MATERIAL
CONSIDERATIONS
A NATURAL FACTORY

10

CASE STUDY
THURSO COLLEGE

SUST.
SUSTAINABILITY IN ARCHITECTURE

Architecture+DesignScotland
Ailtearachd is Dealbhadh na h-Alba

With thanks to HRI Architects for photography.

Timber technologies

The main structure is made from glulam columns and beams. Cross Laminated Panels (CLP) have been used for the upper floor and some inner walls. External walls and roof purlins are made from engineered timber I-beams. These are light to handle and very thermally efficient.

The cladding is either untreated European larch, or Scots pine treated with furfuryl alcohol (a process that uses a natural alcohol made from sugar cane). This preserves the timber leaving no adverse environmental impact during its manufacture, life, removal or destruction.

Special timber-related features

The combination of CLP and glulam structure was chosen as they are both materials with low embodied energy, which have the ability to lock up atmospheric CO_2. They also clearly visually embrace the ideas and ideals of sustainability.

In addition, the choice of materials is quicker to erect than the usual steel and concrete structures used in commercial buildings, saving six weeks on the build programme.

The CLP is strong and visually attractive and as such can be used as the finished article with minimal finishing. The CLT has also been used as the 1 hour fire separating wall around the fire escape stair without any treatment, due to its known behaviour in fire conditions.

CASE STUDY
THURSO COLLEGE

Name of building
Thurso College, Centre for Energy and the Environment

Date completed
2010 (under construction)

Building type
Education

Location
Thurso, Sutherland

Architect
HRI Architects LLP

Client
North Highland College, University of the Highlands and Islands

Main contractor / timber supplier
Robertson Highland

Anticipated lifespan of building
100+ years

Background to building
This new extension to Thurso College will provide a base for the Environmental Research Institute (ERI). The building's design reflects the aspirations of the ERI, marrying its ethos to the built environment that will be its home.

It is important that the building is recognised by its users to have a strong environmental agenda. As such, the design embraces pragmatic environmental principles which can be easily identified, and which create a functional and pleasant working environment that reflects the work of the ERI.

Material Considerations
A Natural Factory

Forestry Commission Scotland

Silvan House
231 Corstorphine Road
Edinburgh EH12 7AT

+44 (0)845 367 3787

fcscotland@forestry.gsi.gov.uk

Sust.
Architecture + Design Scotland

The Lighthouse
11 Mitchell Lane
Glasgow G1 3NU

+44 (0)141 204 3635

info@sust.org