

Project Ref: 0630
Project: Project 2: Construction and Sustainable Development using Local Timber
Client: Scottish Borders Woodland Partnership

Project 2: Construction and Sustainable Development using Local Timber

Final Report - Summary of Outcomes
April 2009

Gaia Architects
North Woods Construction Ltd.

Executive Summary

In November 2005, the Scottish Borders Woodland Strategy (SBWS) was formally launched as part of an amendment to Scottish Borders Council's Structure Plan. To implement a number of the key tasks and policies identified within the SBWS, Scottish Borders Council identified a number of subject areas to be taken forward including *Project 2: Construction and Sustainable Development using Local Timber*.

To achieve out the aim and objectives of *Project 2* a number of sub-projects were developed with the client to cover three principles areas: education, demonstration and support.

Education

An increase in awareness of the use of timber in construction was achieved by taking key decision makers within local government, including planning officers and councillors, on two study tours of best practice timber design in and around the Scottish Borders. These were followed up towards the end of the project with a well-attended seminar which described the various sub-projects undertaken under *Project 2* and included technical information on the latest developments in timber construction, and an inspiring case study of a Scottish design and construction business which solely uses homegrown timber.

Demonstration

As a means of 'showing how it's done' a number of demonstration projects were facilitated. These resulted in live projects changing their specifications to embody homegrown timber and innovative jointing systems, and are available for the public to view.

Support

To provide a means of pro-actively encouraging and supporting increased timber use, a new Supplementary Planning Guidance document - believed to be the first of its type in the UK - was prepared and published on Scottish Border's Council's website. This included the following, explicit statement: "*Scottish Borders Council supports the sustainable use of timber resources for a wide range of construction works in both urban and rural settings.*" In anticipation of an increase in demand for timber cladding in the region a local sawmill was assisted in developing a selected range of cladding at competitive prices.

Of the various initiatives explored some were more successful than others. The downturn in local and global economies had a detrimental effect on one of the construction partnering projects, for example.

Only time will tell how successful the various initiatives have been in trying to increase the amount of homegrown timber used in construction in the Scottish Borders.

In most cases the various sub-projects have been developed with a single 'partner'. By adopting this approach, and by making all of the work carried out publicly available through the council's website it is hoped that uptake this aim will have long-lasting benefits to the Scottish Borders.

Introduction

In November 2005, the Scottish Borders Woodland Strategy (SBWS) was formally launched as part of an amendment to Scottish Borders Council's Structure Plan. To implement a number of the key tasks and policies identified within the SBWS, Scottish Borders Council identified four subject areas to be taken forward as separate, but related, projects.

The four projects *Project 1: Wood Supply Chain and Small Businesses*, *Project 2: Construction and Sustainable Development using Local Timber*, *Project 3: Use of forest products as fuel*, and *Project 4: The role of forests within 'Designed Landscapes' in the Scottish Borders* were developed to achieve practical results with the overall intention of maximising the uses and benefits of Borders trees, woodlands and forests.

Gaia Architects, together with North Woods Construction Ltd were successfully appointed in November 2006 to carry out the aim and objectives of *Project 2* and, in conjunction with the client, quickly developed and agreed a number of potential outcomes, or sub-projects.

Although the original project aim was to increase the amount of 'local' timber used in construction in the Scottish Borders it quickly became evident that the small scale nature of existing timber processing facilities in the region would quickly preclude much development of ideas.

On this basis the scope of the project was widened to increase the quantity of *homegrown* timber (i.e. that used in the same country where it is grown and processed) used in construction in the Scottish Borders.

A number of key national and regional, government and institution targets and guidance documents were regularly consulted and referred to throughout the project. These are listed at the end of this summary.

Project organisation

The client group included representatives from Scottish Borders Council, Forestry Commission Scotland, Scottish Natural Heritage, Scottish Enterprise Borders and Borders Forest Trust. The funding for the project was supported heavily by Leader+, which was based upon a number of social and economic targets being delivered.

The project commenced in December 2006 and was completed in April 2009. Progress reports were submitted and client meetings held on a quarterly basis, with communications between the client group and consultants generally by letter or email.

After the project began, Gaia Architects and North Woods Construction Ltd developed a series of ideas for implementing the aim and objectives of *Project 2*. These were presented to the client group, with associated costs identified and subsequently approved or questioned. The quarterly meetings also offered the consultants the opportunity to highlight deficiencies or overestimates in any of the sub-project costs, and submit funding applications where necessary.

The individual projects carried out under the umbrella of *Project 2* were split into two core projects and six sub-projects:

Core Project 1: Supplementary Planning Guidance (September 2007 - April 2009)

Perhaps the most successful of all projects carried out under *Project 2* the creation of the SPG has clearly set out SBC's **support** for the use of timber in construction in the Borders. Aimed at a wide audience, though particularly useful for planners and designers, the document offers clear guidance on the issues to be considered when using timber in construction as well as sources of best practice and reading.

Core Project 2: Seminar (March 2009)

Conducted as a culmination to *Project 2* the seminar, held at Tweed Horizons in the Scottish Borders, offered the audience a glimpse into the work carried out under *Project 2*, key technical advances in the use of timber, and presented a case study of a very successful Scottish design & construction company solely using homegrown timber.

Sub-project 1: Construction Partnering (June 2007 - April 2009)

In order to **demonstrate** the relative ease of integrating homegrown timber into 'conventional' construction projects two live developments were identified - an 18-unit development with a private developer, and an 8-unit development with a housing association - where the project teams were willing to collaborate in order to specify homegrown timber where possible. Unfortunately the private housing development fell victim to the global economic downturn, though the housing association development is due to commence on site in June 2009.

