



The City of London Corporation provides local government services for the City, promotes London internationally as the world's leading financial centre, has its own dedicated City of London Police authority is the Port Health Authority for the River Thames, Maintains 10,000 acres of open space and manage an operational and investment property portfolio, which includes the Bridges (Tower Bridge); Schools; Housing; Museums; Police Stations; Crematorium; Food Markets (Wholesale); Courts (Old Bailey); and Theatre and Arts (Barbican Centre).

The City of London has a long history in energy management having established a Member level Energy Committee back in 1975, a dedicated Energy Team in 1985 and began reporting publicly on its CO₂ emissions since 1995. The City of London was the first Local Authority in the country to be Carbon Trust Standard Accredited. Energy is managed through the E³ principle:

1. Energy procurement – buy energy as cheap as possible;
2. Energy efficiency – do not waste the cheap energy;
3. Energy design – for the longer term, design to minimise the energy requirements of buildings.

The City's CO₂ target is contained in the City's Climate Change Mitigation Strategy with a headline indicator of 80% reduction target by 2050 with interim targets of 15% by 2015 and 34% by 2020. In order to deliver on the Climate Change Mitigation Strategy the Corporation has implemented the Carbon Descent Plan (2009) which sets an energy reduction target of 15% over five years (to 2015) from 2008/09 baseline. This target is translated to action through Chief Officer's appraisal targets.

Each department has developed their own specific Departmental Energy Action Plan and a Carbon Energy Review Group (CERG) was formed with senior representatives from each department to review the Departmental Energy Action Plan and their progress. Energy consumption data against targets is reported quarterly to Chief Officers. To assist the Energy Team and the CERG co-ordinator with the City of London Corporation's diverse range of buildings and services, they enlist the help of about 50 voluntary 'Energy Wardens', whose role is to maintain awareness of energy and water conservation amongst staff and to provide local support and feedback to the Energy Team.

The intention is to ensure the City of London is in a position to meet its long term CO₂ reduction targets whilst simultaneously minimising expenditure. The City of London approach has;

- ensured clear responsibility and accountability;
- improved data gathering;
- established more robust accounting practice to ensure bills match consumption and rates;
- improved building services systems control;
- Enhanced energy data feedback and reporting.

The City of London Corporation's CRC gas and electricity Carbon Footprint for 2010/11 was 118,425 MWhs, which equates to 52,223 tCO₂ when liquid fuels are added. The Barbican Arts Centre consumes 8.5% of this electricity and gas; it also consumed 8,212 MWhs of heat and cool from the Citigen district heating & cooling, power station.



The Barbican Centre is Europe's largest, multi-arts/culture and conference venue, presenting a diverse range of art, music, theatre, dance, film and creative learning events. The Centre was founded and run by The City of London Corporation as part of its contribution to the cultural life of London and the nation. The architecturally renowned Centre, now Grade II listed, opened in 1982, operating 0800-2300hrs, 363 days per year. Delivering in excess of 3700 events over the past twelve months.

A DEC '73/C' rated building, the Barbican Centre is committed under BS8901 to reduce this rating by one point per annum. The absolute annual unit energy consumption over the past two years has **reduced by -7.9%**.

The building services function, operation, maintenance and projects are delivered using an in-house team of 36 staff including Managers, Supervisors & trade Engineers/Technicians on a 24/7, 365 day basis. This team also operates/maintains the Guildhall School of Music & Drama conservatoires building stock. As a consequence the Barbican Centre's Carbon Mitigation strategy/reduction plan is modelled upon that from the HE sector requirements.

Key reasons for the Barbican Centre's sustainable successes can be attributed to:-

- A Corporate commitment and buy-in at the most senior level to a sustainable ethos and behaviours. Chief Officers being personally accountable.
- The Finance Director recognises sustainability is an organisational win win!
- Recognition that sustainable behaviours and technical interventions require differing skill sets for successful delivery.
- A dedicated, competent & technically knowledgeable hard-FM team, with integrated responsibility for systems controls, maintenance and utility budgets. This integrated blend provides the priming fund for sustainable interventions and minor 'invest to save' projects.
- Having focus in the form of a Carbon Mitigation Strategy & implementation plan.
- Understanding the balance and necessity to monitor measure and sell success & continuously feedback outcomes.
- Empower staff; embed sustainability into their appraisals, making individuals responsible and accountable.
- Embed sustainability into the design of all new works; calculate & utilise life cycle/carbon cost modelling for decision making.
- Utilise technology/automation, BEMS/M&T/Lighting Control systems etc.
- Standard control protocols are just that and unlikely to be optimised for bespoke environs/applications. Utilise building physics/thermodynamics to maximise BEMS efficiencies and minimise consumptions.
- Minimise operational parameters to deliver client satisfaction, challenge these parameters, understanding that what was, is not necessarily acceptable now.
- Utilising external expertise, a fresh pair of (competent) eyes can invariably assist.
- Continuously challenge conventional HVAC modus operandi, sustainably experiment, don't be afraid of failures, and learn from them.