

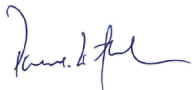




Sustainable Property Management 2016 Guide

Property and Facilities Management

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Guide Contents

Foreword	1
Introduction	2
1. Compliance	4
1.1. Environmental Legal Register	5
1.2. Property Risk Evaluation	5
1.3. Compliance monitoring	6
1.4. Regulators and Guidance	6
2. Energy	8
2.1. Energy Performance Certificates (EPC)	9
2.1.1. Display of EPCs in buildings visited by the public	9
2.1.2. Minimum Energy Efficiency Standards (MEES)	10
2.1.3. Assessment of Carbon and Energy Performance (ACEP)	12
2.2. Display Energy Certificates	13
2.3. Energy Savings Opportunity Scheme (ESOS)	14
2.3.1. ESOS Assessments	14
2.4. Green Deal Assessments	15
2.5. Air Conditioning Inspections (ACIs)	16
2.6. Carbon Reduction Commitment Energy Efficiency Scheme	17
2.7. Energy and Utility Management	20
2.7.1. Energy Efficiency and Management	20
2.7.2. Energy Audit	20
2.7.3. Bureau Service	21
2.7.4. Energy and Renewable Energy Procurement	22
2.7.5. Recording Energy Consumption Data	22
2.7.6. Reporting Energy Consumption Data to Tenants	24
2.7.7. Consumption Apportionment	24
2.7.8. Heat Network (Metering and Billing) Regulations	24
2.7.9. Metering and Sub-metering	26
3. Water Management	28
3.1. Water Efficiency	29
3.2. Water Audit	29
3.3. Water Metering	29
3.4. Recording Water Consumption Data	30
3.5. Monitoring the Water Supply	30
3.6. Reporting Water Consumption Data to Tenants	30
3.7. Water System Control and Maintenance	30
3.8. External Drainage	31
3.9. Charges for Surface Water Drainage	32
3.10. Wastewater Abatement	33
3.11. Rainwater and Greywater Harvesting	33
3.12. Water Treatment and Chemical Usage	34
3.13. Closed Loop Water Systems and Pseudomonas	34
4. Waste	36
4.1. Waste Legislation	37
4.1.1. Duty of Care	37
4.1.2. Removal of Waste from Site	37
4.1.3. Waste Electronic and Electrical Equipment	38
4.1.4. Waste Produced During Refurbishment and Fit-out	38
4.2. Waste Management and Minimisation Best Practice	39
4.2.1. Waste Audit	39

4.2.2.	Waste Segregation	40
4.2.3.	Recording Waste Data and Reporting to Tenants	41
5.	Pollution Prevention	42
5.1.	Refrigeration	43
5.2.	Oil Interceptor Maintenance	46
5.3.	Oil Storage	47
6.	Transport	48
6.1.	Green Travel Plan	49
6.2.	Car Pooling	50
6.3.	Cycle Facilities	51
7.	Cleaning	52
7.1.	Green Code of Practice	53
8.	Landscaping, Internal Planting and Ecology	54
8.1.	Green Code of Practice	55
8.2.	Invasive Species	55
8.2.1.	Identifying Invasive Plants	55
8.2.2.	Handling and Disposal of Invasive Plants	56
8.3.	Protected Species	57
8.4.	Habitat Management Plans	57
9.	Flood	58
9.1.	Flood Risk	59
9.2.	Flood Risk Management Plans	60
10.	Health and Well Being	62
10.1.	Mechanical and Electrical (M&E) Plant Maintenance	63
10.2.	Air Quality Testing	63
10.3.	Service Charge Budget	64
11.	Management Procedures	66
11.1.	Environmental Audits and Assessment	67
11.2.	Environmental Management Systems (EMS) and ISO 14001	68
11.2.1.	Capita – ISO14001	68
11.3.	Tenant Fit-Out and Licence for Alterations	69
11.4.	Sustainability Benchmarking	70
11.5.	Tenant Engagement	71
11.5.1.	Tenant Handbook	71
11.5.2.	Tenant Meetings	71
11.6.	Environmental Training and Awareness	71

Foreword

Welcome to the second edition of this guide, which demonstrates the aim of Capita Real Estate and Infrastructure to be the property manager of choice. We work to continually improve our environment and sustainability performance, both in line with our ISO 14001 certification and evolving best practice.

This document promotes best practice strategies and summarises the processes and procedures in place at Capita for the delivery of a sustainable property and facilities management (SPM) service which, within reasonable constraints, is sustainable and minimises environmental impacts.

The Guide has been developed in line with the advice provided by the Better Building Partnership's Managing Agents Sustainability Toolkit and, we believe, places Capita amongst the industry leaders for our sustainable property management service.



Suzanne Roberts, Head of Sustainability,
Capita Real Estate and Infrastructure

Statement of Support

"We very much welcome this timely update to Capita's Sustainable Property Management Guide. We have seen significant changes in the drivers for sustainable real estate since the original version was published, not least the introduction of Minimum Energy Efficiency Standards (MEES) and the Energy Savings Opportunity Scheme (ESOS). It is clear that sustainability is no longer an optional extra for many landlords and this comprehensive guide will enable Capita's property management professionals to respond to their requirements and help them derive value from the sustainable management of their real estate assets."



Sarah Ratcliffe, Programme Director
Better Buildings Partnership

Introduction

The *Sustainable Property Management Guide* should be used as a first point reference guide by surveyors, property, facility, building and centre managers, and all other staff directly involved in the management of sites, to understand our environmental responsibilities and the ways in which these shall be improved, monitored and managed.

The 2016 edition of the Guide has been revised to include new and forthcoming environmental legislation that has been announced over the last 24 months. Perhaps most notably there has been extensive new energy legislation introduced across the UK, including the Minimum Energy Efficiency Standards (MEES), the Energy Savings Opportunity Scheme (ESOS), the Assessment of Carbon and Energy Performance (ACEP) and the Heat Networks (Metering and Billing) Regulations. However there have also been introductions in other areas as well, including the Waste (England and Wales) (Amendment) Regulations 2012 and the Fluorinated Greenhouse Gas Regulations 2015.

It is the responsibility of all staff to ensure that they carry out their designated functions in line with these guidelines, and to report any environmental hazard or incident as soon as possible to the appropriate authorities. It is not the intention of the guidelines to proscribe in detail how each site facility should be managed in terms of specific functions or environmental performance, and it is recognised that there are a wide variety of building types, functions and tenants, which all play a role in determining management priorities, and what is practical in terms of sustainability.

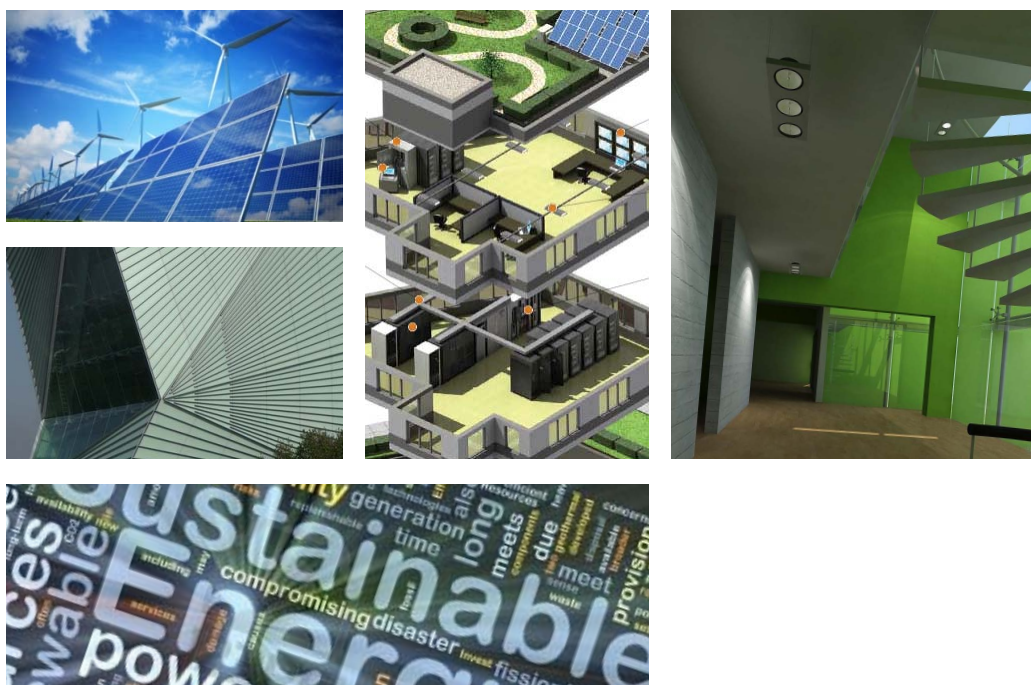
It should however be noted that in almost all instances the best environmental option will also be the most resource efficient option, and therefore the most cost effective option (as long as implementation costs are not prohibitive). A good rule to follow when implementing any new procedure or equipment is the best practical environmental option (BPEO) i.e. that which gives the highest attainable environmental options within the available budget.

This guide is supplemented by the Capita Sustainability Questionnaire. This questionnaire enables us to monitor and manage the sustainability performance of our buildings, and to establish initiatives for environmental improvement where required. The questionnaire is a bi-annual requirement for all service-charged properties, which is completed by the responsible facility, building or centre manager with input from the surveyor. The responses will be reviewed and audited on a regular basis by Environment Consultancy, to confirm that the information provided is accurate, and to identify areas for potential environmental improvement and resource efficiency.

This guide also identifies our internal teams who can provide specialist services and assist with sustainable property management, and you are encouraged to liaise with them accordingly.

For wider sustainable property management guidance readers are referred to the Better Buildings Partnership's Managing Agents Sustainability Toolkit, which has been developed by members of some of the UK's largest property owners and managers, including Capita Real Estate and Infrastructure.

This guide will be reviewed periodically and updated accordingly in order to support colleagues and to convey evolving changes in legislation and industry accepted best practice.



1. Compliance

In all cases legal requirements must be met, and where possible exceeded. This will ensure that our operations are carried out in a legally compliant and environmentally responsible manner, which causes minimum impact to the natural world.

Environmental legislation governs the way in which we, our clients and service partners must operate in order to prevent damage to all aspects of the natural environment, including land, water, air, flora and fauna. In most cases statutory requirements necessitate routine inspection, certification, maintenance and reporting, which must be evidenced to demonstrate compliance. Failure to comply can result in prosecution, with large fines or custodial sentences for the perpetrator if found guilty.

Many of the legal requirements to which Capita property management and facilities management must adhere to are detailed in the relevant sections of this guide (including Energy, Waste and Pollution Prevention).

Please see below for information regarding access to the Capita Group legal register, ISO14001, our compliance monitoring system and property risk evaluation procedure.

1.1. Environmental Legal Register

Capita has a Register of Environmental Legislation that is maintained by the Waterman Group. Operational teams have access to this [register](#), which is updated monthly to ensure compliance with all legal requirements that relate to our business operations. The responsible personnel should familiarise themselves with the legislation contained within the Register in order to understand the requirements as these relate to the site(s) under their management.

For access to the legal register please refer to the BMS Procedure B2 (Legal & Other Requirements; Reference Standards) which can be accessed via the BMS portal [here](#).

1.2. Property Risk Evaluation

Each property under Capita management undergoes a Property Risk Evaluation (PRE) that is designed to assess the liability of the relative risks at each property or asset by way of a desk based survey.

The PRE is stored in the HUB and is split into two stages:

- Stage 1: completed by the responsible Property Manager. This identifies if Capita have any potential for liability that is required to be discharged on behalf of our clients by understanding the lease arrangements in place at each facility.
- Stage 2: when stage 1 identifies a liability, stage 2 is used to develop the specific requirements that the facility requires, e.g. fire risk assessment, gas appliance inspection or lift thorough examination, etc.

The responses then inform appropriate actions, inspections, etc to ensure legal compliance and improve risk management.

For further information please refer to [Capita's Statutory Compliance Management Guide](#) for Commercial and Retail Property.

1.3. Compliance monitoring

Capita use a web based compliance monitoring system, known as Meridian, for properties with an allocated Building or Facilities Manager. Meridian is used to record legal requirements, key compliance dates, responsibilities and evidence supporting compliance. Where appropriate service partners are also provided access to the system for the purposes of uploading data and compliance evidence.

To compliment the above, the Environmental module in Meridian is increasingly being used to monitor environmental good practice actions and clients' environmental requirements at key properties or across funds or property types

To support monitoring and reporting, the system allows property and fund level reports to be produced which highlight completed actions, outstanding actions, performance data and so on.

