Hertford Town Council Eco-audit Report Contents:

3 Acorns Eco-audits

Inspiration
Information
Implementation

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Eco- Audit Report for: Hertford Council

FAO: Joseph Whelan, Town Clerk

Introduction

We would like to thank Joseph Whelan, Nick Kirby and the rest of the town-council staff for kindly facilitating the eco-audit process.

The key context for this eco-audit is the statement by the UN Secretary General in Sept. 2018, that humanity has to be radically cutting fossil-fuel emissions within two years, if we were not to face potential extinction. In December 2020, he further called for all nations to declare a climate emergency. The 2018 IPCC report stated CO_2 emissions need to be halved by 2030, to have a two-thirds chance of avoiding temperatures catastrophically rising above 1.5C.

In September 2019 and for many years previously, similar warnings about a possible pandemic were given but not acted upon. Cv19 threatens 1% of the population and we are rightly taking action to protect them, but the climate and ecological crises threaten much of humanity and what is left of nature.

It is therefore positive that in March 2019, Hertford Town Council resolved to create a strategy to reduce its carbon footprint and its ecological sustainability.

We hope this report (delayed due to cv19 pandemic) will enable the Town Council to implement this strategy. In addition to demonstrating best practice in its own operations, being the closest tier of government to the community, means it has many constructive opportunities to enable the town itself reduce its carbon and ecological impact targets.

1. Headline Eco-Data Figures 2019/20

Combined data for all premises[1]

Building Energy Consumption

Electricity CO_2 (tons)	43.2
Net electricity emissions (due to green supply contract)	0.0
Gas $C0_2$ (tons)	2.5
Gross Building Energy Carbon Footprint (tons)[2]	**45.7**
Net Building Energy Carbon Footprint (tons)[2]	**2.5**
Flights CO_2 (tons)	
0	
Diesel (tons of CO_2) (8,000 miles)	
2	
Total Transport Carbon Emissions	**2**
Total Goss Energy carbon footprint (tonnes)[2]	47.7
Total Net Energy Carbon Emissions[2]	**4.5**
Mains water consumption (litres):	2,978,000
Water supply CO_2 (tons)	**3**
A4 Sheets equivalent of paper	660,000
% made from recycled paper	0
Trees consumed	78
Paper carbon emissions	**14**
Total annual municipal waste (tons)	141.1[3]
Non-recycled waste (tons)	109.4[3]
Recycled (tons)	31.7[3]
Waste CO_2 (tons)	31.7
Recycling rate (Town Hall only) (%)	**50**

Bank: HSBC

[1] Energy data includes leased-out premises.
[2] Government regulations require imported green electricity to be measured at average UK electricity emissions/kwh but allows it to be also recorded voluntarily as net zero.
[3] Due to data on amount of waste recycled from the cemetery not being available, these figures are not fully accurate for total waste recycled or collected.

Consumption data is from council's own operations only.

Breakdown of Electricity Use (Tons CO_2)

Castle Town Hall	31.0
Seed Warehouse	8.5
The Wash	3.0
Cemetery shed	0.7
Total[2]	**43.2**
Net Total[2]	**0.0**

Total expenditure on electricity was £23,400, of which £16,900 was for the castle.

Breakdown of Gas Usage (tons CO_2)

Town Hall	0.0
Seed Warehouse	2.5
The Wash	0.0
Cemetery shed	0.0
Total	**2.5**

Breakdown for Water Usage	**Litres**	**CO_2 Tons**
Town Hall	414,000	0.414
Seed Warehouse	248,000	0.248
The Wash	93,000	0.093
Cromwell Rd allotments 1	380,000	0.380
Cromwell Rd allotments 2	1,335,000	1.335
North Rd allotment s	199,000	0.199
Frampton St	84,000	0.084
Sele	19,000	0.019
Wademill Rd	301,000	0.301
Total	**3,104,000**	**3.104**

Note: There was a reported leak at the Cromwell Road allotments, which explains some of the high consumption.

Paper Usage	**A4 Sheets**	**Trees used**
Town Hall	397,000	47
External printing	262,800	31
Total	**660,000**	**78**

Carbon emissions from council's non-recycled paper: 14 tons
Paper usage by leased premises is not added to council's carbon emissions.

Breakdown of Waste

Premises	Total Waste (tons)	Non-Recycled (tons)	Recycled (tons)	CO_2 (tons)	Recycling Rate (%)
Town Hall	57.2	28.6	28.6	8.3	50%
Hertford cemetery	40.5[3]	40.5	n/a	11.7	n/a%
Allotments	29.7	29.7	0	8.6	0%
Seed Warehouse	7.5	7.5	0	2.2	0%
Tourist Office	6.2	3.1	3.1	0.9	50%
Total	**141.1**	**109.4**	**31.7**	**31.7**	**22.5%[3]**

[3] Due to data on amount of waste recycled from the cemetery not being available, this figure is not an accurate % for total waste recycled or total waste collected at Hertford Cemetery.

Data Analysis

Carbon Footprint

Your annual energy carbon footprint for building energy is 45.7 tons, which is about the equivalent of the average energy emissions of about 15 UK homes. For the Castle, the emissions of 31tons, is the equivalent of about 10 UK homes.

Your gross total calculated carbon emissions come to 64.8 tons or 21 homes energy emissions. Your net total calculated carbon emissions come to 21.6 tons or 7 homes energy.

This does not include day to day consumption of other materials, that it would be too expensive to calculate exactly, but for most organisations another estimated 40% can be added for this but this varies widely.

Summary Net Carbon Emissions (Tons)

Gas	2.5
Waste	31.7
Electricity	0.0[1]
Paper	14.0[2]
Fuel	2.0
Water	3.0

Flights	0.0
Total	**53.2**

[1] Taking green electricity as net zero, otherwise it would be 43.2 tons
[2] This is just for production and disposal, it does not include the 78 tons of carbon that would be stored in the mature trees if they were not felled.

