Low carbon timber policies in Europe

Status quo of procurement policies, and regional or national policy framework
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More information about CaSCO is available on:

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INTRODUCTION

Increasing material flows along long distance transport processing chains in timber industry considerably contribute to climate change. An increasing amount of long distance material flows, even in regional available timber species and assortments, indicate interrupted processing chains for a global market. However, there is a great but unexploited potential for reduction of CO₂ emissions and regional, national and European added value chains, as these material flows related to external trade are not originated to scarcity or over production, which allows the establishment of regionally closed processing chains with low transport rates within the alpine space. Actually Carbon emissions related to transportation may exceed those of the entire production of timber products by magnitudes. Thus fostering timber products processed within the alpine space contributes essentially to climate protection. But there is not only a positive impact on climate but as well to other environmental aspects as for instance biodiversity or water and resource use. On the one hand biodiversity is negatively affected by transportation itself. The raised demand for low transport processed timber in various products on the other hand positively influences biodiversity in managed forests.

CaSCo project makes the carbon saving potentials accessible to decision makers and actors. It develops and establishes policy guidelines in participating communities and provides decision makers with steering instruments to actively trigger climate friendly timber products. The implementation of developed policies starts within the project duration in several communities and public bodies via partners or observers.

By development of a 'Low carbon timber' toolkit for planners and decision makers, to identify timber products with extra low carbon footprint, the usage and implementation of low carbon timber in most of the used timber products and procurement shall be mitigated.

By development and conduction of modular training concepts for public authorities and professionals (architects, SME a.o.) on implementing low carbon timber in public procurement and construction existing gaps in information are closed and common obstacles shall be surmounted.

To support the setting up and exchange between low carbon model areas an innovative smart places network will be established as an innovative content, service and feedback instrument to visualize climate success and to foster public dialogue. By using new communication technologies it extends the sphere of influence of such places by order of magnitude.

Last but not least, a major goal is the initiation and establishment of regionally closed processing chains within the timber industry to provide low carbon timber
products for a rising demand and strengthening regional added value at the same time.

This report aims to make a link between low carbon policies and wood policies at European, national and regional level. European Union developed the concept of Green Public Procurement 5GPP°, to support the use of environmental products in public procurement. How public authorities use GPP? Do public authorities are able to use GPP in their market? How can public authorities use the GP to get low timber products? This document will try to answer these questions.

CHAPTER 1 Low carbon timber and green public procurement

Low carbon timber is to be defined as timber products which show a lower carbon footprint, than the average or status quo. It is important to emphasize, that this is not identical with ‘local’ or ‘regional’ timber in a geographical or administrative meaning. The highlighting of a specific region is neither project goal nor it is compatible with European and national procurement rules.

First of all the goal of the CaSCO project is to reduce transport through closed processing chains for low carbon timber. The project partner “Holz von Hier” has conducted a comprehensive evaluation in defining “low carbon”, based on own and external material flow, actors, customer, system and life cycle analyses. As a result a benchmarking has been established. Measured against it transport distances can be defined as below the average or ‘low carbon emission’. The count of the distance strongly depends on the assortment or product.

It is not very meaningful to set the same distance limit for all timber products, as for some of them then it would be too far, while other products cannot be provided, as no producers exist within the regarded perimeter.

Within CaSCO, it may be necessary to take a scope into account, which exceeds the dimension of the region covered by the respective project partner. This may be the case for instance regarding the LAG Joglland, Unione Montana di Valsesia or Regionalentwicklung Vorarlberg.

Experiences in practical implementation of Holz von Hier show that it is meaningful to take a circle of 50 km up to 400 km into account to cover a broad
variety of timber products for various applications. Of course the distance to finally 'certify' a product as low carbon timber needs to be much lower for firewood than for particle boards or cross laminated wood.

SCOPE

As wood usage by public authorities may cover a wide range of applications and an implementation as broad as possible, the following topics are considered:

- Building construction material
- Interior construction, Including wood from windows, insulation material
- Wood for interior and furniture inside the buildings (chairs and desks in a school...)
- Outdoor furniture, like public benches, bus shelter, outdoor facilities
- Public outdoor infrastructures like bridges, tunnels...
- Wood as an energy source
- Pulp and Paper
- Package and pallets
EUROPEAN GREEN PUBLIC PROCUREMENT: MAIN ELEMENTS AND LINKS TO MAIN DIRECTIVES

EUROPEAN UNION AS A LEADER FOR GREEN PUBLIC PROCUREMENT

Europe’s public authorities are major consumers spending approximately 2 trillion Euros annually, equivalent to approximately 19% of the EU’s gross domestic product. By using their purchasing power to choose environmentally friendly goods, services and works, they make sure that tax payers’ money is used effectively to ensure direct environmental benefits (and more generally speaking sustainable development benefits) and reduce negative environmental impacts (throughout their life cycle) with the same (or better) quality, functionality or value for money as the conventional and previous choice.

Green Public Procurement (GP) is a voluntary instrument, which means that Member States and public authorities can determine the extent to which they implement it (for instance GPP is mandatory in France).

EUROPEAN PUBLIC PROCUREMENT DIRECTIVES

The main document the European Commission has issued is the Communication “Public procurement for a better environment”, part of the package of sustainability measures in the Sustainable Production and Consumption and Sustainable Industrial Policy (SCP/SIP) Action Plan.

The general objective of this Communication is to provide guidance on how to reduce the environmental impact caused by public sector consumption and how to use Green Public Procurement (GPP) to stimulate innovation in environmental technologies, products and services.

Public procurement in the European Union is subject to a number of sources of EU Community law:

- The Procurement Directives (2014/24/EU and 2014/25/EU, see below)
- The Treaties (Treaty on the Functioning of the EU and its predecessors)
- Case law of the Court of Justice of the European Communities
- Law applying to related areas such as State Aid and Competition

There are a number of sources of interpretation of the relevant laws and principles that can be found on internet.

On 26th February 2014, the Council of the European Union and the European Parliament adopted two main directives aimed at simplifying public procurement procedures and making them more flexible. EU countries have until April 2016
(done in France, Germany and Italy at this date for instance) to transpose the new rules into national law (except with regard to e-procurement where the deadline is October 2018).

The old directives are being replaced with the following:

- **Directive 2014/24/EU** on public procurement, and
- **Directive 2014/25/EU** on procurement by entities operating in the water, energy, transport and postal services sectors.

The new rules seek to ensure greater inclusion of common societal goals in the procurement process. These goals include environmental protection, social responsibility, innovation, combating climate change, employment, public health and other social and environmental considerations.

**In terms of GPP, the following sections of the directives are worth drawing attention to:**

- The use of environmental labels is strengthened. Conditions for using labels are laid out in Article 43 of Directive 2014/24/EU; and Article 61 of Directive 2014/25/EU. These directives are major texts who determine all European procurement laws. These texts should have been adopted in every EU country by 2017.

  Extract of directive 2014/25
  
  « *Where contracting entities intend to purchase works, supplies or services with specific environmental, social or other characteristics they may, in the technical specifications, the award criteria or the contract performance conditions, require a specific label as means of proof that the works, supplies or services correspond to the required characteristics, provided that all of the following conditions are fulfilled...”*

- Lowest price award and life-cycle costing (LCC): Awarding public contracts on the basis of the most economically advantageous tender is provided as part of Article 67 of Directive 2014/24/EU; and Article 82 of Directive 2014/25/EU.

  It doesn’t mean that public authorities can’t award price! The rule says that public authorities can use only one technical specification (eg price) if necessary, but most of the time the price is only a part of the whole criteria (for instance 40%). Intellectual performances (design of works for instance) can’t precisely be chosen only on a basis of price, but need also an appreciation by the contracting authority.
Innovation partnerships: Where a contracting authority wishes to purchase goods or services, which are not currently available on the market, it may establish an innovation partnership with one or more partners. This allows for the research and development (R&D), piloting and subsequent purchase of a new product, service or work, by establishing a structured partnership. The procedure for establishing an innovation partnership is set out in Article 49 of Directive 2014/24/EU.

This is a very interesting possibility open by the directive. But what does innovative mean? That is a main question! Innovation is not defined by the law. It is said that it is not something existing and common; this is something you need and that is necessary to develop. Innovation partnership gives the ability to a public body to support R&D and have only one procurement from this stage until the final product.

Consulting the market: The procurement directives specifically allow for preliminary market consultation with suppliers in order to get advice, which may be used in the preparation of the procedure. A contracting authority can prepare its future procurement with companies so that public bodies know better the existing offers and can adapt its technical specifications according to the ability of the companies to answer the procurement.

In conclusion, all these laws offer new opportunities to include low carbon timber in public procurement, by inserting other criteria than the price in criteria, using the innovation partnership when public authorities want to boost new innovative products and companies.
EUROPE ALLOWS THE PROMOTION AND THE USE OF WOOD IN GREEN PUBLIC PROCUREMENT.

Wood regulation of the European Union:

The public procurement of timber in particular is governed by national and European conventions and legislation, including CITES\(^1\) and FLEGT\(^2\).

