Green retail: Retailer strategies for surviving the sustainability storm

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Bob Thompson
is founder of RETRI Group, established in 2001 as a research consultancy in real estate. For the previous 16 years he was a partner at King Sturge. His clients range from Investors and Fund Managers through Developers and Local Authorities. Although most widely published as an expert in industrial property, he has been involved in the whole spectrum of property types, including some of the largest schemes in Europe. He is a past President of the European Real Estate Society, a visiting Research Fellow at Reading University and a Senior Research Associate at the College of Estate Management.

Abstract
This paper describes some simple changes retailers can make to their operations to reduce their carbon footprint and energy requirements as well as saving money and resources.

Keywords:
retail, green, carbon footprint, sustainability

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INTRODUCTION

The built environment is estimated to produce 40 per cent of the world's carbon. Retail space represents a significant proportion of that built stock — 17 per cent by size of the commercial estate in the UK.[1,2]

The constant pressure upon consumers to 'go green' has had an inevitable effect upon their choice of goods and has led to significant changes in their supply.

However, despite the focus upon green products and upon transport in the supply chain, little has been written about the environmental friendliness of the retail space itself.

Figure 1 shows a base model of the factors under consideration in this debate. The three factors of sustainability, viability and liveability are all mutually dependent. For example it would be pointless developing space of any kind that was wholly sustainable if, at the development level, it were not viable financially. Equally a development that were ostensibly viable would be likely to fail if it were not liveable, that is, no one wanted to occupy it, or, in the case of retail, visit it.

In the development context this is well understood. Modern shopping centres are built to the highest environmental specification and are demand led, ensuring viable, liveable space.

Every major supermarket trumpets its green credentials, its healthy eating range, its policies to combat carbon emissions and reduce waste,

Bob Thompson
RETRI Group
44 Stewart Avenue
Upminster RM14 2AF, UK
Tel: +44 (0)7703 234251
E-mail: bt@retrigroup.com

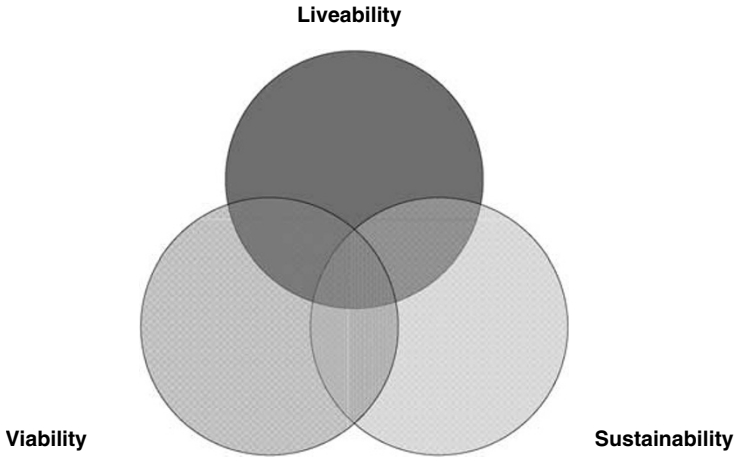

Figure 1: Factors which must be taken into consideration

and the ethical producers it uses. This season, People Tree became the first UK fashion house to gain both Fairtrade and Soil Association accreditation. Oasis, Topshop, Tesco and Marks & Spencer stock organic and Fairtrade collections. The Co-op has featured Fairtrade products for some years and its own-brand black chocolate and own-brand coffee is exclusively Fairtrade.

Big retailers are leading the charge. Marks & Spencer, for example, aim to make their UK operations carbon neutral within five years using a number of different strategies. Most relevant to this paper are a commitment to reduce energy use and to use green energy. Since 2003, the company has reduced CO_2 emissions by 30 per cent per square foot in their UK stores and aim to reduce it by a further 25 per cent.

The company has opened a number of 'eco stores' and comparing two of them is instructive for this paper. The Bournemouth store was a refit of a 1930s building. Here energy savings of 25 per cent were achieved and the CO_2 output of the store reduced by 92 per cent through using green energy. A new store in Glasgow, by comparison, saved 55 per cent of energy and reduced CO_2 by 95 per cent.

