

Draft Resident's Manual - Beddington Zero (fossil) Energy Development

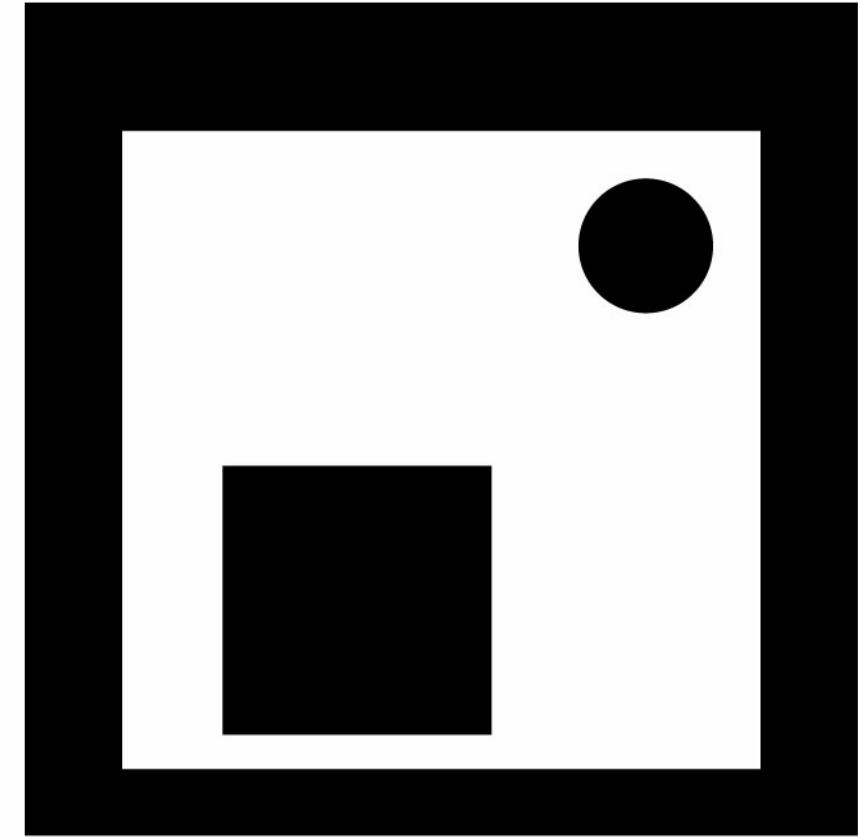


Bill Dunster architects
Bio Regional development group
Arup engineers
Ellis and Moore engineers
Gardiner and Theobald qs and construction managers

February 2002

120202

for



BEDZED

BedZED Residents Manual Contents



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This manual should be kept safe. Should you move from your home, help us save paper and pass it to the next resident. One copy should be kept available for reference and another copy will be kept with your lease or rental agreement.

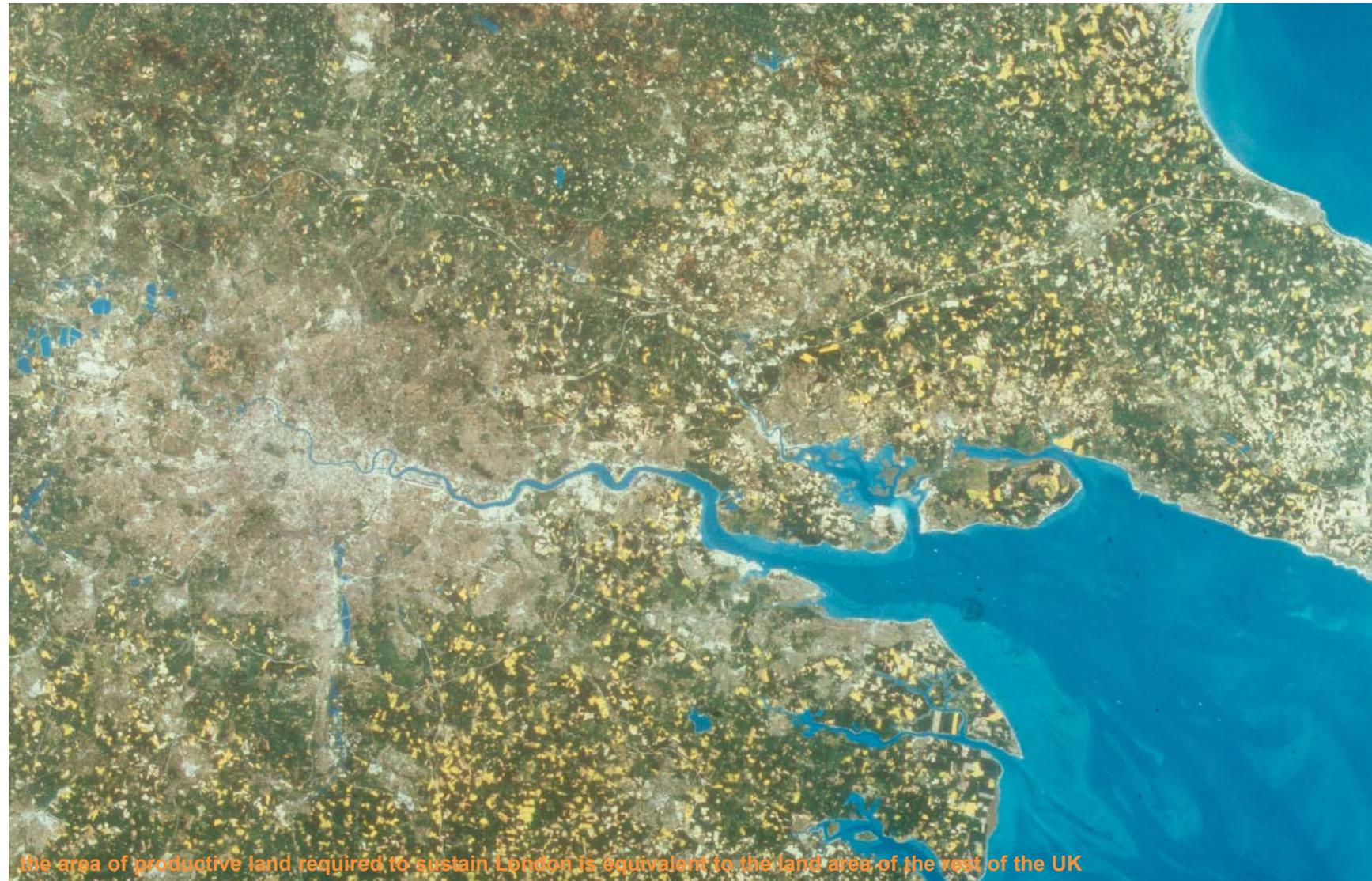
BedZED Residents Manual Letter from the Architects



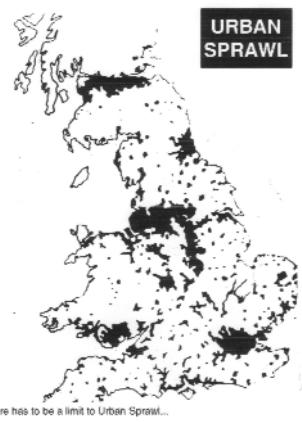
Letter from the architects



A typical Greater London resident consumes more resources and produces more pollutants than the environment can withstand in the long term. We have designed BedZED to minimise its environmental impact, at the same time as improve the quality of life for residents. Let us explain briefly how this has been done.



the area of productive land required to sustain London is equivalent to the land area of the rest of the UK



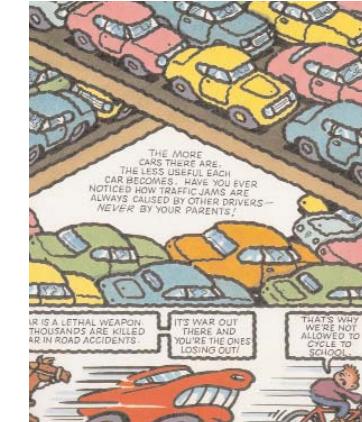
11% of surface area of the UK will be covered by urban sprawl by 2016



the global human population is expanding creating competition for food and energy



between 60 and 80% of our food is imported. The average meal has travelled 2000 miles from farm to dinner plate.



how do we increase our quality of life at the same time as reducing our environmental impact

Early on in the design process an analysis of the CO₂ emissions of local lifestyles showed it was just as important to reduce the high level of commuting to work and private car use, as it was to build energy efficient homes. A typical UK family (if such a thing exists) tends to spend a third of their annual carbon emissions on commuting and shopping, a third on heating and powering their home, and a third on food miles. For instance, the energy investment needed to move the average British meal is over 2000 miles from farm to factory to dinner plate. To minimise the collective environmental impact, we have designed the BedZED village to address all three areas of CO₂ emissions in an integrated way.

BedZED Residents Manual Letter from the Architects



We are trying to show that reducing the environmental impact of our lifestyles can be reconciled with actually increasing our quality of life. If residents can take workspaces at BedZED, they will create jobs for others and avoid spending hours a day commuting into town. The benefits to the community will be enormous. Equally if the residents decide to join the car club, support the locally-sourced organic food box scheme, and support the café, these commercial facilities will be viable, and make life at BedZED more desirable and convenient than the alternatives. However, achieving a rich and diverse range of activities will not happen overnight.

But, there is only so much that the design of BedZED solar urban village can do. We have provided you with the facilities to make it as easy as possible to adopt a more environmentally benign lifestyle. It is really up to you, the residents, to adopt the buildings and facilities provided and to find new ways of living and working. For example, there is little point in providing wood chip fuelled combined heat and power on site if energy is then lost by leaving windows open in the winter meaning electric heaters have to be used, or if not enough people join the car club to make it viable. There may be teething problems in the first year and unforeseen issues to resolve as the community evolves. However, we should all remember, where there's a will there's a way.

Great things can be achieved if the new residents work together to create a stimulating, vibrant community. The Peabody Trust has invested in the infrastructure, believing Londoners can be amongst the first in the world to pioneer workable and more sustainable cities. The rest of the world looks on in interest.

We wish you joy in your new home.



Bill Dunster, Susan Venner, Steve Harris,
Liegh Bowen, Asif Din
The BedZED Team
@ Bill Dunster architects



BedZED Residents Manual Introduction

Sustainable living or ‘carbon neutral’ living is a new way of living, and BedZED is a different kind of home. This manual has been written especially for residents, to help make living at BedZED as easy and simple as possible, and to ensure residents get the benefits of Peabody’s investment in the future.

The manual is organised into five sections:

- A Carbon neutral lifestyles**
- B How BedZED is constructed - understanding how the community works as a whole**
- C How to use your home – your instruction manual**
- D About your workspace if you have one**
- E Where to find further help if you need it.**

The different sections of the manual can be read as and



when you need them, but **PLEASE READ SECTION C OF THIS MANUAL STRAIGHTAWAY.**

In section C, you will find some pieces of highlighted text. These are to bring important points to your attention and, in particular, to emphasise the obligations which residents have. **Please make sure that you familiarise yourself with these points, which are also in your leases or tenancy agreements.** The obligations are there to protect you and other people in the BedZED community, and to make sure that the buildings work as intended. Peabody Trust reserve the right to take appropriate action if these obligations are not met.

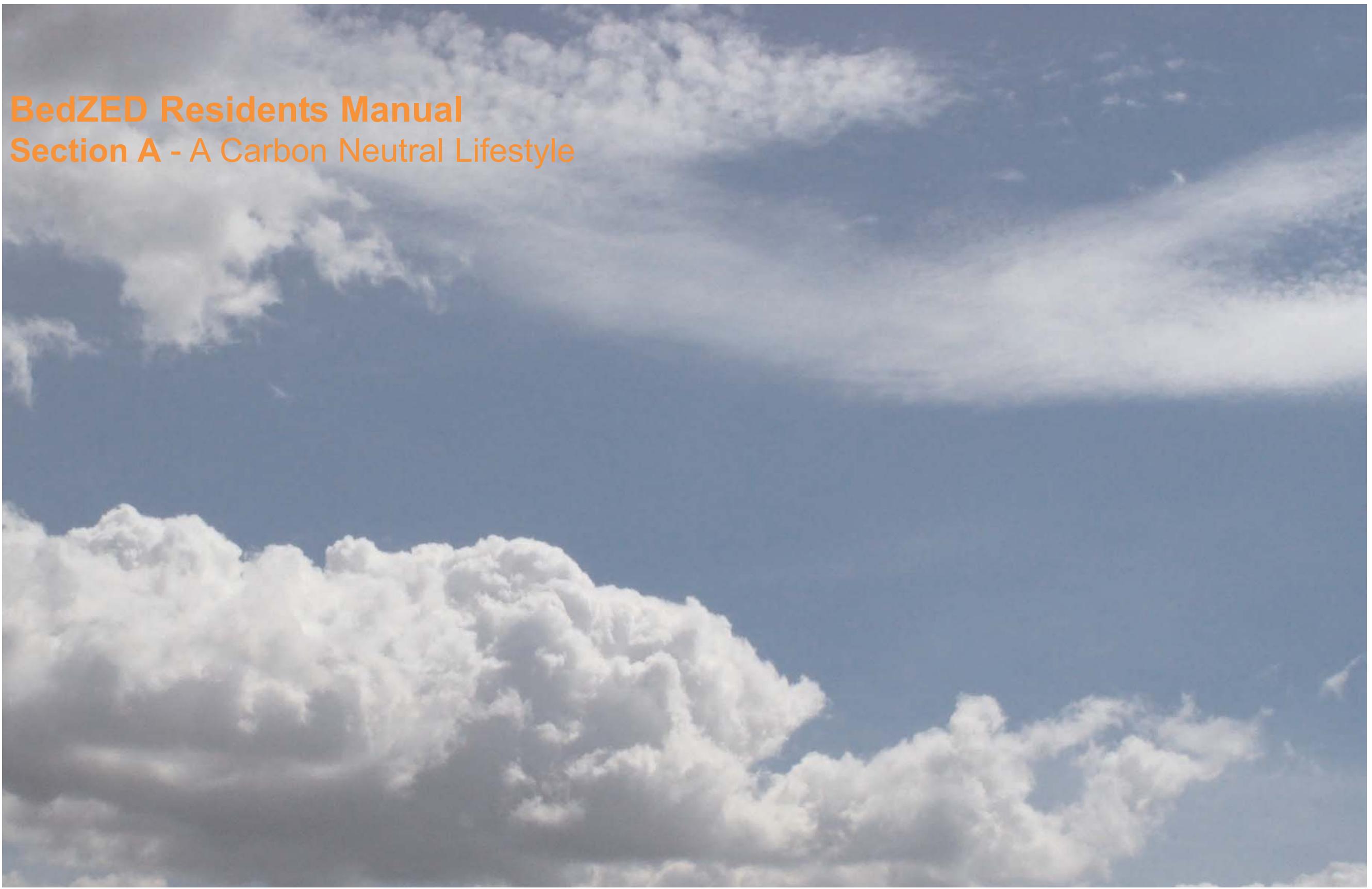
To help residents as they move in, there is also an exhibition in Block D, where residents can see for themselves how BedZED was built and find out more about the philosophy behind carbon neutral living and zero energy developments (ZED).

The websites for general enquiries about BedZED and other information are:

www.bedzed.org.uk
www.peabody.org.uk
www.bioregional.com
www.zedfactory.com

Useful telephone numbers and other information will be provided on a sheet pinned to the inside of your kitchen meter cupboard for use in an emergency:

1. Maintenance Company - **TBA**
2. Emergency out of hours repairs - **TBA**
3. Water Provider - (Albion Water) - 0800 0855580
4. Plumbing services - **TBA**
5. Leaseholder and Assured Shorthold Tenancy issues - (PT) - 020 7922 0224
6. Assured Tenancy issue - (PT) - 020 8665 5810
7. Defects issues - (PT) - 020 7928 7811x354
6. Commercial Tenants (all issues) - 020 7928 7811x482



BedZED Residents Manual Section A - A Carbon Neutral Lifestyle



the second floor sunspace

Carbon neutral living

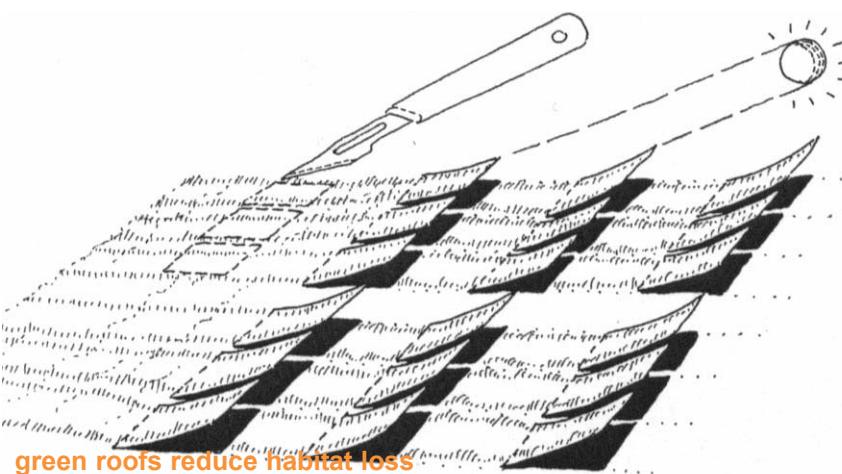
This chapter introduces you to some of the things you can add to your daily routine which will reduce global warming and improve the environment. Doing this will not only make it cheaper to live but also provide a better standard of living and help towards leaving a better world for our children. There is a wealth of published information on the subject and detailed lists of contacts and providers, and a bibliography can be found at the end of this manual.