However, CITES and FLEGT have nothing to do with low carbon timber. They regulate whether products that are imported into the EU are legally produced and traded. Legally means in accordance with the country laws of the origin countries. But this can only be the start of a regulation because there are too many loopholes until now (for example see the official report “Green Carbon – Black Trade, 2012, from UNEP and Interpol). Additionally these programs and regulations have nothing to do with climate protection, the project topic. There is no regulation for low carbon products within the EU or imports into the EU until now.

Reasons for using wood material

Beyond laws and regulations, many reasons explain why it is interesting to use wood material:

- Use a renewable natural resource from sustainably managed forests,
- develop the activity of an added value chains, using technical specifications in criteria

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\(^1\) [Footnote (1) CITES: Convention on international trade of endangered species of wild fauna and flora. It includes several species of wood.]

\(^2\) [Footnote (2) FLEGT (Forest Law Enforcement Governance and Trade): Approach (= action plan) adopted by the European Union in 2003 to hold back the illegal exploitation of tropical forests. It is based on voluntary partnerships agreements (bilateral agreements) with producer countries to set up licenses of legality. FLEGT proposes a set of measures to increase the capacity of developing countries to control the illegal exploitation of their forests and reduce the trade in illegal timber between these countries and the European Union. Its implementation, which is based on these bilateral agreements between producing and importing countries, is slow requiring negotiations at all stages of the chain.]
- reduce the impact of transport as the only environment factor where until now no reduction of climate chain is reached
- contribute to the reduction of greenhouse gas emissions and increasing CO2 storage

The development of the use of timber is part of the green public procurement. This has an important market effect, not only because of the share it represents in the demand for wood products but also because of the recognized exemplarity of public buildings.

Several actions can be put forward to reinforce the use of low carbon timber.

WOOD, GPP AND LOW CARBON EMISSIONS

- **Reduction in greenhouse gas emissions in different product groups**

The reduction of greenhouse gas emissions within the Alpine area is the most important point of the project. This can be reached by using low carbon timber in different product groups and action fields as: roundwood, buildings, building materials, interior and furniture, materials for interior and furniture, wood fuel, pulp and paper, package and pallets, outdoor wood etc.

The use of biomass and, in particular, wood as an energy source (production of heat, electricity, or even fuel) gives back to the atmosphere, as a result of combustion, the CO2 previously stored in the biomass. The development of the wood sector is accompanied by an increase in the available quantities of related products, linked to the exploitation of forests and sawmills, which can themselves be recovered in the form of materials or energy and which contribute to the economic viability of the sector. In the same way, the various wood construction materials can be the object, at the end of life, of an energy recovery.

- **Storage of greenhouse gases produced is not enough to call a product a “low carbon timber product”**

Thanks to photosynthesis, the leaves absorb CO2 from the atmosphere. And if the timber comes from sustainable managed forests like in Austria, France, Germany, Italy and Slovenia, this sink is build up after harvesting. If the timber comes from poached forests, this timber has nothing to do with a long term CO2 sink. All timber that is imported into the EU should have Forest Management (FM) documents or certificates like FSC or PEFC or comparable for sustainable management forests.

But the growing of sustainable managed forest alone has nothing to do with low carbon timber, which is the main project aim. Timber with forest management
certificates only indicates a sustainable forest management and not by far low carbon timber. For example, timber with a PEFC or FSC certificate can have thousands of kilometers on its backpack.

For that aim and for a real low carbon timber product besides (1) the origin of timber (2) transport rates are very important. For example, if sawn wood is used in an Alpine Space building that comes from Russia instead of the Alpine Space, the CO2 storage of the wood is reversed and this application cannot be stated as climate friendly.

HOW TO USE GREEN PUBLIC PROCUREMENT?

RULES AND PRINCIPLES OF SUSTAINABLE GREEN PUBLIC PROCUREMENT

Public procurement is a strong lever for the implementation of sustainable development through:

- The principle of transparency of procedures
- The principle of equal treatment of candidates
- The principle of free access to public procurement
- A prior definition of the needs (nature and extent) of the public purchaser
- The obligation of appropriate publicity and competitive tendering according to the amount of the contracts
- The obligation to choose the most economically advantageous tender
- Non-discrimination of candidates: the conditions of competition must not have the effect of favouring one or more companies
- A link between the requirements / selection criteria and the object of the contract.

In planning GPP, contracting authorities need to consider all stages of a procurement procedure and examine where it is most appropriate to insert environmental considerations. Each case is specific but some examples of what is possible for public procurers to do at each stage are given below.

• **Preparation of the market**: Market dialogue may assist in identifying technologies or solutions with the potential to meet environmental objectives, prior to commencing the procurement. This is a very important but nearly not used stage for implementation of low carbon timber. The project will offer materials and information for this stage of the process.

• **Subject matter**: Defining the subject matter of the contract and choosing a title provides an opportunity to inform clearly the market of your GPP objectives. The
subject matter may be a core element to implement the aim of low carbon timber into the procurement process, because all regulations on European level regulate the process of procurement, the “HOW”. In the matter of “WHAT” is the subject of procurement the public authority is completely free. That means, the more it is possible to address low carbon timber as a part of the subject of procurement, the better the chances for implementations are. The project aims to provide appropriate procedures.

• **Technical specifications** (tender requirements): A technical specification defines the requirement in detail, and many of the GPP criteria are appropriate for being directly included at this stage if sufficient supply exists on the market (and if its financial conditions are accessible to the buyer). Environmental clauses can now be linked at any stage of the life cycle as they relate to the object of the contract. The project will offer formulations for tenders.

Therefore, it is possible to use particular and local tree species, but in this case it is necessary to describe the need from technical (and not geographic) specifications, taking into account the characteristics of the woods (resistance, rendition aspect, etc.) and by referring to standards and / or functional performances. In accordance with the new European law this technical specifications may also address characteristics of the processing chain. This is valid even if these characteristics do not influence physical features of the subject of procurement. With the new European law it is even possible to name a certain ecolabel as such, if the relation to the subject of matter is indicated and justified (see the attached document). But the prescription of particular tree species must be justified by the object of the contract.

It is also possible, as long as the characteristics of the requirement are not substantially modified, to invite the candidates to present alternative technical solutions or to allow them to present variants, which indirectly makes it possible to enhance the local offer even better (since it is in line with the object of the market).

• **Contract performance clauses**: Public authorities are specifically empowered to include environmental and social requirements in their conditions for the performance. Contract performance clauses should be clearly related to the contract’s execution and made known to tenders during the procurement process. This may open the opportunity to request from the awarded company to use or work with low carbon timber. Here the project will be evaluated appropriate proceedings.

• **Selection criteria of the candidate**: Environmental criteria, such as the operator’s ability to apply an environmental management system in performance of a contract, are appropriate in some cases. Where the contract has a specific environmental dimension, assessment of the contractor’s previous experience or other elements of technical capacity may also take this into account. But this does not offer a possibility to request a low carbon timber product as this is not a characteristic of the contracted company but of the applied product.
• **Award criteria of the tender (tender criteria):** Environmental award criteria may be of qualitative (emission level for example) or economical nature (energy consumption for example), and they do not have to bring a direct (and unjustified) advantage to the contracting authority itself. They must be linked to the subject matter of the contract, expressly mentioned in the contract documents or tender notice, comply with the general treaty principles and cannot give unrestricted freedom of choice to the contracting authority. This stage in the procurement process offers also the opportunity to require low carbon timber for environmental reasons although it is lesser strict and obligatory than defining the criteria in technical specifications. Moreover the environmental benefit is not guaranteed, because the contract may be awarded to a company with an offer without environmental benefits but with a price which is not compensated by competing offers with environmental benefits.

• **Verifications/means of proof:** The mode of proof belongs to the candidate when it satisfies the conditions expected by the buyer. Not all modes of proof are equal. Type I labels (ISO 14024) are the most robust, guaranteeing a maximum environmental and social performance, without, however, completely eliminating the environmental impact (Examples for Typ I labels associated with timber products are in alphabetic order: Blauer Engel, EU Ecolabel, FSC, Holz von Hier, Natureplus, Nordic Swan, PEFC). Former it was not possible to impose a particular label but only the underlying criteria (equivalence), which must be systematically requested. Nowadays it is even possible (even if not yet commonly used) to name a label, as long as alternative proofs are explicitly accepted. In the absence of a label, the candidate must provide the strongest evidence available to demonstrate this equivalence (declaration on honour, verification by a certified independent certifier, technical report, etc.).

Among the other existing labels, Type II labels (ISO 14024) must be appreciated finely by the buyer because this category of self-declaring label has several limits:

- They are only part of the life cycle. This is the case, for example, of FSC or PEFC for the best known, which concern only the sustainable management of the forest and therefore only the stage of the production of the raw material of the forest

Type II labels also concern geographical labels, from companies or not verified independently and not controlled by an independent. This is the case, for example Bois des Alpes, Bois de Chartreuse, etc., which can promote timber, but are in fact prohibited in public markets.