Your grounds maintenance van does about 12,800 km/year.

Thus, from your measured net carbon emissions, unrecycled waste is the largest single source, followed by paper consumption.

Electricity

As your heating system in the Castle is all-electric and you are on a green tariff, this means it is already net zero.

However, you have inherited an inherently inefficient & expensive to operate electric heat-storage system, which in addition is very difficult to control its timings and temperature settings to be in line with best practice and usage of the building.

As an immediate measure, ensure heating is turned down to frost-protection when you know which sections of the building will not be used the next-day and investigate better timing and temperature controls if you decide not to replace the system.

Carry out a feasibility study on switching the heating to infra-rad panels. Experiment with maybe the tourist office or the cemetery shed to begin with.

Switching to LED lighting will reduce your electricity consumption for lighting by over 50%.

Gas

Gas is only used to heat most of the Seed Warehouse, largely by your tenants. The emissions equate to those of a large home over a year. The figures may need re-testing for accuracy. This is normal for a first audit.

As will be seen in the detailed heating section below, the first crucial priority will be to ensure all premises have working timing and zoning controls and that they are operated in line with the recommendations about the actual spaces being heated, the length of time they are heated and at what temperature they are heated at.

To achieve zero carbon for energy, the gas boilers will need to be replaced with electrical heating of some form, powered by green electricity.

The cheapest capital (but not most energy efficient) option for the Warehouse would be to replace the gas-boiler with an electric boiler.

The other alternatives are infra-red panel heaters or an air-source heat-pump.

Waste/ Recycling

The reported recycling rate for the town hall was 50%, which is above the national average municipal recycling rate of 43%.

The government treats recycled waste as net zero for carbon emissions but this still means that the carbon emissions from non-recycled waste are the largest sources of your measured net-zero emissions.

Carry out a waste-analysis of your non-recycled waste stream to identify what is consists of and devise a strategy to reduce its production in the first place.

Water

Whilst your carbon emissions at 3 tons from water are modest, it is important to reduce water wasted, due to impacts of extraction on the ecology of rivers and streams.

Paper

Your estimated paper carbon emissions at 14 tons equate to that of all the energy emissions from about 5 UK households. The quickest way to reduce this is to switch to using post-consumer recycled paper for your photocopying and printed materials.

Also examine ways to reduce the amount of paper being consumed.

Your paper usage also results in the annual felling of about 78 trees. Each mature tree stores about 1 ton of carbon.

Switching to 100% post-consumer waste paper would reduce trees felled to zero and reduce the carbon emissions by about 50%.

2. Policy & Management Recommendations

Suggested Next Steps

1. Submit the eco-audit report to the Town Councillors with recommendations for action.

2. The Town Clerk to ensure annual eco-audit report is produced and presented to the council, including the above eco-data bench-mark measurements. The report would include a brief summary of any other relevant environmental information, including progress on implementing eco-audit recommendations and progress made on initiatives involving the local community.

3. Request the councillors to appoint a green champion to support the Town Clerk in the implementation of the recommendations.

4. The Clerk to ensure that procedures that address waste reduction, recycling, green-purchasing and energy-efficiency monitoring are in place.

5. Ensure that a spreadsheet reporting implementation progress of Eco-audit report recommendations, is a standard item on the relevant management committee meeting agenda.

6. Include eco-issues in future tenant and room-hire agreements, such as electrical, water and heating efficiency and participation in the recycling service.

7. Any future contracts that the council signs should include criteria that facilitate it working towards its carbon and ecological targets.

8. Include a new climate and ecology advice section on your website, where local residents can get information on the various ways that they can reduce their carbon and ecological impacts.

9. Consider staging a Climate & Ecology Hertford Community Engagement Day in conjunction with local community groups, to see if you can stimulate some collective partnership actions locally.

10. HSBC is the 13th largest funder of fossil fuels globally and second highest among the UK banks. We suggest you consider moving main accounts to either The Charity Bank or the specialist charity and eco bank Triodos Bank. https://www.ran.org/bankingonclimatechange2020/

11. Take advantage of the council's newsletter to regularly communicate with the public on how they can progress to net zero-carbon and low ecological impacts lifestyles.

12. Consider approaching the museum that the town council provides storage space to, to see if they will stage exhibitions on different aspects of life in Hertford over the generations but adding an environmental context and education element to them on how they can now be done sustainably e.g., transport, packaging, food, heating etc

13. The council has a grant scheme funded by the New Homes Bonus. Include category in this for practical projects reducing the town's carbon and ecological impacts.

14. Adopt target dates for net zero carbon emissions for the council itself (short term) and the town (medium term).

3. Human resources

1. Staff contracts should be amended in consultation with the staff to include a new provision along the lines of: "*The Hertford TC is committed to being an environmentally responsible organisation. You will be expected to help in delivering this commitment, in how you fulfil your day to day duties, as a member of our staff*".

2. Similarly, job-specifications should be changed where relevant, which will help ensure new eco-procedures are passed on to new staff.

   For example, the job specification for the town-clerk should include section requiring them to report annually to the council on its environmental performance, including the data sets outlined above.

3. Then targets for implementation of the green strategy can be included in relevant staff annual appraisals and include environmental training / awareness in any personal developmental plans.

4. Induction procedures for new staff should include procedures adopted to implement this policy of environmental responsibility e.g., including how to use energy & water efficiently, green purchasing and waste-reduction & recycling procedures.

