSING</u>		
11	Percentage of households in fuel poverty (2011)	7.40% / 4.00
12	CERT measures + total number of homes per LA	21.20% / 4.00
13	(Total) Measures carried out under CESP	319 / 4.00
14	Percent homes installed with cavity insulation since 2008	9.11% / 3.00
15	Percent homes installed with loft insulation since 2008	11.94% / 3.00
<u>ENERGY INFRASTRUCTURE</u>		
16	Distributed energy system in place (DH, CHP)?	NO / 6.00
17	Has the LA established its own ESCO?	NO / 5.00
18	Installed microgeneration potential per capita	57.69 Watts / 2.00
<u>OVERALL INDICATORS</u>		
19	(Domestic) Energy use per capita	6.688 MWh / 4.00
20	(Commercial & Industrial) Energy use per unit GVA	0.227 GWh/£1M / 2.00
RANKING/ TOTAL POINTS		36.78 / 100
		25th of 25

← LOW (RELATIVE PERFORMANCE) HIGH →

Swindon

The local authority had *high* performance on the following indicators:

- DEC rating(s) of Service Centre(s) (6)
- Percentage of households in fuel poverty (2011) (11)
- New build rules beyond Building Regulations? (8)
- Installed micro-generation potential per capita (18)
- Community-wide EE initiatives or programmes? (9)
- (Commercial & Industrial) Energy use per unit GVA (20)

The local authority had *somewhat low* performance on the following indicators:

- CERT measures ÷ total number of homes per LA (12)
- Percent homes w/ loft insulation since 2008 (15)

The local authority had *low* performance on the following indicators:

- Published, formally adopted energy target? (1)
- Shows EE progress through annual reporting? (2)
- Operational energy use assessed by third party? (3.1)
- Third party M&V? (3.2)
- Has the LA applied ISO 50001? (3.3)
- Published renewable energy or electricity target? (4)
- Programme encouraging others to retrofit? (7)
- Member of LGACL? (5)
- Support for community energy programmes? (10)
- (Total) Measures carried out under CESP (13)
- Has the LA established its own ESCO? (17)

Recommended strategies for improvement:

Below are recommended strategies for improvement in key areas for Swindon, based on performance across the Index's energy indicators. These are high-level suggestions only; local authority personnel will no doubt have considered the issues carefully, and will have the best sense of what is appropriate given their area's specific situation.

High priority:

- Set an energy use baseline, identifying areas of use for reduction and evaluating the potential for year on year improvement
- Commission a third party audit of operational energy use data
- Commit formally and publicly to an energy use reduction target
- Establish systems for annual review and publishing of energy use data expressed in energy units
- Enlist a third party to perform ongoing evaluation, measurement and verification of energy efficiency strategy
- Consider the financial and environmental benefits of applying ISO 50001
- Evaluate the potential for and develop local micro-generation, especially on council-owned property
- Where the feasible local micro-generation capacity falls short, purchase low or zero carbon energy
- Provide expertise and resources to engage the domestic and non-domestic building owners around the benefits of energy efficiency retrofits
- Publicise examples of good retrofit practice (e.g. Eco Open Houses) and retrofit success stories
- Partner with energy companies (for ECO) and Green Deal providers
- Raise public awareness and understanding of these programmes
- Raise public awareness of the environmental, financial and health benefits of a well-insulated, energy-efficient home
- Support community-led micro-generation projects (through direct funding or indirect subsidies, advisory services and micro-generation surgeries)
- Fast-track planning permission (where required) for installation of micro-generation capacity
- Stimulate local uptake of ECO and the Green Deal by:
 - partnering with energy companies (for ECO) and Green Deal providers
 - raising public awareness and understanding of these programmes
 - raising public awareness of the environmental, financial and health benefits of a well-insulated, energy-efficient home
- Learn from existing ESCO success stories (e.g. Blue Sky Peterborough)
- Carry out the feasibility studies to demonstrate the economic and environmental benefits of a council-owned ESCO
- Consider the benefits of joining Local Government Association Climate Local.