• **Monitoring**

The question of monitoring and evaluation of contracts by buyers is a real issue for which public authorities remain very poorly equipped even today. Some indicators exist for specific direct energy consumers markets such as the purchase of computer equipment, lighting vehicles markets (see, for example, GPP2020). The assessment of the overall environmental impacts of other markets remains a
problem for which methods do not really exist and remain to be built. Moreover, one of the major problems of market monitoring / evaluation is the lack of time, training and resources of those responsible for the markets, which are often completely taken over by the operational implementation of their missions and unable to take these complex issues into account and for which the smaller local authorities in particular are completely deprived. But the project shall provide communities instruments for an eased monitoring of environmental impact of these procurement with low carbon timber.

CONCLUSION

Up to now, “low carbon timber” is not an issue or practice in European procurement. GPP rules on European and national level allow promoting of wood or environmental issues, but do not address this specific matter of low carbon timber. Nevertheless the European and national regulations and strategies offer thematic links and herewith entry points to implement “low carbon timber” in procurement processes. The aim the project CaSCo is to develop and disseminate appropriate strategies and instruments for low carbon timber.
Chapter 2 - Instruments for monitoring and actively enhancing the carbon footprint of timber products

The overall objective of the project CaSCo is, to reduce carbon emissions in connection of the usage of wood in various applications in the frame of public green procurement. This requires a set of tools and instruments, which are able to assess and to monitor the true carbon emission of a certain product and to identify such products, which inhabit a lower carbon footprint than others or than the majority. Additionally it requires the possibility for application of these tools in public procurement and call for bids.

For this purpose, one activity within the project implementation is, to implement the existing tools 'certificate of origin' and 'environmental footprint', provided by Holz von Hier in the participating regions for field testing. An additional activity is to screen the environment of instruments and procedures to identify suitable tools for achieving the described objective in the different countries.

This has been done as partly described in this report. There is one investigation existing, which gives a systematic comparison of different existing types of Assessment systems. In this research project, funded by the German federal environmental foundation, various existing monitoring and assessment tools had been analysed. Among that, for instance more than 80 EPD of classical construction materials. The results a shortly described in the following chapter with regard to their applicability in the frame of the project. A more detailed description will be found in the report of project activity 1.2.

ASSESSMENT INSTRUMENTS - A COMPARISON

In general there are three main categories of assessment instrument, potentially giving information about or influencing the size of the carbon footprint of products and constructions. They are subsequently characterized.

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Category A: Environmental label:

Environmental label type I according to the standard ISO 14024 are third party controlled label, which mostly consider a broad range of life cycle stages of a certain product. They designate products, which are better than legal provisions or the average, related to the specific criteria of the label.

With regard to wood and timber products there is a set of potential labels:

- **FSC / PEFC (and other comparable)**
  
  These labels designate the sustainable management of the forest, the timber is harvested from. They do not address climate issues or carbon footprint information. As they are international labels, the timber may originate from far away with high carbon emissions related to the transport. Therefore they are no appropriate instruments to reach the objective of the CaSCo project.

- **Blauer Engel, EU eco label, NaturePlus (and other comparable)**
  
  These labels designate environmental friendly products in a broader product perspective and life cycle range. Nevertheless - in case of timber products - in the range of criteria they do not address specifically the carbon footprint or give detailed information about it as a basis for a product choice and thus reduction of the carbon emissions. They are not suitable to meet the necessities for the project.

- **Label for regional wood**
  
  There are a big number of labels, awarded by initiatives for promoting regional wood in Germany as well as in France, Austria and Italy, which designate a regional offspring of the wood in a timber product. Doing so, they prompt a low carbon footprint of the labelled products. However they give no quantifying information about the real carbon footprint. Moreover they are hardly usable in public procurement procedures as they emphasise the geographical reference. Furthermore they normally are not conform with ISO 14024 requirements.

- **Holz von Hier - certificate of origin and environmental footprint**
  
  Disregarding the title, which first prompts the proximity, this label designates products, for which the wood originates from sustainable managed forests and has been transported lower than average along the whole processing chain. The criteria are based on a scientific development process and the label is conform with ISO 14024. Additionally because of underlining the carbon footprint and transnational cross border functionality it is as well suitable for procurement procedures. In combination with this certificate of origin, designated products can be joined as well by an environmental foot print, generated in the same controlling and assessment process. This tool is described below (see 'EPD').
Category B: Assessment schemes for sustainable construction

In the European Union and globally exist various systems to assess and certify the sustainability of buildings and constructions. The most popular are for instance LEED (international), BREAM (international), DGNB (Germany) or others. Also the ITACA protocol in Italy is to be classed among them. These schemes address a broad range of criteria along the life cycle of the building of concern. They comprise not only ecological aspects but also economical ones. The pure environmental aspect is only part of the assessment and due to the complex catalogue of criteria, the impact and carbon footprint at the level of single materials and products is peripheral and down levelled.

Additionally they are only usable for whole buildings. All other single applications of wood are not covered. Moreover they are very cost intensive to obtain for the principal of the building, thus being not suitable for smaller cities and communities.

They rather give a frame to incorporate as well the specific low carbon issues, but for the named reasons they are not suitable to actively trigger a carbon emission reduction related to timber products, purchased in public procurement.

Category C: Environmental product declarations (EPD) or similar LCA-tools

These environmental label type III according to ISO 14025 have the objective to quantify the environmental impact of various products and make them comparable among each other. They explicitly do not assess or score products, e.g. dividing them in 'good' or 'not good' ones according to certain principles. EPD claims to give neutral information on the environmental impact of a product under concern, including the carbon footprint (GWP) in kg/unit. Therefore they might be judged as an instrument fitting to the project purposes, but nevertheless there are a set of limitations and characteristics of EPD, which make the application unsuitable, as described subsequently.

1. In practice EPD are lacking comparability.

In accordance with the relevant ISO 14025, while developing an EPD, different assumption can be made and various definitions of the frame conditions and scope of the EPD are possible to be set. As the environmental impact depends on the set frame conditions and assumptions, a comparison between different products may be impossible. Additionally the presentation of the data often differ from one EPD to another, e.g. sometimes all life cycle stages are summarized, sometimes they are split, which hampers a comparability for the recipient. Meanwhile, ISO 15804 for EPD of construction products has in part overcome the problem of comparability of products with the same functional unit, defining a common scheme for representation of environmental information and environmental impacts.
2. **Lack of transparency.**

The calculation algorithms as well as a lot of relevant information often are not described or exposed in the EPD. Therefore it is impossible to a recipient, to cross check or prove the plausibility of results and values. The recipient is constraint to rely on the external auditor of the EPD. But there are justifiable doubts, whether an external auditor always proves every assumption and the datasets used for calculation. It can be assumed, that rather the conformity of the proceeding with ISO 14025 is assessed, than the correctness of the data sets as such.

3. **Great uncertainty in the life cycle stages before the production site.**

EPD regularly elaborated as 'cradle to gate'. That means, from extraction of raw materials up to the finalizing of the fabrication of a product of a certain company. With regard to the company and the production process itself, the investigations normally are fairly exact and detailed. Nevertheless, regarding all preliminary stages and processes EPD are rather uncertain, as they are dependent on assumptions and the usage of standard data sets for certain processes. This uncertainty increases with every processing step and 'distance' from the origin of the raw material. This uncertainty is due to the 'backwards' direction of the assessment logic. So EPD prompt a scientific exactness (e.g. values in decimal places), which is ill-founded.

4. **Underestimation of real material flows and their impact.**

In most of the analysed EPD a quite similar range of transport distances of purchased materials has been found, mostly between 50 - 350 km. Often it is not clear, whether this is due to a (inappropriate) assumption or due to statements of the company of concern and often it is referred to standard data sets (e.g. from GaBi Software). With internal knowledge from practice and considering foreign trade numbers these ranges are obviously to low, so transport related emissions are highly underestimated. Moreover trade normally is not part of the EPD calculation. Thus, if products are traded over several steps, which is nowadays a common appearance in the timber industry, these environmental impacts are not reflected in the EPD.

5. **Transportation from production site (‘gate’) to product implementation or construction site (life cycle stage A4) cannot be covered and assessed.**

As EPD are elaborated with a validity of several years covering every product of the related category, they are systematically unable to include the transport from the production site to the place of implementation for a single product. The emissions of these transports but may form even the main part of carbon footprint of a timber product (e.g. glue laminated wood from Russia vs. regional origin).

6. **Potential great deviation of environmental impact between a certain product and its related EPD.**
EPD, as described in 5, are covering all products from a certain type, which are produced within a time span of several years. Within this time span, normally the production technique or used fuel etc. does not change. Whereas origin and thus transports from raw materials and half ware may switch from one day to another from a regional purchase to even far distance import, related to market situation. This can make an enormous difference in the environmental footprint, which is not reflected in the EPD. So a purchased and applied timber product may have a far worse carbon balance than indicated in the EPD.

7. **No usability for procurers or decision makers of public authorities.**

As EPD themselves do not judge about the environmental friendliness of a product, they are not directly applicable in call for bids. The usage requires a superior assessment system, which ranks the single EPD according to a set target. Such instruments for instance are the under letter ‘B’ described systems. In fact a purchaser or decision maker, yet even an architect is hardly able to define for various products of concern a certain GWP target value in kg/unit, which can be rated as especially climate friendly. This leads to the fact, that EPD are no suitable instrument to be implemented in public procurement to reach the goals of the project.

