

Paper Reference(s)

**6953/01**

**Edexcel GCE**

**Applied Information and  
Communication Technology**

**Unit 3: The Knowledge Worker**

**May 2008**

**Scenario**

Please open this material immediately. It should be distributed to candidates no sooner than three working weeks before the examination.

Practice files: GBBC\_practice.xls  
Sales Data\_practice.txt

The description overleaf will be used as the scenario for the above specification, and will be reissued with the examination paper. This scenario should be used for the purposes of preparing candidates for the examination. This material must not be taken into the examination.

Further details are in the Instructions for the Conduct of Examinations, available from the Edexcel website for this qualification and subject.

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## The Green Bay Building Company



The Green Bay Building Company was founded by David Green in 2003. David trained as an architect and has been designing houses since 1985. Over time, David has become concerned about global warming and has introduced into his house designs aspects to minimise the carbon footprint of the occupiers. Unfortunately these modifications tend to make the houses more expensive to produce. The building firm that David worked for at the time did not like the modifications as it meant less profit. As a result, David was instructed to remove them from his designs.

Unable to find a building company to take on his revolutionary designs, David decided the only way he was going to get his designs accepted was if he formed his own building company. Consequently the Green Bay Building Company was formed.

Since its inception the Green Bay Building Company has created many successful developments. David has found that some people will pay extra if they think the house is eco-friendly and would pay even more if they thought there would be a fuel saving.

The Green Bay Building Company has recently acquired 100,000m<sup>2</sup> of brown-field building land in Tewkesbury and David plans to build an eco-friendly housing estate there. David has set the target that the whole estate should have a predicted maximum carbon footprint of 1000 tonnes per year. Being a businessman he needs to make a profit. To help achieve this he has set a development cost limit of £95,000,000. In order to get planning permission Green Bay Building Company has had to agree that no more than 200 of a particular housing type would be built.

Currently the Green Bay Building Company has five different housing types. The table shows the housing type, how much each costs to build and the minimum area of land required.

<b>Housing Type</b>	<b>Build Cost</b>	<b>Required Area</b>
1 Bedroom Flat	£100,000.00	130m <sup>2</sup>
2 Bedroom Terrace	£167,000.00	150m <sup>2</sup>
3 Bedroom Semi Detached	£200,000.00	200m <sup>2</sup>
4 Bedroom Detached	£230,000.00	300m <sup>2</sup>
5 Bedroom Detached	£280,000.00	375m <sup>2</sup>

All the buildings are made from materials manufactured by processes designed to minimise carbon emissions. Additionally there are extra features which could be used to reduce the fuel costs and thereby reduce the carbon footprint.

The features and their costs are in this table.

<b>Features</b>	<b>Costs</b>
Solar Panels	£500.00
Wind Turbines	£6,000.00
Cavity Wall Insulation	£6,000.00
Loft Insulation	£6,000.00
Double Glazing	£6,000.00

### **Your Role**

You have been employed as an Information Technology expert by the Green Bay Building Company. You have been given a partially completed model which your predecessor created to help advise the Green Bay Building Company about various aspects of the development.

## Description of the model

The partially completed model allows you to try different combinations of housing types in the estate and also allows you to add fuel saving features.

Worksheet	Description
Calculation Page	The 'Calculation Page' worksheet is the summary page where you will be adjusting the numbers of each house type in the development and also assigning the fuel saving features to the particular housing type. The area covered by your development, its carbon footprint, its initial cost and the profit you will make will be displayed on this page. The margin column can be set to give a profit of up to 9% on individual house types.
House Types	The 'House Types' worksheet will contain basic details about each housing type. These details include the average carbon footprint and the average area taken up by each housing type.
House Costs	The costs of building the development will be calculated from initial costs stored in this worksheet.
Fuel Bills	This worksheet will calculate the average fuel bills for each housing type. It will take into account whatever fuel saving aspects you have included.
Costs	This worksheet will contain the costs of the various fuel saving features and will be used to calculate the average fuel bills.
Sales Data	This worksheet will contain data about the number of each housing type that would be sold at different prices.

**Some cells in the model are password protected. Should you wish to experiment with the model, the password is *edexcel*. Be aware that if you change the contents of any protected cell the model may not work.**