

## Green Building Materials for a Fire Station in Lorüns

VORARLBERG, AUSTRIA

### Procurement objectives

Lorüns was supported by the provincial GPP advisory service in the preparatory, planning, tendering and construction phases of the contract to build the municipal fire station.

As part of the tendering support service offered, technical specifications were selected from a database of GPP criteria within [Baubook](#), an ecological building product website run by the Energy Institute of Vorarlberg and the Austrian Institute for Building and Ecology (IBO). These environmental and energy-efficient criteria were devised by IBO with input from [IFZ](#) and European Institutions. They were harmonised in 2011 with criteria developed by ÖkoKauf (EcoBuy) Vienna and are free to use by any party. It is intended that in the future these criteria will be used as a national standard in Austria.

### Criteria used

In terms of the planning and tendering phases of construction, the service provided in Vorarlberg includes assistance with concepts for materials, construction and energy. Environmental and legal checks are also performed on tenders and green criteria for each call for tender are selected from the Baubook database.

Bidders must make a declaration about the products they intend to use in carrying out the construction. A product declaration list is provided to them, which contains information about what can be used, materials the contractor would need more information about and what cannot be used under the contract.

### Technical Specifications

A comprehensive number of technical specifications for the fire station façade were selected from the Baubook database and can be found in [this table](#). Examples include the banning of Carcinogenic, Mutagenic and Reprotoxic (CMR) substances from building materials and of halogens in any associated packaging. The specifications also stipulate that organohalogen compounds should be avoided in all waterproofing, adhesives, sealants and coatings.

### Results

The service provided by the Vorarlberg Environmental Association has been used in over 50 projects in Vorarlberg to date. As a follow up to the product declaration, which suppliers must undertake before any construction work is carried out, their green procurement advisory service helps municipalities with contract monitoring. This is conducted in two ways, by using ecological assurance control (e.g. indoor air quality and blower door tests) and by having a person responsible for checking products at the building site itself. This comprehensive monitoring has helped municipalities with limited resources to ensure that environmental standards are upheld during the execution of the contract.

### Background

Lorüns is in the district of Bludenz in Vorarlberg, West Austria. The Municipality has less than 500 inhabitants and therefore benefits from operational advice offered by provincial institutions.

The Vorarlberg Environmental Association has a green procurement advisory service which offers support in the renovation and construction of sustainable public buildings to all 96 member communities in the province.

This example demonstrates the provision of this service to Lorüns during the construction of a low environmental impact façade for the local fire station.



### Environmental impacts

Buildings account for a large percentage of energy consumption and CO<sub>2</sub> emissions. Works contracts are also major sources of waste to landfill and other environmental impacts. Energy efficient design and specifying less harmful construction materials and packaging goes some way towards reducing these negative effects.

For buildings that have been built or renovated with the support of the Vorarlberg Environmental Association, energy savings of around 70% and a reduction of indoor air emissions of 90% have been achieved.

### Lessons learned

The service has proven particularly helpful for smaller local authorities that may not have the technical knowledge in green building or procurement to carry out sustainable construction or renovation projects. Having a list of scientifically sound GPP criteria which can be selected as technical specifications according to each building project is very useful. This list and the product declaration list, however, would be far less effective without appropriate and rigorous monitoring procedures in place.