Example 1:
Carbon saving measures and EcoHomes rating

<table>
<thead>
<tr>
<th>Building Element</th>
<th>Description of Measure</th>
<th>DER (kgCO₂/m²pa)</th>
<th>DER Saving</th>
<th>m² CO₂ saved</th>
<th>High</th>
<th>Low</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wall Insulation</td>
<td>50 mm internal and lining to the front and 50 mm internal and lining to the rear</td>
<td>107.67</td>
<td>30.86</td>
<td>126</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Roof Insulation</td>
<td>200 mm of mineral fibre insulation to roof space</td>
<td>92.42</td>
<td>15.26</td>
<td>146</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Floor Insulation</td>
<td>100 mm insulation in suspended timber flooring</td>
<td>85.75</td>
<td>6.67</td>
<td>120</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Window Type A</td>
<td>Replacement of existing single glazed windows</td>
<td>69.55</td>
<td>16.2</td>
<td>507</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Rooflight</td>
<td>Replace rooflight to Building Regulations minimum standards</td>
<td>69.38</td>
<td>0.17</td>
<td>2.082</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Air Tightness</td>
<td>Carry out air-tightness improvements on building fabric to achieve SAP&lt;sub&gt;10&lt;/sub&gt; U-value of 0.35</td>
<td>62.34</td>
<td>7.34</td>
<td>15</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Boiler</td>
<td>Install 95% efficient system boiler</td>
<td>37.43</td>
<td>24.61</td>
<td>71.4</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Renewables</td>
<td>Install 5.2 m² (5.75 kWe) photovoltaic panel</td>
<td>35.87</td>
<td>1.78</td>
<td>1035</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>Install 5.2 m² Solar Hot Water panel</td>
<td>34.25</td>
<td>1.41</td>
<td>669</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Infill and cap existing chimneys</td>
<td>33.72</td>
<td>1.16</td>
<td>148</td>
<td>Yes</td>
<td></td>
</tr>
</tbody>
</table>

Resulting DER: 33.72

EcoHomes: VERY GOOD achieved with a score of 61.45%
Example 1:
Cost Effectiveness Analysis
Example 1 - Listed Building
Proposed plans

A Proposed second floor plan
B Proposed roof plan

Key
- 50mm insulation & lining
- infilling chimneys, remove chimney pots and cap
- Photovoltaic panels (PVs) 2.6m²
- Solar Hot Water (SHW) 2.6m²
- Air/air source heat pump
- Upgrade glazing to existing windows and rooflight
  (Retaining sashes and bars)

---

General Notes:
1. This drawing remains copyright of Pitman Tozer Architects Limited and may not be
   reproduced or copied without consent in writing.
2. Do not scale drawing out beyond dimensions drawn unless otherwise noted.
3. Drawings to be amended and noted immediately.
4. Drawings in conjunction with all relevant structural and mechanical & electrical
   engineers drawings.
5. Dimensions critical to proposed building works must be checked on site before
   building works commence, as certain assumptions have been made due to lack of
   accessibility and anomalies in the existing building.

Revisions:
Rev A - Example upgraded to include double glazing window units and rooflight - 01.10.09
Rev B - Notes amended - 28.10.09

Other notes

---

Project Address:
RBKC EH Feasibility
48 Addison Avenue

Drawing:
Proposed second floor plan
and roof plan

Drawing status:
Date: 01.10.09
Scale: 1:100 @ A3
Drawing number: 0915 AA06
Revision: B
Example 2
Existing elevations

A  Existing front elevation

B  Existing rear elevation

102 Princedale Road

General Notes:
1. This drawing remains copyright of Pitman Tozer Architects Limited and may not be reproduced or copied without written consent.
2. Do not use office floor heights dimensions (these were not reported to the architect).
3. Fixed in conjunction with all relevant structural and mechanical & electrical engineering drawings.
4. Dimensions critical to proposed building works must be checked on site before building works commence, as certain assumptions have been made due to lack of accessibility and anomalies in the existing building.

