



Town Centre Securities PLC



A Guide to Environmental Management

Developing a Secure Future

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Introduction

There is growing recognition that the management of environmental issues is becoming more and more important for us in both our home and working lives.

We are increasingly experiencing the impacts of global warming. Water is no longer a resource we can take for granted and increasing costs of energy, water and waste management has awakened us all to the fact that we have a part to play in ensuring we preserve our environment for future generations.

TCS (Town Centre Securities plc) is committed to playing its role in this process and have appointed an Environmental Manager to lead this initiative. A copy of the commitment is expressed in the Company Environmental Policy statement which can be found at <http://www.tcs-plc.com/index2.php>. This is supported by an Environmental Strategy that sets out how the company is seeking to improve the environmental performance of its operations over the coming years.

The purpose of this booklet is to set out how we are seeking to achieve environmental improvements at TCS and to provide all our stakeholders with examples of how they can support this process on a day to day basis. Every little helps and the small actions that we all take individually can lead to significant long-term impacts. Our stakeholders are encouraged to use this booklet and to generate ideas for change within the work place.

Glyn Akesson

Development and Environmental Manager

Town Centre Securities plc

How We Manage Environmental Issues

At TCS we have established a simple framework for the management of environmental issues. The policy statement provides the overall commitment to achieving continuous improvement in performance. Key staff have been allocated environmental responsibilities and they meet regularly with the Development and Environmental Manager to set objectives and targets and to review progress.

Following a baseline review we have identified that our main day to day environmental impacts are:

- Energy usage
- Water usage; and
- Disposal of waste

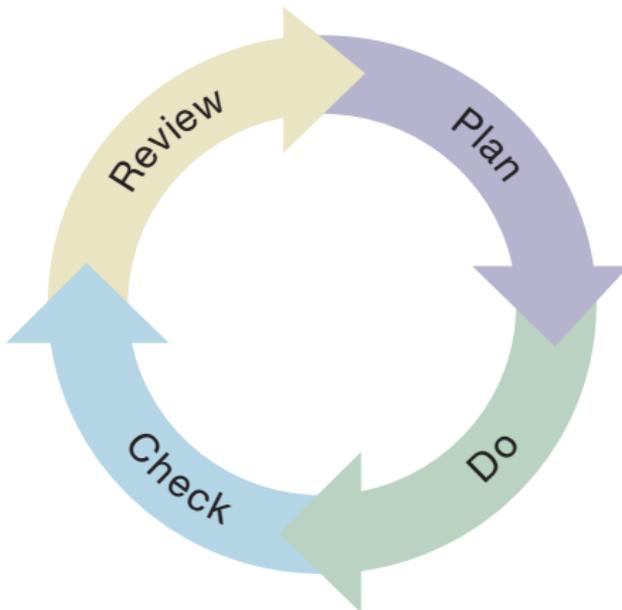
We are seeking to improve our environmental performance in all these areas. We have started to monitor energy usage, water usage and waste at key properties which will form the basis for setting on-going numerical targets for reduction.



We will only achieve these targets with full support from our employees and tenants. Some will have greater responsibility for the management of environmental issues than others, but we all have a role to play in ensuring that we minimise the environmental impact of our day to day activities. Through this booklet we also seek to encourage our tenants to review their activities and establish their own targets for environmental performance improvement.

The Management System Cycle

Plan	Decide what environmental impacts you need to manage and set objectives and targets for improvement.
Do	Decide how you are going to manage these environmental impacts and develop appropriate supporting processes and procedures.
Check	Check whether you are acting in accordance with the processes and procedures set and identify opportunities for improvements.
Review	Assess whether your actions are achieving continuous improvement.



Managing Energy

47% of the carbon dioxide emissions that arise in this country come from the use of energy in buildings.

This includes homes and the commercial/public and industrial property sectors. As property managers and developers we therefore have an important role to play in reducing this impact.

- It is generally accepted that energy usage can be reduced in most buildings by about 10% through implementing no and low cost measures. These are generally measures that can be identified by non specialists, a range of which are described in this booklet.
- By following a simple step by step process, office or property managers can establish a framework for achieving measurable reductions in energy usage.

Step by Step Process for Improving Energy Management

Step 1 Make someone responsible

Make someone responsible for being the energy champion; define their responsibilities and reporting lines.

Step 2 Establish current usage patterns

Establish how much energy you are currently using through bills or meter readings.

Step 3 Identify opportunities to reduce usage

Undertake a review of current energy usage patterns.
Find areas of obvious waste and where investment is needed.

Step 4 Develop an action plan for reducing energy

Using the information available to you develop an Action Plan identifying responsibilities and timeframes.

Step 5 Monitor and review progress

Monitor and review progress.