Benefits of a carbon neutral lifestyle

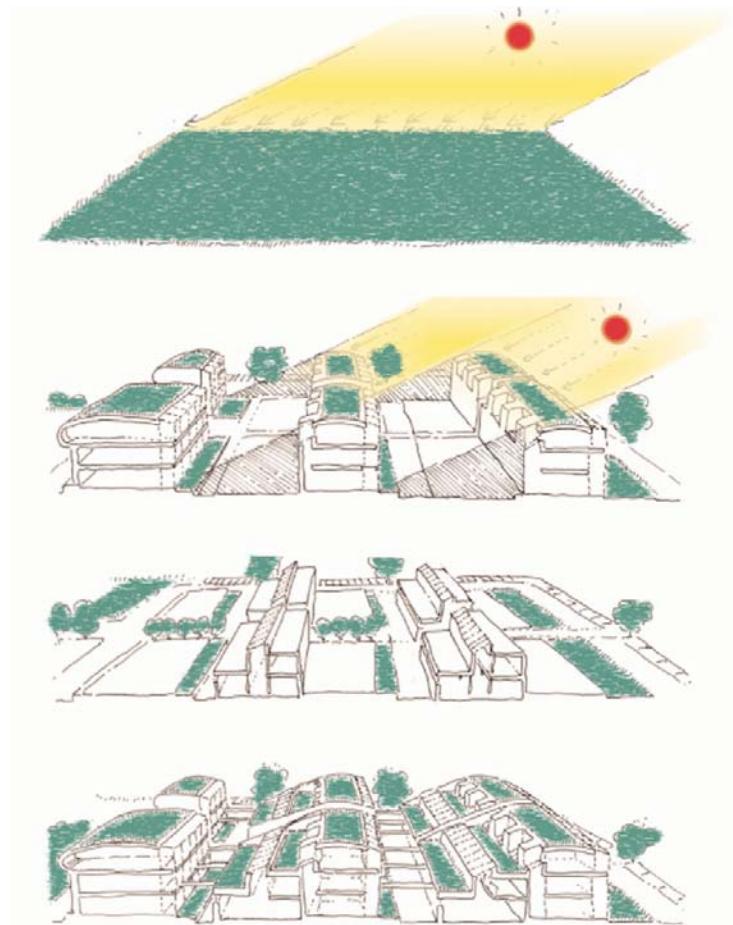
So, how do we make it easier to lead a carbon neutral lifestyle?

The design of the new BedZED village integrates the following lifestyle initiatives:

- Saving land - by building 82 homes of differing sizes on a compact brownfield site. This helps save greenfield sites around the capital.
- Combining workspace with residential accommodation makes it easier for people to work at home, reducing the need to commute and shaving about 2 hours off the average workday.
- By placing private gardens on the workspace roofs it has been possible to provide most flats and houses with their own private garden complete with 300mm of soil.



green roofs reduce habitat loss



placing business buildings in the shade zone behind housing

- By combining super-insulated walls, roofs and floors with energy saving windows, airtight construction, south facing conservatories and heat recovery ventilation, it should be possible to reduce the requirement for heat to a fraction of a normal home.
- By careful day lighting minimising the need for artificial light, energy efficient bulbs, energy efficient white goods and only one electrical fan and one pump both infrequently required in the home it should be possible to reduce the villages electrical requirements to the level that can be supplied by the wood chip fuelled Combined Heat & Power (CHP) plant on site.
- By using Internet or faxed-ordered grocery deliveries and participating in the car club, it should be possible to reduce car use.
- By re-establishing urban rural links, encouraging local farms to provide seasonal organic produce direct from farm to shop on site.

BedZED Residents Manual Section A - A Carbon Neutral Lifestyle

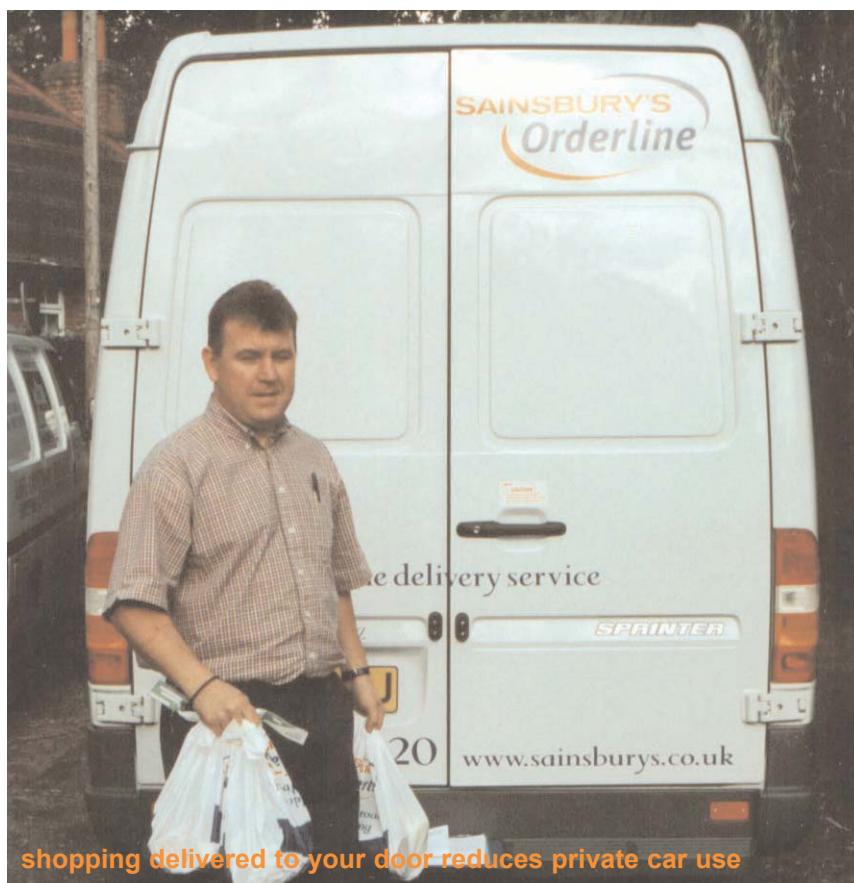
Shopping

The way we shop has an impact on the environment..

Box Schemes provide a regular supply of fresh, seasonal fruit and vegetables directly to your door. These are often organically grown, taste good and are healthy. They cut down on wasteful packaging and transport. There are also schemes for local producers of meat, cheese, wines, etc. Farmers markets take place at regular venues where producers sell directly to the public.

Keep a look out for products such as paper, plastics and fabrics made from recycled materials. Look out for the 'Forest Stewardship Council' (FSC) logo on new timber products such as garden furniture. Examine the environmental credentials of decorating products such as paints and carpets.

Second hand furniture is often cheaper than new and can be of better quality. This may also be true of clothes.



When buying consumer goods, from light bulbs to cars, consider their durability and energy use. It is cheaper in the long run to buy an economical, long lasting item than a lower priced item which is expensive to run and needs regular replacement. It is also better for the environment.

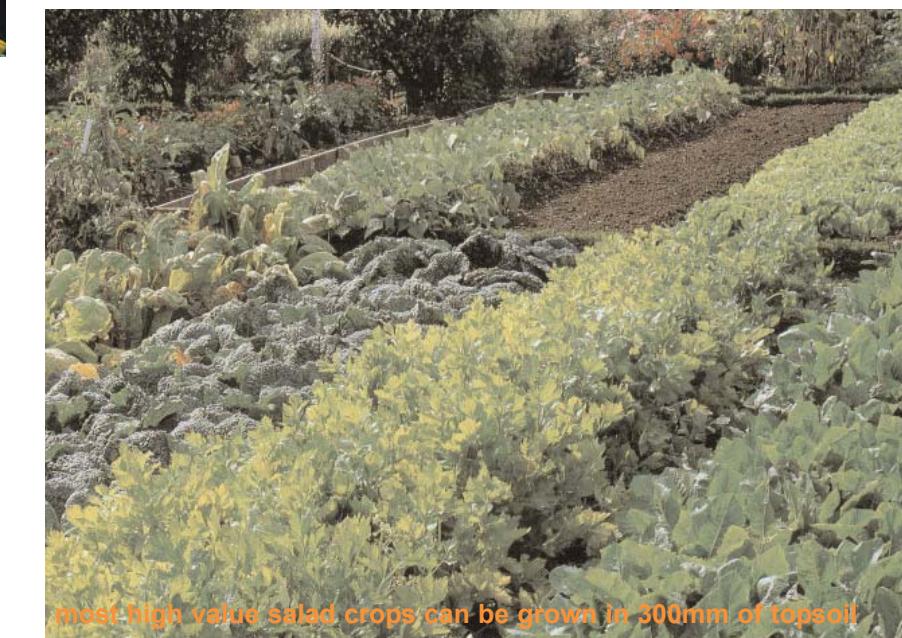
If you have access to a computer, you can save on the financial and environmental costs of transport by shopping on the internet. Many stores now offer this service with home delivery. You can also shop by telephone.

Buy cleaning materials that have a low environmental impact such as pure soap or low phosphate washing powder. These products are now becoming widely available. If your favourite or regular shop does not carry these lines, use your influence and ask them to do so!



Gardening

Food growing is a natural extension of the sustainable ideas that underlie BedZED. A supply of fresh, healthy food, grown in the way you like it, is rewarding and it reduces "food miles". Consider using local allotments, which are readily available. The gardens and conservatories at BedZED also offer exciting and unusual opportunities to 'grow your own', and the biodiversity provides benefits for wildlife.



The health benefits of gardening are at least twofold, first is the healthy exercise of the activity and then there is the healthy nature of the food grown. Organic gardening means not using chemicals. It relies on good husbandry and a range of knowledge, such as the fact that carrot flies are less likely to attack carrots if onions are planted nearby. Also, by increasing the health and goodness in the earth, your plants become healthier and more resistant to attack from insects or disease.

Without dangerous chemicals, local wildlife can thrive. You can encourage this by planting local species and by using feeders and bird boxes. Birds also eat many garden pests. And by using non-peat composts and soils you can avoid depleting peat bogs.

BedZED Residents Manual Section A - A Carbon Neutral Lifestyle

Waste

A vast amount of waste is produced by society generally, but 'out of sight out of mind' is no longer an option. Finding safe and sustainable methods to dispose of present quantities of waste is becoming increasingly difficult. Reducing the waste created is the best answer, such as avoiding packaging or 'throw away' items. Recycling the residual waste, such as paper, glass, plastic, tins, etc. converts them from waste to a resource.

Vegetable waste from the kitchen makes up around a third of all household waste. This can be composted and add to the fertility of gardens or farmland. Look out for community composting schemes.



segregated recycling bins are provided in all kitchens

Getting around

Public transport reduces congestion and pollution. BedZED benefits from having good access to rail, tram and bus links.

Vehicles powered by electricity and LPG (Liquid Petroleum Gas) are less polluting than traditional petrol and diesel fuelled varieties. The availability of LPG filling stations is on the increase as are electric car charging points. Electric vehicles are ideal for town use where their generally lower range is not a problem and quiet running is an advantage. Cars can be charged up overnight using points provided at BedZED, or at a place of work or even at some shops. Electricity has the present advantage of economy as it does not attract the level of taxation applied to traditional fuels.

Car sharing splits costs which can provide considerable savings. It reduces the number of vehicles on the road and so reduces pollution and congestion. A number of national lift share schemes have been set up to provide guidance.



an electric car charged from solar electricity at Hope House

The number of cycle ways in London and nationally is continuing to rise. In London, they form a network of routes taking advantage of parks and quiet residential streets. London is ideal cycling territory as it is relatively level. By careful planning and studying recent cycle maps, it is possible to get around quite well with very little use of busy roads. Cycling is clean, healthy transport.

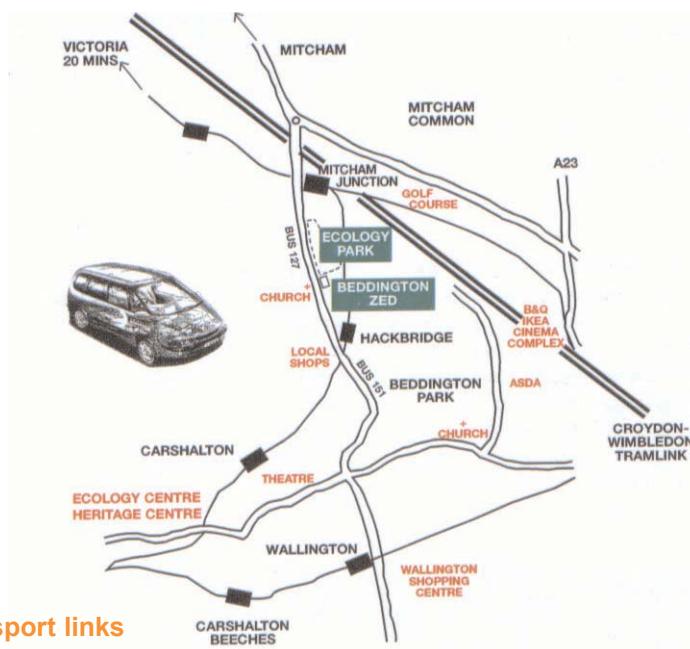


the strida folding bike is allowed on the tramlink (www.strida.com)

Working

BedZED's mixture of homes and workspaces gives the opportunity to work close to home. This cuts the expense of regular commuting with its associated stress. It also gives more free time as well as benefiting the environment through reduced traffic use.

"Green" contacts and information are given at the end of this manual, in Section E.



transport links



BedZED Residents Manual Section B - How it is constructed, how the community works



General design principles at BedZED

BedZED has been designed to reconcile environmental concerns with residents' comfort and standard of living. It is common knowledge that more people, cars and industry have led to poor air quality, loss of wildlife and a risk of drastic weather changes. Maybe we think this trend can only be stopped by giving up the things we like, such as a warm and comfortable house and a car. This is not necessarily the case! Caring for the environment can lead to a better standard of living for all and BedZED sets out to put this into practice by a number of means.

This chapter sets out the BedZED approach to protecting the environment and improving your lifestyle. Understanding this chapter should help you live comfortably and economically at BedZED.



the south facing windows let in heat as well as light



the wind cowls and solar electric cells along Helios Road

Energy efficient building design

Renewable energy sources

Energy is used in houses to provide heating and hot water, to give light and to power domestic, electric appliances. Although the use of renewable energy resources, such as wind power and solar energy, is increasing, individual gas or oil fired boilers normally provide domestic heating and hot water. Electricity is predominantly generated at nuclear, gas or coal fired power stations.

Apart from nuclear power which has its own environmental hazards, all other standard methods of producing heat and electricity for houses in the UK involve burning fossil fuels. This results in the release of carbon in the form of carbon dioxide to the atmosphere, which in turn contributes to global warming. Buildings, including houses, shops and offices are responsible for around half of all carbon emissions from the UK and the level of emissions is increasing.

BedZED has been designed to be 'carbon neutral', which means that the net amount of carbon released to the atmosphere is zero. This is achieved by:

- the energy efficient design of the buildings to reduce the amount of heat lost through the walls, roof, and windows, and to use heat from the sun such that it is feasible to eliminate a conventional central heating system from every home.
- using energy efficient and hot water saving domestic appliances to reduce energy use.
- using non-fossil fuels for producing heat and electricity. This is done by using wood as the fuel for an engine that is connected to electricity generator. The generator produces electricity, and heat from the engine is used to produce hot water. By using wood as the fuel for the engine, the net amount of carbon released as carbon dioxide to the atmosphere is zero. This is because trees that produce the wood fuel absorb carbon dioxide as they grow and return it to the atmosphere when burnt.

BedZED Residents Manual Section B - How it is constructed, how the community works



An alternative strategy

In a standard house there is a boiler and radiators to provide heating to keep temperatures comfortable. The size of the radiators depends on how much heating they are required to provide. The amount of heating required depends on the amount of insulation in the walls, roof and ground floor, how good the windows are at keeping heat in the house, and how much cold air leaks into the house from outside. At BedZED the designers have greatly improved the standard of insulation and the quality of the windows. They have also reduced the amount of unwanted cold air coming into the homes.

This means that the homes do not require a central heating system. This is explained in the diagram and detail below.