4. Top Ten Priorities for First Year

The following items are suggested as your top ten priorities for first year:

1. Ensure heating and hot-water timers, temperature settings and zoning controls are set correctly.
2. Carry out a programme of draught-proofing and insulation where recommended.
3. Switch all of your paper products to 100% post-consumer recycled paper.
4. Draw up plans to consult on the conversion of your closed cemeteries into mini community eco-parks.
5. Switch your ground-maintenance van to a leased all-electric van.
6. Complete the switchover of all lighting to LEDs within a year.
7. Get quotes for infra-red heating in relevant premises and carry out trial of infra-red heating panels, on a property where you have a green electricity supply e.g., the tourist office.
8. Carry out a survey of your non-recycled waste stream and develop a plan to reduce its production in the first place and to increase the volume being recycled.
9. Implement annual environmental reporting to the council on the council's own environmental performance progress and the local communities.
10. Develop an action plan in conjunction with the local community on how to achieve a Low Carbon Hertford.

5. Heating

The Town Hall / Castle

Current Good Practice

1. Heating was off in the empty Cecil Room.
2. There is no heating in the basement, other than one storage heater.
3. The heating was off in the finance office, as it was unoccupied on the day of the site-visit.
4. Heating was off in RTC corridor on day of site-visit.
5. Heating was off in Robing Room due to not being used during cv19.

Suggested Next Steps

Heating System

Much of the castle is heated by old extra-inefficient electric storage-heaters. Storage heaters can use about 3.5kwh of electricity each.

These are especially unsuitable for the Downshire Suite area, as it means they are heated potentially 24/7 when their usage is quite intermittent.

The estimated occupation for the Suite is just twice-a-week, with a party once a month.

We would recommend carrying out feasibility study for infra-red panel heating instead, which is significantly more efficient and more programmable with timers.

https://www.herschel-infrared.co.uk/

These panel heaters can have mirrors, designs or colours placed on them, so that they can fit in better with the aesthetics of the castle.

They generally consume about 500watts per panel and can have efficient temperature and timer controls.

The other option would be an air or ground source heat-pump, whose capital costs are high and they would also entail installing pipes & radiators across all of the castle.

Temperature / Timings / Controls

1. Recommended winter-heating room-temperature by the government's CCC for sedentary activities such as office-work is 18C. CIBSE recommend 19C.

   Important: ***Each extra degree wastes up to 10% of your heating bill*****.**

   As parts of the town-hall are being heated to as high as 25C, you are wasting up to 60% or 70% of your heating bills in parts of the premises, even if occupied.

   The recommended temperature for the non-ambient elderly is 21C.

   As well as being inefficient in terms of hours operated, storage heaters make it difficult for staff to maintain correct temperatures and not to overheat the spaces they are in and they cannot turn them off if a room becomes unexpectedly empty.

   Office 22 CDA was at 24C
   Main town council office was 23C.
   Tenant Creative Consultancy was 25C.
   Reception office was 25C,

   As the controls do not react instantly, the staff had to have the windows open to prevent it being even hotter in the main-office.

2. Get a digital thermometer for the premises and have named staff member assigned to implement the CIBSE recommended heating temperatures, as far as practical with current controls.

3. In the meantime, investigate whether a weekly programmable timer can be installed on the controls for the Downshire Suite storage heaters.

4. The above applies equally to the Robing Room which is used only for about 10 hours per week, but normally heated 7 days a week.

5. The 1st floor & ground-floor kitchens are like the rest of the building heated by storage heaters, which is very wasteful if left on, as the kitchens are really only occupied 5 hours / week and if storage-heaters are on, they would be heated 24/7, 7 days a week.

6. Until the current cv19 crisis hopefully passes, ensure that any tenant rooms which are unoccupied if staff home-isolate, are turned down to frost-protection.

7. The council chamber is only used for council meetings.

   Ensure that the radiators are turned down to frost-protection when not used.

8. Ensure the supplementary electric oil-filled radiators in Mayor's parlour are turned off when not being used and close the doors to corridor.

   It is thought these are being left on over the weekends also.

9. Turn heating in bathrooms/staircases/corridors/ kitchens/back-stairs lobby etc. down to frost-protection.
   They do not need to be heated to the same temperature as occupied parts of the premises.

   Heating bathrooms above frost-protection is a significant waste of energy, as the windows are often left open for ventilation and people only use them for a brief time.

Insulation

1. Place heat-reflectors behind any radiators on outside walls, especially important in solid walled buildings like the castle.

2. Ensure radiators on outside walls are not blocked by furniture or boxes etc.

3. Ensure that loft spaces are insulated to modern standards (300mm). There is loft insulation available made from recycled plastic bottles.
   https://naturalinsulations.co.uk/product/supasoft-insulation/

4. Ensure the loft-hatches are also insulated at the same time and draught-proofed if necessary.

5. Get a door closer for any bathrooms that do not have one, to prevent them being left open, when the windows in the bathrooms are also open e.g., 1st floor gents, as this causes large amounts of expensive heated air to be lost from the building.

6. Check that the fireplaces have had draught-reduction measures e.g., chimney balloon. Up to 20% heat can be lost via chimneys.

7. Get a quote for professional refurbishment of your windows e.g., sash windows in Salisbury have gaps, the windows in CDA Office no 23 are draughty etc.

8. Insulate any hot-water pipes that need it e.g., 1st floor kitchen.

The Seed Warehouse

This property is owned by the council but various parts are leased out to tenants and to the Hertford Museum for storage.

Suggested Recommendations

1. The Millbridge Rooms are rented out to community groups and are heated by 10 convector heaters.
   Infra-red panels on the ceiling or walls would be about 50% more efficient.

2. Management reported that the electric heating is frequently left on by community groups hiring the Millbridge Rooms. Consider installing a press-button timer that can be operated by the hirers, so that it cannot be left on after they leave.