Revisions:
Rev A - Notes amended - 28.10.09

Other notes:
Existing drawings supplied by Eight Associates

Drawings:
Existing front and rear elevations

Project Address:
RBKCEH Feasibility
100-102 Princedale Road

Drawing:

For Discussion Purposes Only

Date:
01.10.09

0915 PRD2

Scale:
1:100 @ A3

Revision:
A
Example 2 (Option 1):
Carbon saving measures and EcoHomes rating

5. Carbon Savings Analysis
EcoHomes Analysis of RBKC LDF

### Table: Carbon Saving Measures and EcoHomes Rating

<table>
<thead>
<tr>
<th>Building Element</th>
<th>Description of Measure</th>
<th>DER (kg CO2e/m²yr)</th>
<th>DER Savings</th>
<th>Urban Design Implications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wall Insulation</td>
<td>50mm internal and lining to the front and 80mm internal and lining to the rear (U Value = 0.6 W/m²K)</td>
<td>73.73</td>
<td>7.18</td>
<td>142</td>
</tr>
<tr>
<td>Roof Insulation</td>
<td>200mm of mineral fibre insulation (U Value = 0.11 W/m²K)</td>
<td>65.36</td>
<td>11.35</td>
<td>166</td>
</tr>
<tr>
<td>Floor Insulation</td>
<td>100mm insulation in suspended timber flooring (U Value = 0.35 W/m²K)</td>
<td>66.40</td>
<td>8.40</td>
<td>168</td>
</tr>
<tr>
<td>Window</td>
<td>Windows type B – Replace window frames as existing and use double glazing (U Value = 1.86 W/m²K)</td>
<td>46.72</td>
<td>8.97</td>
<td>789</td>
</tr>
<tr>
<td>Boiler</td>
<td>Install 50% efficient system boiler</td>
<td>52.85</td>
<td>14.37</td>
<td>517</td>
</tr>
<tr>
<td>Air Tightness</td>
<td>Carry out air tightness improvements on building fabric to achieve UAI of 10</td>
<td>29.63</td>
<td>3.68</td>
<td>368</td>
</tr>
<tr>
<td>Renewables</td>
<td>Install 5.2m² Solar Hot Water panel</td>
<td>27.53</td>
<td>2.14</td>
<td>275</td>
</tr>
<tr>
<td>Other</td>
<td>Infill and cap existing chimneys</td>
<td>20.41</td>
<td>2.12</td>
<td>237</td>
</tr>
</tbody>
</table>

**Resulting DER:** 34.41

**EcoHomes Credit:** Very Good achieved with a score of 65.12%

---

[Energy] [Transport] [Pollution] [Materials] [Water] [Land Use & Ecology] [Health & Wellbeing] [Management]
Example 2 (Option 1):
Cost Effectiveness Analysis
Example 2 - Option 1
Proposed plans

Key
- 50mm internal insulation and lining/external insulation & render
- infilling chimneys, remove chimney pots and cap
- Solar Hot Water (SHW) 5.2m²
- Replacement double glazed sash windows and doors

A Proposed basement floor plan
B Proposed ground floor plan
C Proposed first floor plan
D Proposed second floor plan
E Proposed roof plan

General Notes
1. This drawing remains copyright of Pitman Tozer Architects Limited and may not be reproduced or copied without consent in writing
2. All areas are shown as approximated
3. Do not scale drawings use figures dimensions. All areas to be reported to the architect immediately.
4. Drawings in conjunction with all relevant structural and mechanical & electrical engineers drawings.
5. Dimensional criteria to proposed building works must be checked on site before building works commence as certain assumptions have been made due to lack of accessibility and anomalies in the existing building.

Revisions
Rev B - Example upgraded to include internal insulation on front wall - 08.10.09
Rev B - Notes amended - 26.10.09

Other Notes
1. Existing drawings supplied by Eight Associates

Project Address
RBKC EH Feasibility
100-102 Princepal Road

Drawing
Proposed basement, ground, first and second floor and roof plans (Option 1)

Drawing status
For Information
Date: 01.10.09
Scale: 1:100 @ A3
Drawing number: 0915 PR94
Revision: B
Example 2 - Option 1
Proposed photographs

A  Front elevation

B  Rear elevation externally insulated and rendered
Example 2 - Option 1
Proposed glazing photographs

A Street view from Princedale Road

B Typical new double glazed sash window with planted glazing bars & new sash boxes
4/16/4 typical U value 1.9 W/(m2K)