TELFORD & WREKIN

ENERGY MANAGEMENT OF OWN BUILDINGS

	RESULT	POINTS SCORED / POINTS AVAILABLE
1	Published, formally adopted energy use reduction target?	7.00 / 10.00
2	Shows EE progress through annual reporting?	6.00 / 6.00
3.1	Operational energy use data assessed by a third party?	0 / 4.00
3.2	Third party evaluation, measurement and verification?	0 / 4.00
3.3	Has the LA applied ISO 50001?	0 / 3.00
4	Published renewable energy or electricity target?	0 / 4.00
5	Member of Local Government Association Climate Local?	0 / 1.00
6	DEC rating(s) of Service Centre(s)	1.83 / 3.00

ENERGY IN THE COMMUNITY

7	Programme to encourage other building users to retrofit?	8.00 / 8.00
8	Rules for new buildings beyond Building Regulations?	0 / 8.00
9	Community-wide EE initiatives or programmes?	6.00 / 6.00
10	Active support for community energy programmes?	0.00 / 6.00

ENERGY IN HOUSING

11	Percentage of households in fuel poverty (2011)	1.90 / 4.00
12	CERT measures + total number of homes per LA	2.61 / 4.00
13	(Total) Measures carried out under CESP	0.06 / 4.00
14	Percent homes installed with cavity insulation since 2008	2.13 / 3.00
15	Percent homes installed with loft insulation since 2008	1.73 / 3.00

ENERGY INFRASTRUCTURE

16	Distributed energy system in place (DH, CHP)?	6 (4) / 6.00
17	Has the LA established its own ESCO?	1.00 / 5.00
18	Installed microgeneration potential per capita	1.18 / 2.00

OVERALL INDICATORS

19	(Domestic) Energy use per capita	3.35 / 4.00
20	(Commercial & Industrial) Energy use per unit GVA	0.98 / 2.00

RANKING/ TOTAL POINTS 49.77 / 100

17th of 25

← LOW (RELATIVE PERFORMANCE) HIGH →

Telford and Wrekin

The local authority had **high** performance on the following indicators:

- Shows EE progress through annual reporting? (2)
- Programme encouraging others to retrofit? (7)
- DEC rating(s) of Service Centre(s) (6)
- Community-wide EE initiatives or programmes? (9)

The local authority had **somewhat low** performance on the following indicators:

- Percentage of households in fuel poverty (2011) (11)
- Percent homes w/ loft insulation since 2008 (15)

The local authority had **low** performance on the following indicators:

- Operational energy use assessed by third party? (3.1)
- New build rules beyond Building Regulations? (8)
- Third party M&V? (3.2)
- Support for community energy programmes? (10)
- Has the LA applied ISO 50001? (3.3)
- (Total) Measures carried out under CESP (13)
- Published renewable energy or electricity target? (4)
- Has the LA established its own ESCO? (17)
- Member of LGACL? (5)

Recommended strategies for improvement:

Below are recommended strategies for improvement in key areas for Telford and Wrekin, based on performance across the Index's energy indicators. These are high-level suggestions only; local authority personnel will no doubt have considered the issues carefully, and will have the best sense of what is appropriate given their area's specific situation.

High priority:

- Commission a third party audit of operational energy use data
- Enlist a third party to perform ongoing evaluation, measurement and verification of energy efficiency strategy
- Consider the financial and environmental benefits of applying ISO 50001
- Evaluate the potential for and develop local micro-generation, especially on council-owned property
- Where the feasible local micro-generation capacity falls short, purchase low or zero carbon energy
- Implement stringent planning rules for new commercial buildings and all development on council-owned property as part of the Core Strategy
- Support community-ed micro-generation projects (through direct funding or indirect subsidies, advisory services and micro-generation surgeries)
- Fast-track planning permission (where required) for installation of micro-generation capacity
- Stimulate local uptake of ECO and the Green Deal by:
 - partnering with energy companies (for ECO) and Green Deal providers
 - raising public awareness and understanding of these programmes
 - raising public awareness of the environmental, financial and health benefits of a well-insulated, energy-efficient home
- Learn from existing ESCO success stories (e.g. Blue Sky Peterborough)
- Carry out the feasibility studies to demonstrate the economic and environmental benefits of a council-owned ESCO
- Consider the benefits of joining Local Government Association Climate Local.