   As the Millbridge Rooms space is only occupied about 20 hours a week, the potential for considerable wastage because of this is significant.

3. It would be relatively easy to install secondary glazing inside the existing window frames in the Millbridge Rooms.

4. The hot-water pipes in the Millbridge Rooms need insulating.

5. Both of the main entrance doors need draught-proofing.

6. The stairs from the Millbridge Room has a storage heater that appears to be on all week. We do not see any purpose to this on a lightly used stairs and recommend it is turned off permanently.

7. The upstairs corridor was heated to 25C by a central heating radiator. Turn it down to frost-protection permanently.

8. Fix the two-badly fitting windows in this corridor.

9. If the roof is to be replaced, ensure maximum insulation installed at this opportunity. This is especially important for the top-floor offices which over-heat in summer and are cold in winter due to being in the converted loft with sloping roof.

10. We were not able to determine the central-heating systems for Mind, the museum store-rooms or Zouche offices, as due to cv19 staff were not present and parts were locked.

    Thus, we were not able to determine whether they all ran off the same system, whether there were separate zoning controls and what timers were available to users.

The Mind Office is normally occupied from 10am to 4pm, Monday to Friday. It is important that if linked to the museum store heating system, which reportedly may need heating 24/7, that they have a separate control system.

Check all these issues with the relevant tenants when they return.

11. The central-heating was on in the Mind offices despite being unoccupied due to cv19. Ensure all unoccupied tenants offices during pandemic have their heating systems turned down to frost-protection (4C).

12. Install heat-reflectors behind all radiators on outside walls. This is more important o older solid walled buildings like the Seed Warehouse.

13. The easiest way to move to a zero-carbon option for heating for the Warehouse would be to replace any gas central-heating boilers with an electric-boiler, coupled with a genuine green electric tariff.
The other alternative would be an air-source heat-pump to likewise operate the central heating system (more efficient if installed correctly than an electric boiler) or to switch heating systems completely to infra-red panels.

Tourist Office

Suggested Recommendations

1. Draught-proof the front-door including the letter-box.

2. The large shop-windows' design allows for the installation of secondary glazing but the premises is not on a long-term lease.

3. Heating is provided by the air-conditioning unit. As the door opens and closes frequently with visitors, this means a lot of the heat is lost and staff can be cold and additional electric-heaters are being used to try and keep them warm.

   Thus, consider trialling infra-red panel heaters which heat the fabric of the shop and staff rather than the air.

   For a trial, you could get a plug-in version placed on wooden feet, rather than installing it on wall or ceiling.

   The average infra-red panel consumes about 500 watts compared to a convector heater using 1000 watts, an oil radiator up to 2000 watts and a storage heater 3500 watts.

Grounds Maintenance Shed

1. An infra-red panel heater would be more efficient here than an electric convector heater.

2. Check walls and roof of shed for insulation.

6. Electricity

Existing Good Practice

1. The council is on a green-tariff from for the council's own buildings. Having switched to a green electricity supplier who sources all of their electricity from zero carbon sources such as hydro, wind and solar panels, ensures all of the electricity used by the council premises is carbon-neutral.

   This was the fastest and most effective step the council could have taken, especially as most of the heating is also electric.

   Orsted Energy undertake to match regional renewable electricity price quotes: https://orstedbusiness.co.uk/en

   Good Energy and Ecotricity are the top two rated green-electricity suppliers and SSE also have good quality renewable energy tariffs, if you would like additional quotes to Orsted Energy.
2. The wine fridge in ground-floor kitchen was turned off as not being used.
3. The fridge in the ground floor kitchen is also turned off when not in use.

Suggested Next Steps

Town Hall

1. Ensure laptops/computers are set to energy saving mode and lower the screen brightness to appropriate level for users, unless people have specific eye-problems.

2. Check that the electric water-heater in the basement is timed to coincide with occupation hours of castle.

3. Consider if it is possible to rationalise the fridge/freezers in the ground floor-kitchen.

The Seed Warehouse

Suggested Recommendations

1. The bathrooms in the Millbridge Rooms all had eco heating-tubes which help prevent frost-damage during the night during cold-spells. We could not however find the controls and so concerned that they may be left on 24/7 year-round. Try and track these down and ensure operated in line with requirements.

2. The tenants in the top-floor have had air-conditioning installed, due to over-heating in summer in the roof-space.

   Each a.c. unit will consume about 2kw/h and so are expensive to run. Air-conditioning can double the energy consumption of a building.

   It is important therefore to inform the tenants on its efficient operation:

   a. The CIBSE recommendation is that offices should not be cooled below 25C, any lower and it can be wasting up to 100% of energy used.
   b. Windows and doors must be kept closed when system is operating, otherwise expensively cooled air escapes and energy is wasted.
   c. Do not set temperature lower than recommended in order to cool space faster. This is not how they work and will lead to over-cooling and so wasted energy.
   d. It should be turned off about an hour before the office closes, as cooled air should last an hour usually.

3. It is important that the guidance for hall-hirers includes a request to not leave external doors open when heating is in operation.

Tourist Office

Suggested Recommendations

1. Put a timer on the electric water-heater, so that it is only operational during opening hours and not 24/7.

2. Air-conditioning can double the energy consumption of an office or shop. It is important therefore that staff are trained in its efficient use.

   a. The CIBSE recommendation is that shops should not be cooled below 25C, any lower and it can be wasting up to 100% of energy used.

b. Windows and doors must be kept closed when system is operating, otherwise expensively cooled air escapes and energy is wasted.
c. Do not set temperature lower than recommended in order to cool space faster. This is not how they work and will lead to over-cooling and so wasted energy.
d. It should be turned off about an hour before shop closes, as cooled air should last an hour usually.

