

Solihull Council is committed to reducing its contribution to climate change and is ensuring its resources, including energy, are used efficiently and in a responsible manner. The Council is taking the lead from the Climate Change Act 2008, which has set legally binding national targets for reducing carbon emissions of 34% by 2020 and 80% by 2050.

Carbon Management is a key element of the [Green Prospectus](#) and is the process used by the Council to monitor and reduce its carbon (carbon dioxide) emissions. The four biggest emitters are monitored quarterly and targets are set, and are: schools (including academies), streetlighting, corporate buildings and the 'environmental' contract—waste collection and maintenance of public spaces, known as the Strategic Environment Contract (SEC).

Other emitters are identified, such as transport and highways maintenance contract, and work is undertaken to reduce those emissions.

Introduction

The Council continues to meet its CRC obligations. Key information is summarised below:

- 2016/17—the CRC emission was 12,940 tonnes and carbon allowances cost £208,334.
- CRC requires the reporting of emissions from electricity and gas from corporate buildings and streetlighting.
- The submission is internally audited and only submitted once an internal audit certificate issued.
- CRC Compliance Team includes members of Property Services Team, Finance and Audit, overseen by Policy and the Spatial Planning Team through the Carbon

CRC Energy Efficiency Scheme

Management Group, with support from Leisure Services and Streetlighting Teams.

The CRC is to be abolished at the end of 2018/19. It is not known whether there will be a replacement scheme.



Carbon Emissions - Current Situation

Total council emission—25,487 tonnes

- █ Schools and Academies — 0% - negligible
- ↓ Streetlighting—20% - reduction
- ↓ Corporate buildings—1% reduction
- ↓ Strategic Environment Contract —1.5% - reduction
- ↓ Total emissions— 5% reduction —22% on 2010/11 baseline

Schools and Academies

Total -13,625tonnes—down 22tonnes

The **Schools'** emissions decreased by 1% however 40 properties increased by 268 tonnes, with 23 properties reducing emissions by 361 tonnes. However 87tonnes 24% of decrease was due to properties no longer being used.

The **Academies'** emissions increased by 1% , with 15 out of the 20 properties increasing their emissions, however these are not engaged in the same way as the schools in Corporate Carbon Management.

Efforts continued on ensuring good energy management, with the Ashden Less CO₂ programme running for a second year supporting this alongside the routine support of the Property Services Team.

The development of the Schools Asset Management Plans, that include energy surveys, support the progress on further enhancing the school's buildings. This is in the context of an increasing school populations, approximately 1% in 2016/17.

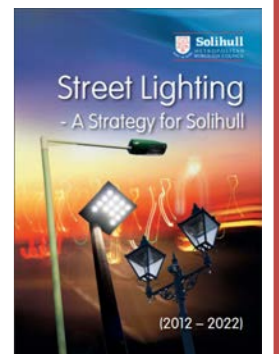


Total—4603tonnes

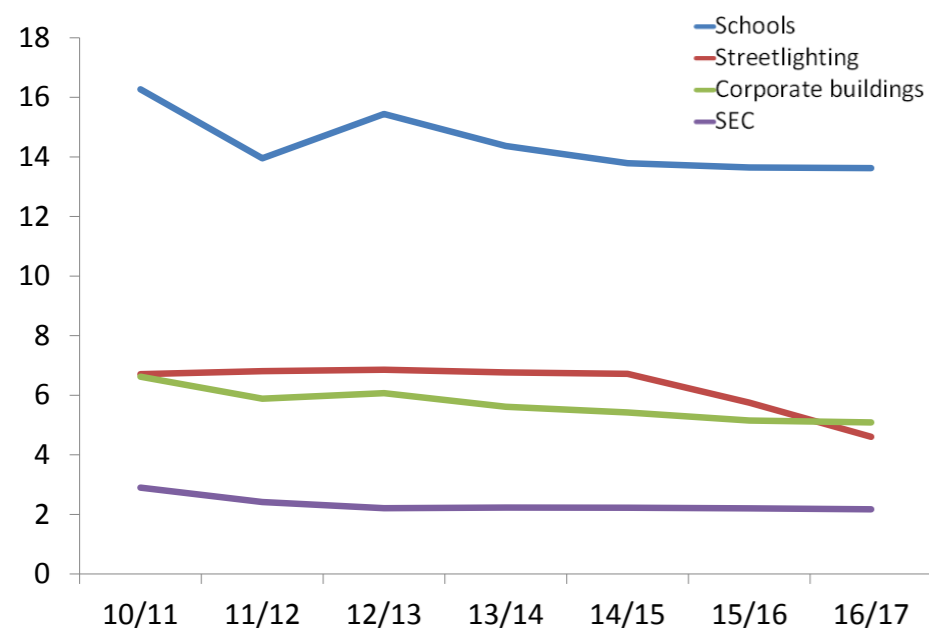
Streetlighting

down 1,200tonnes.