For further information and access details, please liaise with the [Compliance Team](#) or [Environment Consultancy](#)

1.4. Regulators and Guidance

Local authorities, the Environment Agency (EA), the Scottish Environmental Protection Agency (SEPA) and Natural Resources Wales (NRW) are the key environmental regulators for England, Scotland and Wales, respectively. The EA, SEPA and NRW are on the whole concerned with major impacts to water, air and land quality, whilst local authorities' key regulatory powers relate to less significant impacts to the environment.

In addition, Natural England is responsible for the prevention of pollution and remedial action to land, water, and the management of wildlife and biodiversity, including licensing requirements related to protected habitats and species.

Please see contact details for the national environmental regulators below.

Environment Agency

Environment Agency Website

General enquiries: 03708 506 506 (Mon-Fri, 8am - 6pm).
 Pollution incident reporting: 0800 80 70 60.
 Floodline: 0845 988 1188 (24 hour service) or
 Type talk 0845 602 6340
 Hazardous waste registration: 03708 502 858*
 (Mon-Fri, 9am - 5pm).

Natural Resources Wales

Natural Resources Wales Website

General enquiries: 0300 065 3000 (Mon-Fri, 8am - 6pm)
 Incident hotline: 0800 807060 (Freephone, 24 hour service)
 Floodline: 0845 988 1188 (24 hour service)
 or Type talk 0845 602 6340

Scottish Environmental Protection Agency

Scottish Environmental Protection Agency Website

General enquiries: Contact your local office
 SEPA's Pollution Hotline - 0800 80 70 60 (24 hour service)
 SEPA's Floodline service - 0845 988 1188

Natural England

Natural England Website

All enquiries: 0845 601 4523
 There are some overlaps between health, safety and environmental law, with the former regulated by the Health and Safety Executive

For wider advice on topics including resource efficiency and climate change adaptation please see guidance provided by DEFRA and DECC via [GOV.UK](https://www.gov.uk)

2. Energy

2.1. Energy Performance Certificates (EPCs)

The Energy Performance of Buildings (Certificates and Inspections) Regulations (EPBR) 2011 tightened the requirements for EPC commissioning: from 6th April 2012 an EPC must be commissioned and made available within 7 days of a property appearing on the market, or where “all reasonable” efforts are made but this is not possible, within 28 days of marketing commencement. However, many agents now refuse to market a property until the EPC has been received, due to increased Trading Standards enforcement powers, so it is essential to request an EPC when required as soon as possible to reduce any potential delays.

New EPC requests should be commissioned by the responsible surveyor through the HUB (Capita’s web based portfolio management portal). All EPCs commissioned by Capita preferred suppliers are saved on the HUB, and can be accessed via the “EPC Data” tab within the property file.

In cases where it is not clear whether a property or unit has a valid EPC, the national EPC databases for [England and Wales](#), [Scotland](#) or [Northern Ireland](#) can be consulted. These publicly accessible databases contain all valid EPCs that have been issued since EPCs were phased in during 2008.

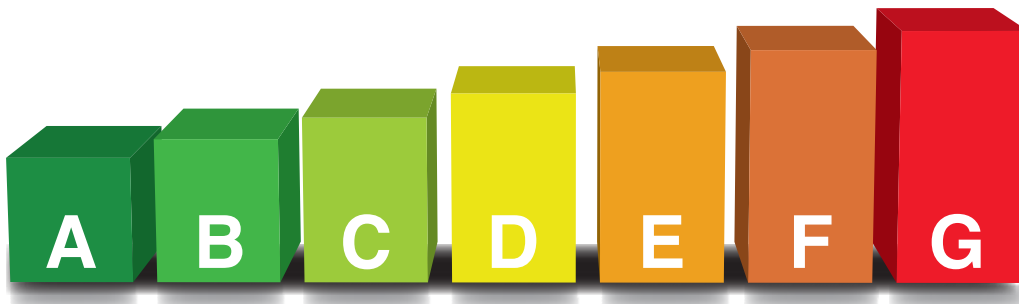
2.1.1. Display of EPCs in buildings visited by the public

The publication of The Energy Performance of Buildings (England and Wales) Regulations and The Energy Performance of Buildings (Scotland) Amendment (No. 2) Regulations 2012 (2012/208) made property landlords and occupiers liable to display EPCs in properties that are:

- Over 500 m²; and
- Frequently visited by the public.

A property frequently visited by the public is defined as one where the public have an implied or express licence to enter, and that is visited by members of the public on a daily or near daily basis. Properties that fall within this definition include, but may not be limited to, the following:

- | | |
|-----------------------|--------------------|
| — Shops | — Banks |
| — Bars | — Theatres |
| — Restaurants | — Airports |
| — Public sector sites | — Railway stations |



Other properties where an invitation or appointment would be required by a member of the public to give them the right to enter, such as offices, are not covered by the regulations.

The rules only apply to properties that already hold an EPC; however if an EPC is subsequently obtained upon the sale or lease of a property that meets the above criteria that EPC must be displayed.

Landlords are responsible for displaying energy performance certificates only for the common areas. In tenant demises the occupier of the property will be responsible for displaying the EPC.

Property and facility managers should ensure that EPCs are displayed within common areas where available and as required by the legislation, and support tenants to meet the requirements of this legislative change where appropriate.

2.1.2. Minimum Energy Efficiency Standards (MEES)

The Government has confirmed that from April 2018, it will be illegal to let commercial properties in England and Wales with an Energy Performance Certificate (EPC) rating of F or G. Let commercial properties will need to have at least an E rating.

When will the regulations come into force?

The regulations will be phased in over five years for commercial properties, from April 2018:

Commercial Properties

1 April 2018	The regulations apply to new leases granted to new tenants, and lease renewals granted to existing tenants.
1 April 2023	The regulations apply to all leases, including leases that already exist with tenants in occupation.

For non-commercial properties the regulations will be phased in over four years, from April 2016:

Non-Commercial Properties

1 April 2016	Domestic tenants can request energy efficiency improvements to properties, and these cannot be reasonably refused.
1 April 2018	The regulations apply to new leases granted to new tenants and lease renewals granted to existing tenants.
1 April 2020	The regulations apply to all leases, including leases that already exist with tenants in occupation.

Under certain circumstances, landlords will have six months to comply with the regulations from the day they became landlord under that tenancy. These circumstances will include:

- When a lease is granted by order of a court or a tenant exercising a right under the Landlords and Tenants Act 1954.
- When a non-compliant occupied property is sold or transferred to a new landlord or lender in the case of receivership.

Exemptions

Exclusions to the legal requirement for Minimum Energy Efficiency Standards include:

- Listed buildings
- Buildings due to be demolished (proof required)
- Leases less than six months and over 99 years.

Restrictions on making improvements

Landlords will be able to apply to be exempt from meeting the Minimum Energy Efficiency Standards if they provide evidence that:

- improvement measures are not cost effective with a seven year payback
- necessary consents to carry out required works cannot be gained e.g. from tenants, lenders or superior landlords
- expert opinion states that improvement works will reduce property value by 5% or more
- wall insulation required to improve the EPC rating will damage the property.

Enforcement and penalties

Local authorities will enforce the regulations and record any exemptions granted on a public register.

Penalties for non-compliance include fines of £5,000 to £150,000.

Penalties for non-compliance of Minimum Energy Efficiency Standards: Commercial Properties

Non-compliance	Fine of £5,000 and publication of non-compliance
Providing misleading information	Fine of £5,000 and publication of non-compliance
Renting out a non-compliant property for up to 3 months	10% of rateable value with a minimum penalty of £5,000, a maximum penalty of £50,000 and publication of non-compliance
Renting out a non-compliant property for more than 3 months	20% of rateable value with a minimum penalty of £10,000, a maximum penalty of £150,000 and publication of non-compliance

What this means for our business

This confirmed change to EPC legislation is beginning to have an impact on the market with landlords assessing whether to keep or improve their F and G rated EPC properties, whilst informed tenants are increasingly requesting a minimum E rated EPC property or space.

Therefore, if a property has an EPC rating of F or G, we and our clients should consider the future of the asset and the appropriateness of making energy improvements to ensure that the property continues to be marketable. In addition, it is recommended that properties without EPCs are identified and consideration is given to the best time to instruct an EPC assessment.

It is Capita's strategy to work with our clients to prepare for the impact of MEES by:

- informing colleagues and clients of the above and of opportunities to improve efficiency at the property level
- ensuring EPC providers highlight opportunities to improve ratings prior to lodgement of new EPCs and through additional consultancy
- offering portfolio wide analysis to support our clients' EPC management strategies
- remodelling existing EPCs to identify improvement measures, capital expenditure and expected paybacks for attaining improved rating

The above process should also be considered for those properties with D and E EPC ratings, as updates to Part L Building Regulations (2014 and planned in 2017) impose increasing stringency to EPC calculation models. Therefore, where no building improvement works have been carried out since the last EPC assessment, properties are likely to be downgraded by one to three grades at the renewal point (2018 onwards).

For further details about MEES please refer to [Capita's MEES guidance](#).

For assistance with identifying opportunities to improve poor EPC ratings, please contact the [Technical](#) and [Environment Consultancy](#) teams.

2.1.3. Assessment of Carbon and Energy Performance (ACEP)

In contrast to England and Wales implementation of MEES, Scotland will instead introduce ACEP. The Scottish Government has announced proposals will apply on the sale or letting of public and private commercial buildings (or building units) with a floor area greater than 1,000m² from summer 2016.

The "Assessment of Carbon and Energy Performance" (ACEP), will require building owners to obtain an Energy Performance Certificate (EPC), a Recommendations Report (both already required by current legislation) and an Action Plan that contains:

- A list of suitable improvement measures for the building;
- Proposals for identifying and reporting annual operational ratings; or
- Alternative measures (such as Low and Zero Carbon Technologies) that could be used to achieve the recommended emissions reductions.

Building owners will then be required to either:

- Carry out the recommended physical improvement works within three and a half years (subject to conditions extensions may be granted); or
- Measure, report and display the operational ratings for the building.

If the building owner chooses to measure and report operational ratings the proposals will require:

- An annual assessment of the building's energy performance and of the emissions of greenhouse gases produced;
- Annual reporting of assessment results to a central Register; and
- Each annual assessment result to be displayed in a Display Energy Certificate (DEC) in a prominent place clearly visible to all building users.

Eighteen months will be allowed for the initial gathering of data, after which annual updates will be required every twelve months.

Buildings will be exempt from the proposals if:

- They are constructed to 2002 building standards, or more recent standards;
- They are pre-2002 buildings that have been retrofitted to meet recent energy standards; or
- Green Deal improvement measures, up to the maximum eligible within a Green Deal finance offer, have been installed at the building (please refer to section 2.3 Green Deal Assessments').

A building that already holds a valid EPC will qualify under the ACEP proposals provided that:

- The EPC is still relevant (i.e. no major material changes have been made to the building); and
- the relevant information is still available for preparing an Action Plan.

The full regulations are due to be published shortly and will come into force in summer 2016.

2.2. Display Energy Certificates

The Government introduced the requirement for Display Energy Certificates (DECs) in 2008 with the Energy Performance of Buildings Directive (please note that in Scotland DECs are known as Energy Performance Certificates).

Properties that meet all of the following conditions require a DEC and a valid advisory report:

- Total useful floor area greater than 500m²;
- Occupied at least partially by a public authority, or an institution providing public services;
- Frequently visited by the public.

Private organisations, including those that share a building with a public institution, do not need to display a DEC, but may choose to on a voluntary basis.

Where the building has a total useful floor area of more than 1,000m², the DEC is valid for 12 months and the accompanying advisory report is valid for 7 years. Where the building has a total useful floor area of between 500m² and 1000m², the DEC and advisory report are both valid for 10 years.

The purpose of DECs is to raise public awareness of energy use and to inform visitors to public buildings of the energy consumption of a building. DECs provide an energy rating of the building from A (very efficient) to G (least efficient), based on the actual energy consumption of the building over the last 12 months within the validity period of the DEC (the operational rating).

A qualifying organisation must display the valid DEC in a prominent place clearly visible to the public, and have in its possession the accompanying advisory report.

DECs are also a valid compliance route for the Energy Savings Opportunity Scheme (ESOS) in England and Wales. Please refer to section 2.3 for further information on ESOS. For further information please refer to DCLG's guidance, *Improving the Energy Efficiency of our Buildings*.

Please contact [Environment Consultancy](#) if you require a DEC.

2.3. Energy Savings Opportunity Scheme (ESOS)

The Government launched the [Energy Savings Opportunity Scheme \(ESOS\)](#) in June 2014 to implement Article 8 of the EU Energy Efficiency Directive. The scheme requires all large UK companies (not-for-profit and non-public undertakings) to identify cost-effective opportunities to save energy associated with the operation of company-owned buildings, industrial processes and transport. To achieve this organisations will need to carry out energy efficiency assessments every four years, and to maintain energy action plans during the four-year phases of the scheme.

