Appendix 1

Energy Strategy, County Offices 2019 - 2022

1.Aim

1.1 The aim of this document is to set out a strategic approach to achieve year on year energy consumption savings for the County Offices portfolio (14 key sites) up until 2021/22, which will help the Council to manage costs, protect against rising prices and reduce its greenhouse gas emissions. In the first year a reduction target of 5% has been set for the portfolio of buildings against a 2018/19 combined baseline for electricity and gas 7,431,657 kWh. This will be achieved through the actions outlined further below.

2. Background

2.1 The Council spends c. £2m p.a. on energy for heating and powering the buildings it uses. Of this, the suite of County Offices is responsible for about 40%. Energy prices continue to rise at above inflation rates, therefore reduction in consumption is considered essential to reduce pressures on energy budgets, which are currently devolved across numerous service areas. As part of the 2018-19 Options for Change process Members approved a proposal to develop this strategy alongside an exploration of the case to centralise gas, electricity and water budgets, combined with devolved accountability for performance.

2.2 This strategy contributes to the Council Plan commitment to spend money wisely and Place Department's commitment to reduce greenhouse gas emissions from the Council's buildings and street lighting, a measure included in its performance plan. Reporting this measure also satisfies the Government's recently introduced greenhouse gas emissions reduction pledge for the public sector. This has been introduced to further help the UK meet its international commitments on climate change and achieve its own increasingly challenging carbon budgets established under the 2008 Climate Change Act.

2.3 The actions outlined below build on and complement existing energy management activity to reduce consumption and manage costs. These can be delivered within existing resources but may lead to business case proposals for additional investment.

3. Scope

3.1 The strategy will be led by Place Department, primarily through collaboration between energy and carbon management, and catering and facilities management. The degree of success is also dependent on support from all departments, whose employees occupy the buildings, and service areas, such as ICT, which impact on the use of energy supplied to these sites.

3.2 The main aim of the strategy is to improve the energy performance of the following 14 key buildings.

UPRN	Site name and location
00735	Ashfield Area Office (Lawn View House), Sutton in Ashfield
00001	Chancery Lane, Retford
00029	County Hall, West Bridgford
00253	County House (Dale Close), Mansfield
00266	Meadow House, Mansfield
00743	Mercury House, Sherwood Business Park, Annesley
06452	Newark Touchdown, Newark
00761	Ollerton House, Sherwood Energy Village, Ollerton
00782	Piazza Building, Sherwood Business Park, Annesley
00726	Prospect House, Beeston
00263	Sir John Robinson House, Arnold
00759	Thoresby House, Sherwood Energy Village, Ollerton
00030	Trent Bridge House, West Bridgford
00760	Welbeck House, Sherwood Energy Village, Ollerton

3.3 This strategy initially covers a three-year period from 2019/20 to 2021/22. During this time consideration may be given to extending its scope to include water, more sites and a longer time scale with a more ambitious target.

3.4 Energy savings from this strategy will be achieved through 3 broad areas of activity: changes to site operation and management; employee awareness and engagement; and infrastructure investment, with a focus on activities giving quick wins and maximum impact.

3.5 Sites that are affected by planned changes to the Council's property estate are included in the strategy, but the approach to identifying and bringing forward projects for investment will be adapted accordingly in consideration of the timetable for accommodation changes.

4. Action Programme

4.1 The following activities represent the key elements that will result in action plans at both site and portfolio level. An outline timetable for these activities is set out in Appendix A.

Energy Audits

4.2 Energy audits will be carried out to develop an action plan for each site and to feed into portfolio/service level actions. The audits will include:

- A desk top survey, involving analysis of half hourly consumption data looking at 'out of hours' use, base loads and sample patterns against occupancy requirements.
- Walk around energy surveys involving site managers and other key employees as appropriate.

Site Action Plans

4.3 Based on the energy audits, site action plans will be drawn up embracing actions under the three areas of site operation and management, employee awareness and engagement, and infrastructure investment.

Site Operation and Management

4.4 Site operation and management will be reviewed against energy consumption patterns and temperature information, where available, and opportunities taken to reduce unnecessary consumption without detriment to occupancy comfort levels. This could result in changes to temperature settings; changes to heating control time settings; changes to occupancy times/opening hours; changes to times of operations, such as use of dishwashers; changes to settings for rooms housing ICT equipment; changes to lighting controls; etc.

Employee Awareness and Engagement

4.5 Employee awareness and engagement activity will look to save energy and reduce cost through changes in behaviour, primarily involving reducing and changing times of electricity use. The main aim will be to engage all employees in order that energy saving becomes a part of their normal day to day work, with the shared goal to reduce consumption and save costs. Actions may include campaigns such as a 4pm Power Down to reduce use of electricity at the most expensive time of day and overnight; labelling of switches that employees can turn off; pop-up energy surgeries at offices; and embedding energy awareness into induction activities and regular site communications.

4.6 Whilst the focus of this activity will be the County Offices portfolio, elements can easily be extended to engage staff across the Council using existing communication channels and with cross-departmental support.