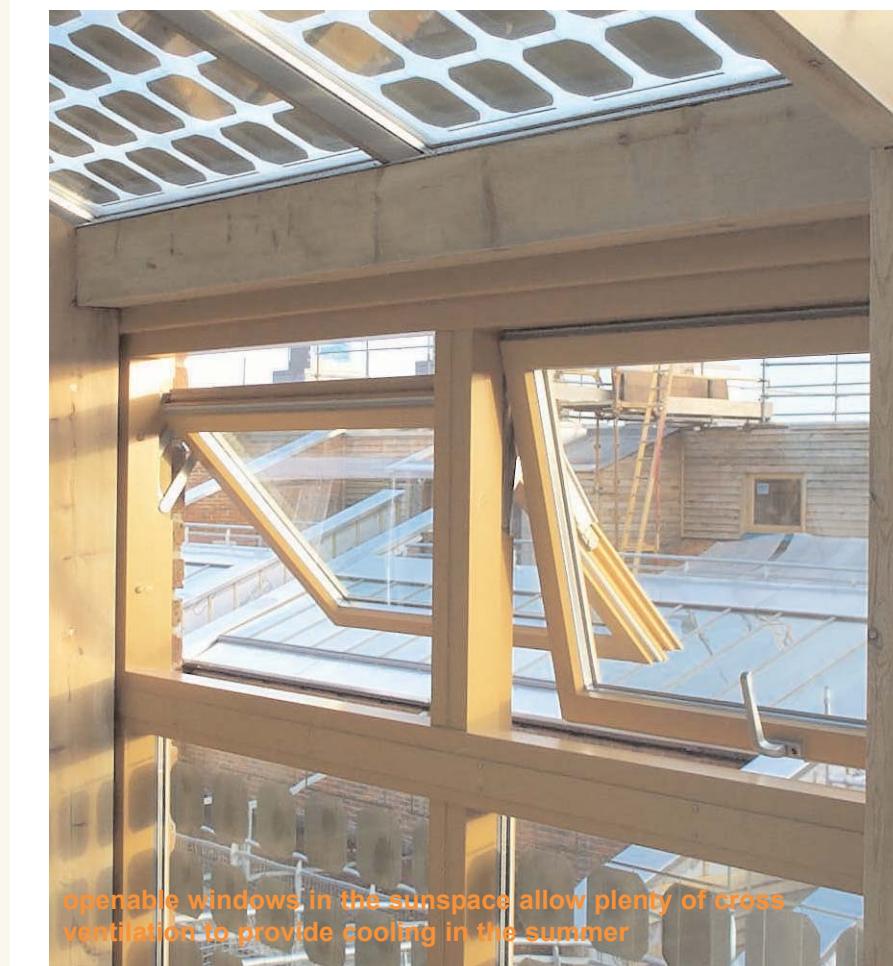
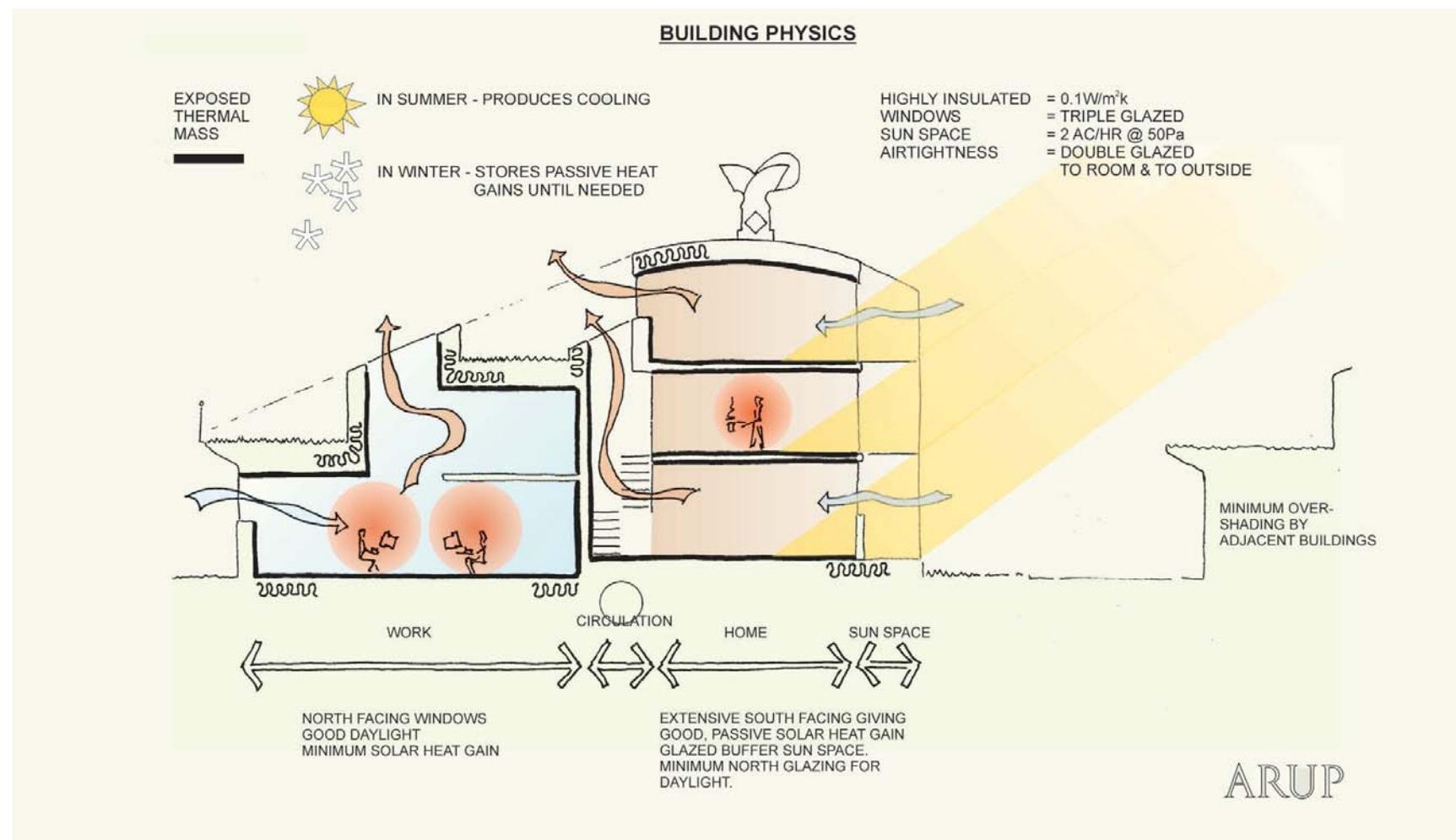
Super-insulation, windows and doors

At BedZED the insulation thickness is 300mm in the walls and roof, compared to the standard 50mm. Also, the triple-glazed windows lose approximately one sixth of the heat lost through a single glazed window.

This helps reduce the heat loss from each home to the extent that the heating requirement can be met by heat from the sun (solar heat gain) and heat from lighting, electrical appliances, cooking and people (internal heat gains). These two sources of heat will be sufficient to keep each home comfortable when it is occupied. When owners are away and their home is unoccupied there will be a need to replace the internal heat gains. This is done using a small 'substitute' heating system.



300mm of insulation only allow 0.1 watt per square metre per degree celsius of energy to escape



openable windows in the sunspace allow plenty of cross ventilation to provide cooling in the summer

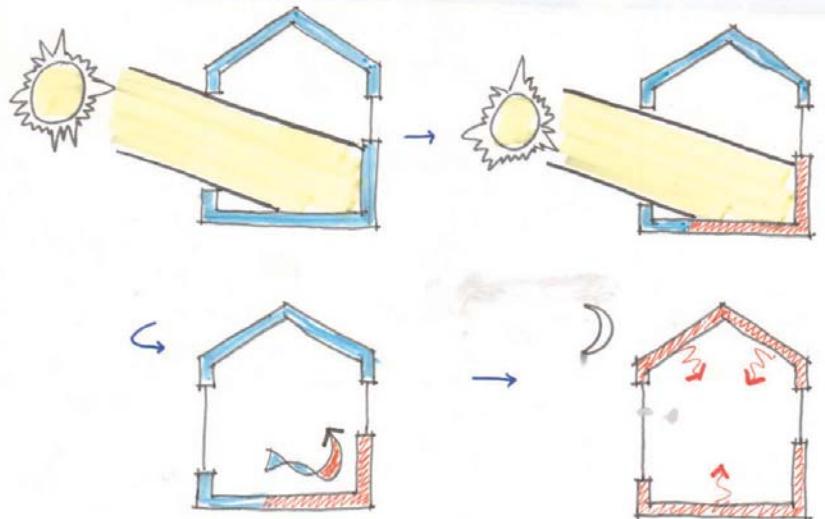
BedZED Residents Manual Section B - How it is constructed, how the community works



Materials for walls, floors and ceilings

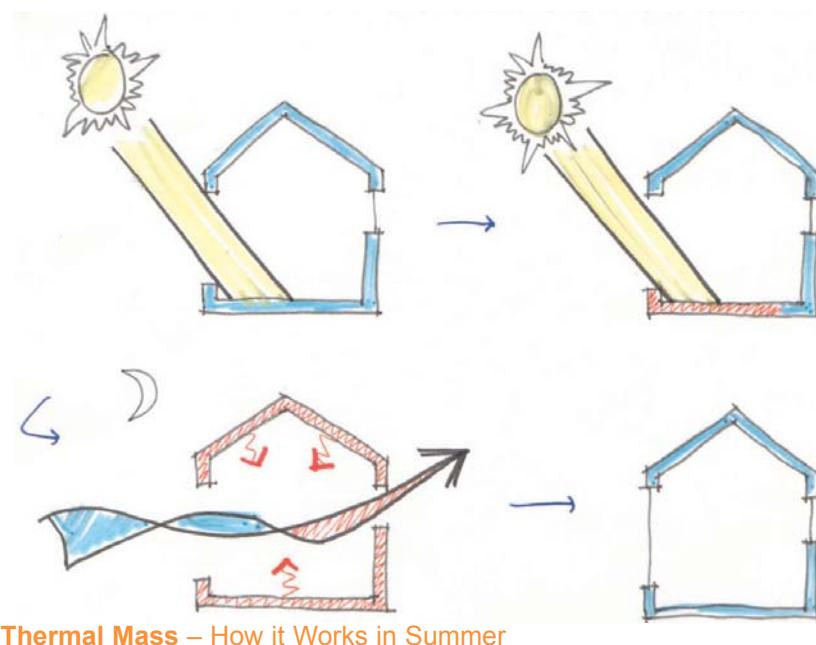
Building materials such as dense concrete have an inherent ability to absorb, store and release heat. These materials are grouped under the heading 'thermal mass' and their heat absorbing and releasing ability is of use in the winter and summer.

In the winter, solar heat gain and internal heat gain are absorbed and stored in the thermal mass during the day. At night when the temperature naturally drops, the stored heat is released into the room and helps to maintain comfortable internal temperatures, see the figure below.



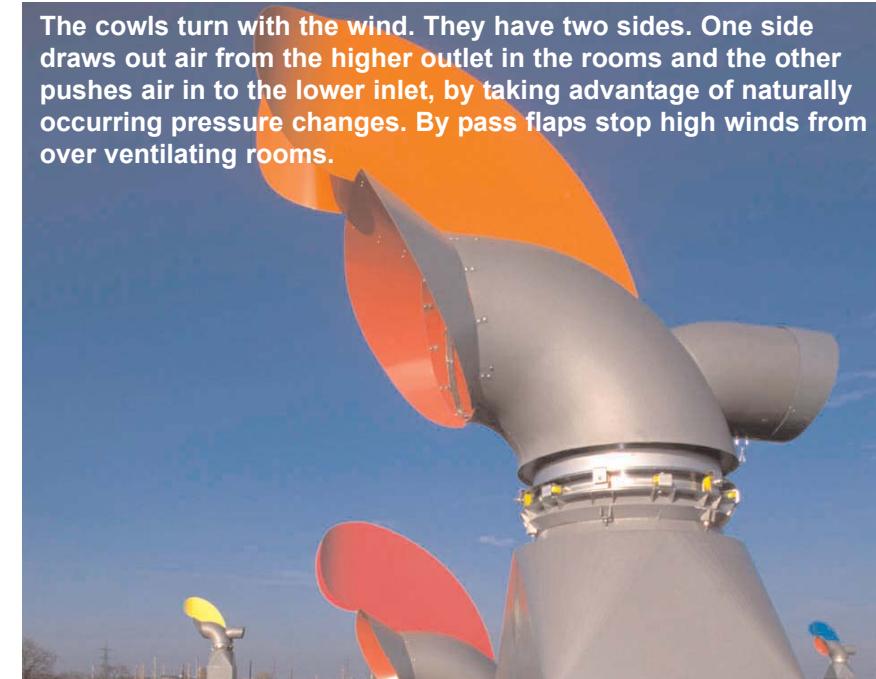
Thermal Mass – How It Works in Winter

In the summer, the thermal mass aids in maintaining comfortable conditions. Solar heat gain that gets into the house is absorbed into the walls, ceiling and floor. Compared to the room temperature, the room surfaces remain relatively cool and this helps to keep the house comfortable. At night, again when the temperature drops, heat is released from the heavyweight surfaces. If windows are opened so cool outside air ventilates through the house then the heat released from the thermal mass is removed from the house, thus cooling the surfaces ready for the next day, see the figure below.

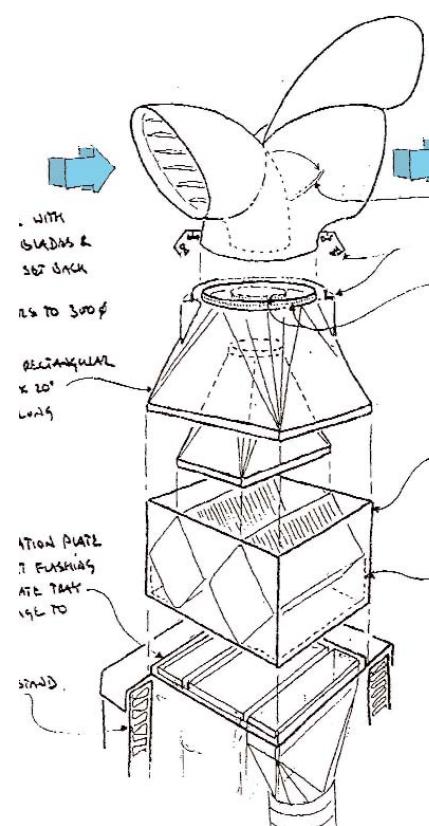


Thermal Mass – How it Works in Summer

The cowls turn with the wind. They have two sides. One side draws out air from the higher outlet in the rooms and the other pushes air in to the lower inlet, by taking advantage of naturally occurring pressure changes. By pass flaps stop high winds from over ventilating rooms.



Fresh air ventilation with heat recovery



**wind powered ventilation with heat recovery
-Arup Engineers**

Standard houses let outside air leak in through the cracks and openings, such as between window frames and walls. The use of super-insulation and high performance windows and doors means the heat lost through the walls, roof, floor and windows is minimised. This also means that the heat lost due to cold air coming into the house from outside becomes insignificant. It follows that this air leakage is one of the most critical factors in making a low energy house work without a heating system, and at BedZED the air leakage has been reduced to a standard similar to that used in Scandinavian homes. This reduces draughts and the need for heating.

Fresh air is required in a house, obviously for breathing, but also to remove pollutants and odours, and to help avoid condensation and mould growth. Fresh air from outside needs to be heated as it comes into the house. With no heating system, this requirement to heat incoming fresh air must be reduced. Fresh air ventilation must be controlled and heat exchange incorporated so warm, stale outgoing air from bathrooms and kitchens is used to heat the incoming fresh air. This is achieved at BedZED using the wind cowls on the roof. Fresh air is drawn into the smaller funnel and is transported via pipes or 'air ducts' to the ventilation outlets just above skirting level in the living room and bedrooms. Warm stale air is removed from the kitchen and bathroom and is taken by separate air ducts back up to the wind cowl. This air passes the cold fresh air coming in and although the two air streams do not come into physical contact, the outgoing air gives its warmth to the fresh air coming in, thus 'preheating' the fresh air. This transfer of warmth takes place in a 'heat exchanger' and the stale air then passes outside via the other, larger funnel on the wind cowl.