This underlines the problem for most retail space. The overwhelming majority was developed to much lower environmental standards and the dilemma for most retailers is how to make their existing space greener.

FOOTPRINT

The term carbon footprint is commonly used to describe the total amount of CO_2 emissions for which an individual or organisation is responsible. The full footprint of an organisation encompasses a wide range of emissions sources from direct use of fuels to indirect impacts such as employee travel or emissions from other organisations up and down the supply chain.

Because it requires face-to-face interaction with the shopping public, there are limits on the extent to which conventional measures for greening space can be applied. Lighting, for example, is crucial to the display of

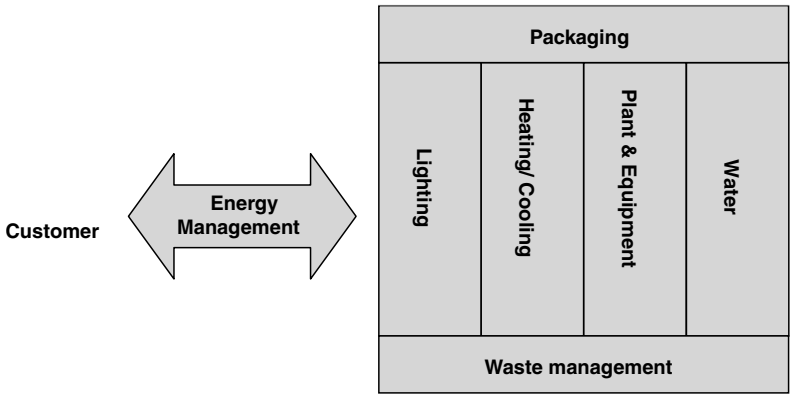

Figure 2: Generic components of a retailers carbon footprint

goods and therefore to sales so there would be a clear financial impact of any campaign to 'turn it off'.

Figure 2 highlights the generic components of a retailer's carbon footprint. Since the focus of this paper is the retailers premises, this excludes the goods actually being sold. In a typical retail transaction, customers come to the shop, purchase something and then take it home.

This model varies according to the class of goods sold, but the principle remains the same in so far as they attend the shop and then return home.

It is tempting, at this stage, to remove the customer's footprint from the equation, since, clearly, the retailer has no control over how far a customer travels. However, this would remove considerations of location altogether, and retailers do have control over where they locate and are able to implement strategies that green consumer behaviour.

Considerations of packaging are not discussed here. Although retailers can affect the impact of their function through, for example, the adoption of bio-degradable wrapping, this paper focuses upon issues related to the physical real estate.

It is clear that energy is central to the ability of retailers to improve the environmental credentials of their property and that, for most retailers, this will entail control of energy use rather than generation.

ENERGY

The three main culprits in energy use within the retail envelope are:

— lighting
— heating/cooling and
— equipment.

Axiomatically, lighting is key to the retail process for both display and health and safety reasons. Heating and cooling are important to all retailers, but crucial to some where the goods sold require storage within degrees of an ambient temperature.

Equipment, whether computers, cash registers or cooling cabinets will all be key to particular types of retail business. All electrical devices use power, converting that electrical power to a different type of energy. Computers and display screens use the power to drive semiconductors and other electronic components, which in turn dissipate their unused energy as heat.

In general terms, one watt of power used creates one watt of heat from an electronic device. Again in general terms, it takes one watt of power to drive an air-conditioning system to remove the heat created (if necessary). It should be clear therefore that for every additional watt of power drawn by a device, two watts of electricity are required.

The use of energy by the consumer is outside the direct control of the retailer. However, there are retail strategies that can contribute towards reducing shopping trips.

TACTICAL RESPONSES

Upgrade to low energy devices

Computers are now being delivered that run on 45 watts of power. This compares favourably to the installed generation that consumes far more. Figures differ between manufacturers but a Dell desktop will use between 60 and 260 watts depending on the model and how it is being used. Typically LCD screens will use much less power than CRT screens. Given that modern cash registers are small, dedicated computer systems, there is plenty of scope for lowering operating costs here but the savings are unlikely to pay for the capital cost of changing other than in the long term.

