

## Client Project Case Study:



<b>Title of Project:</b>	TARBASE
<b>Thomson Bethune's Role:</b>	Capital and Whole Life Costs for Various retro fitted Energy Interventions
<b>Client Sector:</b>	Manufacturing & Renewables
<b>Client:</b>	Energy Academy, Heriot Watt University
<b>Project Cost:</b>	Not Applicable
<b>Location:</b>	Edinburgh
<b>Date:</b>	July 2009 – Jan 2011

<b>Project Scope:</b>	
<b>Background to the project:</b>	<p>Thomson Bethune have been involved in providing Cost Consultancy Services to Heriot Watt University as part of the TARBASE research project co-funded by <b>Carbon Trust</b> and <b>EPSRC</b> under the banner of <b>Carbon Vision Buildings</b>. The project involved carrying out costing work on various retrofitted interventions, which have been applied to a number of theoretical building types to reduce energy consumption and carbon emissions.</p> <p>The aim of the project is to provide technological solutions for reducing the carbon footprint of existing buildings within the United Kingdom.</p> <p>The project focuses on three main types of technology:</p> <ul style="list-style-type: none"> <li>• Building Fabric and Mechanical Services</li> <li>• Energy Production and Storage</li> <li>• End-use Equipment</li> </ul> <p>Within these main sections there are various different applications of technology (interventions), which will help reduce the carbon emissions of the various different types of building (variants). These variants consisted of schools, offices and retail buildings, which were based throughout the UK.</p> <p>As part of this project Thomson Bethune has been tasked with calculating the Capital Cost of implementing these interventions, and also the Whole Life Costs associated with running and maintaining these interventions.</p>
<b>The value Thomson Bethune added to this project:</b>	Thomson Bethune added unique value through our experience and knowledge of Capital Costs and Whole Life Cost development in relation to renewable energy technologies and their application in the research context.

	<p>The aim of the project was to deliver technological solutions which will facilitate a radical change into policies and programmes designed to reduce the carbon footprint of the UK building stock. To achieve the original Carbon Vision target of a 50% reduction in emissions by 2030 and subsequently more ambitious Government targets, requires radical action to be taken on the UK's existing built assets.</p> <p>The unique feature of this consortium project was its focus on existing buildings. It assessed the potential of present and future technologies available for carbon intensity reduction under three headings - (i) building fabric and installed HVAC, (ii) energy production and storage, and (iii) end-use equipment. Performance models were developed for supply side interventions, such as photo-voltaics, micro-combined heat and power, micro-wind, solar thermal collectors, heat pumps, mechanical ventilation with heat recovery, and electrical storage.</p> <p>The value by operational CO2 reduction and by cost, of each intervention was estimated for each variant and surveys and questionnaires enabled user perceptions of these interventions to be established.</p>
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<p>If you would like to speak to a member of the Thomson Bethune team, simply call our office or send us an email and a member of the Thomson Bethune team will contact you directly.</p>	