An organisation must take part in ESOS if on the qualification date (31 December 2014); they fulfilled any of the following criteria:

- employed 250 people or more
- had a turnover in excess of €50m (circa £42.5M), and an annual balance sheet in excess of €43m (circa £36.5M)
- were part of a parent company that answers yes to either of the above

Qualifying organisations that meet these criteria must comply with the regulations before 5 December 2015. To do so organisations must either be certified to ISO 50001 (International Standard for Energy Management Systems) or carry out an ESOS Assessment.

The Environment Agency expects over 9,000 organisations to participate in ESOS and has written to them all to encourage compliance. Organisations that do not comply risk being named on a public register and could face fines of up to £5,000 and/or £500 per day.

2.3.1. ESOS Assessments

Eligible organisations that are not fully covered by an ISO 50001 certification will need to instruct a registered ESOS Lead Assessor to produce an ESOS assessment for all qualifying energy use (buildings, transport and industrial activities).

The assessment generates an Evidence Pack and will identify practical and cost-effective energy saving opportunities.

In summary, an ESOS Assessment will:

- Calculate total energy consumption (or spend) associated with the applicable building portfolio, transport and industrial activities
- Identify energy efficiency and management work the organisation has already undertaken which assists with compliance
- Identify cost effective energy saving opportunities
- Be reviewed and signed off by an ESOS Lead Assessor and Senior Director of the organisation

Implementing the recommendations of an ESOS assessment is voluntary, however the payback periods are expected to be attractive enough for organisations to support investment in these energy saving opportunities.

Environment Consultancy are assisting Real Estate investor clients to meet their ESOS obligations. If you have any questions or require further information please contact the [Environment Consultancy](#) team.

2.4. Green Deal Assessments

The Green Deal was introduced in 2013 as a way of enabling homeowners and businesses to finance energy efficiency improvements through a loan that would be paid back through savings made on energy bills. The Government closed the scheme in July 2015 citing poor take up and concern over industry standards.

Non-domestic Green Deal Assessments (GDAs) are however still valid as part of an ESOS Assessment. A GDA provides a comprehensive assessment of the building's energy consumption that identifies detailed measures to improve the energy efficiency of the building, including the predicted savings that could be realised on energy bills. All recommendations made must meet the "golden rule":

- Energy bills will be lower after the efficiency measure has been installed; and
- The savings will be sufficient to cover repayments on the loan taken out to install the measure.

For further information on ESOS please refer to section 2.3

2.5. Air Conditioning Inspections (ACIs)

In England and Wales all air conditioning systems with a cooling demand greater than 250kW must have been inspected prior to 1st January 2009, and systems greater than 12kW before 4th January 2011, in order to comply with the Energy Performance of Buildings (Certificates and Inspections) Regulations (EPBR) 2011.

In Scotland systems with a cooling demand greater than 250kW must have been inspected and have received an ACI by 4th January 2011, with all other systems with an effective output of 12kW or more to have their first inspection completed by 4th January 2013.

An ACI is valid for a maximum of five years and a new inspection must be carried out before the expiry of the current one by a registered Energy Assessor. There are a number of accreditation schemes for Energy Assessors; please refer to the [CIBSE](#) register if you would like to check that your ACI is valid.

An ACI report is designed to assist with improving energy efficiency, and reducing electricity consumption, operating costs and carbon emissions. Attention should be paid to the recommendations that support system maintenance and energy efficiency improvements, which will often result in reduced future running and repair costs.

Opportunities highlighted by the ACI report could include improvements to the operation of existing systems and/or options to replace older, less efficient or oversized systems with new energy efficient models. Both will result in the benefit of reduced running costs. Inspection, maintenance and cleaning programmes will also maintain the ability of the system to provide a healthy and comfortable environment for building occupants, limiting the escape of refrigerant gases and ensuring the safe operation of equipment.

In England and Wales energy assessors must lodge all ACI reports on the national database website, which is operated by the Landmark Information Group. You can search for a report here: [England and Wales ACI Register](#). In Scotland there is no central register for ACIs. ACIs are stored locally at Capita, on the compliance tool Meridian within the Documents tab.

ACIs are not carried out as part of routine mechanical and electrical (M&E) contracts, and should be commissioned separately through the [Environment Consultancy team](#) when required. Systems that are smaller than 12kW will be maintained as required.

2.6. Carbon Reduction Commitment Energy Efficiency Scheme

The CRC Energy Efficiency Scheme (CRC) is a UK Government initiative to reduce carbon dioxide (CO₂) emissions from large and medium-sized organisations that meet certain qualification criteria. Participation for these organisations is mandatory.

Originally designed as a carbon trading scheme with a performance league table, the CRC has been 'simplified' and currently focuses on energy consumption reporting and charging Carbon Allowances per equivalent tonne of CO₂ emitted (tCO₂e).

The CRC operates across phases:

- Phase 1: April 2010 – March 2014, with eligibility based on 2008 electricity consumption;
- Phase 2: April 2014 – March 2019, with eligibility based on electricity consumption through settled half hourly meters between April 2012 and March 2013.

Eligibility for Phase 2 was based on the organisational structure (as defined on 31 March 2013), with an organisation qualifying as a CRC participant if:

- At any point during 2012/13 there was at least one half hourly meter (HHM) settled on the half hourly market; and
- The annual electricity supply through all HHMs was at least 6,000 MWh (circa £500,000 spend) during the 2012/13 financial year.

Many of our clients' property funds participated in Phase 1 and continue to in Phase 2, including:

- AXA Funds with parent AXA group
- Friends Life Funds with parent Friends Life
- Royal London Asset Management (RLAM) funds with Royal London
- BAE Funds with BAE parent

To be compliant with the CRC, the responsible party/ participant must report the emitted tonnes of CO₂ equivalent per annum, and purchase the corresponding number of Carbon Allowances. As a managing agent Capita support our clients' compliance, energy, CO₂ management and cost management through:

- Energy and utility consumption monitoring (please refer to sections 2.6.2, 2.6.4 and 2.6.8. below for more information);
- Energy efficiency and management (2.6.1 and 2.6.7);
- Tenant liaison and reporting (2.6.5).

Throughout Phase 1, the cost of Carbon Allowances was fixed at £12/tCO₂e. Since 1st April 2014 participants have been able to choose whether to purchase allowances in a forecast sale at the beginning of the compliance year, or in a buy-to-comply sale after the compliance year has ended. The cost of CRC allowances for the 2015/16 compliance year is:

- £16.10 / tCO₂e during the Forecast Sale; and
- £16.90 / tCO₂e during the Buy-to-comply sale.

The Chancellor's Budget sets the minimum price each year, influenced by the Retail Price Index.

There are several programmes of works and initiatives underway, or already complete, across CRC participant funds that are managed by Capita to support compliance, to improve energy and CO₂ efficiency and to help manage the financial impacts of Carbon Allowances. Examples of these are:

- CRC compliance and consultancy services provided by Environment Consultancy;
- M&E service partners managed via Central Procurement are contractually obliged to gain and provide manual meter reads, review energy performance, identify and make efficiency savings where possible, and to propose invest to save opportunities;
- Upgrading non half hourly electricity and gas meters to HH AMR meters;
- Managing energy more efficiently e.g. AXA and Friends Life funds' largest consuming properties' energy consumption is monitored and managed by an Energy Management Programme; (see Case Study Box 1
- Certification to independent energy management standards e.g. Carbon Saver Gold Standard for RLAM's highest consuming properties.

All members of the Property Management Team are responsible for supporting energy management and working together to deliver these initiatives in order to improve performance.

CASE STUDY BOX 1 AXA ENERGY MANAGEMENT PROGRAMME

The challenge: AXA REIM sought to reduce the energy consumption and CO₂ emissions associated with the landlord's plant and equipment across its investment portfolio, to help manage and reduce:

- Their CRC Carbon Allowance liability
- Landlord and tenant energy bills.

The project: Since 2010 Capita and Inteb Managed Services (Inteb MS) have worked together to deliver the Energy Management Programme (EMP), which is led by an experienced energy auditor in collaboration with multiple stakeholders.

An annual review of energy consumption data across the portfolio identifies the highest consuming properties that are selected for the EMP. A desktop survey of each property is undertaken to identify potential energy, CO₂ and cost savings, which can be implemented through no cost measures and capital investment. The largest consumers with the most opportunity to save also receive an onsite energy audit and report.

The property recommendations are presented in a live Energy Action Plan in EnWorks software, licensed from Inteb MS, and discussed with the property management team each quarter to confirm responsibilities and timeframes for implementation. These plans are also used to influence service charge budgets and to inform discussions with Asset Managers and tenants.

The results:

- CO₂ savings of up to 16% per annum at the portfolio level, with year-on-year reductions since 2011
- 2.5% of these annual savings have been achieved through simple changes to settings and timers
- 3 month payback period identified for upgrading common parts lighting from low efficiency fluorescents to LEDs with PIR sensors
- The programme was shortlisted for the 2015 Property Week Sustainability category.

2.7. Energy and Utility Management

2.7.1. Energy Efficiency and Management

All property and facility management staff have a role to play in conserving energy and natural resources. A building operated in an energy efficient manner will use less energy, have lower operating and maintenance costs, and see mechanical plant last longer than a building whose operation does not give consideration to energy efficient practices. It is the responsibility of the operational team, M&E service partner and utility bureau (where instructed) to manage and monitor energy performance, and to take action where necessary to improve efficiency.

Simple measures can minimise unnecessary energy use, for instance:

- Align lighting with seasons and building occupancy hours;
- Adjust heating set points to reduce unnecessary out-of-hours consumption, and prevent cooling and heating from operating at the same time in order to achieve the required temperature (CIBSE guidance for office temperatures is 21-23°C in winter and 22-24°C for air conditioned buildings in summer, with the set point temperature adjusted to suit the thermal characteristics of the building).

As much as 5% can be saved through no spend initiatives with tenant co-operation.

Please see:

- a) Energy Efficiency Checklist, designed to help both Capita, our supply partners and tenants to identify “quick wins”
- b) Energy Top Tips, designed to be shared with tenants and displayed to support energy efficiency practices on site.

Environment Consultancy have produced an [Energy Efficiency Checklist](#), which should be used to identify ‘quick wins’ for eliminating unnecessary energy use. Please see Appendix II for a copy of the checklist.

Please refer to Section 2.6.4 “Recording Energy Consumption Data” to monitor the effectiveness of energy efficiency initiatives.

2.7.2. Energy Audit

It is best practice for multi-let properties with high energy consumption to have a high quality energy audit undertaken by an experienced energy and building engineer. The audit should review how energy is consumed and managed, as well as the metering strategy in place, then compare consumption with [CIBSE Guide F benchmarks](#) to show kWh / m² / year. The recommendations should be recorded in an Energy Action Plan.

The audit will identify recommendations to achieve reductions in operational utility consumption against capital cost, payback period, CO₂ emission reductions, and related benefits, such as a decrease in CRC¹ costs and the potential to improve the EPC rating of the property. Where the benefits of the recommendations are found to justify the costs these should be recorded in an Action Plan, and where appropriate included in the planned plant replacement strategy with all efforts then made to implement these.

All implemented recommendations should be recorded in the Action Plan and the impacts monitored in terms of improved efficiency, energy reduction, cost, etc. Furthermore, an annual review of the audit recommendations, action plan and relevant documents (such as the PPM) should be carried out to identify further areas for improvement. This will ensure that sites are continually managed in a sustainably responsible manner. For further information on energy audits please contact the [Environment Consultancy](#) team.

¹ Carbon Reduction Commitment Energy Efficiency Scheme

Under the Energy Savings Opportunities Scheme (ESOS) introduced in the UK in June 2014 all large companies are required to identify cost effective savings associated with energy use for buildings, industrial processes and transport. One route to compliance is to carry out ESOS (energy) Assessments to cover the applicable energy use. For more information please refer to Section 2.3 above.

2.7.3. Bureau Service

Utility management skills are outside of core estate management duties and are best provided by specialists. To this end, Capita use specialist bureau service partners who offer a range of services.

Table 1 below summarises the scope of the 3 utility related services that support CRC compliance, utility procurement and management.

	RECORD CONSUMPTION DATA	VERIFY CONSUMPTION, CONTRACT TERMS, MOP, RATE	ADVISE ON CONTRACT PROCUREMENT	PROVIDERS
Bill Logging for CRC Clients	✓	✓	✓	Inteb
Bill Validation	✓	✓	✓	Inteb & Clifford Talbot
Full Bureau	✓	✓	✓	Inteb & Clifford Talbot

Table 1: Utility Services for CRC Compliance

2.7.4. Energy and Renewable Energy Procurement

a) Grid based energy

In order to benefit from an energy bulk purchase discount Capita's bureau suppliers are instructed to align the termination dates of energy contracts across property portfolios where this is feasible.