8. **No steering function or incentive to reduce carbon emissions.**

The main potentials for a reduction of carbon emissions along the whole processing chain up to the final product are concealed in minimizing material flows and transportation. These potentials also are the quickest and easiest to achieve, e.g. without any investment. But EPD do not acknowledge or honour transport related differences between single specific products as they do not operate with concrete products and real differing transport loads. The multiple purchasing structure and material flows in processing chains will not undergo any change just by setting a concrete value for GWP in a call for bid. As this would require from deliverer to present a life cycle analysis for this specific product, moreover this would disadvantage small and medium sized enterprises, and thus exactly the most appropriate ones, because they cannot afford the elaboration of an EPD or LCA for their various products. For this reason, EPD are no ‘change agents’, which would through requesting them trigger a development towards a reduction of carbon emissions in the processing chain.

**The environmental footprint of Holz von Hier in comparison.**

The environmental footprint, provided by Holz von Hier for designated products differs from EPD in some crucial aspects. On the one hand, the HVH footprint does not operate ‘backwards’ but tracks the material flows (and their impact) right from the origin of raw material forward. Therefore it assesses the impact exact and is not depending from average data sets and assumptions.
On the other hand, the HVH footprint joins a single product or delivery charge from the beginning up to the final place of implementation or application, separately distinguished by each life cycle stage. Thus it is able to assess as well the impact of life cycle stage 4, which is, due to trade, a very important aspect to judge, whether a product is climate friendly or not.
Chapter 3 - National and regional policies focusing on timber, climate and environment in GPP in FRANCE, AUSTRIA, ITALY, SLOVENIA and GERMANY

FRANCE

POLITICAL LEVEL

At national level

On Wednesday 18 November 2015, the Council of Ministers adopted the "low carbon national strategy" of France. This is one of the main steering instruments of the Energy transition law for green growth promulgated on 17 August 2015. Within this framework, France wishes to reduce its greenhouse gas emissions through the transport and building and enhancing the value of its forest resources to develop bio-sourced materials.

A decree specifies the carbon budgets by sector: https://www.legifrance.gouv.fr/affichTexte.do?cidTexte=JORFTEXT00003149383

The France national low carbon strategy, aims at

- implementing the 2012 regulations and future regulations based on life cycle analysis of environmental impacts for new buildings.
- having buildings completely renovated to the BBC standards (low consumption building) in 2050.
- accelerating the energy consumption management (implementation of eco-design, communication on hidden consumptions, identification of the least efficient appliances, development of communicating meters
- promoting a very significant increase in wood harvested to favour bio-sourced products by carefully monitoring the sustainability of the sectors concerned and the impacts on biodiversity, soil, air, water and landscapes.

On the forest side, the network of forestry municipalities (municipalities with a communal forest) has launched a national program entitled: 100 public buildings in local wood. http://www.100constructionsbois.com/le-programme-100-constructions-publiques-en-bois-local.html
The motivations are more of the local development associated with a local resource than the reduction of CO$_2$ emissions, although this is also part of the elements of speech carried by the national elected representatives. Within the framework of this programme, some projects concern the new Auvergne-Rhône-Alpes region.

**At local and regional level**, the fight against the greenhouse effect is also not the first argument because the representatives of forest areas advocate primarily for the use of local wood mainly through the stake of local development. Several guides have been published in different regions and labelling initiatives have been undertaken to promote local wood.

In Auvergne-Rhône-Alpes, the Region advocates the development of the sector and the use of local woods mainly for economic reasons. It brought this message to the regional conferences in November 2016:


**REGULATIONS LEVEL**

The LAURE Air Act of 1996 planned a volume of compulsory timber in public procurement, a provision repealed in 2010.

[https://www.legifrance.gouv.fr/affichTexte.do?cidTexte=JORFTEXT0000003837&categorieLien=id](https://www.legifrance.gouv.fr/affichTexte.do?cidTexte=JORFTEXT0000003837&categorieLien=id)

Today, there is no longer a regulatory obligation to introduce wood into public procurement in France. There are incentives to consider life-cycle analysis in the evaluation of an activity: construction, purchase ... relayed by the low carbon strategy.

**REGIONAL SPECIFICITIES IN AUVERGNE-RHÔNE-ALPES**

In our region, we have 3 initiatives in mountain territories which present themselves as a tool enabling public authorities to opt and choose local wood through a label:

Bois des Alpes labelling: [http://boisdesalpes.net/](http://boisdesalpes.net/)

This labelling has historically been carried out by the network of forestry municipalities in the Alps and it allows the owner to have access to technical specifications and traceability of the material, enabling the public authority to carry out a procurement adapted and calibrated to the offer, which in fact relocates the origin of the raw material. The labelled woods refer to a reference frame and are traced.
The technical specifications are only for timber:

- Be under current standards
- 100% eco-certified with the chain of custody: PEFC, FFC
- Dried wood for housing
- Lumber classified in strength class under French standards: NF EN 338 December 2009 "Bois de structure - Classes de résistance"
- CE certification

The association also drafted a guide that allows public procurement to take into account this reference frame: http://boisdesalpes.net/doc/guide-juridique-boisdesalpes.pdf. The public procurement however requires a specific technical support.

Historically on the initiative of the nature reserve of Chartreuse, a similar approach concerning the bois de chartreuse http://www.bois-de-chartreuse.fr/ has been initiated. These two initiatives joined in 2016.

The Massif Central is also another territory which follows the same logic thanks to the impulse of the forest municipalities of this territory: http://www.fncofor.fr/valorisation-bois-massif-central-association-promotion-creee-4_2889.php.

This "Bois des territoires du Massif central" certification has a stated objective to favour short chains, local economy and employment.

Thus in Auvergne-Rhône-Alpes we have 2 large mountain territories covered by 2 reference frames: the Massif Central and the Alps which should allow any public procurement to obtain wood from these massifs.

These self-declarative type II labels which should not theoretically be marked in the same way as type I labels (which do not exist for wood).

They have the right to exist because there are not only for public procurement. But put forward this kind of certification in public call for tenders, is risky. It could be qualified as local market. In the European market, it is prohibited. But in our region local authorities decided to use it. In this case an equivalent solution may be accepted by the public purchaser.
From our point of view we cannot recommend to local authorities the use of these labels in their call.

**COMMON PRACTICES: THEORY VERSUS REALITY**

Clearly wood construction is “trendy”.

The wood “culture” grows in France but is not as strong as in other European countries such as Austria for example. The implementation of wood in a building is therefore still very technical in France and still requires an accompaniment from planning to the operation of the building. Beyond the political will which will depend on the sensitivity of the elected representatives and the territory, the implementation and the necessary skills are sometimes insufficient, even if the capacity building is made thanks to the work of the inter-branch wood organisations and also thanks to professionals passionate and committed regionally.

In our region, several public authorities have already launched and used benchmarks to enhance the value of alpine wood ...; some also value timber from their own forest in their constructions.

The approach for the assessment of CO₂ emissions is still very limited because of a lack of life-cycle analysis on the timber sector, which is fragmented into small companies that cannot finance the LCA of their production. In addition, there is a lack of a bid analysis tool. The inter-branch wood organisations try to go further on this subject analysis approaches are under way but not developed.

Before 2000, an initiative carried out by RAEE and some inter-branch wood organisations was to favour a political decision on a number of dm³ of wood per m² of Shon (net floor area), echoing the LAURE Act on air quality which imposed a volume of wood / m² in the constructions. This section of the Act having been repealed, this approach no longer had regulatory support. However, this approach had the merit of placing a requirement for volume of wood without imposing a method / solution.

Several guides have been produced to promote the use of local wood

The local option is not formally possible, but it can be broken down by technical specifications, by an initial preparation which qualifies the tenderers and makes them eligible according to the nature of the contracts awarded, by defining conditions making the markets accessible even to the small businesses for example...

A guide dating from 2010 also mentions CO₂ emissions. It specifies that works remain to be conducted but that the idea that proximity is synonymous with saving polluting emissions must be put into perspective. The introduction in a
public procurement of a selection or performance criterion linked to the quantity of CO₂ emitted then raises the question of the methods used to evaluate this criterion in the choice of the company and therefore of the factors tenderers must provide in their bid. It is therefore necessary to question the capacity of local companies to measure the emission of "incorporated" CO₂ in the products used and the operations carried out. At the risk, if not, that such a measure will turn against local companies.

It is not enough to indicate in its market that because of low CO₂ emissions, a (local) offer is favoured in relation to another offer. The evaluation has to be based firstly on technical performance. The EU rights do not allow an evaluation of a public market only on distance criteria: the authority is not allowed to choice an offer according to its place of production. But in the new European rights it is possible the involve criteria of the CO₂ also the transport rates.

The assessment of an environmental impact must be made by any supplier. This means that one should not impose a method inaccessible to some because too complicated or technical for example.

The method for comparison must be either standardized or provided by the contracting authority. The method must be theoretically valid internationally to be admissible regardless of the candidate.

Therefore the project CaSCo will show solutions.

Guide:

EXAMPLES OF REGIONAL GOOD PRACTICES

Today we have not been able to find a good practice in accordance with the principles of public procurement.