Use LEDs and low energy bulbs for lighting

Traditional incandescent bulbs are actually small heaters that give off a little bit of light. They waste energy and money, and they are responsible for millions of tons of CO_2. Currently the solution promoted is to use low energy bulbs — effectively small format fluorescent tubes. These are an effective replacement and have the added feature that they run cool, saving on cooling costs on the downside these bulbs take time to come up to full brightness and are unsuitable for dimming.

Light emitting diode (LED) solutions are likely to be the way forward. Indeed they are already used extensively in window displays. LEDs have a long operational life (circa 50,000 h) and are appearing increasingly clustered to produce viable lighting solutions.

Use green energy

Green energy is used to describe power sourced from renewable or nonpolluting energy sources. Power generated from renewable sources is becoming increasingly available. By choosing to purchase green power instead of conventional electricity, retailers are supporting the development of new, cleaner technologies that will reduce the

environmental impacts associated with conventional electricity generation.

For many retailers these tactical responses will be the sum of their commitment allowing them to make their operation greener at relatively low levels of cost.

STRATEGIC RESPONSES

For those seeking to make a bigger impact there may be other strategic options that seek to address the fundamentals of the retailing process through shaping consumer behaviour.

Greater virtuality

For some types of retailer the use of the internet may be a viable option. Online sales typically generate less of a carbon footprint than the physical process of going to a shop and transporting goods away. In some segments online retailing already takes over 10 per cent of the market, small electricals for example, and e-commerce is far from being the sole preserve of the big retailer. Clearly there are degrees of implementation, but ultimately one answer may be to do away with retail premises altogether and go completely virtual.

Green home delivery

However the purchase is made, with all physical purchases the goods have to be delivered to the point of consumption. In March 2007, Sainburys announced the conversion of 20 per cent of their delivery vehicles to electric power with the remaining fleet converted within three years.

Green travel plan

The Marks & Spencer store refit in Bournemouth involved all those involved in the construction process signing up to a green travel plan covering how materials and personnel arrived at the site. Since opening a similar plan has been implemented for suppliers, staff and customers. The purpose of the plan is to highlight travel alternatives and to make them more feasible and more attractive to employees and customers alike. It includes the provision of cycle racks and charging for parking.

CONCLUSIONS

According to the Carbon Trust, UK retailing accounts for around 7 per cent of UK carbon emissions. This seems low, given that retail space accounts for 17 per cent of built stock.

It is clear that larger retailers are addressing the issue of green retail space, but as part of a more holistic approach to reducing carbon emissions from their businesses. What is also clear is that they are investing substantial sums in this area. For the smaller retailer such investment may not be a viable option.

Yet, without massive investment, retailers can reduce their carbon footprint by relatively mundane and simple changes in behaviour. Setting aside any compelling reasons of conscience, why should retailers make the change?

One reason may be that their direct competitors are doing it. Research published by the National Consumer Council[3] indicates that sustainability is fast becoming a mass-market phenomenon — with even lower-end retailers embracing a greener approach. There will be no prizes for being the least green retailer on the High Street.

Another reason may be that customers are demanding it. Here the jury is still out. Research has shown that the amount of media interest given to the environment far exceeds the amount of consumer interest in the subject. Yet attitudes are changing.

The real reason may be to save money. By adopting relatively simple steps it is possible to save between 10 and 25 per cent of energy costs. For a small retailer that may be substantial.

There is research that shows consumers are prepared to pay more for environmentally friendly goods. Canalys[4] interviewed 2,000 employed adult mobile phone and PC users throughout Europe. Slightly more than half — 55 per cent — of consumers agreed or strongly agreed with the statement: 'I would pay up to a 10 per cent premium for electronic products that were manufactured in a more environmentally conscious way'.

This is just as well. The NCC found that the cheapest energy-efficient lightbulbs in Sainsbury's and the Co-op were both more than 20 times the price of the more traditional option!

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