Parks/Allotments - Renewables

Suggested Recommendations

1. Assess potential for installation of any small to medium sized wind-turbines at your cemeteries and allotment sites etc
Would need to be some distance from any housing. GM said that Hertingfordbury Allotment site is usually windy. And upper part of site is some distance from any housing.

2. Assess potential for installation of solar PV systems at any car-parks or open spaces under the council's control.

The Solar Shed Company have experience in installing arrays in open fields. So, you might like to ask them about potential array at the allotment car park or cemeteries.

https://www.thesolarshed.co.uk/about-us/

https://www.bre.co.uk/filelibrary/nsc/Documents%20Library/BRE/89087-BRE_solar-carpark-guide-v2_bre114153_lowres.pdf

7. Lighting

Town Hall (Castle)

Current Good Practice

1. LED lighting is in the process of being ordered and installed across the town hall. Some have already been installed e.g. chandeliers.

Suggested Next Steps

1. The main office had 12 x 70-watt fluorescent light fittings, consuming 840-watts. See if these can be replaced with four pendant (rather than boxed) 16-watt LED lamps and 6 x 5-watt LED desk lamps.

   This would allow lighting to be reduced to 94-watts at maximum usage and would allow greater flexibility for staff choice of lighting and allow empty desks to be not lit when staff away. Pendant lamps whether fluorescent or LED are far more efficient than boxed or recessed options.

2. Likewise get 5-watt LED desk-lamp for Town Clerk's office, to reduce need for most overhead light use.

3. Ensure lights are off in Downshire Suite when not being used.

4. Ensure that any inefficient halogens lamps are replaced by LEDS, which use about a tenth of the energy.

5. The CDA CEO office has 2 x 70-watt fluorescent lamps. For a lot of the year, a 5-watt LED desk lamp should provide sufficient light and 2 x 16-watt pendant LED lamps enough ambient light in darker part of winter.

6. The other CDA offices likewise have inefficient 70-watt fluorescent tubes, that need replacing. See recommendations for main town council office.

Tourist Office

Suggested Recommendations

1. Replace remaining inefficient halogen spot-lamps with LEDs.

2. There are 16 x 32-watt fluorescent tubes = 512 watts. Replacement with about 6 pendant LED lamps would reduce this to 120 watts.

The Seed Warehouse

Suggested Recommendations

1. Get movement sensors for all the bathroom lights.

2. Replace any inefficient T8 fluorescent tubes with LED tubes or pedant LED lamps. But ensure you get the correct warmth lamps to ensure they create a nice ambience, rather than a cold blue light.

8. Waste Reduction/ Recycling

Town Hall / Castle

Current Good Practice

1 The town-hall already has a recycling system for bottles / cans/ glass/ cardboard/ paper/ plastic-bottles.
2 The reported recycling rate of 50% is above national average of 43%.
3 You have installed hand-driers in the town-hall bathrooms, which eliminates need for wasteful paper-towels.
4 Real mugs and glasses are used for staff drinks
5 Most invites for events are now sent by email.
6 Allotment agreements are now done electronically rather than on paper.

Recommended Next Steps

1. Train those entrusted with purchasing authority, such as furniture or equipment, in green purchasing policies, i.e. reduce, re-use, recycle and how to implement them. For example, first checking to see if the item is actually required or is available pre-used on eBay or elsewhere.

2. Avoid buying anti-bacterial soap for any of your premises, as it should only be used in clinical situations.

   The FDA says that traditional soap works just as well for ordinary bathroom usage and to tackle cv19 which is a virus is not a bacterium.
   The active ingredient Triclosan in many anti-bacterial soaps is polluting waterways and the seas.
   https://www.fda.gov/ForConsumers/ConsumerUpdates/ucm378393.htm

   A plant based soap for refillable soap-containers is available from Bio-D
   https://biodegradable.biz/shop/hand-soaps/bio-d-geranium-sanitising-hand-wash-5l/

3. For those councillors who are comfortable using a laptop or tablet, provide agenda papers electronically. Currently we understand all committee reports are printed.

4. Check with the auditors whether they still legally need any paper-copies of any records and move those items that do not need to have paper-records onto electronic formats.

5. Promote copying onto scrap-paper when clean paper is not needed for internal purposes.

6. Buy pens that can use refills.

10. By getting your cleaners to use e-cloths for bathroom surfaces, kitchens and windows, you can eliminate almost all of the need for many bottled liquid cleaning products. https://www.e-cloth.com

11. Explore options for providing recycling bins on your open-spaces.

12. Government guidance on cv19 advises the provision of hand-drying facilities in bathrooms but does not differentiate between hand-driers and paper-towels.

    Environmentally hand-driers are preferable and thus we recommend not providing paper-towels.
    https://www.hse.gov.uk/news/assets/docs/talking-with-your-workers.pdf

Tourist Office

The tourist office recycles about ½ a wheelie-bin per week.

Do not buy anti-bacterial soap. (see above).

The Seed Warehouse

Suggested Recommendations

1. Do not use anti-bacterial soap.

2. The installation of hand-driers in Millbridge Room bathrooms would remove need to provide paper-towels.

3. The Seed Warehouse does not currently have a recycling service.

   It produces an estimated 1 wheelie-bin of general waste/week + waste from about 10 parties per year.

   Introduce the same recycling system as you have in the Town Hall and include the costs in the tenants rent.

9. Purchasing / Miscellaneous

Town Hall / Castle

Suggested Next Steps

1. Switch to 100% post-consumer-waste recycled paper for internal photocopying and any external printing work for newsletters, flyers, posters, tickets etc.

   Evolve is one of the better-quality photocopying paper brands on the market. This would save about 78 trees and about 7 tons of CO_2 per annum.