The regional Council of Burgundy-Franche-Comté produces a specific web page for the public authorities: www.b.bourgognefrancheconte.fr/guide-bois-local. In the absence of a life-cycle analysis, it recommends a simplified methodology for assessing the carbon dioxide emissions associated with the transport of a wood product.

In this case, market-related recommendations deal with:
« Object of the contract »

Add a "green" or "low environmental impact" comment. Example: construction with low environmental impact of a wooden gymnasium

**Recommended technical specifications:**

Request a life cycle analysis according to ISO 14040 detailing the transport-related greenhouse gas emissions (but see chapter 2). Failing this, companies may be asked to complete a grid to evaluate the volume of materials, the places of production and processing, as well as the mode of transport and the type of vehicle used from timber harvest to the delivery of the product.

From a public procurement point of view, this technical specification is not acceptable for wood. Distance obviously influences the CO₂ emissions linked to the purchase but this criterion cannot be used in a consultation because the distance from the place of production of wood does not affect the expected performance. Also properties of the chain of custody can be regarded with the new EU regulations.

Moreover, only falls within the scope of the contract, the delivery and only in the condition of execution of the contract, possibly, and without noting this criterion in the choice of the candidate.

**Criteria for selection of offers**

The guide proposes to assign a weighted score for each criterion. For example: 40 points for technical value, 30 points for transport-related greenhouse gas emissions, 30 points for the price. The most advantageous tender is the one whose sum of points is the highest. This weighting on transport related greenhouse gas emission should be risky, if the evaluation is not clear, objective and documented.
AUSTRIA

POLITICAL LEVEL

The Austrian regions of Vorarlberg and Styria, in which the two Austrian project partners are located, make an effort to consider ecological criteria and to implement a policy of sustainable development. In this context, usually the thematic departments of the regional administration work out policy strategies which afterwards are approved by the government. Once a strategy has been approved, this equals a political commitment by the governing parties. In the context of CaSCo we will describe the essential documents and we will explain the context with the project.

Forest strategy Vorarlberg 2018⁴ and forest strategy Styria 2020+⁵

The two forest strategies are based on the vision of long-term development goals in forestry. The daily work of the stakeholders shall correspond to the objectives set by the forest strategy. The strategies contain several aspects that are in the core of the CaSCo project. These are:

- Sustainable management of our forests for the provision of the renewable resource and energy source wood.
- Preservation and extension of close-to-nature forest management and of natural forest rejuvenation.
- Increase of the economic value of the forests and of the regional value-added.
- Maintenance of the cycles and securing of jobs in the rural areas.
- Increase of the use of timber in the construction and energy sectors as a contribution to climate protection.
- Regional value-added chain timber: It is mentioned that the regional network should be strengthened in order to improve the value-added chain for timber. The following measures are mentioned in the strategy:

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⁴ https://www.vorarlberg.at/pdf/forststrategie201805_03_2.pdf
⁵ http://www.steirischerwald.at/netautor/napro4/appl/na_professional/parse.php?mlay_id=20000&mdoc_id=5015198&npf_set_post%5B%5D=10&npf_set_pos%5B%5D=3
Consider regional value-added from the use of timber in the funding regulations for residential construction;
- Support the marketing of timber and product development (financial and personnel support)
- Develop a certificate of origin

Further remarks: sawmills are among the most important partners in the value-added chain and should be supplied as continuously as possible with timber. An increase of the value-added for the timber resource can only be a realistic objective if the timber processing companies use as much timber (which can be traced as such) as possible. To close the gaps in the regional value-added chain timber, supporting measures are indispensable.

Further relevant strategies of the Austrian Partners:

- Eco-region strategy (Ökoland-Strategie) of Vorarlberg: The eco-region strategy is a strategy document of agriculture and forestry and has been approved by the government of Vorarlberg in 2014. For CaSCo in particular chapter 12 is relevant in which a strengthened cooperative forestry is mentioned.

- Memorandum of the government of Vorarlberg: After the last elections and in the context of the formation of a new government the parties in power concluded a thematic memorandum in October 2014. This document is a fundamental strategy of the regional government for the current period. For CaSCo, the chapter on natural diversity is relevant: The members of the government have stated: “The forest in Vorarlberg fulfills important functions. The main fields set by the forest strategy 2018 are: preservation of healthy, species-rich forests, increased use of timber for construction and as energy source, implementation of the strategy on protective forests for the security of living spaces in mountain regions. These fields are indispensable and will be further implemented”.

Campaign for timber construction: “The regional government is committed to innovative timber construction in Vorarlberg and will further support it through appropriate measures”.

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6 https://www.vorarlberg.at/pdf/oekolandvorarlbergbroschu.pdf
7 https://www.vorarlberg.at/pdf/koalition_regierungsprogr.pdf
• Measures suitable for our grandchildren of Vorarlberg\textsuperscript{8}: The measures of the strategy on energy self-sufficiency in Vorarlberg are named as “measures suitable for our grandchildren”. More information: The 5-years strategy contains several chapters focusing on energy. The following chapters have a connection to CaSCo: 3.2.3 measures on buildings, point 11: “Besides the energy use for the operation of the buildings also the entire energy use across the life cycle has to be considered and evaluated”. Remark: this is a concrete connection to the CaSCo project!

3.5 cross-cutting measures, point 19: “Step-by-step adaptation towards true-cost pricing, among others also through fiscal measures. The Vorarlberg region shall influence – according to its possibilities towards the state of Austria and the EU – developments in this direction. Based on this, awareness shall be raised on the advantages which individuals and society have from more true-cost pricing and on the discharges resulting in other fields”. Also here we can find a hint on the lacking true-cost pricing and the lacking consideration of transport in connection with CO\(_2\) emissions.

REGULATIONS LEVEL

Regulation on construction engineering

The regulation on construction engineering is the most important legal instrument in the CaSCo context. The frame of this regulation is defined by the state of Austria, while the regions (Bundesländer) assume the responsibility for the content. The regulation is structured in the following sections:

- Mechanical stiffness and stability
- Fire protection
- Hygiene, health and environmental protection,
- User safety and barrier-free accessibility
- Sound insulation
- Reduction of energy use and thermal insulation.

Further information is available on

\textsuperscript{8} https://www.vorarlberg.at/pdf/schlussberichtenkeltaugli.pdf
For CaSCo, section f) “Reduction of energy use and thermal insulation” is relevant.

This section defines maximum values for energy use and emissions. From these maximus values, maximum values for the heat loss of construction parts and for emissions of heating facilities are to be derived. The maximum allowed primary energy demand per year and the maximum allowed CO2 emission per year, both per m2 conditioned gross floor space, are mentioned. The regulation does not refer to a legal regulation of “grey energy”, which is the energy use and emissions in the context of the production and installation of construction materials. Exactly this point is essential for the CaSCo project.

In paragraph 41 of the regulation on construction engineering a reference is made to the regulation of the Austrian Institute for construction engineering (Österreichisches Institut für Bautechnik, OIB). We have therefore investigated the OIB regulation in order to find out possible starting points for CO2-reducing measures. The OIB regulation is specific for Austria and has been developed by the Austrian Institute for construction engineering. It has been agreed by the competent bodies and is the basis for many legal regulations. The OIB regulations shall harmonize the regulations for construction engineering in Austria. The regions can declare the OIB regulations as binding in their construction regulations – all regions have already done this. Deviations from the OIB regulations are possible according to the relevant regulations of the regions, if the builder can prove that an equivalent level of protection can be reached as by complying with the OIB regulations. This shall ensure the needed flexibility for innovative architectonical and technical solutions. This point could be a starting point for the CaSCo project with its initiative for regional wood.

The OIB regulation is available on:

- https://www.oib.or.at/oib-richtlinien/richtlinien/2015
- https://www.oib.or.at/sites/default/files/richtlinie_6_26.03.15.pdf

Also in the OIB regulation the CO2 emissions are calculated only based on the primary energy demand and there is no reference to specifications on emissions in context with the production and transport (grey energy) of construction materials. The legal regulations in the construction sector do not yet consider the use of regional wood as optimum construction material with the lowest emission values and positive effects on the CO2 balance.

The topic of wood in general is often mentioned in the legal specifications on fire protection. More information on fire protection is available on:
The actual legal specifications on fire protection are not very supportive for timber as construction material. In the past 10 years some improvements could be made for timber as construction material through verification of individual cases. It can be assumed that the individual approvals of the past years will influence the future legislation and that thereby improvements for timber as construction material can be achieved.

Public construction as a good example

A paragraph of the regulation on construction engineering of Vorarlberg mentions the role of public buildings as good examples. This addition has been made in 2014.

Further information:
https://www.ris.bka.gv.at/Dokumente/Lgb/LGBL_VO_20140814_53/LGBL_VO_20140814_53.pdf

This section refers to the role-model of public buildings. This is also what the “Municipal passport for buildings” (Kommunalgebäudeausweis, KGA), an instrument of the Umweltverband (association of all 96 municipalities in Vorarlberg) builds on. The KGA is a voluntary concept for public sustainable construction. The concept also refers to strategies for green public procurement.