Sub-projects 2 & 3: Study Tours (Tour 1 - April 2008, Tour 2 - September 2008)

One of the most fundamental objectives of *Project 2* was to **educate** those in decision-making positions, e.g. planners and local councillors, of the benefits of using timber, particularly homegrown, in construction. The first Study Tour was deemed such a success that a repeat, slightly shorter Study Tour was held four months later. Each tour was accompanied by a booklet containing technical case study information on each of the projects visited, as well as case studies of other best-practice projects from around Scotland.

Sub-project 4: Post and Beam (September 2007 - April 2009)

To try to stimulate innovation in timber construction a new (to Scotland) timber jointing system was introduced to a small timber design & build company operating in the Scottish Borders. The jointing system was used on one of their live projects - a new shelter located in a community woodland - and is available for public access.

Sub-project 5: New fabrications (April 2008 - April 2009)

Through discussions with the timber processing industry in the Scottish Borders it became apparent that some were supplementing their everyday processing work by building and retailing small structures such as sheds and garden furniture. To respond to the strong private house and equestrian markets in the region simple post and beam

designs for a single garage and a stable were developed and presented, along with engineer's drawings and a cutting list to two sawmills with the processing capacity to offer these to customers.

Sub-project 6: Cladding quality
(April 2008 - April 2009)





As a result of *Project 2* and a seemingly exponential increase in the number of pro-timber publications entering circulation in Scotland it is anticipated that there will be an increase in the demand for timber cladding. To address this in the Scottish Borders, a small sawmill with a wide range of timber processing equipment has been assisted to develop a range of standard cladding styles along with installation guidance.










The work on most projects took place between December 2006 and April 2009, though the projects being undertaken in conjunction with third parties, such as the construction partnering project, will be undertaken to their own, approved programmes.


It is important to stress that all of the information collated from each of the projects will be available on the Scottish Borders Council website for anyone to download and implement as appropriate.

Project 2: Summary of Outcomes

The success of delivering the Leader+ targets, and identification of targets delivered but not originally listed, is illustrated in the table below.

| Original Leader+ targets | | | |
|--|--|--|---|
| Planned | Achieved | Details | Success/failure |
| Set up 4no. pilot projects | Set up 2no. pilot projects | <ul style="list-style-type: none"> • Small fabrications project for garage & stables • Development of bespoke cladding business |  |
| Production of at least 1no. major publication | Production of 1no. major publication & 2no. minor publications | <ul style="list-style-type: none"> • SPG • 2no. Study tour booklets |  |
| Provide advice to at least 3no. small businesses | Provide advice to at least 3no. small businesses | <ul style="list-style-type: none"> • Roxburgh & Lothian Estates • Teviotdale Developments, • JRHP Architects, • Farningham McReadie Architects |  |
| Develop new wood product ideas | No. | |  |

| | | | |
|---|--|---|---|
| Suggest ideas for increasing the amount of value added to wood products | One idea has been developed to add value to wood products | Innovative jointing system for Post & Beam structures |  |
| Form 2no. new groups | No. | |  |
| Assist 6no. micro-businesses | Assisted 3no. micro-businesses | <ul style="list-style-type: none"> • Abbey Timber • Agraspark sawmill • McKay Engineering |  |
| Set up 2no. demonstration sites | Set up 2no. demonstration sites | <ul style="list-style-type: none"> • Construction partnering • Post and beam development |  |
| Help to increase biodiversity in the Scottish Borders | No. | |  |
| Initiate 2no. wood recycling projects | No. | |  |
| Assist 3no. organisations | Assisted 3no. organisations | <ul style="list-style-type: none"> • Eildon Housing Association • Scottish Borders Council • Borders Construction Industry Forum used as outlet for advertising project in BCIF newsletter |  |
| Additional Leader+ targets achieved | | | |
| | Two new market have been accessed | <ul style="list-style-type: none"> • Prefabricated garage and stables market, through small fabrications sub-project • Timber cladding market, through development of a complete and competitively-priced cladding range on the cladding development sub-project. |  |
| | An increase in the volume of wood processing in the Borders would be a logical outcome as a result of the sub-projects, though this is virtually impossible to quantify at this point. | |  |

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|--|--|--|---|
| | It can be reasonably assumed that the outcomes from the various sub-projects may, in the future, lead to new jobs within the timber processing industry in the Scottish Borders. | |  |
| | | | |

It is clear that the original targets to be delivered were not entirely realistic, which was only discovered by carrying out the project. The table also illustrates that the various sub-projects helped to deliver targets not originally envisaged.

Conclusion

Through the various core projects and sub-projects carried out under *Project 2* a number of obstacles have been identified in trying to increase the use of homegrown timber in construction in the Scottish Borders.

Limited range of construction timber available in the Scottish Borders

The majority of construction timber processed in the Borders is Sitka spruce. For high quality cladding, internal joinery and exposed framing there needs to be an increase in the diversity of timber species available to be felled, at economically viable prices.

Limited range of processing capability within the Scottish Borders

With the notable exception of Abbey Timber, the majority of timber processors in the Borders have relatively basic equipment. Access to additional equipment in order to diversify is limited by a lack of adequate support funding.

Limited knowledge of the applicability of homegrown timber for construction products in the Scottish Borders

Essentially the aim of *Project 2* has been to address this issue, and we consider that the various sub-projects carried out have been relatively successful in doing so. However, the impetus built up by both *Project 1* and *Project 2* **must** not be allowed to falter with the culmination of these initiatives. We strongly suggest that SBC, together with the other members of the client group, actively follow up the outcomes generated through the various projects and 'pass the baton on' in order that the aim and objectives of the SBWS in general are fulfilled.