C Detail of double glazed sash window with planted glazing bars & spacers
4/16/4 typical U value 1.9 W/(m2K)
Example 2 (Option 2):
Carbon saving measures and EcoHomes rating

<table>
<thead>
<tr>
<th>Building Element</th>
<th>Description of Measure</th>
<th>DER (kgCO2/m2/yr)</th>
<th>DER Saving</th>
<th>Change CO2 saved</th>
<th>High</th>
<th>Low</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wall Insulation</td>
<td>Wall Insulation - 50mm Insulation and render to the front and 100mm insulation and render to the rear (U-Value = 0.35 W/m²K)</td>
<td>75.29</td>
<td>18.62</td>
<td>-144</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Roof Insulation</td>
<td>Roof Insulation - 100mm of mineral fibre insulation (U-Value = 0.11 W/m²K)</td>
<td>63.83</td>
<td>11.46</td>
<td>-166</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Floor Insulation</td>
<td>Floor Insulation - 100mm insulation in suspended timber flooring (U-Value = 0.2 W/m²K)</td>
<td>53.35</td>
<td>10.48</td>
<td>-166</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Window</td>
<td>Windows type C - Replace window frames as existing and use double glazing (U-Value = 0.94 W/m²K)</td>
<td>41.34</td>
<td>12.01</td>
<td>503</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Rooflight</td>
<td>Install 92% efficient system boiler</td>
<td>28.94</td>
<td>12.4</td>
<td>685</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Air Tightness</td>
<td>Carry out air tightness improvements on building fabric to achieve DAP of 10</td>
<td>28.94</td>
<td>3</td>
<td>290</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Renewables</td>
<td>Install 5.2 m² Solar Hot Water panel</td>
<td>23.79</td>
<td>2.18</td>
<td>200</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>Install cap existing chimney</td>
<td>21.81</td>
<td>1.99</td>
<td>-46</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Resulting DER</td>
<td></td>
<td>21.91</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

EcoHomes: VERY GOOD achieved with a score of 65.12%

EcoHomes Credit:

- Energy
- Transport
- Pollution
- Materials
- Water
- Land Use & Ecology
- Health & Well-Being
- Management
Example 2 (Option 2): Cost Effectiveness Analysis