A further instrument related to this legal regulation is the energy accounting (Energiebuchhaltung, EBU) of the municipalities. In Vorarlberg the EBU instrument is managed by the Energieinstitut Vorarlberg and in Styria by the Styrian Energy Agency. The tool deals with data collection and monitoring of comparable public buildings. 80 % of the municipalities in Vorarlberg use this voluntary instrument. Further information see section „Examples of regional good practices“.

REGIONAL SPECIFICITIES

As already mentioned above, the legal regulations fall mostly under the competences of the regions. The OIB regulation can be considered as a kind of standardization but its contents can vary from region to region. In the Austrian regions systems for green public procurement have been established on a voluntary basis. With the KGA concept and the energy accounting (EBU) particularly Vorarlberg can be seen as a kind of leader among the Austrian regions.

COMMON PRACTICES: THEORY VERSUS REALITY
Again it has to be underlined that related to the implementation of green public procurement there are no legal specifications in Vorarlberg and Styria. There are several declarations of intent and strategies of the regional government and of private bodies for an ecological procurement. But the implementation of GPP concepts is completely on a voluntary basis and often conflicts arise with legal regulations on competition and procurement.

The experiences show that the voluntary concepts are well accepted. Still, the topic of “regional wood” as a selection criterion cannot be easily grasped. It is difficult to express a coherent justification and a transparent evaluation of this selection criterion and it could be considered as a restriction of the principle of equality. In this context, a practice which has been used several times is that the municipality which sends out the call for tender provides the material “timber” to the contractor. Therefore, it is not part of the contract. The CaSCo project will support these efforts through providing reliable instruments and tools to close the identified gaps.

EXAMPLES OF REGIONAL GOOD PRACTICES

Besides the above mentioned political strategies, three concepts can be mentioned as regional good practice examples:

- Service package for sustainable construction in municipalities
- Green Public Procurement Service (GPP) and baubook
- “Municipal passport for buildings” (Kommunalgäbeaufweis, KGA)

Service package for sustainable construction in municipalities and Municipal passport for buildings (KGA)

http://www.umweltverband.at/bauen/servicepaket/
http://www.umweltverband.at/bauen/kommunalgäbeaufweis-kga/

The service offer is voluntary and is considered today in more than 90% of the implementation cases. The service offer is structured into four modules and is run by an expert team. Building owners (municipalities or the region), planners and the implementing enterprises can consult the expert team which covers the following fields of expertise: construction physics, building biology, energy and environmental technology. Together with the building owners, the expert team optimizes the sustainability of the construction project in common workshops. The expert team provides training to the staff of the enterprises which implement the construction and it controls the implementation on behalf of the building owner.

The modules are:

- Module 0: first consultation (for free)
- Module 1: advice and support in the pre-planning phase
- Module 2: advice and support in the planning phase and with the tenders
Module 3: advice and support in supervision and implementation
Module 4: control of success through staff from the municipality or through external persons

Module 2 deals with the advice on public tenders. There seem to be interfaces with the CaSCo project. If the project is successful in explaining the public interest for regional wood and its relevance in terms of environment and in making it traceable, this aspect can be considered in module 2. In terms of procurement, the classification of products plays a major role. Here, another instrument, the “baubook”, comes into play.

**GPP Green Public Procurement Service**

ÖkoBeschaffungsService (ÖBS) Vorarlberg:
The service for ecological procurement for municipalities is a widely used service.
More information:
http://www.umweltverband.at/beschaffen/
http://www.umweltverband.at/beschaffen/oebs-shop/

The ÖBS supports municipalities and public institutions in Vorarlberg with the ecological procurement of a diverse range of products. Municipalities use this service for the procurement of goods which can be standardized. In practice, municipalities commission the Umweltverband who offers the ÖBS with the procurement of products for daily use. The Umweltverband writes the call for tender with the support of experts, taking ecological criteria into account. The Umweltverband sends out the call for tender for delivery and service. The award is given to the bidder which offers the best value for money. The use for municipalities is obvious: the provider of the service holds a lot of know-how, several offers are checked, quality is assured, an increased regional value-added is created and legal certainty is increased.

**Baubook**
The baubook (constructionbook) is a product database with detailed descriptions of the products, including information on materials, energy values and grey energy. The baubook also refers to:

- Up-to-date ecological criteria for construction products
- Texts of the calls for tender: legally watertight, neutral with regards to products, individually customizable and usable
Planning support: calculator for construction parts, key figures  
Continuously updated product database  

For detailed information please visit  
http://www.baubook.info/oea/?SW=16&oegpk=1&lng=2.

The service offer sustainable construction in municipalities offers together with the baubook concrete possibilities for the implementation of GPP in the building sector. The information platform “baubook public buildings” has been developed in Vorarlberg and helps public building owners to call for construction materials and products that are ecologically safe. We must mention in this context that the ecological aspects of regional wood are not yet considered in the evaluation scheme. We estimate that there is a potential for improving the situation through CaSCo!

**Municipal passport for buildings (KGA)**

The municipal passport for buildings is – same as the service for sustainable construction – a voluntary instrument which is used in Vorarlberg by almost 100 % of the public buildings. It is a voluntary concept which provides a financial advantage to those municipalities which use it. The objects which achieve a higher rating receive a higher attribution of financial support. For new constructions, financial support can be increased up to 4 %. The KGA therefore is an important decision support for a higher construction quality and ecological construction.

More information:  
http://www.umweltverband.at/bauen/kommunalgebaeudeausweis-kga/

The KGA is based on a method which evaluates the energetic and ecological performance related to a general renovation or a new construction in the following categories:

- Quality of process and planning  
- Energy and supply  
- Health and comfort  
- Construction materials and construction  

The KGA can be issued for the price of 1.600 EUR excluding sale tax by certified private offices if they have not been involved in the planning and/or implementation process of the construction project.
SLOVENIA

Slovenian legislation GPP follows policies and directives in the field of green public procurement of the European Union. Legal regulation of public procurement of the Republic of Slovenia was harmonized with the European Directives on public procurement in 2006 with the adoption of the Public Procurement Act (PPA-2), which provides the legal basis for the integration of environmental considerations in public procurement in the Republic. In 2009, the Government adopted a national action plan on green public procurement 2009-2012 in accordance with the recommendations of the European Commission in its Communication on Integrated Product Policy, which provided for the adoption of the Decree on Green Public Procurement.

GPP is a tool to achieve the goals of sectorial politics in Slovenia:

- **CONSTRUCTION** (Energy efficiency of buildings (EPBD, 2010), construction products (CPD, 2011)
- **TRAFFIC** (Clean vehicles (Clean Vehicles Directive, 2009)
- **CLIMATE** (The programs of clean air for Europe 2030 (2014)
- **ENVIRONMENT** (ECO LABEL (EU Ecolabel, 2009), Environmental management system (EMAS, 2009), Plan of Europe for resource efficient (2011), The Seventh Environment Action Program (7EAP 2014), The stack of circular economy (2014 – new goals for waste, green
- **WOOD** Regulation of wood (2010), FLEGT (2008)

The new law on public procurement PPA-3 (adopted in November 2015, which came into force in April 2016) defines the following related GPP content: A partnership for innovation, the use of eco-labeling requirements, including social and environmental aspects, standards to ensure quality systems and environmental management and consideration of life-cycle costs of the product/service/construction.

The Government has adopted an action plan to increase the competitiveness of the forest-wood chain in Slovenia in 2020, with a promotional slogan "Wood is beautiful" and ordered the Ministry of Agriculture and Environment and the Ministry of Economic Development and Technology, to the implementation of the Action Plan in the previous paragraph an annual report to the government.

The Action Plan is an operational document to increase the competitiveness of the whole forest-wood value chain. The document identifies the timber as a strategic raw material of Slovenia. An action plan based on the situation analysis identifies the objectives, measures, indicators and deadlines for the intensification of forest management, and the recovery and development of wood processing and energy use his remains. The key objectives of the action plan are: to create
the market for wood products and services; of care and increase the harvest of forests, in accordance with the plans for forest management; increase the volume and wood processing at higher difficulty levels the new technologies; Jobs and growth in value added per employee in the wood products industry.

Slovenia is in Finland and Sweden third most forested country of the EU, where the annual growth of more than 8 million m3 of wood, the renewable raw materials. Due to the low competitiveness of the forest-wood sector and unsettled and even interrupted the forest-wood processing chain, Slovenian wood is not exploited sufficiently Slovenian wood is exported, while domestic wood products industry collapse.

Regulations level

The most important policy document of the European Union in the field of green public procurement are the Action Plan on Sustainable Consumption, Production and Sustainable Industrial Policy (AN SCP / SIP) and the message of public procurement for a better environment, which gives a guidance and tools to accelerate the introduction of green public procurement in Europe. Public procurement for a better environment and introduced mandatory GPP for 11 groups products and services, while implementing help to public purchasers when entering environmental requirements in public procurement.