BedZED Residents Manual Section B - How it is constructed, how the community works



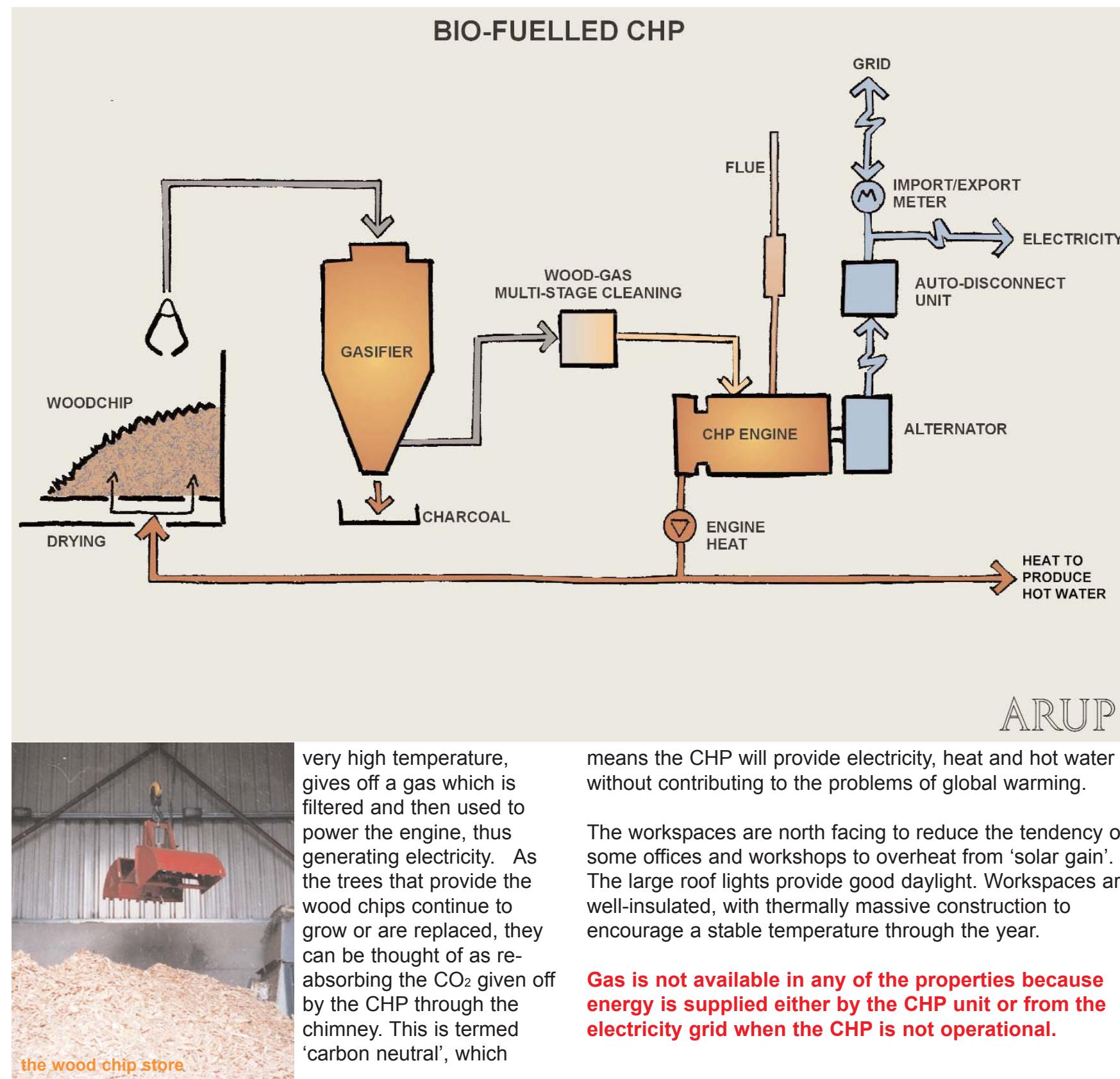
Heating

Large hot water tanks in your airing cupboard are linked to the Combined Heat and Power (CHP) unit nearby. A CHP unit is an engine driving an electrical generator where the heat from the engine is distributed to homes by hot water in highly insulated hot water pipes. This is known as a 'community heating system'. The hot water from the CHP runs through a heat exchanger coil in your hot water tank in the same way as a standard, 'indirect boiler' system works. The system is more efficient than a gas boiler as all the heat arriving at the home can be used, unlike a boiler where typically 15% - 20% of heat is lost to the flue. The community heating system also has the advantage for residents that there are no boilers or central heating pumps for them to service.

The hot water tank in your airing cupboard, aided by small finned tube radiators, provides background warmth as well as hot water for bathing, showers, etc. The water in the radiators is taken from the hot water tank rather than the community heating system.

The hot water is not free, as the CHP unit has to be fuelled and maintained. The hot water from the CHP is metered so the amount each home uses can be charged in the same way that electricity is, by the kWh. You can check how much you are using from the display meters, normally visible in the kitchen area. The heat meters can also be read remotely by the energy company. There is also an electrical immersion heater in each hot water cylinder that can be used to provide a heating boost if a lot of hot water has been used or when the CHP is shut down for maintenance. The immersion heater will also come on automatically if the temperature of your home falls below a pre-set level, determined by a strategically placed thermostat. This prevents an unoccupied home draining heat from its neighbouring properties.

The fuel for the CHP is wood in the form of small logs or chips generally provided from park or forest waste. This waste would most probably have otherwise been dumped as landfill. The wood, through a process of heating at a



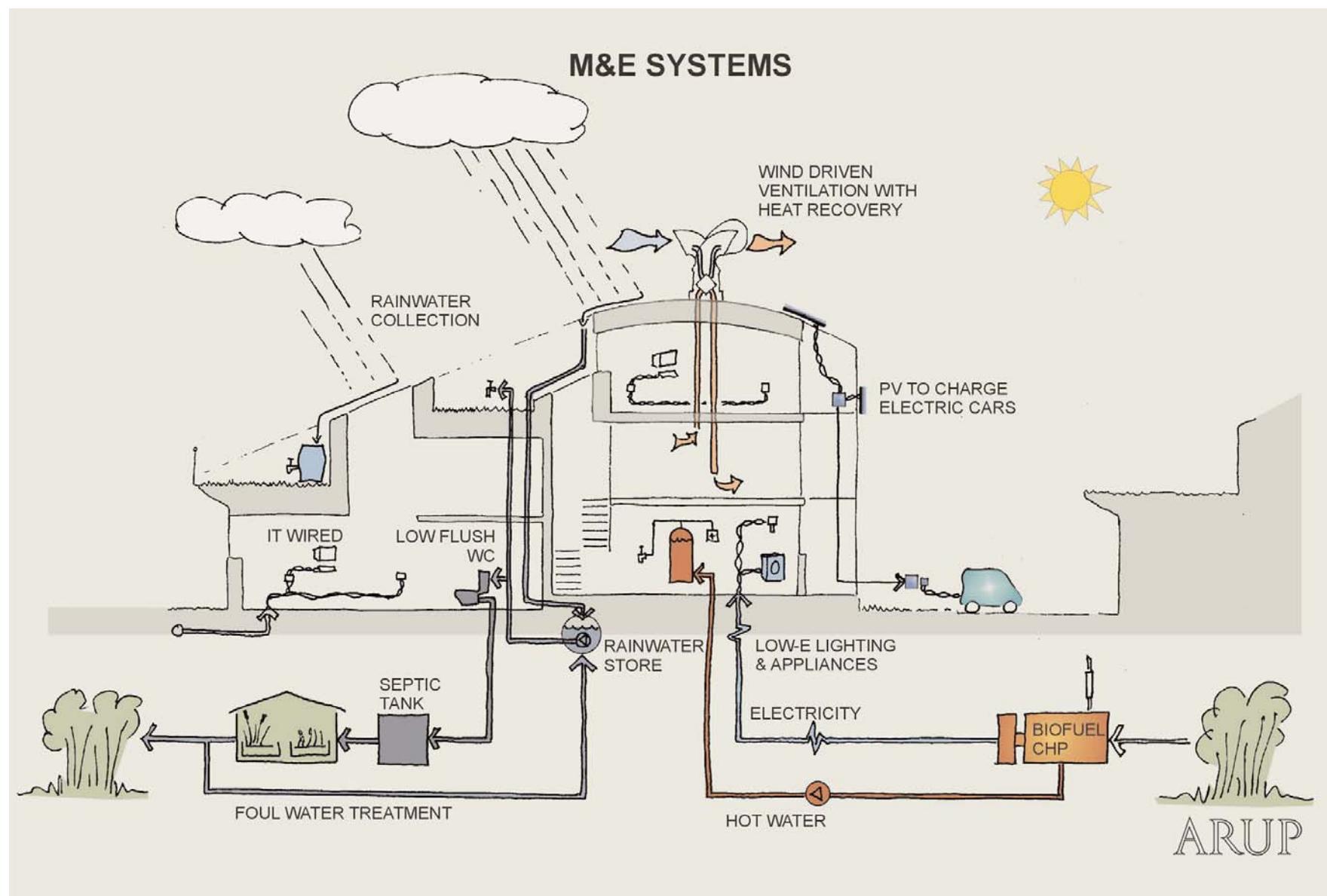
BedZED Residents Manual Section B - How it is constructed, how the community works



Electricity

Electricity is provided to BedZED residents via a private Peabody electricity cable network. This is fed with electricity from three sources: the CHP, the National Grid (NG) and photovoltaic solar panels. The private network is connected to the NG and can both import and export electricity from it. BedZED has been designed to be able to export at least as much electricity as it imports over a year and does not, therefore, add to the demand from polluting power stations.

Most of the electricity used at BedZED will be produced by the CHP unit. When demand for electricity is high, such as when many people are cooking at the same time, electricity will be brought in from the NG. When demand is low, such as mid morning, surplus electricity from BedZED will be sold back to the NG. These changes occur automatically and will not be noticeable in your home.



Electricity is metered in the normal way, by the kWh unit, with bills payable to the system operator. Meters are placed in the kitchen area so that you can easily see how much electricity you are using. The electricity meter can also be read remotely by the electricity company.

Electricity is also produced from Photovoltaic (PV) solar electric cells on the roofs and top floor conservatories. These cells convert sunlight directly into electricity used to power the electric car charging points. The potential of PV is such that a great deal of our electricity could be

produced this way in the future. There are no moving parts to wear out and no fuel is needed to run them.

The PV cells are connected to the Peabody electrical cable network and not into individual homes, so all BedZED residents can benefit from the solar generated electricity on their homes or electric cars.

Overall, the electricity supply at BedZED has been designed so as not to contribute to 'Global Warming', air pollution or problems of nuclear waste disposal.

BedZED Residents Manual Section B - How it is constructed, how the community works



Water

Water shortages have arisen in England in recent years. A greater demand has arisen as more people have more washing machines, dishwashers, power showers, etc. Water shortages not only affect us as users but they also deplete watercourses and wetlands and threaten wildlife habitats. Pollution in rivers becomes more concentrated, killing fish etc. Demand at BedZED has been reduced by means of low-flush toilets, showers, spray taps and the provision of water-efficient washing machines. However, in order that the scheme continues to maintain its efficiency, there are some rules on keeping certain appliances within your home. This is covered in more detail later.



the living machines clean black water so it can be used again

There are two quite separate water supply systems on BedZed.

- **Potable (drinking) water** which is supplied to all domestic outlets in the kitchen and bathroom for drinking, washing and cooking.

- **Green (not for drinking) water** which is supplied directly to the toilet systems and for sub surface skygarden irrigation through a leaky pipe system.

Water for drinking, cooking and washing at BedZED comes from the mains system and is metered. The cost is based on the metered volume used and the meter is visible in your kitchen area so that you may see how much you are using. The potable water meter can also be read remotely by the water company, so there will be no needs for visits to your home for this purpose.

Water for flushing toilets accounts for about one third of overall use in the household. Green water is provided for this purpose. You may note that this water is very slightly tinged a green colour to distinguish it from drinking water. Green water is a blend of rainwater collected from the roof and recycled water from the green water treatment plant which treats the waste water on the site. This uses a combination of traditional and modern approaches to sewage treatment and includes 'hydroponics', where plants are grown in 'process tanks'. These assist with nutrient removal. The cleaned water is then treated with ultraviolet light to kill all germs before being reused. The cost of green water will be allocated according to the number of bedroom and toilets your dwelling has, and in proportion to your metered consumption of potable water. **Green water is not suitable for drinking.**

Water and sewerage services for the BedZED site are provided by Albion Water Ltd. They are a member of the Envirologic group of companies and are licensed by the Office for Water Services (OFWAT).

Regulation

Albion Water Ltd. is responsible for ensuring the water supply reaches the required standards of quality pressure and volume. These are monitored by the Drinking Water Inspectorate. The effluent discharged to the ditch from the green water treatment plant is monitored by the Environment Agency. The permitted quality of green water supplied to the sky gardens has been agreed with the Environmental Health, London Borough of Sutton. The scale of charges for water and sewerage services is regulated by OFWAT.



water saving taps and showers are fitted throughout and the toilet flushes with green water

BedZED Residents Manual Section B - How it is constructed, how the community works



Entertainment and New Technology

Each dwelling has a TV point and a twin phone socket in every living and bedroom. Initially one TV outlet is connected for cable TV, one for terrestrial TV and one telephone outlet is connected. Further sockets can be wired in as required. This facility has been incorporated to allow residents to work from home if their job allows it.

The TV and phone cables are installed in the timber skirting that runs along the party walls of each dwelling. Should you wish to increase the number of phone outlets or change their position, the front of the skirting can be removed. This design adds greater flexibility and ease for



the telewest sockets, network blank plate and tv sockets

residents

There will be four services in the dwellings, telephones, terrestrial TV, digital cable TV and broadband Internet. In each dwelling there are two coaxial master boxes (one for TV and one for Internet) and one telephone master box. There is a normal terrestrial TV aerial system wired to a central BedZED aerial and this is available to all homes. The provision of a cable TV and internet service will need to be agreed between the home owner and the service provider.

Environmental Construction

Whilst warmth from sunshine, high insulation and low energy light bulbs have a direct and obvious benefit to you, the construction process at BedZED has also been

designed to reduce negative effects on the environment. The manufacture of building materials can often devastate the place where raw materials originate from, for example, by cutting down forests or creating large holes in the ground. Local nature suffers as a result. The manufacturing process can also use lots of polluting, fossil fuel energy.



FSC certified plywood used during the construction of bedZED

The design at BedZED has reacted to this in a number of ways. The construction has made use as far as possible of re-used, recycled and sustainable materials. The structural steel is a re-used material as are the concrete paving slabs. The treads to the link bridges at BedZED are Forest Stewardship Council (FSC) accredited timber. Much of the hidden joinery in studwork partitions is made from re-used timber.

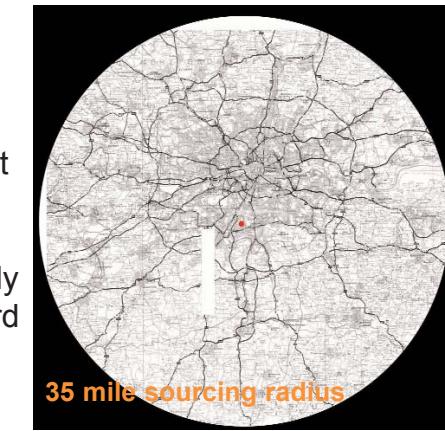
The oak cladding is mainly from a local source, and is FSC



second use steel awaiting erection on the bedZED site

accredited. The FSC certify that timber is from a sustainable and well managed source. Oak is an example of a material chosen for its 'durability'. It lasts much longer than softwood and so will not put as much strain on the environment to produce replacement timber at regular intervals as softwood might.

Transporting materials by diesel-powered lorries not only creates traffic congestion, but also exhaust fumes, which we all know are harmful to health. Transport in the UK presently accounts for around one third of carbon dioxide emissions that contribute towards the global warming problem. For this reason, construction materials, such as bricks, cement and timber, have come from within a 35 mile radius of BedZED, wherever possible.



35 mile sourcing radius

The buildings have been designed to provide comfortable conditions by simple means. This design is 'holistic', bringing together all the ideas expressed in this manual in a well-integrated way. Alterations to one part of the building may affect the way another part works.

For this reason, it is an obligation under the terms of the leases and tenancy agreements that buildings retain the following:

- Internal glazed screens intact
- 25mm gap under internal doors
- Similar sized hot water tanks
- Similar finned tube radiators
- Ventilation inlets and outlets.

Other parts of the overall design, such as the external envelope, including insulation and the passive stack ventilation (PSV) system, remain in the Peabody Trust's ownership and may not be altered without the Trust's express permission.

BedZED Residents Manual Section B - How it is constructed, How the community works



Transport Car parking strategy

The strategy which has been adopted is aimed at reducing private car usage, starting a car pool, and promoting greener transport. We are investigating the introduction of a car club and there are incentives for electric car users and smaller cars.



The Residential Services Team will operate and maintain a waiting list of any residents or commercial tenants who require car spaces. Spaces will be allocated on a first come first served basis, but subject to the following priority list:

- Priority 1** – any residents registered under the DSS Mobility Scheme.
- Priority 2** - owners of electric cars.
- Priority 3** – any residents residing in 3 or 4 bed households.
- Priority 4** – any motor vehicle with an engine size less than 1,000cc (subject to confirmation).
- Priority 5** – any other resident.



There will be an annual charge for spaces used and a reduced rate for electric or 'Smart Cars', to act as incentives.

small city cars pollute less when used and take up less space when parked

Electric cars

There are electric car charging points at various locations around the site. At the time BedZED opens, this facility will be provided free of charge. All you will need is an electric vehicle with the correct plug for free fuel! It is envisaged that a charging mechanism will be introduced some time in the future once the technology is in place. The price should not be onerous. We estimate that a 60-mile charge for an electric car would cost less than one pound. Electric cars, then, make a truly viable alternative especially for town and city.



the new Ford Think! currently being piloted in London

Car Club

BedZED's car club will offer all the convenience of owning a car without having to buy one. The club's cars will be parked at BedZED, so once you've booked your car – by 'phone or internet – you simply turn up and drive. As a car club member, you can hire a car for as little as one hour and the club will offer a range of vehicles to suit your journey. The club takes care of servicing, maintenance and cleaning and 'pay-as-you-drive' tariffs mean that you only pay for the car when you use it.

To find out more about joining the BedZED car club contact Jo Taylor on 020 8773 4095 or email jt@bioregional.com

Cycle Way

For a map showing local cycle routes call London Borough of Sutton on 020 8770 6420. For full details of local services for cyclists see 'Your Local Contacts and Services' section.



Bicycle storage

All BedZED flats and houses have dedicated cycle parking space. Three and four bedroom homes with ground floor access have cycle storage space within the home, under the stairs. One and two bedroom flats have one cycle space per flat allocated outside their house. Each space consists of a metal ring or stand to which you can securely lock your cycle. These cycle spaces are sited in alcoves on the north side of each block and in communal stairwells.

Bus, Train and Tram Services

There are numerous bus stops in the local area linking a wide area of South London by Bus. Alternatively, the local rail network is a short walk away, at Hackbridge Station, and tramlink services stop at Mitcham Junction Station, also within walking distance. This train line links central and outer London regions. Public transport is an important alternative to personal motor vehicles and the residents are encouraged to use it.