Medium priority:

- Retrofit housing stock within the Council's own portfolio (where this is still under local authority ownership)
- Encourage housing authorities to do the same
- Promote uptake of ECO and ensure that vulnerable residents receive maximum benefit from ECO's Home Heating Cost Reduction Obligation, which targets low income and vulnerable households, making it easier for them to heat their homes
- Educate the public on domestic energy efficiency, renewable energy and available grants and discounts (e.g. hosting fuel poverty surgeries and publications like Liverpool's Fuel Poverty Advice Booklet).

THURROCK

ENERGY MANAGEMENT OF OWN BUILDINGS

	RESULT	POINTS SCORED / POINTS AVAILABLE
1	Published, formally adopted energy use reduction target?	NO, but have an internal CR target 3.00 / 10.00
2	Shows EE progress through annual reporting?	NO 0 / 6.00
3.1	Operational energy use data assessed by a third party?	NO 0 / 4.00
3.2	Third party evaluation, measurement and verification?	NO 0 / 4.00
3.3	Has the LA applied ISO 50001?	NO 0 / 3.00
4	Published renewable energy or electricity target?	Procurement policy 3.00 / 4.00
5	Member of Local Government Association Climate Local?	YES 1.00 / 1.00
6	DEC rating(s) of Service Centre(s)	33.3% (E) 1.00 / 3.00

ENERGY IN THE COMMUNITY

7	Programme to encourage other building users to retrofit?	YES 8.00 / 8.00
8	Rules for new buildings beyond Building Regulations?	YES 8.00 / 8.00
9	Community-wide EE initiatives or programmes?	YES 6.00 / 6.00
10	Active support for community energy programmes?	NO 0 / 6.00

ENERGY IN HOUSING

11	Percentage of households in fuel poverty (2011)	8.20% 2.44 / 4.00
12	CERT measures + total number of homes per LA	17.24% 1.94 / 4.00
13	(Total) Measures carried out under CESP	0 0 / 4.00
14	Percent homes installed with cavity insulation since 2008	7.75% 1.68 / 3.00
15	Percent homes installed with loft insulation since 2008	9.57% 1.22 / 3.00

ENERGY INFRASTRUCTURE

16	Distributed energy system in place (DH, CHP)?	Small scale CHP 6 (3) / 6.00
17	Has the LA established its own ESCO?	NO 0 / 5.00
18	Installed microgeneration potential per capita	13.40 Watts 0.41 / 2.00

OVERALL INDICATORS

19	(Domestic) Energy use per capita	6.413 MWh 3.49 / 4.00
20	(Commercial & Industrial) Energy use per unit GVA	0.605 GWh/£1M 0.54 / 2.00

RANKING/ TOTAL POINTS	21st of 25	47.73 / 100
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← LOW (RELATIVE PERFORMANCE) HIGH →

Thurrock

The local authority had **high** performance on the following indicators:

- Published renewable energy or electricity target? (4)
- Member of LGACL? (5)
- Programme encouraging others to retrofit? (7)
- New build rules beyond Building Regulations? (8)
- Community-wide EE initiatives or programmes? (9)

The local authority had **somewhat low** performance on the following indicators:

- Published, formally adopted energy target? (1)
- CERT measures ÷ total number of homes per LA (12)
- Percent homes w/ cavity insulation since 2008 (14)
- Percent homes w/ loft insulation since 2008 (15)

The local authority had **low** performance on the following indicators:

- Shows EE progress through annual reporting? (2)
- Operational energy use assessed by third party? (3.1)
- Third party M&V? (3.2)
- Has the LA applied ISO 50001? (3.3)
- Support for community energy programmes? (10)
- (Total) Measures carried out under CESP (13)
- Has the LA established its own ESCO? (17)
- Installed micro-generation potential per capita (18)
- (Commercial & Industrial) Energy per unit GVA (20)

Recommended strategies for improvement:

Below are recommended strategies for improvement in key areas for Thurrock, based on performance across the Index's energy indicators. These are high-level suggestions only; local authority personnel will no doubt have considered the issues carefully, and will have the best sense of what is appropriate given their area's specific situation.

