

How can Worcester's products help you comply with the code?

The 2006 Building Regulations were initially quite tough, so for house builders to be rewarded with one star under the Code for Sustainable Homes (ie achieving more than 10% energy efficiency than Part L of the 2006 regulations) is going to be hard, but not impossible.

Improving the efficiency of a property's walls, doors and windows are all easy tactics, but it is worth remembering that all of Worcester's products have an emphasis on renewables. At Worcester, we anticipated this focus on energy-efficient products and were one step ahead of the game by manufacturing solar panels and ground source heat pumps – all the products you will need to comply with the code.

The table below shows the example of a typical home built to 2006 regulations and how the Dwelling Emission Rating changes to the Target Emission Rating by the different heating technologies being used.

You will note the TER (Target Emission Rating), for the same house with a Ground Source Heat Pump, increases from 23.16 to 29.47kgCO₂/m². This is because of the change of fuel from gas for boilers to electric for the heat pumps.

For example, the following chart shows the different heating technologies Worcester offers and where they would come in terms of eco-rating scheme.

Interestingly, it appears the Code for Sustainable Homes is simply a preview of Building Regulations to come, as the Government has indicated that by 2010 all new-build homes will need to comply with code level three, increasing to a code level four by 2013.

So, I guess it's a case of watch this space! Worcester will of course keep you up-to-date with all the latest Government regulations and will be on-hand to offer advice, guidance and all the products you will need to comply with these regulations.

Technology	Target Emission rating	Dwelling Emission rating	Result	Eco Homes Rating
Standard Efficiency Combi Boiler	23.16	25.14	Fail	n/a
Condensing Combi Boiler	23.16	22.82	Pass	n/a
Condensing System Boiler & 4m ² with Solar Panels	23.16	19.16	Pass	One Star
Ground Source Heat Pump	29.47	25.42	Pass	One Star
Ground Source Heat Pump with 4m ² with Solar Panels	29.47	18.63	Pass	One Star
Micro CHP	23.16	22.64	Pass	n/a

* Dwelling and Target Emission rating for new build properties

* CO₂ kgCO₂/m²

Code for Sustainable Homes

Your guide

More than a quarter of the UK's carbon dioxide emissions come from the energy used to heat, light and run a home, so the Government has introduced an initiative to ensure homes are being built in a way that minimises energy use and reduces emissions. Martyn Bridges, director of marketing and technical support at Worcester, Bosch Group, takes this opportunity to look at the Government's Code for Sustainable Homes...

What is the Code for Sustainable Homes?

Introduced to drive sustainable homebuilding practice, the code is intended as a single national standard to guide the industry on the design and construction of sustainable homes. It is a means of driving continuous improvement, innovation and achievement in sustainable homebuilding, and as environmental awareness amongst consumers grows it offers developers a tool to differentiate themselves.

Whilst new-build Government-funded housing must meet code level three; in the short-term, compliance with the code is voluntary for private house builders and self-developers. However, on 27 February 2008 the Government confirmed the code will be mandatory from 1 May 2008, meaning that all new-home buyers will be given clear information about the sustainability of the property.



What is the code's intention?

■ To encourage homebuilders, designers and specifiers to design and construct more eco-friendly houses and housing estates.

The code rewards not just the design of a house, but how energy efficient it is. The aim is to encourage designers to consider the lifestyles of the people who will live in the property. For example, a house is rewarded for including a bicycle store, as it is hoped that the homeowner will perhaps use a bicycle rather than a car if they've got suitable storage space.

■ Empower homebuyers to drive demand for more sustainable homes.

With the public becoming more environmentally-conscious and aware of the urgent need to limit their effects on climate change, consumers are demanding homes that enhance health and well-being, offer reduced environmental impact and have lower running costs. The Code for Sustainable Homes offers homebuilders a tool to demonstrate the sustainability performance of a property and to differentiate themselves from competitors.

■ Signal the direction of future regulations and give certainty.

Closely linked to the existing minimum Building Regulations required by law, the minimum standards for compliance with the code have been set above the requirements of Building Regulations. It is therefore intended that the Code will signal the future direction of Building Regulations in relation to carbon emissions from and energy use in homes, providing greater regulatory certainty for the homebuilding industry.

What are the key features?

The code measures the sustainability of a home against certain design categories, rating the 'whole home' as a complete package. The nine categories of sustainability included within the code are:

- energy/CO₂
- pollution
- water
- health and well-being
- materials
- management
- surface water run-off
- ecology
- waste

The code uses a 'star' rating system to communicate the overall sustainability performance of a home. A home can achieve a rating from one to six, depending on the extent to which it achieves the code's standards. A home's rating represents its overall performance across the nine categories.

Closely linked to the 2006 Building Regulations, the building standards required by law, the minimum standards for compliance with the Code for Sustainable Homes have been set above the requirements of Building Regulations. Minimum standards exist for a number of categories and these must be achieved in order to gain one star. Energy and water efficiency have a minimum standard that must be achieved at every level, recognising their importance to the sustainability of any home.

Apart from these minimum requirements the code is flexible; and developers can choose which and how many standards they implement to obtain 'points' under the code in order to achieve a higher sustainability rating. The table below shows the nine design categories and the degree of flexibility afforded by each:

Flexibility of the code	
Categories	Flexibility
Energy/CO ₂	Minimum standards at each level of the code
Water	
Materials	Minimum standard at Code entry level
Surface water run-off	
Waste	
Pollution	No Minimum standards
Health and well-being	
Management	
Ecology	

So, in order to achieve a particular code level and the associated sustainability rating, a home must, at least, integrate minimum standards.

The table below shows the minimum standards, and number of points required in order to achieve each level of the code:

Achieving a sustainability rating					
Minimum Standards					
Energy			Water		
Code Level	Standard (Percentage better than Part L ¹ 2006)	Points Awarded	Standard (Litres per person per day)	Points Awarded	Other Points ¹ Required
1(★)	10	1.2	120	1.5	33.3
2(★★)	18	3.5	120	1.5	43.0
3(★★★)	25	5.8	105	4.5	46.7
4(★★★★)	44	9.4	105	4.5	54.1
5(★★★★★)	100 ²	16.4	80	7.5	60.1
6(★★★★★★)	A zero carbon home ¹	17.6	80	7.5	64.9

Notes

- Building Regulations: Approved Document L (2006) - 'Conservation of Fuel and Power.'
- Zero emissions in relation to Building Regulations issues (i.e. zero emissions from heating, hot water, ventilation and lighting).
- A completely zero carbon home (i.e. zero net emissions of carbon dioxide (CO₂) from all energy use in the home).
- All points in this document are rounded to one decimal place.

How will the code be assessed?

Energy Performance Certificates (EPC's) are required every time a building is constructed, sold or let. EPC's give information about a building's energy performance and are accompanied by information about how it can be improved.

The Government's Standard Assessment Procedure (SAP) will carry out the assessments, using a network of specifically trained and accredited independent assessors. Code assessors will conduct initial design stage assessments, recommend a sustainability rating, and issue an interim code certificate. They will also perform a post-completion check to verify the rating before a final code certificate of compliance is issued.

A design stage assessment will only need to be carried out on each home type within any development, not every single home. Post-completion checks will be carried out on a sample basis. Builders whose home designs and completed work are assessed under the code will receive a certificate showing the overall sustainability rating for the home and a breakdown of how that rating has been achieved.