Prior to 1st August 2015 non-domestic renewable energy contracts were exempt from the climate change levy (CCL), which meant that they could often be procured at a cost on par or only slightly higher than traditional tariffs. As yet it is unclear what the effect the removal of this exemption will have on the renewable energy contracts available to non-domestic supplies, however Capita will still request the cost of purchasing energy generated from renewable sources in all energy tenders.

During an energy tender, if the price of a renewable energy contract is found to be within a reasonable price tolerance (previously agreed with the client) of other fossil fuel alternatives, then preference should be given to this supply over energy generated from traditional fossil fuels where these can be purchased for the same price or cheaper than the traditional fossil fuel alternative.

b) Local / Off Grid Energy

There may also be scope for some buildings to participate in local and/or communal energy generation schemes, although these are still relatively rare. Local energy schemes use renewable energy sources or combined heat and power (CHP) plants to generate energy near to where it will be used. This has a number of environmental benefits over electricity generated at large centralised facilities, including reduced transmission losses, whilst heat generated can be used to heat hot water through a district heating network. Schemes generally conform to one of the following three types:

- Single site schemes – based in the building's plant room, supplying a single or small number of consumers;
- Multi-site mixed use schemes – based on the connection of a number of single site schemes;
- Area wide heat transmission projects – connect multiple heat producers such as power stations and energy from waste plants.

Although still in their infancy local energy schemes are becoming an option for more buildings. The relevant local authority should be able to provide advice on whether there is a local energy scheme that can meet a particular building's energy demand.

2.7.5. Recording Energy Consumption Data

Preference is given to the monitoring of all energy data using a bureau service for the purposes of bill validation. Our bureau suppliers are utility specialists that provide integrated energy and sustainability services, including energy management, market testing, energy procurement (including green energy), water procurement and CRC reporting. All properties with half hourly (HH) supplies, or where an automatic meter reading (AMR) system is installed, will be provided with detailed daily consumption reports from the bureau suppliers, which can be accessed online. The property management team responsible should use the data to monitor, analyse and manage energy consumption trends and to communicate with tenants, M&E contractors, and so forth.

Online access details for HH and AMR data, via Optima and SystemsLink, are available from [Environment Consultancy](#).

For those properties without a HH supply or an AMR the appropriate security or M&E service partner (where instructed), visiting PM or FM is responsible for taking regular meter reads (at least quarterly, and ideally monthly). The readings should then be uploaded or entered into the HUB Utilities Module. Where a utility bureau is instructed the HUB emails the reads through to update their database and inform billing. Where a bureau is not instructed the PM or FM will send meter reads directly to the utility company.

A meter read recording sheet should be used for each utility supply per site (e.g. electricity HH and NHH, gas and water meters). The sheet should be filed monthly/quarterly in the property file and readings uploaded to the HUB.

In order to avoid common mistakes when reading multiple sub-meters, it is good practice to use an Excel worksheet to record meter reads, and to utilise a “summation of sub-meters” column to double check that all meters have been read and recorded correctly.

Regular meter reading is essential to ensure:

- Payment is made only for energy and water consumed by avoiding estimated bills;
- Accurate service charges;
- Peaks in consumption are identified and the cause understood, then managed as appropriate;
- Accurate reporting for our CRC clients;
- Tenants are charged the correct number of CRC carbon allowances, where Carbon Allowances are service charged (please refer to section 10.3 Service Charge Budget).

Please also refer to Section 3.4 “Recording Water Consumption”.



Figure 1: Snapshot from Optima

2.7.6. Reporting Energy Consumption Data to Tenants

Wherever possible it is good practice to report energy consumption data to occupiers so that they are able to monitor and manage their consumption. This will lead to increased awareness of energy use and can result in increased efficiency.

Visual presentation of energy consumption trends can assist occupier engagement (refer to Section 2.7.5 Recording Energy Consumption Data for log on details to utility bureaux half hourly and AMR monitored supplies and run the appropriate report), for example:

2.7.7. Consumption Apportionment

Where utility meter and sub-metered data is recorded, the costs of utility consumption should be apportioned accordingly to increase fairness and tenant awareness of their consumption, financial and environmental impacts.

Our bureau suppliers can support consumption apportionment calculations for central plant and/or shared services, as well as per floor or per unit. This data can be effectively communicated to tenants on an annual basis by including consumption graphs for energy (as well as water and waste) in the service charge report. If you would like further information or guidance for reporting energy consumption data to tenants please contact the Environment Consultancy team.

2.7.8. Heat Network (Metering and Billing) Regulations

The Heat Network (Metering and Billing) Regulations 2014 enact the requirements of the Energy Efficiency Directive, regarding the supply of distributed heat, cooling, and hot water.

The regulations will:

- give consumers control over heating and cooling costs;
- set minimum standards for the billing of heating and cooling services; and
- improve efficiency and reduce energy consumed for heating and cooling.

The regulations apply where the landlord provides heating through hot water, or cooling through chilled liquid, to tenant areas via either:

- District Heat Network (DHN)
 - Plant provides services to multiple buildings
 - One or more end consumer
- Communal Heat Network (CHN)
 - Plant provides services to a single building
 - Multiple consumers

In these circumstances the regulations define a commercial or domestic property landlord as a heat supplier.

If the landlord's plant provides heat to the tenants' demise, the regulations apply even if no formal contract or wording is in place defining the provision of heat. Equally, regardless of whether the tenants pay for these services directly or indirectly e.g. via a service charge or ground rent arrangement, the regulations apply.

Properties where the landlord's plant only provides heat to communal or public areas are not in scope of the regulations.

Compliance dates

1 December 2014	Tenants to be billed accurately for heat (where technically possible and economically feasible)
31 December 2015	Heat suppliers must notify the scheme administrator (the National Measurement Office) of all DHNs and CHNs that they operate. You can notify using the multiple network notifications template
31 December 2016	Feasibility assessments for the installation of heat meters/ cost allocators in multi-tenanted buildings and installation where viable.

The above requirements will be repeated on a four-yearly cycle.

Capita's Technical Consultancy and Property Management teams will support our landlord clients to meet the requirements of these regulations by:

- Assisting with the collation of data to submit by 31 December 2015
- Identifying and obtaining missing information
- Conducting feasibility assessments and arranging the installation of heat meters or cost allocators where feasible, by 31 December 2016

For further information on these regulations please contact [Technical Consultancy](#).

2.7.9. Metering and Sub-metering

The HUB Utilities module will contain all utility meter details available for properties managed by Capita and should be updated as meter details change or are confirmed for electricity, gas and water. Non-half hourly meter reads are also entered in the HUB and emailed to the instructed energy bureau.

AMRs offer a number of advantages over manual meters, including:

- Accurate invoicing and elimination of estimated bills;
- Half hourly consumption information per meter;
- Energy management using profile data graphs;
- Removal of the need for manual meter reading and the necessity to provide access to meter reading agencies.

Utility sub-metering, also referred to as 'check meters', or smart meters, involve the installation of sub-meters on a utility supply within a multi-tenanted property, so that tenants can be billed for their individual utility consumption. CIBSE's "TM39 Building Energy Metering", states that sub-metering is a cost effective measurement option to ensure that buildings are managed and operated efficiently. This option should therefore be explored with the instructed bureau or Technical Services instructed to quote for the works and where feasible implemented.



3. Water Management

3.1. Water Efficiency

Simple actions such as fixing dripping taps and installing a water displacement brick or 'Hippo' in WC cisterns can save water, and the associated costs, with minimal investment. For a small investment efficient fittings can be retrofitted, and long term savings attained.

A range of water efficient fittings are available, including infra-red operated flushes and taps, aerated taps, shower fittings and water efficient white goods. These should be specified and installed whenever the opportunity to upgrade or replace arises. Fabric and M&E service partners should be consulted and support this approach.

Please refer to our [Water Top Tips](#) sheet for further information on managing water efficiently.

3.2. Water Audit

In line with Capita energy and waste guidelines, it is recommended that a desktop water audit should be carried out at all managed properties to identify baseline water consumption and to identify opportunities for quantitative reduction targets.

Please contact [Environment Consultancy](#) if you would like further information.

3.3. Water Metering

All managed properties should be fitted with a manual water meter as standard, which is regularly checked by the responsible FM to ensure that it is functioning correctly.

If the location of a property's water meter is not known this should be investigated and if necessary a water meter location survey requested from the local water authority.

The location of all water meters should be recorded in the HUB within the utilities section (see section 3.4), and also on the site drainage plan where available (see section 3.8).

Automated meter reading (AMR) meters are now available for water supplies and are likely to replace manual meters over the coming years. AMRs offer a number of advantages over manual meters, including remote data management and an in-built alarm system that activates if water runs through the meter continuously over a 24-hour period (please refer to Section 2.7.9 "Metering and Sub-Metering" for more information on the benefits of AMRs). It is best practice to upgrade manual water meters to AMRs and for the utility bureaux to monitor consumption.

The Water Act 2014 lays out the legislative changes that will facilitate the deregulation of the water industry, which would create a new market for water and sewerage services to non-domestic customers in England and Wales. The Government has indicated that it plans to open this new retail water market in 2017/18, which will allow consumers to choose their water supplier, much the same as they already do for energy. Non-domestic consumers that have AMRs and a water bureau service in place at this time will be able to accurately report consumption, which may lead to suppliers being able to offer favourable rates.

Capita are advising clients on the benefits of installing water AMRs and instructing a water bureau ahead of the deregulation of the water industry. . If you would like further water meter advice or information, please contact [Environment Consultancy or Technical Services](#)..

3.4. Recording Water Consumption Data

Preference is given to the recording of all water data using a bureau service for the purposes of bill validation.

All water meter details (including location, serial number, bureau consultant, service, utility account number and utility supplier i.e. the water authority) are to be recorded in the Utilities section of the HUB.

Meter readings should also be recorded in the HUB. Readings are ideally taken on a monthly, and not less than a quarterly, basis. Readings entered in the HUB will automatically generate and send an email to the appropriate utility bureau, thereby reducing the need for separate emails, calls or online logging of readings.

A guide to logging utility meter details and meter reads in the HUB is available [here](#).

3.5. Monitoring the Water Supply

Bureau suppliers can provide a monitoring and bill validation service in order to highlight potential leaks and high consumption levels.

It is the responsibility of the operational team, M&E service partner and utility bureau (where instructed) to manage and monitor water consumption, and to take action where necessary to improve efficiency. Where a meter is not covered by a bureau supplier, meter readings recorded in the HUB should be compared against the previous periods' readings. Where abnormally high consumption is identified this could indicate that there is a leak or wasteful water consumption on the premises. Such findings should be investigated immediately and repaired where necessary to minimise additional costs.

3.6. Reporting Water Consumption Data to Tenants

It is good practice to report water consumption data to occupiers so that they are able to monitor and manage their consumption, and see how this compares to the water consumption of the building as a whole. Increased awareness of water use can lead to increased efficiency and subsequently lower utility costs. The installation of water AMRs will increase the accuracy of consumption data and can be used to engage with occupiers for effective water use management. Please refer to section 3.3 Water Metering for further information.

Our bureau suppliers can support apportionment calculations for shared services as well as per floor or per unit consumption following sub-meter installation.

3.7. Water System Control and Maintenance

Where water system controls (e.g. cisternisers) are fitted a regular maintenance plan should be in place as part of the management contract to ensure that they are operating efficiently and effectively. Checks should be carried out at least monthly by the service provider, and when systems are found to be faulty or requiring adjustment, arrangements should be made to rectify the issue as soon as possible.

3.8. External Drainage

A trade effluent notice may be required from the Environment Agency or local water authority for entities discharging 'trade effluent' to the drainage system. Trade effluent is anything other than domestic sewage (toilet, bath or hand washing waste) or uncontaminated surface water and roof drainage (rainwater). Wastewater discharges from hotels, pubs, restaurants, takeaways and caravan parks are not classed as trade effluent.

Some other business activities are exempt from the permit / consent system, however may require an official exemption.

It is the responsibility of tenants to apply and gain the correct permit for their business activities. If the tenants' business manufactures or processes materials such as chemicals, metal finishing, food and drink, or operates a small launderette or car wash, it is likely that a trade effluent notice will be required.

Further information is available from the [Environment Agency](#), whilst [Ofwat](#) holds contact details for water/ sewerage authorities.

All internal and external drainage systems on a site under our management shall be managed and maintained in accordance with a drainage maintenance contract.