Infrastructure Investment

4.7 The action plans for each site will not only identify low/no cost 'quick wins' but also higher cost measures with 10-year paybacks or less. Such measures can be financed through existing budgets, including the Council's zero-interest, revolving loan energy fund (LAEF Scheme), supported by Salix Finance, a body established by the Carbon Trust to reduce public sector carbon emissions. Examples of likely fundable measures are heating controls, LED lighting, lighting controls, and insulation.

4.8 As alluded to above, investment opportunities will be considered in conjunction with the Council's Smarter Ways of Working programme and asset management strategy.

Building Energy Management Systems (BEMS)

4.9 A project to upgrade and network BEMS covering most of the 14 county office sites is currently underway. This project will enable a greater control of the buildings' heating systems, especially when combined with the Council's energy consumption intelligence derived from half-hourly consumption data. This improved and centralised control will ensure the buildings can operate at maximum levels of efficiency, avoiding wasted energy and associated costs without detriment to occupancy comfort, and offers a quick return on investment.

4.10 The upgrade and networking works for the BEMS will be complete and commissioned by October 2019, so maximising the opportunity to positively impact on energy consumption during the coming heating season.

Training and Policy Development

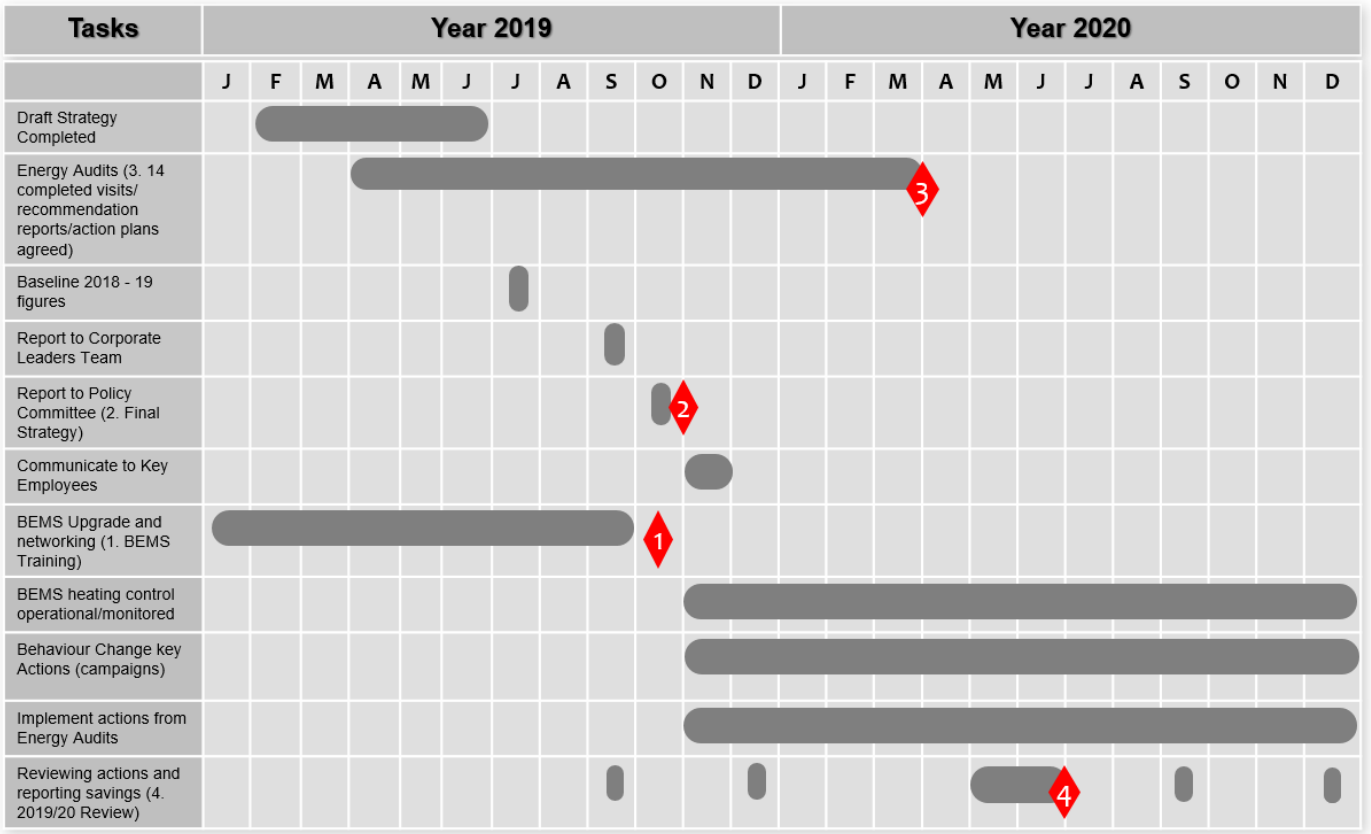
4.11 Audits and employee engagement activities may identify energy-related training needs that can be fed into site/service training plans. An example could be training for site managers in use of the Council's energy manager web tool, which can be used to monitor energy consumption and identify potential opportunities to make savings. Similarly, it is likely that areas will be identified that may benefit from policy development, such as a thermal comfort policy or a supplementary heating protocol.