High priority:

- Establish systems for annual review and publishing of energy use data expressed in energy units
- Commission a third party audit of operational energy use data
- Enlist a third party to perform ongoing evaluation, measurement and verification of energy efficiency strategy
- Consider the financial and environmental benefits of applying ISO 50001
- Support community-led micro-generation projects (through direct funding or indirect subsidies, advisory services and micro-generation surgeries)
- Fast-track planning permission (where required) for installation of micro-generation capacity
- Stimulate local uptake of ECO and the Green Deal by:
 - partnering with energy companies (for ECO) and Green Deal providers
 - raising public awareness and understanding of these programmes
 - raising public awareness of the environmental, financial and health benefits of a well-insulated, energy-efficient home
- Learn from existing ESCO success stories (e.g. Blue Sky Peterborough)
- Carry out the feasibility studies to demonstrate the economic and environmental benefits of a council-owned ESCO
- Promote the installation of micro-generation capacity by:
 - supporting community-led projects (through direct funding or indirect subsidies, advisory services and micro-generation surgeries)
 - fast-tracking planning permission (where required) for installation of capacity
 - partnering with providers of energy from micro-generation (these may be large or small energy companies) to fund the installation of capacity in or on public buildings
 - encouraging the development and maintenance of appropriate infrastructure
- Encourage manufacturing centres to act as heat and energy hubs for the local area
- Encourage systemic solutions such as using waste heat from industrial processes or waste to energy installations in district heat networks serving the private and/or public sector
- In districts where the economy is already energy-lean (e.g. urban areas dominated by service and financial sector businesses) foster office operational energy efficiency through:
 - LED lighting
 - lighting controls
 - improved heating controls
 - voltage optimisation.

Medium priority:

- Set an energy use baseline, identifying areas of use for reduction and evaluating the potential for year on year improvement
- Commit formally and publicly to an energy use reduction target.

WIRRAL		RESULT	POINTS SCORED / POINTS AVAILABLE
<u>ENERGY MANAGEMENT OF OWN BUILDINGS</u>			
1	Published, formally adopted energy use reduction target?	CR target	5.00 / 10.00
2	Shows EE progress through annual reporting?	YES, electricity + CO2e* per fuel	5.00 / 6.00
3.1	Operational energy use data assessed by a third party?	NO	0 / 4.00
3.2	Third party evaluation, measurement and verification?	NO	0 / 4.00
3.3	Has the LA applied ISO 50001?	NO	0 / 3.00
4	Published renewable energy or electricity target?	NO	0 / 4.00
5	Member of Local Government Association Climate Local?	YES	1.00 / 1.00
6	DEC rating(s) of Service Centre(s)	45.8% (< D)	1.38 / 3.00
<u>ENERGY IN THE COMMUNITY</u>			
7	Programme to encourage other building users to retrofit?	YES	8.00 / 8.00
8	Rules for new buildings beyond Building Regulations?	NO	0 / 8.00
9	Community-wide EE initiatives or programmes?	YES, in past, now only online advice	4.00 / 6.00
10	Active support for community energy programmes?	NO	0.00 / 6.00
<u>ENERGY IN HOUSING</u>			
11	Percentage of households in fuel poverty (2011)	13.50%	1.48 / 4.00
12	CERT measures + total number of homes per LA	35.60%	4.00 / 4.00
13	(Total) Measures carried out under CESP	2,184	0.76 / 4.00
14	Percent homes installed with cavity insulation since 2008	12.04%	2.61 / 3.00
15	Percent homes installed with loft insulation since 2008	23.44%	3.00 / 3.00
<u>ENERGY INFRASTRUCTURE</u>			
16	Distributed energy system in place (DH, CHP)?	In development (at a hospital)	6 (2) / 6.00
17	Has the LA established its own ESCO?	NO	0 / 5.00
18	Installed microgeneration potential per capita	16.18 Watts	0.50 / 2.00
<u>OVERALL INDICATORS</u>			
19	(Domestic) Energy use per capita	7.819 MWh	2.86 / 4.00
20	(Commercial & Industrial) Energy use per unit GVA	0.385 GWh/£1M	0.86 / 2.00
RANKING/ TOTAL POINTS			46.44 / 100
			22nd of 25
			← LOW (RELATIVE PERFORMANCE) HIGH →

Wirral

The local authority had *high* performance on the following indicators:

- Shows EE progress through annual reporting? (2)
- Member of LGACL? (5)
- Programme encouraging others to retrofit? (7)
- CERT measures ÷ total number of homes per LA (12)
- Percent homes w/ cavity insulation since 2008 (14)
- Percent homes w/ loft insulation since 2008 (15)

The local authority had *low* performance on the following indicators:

- Operational energy use assessed by third party? (3.1)
- Third party M&V? (3.2)
- Has the LA applied ISO 50001? (3.3)
- Published renewable energy or electricity target? (4)
- New build rules beyond Building Regulations? (8)
- Percentage of households in fuel poverty (2011) (11)
- (Total) Measures carried out under CESP (13)
- Has the LA established its own ESCO? (17)
- Installed micro-generation potential per capita (18)
- (Domestic) Energy use per capita (19)
- Support for community energy programmes? (10)

Recommended strategies for improvement:

Below are recommended strategies for improvement in key areas for Wirral, based on performance across the Index's energy indicators. These are high-level suggestions only; local authority personnel will no doubt have considered the issues carefully, and will have the best sense of what is appropriate given their area's specific situation.

High priority:

- Commission a third party audit of operational energy use data
- Enlist a third party to perform ongoing evaluation, measurement and verification of energy efficiency strategy
- Consider the financial and environmental benefits of applying ISO 50001
- Evaluate the potential for and develop local micro-generation, especially on council-owned property
- Where the feasible local micro-generation capacity falls short, purchase low or zero carbon energy
- Implement stringent planning rules for new commercial buildings and all development on council-owned property as part of the Core Strategy
- Support community-led micro-generation projects (through direct funding or indirect subsidies, advisory services and micro-generation surgeries)
- Fast-track planning permission (where required) for installation of micro-generation capacity
- Retrofit housing stock within the Council's own portfolio (where this is still under local authority ownership)
- Encourage housing authorities to do the same
- Promote uptake of ECO and ensure that vulnerable residents receive maximum benefit from ECO's Home Heating Cost Reduction Obligation, which targets low income and vulnerable households, making it easier for them to heat their homes
- Educate the public on domestic energy efficiency, renewable energy and available grants and discounts (e.g. hosting fuel poverty surgeries and publications like Liverpool's Fuel Poverty Advice Booklet)
- Stimulate local uptake of ECO and the Green Deal by:
 - partnering with energy companies (for ECO) and Green Deal providers
 - raising public awareness and understanding of these programmes
 - raising public awareness of the environmental, financial and health benefits of a well-insulated, energy-efficient home
- Learn from existing ESCO success stories (e.g. Blue Sky Peterborough)
- Carry out the feasibility studies to demonstrate the economic and environmental benefits of a council-owned ESCO
- Promote the installation of micro-generation capacity by:
 - supporting community-led projects (through direct funding or indirect subsidies, advisory services and micro-generation surgeries)
 - fast-tracking planning permission (where required) for installation of capacity
 - partnering with providers of energy from micro-generation (these may be large or small energy companies) to fund the installation of capacity in or on public buildings
 - encouraging the development and maintenance of appropriate infrastructure
- Implement and maintain community-wide energy efficiency programmes and initiatives
- Aggressively support local implementation of ECO and Green Deal measures.