There are two types of drainage systems:

- A Combined Drainage System has one drain that collects both foul and surface water, and leads to the local sewage treatment works. This system is most commonly found in urban areas and city centres.
- A Separate Drainage System has:
 - i) a foul water drain to carry contaminated water (sewage and/or trade effluent) to a sewage treatment works; and
 - ii) surface or clean water drains that discharge directly to ditches, streams, rivers or soakaways that should therefore only carry uncontaminated rainwater. This is often found in older and out of town developments.

Separate drainage systems can become misconnected, whereby the sewage and/or trade effluent goes directly into the natural environment. In these instances, the misconnection must be corrected. Where it is not clear where drains discharge to, a survey should be undertaken by the drainage contractor responsible for the site in question.

It is the responsibility of the operational team to ensure that there is a site drainage plan available for the site, saved on Riskwise, in order to manage environmental responsibilities to prevent pollution and comply with the law.



In line with Environment Agency guidance, a drainage plan diagram should clearly show layout and access details, and a schematic representation of the site drainage arrangements. For guidance on the acceptable format of a site drainage plan please refer to [Incident Response Planning Pollution Prevention Guideline \(PPG 21\)](#) (sections 2.1e and 2.1f) and [Getting Your Site Right](#), which both provide detailed guidance on producing and maintaining a site drainage plan. For assistance with Drainage Plans, please contact [Technical Consultancy](#).

Supporting emergency procedures should be in place to ensure that the drainage plan works in the event of an incident, and these should be communicated to all relevant on-site and off-site staff and contractors. Please refer to PPG 21 (section 2.2) for guidance to develop emergency procedures for a drainage incident. For support with emergency procedures, please contact H&S Consultancy.

3.9. Charges for Surface Water Drainage

Surface water drainage charges are levied by a number of regional water companies outside of London to cover the cost of providing rain water drainage via the public sewerage system. The charge is typically calculated based on the site area and split into a number of defined charging bands (with larger sites incurring a higher charge).

Only hard standing surface areas (roofs, pavements, private roads, and other tarmac surfaces) where water runs off into a public drain count towards the site area. Permeable surfaces such as soft landscaping or gravel car parks drain naturally and should not be included in the chargeable site area.

Companies who charge surface water drainage by site area will have made an estimate of the site area. If there is a possibility that this site area is incorrect it is good practice to contact the water company and request a review, otherwise the site may be in the wrong charging band resulting in charges that are too high.

The water company may also not have taken into account areas of the site where natural drainage occurs. A charge should only be made where surface water drains, directly or indirectly, into public sewers. Therefore it is recommended that the water company should be contacted for a review if there is a possibility that surfaces which drain naturally are being included in the chargeable area. This could result in significant savings.

It is possible to reduce charges for surface water drainage by reducing the amount of hard standing surfaces on site. There are a number of ways to do this, including:

- Install a soakaway. This is a relatively inexpensive option to introduce natural drainage on site, which can result in significant savings on water charges.
- Convert areas of hard standing to permeable surfaces. Examples include: instead of resurfacing an asphalt car park replace it with a gravel one; or replace unused tarmaced areas with soft landscaped plantings.

As surface water drainage charges are calculated using a band system it is important to consult the local water authority before undertaking any ground works with a view to reduce the chargeable surface area. Each water company set their own band boundaries, and it is important to know where a site lies within a band, and how much area would need to be converted to permeable surfaces in order to reduce surface water charges. It is also advisable to consult the water company and gain their agreement that planned works would result in a re-banding of the site, before works are carried out.

3.10. Wastewater Abatement

Water companies charge for water consumption based on the amount of water consumed through the incoming meter with an additional levy made against consumption for the amount discharged back to the sewer.

The wastewater abatement allowance enables consumers that return less than 90% of the water volume that passes through the incoming meter back to the sewer to apply for a reduction in wastewater charges.

Such a situation may occur on a site where an evaporative cooling tower is in operation. In order for a site to qualify for a wastewater abatement allowance the following conditions must be met:

- A metered water supply;
- It must be able to be demonstrated that more than 10% of the water supplied to the property is not returned as wastewater to the public sewer;
- 12 months worth of meter readings available;
- The claimant must be the named customer on the account.

Water lost through leakage cannot be claimed as water not returned to the sewer.

For further information or assistance please contact [Technical Consultancy](#).



3.11. Rainwater and Greywater Harvesting

There are many uses of water within Capita managed properties that do not require the water used to be of a potable (drinking water) standard. In these instances water harvested from other sources is a sustainable alternative that can reduce water expenditure by minimising the demand for purchased potable water.

The following systems can be installed to reduce the demand for potable water:

Rainwater harvesting

A rainwater harvesting system captures rainwater as it falls, usually directly into a storage tank, for uses including plant watering and vehicle washing. The roofs of commercial buildings often have a high rainwater harvesting potential, and may qualify for Enhanced Capital Allowances to fund the installation of rainwater harvesting equipment.

Fabric and M&E service providers should be consulted initially to investigate the feasibility of this option.

Greywater recycling

Wastewater from all sources (except toilets) in a property is known as greywater. A greywater recycling system collects, treats and reuses greywater for uses including toilet flushing and plant watering. Fabric and M&E service providers should be consulted initially to investigate the feasibility of this option. It is important to be aware of and manage the health, safety, and water pollution risks associated with this approach.

These systems can be retrofitted to existing buildings, and therefore consideration should be given during refurbishment as to a building's capacity for a water harvesting system in order to reduce the demand for potable water for uses where drinking quality standard is not required.

3.12. Water Treatment and Chemical Usage

Capita operates a Scheme of Precautions to manage the health risks presented by water-borne infections such as Legionella, for further information please contact the Technical Consultancy team.

Water systems shall be maintained by mechanical and electrical service partners in line with a third party management contract. Water sampling chemical and microbiological acceptance levels are shown in Tables 2 and 3 opposite.

3.13. Closed Loop Water Systems and Pseudomonas

Pseudomonas are bacteria that live in low temperature hot water and chilled water systems, originally identified in London but now spreading to the rest of the UK and Europe. Although most buildings will have some level of this bacteria in the water supply, in a well maintained and little modified air conditioning system there is not enough dissolved oxygen for pseudomonas to multiply. However, fresh water added to air conditioning systems during maintenance works can provide the perfect conditions for the bacteria to thrive. Issues can arise during refurbishment or plant replacement works when systems may be filled, drained and refilled and can potentially contain impure water for months at a time.

A build up of pseudomonas coats closed loop system pipe work in a thick slime that acts as an insulator, which reduces performance and ultimately corrodes the system leading to repair work that can cost tens of thousands of pounds.

For this reason it is Capita policy to not shut down hot water and chilled water systems in void units. Instead one of the following three options should be employed:

Programme the BMS

Where the building's BMS allows, heating and cooling plant should be programmed to come on line for a couple of hours during the night twice a week. This will prevent water from becoming stagnant, which provides the conditions that pseudomonas need to develop and grow.

Instruct M&E Engineer

If the above option is not feasible the M&E engineer should ideally be instructed to manually run the plant twice a week as above, to prevent to build up of pseudomonas and keep energy consumption to a minimum.

Run plant manually

If it is not financially feasible for an M&E engineer to be on site twice a week the plant should be turned down low in the vacant areas and run it constantly to prevent stagnant water and pseudomonas development.

If you would like more information or advice about how to prevent or test for pseudomonas please contact [Technical Consultancy](#).

TOTAL ALKALINITY (MG/L CaCO₃)	As recommended by the chemical cleaning / water treatment specialist
CHLORIDE (MG/L CL)	No higher than in incoming mains water (or as specified)
SULPHATE (MG/L SO₄)	Equal to that of incoming mains water
TOTAL DISSOLVED SOLIDS (CONDUCTIVITY – MICROSIEMENS)	As recommended by the chemical cleaning / water treatment specialist
SUSPENDED SOLIDS (MG/L)	Less than 30mg/l
PH	Depending on water treatment method
SOLUBLE IRON (MG/ L FE)	Less than 5mg/l
TOTAL IRON (MG/L FE)	Less than 15mg/l
CHEMICAL INHIBITOR LEVELS	As recommended by the chemical cleaning / water treatment specialist
Taken from A BSRIA Guide - Pre-commission Cleaning of Pipework Systems (2nd edition)2001	

Table 2: Water Sampling Chemical Acceptance Levels

RESULT	INTERPRETATION
TVC at 22°C and 37°C ≤ 10 000 cfu/ml* and Pseudomonas <10 cfu/ml and Sulphate-reducing bacteria absent	The water quality is acceptable. Continued routine monitoring is required.
TVC at 22°C and 37°C ≤ 10 000 cfu/ml and Pseudomonas between 10 – 50 cfu/ml and Sulphate-reducing bacteria absent	The water quality is acceptable. Increased monitoring may be required to establish if there is an upward trend in bacteria levels. Biocide dosing may also be advisable, depending on the timing of the most recent dose. The chemical cleaning specialist should advise.
TVC at 22°C and 37°C >10 000 cfu/ml or Pseudomonas >50 cfu/ml or Sulphate-reducing bacteria present	Action may be necessary. The chemical cleaning specialist should advise.
* Colony forming units per millilitre Taken from A BSRIA Guide - Pre-commission Cleaning of Pipework Systems (2nd edition)2001	

Table 3: Water Sampling Microbiological Acceptance Levels

4. Waste

4.1. Waste Legislation

4.1.1. Duty of Care

The Environmental Protection Act (1990) and Duty of Care Regulations apply to anyone who:

- Produces, imports, stores, carries, keeps, treats, recycles or disposes of waste;
- Transfers waste;
- Arranges for the transfer of waste.

Each person in the waste chain has a legal responsibility to take all reasonable steps to look after it and prevent illegal disposal (fly-tipping) by others.

Capita Property & Infrastructure Limited is registered as a Waste Broker which allows us to organise for the collection and disposal of waste from our managed sites. To honour our Duty of Care obligations we must ensure that any person or organisation that we sub-contract to remove waste from our sites is registered as a waste carrier with the Environment Agency (England and Wales) or SEPA (Scotland). Furthermore, we must ensure that the treatment facility that will receive the waste has a valid Environmental Permit.

Capita's Waste Brokers Licence can be viewed [here](#).

To confirm that a waste carrier or treatment facility holds the appropriate licence(s) please consult the online public registers:

[Environment Agency \(England and Wales\)](#)

[SEPA \(Scotland\)](#)

4.1.2. Removal of Waste from Site

Waste must be removed from Capita managed sites in line with our Waste Recovery, Transfer and Disposal local procedure.

a) Waste Transfer Notes

Each movement of controlled waste must be accompanied by a Waste Transfer Note (WTN). For regular daily, weekly monthly collections an annual season ticket will be issued by the waste carrier. For ad-hoc collections an individual WTN will be required for each collection. WTNs must be retained for 2 years and uploaded to Meridian.

b) Consignment Notes

Hazardous waste collections must be accompanied by a document known as a Consignment Note. Each consignment must have its own Consignment Note (no season tickets) and the note must be retained for 3 years. For detailed information about when a consignment note is required, and guidance for completing the relevant sections please see the Environment Agency's guidance document HWR03a. Consignment notes must also be uploaded to Meridian in accordance with the aforementioned procedure.

On both WTNs and Consignment Notes Capita must be listed as the "Waste Broker". The client or occupiers should be identified as the "Waste Producer" and contractors as the "Waste Carrier".

c) Hazardous Waste Producer Registration

In England and Wales any site that produces or stores in excess of 500kg of hazardous waste each year must register annually as a hazardous waste producer, and the Hazardous Waste Producer certificate must be uploaded to Meridian. There is no requirement to register in Scotland.

Waste is classed as hazardous when it contains substances that might make it harmful to the environment or human health. Items that are classed as hazardous waste and may be found at Capita managed sites include, but are not limited to, the following:

- Monitors and televisions
- Fluorescent tubes and other lighting
- Printer and toner cartridges
- Asbestos
- Chemicals
- Clinical waste
- Oil interceptor waste (please refer to Section 5.2 Oil Interceptor Maintenance).

For further guidance on when a site is required to register as a hazardous waste producer please refer to Government guidance [here](#).

Registration can be completed online [here](#). If you are unsure whether you need to register a site as a Hazardous Waste Producer please contact the [Environment Consultancy](#) team.

4.1.3. Waste Electronic and Electrical Equipment

The Waste Electronic and Electrical Equipment (WEEE) Regulations (2006) aim to reduce the amount of WEEE being disposed of, and place obligations on EEE producers to pay for the reuse, treatment, recycling and recovery of materials at end of life.

- Equipment bought before 13th August 2005 is known as "historic WEEE". When it is replaced the producer of the new equipment must take away the unwanted item, if requested, even if they are not the original manufacturer.
- Equipment bought after the 13th August 2005 is known as "non-historic WEEE". This can be identified by the crossed-out wheeled bin symbol that will be displayed on the equipment. The producer of this equipment is responsible for financing the treatment, reprocessing and disposal of the equipment.