Since 2014, the Main Road LED Street Lighting Replacement Programme has been replacing the current stock with low energy LED bulbs (50%more efficient). This was precipitated by the need to phase out the old and obsolete high consuming light bulbs. Stage 1 of the upgrade programme was completed in 2016/17, with Stage 2 of the upgrade started in September 2016.



Carbon emissions from the 4 key emitters since 2010 to 2017 (thousand tonnes)



Corporate buildings

Total —5088 tonnes - down 58tonnes

Most properties reduced their emissions, however two new properties were added to the property portfolio, which added 180tonnes to the total emission. If comparing with previous years, without the addition of the new properties, a 4% reduction was achieved.

Emissions have dropped as a result of ensuring good energy management through using the good quality AMR data with property managers. Maintenance and refurbishment programmes continue to install energy efficiency measures.

Due to changes in service delivery there is an upward pressure on emissions, for instance, the continuing success of The Core Theatre, and the addition of new properties on to the portfolio i.e. Enterprise Centre and Elmwood Place.

Property Services Partnership



Total—2171tonnes

Strategic Environment Contract

down 33tonnes

This year the emissions reduced by 1.5% having made the large changes in previous years resulting in a 10% reduction on the baseline year 2013/14. This was achieved through the modification to refuse and recycling fleets which made a substantial fuel saving. However, despite the expectation of a flat lining emission, other efficiencies have been achieved through the constant review of operations and practices.



Carbon Management— going forward

Key programmes that are contributing:

Schools and Academies

Ashden Less CO₂ Programme—now in its third year, this programme continues to raise awareness and explain how modest improvements to the school buildings will address those issues identified in the free energy surveys – over 20 schools have participated to date.

School Asset Management Plans - these consolidate individual schools development plans and prioritise measures that can be put in place to improve energy management and reduce carbon emissions. Almost 30 have been completed to date.

Childrens Services Capital Programme—Project briefs for new-build/refurbishment proposals identify the need for sustainable design and to support as many carbon-reducing measures as are affordable.

Targeted Capital Funds—Where new build is taking place at a school, the Building Regulations stipulate that work will be targeted on maintenance of the whole building's energy performance. This is known as Consequential Improvements, and £660k will be considered for energy or carbon related improvements for current projects and those in the immediate pipeline.

The School Asset Support Team oversees the supporting of schools to reduce emissions. They primarily work through capital funding but also work with Property Services Team and Sustainability Team on behavioural change.

SMBC takes responsibility for 88 schools: 14 secondary, 41 primary, 9 junior, 10 infant, 5 special, 6 additionally resourced centres and 3 pupil referral units. Of these, 22 are academies.

Key programmes and projects that are contributing:

Corporate buildings

- The new cremators at Robin Hood Cemetery are in the region of 30% more efficient, and may well deliver greater reductions if service changes occur.
- A boiler replacement programme continues, with new boilers (and controls in some cases) fitted in: Clopton Crescent Depot, Widney Manor Cemetery and Jubilee House.
- With the constant review of the property portfolio a number of buildings are likely to be removed from the portfolio reducing emissions. However there is a potential for increasing the emissions of other buildings through increased occupancy.
- The refurbishment of the Council House, and decant to a temporary location will have an impact on the 4th quarter, should the work start in late 2017/early 2018. The addition of Mell House is estimated to increase the emissions by about 300tonnes, however this may well be off set by decrease in usage in the Council House, for instance, once Orchard House is vacated.

The Property Services Team (PST) oversee the energy management and maintenance of 56 properties, including: offices & administration buildings, libraries, cemeteries & crematoria, day centres, youth centres, training centres and car parks.

Most properties are managed by individual budget holders or facilities management staff who are supported by PST to ensure good energy management practices.

During 2017/18 the team will be progressing the installation of the remaining 3,100 units which will reduce carbon emissions further 400 tonnes.