BedZED Residents Manual Section B - How it is constructed, how the community works



Community development

BedZED will form a brand new community, and in early days networking will centre around shared interests such as:

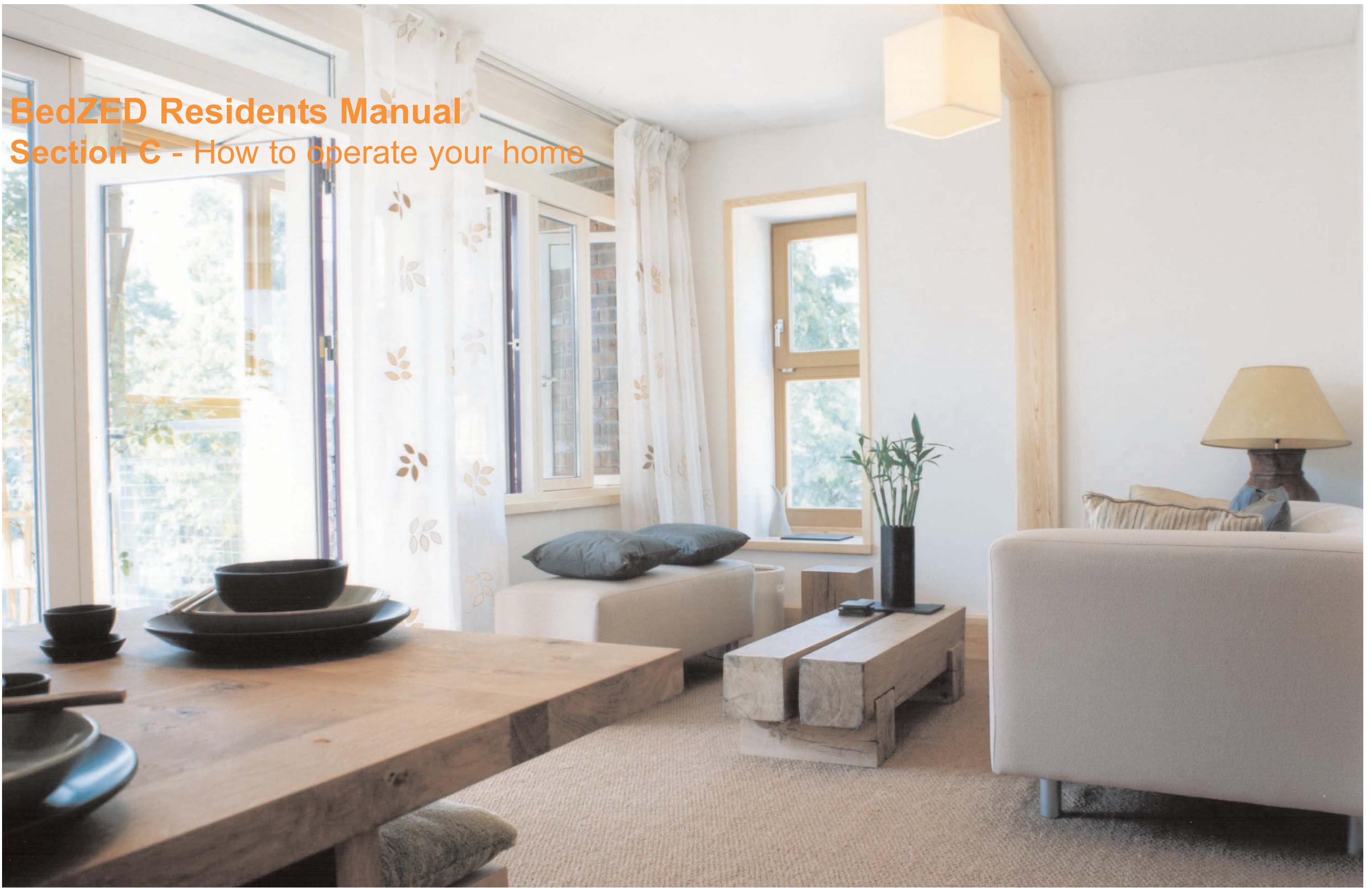
- understanding the functioning of your homes
- how onsite facilities work
- the practicalities of green living.

This will both solve problems and set the direction for community interaction. By undertaking voluntary activities, through common interests or joint concerns you will shape and guide the whole life of BedZED.

Community development can function at the level of individual residents, with local groups and networks of organisations, and with public authorities, professional agencies, and the business sector. This handbook suggests networking possibilities in the public and private sector in the Carbon Neutral Living section. Many of these actions will be co-ordinated by Peabody, but there is enormous scope for other activities.

Community development is about encouraging people to participate in public decision making, strengthening local democracy and enabling greater long-term control over their living circumstances. BedZED's mix of tenure and ownership provides opportunities to involve a broad range of individuals, and to establish a diverse but communal and collective voice. Getting together through a shared interest can be enjoyable too.





BedZED Residents Manual Section C - How to operate your home



the maisonette and townhouse sunspace

Instruction manual

How to make the most of your low energy home.

Heating

In the UK climate a normal home does not need a heating system in summer. Indeed, with natural heat from occupants and sunlight, as well as home appliances, we simply maintain room temperatures (cool them) during summer by opening windows.

As double-glazing and additional thermal insulation has been introduced in new homes, these same heat sources are now sufficient not to need the heating system in spring and autumn, as well as summer.

For BedZED this same principal has been extended even further, so that the heating system is not needed in winter either. By providing triple-glazing, greatly increased thermal insulation and sun-gathering southerly windows, we can simply maintain room temperatures in winter as we do in summer, by using the opening windows to cool the space if it starts overheating. Naturally we only need to open the windows slightly in winter to achieve this same room temperature control.

The homes at BedZED have been designed to be comfortable whilst relying on two sources of heating, firstly, heat from the sun (solar heat gain) and, secondly, heat from lights, domestic electrical appliances, cooking and people (internal heat gain). This means that there is no conventional central heating system in the BedZED homes.

Whenever a home is unoccupied, for example when owners are away for a weekend or winter break, there will be no lights on and no cooking. This means that there will be no internal heat gain. One of the two sources of heating

will be unavailable and internal temperatures may drop.

To prevent a home becoming cold and draining heat from its neighbours it is important that the temperature in the home does not drop much below 18°C. Thus each home has a small heating system which circulates heat from the hot water cylinder. This small heating system is only intended to provide a substitute for the internal heat gains when the home is empty. The thermostat controlling the heating system is set at 18°C so the 'substitute' heating system should operate automatically when a home is unoccupied and the temperature drops to 18°C.

WARNING: Home owners should leave the 'substitute' heating system switched on all the time even when the home is unoccupied so the heating system can operate and provide heat when necessary to maintain a minimum temperature of 18°C.



the maisonette and townhouse sunspace from its skygarden

BedZED Residents Manual Section C - How to operate your home

Heating water from the Combined Heat and Power (CHP) unit is normally used to heat the hot water in the cylinder in each home. If a home is unoccupied, the substitute heating system may need to work. If the CHP is not operating owing to a period of maintenance for example, then a 'back-up' heat source will be needed to heat the water in the cylinder, so that hot water is available for the substitute heating system. The electric immersion heater in the hot water cylinder provides this back up and the thermostat that controls the substitute heating also switches on the immersion.



REMEMBER: The immersion is also controlled by its own thermostat in the hot water cylinder. The immersion will only heat the water if the room thermostat says it needs heating AND the thermostat in the cylinder says the stored water temperature is less than 50°C.

Adjusting the temperature

Occasionally warmer than normal room temperatures are required, such as in the bedroom of a newborn baby. Householders may if they wish purchase an electric heater with a built-in thermostat and plug it into the normal power outlets.

There is also the option of adjusting the thermostat on the substitute heating system to a higher temperature, although this is not encouraged.

Owners who adjust this thermostat to a temperature higher than 18°C should note:

- the substitute heating system is intended for use when the temperature in the home drops to 18°C. This will normally occur only when the home is unoccupied, when there are no internal heat gains and there has been a period of cold, sunless days.
- the hot water for the substitute heating is the same hot water for taps, the bath and the shower. This water is stored in the hot water cylinder. If the thermostat for the substitute heating is adjusted so the heating comes on to achieve a higher than normal temperature, it is likely that hot water from taps will not be as hot as normal.
- using the substitute heating system frequently to achieve higher than normal temperatures will lead to higher heating and electricity bills.
- energy will be wasted and heating and electricity bills will be higher if a home is artificially kept above 18°C unnecessarily when it is unoccupied.

- the fan on the heating system can be noisy. Remember that it should generally only be needed when there is nobody in the house to hear the fan.

How the substitute heating works

The substitute heating system operates very simply. When the temperature in the home reaches 18°C (or whatever temperature the thermostat has been adjusted to), the thermostat switches on a small pump and the fan. The pump circulates hot water from the hot water cylinder through the heating element (called a 'finned tube') behind the wooden panel on the front of the airing cupboard and back into the cylinder. The fan sucks air in through the gap below the wooden panel and across the finned tube heater. The water in the pipe gives up its warmth to the air and the fan blows the warmed air into the hall or room until the temperature gets back to 18°C.

Rooms that face directly south will collect solar heat gain. Rooms such as the kitchen and living room are likely to be the source of the main internal heat gains. The solar and internal heat gains will circulate around the home. This process is helped by having a gap under each internal door and will be helped further if occupants leave internal doors open whenever possible.



BedZED Residents Manual Section C - How to operate your home



Heat from the towel rail

The towel rail in the bathroom is filled with heating water from the CHP. Once the CHP heating water has passed through the hot water cylinder to heat the hot water, it flows through the towel rail before returning to the CHP unit.



This means that:

- when the hot water cylinder needs heating, CHP water will flow through the cylinder and then through the towel rail. When the hot water cylinder reaches its correct temperature (60°C) the CHP water will stop flowing.
- if the towel rail is switched off this will prevent CHP hot water flowing through the hot water cylinder when required and water in the cylinder will not be heated by the CHP unit. It is normal for the radiator or towel rail in a standard home to be left switched on to help dry towels etc.

WARNING: The towel rail in the bath / shower room stays on all the time. Turning this off will disconnect your supply of hot water and heating from the CHP unit.

Ventilation

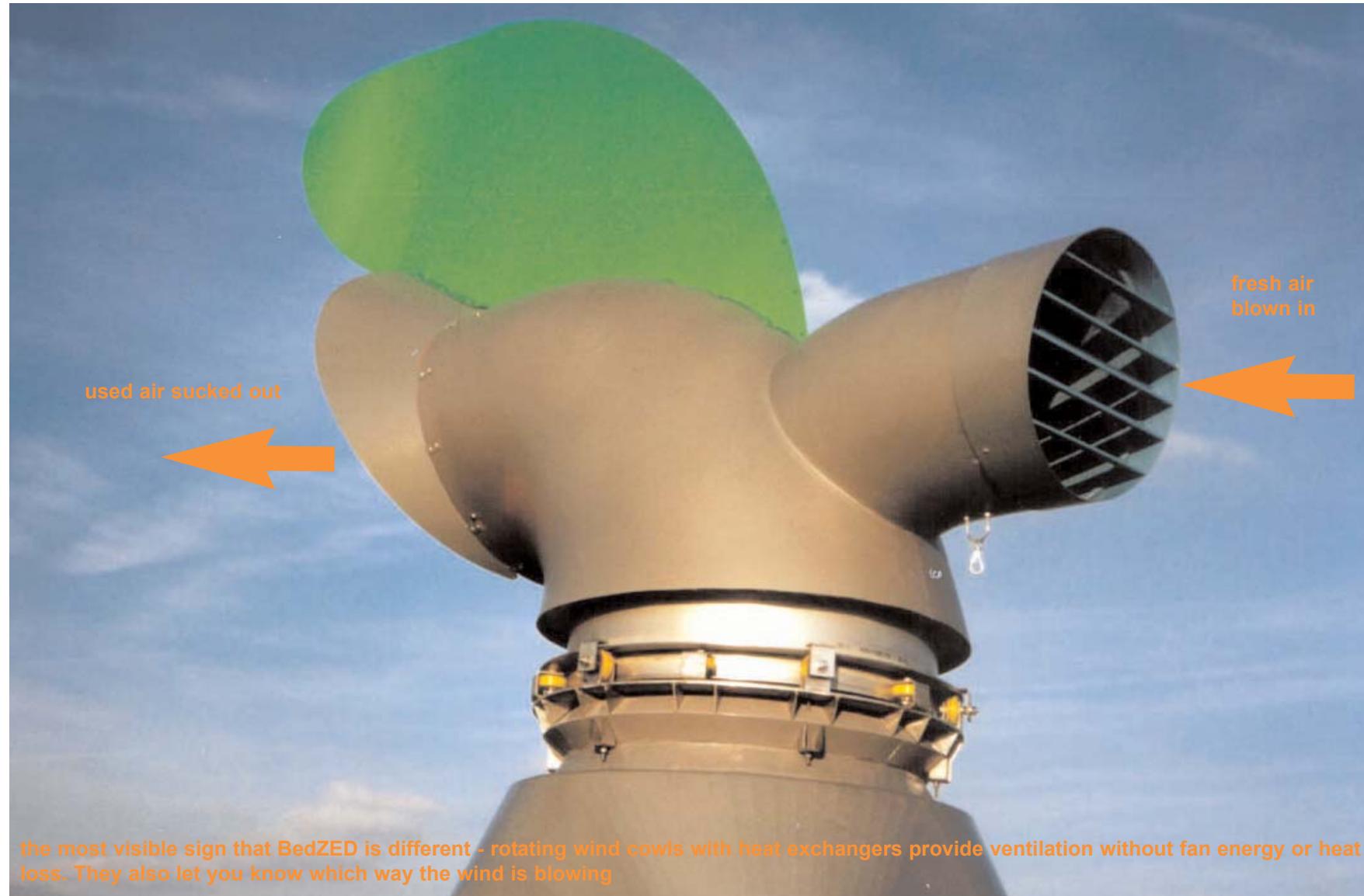
All habitable rooms (living rooms and bedrooms) require background fresh air ventilation. In standard homes this is normally achieved with trickle ventilation slots in the window frames. At BedZED, this fresh air ventilation is achieved using the wind cowls on the roof and the ventilation outlets in each home, as described above.

The circular ventilation outlets above the skirting can be adjusted to vary the amount of fresh air received from outside. The outlets should not be closed completely, as

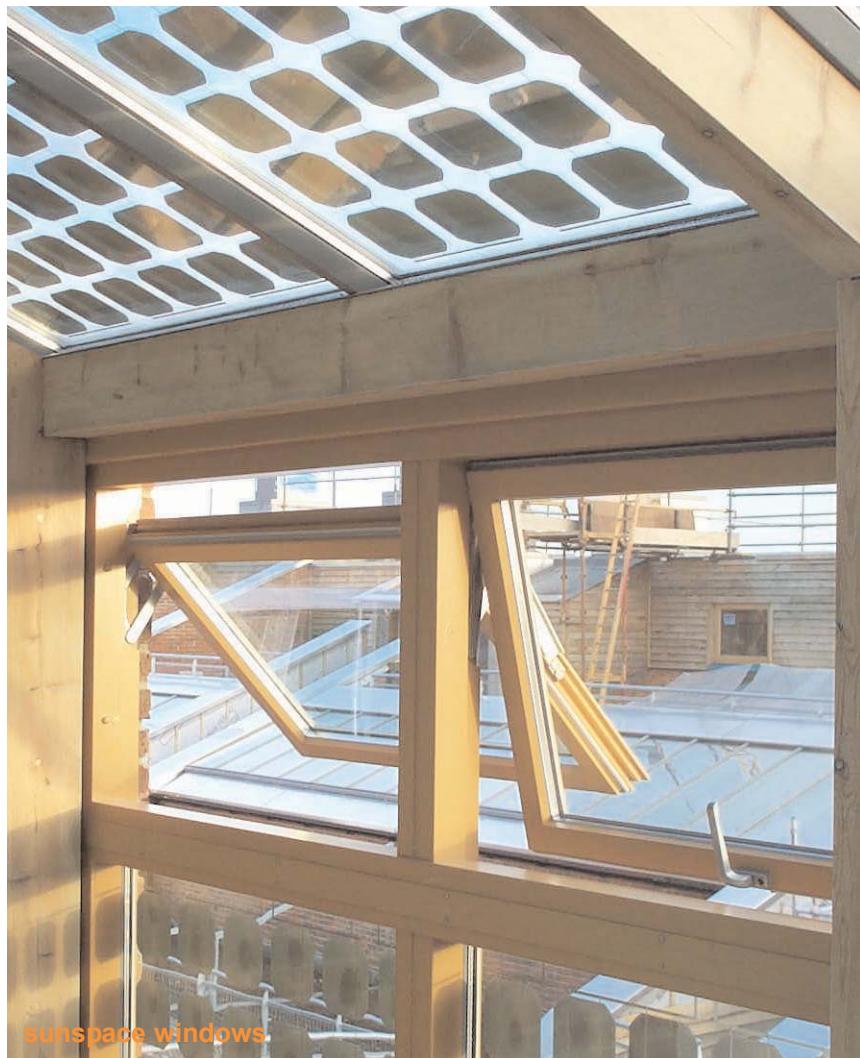
this will affect the overall ventilation of the home and could lead to stagnant conditions and condensation.

The circular ventilation outlets at high level in the WC and kitchen provide continuous extract ventilation from these areas. Again, these outlets should not be closed completely. Remember that the warm, stale outgoing air from the kitchen, bathroom and WC effectively heats the incoming fresh air from outside.