<table>
<thead>
<tr>
<th>Building Element</th>
<th>Description of Measure</th>
<th>Initial U-Value W/m²K</th>
<th>U-Value U-Value</th>
<th>DEP</th>
<th>DEP Savings</th>
<th>Kg CO2 saved</th>
<th>Total £ saved</th>
<th>Total Fuel Savings over 50 years</th>
<th>L/h/m²</th>
<th>Replacement cycle</th>
<th>Cost per replacement cycle</th>
<th>Capital Cost</th>
<th>CO2 saved from measure over 50 year lifespan</th>
<th>Excision CO2 saved</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wall Insulation</td>
<td>Wall insulation - 50mm insulation and render to the front and 50mm insulation rendered to the rear U/Value = 0.38 W/m²K</td>
<td>2.3</td>
<td>0.38</td>
<td>76.29</td>
<td>18.62</td>
<td>2123.4796</td>
<td>15216.69</td>
<td>5167.69</td>
<td>£372.13</td>
<td>£22,327.64</td>
<td>80</td>
<td>1</td>
<td>47</td>
<td>€3,824.14</td>
</tr>
<tr>
<td>Roof Insulation</td>
<td>Roof insulation - 100mm of mineral fibre insulation U/Value = 0.11 W/m²K</td>
<td>2.6</td>
<td>0.11</td>
<td>63.83</td>
<td>11.85</td>
<td>1313.0899</td>
<td>12069.24</td>
<td>3169.45</td>
<td>£238.68</td>
<td>£13,720.55</td>
<td>80</td>
<td>1</td>
<td>22</td>
<td>€640.86</td>
</tr>
<tr>
<td>Floor Insulation</td>
<td>Floor Insulation - 15mm insulation in suspended timber flooring U/Value = 0.2 W/m²K</td>
<td>1.2</td>
<td>0.2</td>
<td>53.16</td>
<td>9.49</td>
<td>1200.7694</td>
<td>9192.29</td>
<td>2996.24</td>
<td>£279.96</td>
<td>£12,337.52</td>
<td>90</td>
<td>1</td>
<td>22</td>
<td>€584.76</td>
</tr>
<tr>
<td>Window Type B</td>
<td>Windows type E - Install triple glazed units within a new casement window U/Value = 0.9 W/m²K</td>
<td>4.8</td>
<td>0.94</td>
<td>41.34</td>
<td>12.01</td>
<td>1376.1086</td>
<td>5840.71</td>
<td>9811.29</td>
<td>£238.91</td>
<td>£14,334.97</td>
<td>30</td>
<td>2</td>
<td>1260</td>
<td>€30,000.00</td>
</tr>
<tr>
<td>Rooftops</td>
<td>Install 60% efficiency system boiler</td>
<td>29.96</td>
<td>12.4</td>
<td>1420.79</td>
<td>6222.91</td>
<td>819.1</td>
<td>644.97</td>
<td>£3,860.06</td>
<td>10</td>
<td>6</td>
<td>1630</td>
<td>€9,000.00</td>
<td>76</td>
<td>805</td>
</tr>
<tr>
<td>Air Tightness</td>
<td>Carry out air tightness improvements on building fabric to achieve DPC of 10</td>
<td>25.94</td>
<td>3</td>
<td>363.16</td>
<td>4336.58</td>
<td>916.03</td>
<td>558.09</td>
<td>£3,906.49</td>
<td>20</td>
<td>3</td>
<td>1000</td>
<td>€2,000.00</td>
<td>17</td>
<td>280</td>
</tr>
<tr>
<td>Renewables</td>
<td>Install 5.2 m² Solar Hot Water panel</td>
<td>23.79</td>
<td>2.15</td>
<td>246.347</td>
<td>3140.67</td>
<td>1169.91</td>
<td>394.12</td>
<td>£5,047.22</td>
<td>30</td>
<td>2</td>
<td>2000</td>
<td>€4,000.00</td>
<td>15</td>
<td>250</td>
</tr>
<tr>
<td>Other</td>
<td>Infiltration and extant chimneys</td>
<td>21.81</td>
<td>1.99</td>
<td>225.8984</td>
<td>3991.49</td>
<td>722.1</td>
<td>522.10</td>
<td>£3,126.97</td>
<td>80</td>
<td>1</td>
<td>1200</td>
<td>€2,000.00</td>
<td>14</td>
<td>48</td>
</tr>
</tbody>
</table>

Note: The table above provides detailed cost effectiveness analysis for various building elements, including their initial and final U-values, DEP savings, fuel savings, and CO2 savings over a 50-year lifespan. Each row corresponds to a specific measure, detailing its cost per replacement cycle and overall capital cost savings.
Proposed plans

- **A** Proposed basement floor plan
- **B** Proposed ground floor plan
- **C** Proposed first floor plan
- **D** Proposed second floor plan
- **E** Proposed roof plan

**Key**
- 50mm external insulation & render
- Infilling chimneys, remove chimney pots and cap
- Solar Hot Water (SHW) 5.2m²
- New casement windows and new doors
Key
- 50mm insulation & render
- Solar Hot Water (SHW) 5.2m²

Example 2 - Option 2
Proposed elevations

A  Front elevation - new casement windows & external rendered insulation
B  Rear elevation - new casement windows and rendered insulation

General Notes:
1. This drawing remains copyright of Pitman Tozer Architects Limited and may not be reproduced or copied without consent in writing.
2. Do not scale drawing to suit fabricated items. All items shown on drawings are to be supplied as described.
3. Any information given on existing site conditions is approximate only and should be verified by the site contractor prior to commencing construction.
4. Hand in conjunction with all relevant structural and mechanical & electrical engineers drawings.
5. Dimensions critical to proposed building works must be checked on site before building works commence, as certain assumptions have been made due to lack of accessibility and anomalies in the existing building.

Reasons:
Rev A - Notes amended - 28.10.09

Other notes:
Existing drawings supplied by Eight Associates

Project Address:
RBKCEH Feasibility
100-102 Princedale Road

Drawing:
Proposed front and rear elevations (Option 2)

For Discussion Purposes Only

Date: 01.10.09
Scale: 1:100 @ A3
Drawing number: 0915 P009
Revision: A
Front elevation externally insulated and rendered, Casement windows

Rear elevation externally insulated and rendered, Casement windows