Streetlighting

Solihull Council's Streetlighting Strategy is delivering significant environmental benefits. Through modernising thousands of street lights on the borough's main roads with advanced LED lighting, the following benefits will be achieved:

- LEDs are 'greener', more robust to power fluctuations and up to 90% recyclable. They contain no mercury, lead, or heavy metal, less delicate elements and emit no UV radiation.
- LEDs cast even, directional light, with no optical power wasted, and have the additional benefits of:
- Reducing the effect of light pollution on both humans and wildlife.
- Promoting sustainable transport, public transport, cycling and walking

By 2024 it is expected that all Solihull street lights will be using LED technology. Assuming no increase in assets, carbon emissions in 2024 could be as low as 3,931 tonnes, 42% lower than in 2013/14 when emissions were 6,855 tonnes.

The Street Lighting team are responsible for the design, maintenance and operation of approximately 23,500 street lights, 2,600 illuminated signs and 1,700 illuminated bollards across the borough.

In April 2016 the Strategic Environment Contract (SEC) Board agreed:

Strategic Environment Contract

- future targets should be set using projections of service performance,
- revised targets of – 9.0% for 2016/17 and – 9.5% for 2017/18 .

As of April 2017, new vehicles have been deployed on the contract. Initial data indicates the vehicles are over performing, and therefore it may be possible to increase the initial target of 9.5% which was set for 2017/18.

The new vehicles are:

- more efficient and emit lower levels of pollutants due to the Euro 6 engines,
- more reliable ,
- Safer, with the fitting of 360° cameras and safety alarms.

This is alongside AMEY's continuing work with delivering reductions through service improvement.

Amey, through the Strategic Environment Contract, provides a range of environmental and waste services to Solihull Metropolitan Borough Council. Their teams make in excess of 1.2 million domestic waste and recycling collections every month to 88,000 properties across Solihull.

We also maintain over 1.1 million metres of streets and 19 principal parks, of which 15 have received the prestigious Green Flag award.

Setting the scene: future emissions

The borough of Solihull is going to see major growth in the near future with new homes built and large scale infrastructure developments, such as HS2, Arden Cross and the associated development of key borough assets through UK-C.

This will all require:

- new schools places, new schools and school extensions,
- new roads with associated lighting and maintenance requirements,
- services, including additional waste collections and highway maintenance,
- new community facilities; libraries, contact centres, day centres etc.

The council has achieved a **22% reduction** on the 2010/11 baseline, which has been a result of efficiency measures (LED streetlighting, new vehicles, better energy management) but also changes in service (including disposal of properties).

It can not be assumed this will continue as 'easy wins' dry up, and there is a need to produce a pipeline of 'beyond business as usual' carbon reduction projects. Table 1 shows the a rule of thumb about delivering carbon reduction*. It shows that a 10-30% reduction can be achieved through good housekeeping and invest to save technologies, 10% through new build and rationalisation. SMBC's 22% reduction probably corresponds with this having implemented a blend of each category. However further opportunities exist and to exploit these a Managed Growth Tactic has been set for 2017/18, being to:

Develop relevant business cases for key Council emitters to support further investment leading to carbon reduction and cost savings. During 2017/18 further work will be completed to make projections of what is likely to happen to the Council's emissions over the coming years (3 to 5 years).

Reduction possible	Strategy	Political will/organisational skill
0-10%	Good Housekeeping/energy management <ul style="list-style-type: none"> • Metering and Targeting • Behaviours change and training 	Easy to get support Low cost Easy implementation
0-20%	Invest to Save <ul style="list-style-type: none"> • Insulation and Controls • Lighting and Controls • Fleet replacement 	Easy to get support Low risk – mature technologies Easy wins – shorter paybacks Less disruptive
0-40%	Design and Asset Management <ul style="list-style-type: none"> • Low CO₂ new build • Property rationalisation • Procurement changes 	Needs organisation will Longer term, larger scale More disruptive Greater gains/opportunities
Greater 40%	Renewable Technologies <ul style="list-style-type: none"> • PV/solar thermal • Biomass • Ground/air source heating • Innovative e.g use of batteries 	Needs organisational will Potentially higher risk Higher reward Greater energy autonomy/ isolation from energy risk
To Zero Carbon	Whole scale organisational change <ul style="list-style-type: none"> • New ways of working, business transformation, business/service innovation 	Requires strong leadership and desire for change/ reinvention Greater business opportunities

* based on a Carbon Trust information.