In the bath or shower room, the extract ventilation outlet is automatically controlled by humidity. As the humidity level rises during the use of the shower or bath for example, then



BedZED Residents Manual Section C - How to operate your home



the humidity level will rise and the ventilation outlet opens more fully. It is normal for the outlet to be open a small amount even when the humidity level is low, to provide a continuous background level of ventilation.

In a standard home it is normal to open the windows to adjust internal temperatures to a comfortable level, particularly in the summer months. At BedZED the super insulation and high performance windows means that you may need to open windows to adjust internal temperatures throughout the year.

The windows are fitted with security locks so that they can be opened in two different positions and secured. This allows some control over the amount of outside air into your home.

During hot spells it can be warmer outside than inside and there is limited benefit from opening windows during the day. The thermal mass in your home still works to keep internal temperatures comfortable. You may choose to keep your windows closed during the day and to open them during the night to ventilate your home with cooler night air.

Electricity

There are standard, 13 amp, 240 volt sockets in all habitable rooms. Electricity is metered as normal. The information is sent automatically to the energy provider so no one needs to call and read the meter. You can check how much you are using from the easy to read meters in the kitchen. The energy supply company will bill you directly unless you make other arrangements with them, for example some of the units have pre pay meters for their energy requirements.

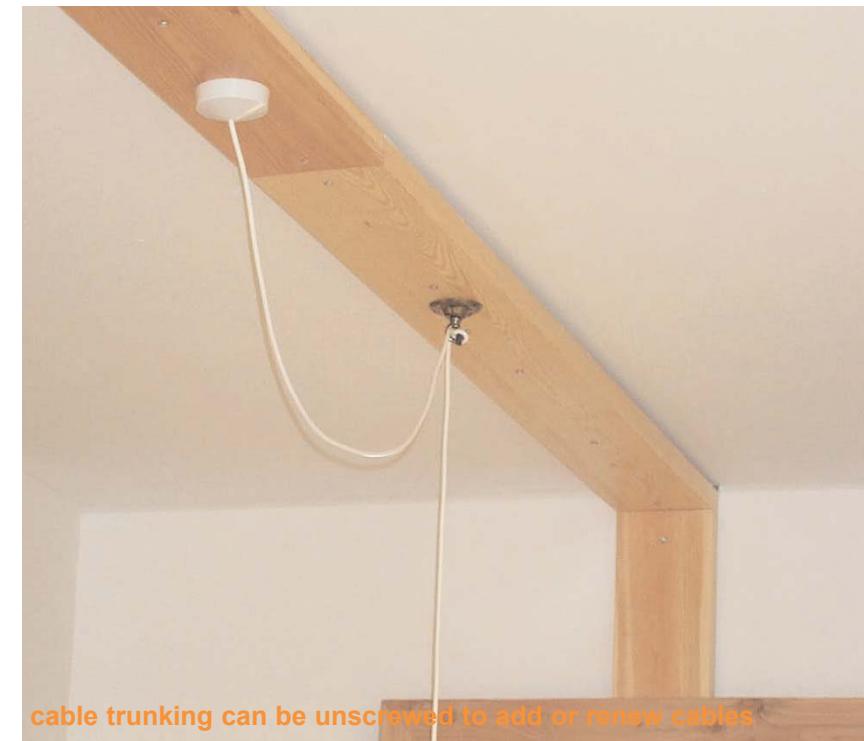
Electricity cables generally run vertically or horizontally in the walls and ceiling from outlets to wall, skirting and ceiling trunking and this should be born in mind when drilling or nailing into walls for picture hooks, shelves, etc. The use of trunking also makes it easier to install new sockets and lighting points.

Cold Water

Cold water to your taps is 'Mains Water'. This is metered and billed for by quantity used. The meters are generally in the kitchen area, and are visible so you can see how much water you are using. The stop cock is situated in the kitchen, next to the water meter.

Hot Water

Hot water is provided through the community heating system from the Combined Heat & Power (CHP) plant, generally between the hours of 6 a.m. in the morning until 2 a.m. at night. Your hot water tank is heated by the



cable trunking can be unscrewed to add or renew cables

community heating system. The community heating system should be a more economical method to heat water than electricity. It will be more economical to use hot water heated by the CHP rather than using the electrical immersion heater.

WARNING: The hot water may be hotter than a normal, domestic supply because of the short run from the hot water tank to the taps and the temperature of the district heating system.

There is an isolating valve to each appliance (such as hot taps, shower, wash basin, sink) so that the water supply to the appliance can be shut off, for maintenance or repair.

If you require a hot water boost, this can be done with the electric immersion heater. In the airing cupboard there is a grey control box. After making sure the power switch is 'on', pressing the boost switch will give a one hour electric heating boost to the hot water cylinder. When ever this button is pressed it will give a one hour boost from the time it was last pressed. Pressing several times will not give several boosts, only one for an hour from the last press.

BedZED Residents Manual Section C - How to operate your home

Waste

There is split bin under the sink with four removable compartments. You can decide on the most efficient way of using these containers. Waste collections are from the communal bin stores located at various positions around the site.

Each bin store has bins for general refuse and for mixed plastic, paper and cans. You should take your general refuse and recycling material in plastic bags to the bins for Friday collection. The mixture is taken to the Sutton Materials Recycling Facility (SMRF). Use the can crusher provided to crush tins before disposing of them. There are also separate, recycling bins at one bin store for clear, brown and green glass.

Rubbish must not be left outside your home, as it is unsightly, a health hazard and can attract vermin. There are several bin stores at BedZED and if the one you normally use is full, please take a little extra time to dispose of your rubbish at another empty bin, rather than piling it up.



In-home entertainment and new technology

Television

BedZED has a communal television aerial mounted on the adjacent CHP / Living Machine building. This provides residents with the standard five terrestrial channels and can provide customers of ITV Digital with digital channels. Telewest is the local cable supplier and have cables in London Road, next to BedZED. Ducts have been installed and available to Telewest should you wish to arrange cable access from them. Each dwelling has a TV point in every living room and bedroom. Timber conduit within your home provides easy access for a qualified engineer to make alterations to your cabling.

Satellite dishes are not allowed under the terms of your lease or tenancy agreement.

Telephone

There is a twin phone socket in every living room and bedroom. At hand over, only one socket in each home is connected to the external line. Timber conduit within your home provides easy access to cabling and you can arrange a qualified engineer to connect up the other points.



Computers

Copper cable capable of carrying 'broad-band' is installed to the phone sockets for internet access. Ducts have been installed should fibre optics or other cables be required. Timber conduit within your home provides easy access to cabling.

Internet shopping can be made easier by providing a Homeport point, or similar device, in your porch. This provides a tethering point which supermarkets can use to lock their delivery boxes to – in a similar way to bicycle clamps.

Entry Phones

Flats 1-6, 3 Helios Road and Flats 1-6, 4 Helios Road have an entry phone. There is a bell for each flat outside the main entrance door which connects to a handset in the flat, giving audio contact to the lobby. The entry phone itself is located next to the front door in the flat. There is also one blank buzzer for the postman to gain entry, which will be set for a limited time during the morning.



BedZED Residents Manual Section C - How to operate your home

The rooms in your home

This section provides a brief description of each room and the services and environmental aspects within it. This is intended to assist you in making the most of your home, increasing your comfort and keeping your utility bills low.

The Kitchen

The kitchen units are made in solid soft wood and birch faced ply. The units are varnished in a clear varnish so they are more durable and easy to clean. The work top is solid beech block. You should ensure that the work surfaces are kept dry in order to reduce staining or swelling of the surface. Each kitchen is fitted with a refuse recycling bin under the sink. This bin is divided into four separate bins to allow for separating waste. For example, you could use one bin for uncooked vegetable waste (to be composted), one for glass, one for all other recyclables – cans, plastic card and paper – and one for non-recyclable waste. Every kitchen is fitted with a can crusher.



All appliances provided are rated as low energy to reduce environmental impact and costs. To ensure your electricity costs are reduced in the long term and reduce environmental impact, we recommend that you only purchase low energy appliances, whether new or replacement. Please refer to the appliance manuals.

All new appliances are awarded an energy rating, ranging from A for appliances that use the least energy to G for appliances that use the most. New washing machines and dish washers will be labelled to show how much water they use. By choosing appliances that use less energy or water you may save money on your bills and reduce your impact on the environment.

To protect the ‘Wastewater Treatment’ plant, you must not put any of the following down any drains, including the kitchen sink

- Oils (e.g. engine or cooking oils)
- Plastics or non-degradable paper
- Excessive quantities of bleach or cleaning products
- Paint and associated decorating products
- Kitchen waste.

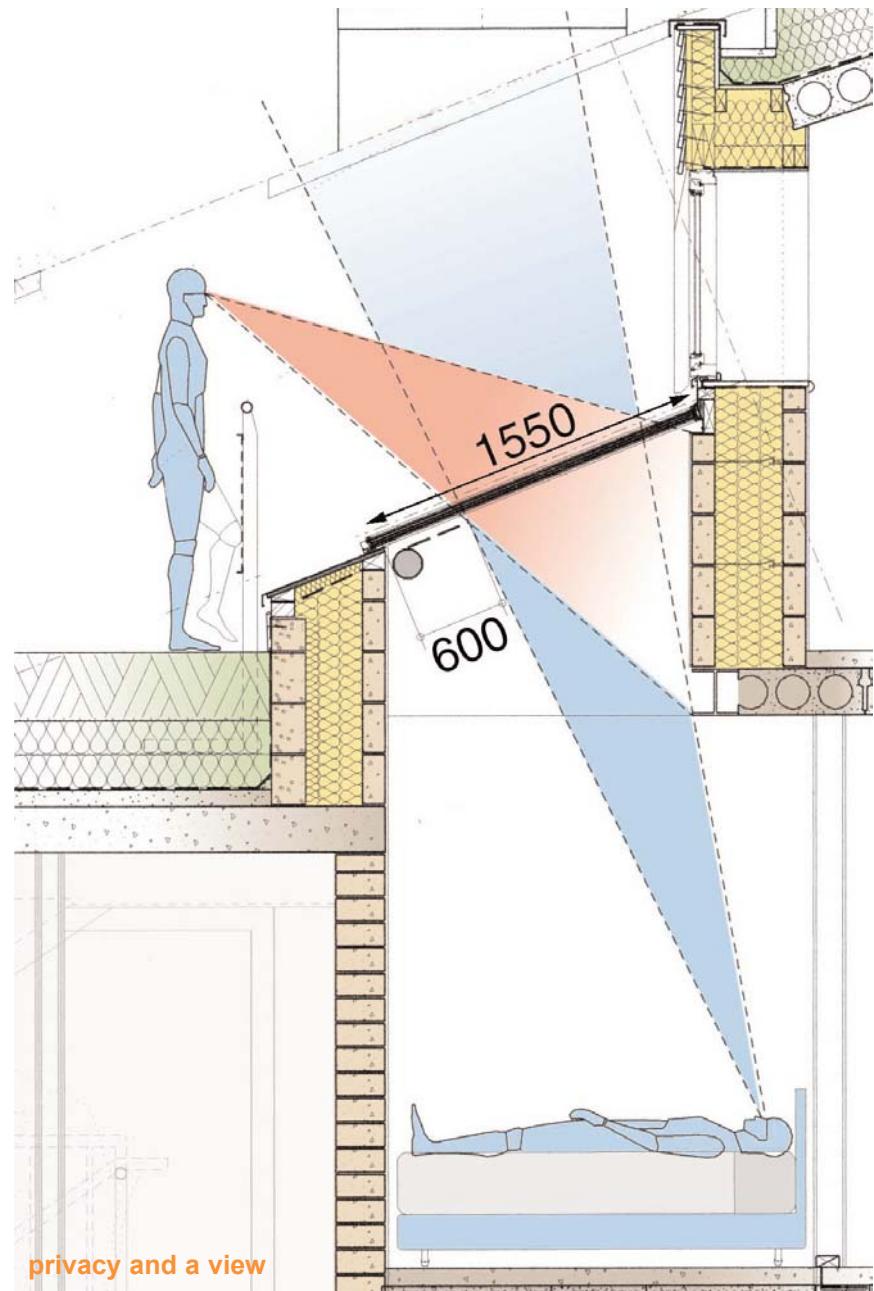
If you need to dispose of these, you should use the recycling facilities or bins at BedZED where appropriate, or look at local contacts given at the back of this handbook.



BedZED Residents Manual Section C - How to operate your home

The Bedrooms

The decision was taken to install clear glass rather than frosted in the skylight above the first floor back bedroom and staircase of the maisonettes. This allows a view of clouds or the night sky. However for privacy you can install a roller blind from a reputable manufacturer. Having the blind partially drawn as shown below will give you the best



of both worlds.

The Living room

All living rooms face south to capture as much heat from the sun as possible.

Furnishings, such as curtains, should be arranged to maximise sunlight penetration as deep into the home as possible. It is possible to buy energy-saving heat-reflective blinds that will further reduce heat loss into the conservatory on cold winter nights. Light coloured furnishings and painted surfaces will help increase daylight levels and avoid the need for artificial lighting.



Bathrooms and toilets

The water used for flushing the WCs' is recycled. It is a combination of filtered rainwater that has been collected from the main roof of the buildings and recycled water from the BedZED homes and workspaces. The water is stored in large tanks located under the buildings which run the full length of the building. The water is pumped from the tanks up to each WC cistern. If the water level in the storage tank drops to a low level, it will be topped up with mains water. It is coloured green and called Green Water and is perfectly safe for this purpose.

You must not connect the green pipework to any other supply.

The WC installed is specifically designed to use a minimum amount of water. The toilet has a dual flush. Press as appropriate for half flush of two litres or for full flush of four litres. If repairing your toilet please make sure your plumber selects the correct water settings. If replacing your toilet make sure it is with an equivalent type.

To protect the 'Wastewater Treatment' plant, you must not put any of the following down the toilet or any drains (such as in baths or showers)
Sanitary towels, tampons or any item of female hygiene
Nappies or incontinence pads
Condoms
Oils (e.g. engine or cooking oils)
Plastics or non-degradable paper
Excessive quantities of bleach or cleaning products
Paint and associated decorating products.

If you need to dispose of these you should use the recycling facilities or bins at BedZED where appropriate. Alternatively, look at local contacts given in the back of this handbook.

The ventilation units in the toilets and bathrooms are part of the passive stack ventilation. See section B for a description of how these work.

BedZED Residents Manual Section C - How to operate your home



The Sunspace

This is an unheated area and acts as a buffer zone between the outside and your dwelling. It is also a winter garden, somewhere to sit enjoying the sunshine protected from the cold winter air, a place to grow and tender and exotic plants. **Please do not try and heat this space, as it is intended only to be occupied when climatic conditions allow.**



a second floor sunspace used for raising plants

The Airing Cupboard

Every dwelling has an airing cupboard and the three storey houses have two. It is intended that this cupboard with its constant supply of warm air radiating from the hot water cylinder will provide residents with an area where clothes can be dried thus avoiding the need for energy hungry tumble dryers. Clothes draped individually over the slatted shelves should dry overnight assuming that they have been through the spin on the washing machine and are not dripping wet.

The Front door

This has a lever latch. Push the lever down to open. To lock the doors, hold the lever in an upward position, which engages deadlocks and, from the outside, lock with the key. From the inside, lock with the key or turn the wheel where provided.

You may like to consider leaving a spare key with a neighbour in case of being locked out. Please refer to conditions of your lease or tenancy agreement for maintenance and replacement key responsibilities.

Internal doors

At least a 20mm gap under doors must be maintained between the floor finish and the underside of the door. This is to ensure that warm air can circulate around the whole home and to ensure the correct operation of passive stack ventilation system.

External windows

There are a number of ways in which the different windows can be opened, please refer to the 'Rationel' handbook provided for a description of the various operations and opening positions.

A Facilities Management company employed by Peabody Trust cleans external windows. Any breakages or damage to the windows must be reported to Peabody.

Internal windows

Please refer to the 'Rationel' handbook provided for a description of the various operations and opening positions of your windows.

Rooflights

Rooflights are opened on a screw mechanism which is cord-operated, by hand. They cannot be locked, but they can only be opened from inside.



a rooflight opener

The fresh air ventilation system with heat recovery for each home should provide sufficient fresh air, so the opening rooflight should not normally be required for ventilation. Householders should also ensure the rooflights are unobstructed for cleaning and to avoid blocking out light.

Flooring

The kitchens and bathrooms are fitted with linoleum sheet flooring. The linoleum is from Forbo Nairn – Marmoleum Dual range. The kitchen floor colour is '**Calico**' reference number **713**. The bathroom floor colour is '**Smoke Blue**' reference number **806**.

'Lino' is made from natural material (mainly cork and linseed oil) that is naturally antiseptic. If you re-floor anywhere, **avoid using PVC**. The Greenpeace booklet "What's Wrong with PVC" explains why it is environmentally unfriendly.

Carpets

Carpets are not supplied at purchase. Should carpets be fitted it is very important to ensure the 20mm gap is maintained clear.

Light bulbs

All light fittings have been designed to take standard, low energy bulbs and tubes. You will save money and energy in the long run if you replace any broken bulbs with a similar low energy bulb.

BedZED Residents Manual Section C - How to operate your home

Gardens and 'Sky Gardens'

The gardens and sky gardens at handover will be covered with turf. To cut the lawns, a small electric hover mower is suggested as these are both cheap and shred the clippings into a fine mulch that means you do not have to dispose of them or add fertiliser to the lawn. If you consider the grass area small enough, you can of course cut it with shears. This will save you having to find storage for a mower. Any electrical extension cable used outside must be fitted with a residual current devise (RCD) for life safety.