As with other wastes everyone that handles WEEE, including the waste producer, has a Duty of Care that aims to look after the waste from 'cradle to grave'. As a producer of WEEE Capita must follow the procedures outlined for hazardous waste in 4.1.2 Waste Transfer Notes and Consignment Notes.

4.1.4. Waste Produced During Refurbishment and Fit-out

Capita have a responsibility to ensure that waste produced during refurbishment or fit-out works is disposed of in line with the Environmental Protection Act and the Duty of Care Regulations outlined above. Sub-contractors that remove waste from site must either be in possession of:

- A valid "waste broker and carriers" licence; or
- A valid "waste broker licence" and sub-contract the services of a licensed waste disposal company

Sub-contractors should be able to provide waste transfer or consignment note(s) (as appropriate) that demonstrate how and where waste removed from site has been treated.

It is best practice to ensure that there is a site waste management plan (SWMP) in place before the commencement of any major construction project. A well designed SWMP will improve resource efficiency to reduce waste and waste costs throughout the project, and should include:

- The type of waste that will be produced;
- How the waste will be disposed of;
- The waste carrier and their registration number;
- The address and environmental permit number or exemption of the disposal or recycling facility that will treat the waste.

For further information, including a SWMP template, please refer to WRAP's SWMP guidance pages [here](#). If you would like assistance to plan and implement a SWMP please contact [Building Consultancy](#).

4.2. Waste Management and Minimisation Best Practice

4.2.1. Waste Audit

Capita aspires to send zero waste to landfill from managed tenant space and common/landlord areas. A waste audit carried out on site will identify opportunities to divert waste from landfill and to increase recycling and recovery rates in order to support this objective. Properties that receive centrally procured cleaning and waste services will receive at least one waste monitoring survey as part of our management of the contract during the contract term.

It is recommended that all other managed properties should commission a high quality waste audit, in order to identify opportunities to improve waste management on site. Where this potential is identified, arrangements should be made to put in place the appropriate waste service(s).

If you would like further information please contact the [Environment Consultancy](#) team.

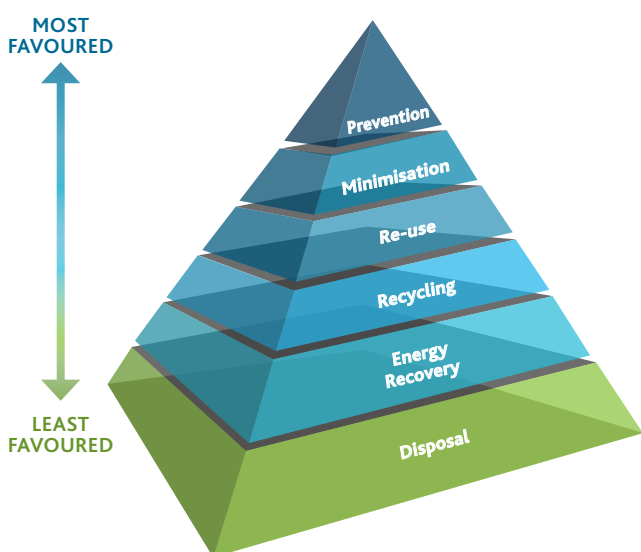


Figure 2: Waste Hierarchy Options

4.2.2. Waste Segregation

From 1st January 2015 an amendment to the Waste (England & Wales) Regulations 2011 require businesses to set up separate collections for paper, metal, plastic and glass from other waste streams to improve the amount and quality of material recycled.

The regulations only apply where the act of separating these materials is necessary to 'ensure, facilitate or improve recovery' and where it is 'Technically, Environmentally and Economically Practicable (TEEP)' to do so. TEEP can be thought of as a common sense check on our duty to separate paper, metal, plastic, glass and food – i.e. if a site produces one bottle of glass each week it would not be Technically, Environmentally and Economically Practicable (TEEP) to organise a separate glass collection.

For sites managed by Capita the regulations mean that:

- to meet our legal requirements we must ensure, as a bare minimum, that mixed recycling and general waste collections are set up for each site;
- glass should be kept out of mixed recycling (as broken shards contaminate the other recyclables and they may then be refused for recycling);
- if large volumes of paper, glass or food waste are produced a separate collection should be organised for these streams (e.g. paper would be "TEEP" for most offices, glass for bars and restaurants and food for catering outlets);
- cans, tins and plastic packaging are fine to be collected together as this does not affect their ability to be recycled further down the line

Aside from these requirements landfill is no longer an acceptable disposal method for waste, and every effort should be made to divert waste to an alternative treatment option such as recycling. Waste should be promoted as a resource to both occupiers and service partners, with emphasis placed on recycling and recovering waste materials.

The Procurement team should be consulted when contracting waste management services to ensure that Capita requirements are tendered and the correct contract terms are signed.

At properties where Capita does not currently manage waste collections tenants should be encouraged to take advantage of our group procured waste management services which offer value for money, and the opportunity to recycle a wide range of materials to support their own sustainability objectives.

4.2.3. Recording Waste Data and Reporting to Tenants

Our waste service providers record monthly waste data in Meridian at the property level. This data can be downloaded into Excel and used to support reporting on waste reduction targets and analysed to support further initiatives for waste volume reduction.

Waste metrics should be shared with occupiers to encourage them to reduce total waste volumes and increase recycling percentages, which will ultimately reduce waste disposal costs. Waste data can be effectively communicated to tenants on an annual basis by including waste and recycling graphs in the service charge report.

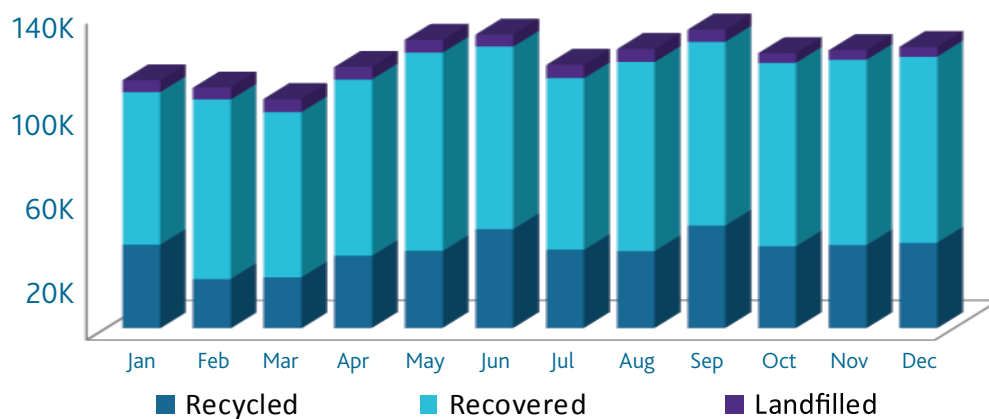


Figure 3: Twelve Month Waste Chart

If you would like further information or guidance for reporting waste and recycling data to tenants please contact the [Environment Consultancy](#) team.

5. Pollution Prevention

5.1. Refrigeration

All plant containing refrigerants at Capita managed sites will be maintained by a third party M&E service provider. These service partners are responsible for carrying out maintenance in line with the following regulations to ensure that sites are at all times compliant with these legal requirements.

The Environmental Protection (Controls on Ozone- Depleting Substances) Regulations 2011 enforce the EU Ozone Regulations 2009, which aim to phase out the use of ozone-depleting substances (ODS). ODS include a group of chemicals known as hydrochlorofluorocarbons (HCFCs), which are widely used in refrigeration and air-conditioning systems (e.g. R22). The use of virgin HCFCs, to service and maintain existing refrigeration and air conditioning plant has been banned since 1st January 2010, whilst recycled HCFCs were banned on 1st January 2015.

Another group of gases harmful to the environment are fluorinated greenhouse gases, known as F gases. These include hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and sulphur hexafluoride (SF6). Their effect if released to the atmosphere is far more damaging than carbon dioxide. HFCs are the most common type of F gases and are used most commonly in air conditioning and commercial refrigeration systems.

In Great Britain the use of F gases is regulated by the Fluorinated Greenhouse Gas Regulations 2015 (the FGG Regulations 2015). Operators of F-gas containing equipment have a number of responsibilities that must be met in order to fulfil these legal obligations:

- Prevent leakage: where it is technically feasible and does not entail disproportionate cost, leakage of F gas refrigerants must be prevented, and any discovered leaks should be repaired as soon as possible.
- Check leaks regularly: the required frequency (using certified personnel) depends on the type of system and the quantity of F gas refrigerants used. The required leak test frequency for example charge sizes and refrigerants is given in Table 4 below.

Table 4: Leak Testing Frequency for Refrigeration Systems

System Charge	Leak Test Frequency
5 ² to < 50 tonnes CO ₂ equiv. e.g. 1.27 to < 12.7 kg R404A e.g. 2.37 to < 23.7 kg R407A e.g. 3.49 to < 34.9 kg R134a	Once a year or Once every two years if a leak detection system is fitted
50 to < 500 tonnes CO ₂ equiv. e.g. 12.7 to < 127 kg R404A e.g. 23.7 to < 237 kg R407A e.g. 34.9 to < 349 kg R134a	Twice a year or Once a year if a leak detection system is fitted
> 500 tonnes CO ₂ equiv. Fixed leak detection must be fitted e.g. > 127 kg R404A e.g. > 237 kg R407A e.g. > 349 kg R134a	Four times per year Twice a year if a leak detection system is fitted

Plant with more than 500 tonnes CO₂e must be fitted with an automatic leakage detection system, which on detection, alerts the operator. The detection system must be checked at least once a year to ensure proper functioning. In addition records must be maintained for all systems which contain more than 5 tonnes CO₂e of F gases, including:

- quantity and type of F gas in the system;
- quantity of refrigerant added to the system;
- quantity of refrigerant recovered through servicing, maintenance and disposal;
- identity of business or personnel servicing or maintaining the system, and the dates and results of leak checks and leak detection system checks.

The regulations also place restrictions on the use of certain HFC refrigerants in certain applications. For example, refrigerants with a global warming potential (GWP) > 2500, such as R404A which has a GWP of 3922, will be most affected by the new regulations, including a future ban (Table 5).

² 10 tonnes CO₂ equivalent for hermetically sealed systems (e.g. 2.54 kg R404A, 6.98 kg R134a). This is applicable from 1st January 2017.

System Charge	Leak Test Frequency
2015	Leak Detection requirements have changed from 3kg, 30kg and 300kg thresholds to 5t, 50tT and 500t CO ₂ e. From 1st January 2015 a R404A system with a charge of 127kg or more will also need automatic fixed leak detection.
2018	Significant phase down in the amount of HFCs placed on the market. The supply of HFCs on the market will reduce to just 21% of the 2015 baseline in 2030, with a major cut of 37% in 2018.
2020	Ban on the use of refrigerants with a GWP of 2500 or more in new stationary refrigeration equipment introduced, except that intended for application designed to cool products to temperatures below -50 °C Ban on the use of refrigerants with a GWP of 2500 or more for service and maintenance of refrigeration equipment where the charge size is greater than 40CO ₂ e (approx. 10kg R404A) introduced.
2030	The use of reclaimed and recycled R404A for service and maintenance will be banned.

Table 5: Key future dates for HFCs as required by FGG Regulations 2015

When an F-gas refrigerant is removed from a system, Capita personnel must ensure that it is recovered by an appropriately certified operative during servicing and decommissioning, and that all F-gases not recycled or reclaimed are disposed of correctly.

F-gas usage and removal is recorded on site within an F-gas register, which is maintained and updated by the M&E service provider. The service provider is also required to provide Capita with an annual F-gas consumption and leakage report which is provided to clients within the annual service charge report.

There are various levels of training and certification for stationary refrigeration and air-conditioning system maintenance. To ensure that your operative has the appropriate qualifications please refer to Defra's F-Gas Guidance for Stationary Refrigeration and Air-Conditioning. For further information on F gases please see the Department for Energy and Climate Change's [factsheet](#).

For advice on F gas management in your building please contact [Technical Services](#).

5.2. Oil Interceptor Maintenance

In line with Environment Agency guidance oil interceptors (separators) should be inspected at least every 6 months. Capita M&E service providers are responsible for carrying out this maintenance and ensuring that sites are at all times compliant with all legal requirements. Suitably qualified personnel should:

- Physically inspect the integrity of the separator and all mechanical parts;
- Assess the depth of accumulated oil and silt;
- Service all electrical equipment such as alarms and separator management systems; and
- Check the condition of any coalescing device and replace it if necessary.

A detailed log should be kept of when an interceptor is inspected, maintained, emptied and serviced, and specific events relating to the interceptor system such as cleaning, repairs, accidents and incidents should also be recorded.