   FSC regular paper is usually the same virgin paper we have always used and has a far higher carbon & ecological footprint than paper made from recycled post-consumer waste.
   https://www.independent.co.uk/independentpremium/voices/recycling-forest-paper-printing-global-emissions-climate-change-a9563101.html
   (*Can be read for free by registering*.)

Some printers do not charge a premium for using recycled-paper. If you cannot find one locally, alocalprinter.co does recycled paper with vegetable-ink printing at a reasonable rate.
http://www.alocalprinter.co.uk/eco-printing/green-printing-policy

If both your photocopying and external printing were switched to recycled paper, it would save over the next decade an estimated 780 trees or the equivalent of a small woodland!!

These trees would also store up to 780 tons of carbon.
Don't forget to include "printed on 100% recycled paper" on the artwork.

2. Ensure bathroom tissue, kitchen-roll and paper-towels are also all made from 100% post-consumer recycled paper and not just FSC certified paper for all premises.

3. Buy bin-bags made from recycled plastic for all premises.

4. Ensure those in charge of stationery purchasing, are aware of your green purchasing policies and ensure in future that items such as post-it notes, envelopes, small note-pads, new files, flipchart paper, etc are made from recycled materials.

5. Buy organic and fair-trade tea/coffee, sugar and organic milk. If not available locally, try: traidshop.co.uk

6. For your remaining cleaning products switch to Bio-D, which are made in the UK, unlike Ecover.
https://biodegradable.biz/laundry/laundry-liquid-with-juniper-seaweed-5l.html

The Tourist Office

Current Good Practice

1. Local products are sourced and sold in the tourist office shop which is excellent.

Suggested Recommendations

1. Buy bin-bags made from recycled plastic.
2. Ensure bathroom tissue and paper -towels are made from recycled paper.
3. Try and ensure items are sustainably packaged if possible.
4. Use recycled paper bags for the shop and put a sign-up saying that you welcome people reusing their own bags.

Grounds Maintenance Shed

Suggested Recommendations

1. Buy bin-bags made from recycled plastic.

10. Grounds Maintenance / Cemeteries

Existing Good Practice

The council owns or is responsible for the ground maintenance of a number of open spaces across the town.
These include old closed cemeteries, currently operating cemetery, children's play spaces etc
The grounds maintenance team is already very supportive of placing a positive value on protecting and encouraging local wildlife on your open-spaces.

We make suggestions below on how this can be built on and expanded to make the local spaces the council pays for the upkeep of, to be of greater value to the local community and wildlife.

Whilst we lay out some broad suggestions below, we recommend consulting with local wildlife specialist organisations to guide the details.

Current Good Practice

1. Some areas in the cemeteries are already being used to encourage wildflowers and a sign is up on the paupers' graves area to inform the public about this.
2. A number of verges already have native species hedging.
3. Leaves are left to naturally decompose rather than collected and dumped.
5. Council does not collect organic waste from allotments, which means it gets composted on site.
6. Pesticide usage by grounds maintenance team has already been reduced.
7. Some of the woody waste from open-spaces is taken away to be converted into biomass pellets.
8. Grass is cut by a mulching mower, which eliminates this green waste being taken offsite.
9. Hedge trimmers are already electric and staff happy with quality.
10. A biological survey of the operating cemetery has already been carried out.
11. Work to improve the wildflower populations in the main cemetery has already been piloted.
12. The play-equipment at Pinehurst Play Area is made from wood rather than un-recyclable plastics.

Suggested Next Steps

1. It is important to value the existing and potential wild areas in your open spaces, as these are the spaces where wildlife, insects and birds can thrive.

   Britain is one of the countries with the greatest wildlife losses on the planet. Globally we have lost 60% of all wildlife populations since the 1960s, with some estimates of insect populations having collapsed by 80%.
   Blank open green spaces of just grass are in reality ecological deserts. See if you can increase the amount of wildlife friendly areas.

   But it is important to indicate to the public that such areas are deliberately left wild by having a nice tidy border or fencing around them and signs explaining their positive purposes.

2. Converting some of your grassed areas to wildflower meadows, with neat trimmed borders, would help re-establish some local insect populations, needed by birds and small mammals to feed off.

3. For open grassed areas, that you wish to keep mown, explore mixing in more low-height flowering and herb cover plants e.g. clover and chamomile.

   These provide food for bees and insects, unlike plain grass.

4. Boundaries with natural woodland hedging, where appropriate, around the various open spaces could include an edible forestry approach, with hedges including hazelnut, wild pear, wild plum, mulberry, walnut trees etc

5. Ensure any remaining diesel or petrol grounds-maintenance equipment, such as blowers & strimmers are replaced with electric options. Staff are already looking into this.

   Which Magazine have carried out a review of electric leaf-blowers:
   https://www.which.co.uk/reviews/leaf-blowers

   One of our clients with large school grounds, have made the switch to electric blowers etc and are happy with the results. We understand that Huntingdonshire ground maintenance team have made the switch to electric equipment and are happy with the results.
   https://bestofmachinery.com/best-electric-leaf-blowers/

   Electric equipment is safer, has less vibration for users and is quieter and so safer for hearing.

6. Consider replacing the grounds maintenance team's leased diesel Ford Transit with an EV option, upon expiry of current lease.

7. Research local availability of biofuels for the petrol driven mowers, until such time as you convert to electric mowers.
   https://www.gardenlines.co.uk/search/department/lawn-mowers/manufacturer/greenworks

8. Ideally, all green waste would be composted on-site at each of your open-spaces. The castle grounds for example currently has no composting facility for its green waste.