The basic purpose of the action plan is to accelerate the implementation of green public procurement in Slovenia in this way:

- reducing the negative impact on the environment,
- improve the efficiency of public finances,
- to stimulate the market and innovation for environmentally acceptable products,
- promote new environmental technologies and carbon-free economy,
- give a good example

The Regulation provides products and services, or "items of public procurement", for which the public authority in the procurement process include specific environmental requirements. Items of public procurement, which is mandatory of green public procurement, are:

- Electricity,
- Food, beverages, agricultural products, food and catering services,
- office paper and hygiene paper products,
- electronic office equipment,
- audio and video equipment,
- refrigerators, freezers and their combinations, washing machines, dishwashers and air conditioners,
- buildings
- Furniture,
- Cleaners, cleaning and laundry services,
- passenger cars, light commercial vehicles, heavy goods vehicles and buses,

Also to support the framework program government established Partnership for Slovenia Green economy, put together by local communities, companies and NGO-s.

**Picture 1: Type of authority in Slovenia**

Source: Local energy agency of Pomurje - Greens project

Green scheme for tourism – Slovenia Green is the established central mechanism to promote sustainable tourism with green destinations (based on ETIS indicators (EU)).

Slovenian public procurement act (ZJN3) (including green procurement), Decree for green procurement ZEJN: annex 7 (construction and maintenance of buildings) include; quality of materials, usage of nature friendly materials and products, energy efficiency and assurance of healthy working and living environment.

National strategy for wood (Wood is beautiful) from 2012, which include key development challenges for the wood industry and sustainable usage of wood.

**Regional specificities**

There are no regional specificities in Slovenia.

**Common practices: theory versus reality**

When drawing up a tender in public procurement, it is hard to talk about “bad” practices because the process is highly demanding and follows strict legal
procurement requirements. GPP implementation is not only about preparing the green tender documents, but also concretize them with many other support activities: political, managerial, information, exchange, promotion, trainings, assistance, help, etc.

Green procurement is not used in the best way since:

- There is too little knowledge, non-understanding in public sector (how to better organize processes, how to prepare green procurement – the lowest price is usually decision point)
- The construction documents (in the case of refurbishment and new buildings) are not prepared the best (therefore alterations, changes in the time of construction...)

Implementation of green procurement in accordance with the regulation in Slovenia, in practice accompanied by some problems. The Regulation requires certain changes to the established procurement procedures and technological adaptation of the offer, which of course is met with resistance by the public authority, such as providers.

Wood industry is rather traditional (due to crisis, there was/is less research and development in companies, therefore less “innovative greening” in products, too little knowledge and understanding how they could use green procurement (for their benefit).

The existing support mechanisms via Eco fund are not supporting the overall approach (low carbon, low transport) just some parts (e.g. changing the windows, support for passive houses for individuals, purchase of electric car for public sector,...) Green transport – so far no good practices.

In Slovenia is implementing or have been already implemented the projects regarding the GPP, as:

- **GPP 2020** was the European project, which took place in eight Member States. Promote the implementation of green respectively. The project aims GPP 2020 was to carry out a greater number of green / low carbon procurement and in the present carbon and energy savings, and strengthen the capacity of public contracting authorities in implementing green / low carbon procurement. Within three years, the project partners GPP 2020 carried out of low-carbon procurement and save 905,573 t and 145,038 t CO2e energy.

- **GREENS** project is designed to focus the attention of public authorities to the Green Public Procurement (GPP), Life Cycle Cost of the products and Life Cycle Procurement analysis as part of their means to achieving the ambitious goals for exceeding the EU 20% CO2 reduction by 2020. One of the main challenges that public authorities face in this process is achievement of higher results with limited resources.
The successful application of the GPP and its prioritization by strengthening capacity of the public authority administration is the main goal of the GreenS project. Another aim of the project is to overcome the barriers and obstacles to implementation of GPP by establishment of Green Public Procurement Supporters (G.PP.S) units within the partner energy agencies. Thus project is tied with the Covenant of Mayors initiative by offering opportunity to the energy agencies in their role of CoM supporting structures to mobilize and improve their expertise in the area of GPP implementation, and to provide more comprehensive, efficient and highly professional technical support to the local and regional authorities.

According to the procurers, the main difficulties regarding the implementation of GPP in Slovenia are those related to insufficient market readiness (for example, not enough offer of green products on the market or higher prices for green products) and to the knowledge/skills/professionalism of the procurers in this field. The other substantial set of difficulties includes all those regarding (lack of) any kind of support and information about GPP. The third robust cluster represents the GPP criteria (such as how to form the right ones). There are interesting answers about the limitations of organisations’ budgets and about the competency of suppliers.

![Diagram showing main difficulties regarding the implementation of GPP](image-url)

**Picture 2: Main difficulties regarding the implementation of GPP**

*Source: Local energy agency of Pomurje - Greens project*
In the future, public procurers in Slovenia would mostly need the following support for the GPP implementation: information about market availability of products/services/works; professional technical support; which sources of GPP criteria to use and professional GPP training seminars. They expressed the least need for “no need on GPP” and for sharing of experience and knowledge. However, it is very interesting to see that the respondents expressed a relatively low need to understand the environmental aspects of to purchase and to obtain information on potential benefits of GPP.

**Picture 3: Need for additional support**

In the last 3 years most frequently they prepared GPP contract for the following energy efficient products, services and works: transport, electricity, office IT equipment and construction/buildings. During the procurement process they are often monitoring contract compliance and execution, focusing on performance/functional specifications but not asking lots for leasing possibilities.

The main difficulties for the implementation of GPP seem to be:

- The instructions are not specific
- lack of knowledge,
- lack of knowledge, market conditions
- not being an expert in that field
- insufficient offers, price,
- Alimentation-small offers and complex logistic; higher prices; complex preparation of technical criteria; lack of information about providers,...
• Professional technical support
• government is not supporting GPP as they should; we should promote good practice;
• Low acquaintance of GPP
• The technical specifications for vehicles are complicated
• Complexity of preparation of criteria etc. Most respondents are seeking the following support in the future for the GPP implementation: information on market availability of products/services/works and professional technical support, etc.

Examples of regional good practices

Good practice: very hard to find (if tried they are not so far connected to the low carbon wood and/or low carbon transport). We can just find some companies that are acting sustainable or some cases of local communities that decided to build public buildings using wood.

One example: local company Damahaus (Cerklije na Gorenjskem) has center for local wood, where local inhabitants are employed. Local wood is used for construction elements for wooden scellet houses. ([http://www.ekoart.si/](http://www.ekoart.si/))

Second example: partnership Local community Preddvor and company Jelovica (building up passive kindergarten) (emission CO₂ is 11/kg/m² year, B1 class).

Third example: Cross-border Demonstration and Learning Center for Energy Sustainability: The aim of the project "Cross-border Demonstration and Learning Center Bioliving and Bioconstruction - BioFuture" is to show the benefits of using renewable energy sources (where wood is the main material) and natural cycles of substances in the environment for building and living area. Based on this, the experts in certain institutions and organizations in the field of renewable energy and bio-construction would educate themselves. ([http://www.biofuture.si/](http://www.biofuture.si/))

Fourth example: Project “Wood of Goričko” - the purpose of the project was to establish a chain of producers and processors of wood in the area of the LAG Goričko and promotional activities to increase the visibility of the producers and processors of wood and thus their products and, consequently, increase the efficiency of marketing their products. One of the fundamental objectives of the project is to increase awareness of the importance of the wood and its products.
ITALY

POLITICAL LEVEL

Green Public Procurement is at the centre of Italian environmental policies since 2008, when the first national action plan for GPP was adopted with the subsequent definition of environmental minimum criteria to be adopted for several categories of procurement. More recently, in 2015, a minimum amount of GPP criteria-responding procurements became mandatory (“mandatory GPP”) for Italian public authorities at all administrative levels.

Carbon footprint is slowly starting to be considered in procurement procedures and criteria, but without any particular focus on transport processes. Local products (and wood products too) are in general promoted not for their “environmental added value”, but mainly for the qualities and technical aspects related to their territorial origin.

NATIONAL ACTION PLAN ON GREEN PUBLIC PROCUREMENT (PAN GPP)

The GPP National Action Plan, approved in 2008 and updated in 2013, outlines strategies for the dissemination of GPP, the interested product categories, the qualitative environmental targets and the reference quantities to be achieved. The Action Plan includes the Minimum Environmental Criteria (CAM) to be applied in the public procurement.

The “Made in Italy” national programme

Art. 21, paragraph 1 of Law no. 221/2015 on "Environmental provisions for the promotion of green economy measures and the containment of excessive use of natural resources" provides the establishment of a voluntary National Scheme for the evaluation and communication of the environmental footprint of products, referred to as " Made Green in Italy " in order to promote the competitiveness of the Italian production system in the context of the growing demand for high-quality products on national and international markets. This scheme adopts the PEF methodology for determining the environmental footprint (PEF) as defined in Commission Recommendation 2013/179 / EU of 9 April 2013.

In 2011, the Ministry of the Environment launched an intense program for assessing the environmental impact of products / services / organizations, which is now consolidated, in line with European Environmental Product Footprint (PEF,) as a good practice of public-private collaboration, with the involvement of over 200 subjects, including companies, municipalities and universities.