Interceptors should be emptied as soon as a significant quantity of oil and/or silt has built up. The retained waste, including silt, must be removed and the separator must be refilled with clean water before being put back into service to prevent damage and to prevent oil passing through it. Additionally, the interceptor should be emptied immediately if oil or silt levels exceed 90% of the storage volume of the separator and the alarm is activated.

Waste oil must be handled in line with the Duty of Care regulations as discussed in Section 4.1.1 of this document. Waste oil is designated as hazardous waste and therefore must be accompanied by a consignment note that is retained on record for a minimum of 3 years.

In addition a site must be registered as a Hazardous Waste Producer when the total annual amount of contaminated water stored in interceptors is greater than 2,000 gallons. Registration can be completed online with the Environment Agency [here](#). Registrations are valid for 12 months. If you are unsure whether you need to register a site as a Hazardous Waste Producer please contact the [Environment Consultancy](#) team.

5.3. Oil Storage

The Control of Pollution (Oil Storage) (England) Regulations 2001 specify the requirements for oil storage on site. Specifically, oil should be stored as follows:

- In containers that are strong enough and unlikely to burst or leak during ordinary use;
- Containers must be stored within a drip tray, bund or suitable secondary containment system (SCS);
- Oil tanks, intermediate bulk containers & mobile bowsters containment must be able to hold:
 - at least 110% of the volume of any single container in the storage area; or
 - for 2+ containers, at least 110% of largest container's volume, or at least 25% of total volume (whichever is greater).

All sites that receive oil deliveries must have in place a site specific oil delivery procedure. This procedure must include contact details for the building manager and the CSC Helpdesk and detail the emergency procedures that are in place should an oil spill or other emergency situation occur. Please [click here](#) to see guidance from the UKPIA (UK Petroleum Industry Association) for receiving oil deliveries.

The Health and Safety team will assess the suitability of the oil delivery and emergency procedures in place, and will also check for the presence of a spill kit and appropriately trained personnel as part of their annual health and safety audits. Technical Consultancy arrange annual OFTEC tank inspections at managed properties where applicable along with any additional supplementary testing.

The Environment Agency's [PPG 2: Above ground oil storage tanks](#) provides comprehensive advice which, if followed, should ensure compliance with the Control of Pollution (Oil Storage) (England) Regulations 2001, whilst the [Get to know your oil tank](#) publication gives practical advice for storing oil in a variety of above ground tanks.

It is imperative that spill kits are to hand at all times and that staff have been trained to use these and to deal with oil spills. If a pollution incident occurs it must be reported immediately to the Environment Agency on 0800 80 70 60.

For advice on oil storage management in your building please contact [Technical Services](#).

6. Transport

6.1. Green Travel Plan

A green travel plan is an economical, efficient and socially responsible way to address the transport requirements of a site. An effective plan can reduce expenditure associated with providing and maintaining parking spaces, and problems caused by shortages of parking space without having to provide additional spaces. A green travel plan can also improve the environmental credentials of a site by reducing carbon emissions and congestion on site and in the local area.

Key information to include in a green travel plan to encourage occupants to make better use of transport options include:

- Local bus routes;
- Details of the closest train or tube station;
- Walking routes from the local station or bus stop;
- Cycle to Work Scheme;
- Cycle routes (where showers are available on site);
- Information on local car pooling schemes;
- Public transport links from key transport hubs – e.g. airports;
- Park and Ride facilities.

The development of a travel plan by the facility or building manager in consultation with tenants and other stakeholders is encouraged. A detailed survey of tenants, service providers and visitors to site should be undertaken in the first instance to confirm the main modes of transport used to commute to the property, which will then facilitate the setting of targets and policies to reduce transport related emissions.

Please contact a member of Environment Consultancy if you would like assistance to create a Green Travel Plan. Where in place the travel plan should be made available to all tenants, e.g. via a notice board, tenant newsletter, intranet, etc, and reviewed periodically.



6.2. Car Pooling

Car pooling (also known as car or lift-sharing) is the sharing of car journeys between colleagues to reduce the number of cars on the road. By sharing a car journey fuel costs, car maintenance costs, carbon emissions, congestion and the need for parking spaces can all be reduced.

Although not directly within Capita's control, a car pooling scheme that emphasises to tenants the benefits of cutting down their emissions and motoring costs should be encouraged where possible. This could include the provision of information about car pooling, including how it works and the associated environmental and travel cost benefits. A central location where tenants can post details of their journey pattern would also be useful so that others in the building looking for someone to share their journey with can find a colleague that lives within their local area, and who has similar working hours/shift pattern.

Alternatively there are a number of national car share schemes, and many smaller, local groups that can link commuters with other drivers that use the same route to commute. Three of the largest national schemes are:

- [Liftshare](#)
- [Carshare.com](#)
- [Share a car](#)

The provision of reserved parking spaces for the exclusive use of those sharing their journey to work with at least one other employee also provides an added incentive for those considering carpooling, which would not only reduce the amount of CO₂ emissions associated with the operation of the site, but would also cut congestion within the car park.

6.3. Cycle Facilities

Road transport accounts for approximately a quarter of the UK's carbon emissions, so promoting and supporting tenants who wish to cycle to work is an important step to help reduce pollution at both a local and global level.

Cycling itself produces no CO₂ emissions, whilst bicycle production requires around only five percent of the materials and energy used to manufacture a car, which is a saving of approximately six tonnes of carbon. Cycling also has proven health benefits, including weight loss and reduced risk of heart disease, cancer, high blood pressure and diabetes, to name just a few. Encouraging occupiers to cycle to work can also lead to reduced car park maintenance costs as car numbers and congestion are reduced: ten bikes can be parked in just one car space.

It is best practice to provide the following facilities to support those who cycle to work:

- Safe, covered parking;
- Shower and changing areas;
- Lockers and safe storage areas including full length hanging space;
- Drying area / room, with appropriate ventilation, separate to the shower and changing areas.

Where showers are available, or where there is scope to install, cycling should be promoted to tenants as a means to commute to Capita managed sites.

A green travel plan (see 6.1) can be used to promote cycling routes and facilities on site, whilst information of the government's Cycle to Work Scheme should also be provided to tenants. Cycle to Work is a tax-exempt initiative that employers can sign up to free of charge, which allows them to loan cycles and cycling safety equipment to employees as a tax-free benefit under a salary sacrifice arrangement. At the end of the loan repayment, it is common for cycles to be sold or transferred to the employee, making this a highly valued employee benefit.

Additional information to provide for cyclists can include information on local bike repair facilities, including mobile repair and servicing bike specialists which are now operating in major cities and towns across the UK.

7. Cleaning

7.1. Green Code of Practice

The Procurement team must be consulted when appointing a new cleaning service partner to ensure Capita requirements are tendered and the appropriate contract terms are signed.

As a minimum Capita expects that all contracted cleaning companies should be able to demonstrate that they follow a "Green Code of Cleaning Practice" which includes:

- The use of non-toxic cleaning materials;
- Cleaning methods that conserve water and energy consumption;
- Identifying the need for, and providing adequate training in sustainable cleaning and waste management techniques;
- Aligning cleaning times to minimise the need for lighting, heating and cooling;
- Training and monitoring performance in relation to the onsite waste segregation and recycling scheme;
- Consideration for the conservation of other natural resources and materials used/procured.

Cleaning service partners will be required to self certify their Green Code of Cleaning Practice annually and provide supporting evidence to Environment Consultancy.

8. Landscaping, Internal Planting and Ecology

8.1. Green Code of Practice

The Procurement team must be consulted when appointing a new landscaping or internal planting service partner to ensure Capita requirements are tendered and the appropriate contract terms are signed.

As a minimum Capita expects that all contracted landscape and internal planting service providers should be able to demonstrate that they follow a “Green Code of Practice” which includes, where appropriate, the following:

- the use of native, seasonal plants;
- the use of natural, peat-free compost to maintain and enhance healthy soils
- the use of natural fertilisers rather than chemicals;
- identifying the need for, and providing adequate training in sustainable landscaping and planting techniques;
- wildlife friendly planting to enhance local biodiversity;
- the identification of and protection of native, protected species;
- the use of rainwater collected on site for plant watering;
- the promotion of resource efficiency (including water and energy);

Landscaping and internal planting service partners will be required to self certify their Green Code of Practice annually and provide supporting evidence to Environment Consultancy.

8.2. Invasive Species

Invasive non-native species are now widely recognised as the second biggest threat to biodiversity worldwide. There are several hundred invasive plant species in the UK, which in the absence of the natural pests and diseases that kept them under control in their native land, are able to invade natural habitats out-competing the native plants and animals that normally live there.

8.2.1. Identifying Invasive Plants

Japanese knotweed, giant hogweed and Himalayan balsam are all examples of invasive plants that may be found on sites managed by Capita. Japanese knotweed was introduced to the UK as an ornamental plant species that has since spread throughout the country. The plant is well known for its ability to damage hard surfaces and buildings, and where it is present must be managed so as to prevent further spread to neighbouring sites. For guidance on managing this invasive plant please refer to the Environment Agency’s Knotweed Code of Practice.

Capita has published a [Managing Invasive Plant Species](#) best practice guide for identifying and managing invasive species on Capita managed sites.

8.2.2. Handling and Disposal of Invasive Plants

Capita landscape contractors are responsible for identifying the existence of invasive species on FM managed sites, and must record a site register of invasive species on Meridian where applicable.

The use of pesticides to control invasive plants is common, and should be carried out in line with [The Control of Pesticides Regulations 1986](#). Service partners that are contracted to manage invasive plants on Capita managed sites must be able to demonstrate that they are operating in line with this legislation and that their employees have the necessary training in order to use pesticides safely to safeguard the environment and avoid pollution.

Where invasive plants are present they must be managed to prevent encroachment on to neighbouring land; under the [Wildlife and Countryside Act 1981](#) anyone who plants or otherwise causes to grow an invasive plant species in the wild is guilty of an offence and may face a fine of £5,000 and/or six months imprisonment or two years imprisonment and an unlimited fine if indicted.

Disposal of soil or plant material contaminated with an invasive species must be carried out in line with controlled waste legislation – please refer to section 4.1.2. Disposal of invasive species that have been treated with pesticides may be classified as hazardous waste, depending on the pesticide that has been used in treatment of the plant. If the pesticide is hazardous the waste material should be disposed of in line with hazardous waste legislation – please refer to section 4.1.2.

Please contact the [Environment Consultancy](#) team if you would like further advice.



8.3. Protected Species

Certain species of animals and plants in the UK are protected by legislation, which aims to ensure their survival and prevent them from being harmed or disturbed. Legislation includes the [Wildlife and Countryside Act 1981](#), the [Protection of Badgers Act 1992](#) and [The Conservation of Habitats and Species Regulations 2010](#).

Under such legislation it is usually an offence to interfere with a protected species' breeding site, nest, roost, sett, etc, or to kill, injure or remove a species, although under certain circumstances a licence may be granted.

If it is known, or suspected, that a protected species is present on site, expert advice should be sought in the event of planned works that may disrupt or destroy the animal or plant's habitat. A licence issued by Natural England is usually required to carry out surveys, or to disturb or damage habitat of a protected species, so the advice of a specialist should always be sought.

Capita landscape contractors are responsible for identifying the existence of protected species on FM managed sites, and must record a site register of protected species on Meridian where applicable.

For further information please see the advice pages on [Natural England's](#) website.



8.4. Habitat Management Plans

The careful management of habitats on site can conserve and promote biodiversity in areas where natural habitats for wildlife may be rather scarce. Initiatives including bat boxes, bird boxes, wildflower gardens, ponds, beehives or hedgehog boxes can boost wildlife populations and be a positive addition to site.

To establish the most suitable habitat(s) to introduce on site, a site assessment would be required to review ecological data on site and in the surrounding area. This information can then be used to design a habitat management plan that is suitable for the site.

If you would like to find out more about habitat management plans and the opportunities for a particular site please contact the [Environment Consultancy](#) team.

9. Flood

9.1. Flood Risk

The likelihood of flooding from rivers or the sea should be determined for all sites under Capita management so that this can be managed accordingly. As a minimum a postcode check on the [Environment Agency's](#) (England and Wales) or [SEPA's](#) (Scotland) flood maps should be carried out. This will indicate the predicted risk of flooding (low, moderate or significant) from fluvial or coastal waters for the local area, but it should be noted that this is intended as a guide only and is not designed to be accurate at the property level.