9. See if you can eliminate the remaining usage of the herbicide glyphosate, which is a recognised potential carcinogen and damaging to bees.

   https://www.bbc.co.uk/news/world-us-canada-45155788

   Options could include a return to manual weeding or alternatively, you might consider jointly buying with adjacent town-councils a completely chemical free steam weed-killing machine:
   https://multevo.co.uk/products/waterkracht/

10. Ensure that any play equipment is made from sustainable materials such as wood. These thus become a carbon store, whereas equipment made from metal or plastics incur a much larger embedded carbon price and are more difficult or impossible to recycle and do not biodegrade.

11. Likewise seek to use natural wood chips rather than unrecyclable artificial surfaces for playground spaces where fall-protection is needed.

12. Staff said that there was not enough land in the cemetery to create a woodland burial area. Maybe the council could consider borrowing money to buy suitable land for the creation of a wood and use the money from woodland burials to fund the creation of the wood.

    This would as well as providing choice for local residents, also provide wildlife habitat and would be a carbon sink for the town, with each mature tree storing up to 1 ton of CO2.

13. The council collects about 11 skips of rubbish each year from the allotments and allotment clearances which all goes to landfill. We suggest that the council charges a deposit to cover the costs of this waste clearance at end of tenure.

14. Include a requirement to keep allotments pesticide and herbicide free in the allotment conditions. Also include condition to avoid systemic pesticide treated plants. Insect populations are estimated to have fallen by about 80%, leading to ongoing collapse in bird and mammal populations dependent on them.

15. Also include a condition that organic waste from allotments to be composted and not dumped in council skips.

16. Add a condition ruling out use of polluting artificial fibre carpets and toxic tyres.

17. England has lost a large proportion of its natural ponds, which has had a negative impact on biodiversity.
    Consider suitable locations for pond creation on all of your open spaces, including cemeteries.

18. Decaying tree-trunks are valuable for providing habitat to a host of wildlife, plants and fungi.

    In future, rather than going to expense of disposing of dead or fallen trees, try and place them somewhere on site, where they can decay slowly.

19. Place water-butts on the sheds in Hertford cemetery.

20. Identify potential sites for small community orchards on your various open spaces and redundant cemeteries and work with local groups to plant and maintain them.

Cemeteries

You have a number of cemeteries that you are legally responsible for the ground-maintenance of, that belong to the Church of England but which are predominantly closed to new burials.

Due to time constraints, we only visited two of your cemeteries, All Saints and North Road.

All Saints Churchyard

This is a closed cemetery in the church grounds for which the council is responsible for the grounds-maintenance. There are others in similar positions which the council is responsible for, which we did not visit and so we suggest applying these principles to the other closed cemeteries.

It already is positively maintained in a manner which has encouraged some good ecological value.

Suggested Recommendations

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1. A new strategic vision for this space would be to convert it into a small eco-park for the local community. There are no other local public open-spaces available in near vicinity.
   Naturally such a proposal would have to be developed in partnership with the church and local community and done sensitively.
   The rest of the recommendations outline potential elements that you could include in such a new vision for these open spaces.

2. Significant areas are still subject to an expensive high-frequency grass-mowing regime (every 3 weeks). Consider converting most of these to natural woodland and wildflower meadows, with the boundaries neatly maintained and with clear signage explaining the maintenance regime.

3. Consider moving most of the long-abandoned gravestones to the side of the cemetery, to increase the open space available for nature and community usage. The more elaborate memorials could be left in place to act as objects of historic interest.
   They currently require a high-labour strimming maintenance.

4. Plant a natural woodland hedging along the boundary with the busy dual-carriageway to reduce noise and pollution and increase amenity value of the churchyard.
   This could be mixed native-hedging & trees including some wild fruit and nut trees such as wild plum, wild pear, cobnut & walnut etc

5. Ensure clear sight-lines are maintained around the entrances, to ensure visitors feel safe entering the mini eco-park.

6. It would be good to include some native evergreens, to provide some colour and visual interest in winter such as scots pine, holly and yew.

7. Install a wildlife pond.

8. Cut grassed paths through the new eco-park and create small areas of open cut-grass for people to have picnics or sit-in and install some seating for the elderly.

9. A corner of the new eco-park could be used to create a community orchard.

10. Install a small children's play-area with wood-based equipment.

Hertford Cemetery, North Road

This is a large town cemetery that has spare capacity for some years ahead.

Part of the site is an old closed church cemetery, with the rest of it being operational and belonging to the council.

Parts of the boundary has a mature rural hedge.

Rural hedges can provide invaluable habitat, protection and food for a wide variety of wildlife, including birds, insects and small mammals.

1. Consider applying the small community eco-park thinking to the old closed part of the cemetery. This could create a nice place for visitors to the rest of the cemetery to rest and enjoy the rural ambience, after they have visited their loved one's grave in the other section of the cemetery.
   Moving most of the abandoned grave-stones to the sidewall would create the space for making this.

2. The cemetery has a high-maintenance railing along the front boundary. Consider allowing the boundary to become a natural woodland hedge. This would eliminate need for expensive painting maintenance, provide a more pleasant ambience for the cemetery by protecting it from traffic noise and pollution, provide wildlife habitat and food and the trees would be a carbon store.

3. There is a large expanse of grass which has medium maintenance, that is reserved for future burials.
   With sensitive treatment, this could be converted into a wildflower meadow, which would be a nice habitat for insects and the birds that feed off them and would add to the visual richness for visitors.

This would need about a one-meter cut-grass neat border and signs to indicate the purpose of the meadow.

4. Staff reported that the site is quite windy but is adjacent to housing. It would therefore be worth investigating its potential for maybe a single medium sized wind-turbine.

5. Consider banning plastic flowers due to being non-compostable and the pollution associated with their production and the risks to wildlife if parts are ingested.

6. Also do not allow plants with systemic pesticides to be placed on graves, as these are devastating for bees and a wide range of native insects.