Sky gardens at first and second floor levels are irrigated by porous sub-soil irrigation pipes, which drip-feed the gardens with greenwater overnight. The system can only supply water at night because it uses the same greenwater pumps used to supply the WCs, and excessive pressure loss would be incurred to have both operations running simultaneously. The rate of water being fed to your gardens is centrally controlled to avoid water logging.

Residents should not interfere with this mechanism or the pipework. Albion Water Ltd. will not accept any responsibility for any incident occurring as a result of interference by residents of any part of this system.

The residents should not in any circumstances attempt to interfere with the plumbing systems either internally or externally. If a problem arises with the water supply, please contact Albion Water Ltd.

All land gardens should be irrigated from the conservatory taps. A proprietary Hozelock or Gardena battery-operated programmable timer with standard home irrigation fittings providing drip and leaky pipe functions is suggested. A 15mm hole may be required in the glazed screen to allow a permanent water supply to the garden.

Please contact the Peabody Trust to request this glazing hole feature if required by your household. Do not drill any holes in the glazing yourself.

On the sky gardens there is a layer of insulation 300mm

(12ins) below the 300mm (12ins) of topsoil . You must not damage the insulation. Therefore please try not to dig beyond a depth of 200mm (8ins). There is leaky pipe irrigation placed 150mm below the lawn areas, and 250mm below in the perimeter bedding areas. Please take care when planting not to damage the irrigation pipe. If accidental damage occurs, simple push-fit connectors are available from both Gardena and Hozelock.

WARNING: As a safety precaution, please wash your hands immediately after handling or contact with greenwater. Children should not be allowed to touch or drink greenwater from the irrigation systems, because this water has only been treated to a quality suitable for irrigation and flushing toilets .

Choose plants that are not deep rooted. We suggest using planters for deeper roots. Do grow root vegetable such as carrots and potatoes for human consumption. The gardens are ideal for lawn, flowers, herb gardens, fruit, tomatoes and leaf vegetables. Why not choose plants that are drought tolerate and fragrant, many of which also have a culinary, medicinal, cosmetic or craft use.

The sky gardens provide you with valuable outdoor space, but you need to be aware that their construction and their

proximity to other people's spaces mean you should use them with care and consideration. So for instance, **sky gardens are not suitable for garden sheds, solid fences, or leylandii (or similar) hedges**. This will overshadow either your or your back neighbour's house and stop the sun heating their household. **For this reason they are not allowed**. To avoid introducing dampness in neighbouring homes, your earth level should not be above the Damp Proof Membrane (DPM) line. It is suggested that you use the space in your porch for a lockable trunk to keep garden tools and a mower.

You are currently allowed to use your sky garden, but not the timber bridges, for barbecues. Barbecue sets must conform to the relevant British Standards for safety reasons. If their use becomes a nuisance to residents, Peabody Trust reserves the right to disallow their use. Consulting with your neighbours before having a barbecue may prevent annoyance especially if it is a windy day. Open fires are not allowable under any circumstances.

WARNING: Do not use the timber bridges for barbecues.

Open fires are not allowable under any circumstances



BedZED Residents Manual Section C - How to operate your home



Conservatory gardens

Leaky pipe irrigation systems are not suitable for conservatories unless the 'leaky' part of the pipe is completely contained in the plant pots. A much better and cheaper solution is to put pot plants in a trough with some capillary matting (from garden centres). By soaking the matting, the plants can have enough water for up to a week depending on the weather.

Galvanised troughs can be made for this purpose – see the contacts section.

Alternatively you can install a micro bore irrigation system on a timer. Many systems are readily available at garden centres and DIY outlets. You must be careful that the system is properly installed and maintained to prevent leaks causing water damage to the building.

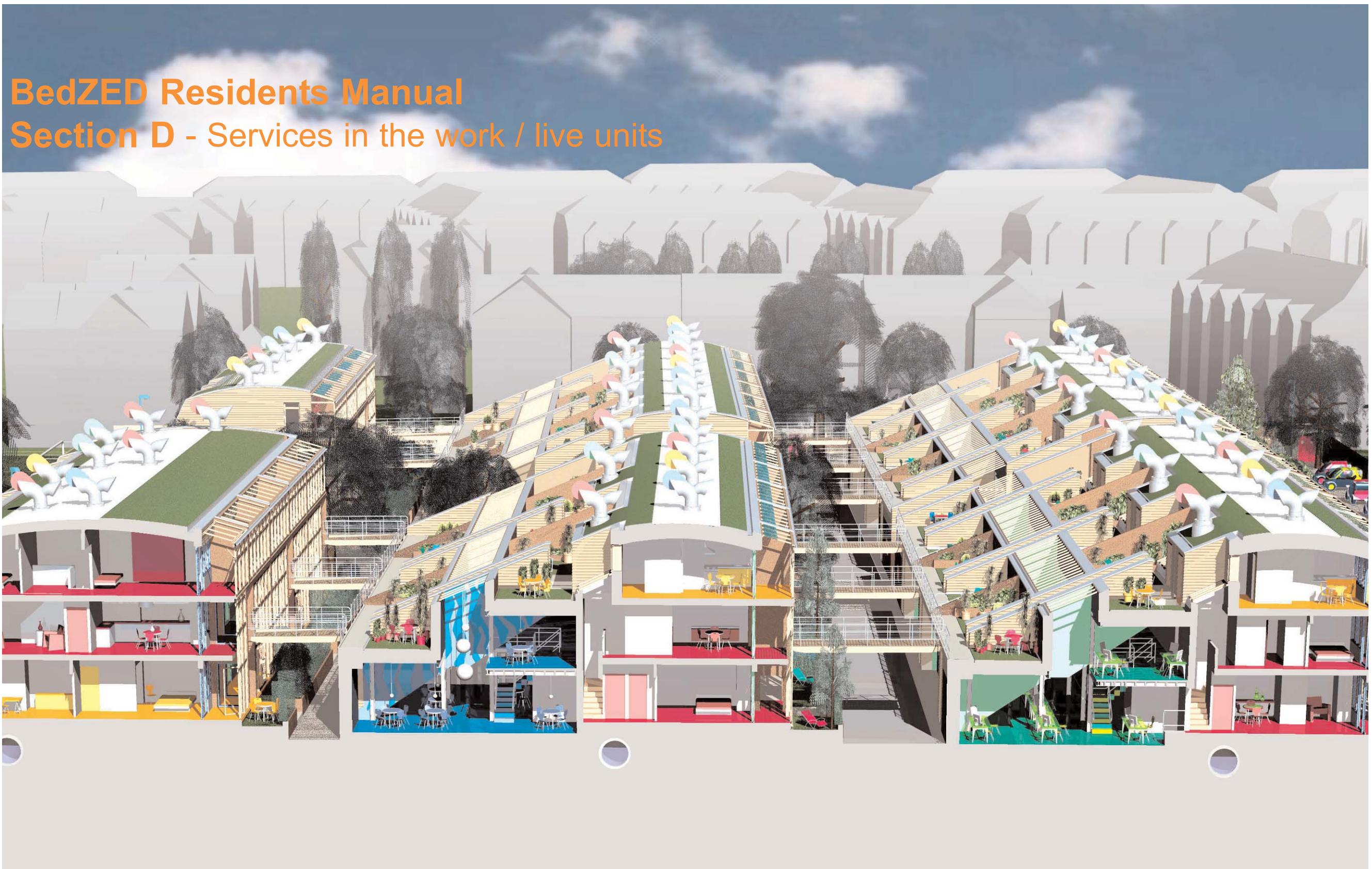
Drying Washing

Use the high spin setting of your washing machine and complete the drying in your airing cupboard, using the heat from the CHP. The sky gardens are not suitable for washing lines as you must not puncture the insulation and roof waterproofing.

Unoccupied Homes

A thermostat ensures that the temperature of your home will not fall below 18°C while your home is unoccupied. Your home should stay above this temperature with the heat from the CHP but if this is shut down, the electrical immersion heater will cut in automatically. This is explained more fully in the heating section of this document.





BedZED Residents Manual Section D - Services in the workspace and work live units



Services in the work live units

Heating

Heating is provided from radiators and a pumped secondary heating circuit from the hot water cylinder(s) in each work/live or workspace unit. The hot water cylinders will be heated with water from the community heating system.

The heating period and room temperature are controlled with a thermostat and a domestic programmer. The programmer is a time-switch with single channel for heating only. A domestic style optimum start function is provided for pre-occupancy boost based on internal temperature, and a night set-back function is available with override.

Ventilation



Ventilation is provided by opening windows, passive stack ventilation (PSV) and a mechanical 'whole-house' ventilation system. The PSV system works in the same way as for the dwellings. PSV supply is at low level on the mezzanine and at low level on the ground floor into the open plan work area. PSV extract is at high level on the mezzanine and from high level in the ground floor WC.

The mechanical whole-house ventilation unit is situated above the cooker in the kitchen. Two 100mm diameter ducts are located in the main riser for supply and extract air connections to outside.

The mechanical whole-house ventilation unit extracts air constantly from the kitchen and bathroom at a rate of 0.5 air changes per hour for each room. The extracted air is exhausted to outside via a dedicated duct in the main riser. Air is extracted from the kitchen via the cooker extractor hood and from the bathroom via an extract valve at high level. The ventilation can be boosted to provide a greater extract rate from the kitchen and bathroom when these rooms are in use. Extract ventilation boost is activated in the kitchen by extending the cooker extractor hood and is activated automatically in the bathroom by a humidity sensor.

The air that is extracted mechanically is replaced with fresh air via a supply duct in the main riser. This air is passed through a heat exchanger in the whole-house ventilation unit and is supplied into the ground floor open plan work area. The doors to the kitchen and bathroom must be undercut by a minimum of 10mm above the floor covering to provide an air path for extraction.

Hot and Cold Water Services

Two separate incoming water mains in a shared duct enter the understair services cupboard between adjacent work/live units. Each incoming pipe has an isolation valve in an external chamber. This allows an individual mains water supply to each single bay work/live unit. The mains water to each live/work unit will serve the basin in the WC, the kitchen sink, the hot water cylinder, the shower and wash hand basin in the bathroom. Water to the WCs is green water from the header pipe running the full length of the building below the mezzanine floor.

Hot water is generated from the hot water cylinder in each live/work unit and serves the basin in the WC, the kitchen sink, the shower and wash hand basin in the bathroom.

Drainage

Drainage is provided to the two WCs and basins, the kitchen sink and the shower. Two adjacent live/work units

share a drain point situated on the line of the party wall.

The hot water cylinder safety valve discharges into the header pipe running at low level at the rear of each live/work unit that picks up the safety discharges from the hot water cylinders in the dwellings.

A condensate drain is provided to the whole-house ventilation unit and is connected to the kitchen sink waste pipe, above the trap.

Electricity

Incoming supply

Two separate incoming 3-phase electrical supplies in a shared duct enters the understair services cupboard between adjacent live/work units. This allows an individually metered electrical supply to each single bay live/work unit.

The 3-phase supply to each live-work unit enters a cut-out. From this cut-out, a single phase supply feeds the distribution board for the live/work unit via the meter. This means that each live/work unit has a single-phase metered supply that can be converted to a three-phase metered supply by a tenant if required, at the tenant's cost.

Lighting and Small Power

A base lighting and small power scheme is provided with surface mounted fluorescent luminaires and double sockets to each single bay live-work unit.

Communications

Note that two adjacent live/work units shares a communications duct from the under stair services cupboard to the draw-pit outside the building. Each live/work unit has 1No. TV outlet, 1No. comms outlet, 2No. Telewest TV outlets and 2No. Telewest broadband outlets.



BedZED Residents Manual

Section E - Where to find further help if you need it

BedZED Residents Manual Section E - Where to find further help if you need it



Troubleshooting Internal Problems

Electricity is off

- Check the main switch on the consumer unit is on.
- Check the individual circuit trip switch on the consumer unit has not tripped.
- If there is a power cut, telephone the electricity provider.

No Hot Water

- Check with Peabody whether the CHP is shut down for maintenance or otherwise not available. If so, switch the immersion heater on.
- Check the towel rail has not been turned off.
- Check the hot water isolation valve (next to the hot water cylinder) has not been turned off.
- Contact energy company

Home too hot

- Open windows. During winter this need only be opened slightly. During summer maximum cooling affect can be achieved by opening windows on either side of the home, together with internal doors, to create cross ventilation.
- Lock windows in slightly open position during unoccupied periods
- Check the 'substitute heating' is off. If not contact maintenance company or Peabody Trust for them to check that the 'substitute' heater is operating correctly .
- During very hot windless days, close windows during the day and open them during the cooler evening, overnight and early morning. This cools of the room surfaces and stores this cooling effect ready for the following day.

Home too cold

- Check the windows are closed
- Check the external doors are closed
- Close the doors and windows into the sunspace so the space can act as a temperature buffer space [Note: it is normal for the sunspace temperature to be cooler than the rest of the home during cold weather]
- Reduce the opening of the ventilation air grilles to the affected room [Note: closing the grills will reduce the supply of fresh air, and if left closed will make the room air stale as well as trapping condensation (from cooking & washing) inside the home]
- Check the hot water cylinder is hot
- Check the towel rail has not been turned off
- Close thick curtains across the windows at night.
- Contact maintenance company or Peabody Trust for them to check that the 'substitute' heater is operating correctly when the home is unoccupied.
- If particular rooms need to be warmer than normal, operate a small fan heater [Note: With the very low heat loss the room temperature is likely to rise quickly and then the heater switch itself off]

- Between glass - Contact maintenance company or Peabody Trust

Condensation in rooms

Problems with damp and mould are usually caused by a build up of condensation, which is a common problem in new buildings which require time to dry out. This can be greatly reduced if the following measures are followed:

- Leave any air grilles open.
- Ensure the 20mm (1ins) gap beneath all internal doors, except to the sun space, has been maintained.
- Bathroom doors should be closed during bathing allowing the passive ventilation systems to extract moisture instead of letting it flow to other areas of the home.
- Dry clothes in airing cupboards.
- Open windows during cooking.
- Wipe windows during the winter months when condensation naturally builds up overnight.

No water in the taps

- Make sure the stopcock in the kitchen (or in the airing cupboard dependant upon your home) is turned on.
- Call the water provider, the telephone number is in the contacts section.

No water in the toilet

- Call the water provider, the telephone number is in the contacts section.

BedZED Residents Manual Section E - Where to find further help if you need it



The sink is blocked

The action you need to take depends on whether you own or rent your home. There are a few steps which you can take regardless, though.

- Use a sink plunger
- If that fails, place a bowl under the plastic trap which is under the sink. Unscrew the trap, taking care not to lose the rubber washers. The trap should be hand tight. Clean it out and screw it back on.
- If that fails, call a plumber if you own your home or Peabody Trust if you rent it from Peabody Trust.

The sink is leaking

The action you need to take depends on whether you own or rent your home. There are a few steps which you can take regardless, though.

- Check that the trap is tight.
- If it is, identify where the leak is coming from and call a plumber if you own your home or Peabody Trust if you rent it from Peabody Trust.

The toilet is blocked

- Call a plumber if you own your home or Peabody Trust if you rent it from Peabody Trust.

The cooker does not work

- Check that the electricity supply is on.
- Refer to the manufacturers instructions and guarantee.
- If within the guarantee period, call the manufacturer
- If outside the guarantee period, repair is your own responsibility.

The fridge freezer does not work

- Check that the electricity supply is on.
- Refer to the manufacturers instructions and guarantee.
- If within the guarantee period, call the manufacturer
- If outside the guarantee period, repair is your own responsibility.

The washing machine does not work

- Check that the electricity supply is on.
- Refer to the manufacturers instructions and guarantee attached to this manual.
- If within the guarantee period, call the manufacturer
- If outside the guarantee period, repair is your own responsibility.

A light bulb has blown

- Replace light bulb with an appropriate low energy bulb. Light fittings have been designed to take standard, low energy bulbs and tubes.

Window keys are lost

There are two types of locking windows, Tilt & Turn and Type H. the key for each type is identical throughout BedZED. A key will be provided for each locking window in each plot. The Type H keys are conventional and can be copied by a key cutter. The Tilt & Turn keys are 'screwdriver' like and can be purchased from Rational Windows (UK) Limited. The details are at the back of the handbook.

Take care to retain the window keys as Peabody will not replace these keys if you lose them and you will have to arrange replacements yourself.

External Problems

Front door is broken

If you own your home, the front door is your responsibility. You will need to arrange a tradesman independently. However, you should be aware that the front door is classed as a 'green' fixture and fitting and must be replaced with a similar door. If you rent your home from Peabody Trust, you should contact Peabody Trust for a repair. If the damage has been caused by vandalism then you will need a crime number from the police for the Peabody Trust. Repairs to damage through the negligence of residents will be recharged to the resident.

A window is broken

Should a window get broken, you should obtain a Crime Number and inform Peabody Trust for the replacement. Repairs to damage through the negligence of residents will be recharged to the resident.

The door keys are lost

No records or security numbers for the keys are provided or retained by the lock manufacturer. Replacement keys can be purchased in the form of a blank from Peabody Trust. This can be then taken to any key cutter to be copied in the normal manner. There will be a charge of approximately £10.00 for this. In the event of a lock-out occurring, any locksmith can be called for service.