For properties deemed to be at risk from flooding the responsible personnel (usually the property, facility or centre manager) should sign up to either the Environment Agency's [Flood Warnings Direct](#)³, or SEPA's [Floodline](#), which are free flood warning services that provides registered users with flood alerts by telephone and email. Where these alert services are not available the responsible personnel should use the general flood alert service. For these properties a comprehensive flood risk management plan should also be implemented (refer to section 9.2 below)

Where the above resources indicate that there is a moderate to high risk of flooding the landlord should be advised to commission a detailed desk-based risk assessment through an appropriate approved supplier. This will ascertain the flood risk at the property level, including the risk from river, coastal and groundwater flooding. [Environment Consultancy](#) can provide more advice on when it may be appropriate to commission such reports and advise on suitable suppliers.

	All properties	Properties at risk of flooding
England and Wales	Check the site's risk of flooding on the Environment Agency's Flood Maps	Sign up for free flood alerts from Flood Warnings Direct or The General Area Flood Alert Service Implement a comprehensive flood risk management plan
Sign up for free flood alerts from Flood Warnings Direct	Check the site's risk of flooding on the SEPA's Flood Maps	Sign up for free flood alerts from Floodline

Table 6: Establishing Flood Risk

³ Not all areas of the UK are covered by this service. If this applies to your site please contact the Environment Agency / SEPA directly and they will be able to advise.

9.2. Flood Risk Management Plans

If it is identified that a property is at risk from flooding, a Flood Plan Template should be put in place that includes how tenants and visitors to site will be evacuated, how hazardous equipment will be dealt with, and how the risk from polluting materials will be reduced. Environment Consultancy have produced Flood Plan Templates for England and Wales and Scotland. Key sections to include in your flood plan are:

- Business Continuity Plan
 - Key staff / tenant contact list
 - CSC contact number
 - Environment Agency / SEPA contact number
 - Key building services contacts
- Emergency Plans
 - Locations of protective materials (e.g. sand bags)
 - Service shut off points
 - Procedures to be followed in the event of a flood
- Evacuations Plans
 - Safe location(s) to evacuate to in the event of a flood

Where a property has been identified to be at “moderate” or “high” risk of flooding the landlord should be advised to commission the development of a Flood Risk Management Plan and associated procedures for implementation at the site in consultation with the Asset Manager. Please contact [Capita’s Flood Risk and Water Management team](#) if you would like further assistance or advice.



10. Health and Well Being

10.1. Mechanical and Electrical (M&E) Plant Maintenance

All managed properties where applicable should have a contract in place with the M&E service provider to ensure that all mechanical plant are maintained to ensure a safe and pleasant working environment for tenants. This should include but is not limited to the following:

- Automatic control system checks;
- Terminal unit operation;
- The effect of heating/cooling, humidity and air velocity in the conditioned space.

The Procurement team must be consulted when appointing a new M&E service partner to ensure Capita requirements are tendered and the appropriate contract terms are signed.

10.2. Air Quality Testing

Annual air quality and air system conveyance testing is required at sites that are mechanically ventilated as indoor air quality affects productivity, mental health and physical wellbeing. Testing is required to ensure that maximum permitted levels of pollutants such as carbon dioxide, ozone and volatile organic compounds (VOCs) are not exceeded, and to demonstrate compliance with Regulations 5 of the [Workplace \(Health, Safety and Welfare\) Regulations 1992](#).

Acceptable levels of airborne pollutants are listed in various documents, including:

- The Health and Safety Executive exposure limits EH40;
- CIBSE's KS17 Indoor Air Quality and Ventilation;
- British Standards' BS EN 13779:2007 Ventilation for non-residential buildings – Performance requirements for ventilation and room-conditioning systems;
- The World Health Organisation's Guidelines for Indoor Air Quality: Selected Pollutants.

Exposure to pollutants should be controlled as low as practicable and at least below recommended levels outlined in guidance documents.

Annual testing is also supplemented by regular visual inspections of all ventilation systems as part of the regular contract management by the Technical Consultancy team. Air quality testing results will be included in the annual service charge report.

10.3. Service Charge Budget

It is good practice to consider the environment when setting the annual service charge budget, and to incorporate sustainability considerations where these can provide benefits for tenants, landlords, managing agents and / or the environment.

Sustainability and environmental considerations should be budgeted for within the relevant lines of the service charge budget.

These may include, but should not be limited to, the following:

Cleaning and Environmental

Auditing of waste volumes and procurement of sustainable waste solutions;

Management of waste and recycling services.

M&E

Maintenance of plant for efficient and effective use.

Utilities

Auditing of energy and water consumption;

Management of energy and water consumption;

Procurement of "green energy".

These will be managed in line with our standards contained within this document, except where expressly dictated otherwise by Capita clients.

It should also be noted that clients who are liable under the Carbon Reduction Commitment (CRC) may request carbon allowances to be service charged directly to clients. It is recommended that in these instances carbon allowances are included transparently within the utility section of the service charge.

See RICS Service Charge Code, Third Edition, Section 9 for further guidance.



11. Management Procedures

11.1. Environmental Audits and Assessment

An environmental audit considers all activities that occur on a site which have an environmental impact, and assesses the options for reducing that impact and improving operational efficiency. An environmental assessment is used to identify those aspects of the local environment that could present potential hazards for the operation of a site, such as flooding or soil contamination risks.

The typical aspects covered by these two reports are summarised in Table 7 below.

ENVIRONMENTAL AUDIT	ENVIRONMENTAL ASSESSMENT
Energy consumption analysis	Flood Risk
Waste creation and disposal analysis	Past land use to identify risk of soil / groundwater contamination
Water use analysis	Environmental sensitivity (e.g. nearby landfill sites, discharge consents, contaminated land, etc)
Building and materials efficiency analysis	Protected land uses within the local vicinity (e.g. Green Belt, Nature Reserve, protected areas, etc)
Both audit/assessment include recommendations report	

Table 7: Environmental Audits and Assessments

It is good practice to commission an environmental audit in order to identify opportunities to improve efficiency, achieve cost savings, ensure compliance with legislation and that a site is being operated in an environmentally responsible manner. The audit will identify areas of opportunity for efficiency improvements, from no and low cost quick wins through to investment considerations for longer term improvements and future-proofing.

An environmental assessment is more likely to be requested when selling a site as part of the marketing particulars or due diligence, or may be requested during a site acquisition.

11.2. Environmental Management Systems (EMS) and ISO 14001

An EMS is a structured framework for identifying, documenting and managing an organisation's significant impacts on the environment and improving performance. Environmental impacts will vary between sites, but typically include waste, emissions to air, energy and water use, waste water and discharges to sewers, grounds maintenance, as well as potential emergency situations such as spillage of oil during a delivery. An EMS helps an organisation to improve its environmental performance through adoption of procedures, target, action plans and communication to support continual improvement in environmental performance.

There are a number of nationally and internationally recognised EMS standards, including the British Standard BS 8555 and the European scheme known as EMAS (Eco- Management and Audit Scheme). The most widely recognised standard is the international standard for environmental management systems, ISO 14001:2015.

The 2015 standard is based on ISO's high level structure that brings a common framework to all management systems. The key revisions to the 2004 standard are:

- Increased prominence of environmental management within the organisation's strategic planning processes
- Greater focus on leadership
- Addition of proactive initiatives to protect the environment from harm and degradation, such as sustainable resource use and climate change mitigation
- Requirement to improve environmental performance
- Lifecycle thinking when considering environmental aspects
- Addition of a communications strategy

Organisations that are certified to ISO 14001:2004 were granted a three year transition period after the publication of the 2015 revision to migrate their EMS to meet the requirements of the new standard.

It is possible to have an EMS in place without going through a formal certification programme. However, in order to gain stakeholder confidence and to demonstrate that an EMS is operated to industry accepted standards, most organisations will seek external certification through a UKAS (United Kingdom Accreditation Service) qualified auditing body.

At the beginning of 2015 sixteen of Royal London's most energy intensive sites and nine LaSalle shopping centres managed by Capita were certified to the ISO 14001:2004 standard. During 2015 the scope of these existing environmental management systems was broadened to include an additional eleven Royal London properties and seven LaSalle multi-let offices.

11.2.1. Capita – ISO14001

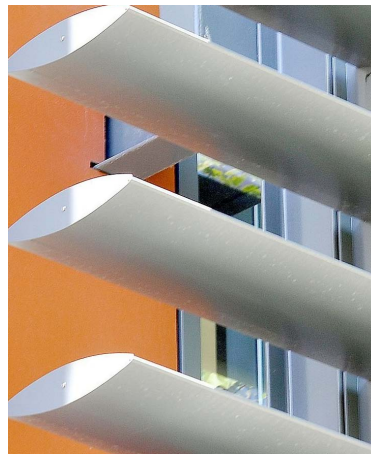
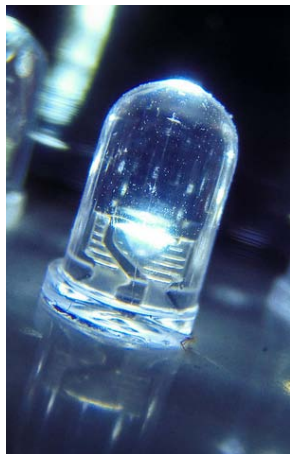
Capita's Business Management System (BMS), which covers all business office activities including property management, is certified to ISO14001.

All staff have a responsibility to carry out their roles in accordance with Capita's Environmental Policy and the environmental procedures laid out within the BMS, which can be found [here](#).

11.3. Tenant Fit-Out and Licence for Alterations

Fit-out specifications and licences for alteration can provide Landlords with the opportunity to specify minimum energy efficiency requirements for alterations to the property that an occupier may make. Surveyors should consider opportunities to influence the use of equipment such as the following:

- Low-energy lighting
- Passive infra-red (PIR) lighting controls
- Daylight sensors
- Zoned lighting for local control
- Aerated water fittings
- PIR operated taps
- Dual-flush and low volume cisterns
- Waterless urinals
- CO₂ sensors
- Shading in highly glazed offices
- Electricity, gas and water AMRs.



11.4. Sustainability Benchmarking

Environmental and sustainability benchmarks in the built environment use data submitted by landlords to assess and benchmark building performance at the property or fund level. By submitting data to a benchmark survey, property landlords are able to identify assets or funds within their portfolio that are performing poorly, and take steps to understand and implement initiatives in order to improve the sustainability performance of these assets.

Many of Capita Real Estate's clients participate in internationally recognised benchmarks, such as Greenprint and the Global Real Estate Sustainability Benchmark (GRESB), which collects data across the following "Sustainability Aspects":

- Management and Strategy
- Policy and Disclosure
- Risks and Opportunities
- Environmental Management Systems (EMS)
- Performance Indicators
- Building Certifications
- Social Factors
- New Developments

As a managing agent Capita Real Estate is often requested to assist clients to respond to surveys such as GRESB. Such requests usually require the provision of data including, but not limited to, the following:

- Energy consumption
- Water consumption
- EPCs
- Waste creation
- Occupied space (m²)
- Changes in occupancy
- Stakeholder engagement (environmental and local community issues)
- Environmental Management Systems (EMS)

It is therefore essential that information relating to the environmental performance of properties under Capita Real Estate's management is recorded in such a way that it can be extracted for benchmark analysis or provided to the property landlord or Fund for other reporting purposes. This guide identifies the ways in which Capita Real Estate will record, monitor and manage environmental information in order that this can be achieved.

11.5. Tenant Engagement

11.5.1. Tenant Handbook

All tenants should be provided with a handbook at the beginning of their tenancy that includes environmental management information. This should include, but may not be limited to the following:

- The property's Energy Performance Certificate (EPC) and/or Display Energy Certificate (DEC);
- How utility (electricity, gas and water) consumption data will be shared or can be accessed;
- How waste data will be shared or can be accessed;
- Energy efficiency advice;
- Water efficiency advice;
- Waste minimisation and recycling advice and scheme information specific to the property;
- Green travel options and facilities in the property;
- Who to contact for further information on the above.

The handbook can be complimented by sharing information relating to sustainability initiatives, targets and achievements, such as an Environment Action Plan that details specific actions, timeframes, roles, responsibilities and budget.

11.5.2. Tenant Meetings

Environment and sustainability issues should be listed as a regular agenda item at tenant meetings. This provides the opportunity for both the management team and tenants to identify opportunities to achieve environmental improvements, ensure legal compliance, reduce costs, and agree targets and actions. A formalised approach supports both continual improvement and benchmark reporting which is welcomed by all stakeholders.

11.6. Environmental Training and Awareness

The Environment Consultancy team provide a number of internal environmental training sessions, including inductions for new starters, legislation updates and more in depth training for property, facility and centre managers. It is important that all operational personnel (i.e. property managers (PMs), facility managers (FM), building managers (BMs) and centre managers (CMs)) attend these training courses on a periodic basis in order to keep up to date with changes in environmental legislation and requirements.

Site-based sustainability events, as introduced above, increase awareness and buy-in to site based initiatives and practices.

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