7. Allow the fence side of the beech avenue at the top of the site to go wild. Reduces maintenance time and adds wildlife value.

8. Consider reverting back to the rule that only headstones are allowed. Imported marble gravel and grave borders have high embedded carbon and cause substantial environmental damage at mines, as does concrete.

   These elaborate border and grave treatments also make it difficult for the team to maintain, as requires manual strimming or chemical treatment of marble-gravel covered graves etc.

Pinehurst Play Area

1. The site is subject to some vandalism.

   Consider working with local community/ kids to plant-up patches of woodland along the right-hand boundary and along the wooden fencing adjoining the educational centre.

   Giving ownership to the kids by including them in the planting can often help ensure that they look after rather than vandalise planted trees etc.

2. You are using rubber mulch for the play-area. This has a range of ecological and safety issues.
   https://www.thisiseco.co.uk/news_and_blog/how-long-does-rubber-mulch-last.html
   Consider switching to wood-chips instead.
   Indeed, some studies encourage kids to be exposed to soil and natural dirt.
   https://letgrow.org/benefits-of-soil-microbes

11. Events

The council organises a range of events over the year, some of them quite large, with up to 10,000 people and so these will have significant climate and ecological impacts, so it is important that you pay attention to reducing where practical their environmental impacts.

For example, let's say everybody coming to your biggest event has a beef-burger, at 7.7kg of Co2 per burger, this would emit 77 tons of carbon.

The significance of this becomes apparent when you compare this 77-tons of carbon emissions, with the 53 tons total for measured net carbon emissions for the town-council's own operations.

If they ate a tofu-burger instead, at 0.16 kg of CO2 per burger, this would emit 1.6 tons of CO2.

In such a theoretical situation, providing only veggie burgers at one event, could save more carbon than all the town-council's measured emissions over an entire year!

The following section is divided into two parts, the first is specific suggestions arising from our conversation with Melissa and the second is a generic tick-list for events.

The events team have already moved a lot of marketing online and reduced paper flyers etc.

Specific Recommendations

1. Reducing disposable ware at events is a challenge. Encourage stall-holders to use reusable plastic ware e.g., by using deposit systems for reusable mugs/ plastic glasses etc.

2. Ensure food-waste due to its high methane emissions at landfill is collected for recycling at large events that have food-stalls. Methane is up to 100 times more powerful greenhouse gas than CO2.

3. Ensure at least metal cans, plastic and glass bottles are recycled at large events.

4. Provide a sign for stall-holders with message such as "We Welcome You Bringing Your Own Reusable Bags or Containers".

5. Consider what steps you can take to reduce beef and lamb consumption at large events, due to their extra-high carbon emissions. Ideally, your events would be vegetarian only, but we recognise this may be challenge. At a minimum ensure that there are vegetarian-only stalls present, if meat-selling stalls are allowed.

6. Beer Festival – consider creating your own branded reusable glasses and charge £1 deposit.

7. Consider asking people to bring own food containers, reusable mugs or shopping bags in pre-festival info.

8. Require all stalls selling drinks in disposable mugs or glasses to accept reusable mugs/glasses from the public, with signs up telling the public.

Events – Generic Tick List

All events have different environmental impacts but this suggested generic tick-list should be considered by those arranging events by the council.

1. Appoint a named staff member to be the Green Champion responsible for the environmental performance at each event.

2. They should be trained on how to use heating efficiently with the correct temperatures and doors and windows operated sensibly.

3. Natural light should be used where practical.

4. Any electrical equipment should be used efficiently and turned off when no longer needed.

5. Ensure recycling facilities are available, properly labelled and easily found.

6. Avoid use of disposable crockery and cutlery for food and drinks.

7. If using disposable serviettes, ensure they are made from recycled paper.

8. Consider food-miles when choosing wine and other drinks. Ideally if serving wine, it should be English and organic.

9. Use jugs of tap water, rather than bottled water.

10. Try to use local organic food and drink.

    UK soils are being lost at an alarming rate due to industrial agriculture, with some soils reported by UK government to have only 40 crops left in them.

11. Avoid tropical or orange juices; try English apple or pear juices instead.

    A litre of orange juice is estimated to represent 1,000 litres of imported water, usually from a water-scarce country such as Spain, California, Morocco or Israel.

12. Consider doing all-vegetarian catering.

    The UN has estimated that the meat industry contributes about 18% of total global climate-crisis gases.

13. If this is not possible at this stage, then seek to at least avoid beef and lamb, which together are responsible for a staggering 7.5% of all UK domestic carbon emissions.

    For example, if steak was chosen for the Mayor's dinner and there were 300 people in attendance, this alone would emit about 9 tons of CO2 or the equivalent of 3 years emissions by the average UK home for both gas and electricity!

    There are now some very realistic plant-based meat substitutes.

14. If serving fish ensure it's MSC (Marine Stewardship Council) certified, as coming from a sustainable fishery which is not being over-exploited.

15. Encourage people coming to events to use sustainable transport methods.

16. If providing any printed literature, ensure that it is on recycled paper and labelled as such.

15. Eco-audit Implementation

1. E-mail eco-audit report to all town councillors, staff member and members of the youth council.

2. Add implementation of eco-audit report recommendations as a standard agenda item for staff/management meetings.

3. Create a spread-sheet with traffic light coding for each specific recommendation, identifying whether done, being implemented, postponed or rejected.

4. Use a newsletter to get information out about how residents can reduce their carbon and ecological impacts.

5. As the council buildings are publicly-owned they will qualify for interest-free loans from Salix Finance, which is a scheme run by the government to finance energy efficiency in public buildings. https://www.salixfinance.co.uk/

Report by Donnachadh McCarthy, 3 Acorns Eco-audits, January 2021