The wind cowl is squeaking

- Contact the maintenance company

The roof leaks

- Contact the maintenance company

Windows and doors sticking

- Contact the maintenance company

Outside lights not working

- If a street light is not working, please report it to the Local Borough of Sutton. The number is in the contacts section.

If lights to communal stairs are not working, contact the maintenance company.

- Porch lights to individual properties are the resident's responsibility and you should change the light bulb with an appropriate, low energy one.

Defects period

A new home needs 'running in'. As water used in the construction dries out, condensation and shrinkage can occur. It is best to dry the house gently. To prevent condensation, windows may need to be left open for longer in the first year, which can mean slightly higher energy bills to begin with.

The initial 'Defect Period' for your home is 12 months from the date that Peabody Trust take possession. During this time, the associated Trade Contractor is obliged to correct certain defects that occur to your property. In general, major defects are rectified immediately and small defects are picked up at the end of the Defect Period through an inspection programmed at that time.

What is a defect?

Anything which fails in its normal usage or which has a design fault reported during the course of the Defects Liability Period or which was damaged prior to handover and for which the contractor is bound to remedy or repair.

For example;

- Faulty electrics
- Windows that don't close
- Plumbing leaks
- Rain penetration leaks

What is not a defect?

- Anything damaged by the resident or anything, which the Trust or resident are liable to maintain or anything that is a design fault where the contractor did not design it.
- Blown light bulbs
- Blocked toilets (unless blocked by builders debris)
- Accidentally broken windows
- Malfunctioning appliances – these should be referred back to the manufacturer (although some contractors will do this for you).

What is an emergency defect?

One that which, if not repaired immediately, could lead to any one or more of the following consequences;

- Damage to the fabric, finishes or furnishings of the construction
- Risk of injury to any persons, for example: Electrical faults that cannot be isolated at the consumer unit. Where there are dangerous or exposed wires or water penetration to electric wires or points or where there are no lights
- Further costs to Peabody Trust or a third party
- Risk of damage to either Peabody Trust's or any third party's property, for example:
- Roof leaks: depending on severity and whether affecting electrical services.

BedZED Residents Manual Section E - Where to find further help if you need it



Your rights and obligations

The contractor, will fix all defects reported to the Peabody Trust during the 12 Month Defect Period or those noted at the End of Defect Period inspection where your home will be visited for the express purpose of listing outstanding defects. You remain responsible for all damage caused by yourself and for any defects (and maintenance noted outside this period for leasehold properties). Peabody will ensure a defect is put right but is not obliged to compensate or make good will payments in the event of any inconvenience due to a defect occurring within your home or to the common area or for a contractors negligence or damage to other property.

Reporting Defects

Any defects noted must be reported immediately to the Defects Officer, who will pass on details of the defect to the contractor. The contractor or one of their subcontractors will contact you directly to arrange a suitable time to visit. You should be very specific about the nature of the defect you are reporting, where it is and what you perceive to be the cause.

Response Times

The Peabody Trust will categorise each defect reported according to its urgency so we should be able to give you an estimated time within which the contractor will respond to a call.

- **Emergencies** – these will be completed **within 24 hours** of being reported.
- **Urgent** – these will be completed **within one week** of being reported
- **Routine** – these will be completed **within three weeks** of being reported.
- **Discretionary** – non-urgent and will be dealt with when appropriate.

Providing Access to your Home

In the event of an emergency access must be provided to enter your property. This is a right under the terms of your lease or tenancy agreement. This right will be used, for example, when a burst water pipe in your home is causing serious damage to other properties. For the purpose of assessing or carrying out defects work to your property the Peabody Trust would look to make suitably convenient appointments, however, if you cannot be home you should arrange for a key to be left with a neighbour or a friend to be home to provide access. If access cannot be given you may forego your rights to repairs.

Redecorating

You should not redecorate your home before the End of Defect Period inspection or you will limit your right to have the contractor undertake work. For example, if you wallpaper, the contractor will not be obliged to fix settlement cracks or replace any wallpaper damaged by those cracks.

End of defects period inspection

At the End of Defects Period an inspection of your property will be undertaken to ascertain any outstanding defects. Any noted will form the definitive list of defects that the contractor is then obliged to remedy. You may not add to it at a later stage and are therefore encouraged to raise any problems at this time. You will be contacted for an appointment, and visited during normal working hours by the Defects Officer, the contractor, the Peabody Trust's Employers Agent, a Residential Services representative, the Architect and sometimes the Peabody Trust's Clerk of Works. Failure to provide access for this inspection means you lose your rights to have any defects remedied which are not already reported.

Following the End of Defect Period inspection, a list of noted defects will be sent to you with a time frame within which they should be completed. The contractor will

contact you directly regarding access to repair defects. The contractor is only liable to 'touch up' major settlement cracks at the end of the 12 months. A wall will not be completely painted and some colour discrepancy may occur due to natural ageing and discolouration of the paint.

Recharging for Contractors Visits

You may be recharged for any wasted visits or costs associated with works that are not part of the contractors or Trusts liability. A contractor will notify the Peabody Trust when a call has resulted in a recharge and you will be invoiced accordingly.

Change of Resident

The contractor's obligation to remedy most defects applies only to the first owner or tenant of a property. If the property changes residency during the Defects Liability Period, the contractor ceases to be liable for defects not previously reported and which by their very nature could have been caused by the initial owner e.g. damaged fittings. Settlement cracks and other defects will still be listed at the End of Defects Period inspection and will remain the contractor's liability.

Contact

Please contact the Defects Officer for Peabody Trust to report any defects in your property. The contacts details are in the back of this book.

BedZED Residents Manual Section E - Where to find further help if you need it



Your local contacts and services

These contacts are correct at the time of printing but will certainly change over the life of the building and manual. You can update the information as required and delete obsolete entries.

Please remember that if you can't find what you are looking for or need some ideas, Bio-Regional have a Green Lifestyles Officer at BedZED who can be contacted on 020 8773 2322.

Waste and recycling

F = free service C = collection service offered

Garden waste

London Borough of Sutton
FC 020 8773 6055

Bulky household items

London Borough of Sutton
FC 020 8773 6055

Household and garden waste

Civic Amenity Site, Oldfields Rd
F 020 8773 6055

Engine oil

Transfer Station, Factory Lane, Croydon
Carshalton High Street car park
F 020 8288 8700

Car batteries

Transfer Station, Factory Lane, Croydon
F 020 8288 8700

White office paper

Local Paper for London
C 020 8773 2376
www.bioregional.com

Usable paint

Community Repaint
F 020 8891 7063

Aluminium foil

F 020 8337 3304

Kitchen appliances

Shaftesbury Resource Centre
FC 020 7737 7475

Household furniture

Missionary Mart
Cherry Orchard Centre
FC 020 8669 3495 or 020 8689 2625

Hand tools

Tools for Self Reliance
F 020 8647 2977

Clothes, books etc.

Local charity shops
F See Yellow Pages (many in Mitcham)

Office furniture and equipment

Westminster Volunteer Bureau
Cherry Orchard Centre
The Filing Cabinet (sales only)
020 7402 8076
020 7703 5222
020 8689 2625
020 8773 2721
020 8224 6211

Computers and IT equipment

Community Technology
F 020 7733 3334

Transport

General public transport information

London Transport
travel information
Bus, train, tube and tram timetable information
020 7222 1234

Trains

National Rail enquiries
UK rail timetable, fare and booking information; discounts for advance booking and group travel; and rail card purchases
08457 484950
www.nationalrail.co.uk

Timetable information and booking for UK rail services

www.thetrainline.co.uk

Connex customer services

Real time service information, lost property and comments on services
0870 603 0405
www.connex.co.uk

Thameslink customer services

Real time train information
020 7620 6333
www.thameslink.co.uk

Trams

Tramlink
Tram timetable and fare information
020 8681 8300
www.tramlink.net

BedZED Residents Manual Section E - Where to find further help if you need it



Buses

Bus services from London Rd
Routes

- 127** - Tooting Broadway - Mitcham - Carshalton - Wallington - Purley
151 - Wallington – Hackbridge - Sutton - Cheam - Worcester Park
S1 - Beddington Corner - St Helier Hospital – Sutton - Banstead

Coaches

National Express coaches
Coach timetable and fare information
08705 808080
www.gobycoach.com

Cycling

Local cycle route information
London Borough of Sutton
020 8770 6254

National cycle route information
Sustrans
0117 929 0888
www.sustrans.org.uk

Cyclism
Group running cycling events and campaigning for cyclists in Sutton
020 8647 3584
020 8642 3720

London Cycling Campaign
020 7928 7220
www.lcc.org.uk

Cyclists' Touring Club
01483 417217

Local cycle shops

Action Bikes 3 Stafford Road, Wallington
020 8288 9909

Pearsons Cycles 126 High Street, Sutton
020 8642 2095

Ross Cycles 5-6 Ross Parade, Wallington
020 8647 6121

Cleaner motoring

Liftsharing

Liftshare schemes match drivers and passengers to share journeys and travel costs
www.shareajourney.com
www.liftshare.com
www.freewheelers.co.uk

Powershift

Information on buying / converting and running electric, LPG or CNG vehicles.
0845 602 1425
www.transportaction.org.uk

LPG Refuelling station

TAM Leisure
020 8669 2500

Food

Supermarket delivery services

Iceland
0800 328 0800
www.iceland.co.uk

Sainsburys
0845 301 2020
www.sainsburystoyou.co.uk

Tesco

0845 300 7777
www.tesco.com

Asda

www.asda.com

Waitrose

www.waitrose.com

Homeport

Secure internet deliveries
0800 056 0109
www.homeporthome.com

Vegetable box schemes

Abel and Cole
020 7737 3648
www.abel-cole.co.uk

Absolute Organics
01386 751999
www.absolutorganic.co.uk

Alter Eco
020 7385 3009

Farmaround
020 7627 8066
www.farmaround.co.uk

Fresh Food Company
020 8969 0351
www.freshfood.co.uk

Greenwich Organic Foods
020 8488 6764
www.greenwichorganic.co.uk

Organic Delivery Company
020 7739 8181
www.organicdelivery.co.uk

BedZED Residents Manual Section E - Where to find further help if you need it



Organics Direct

020 7622 3003

www.organicdirect.co.uk

Growing your own

Renting an allotment

London Borough of Sutton

020 8770 4627

Beanstalk Project

Free events, seeds and ideas for families gardening together

020 8770 6611

Surrey Organic Gardening Group

Advice and events for new and established organic gardeners

020 8669 6692

Henry Doubleday Research Association (HDRA)

Information, advice and research on organic gardening, farming and food

0247 630 3517

www.hdra.org.uk

The Organic Gardening Catalogue

Seeds and equipment for the organic gardener

01932 253 666

www.organiccatalog.com

The Soil Association

Information and campaigns on organic food production

0117 929 0661

www.soilassociation.org

Permaculture magazine

Articles on green living and organic food production.

0845 458 4150

www.permaculture.co.uk

Women's Environmental Network

Practical advice on green issues, including food growing.

020 7481 9004

www.wen.org.uk

Energy

Energy Saving Trust

Information and advice about energy saving in the home

0645 333 111

www.est.org.uk

Logos



Awarded to timber and timber products from responsibly managed forests around the world

www.fsc-uk.demon.co.uk



Awarded to products, including tea, coffee, sugar, chocolate and bananas, that guarantee a fair price for Third World growers

020 7405 5942

www.fairtrade.org



Awarded to paper or card products with at least 75% recycled content



Independent quality mark for organically grown food and other products, such as compost

0117 929 0661

www.soilassociation.org.uk



Awarded by the EU to products with minimal environmental impact including detergents light bulbs, paints, kitchen appliances and soil improvers

Home and garden

London Wildlife Trust Centre for Wildlife Gardening

Ideas, advice and plants for making your garden more attractive to wildlife. 28 Marsden Road, London
020 7252 9186

Construction Resources

Eco-building centre selling a wide range of green products, including natural paints and floor coverings
020 7450 2211

Centre for Alternative Technology

Advice on all aspects of green living
01654 702400
www.cat.org.uk

The Whole House Book

Pat and Cindy Harris.
Published: Centre for Alternative Technology

The Natural House Book

David Pearson.
Published: Conran Octopus

Urban Eden

Adam and James Caplin.
Published: Kyle Cathie Ltd

Urban Jungle

Monty Don.
Published: Headline

Local garden centres

See Yellow Pages

Rationel Windows (UK) Limited

Unit 12, Murdock Road, Bicester, Oxfordshire, OX6 7PP
t 01869 248181
f 01869 249693

BedZED Residents Manual Section E - Where to find further help if you need it



Local contacts

St Helier Hospital
Wrythe Lane, Carshalton
020 8296 2000

Doctors Surgery
138 London Rd, Hackbridge
020 8647 3711

Pharmacist
R K Pharmacy
27 London Road, Hackbridge
020 8669 0833

Police Station
6 Carshalton Road West, Sutton
020 8643 1212

Post Office
166 London Road, Hackbridge
020 8647 3044

Citizens Advice Bureau
16 Stanley Park Road, Wallington
020 8669 3435

Library
The Square, Carshalton
020 8647 1151

Westcroft Leisure Centre
Westcroft Road, Carshalton
020 8770 4800

UCI Cinema
St Nicholas Way, Sutton
0870 010 2030

Charles Cryer Studio Theatre
39 High Street, Carshalton
020 8770 4950

Parks and Commons

Beddington Park, Mitcham Common
Morden Hall Park, Oaks Park

Nature Reserves
London Wildlife Trust
020 7261 0447

Sutton Ecology Centre
Sutton Ecology Centre, Honeywood Walk, Carshalton
020 8770 5820

Deen City Farm
39 Windsor Avenue,
Merton Abbey
020 8543 5300

Centre for Environmental Initiatives
Old School House, Mill Lane, Carshalton
020 8770 6611

Miscellaneous

Croydon Estate Office
Peabody Estate office
439B London Road, Croydon, CR0 3PF
020 8665 5810

Defects Officer
45 Westminster Bridge Road, London, SE1 7JB
020 7928 7811x354

National Recycling Forum
www.nrf.org.uk/buy-recycled

Waste Watch
0870 243 0136
www.wastewatch.org.uk

Other organisations

www.globalactionplan.org.uk
www.doingyourbit.org.uk

Albion Water
(Green water issues)
help line
0800 0855580
www.enviro-logic.com

BedZED Residents Manual Section E - Where to find further help if you need it



Index and glossary of terms

BedZED

Beddington Zero (fossil) Energy Development.

Black water

Liquid raw sewage.

Brownfield

A site that has been previously used for non agricultural uses, usually by industry or buildings. Often contaminated in some way.

Carbon Neutral

Only producing as much carbon dioxide from fossil sources as is being saved by using renewable energy sources.

CHP

Combined Heat and Power. Equipment that generates electricity and heat. A power generator normally has to dump its heat. At power stations this is done with cooling towers. CHP harnesses this heat to provide hot water. The combination is very efficient.

Cross Ventilation

Air entering a building from one side and leaving the other.

Community Heating System

A community having one central heat source, the heat then being distributed to individual users as hot water.

External Envelope

The weather proof and (normally) thermally insulating layer between interior space and the outside.

Finned tube heater

A pipe with many fins exposed to the air to give it a large surface area through which hot water is passed and which acts as a heater.

Food miles

The miles a food product travels between farm and dinner plate. Normally via a market, distribution depot, processing plant, processors distribution depot, market, retailers distribution depot, retailers outlet, your home. The average British dinner travels 2000 miles before getting to your plate, a Christmas dinner can travel up to 16000 miles.

Green Water

A mixture of rain water, and treated and cleaned black water dyed green so you know not to drink it. It is 'clean' water, but it is **not fit for drinking**. Used for WC flushing and garden irrigation.

Greenfield

A site not previously built on or used for 'contaminating' purposes which prevent it being immediately used for food production.

Grey Water

Normally described as water from washing activities **without** sewage that can be used for uses such as toilet flushing. On BedZED, because we have a treatment system, the grey water is added to the blackwater and treated in the 'living machine'.

Hydroponics

Growing plants in water with nutrients dissolved in it without soil as used in the 'living machine'

Internal Heat Gain

Heat sources within a building such as people, cooking equipment, use of hot water, computers and other electrical devices.

KWh

KiloWatt hour - a unit of power equal to having a 1 kilowatt device operating for one hour.

National Grid

The single national electrical power distribution system that links all the power stations in the UK with all the users in the UK.

Night Vent

The process of ventilating your home at night to cool the structure with cool night air during the summer. This uses windows opened and locked in secure position to provide an air path though your house. By doing this it is possible to achieve internal temperatures during the day that comfortably lower than outside.

Passive Stack Ventilation

Ventilation without the need for fans, making use of the natural desire for hot air to rise .

Performance indicators

A measure of how something is performing. An example being using the number of a certain species of fish found in a river to indicate how clean the river is.

Photovoltaic Cell

A sandwich of two types of silicon that when exposed to light produce an electrical voltage between them. Suitably connected to a circuit, this voltage can be harnessed to produce electrical power.

Reclaimed

An item used again in its original form in a different location (second hand).

Recycled

A material used again after re-processing, such as being melted down and reformed.

Sustainable Development

Commonly defined as 'development that 'meets the needs of the present without compromising the ability of future generations to meet their own needs'.

Thermal Mass

Matter with a large capacity to store heat for its volume. Concrete and stone have a very high thermal mass, air and wood have a very low thermal mass.