Case Study

Town Centre House is a five storey building built in the early 1960s and heated by a 20 year old boiler. Given its age there are huge heat losses from the building due to poor insulation and single ribbon glazing.



A refurbishment programme is currently in progress that will involve replacing the boiler with a modern heating and cooling system incorporating heat recovery. In addition, significant improvements will be made to the building fabric in the form of insulation and replacing all the windows with double glazing set within new frames, which, once installed, will reduce the overall glazed element of the building. A new external cladding system will also be added to the building providing the opportunity to reduce the current heat loss through the roof.

This investment will significantly cut the operational costs of the building and will contribute to consequent reductions in its carbon footprint. The carbon dioxide emissions associated with the heating of the building will reduce by over 90% which although partly offset by the introduction of a new cooling system will still be significant.

Lighting

Lighting is responsible for 37% of the carbon dioxide emissions from an office building. Seeking ways to improve the energy efficiency of the lighting systems in our offices and shopping centres is therefore an important part of achieving energy usage reductions.



- Ensure that all offices and shopping centres are fitted with high efficiency appliances.
- Replace standard 38mm diameter fluorescent tubes with the more efficient 26mm tubes. Replace tungsten spot lights with tungsten halogen lights.
- Ensure lighting levels are appropriate and areas such as corridors and general circulation areas are not over lit.
- Fit passive infra red controls in low occupancy areas to ensure lights are only on when required.
- Fit ultra violet light sensors to ensure that lights are turned off when sufficient daylight is available. Ensure that roof lights and windows are cleaned regularly to maximise the contribution from natural light.
- For car parks and security lighting install low pressure sodium lamps for higher energy efficiency and use sensors to ensure lighting switches off when day light levels are sufficient.
- Use labeling or poster campaigns to encourage people to switch off lights when not required.

Environmental Fact

It is a myth that it is cheaper to leave fluorescent lights on all the time than to switch them on and off.

Case Study



The Town Centre House refurbishment programme will involve total replacement of lighting throughout. This will be designed to be as efficient as possible, features will include:

- use of modern fittings that use less energy in “light up” mode.
- movement sensors to turn off lights when not required.
- use of photocells to keep lights off when there is sufficient natural light; and
- careful zoning to efficiently light areas.

These combined measures are likely to reduce running costs by around 10-15% and achieve associated reductions in carbon dioxide emissions.

Heating

Heating contributes 40% to the carbon dioxide emissions from a building. It also represents a significant running cost. To identify opportunities to reduce heating costs and associated emissions consider the following.



- Ensure the building is not overheated, review appropriate heating levels for different types of occupancy.
- Fit local thermostats to ensure heating can be adjusted to local needs and don't heat unoccupied areas.
- Avoid heating and cooling simultaneously.
- Review the cost effectiveness of replacing old and inefficient boilers.
- When replacing heating systems specify optimum efficiency and review options for heat recovery and integration of renewable's.
- For existing boilers ensure they are regularly maintained, at least once per year.
- Ensure appropriate insulation levels and draft proofing to prevent heat loss.

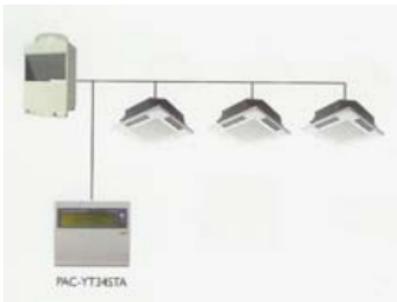
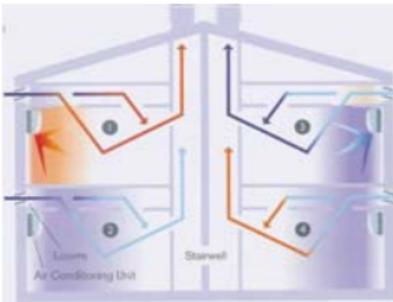


Environmental Fact

Turning down thermostats by just 1°C can reduce heating costs by up to 10%.

Cooling

Air Conditioning systems, dependent on the type and specification selected, can be expensive to install and to run. Alternatives to active cooling should be sought as part of refurbishment or development ensuring maximum use of natural ventilation systems. Where air conditioning systems are installed it should be ensured they are suitably powered and controlled to optimise energy usage.



- Ensure air conditioning systems have effective thermostats and controls to maintain optimum temperature.
- Do not use open windows in air conditioned areas.
- Ensure the air conditioning system is properly maintained.

Use of Office Equipment

Equipment such as computers, printers, photocopiers and kettles also makes an important contribution to the energy used by an office, typically 12%.