WOKINGHAM		RESULT	POINTS SCORED / POINTS AVAILABLE
ENERGY MANAGEMENT OF OWN BUILDINGS			
1	Published, formally adopted energy use reduction target?	Internal target	7.00 / 10.00
2	Shows EE progress through annual reporting?	YES, internally	4.00 / 6.00
3.1	Operational energy use data assessed by a third party?	NO	0 / 4.00
3.2	Third party evaluation, measurement and verification?	NO	0 / 4.00
3.3	Has the LA applied ISO 50001?	NO	0 / 3.00
4	Published renewable energy or electricity target?	YES	4.00 / 4.00
5	Member of Local Government Association Climate Local?	NO	0 / 1.00
6	DEC rating(s) of Service Centre(s)	16.7% (F)	0.50 / 3.00
ENERGY IN THE COMMUNITY			
7	Programme to encourage other building users to retrofit?	NONE apparent	0 / 8.00
8	Rules for new buildings beyond Building Regulations?	YES	8.00 / 8.00
9	Community-wide EE initiatives or programmes?	YES	6.00 / 6.00
10	Active support for community energy programmes?	YES	6.00 / 6.00
ENERGY IN HOUSING			
11	Percentage of households in fuel poverty (2011)	6.30%	3.17 / 4.00
12	CERT measures + total number of homes per LA	20.68%	2.32 / 4.00
13	(Total) Measures carried out under CESP	0	0 / 4.00
14	Percent homes installed with cavity insulation since 2008	9.67%	2.10 / 3.00
15	Percent homes installed with loft insulation since 2008	10.96%	1.40 / 3.00
ENERGY INFRASTRUCTURE			
16	Distributed energy system in place (DH, CHP)?	NO	6 (0) / 6.00
17	Has the LA established its own ESCO?	NO	0 / 5.00
18	Installed microgeneration potential per capita	31.07 Watts	0.96 / 2.00
OVERALL INDICATORS			
19	(Domestic) Energy use per capita	8.075 MWh	2.77 / 4.00
20	(Commercial & Industrial) Energy use per unit GVA	0.169 GWh/£1M	1.94 / 2.00
RANKING/ TOTAL POINTS			56.17 / 100
			12th of 25
			← LOW (RELATIVE PERFORMANCE) HIGH →

Wokingham

The local authority had *high* performance on the following indicators:

- Published renewable energy or electricity target? (4)
- Support for community energy programmes? (10)
- New build rules beyond Building Regulations? (8)
- Percentage of households in fuel poverty (2011) (11)
- Community-wide EE initiatives or programmes? (9)
- (Commercial & Industrial) Energy use per unit GVA (20)

The local authority had *somewhat low* performance on the following indicators:

- DEC rating(s) of Service Centre(s) (6)
- Percent homes w/ loft insulation since 2008 (15)
- CERT measures ÷ total number of homes per LA (12)
- Installed micro-generation potential per capita (18)

The local authority had *low* performance on the following indicators:

- Operational energy use assessed by third party? (3.1)
- Programme encouraging others to retrofit? (7)
- Third party M&V? (3.2)
- (Total) Measures carried out under CESP (13)
- Has the LA applied ISO 50001? (3.3)
- Has the LA established its own ESCO? (17)
- Member of LGACL? (5)
- (Domestic) Energy use per capita (19)

Recommended strategies for improvement:

Below are recommended strategies for improvement in key areas for Wokingham, based on performance across the Index's energy indicators. These are high-level suggestions only; local authority personnel will no doubt have considered the issues carefully, and will have the best sense of what is appropriate given their area's specific situation.

High priority:

- Commission a third party audit of operational energy use data
- Enlist a third party to perform ongoing evaluation, measurement and verification of energy efficiency strategy
- Consider the financial and environmental benefits of applying ISO 50001
- Provide expertise and resources to engage the domestic and non-domestic building owners around the benefits of energy efficiency retrofits
- Publicise examples of good retrofit practice (e.g. Eco Open Houses) and retrofit success stories
- Raise public awareness and understanding of these programmes
- Raise public awareness of the environmental, financial and health benefits of a well-insulated, energy-efficient home
- Stimulate local uptake of ECO and the Green Deal by:
 - partnering with energy companies (for ECO) and Green Deal providers
 - raising public awareness and understanding of these programmes
 - raising public awareness of the environmental, financial and health benefits of a well-insulated, energy-efficient home
- Learn from existing ESCO success stories (e.g. Blue Sky Peterborough)
- Carry out the feasibility studies to demonstrate the economic and environmental benefits of a council-owned ESCO
- Implement and maintain community-wide energy efficiency programmes and initiatives
- Aggressively support local implementation of ECO and Green Deal measures
- Promoting or require stringent energy efficiency standards and / or micro-generation capacity for new domestic development
- Consider the benefits of joining Local Government Association Climate Local.