5. Monitoring and Reporting Progress

5.1 Baseline gas and electricity consumption and cost figures for 2018-19 have been determined for each site and for the portfolio, with performance to be monitored each month against the 5% consumption savings target. Baseline information is set out in Appendix B, which also includes baseline data for the previous year, 2017-18.

5.2 Performance reporting and monitoring will be undertaken through existing performance management arrangements. The energy and carbon management team will manage the collection of consumption and billing data, which will be available along with a range of reports via the Council's on-line energy manager portal. The team also manages a Display Energy Certificate (DEC) compliance service, and annual DEC ratings, included Appendix B, provide an additional and useful measure of a site's energy performance over time.

Appendix A. Energy Strategy Timetable 2019/20



Key

Milestone

Task bar (approx. duration)

Appendix B. Baseline consumption and cost information

Table 1. Energy consumption and costs, 2018-19							
Site	**Electricity**		**Gas**		**Totals**		**Display Energy Certificate**
	kWh	**£**	**kWh**	**£**	**kWh**	**£**	
County Hall	2,315,303	323,450	1,809,966	64,482	4,125,269 ↓	387,932 ↑	107 ↑
Trent Bridge House	605,736	90,384	374,555	14,817	980, 291 ↓	105,200 ↓	100 ↓
Meadow House	318,368	48,013	440,916	15,397	759,284 ↓	63,410 ↑	78
Sir John Robinson House	122,588	20,387	568,261	20,068	690,849 ↓	40,455 ↑	50 ↓
Lawn View House	267,540	42,001	196,461	7,520	464,001 ↓	49,521 ↑	63 ↓
Mercury House	277,573	42,747	48,078	2,380	325,651 ↓	45,127 ↓	152
County House	78,926	12,151	137,476	5,129	216,402 ↓	17,280 ↓	93 ↓
Piazza Building	186,236	28,523	26,236	1,421	212,472 ↓	29,944 ↑	111
Chancery Lane	51,267	8,129	159,115	5,722	210,382 ↓	13,851 ↓	73
Prospect House	69,955	11,307	73,145	3,176	143,100 ↓	14,483 ↑	68 ↑
Thoresby House*	131,399	20,777	N/A	N/A	131,399 ↓	20,777 ↓	54 ↓
Welbeck House*	103,616	16,201	N/A	N/A	103,616 ↓	16,201 ↓	70
Ollerton House*	32,626	5,380	N/A	N/A	32,626 ↓	5,380 ↓	54
Newark Touchdown	8,727	1,292	7,879	571	16,606 ↓	1,863 ↑	N/A
Totals	**4,569,860**	**670,742**	**3,842,088**	**140,683**	**7,431,657** ↓	**811,424** ↑	**1073**
% reduction or increase from 2017 – 2018	**- 6%**	**4%**	**-13%**	**-5%**	**-20%**	**2%**	**-2%**

Note: arrows indicate a reduction (down) or increase (up) compared to 2017-18

Table 2. Energy consumption and costs, 2017-18							
Site	**Electricity**		**Gas**		**Totals**		**Display Energy Certificate**
	kWh	**£**	**kWh**	**£**	**kWh**	**£**	
County Hall	2,396,530	297,303	2,038,511	67,192	4,435,041	364,495	104
Trent Bridge House	684,950	94,370	654,846	20,805	1,339,796	115,175	115
Meadow House	323,883	44,172	441,347	14,482	765,230	58,654	78
Sir John Robinson House	130,181	19,753	593,952	20,053	724,133	39,806	57
Lawn View House	280,448	39,664	224,204	7,723	504,652	47,387	70
Mercury House	290,498	44,962	61,837	2,550	352,335	47,512	152
County House	95,087	14,013	141,936	5,039	237,023	19,052	94
Piazza Building	194,583	26,459	33,891	1,456	228,474	27,915	111
Chancery Lane	59,010	8,636	157,198	5,457	216,208	14,093	73
Prospect House	74,268	11,262	71,069	2,929	145,337	14,191	64
Thoresby House*	144,131	21,252	N/A	N/A	144,131	21,252	55
Welbeck House*	118,003	16,471	N/A	N/A	118,003	16,471	70
Ollerton House*	37,688	5,772	N/A	N/A	37,688	5,772	54
Newark Touchdown**	9,187	1,233	8,587	614	17,774	1,847	N/A
Totals	**4,838,447**	**645,322**	**4,427,378**	**148,300**	**9,265,825**	**793,622**	**1097**

Note: sites marked * are electrically heated; figures use invoice data; ** Newark Touchdown data is for Oct17 – Sep18, as only occupied part of 2017/18 financial year