- When purchasing new office equipment seek to purchase low energy appliances. This also includes kettles and fridges.
- Ask employees to switch off computers, printers and monitors when not in use and when they leave the office.
- Fit a timer to prevent photocopiers being left on at night.
- Use double sided copying where possible.
- Review arrangements for making hot drinks and ensure the most energy efficient arrangements.
- Ensure vending machines are switched off when not in use such as at weekends and overnight.

Environmental Fact

By switching off PC's at night and weekends you can save up to £25 per PC per year.

Water Conservation

Changes in climate and population growth have led to growing pressure on water supplies in a number of parts of the country. The cost of water is rising and there are cost benefits with reducing usage. In particular water conservation measures should be considered at the time of refurbishment and property development.



Issues to consider:

- Maintenance of water supply systems to ensure against leaks.
- Undertake regular inspections to check for dripping taps or faulty cisterns.
- Look to installing water saving devices in toilets and to sanitary fittings as part of refurbishment and new installations.
- Consider fitting timer taps or sensor taps where high usage.
- Consideration of grey water reuse.
- Installation of leak detection systems.

Environmental Fact

A tap dripping just two drops per second will result in losses of nearly 10,000 litres per year.

Waste Management

There is growing pressure to reduce the amount of waste which goes to landfill. Current waste management regulations and policy are driven by the waste hierarchy which states that waste should be minimised, reduced and recycled in favour of disposal. We have all seen the growing emphasis on recycling in the disposal of domestic waste. As there is less space for disposal of waste at landfill sites and the landfill tax continues to rise the cost of disposing of waste is growing.

Waste Hierarchy



Waste in Offices

Most waste arising from offices can now be recycled. We should also be seeking to reduce waste wherever we can.



Issues to consider:

- Reducing waste paper by double sided copying and printing.
- Measuring paper usage and making targets for reduction.
- Recycling all waste paper and cardboard.
- Seeking to reduce packaging.
- Where packaging is necessary, then recycle.
- Find outlets to recycle printer cartridges, mobile phones, computers and other office equipment.
- Establish local collection for plastic bottles and cans.

Case Study



Our Manchester Piccadilly Waterfront development provides an opportunity to practice sustainable living and we are committed to ensuring the environmental impacts of the buildings we design and develop there are minimised.

A good example is the BDP office building, designed by BDP to form their new headquarters and developed by TCS. The building has been carefully designed in response to the local context and microclimate.

It has been designed to limit solar gain and will be naturally ventilated and night time cooled to minimise the energy usage of the building. These combined measures will support the achievement of a BREEAM 2006 sustainability rating for the building of “Excellent”.

Waste From Shopping Centres

One shopping centre in the UK has already achieved zero waste to landfill which is something to aspire to. This was achieved by working closely with the 230 retailers occupying the centre. It is essential to work closely with your waste management contractor to achieve improved waste management and contractors should be selected on the basis of their willingness to support these types of initiatives.

Issues to consider:



- Segregation and recycling of key waste streams such as paper, cardboard, glass, plastic and cans.
- Recycling bins for customers to support recycling.
- Ways to collect and manage food waste to avoid landfill disposal through for example composting.
- Identify possibilities for exchange or reuse in particular during refurbishment.
- Encourage consideration of waste management as an important part of refurbishment.

Property Development and Refurbishment

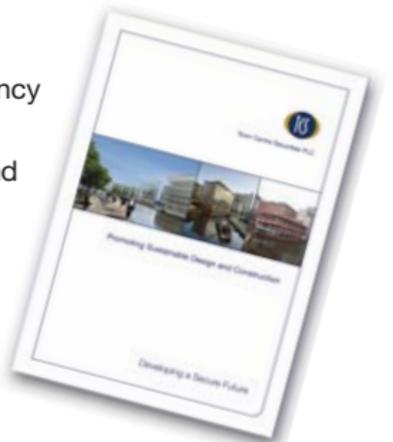
Property development and refurbishment is the ideal opportunity to consider environmental issues as new equipment, materials and fittings will be required.

We should seek to ensure that the building development or upgrade will contribute to reduced running costs and minimise environmental impacts as far as it is cost effective to do so.

For new property development a sustainability “checklist” is in place for both the design and construction stages to ensure that the full range of environmental issues relating to the development are considered.

Issues to consider:

- Opportunities to improve energy efficiency through careful selection of lighting, heating/cooling systems, appliances and better design.
- Use of fittings that conserve water.
- Management of waste during the construction phase to ensure contractors provide waste management plans and monitor waste arising.
- Selection of materials that have low impact on the environment.



Sharing Best Practice

What works well in one area or building can invariably work well elsewhere. Share your success stories with us which we can circulate within the organisation and with our partners and stakeholders.



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