Medium priority:

- Pursue building stock rationalization strategies to improve efficiency of the authority's real estate portfolio
- Retrofit operational facilities
- Implement energy management systems at relevant facilities and energy efficiency as a procurement criteria
- Run education and behaviour change campaigns among council employees
- Develop micro-generation capacity for Council facilities
- Promote the installation of micro-generation capacity by:
 - supporting community-led projects (through direct funding or indirect subsidies, advisory services and micro-generation surgeries)
 - fast-tracking planning permission (where required) for installation of capacity
 - partnering with providers of energy from micro-generation (these may be large or small energy companies) to fund the installation of capacity in or on public buildings
 - encouraging the development and maintenance of appropriate infrastructure.

- 1 Building The Future by Cambridge Econometrics p4-5, www.energybillrevolution.org/resources/
- 2 Capturing the Multiple Benefits of Energy Efficiency. International Energy Agency, September 2014
- 3 Our methodology for assessing the indicators has been as rigorous as possible; however—this being a pilot Index—some errors may have found their way into the final dataset. *Should you disagree with any of our findings, please contact us at laindex@knaufinsulation.com. We welcome any feedback.*
- 4 Measuring energy management commitment and capability. Steven Fawkes.
<https://www.2degreesnetwork.com/groups/2degrees-community/resources/measuring-energy-management-commitment-and-capability/>
- 5 Global growth in the uptake of ISO standards – ISO 50001
<http://antarisconsulting.wordpress.com/2013/12/11/global-growth-in-the-uptake-of-iso-standards/>
- 6 Our conclusions on this point were of course based on a best possible scan of published council documents, but it is entirely possible that we have missed some items.
- 7 Menu of commitments and actions for Climate Local Authorities
http://www.local.gov.uk/c/document_library/get_file?uuid=e32f319e-fb15-4930-8e61-c4e-346ecd5a3&groupId=10180
- 8 Cambridge Retrofit website
<http://www.cambridgeretrofit.org/default.aspx>
- 9 Eco Open Houses website
<http://ecoopenhouses.org>
- 10 BREEAM web site
<http://www.breeam.org/page.jsp?id=333>
- 11 Passivhaus website
<http://www.passivhaus.org.uk/standard.jsp?id=122>
- 12 <http://www.bristol.gov.uk/page/environment/strategic-energy-unit>
- 13 Brixton Energy website
<https://brixtonenergy.co.uk>
- 14 Managenergy website
http://www.managenergy.net/sm_european_structural_and_investment.html
- 15 Technical Annex. Preliminary guidance to Local Enterprise Partnerships on development of Structural and Investment Fund Strategies
https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/190880/13-747an-structural-and-investment-fund-strategies-preliminary-guidance-to-leps-technical-annex.pdf
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- 21 DECC. Fuel Poverty Report – Updated August 2013
https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/226985/fuel_poverty_report_2013.pdf
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- 24 The future of the Energy Company Obligation. ACE response to Consultation. April 2014.
<http://www.ukace.org/wp-content/uploads/2014/04/ACE-Consultation-Response-2014-04-The-Future-of-the-Energy-Company-Obligation.pdf>
- 25 DECC Research Report. Evaluation synthesis of energy supplier obligation policies. October 2011.
https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/48209/3340-evaluation-synthesis-of-energy-supplier-obligation.pdf
- 26 Peterborough City Council. ESCOs, Renewable Energy and Energy Efficiency. BASE Birmingham, April 2013.
<http://www.slideserve.com/lenka/peterborough-city-council>
- 27 UK installed PV capacity has grown from 22 MW at the end of 2010 to 4,100 MW at the end of Q2 2014
- 28 The Crowd. Launching The Energy Investment Curve. 1st July 2014
<http://www.thecrowd.me/launching-energy-investment-curve>
- 29 <http://www.energysavingtrust.org.uk/Generating-energy/Choosing-a-renewable-technology/Solar-panels-PV/Free-solar-PV-offers>

- 30 Solar Success? Space not cash the key for solar.
<http://www.wspgroup.com/PageFiles/44596/White%20Paper%20-%20Solar%20Success%20final%20May%202013.pdf>
- 31 Keirstead, James. Benchmarking Energy Efficiency, Energy Policy
Volume 63, December 2013, Pages 575–587. DOI: 10.1016/j.enpol.2013.08.063
- 32 Full Report: Household Energy Spending in the UK, 2002-2012. Office for National Statistics. 3rd March 2014.
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