The initiative is aimed at promoting voluntary commitments by companies on the assessment of environmental performance and the reduction of greenhouse gas
emissions, which play an increasingly important role in strengthening the actions envisaged by governmental norms and policies within the framework of the Kyoto Protocol and the 'Climate-Energy Package', as well as in the recent approval of the European package on the circular economy. The objective of the Project was to identify the best carbon management criteria and to support the implementation of low emission and good practice technologies in production and consumption processes throughout the product/service life cycle.

For the wood sector, one company from Region Piemonte (Cooperativa Valli Unite) specialized in the use local chestnut for the production of poles and firewood, took part in the initiative and benefited from the calculation of the PEF for its product.

Based on the experimentation that has affected several sectors, the Ministry of the Environment issued in 2016 the regulation for the operation of the "Made Green in Italy" scheme (http://www.minambiente.it/sites/default/files/archivio/allegati/impronta_ambientale/2_RegMadeGreenItaly.pdf)

NATIONAL FORUM ON FORESTRIES

(http://www.reterurale.it/flex/cm/pages/ServeBLOB.php/L/IT/IDPagina/16329)

As part of the process of confronting wood-energy forestry operators, aiming to prepare a national white book for the future of Italian forests, one of the tables carried out in 2016 covered the theme of woody production.

Among the key points emerged the following:

- Mobilisation of the wood resource
  - Fostering territorial agreements (multi-year inter-professional agreements) between those who produce, use and transform wood (horizontal and vertical integration of the wood chain)
  - Encourage proximity chains (short chains), also by encouraging the use of local or proximity wood materials (e.g. in Public Service Provision Notices). The use of local materials can be favoured through the use of appropriate indicators in the field of Rural Development and Policy for the Internal Areas (e.g., quantity of timber transformed locally compared to the quantity of roundwood produced on site);
  - To activate an information campaign, possibly coordinated with MATTM, MISE and MIBACT, aimed at raising awareness of the quality and origin of timber purchased. This information campaign must have as a priority the promotion of the Italian wood supply chain and the awareness of consumers on the use of Italian wood (e.g. marketing actions: "100% Italian wood");
Create added value
- Facilitate the implementation of territorial agreements (e.g., wood clusters) and the creation of co-operative forms such as business networks between owners, users, craftsmen transformers, and wood industries. Strengthening the links between wood-wood companies at the local level is of great importance since it allows the promotion and marketing of certified wood products using the raw material processed on site;
- Encourage the use of wood-based proximity building materials for building/refurbishing, furnishing, and heating, from certified forests to sustainable forest management, in order to stimulate domestic demand for wood products.
- Encourage sustainable forest management certification (GFS) systems and product quality. GFS certification is an added value for the promotion of wood resources, which must necessarily go hand in hand with the certification of wood product quality.

REGULATIONS LEVEL

The law 221 (28/12/2015) provides the legal elements to give strong impetus to green procurement, aimed at enhancing the environmental quality of public purchasing much more intensively.

The law modified the Procurement Code (D Lgs. 50 of 18/4/2016), introducing the obligation to consider a number of environmental aspects and to include the technical specifications and contractual clauses contained in the tender dossier CAM (Required GPP).

Main novelty elements introduced in the procurement code:
- Inclusion of environmental protection and energy efficiency among the principles for the assignment of public contracts (art.4)
- Obligation to insert the technical specifications and contractual clauses of CAMs for at least 50% of auction value and 100% for the categories of goods/services related to the theme of energy efficiency in end uses (art.34)
- Possibility of applying technical specifications based on performance criteria related to the life cycle and sustainability of the production process, provided that the parameters are sufficiently precise and the specifications do not refer to manufactured or proven effects with the effect of favouring or eliminating businesses or products (art.68)
- Possibility of requiring specific environmental labelling as a means of testing the environmental characteristics of a product/service, or other equivalent means of proof capable of demonstrating compliance with the requirements (art.69)
- Guarantees for participation in the procedure are reduced by 15% if operators have an inventory of greenhouse gases (ISO 14064-1) or a carbon footprint (UNI ISO / TS 14067), (Art.93)
- Environmental quality is one of the criteria to be used in the evaluation of bids according to the criterion of the most economically advantageous tender, together with the possession of an EU Eco-label (Ecolabel) for at least 30% of the value of goods or services (art. 95)
- In the case of lifecycle cost assessment, the costs of energy consumption and other resources, collection and recycling, and the costs of environmental externalities (art.96)

Environmental Minimum Criteria (CAM)

At regulatory level, the GGP criteria have been implemented in a series of environmental criteria (CAM). Some of them (building sector, internal furnishing and urban furnishing) could be of interest for CaSCo project objectives.

Building sector criteria

The technical specifications of building components include some criteria that indirectly favour the use of wood, such as disassemblable components (50% minimum total building weight) or recovered or recycled material content (15% minimum weight). With reference to wood components, materials from sustainable managed forests (PEFC / FSC) or made of recycled wood are required.

Premises for buildings that maximize the use of construction materials derived from renewable raw materials (> 20%) are also provided.

The supply distance is rewarded, regardless of the type of material, if it is less than 150 km (considering all distances along the productive chain) for at least 60% of the total weight of the materials used.


Interior and urban furnishing

The only criterion concerning the use of wood materials is that it requires material from sustainable forest management (PEFC / FSC) or made up of recycled wood.

REGIONAL SPECIFICITIES

REGIONAL SPECIFICITIES IN PIEMONTE

Mandatory GPP legislation, together with some national initiatives (“Made Green in Italy”) is pushing Italian public authorities on using GPP in their tendering procedures. Training initiatives and awareness campaigns, both a national and local level, are fostering the use of GPP, but the fear to see the tender unvalidated and the lack in sharing “success stories” is certainly a common weakness for all procurement offices for a wider adoption of GPP.

Many national GPP criteria (building sector) were recently revised, and a monitoring period will be necessary to check the opportunities for further improvement. On specific issues (LCA, carbon footprint, ...) the creation of a “common language” between professionals and public procurement offices is necessary, and this aspect could certainly benefit from the adoption of common tools for the calculation (on the offer side) and verification (on the demand side) of the same parameters and criteria.

Metropolitan City of Torino – The experience of APE Protocol for integration of GPP in the activities of institutions

While GPP becomes a common practice sponsored by the government, it is necessary that the traditional management and administrative tools are reviewed in this light. The metropolitan city of Torino has entered the implementation of the EPA project and then the realization of a strategy of Green Public Procurement within the programming tools of local authorities.

A distinctive feature of the EPA project is the monitoring of the implementation of the commitments. In this way the GPP activities is made transparent and verifiable, setting the stage for more specific analysis on the ecological and economic effects that result. Since 2004 the members of the Network participated in an annual survey, which allows you to highlight the importance of the instrument of green procurement in addressing production and consumption towards more environmentally friendly goods and services. In 2015, institutions participating in the EPA Protocol have allocated 90 million euro for the purchase of goods and services that meet the ecological criteria, against a total expenditure declared by about 143 million euro, reaching 63.2% compliance the Protocol, thus overcoming, such as Network, the objectives of the national action Plan on GPP, which provided a national target to achieve by 2014 a level of "green procurement" at least 50% of the total of signed contracts.
Regional Forestry Plan 2017 - 2027

The Regional Forestry Plan for the period 2017-2027 identifies GPP and local public tenders promoting local wood as a key issue for the promotion of local chains of value and territorial economic development.

Regione Piemonte, also through the FESR 2014-2020 rural development program, is promoting the development of local cooperation initiatives for the identification and experimentation of innovative criteria for the promotion of regional wood, not only based on the traceability of the geographic origin but also on environmental aspects (carbon content) integrated with the valorization of the specific know how of regional wood industries and the technological properties of some regional wood assortments.

REGIONAL SPECIFICITIES IN THE VAL SESIA TERRITORY

At local level Unione Montana Valsesia is the central purchasing authority municipalities can rely on for public procurement (S.U.A./Stazione Unica Appaltante). Since it has been working for a reasonably short time, there is no wide history of GPP cases to refer to.

COMMON PRACTICES: THEORY VERSUS REALITY

As part of the National Purchasing Rational Program, GPP criteria are introduced in tenders for the supply of goods and services.

Over the last few years, with the aim of reducing the environmental impact of the goods and services used by the administrations, the number of green initiatives in the Program has increased, but no specific criteria has actually been developed in relation to low carbon products and low transport products.

https://www.acquistinretepa.it/opencms/opencms/main/programma/servizi/Acquisti_verdi/Criteri_Verdi_iniziative.html

As a priority, public authorities must manage a significant part of public purchases through the procurement central office of Public Administration (CONSIP). They have limited choice in such procedures (e.g. office paper and furniture).

Small public bodies seldom apply GPP principles, even if they have recently become mandatory. There is no effective central control on low amount tenders and the austerity policies of spending review imposed by the government urges
municipalities to minimize expenses. Moreover, chronic lack of administrative staff leads to following regular (and cheaper) habits and simplifying contracting procedures. From this point of view, the gap between legislative requirements about GPP and administrative practice is significant.

Awareness raising and training activities for public administrators and staff would be useful. Nevertheless, good practice examples of GPP also occur in Italian administration, thanks to highly motivated authorities and a favorable framework.

A specific tool at Italian level, used by several local authorities in their tendering, is the **ITACA protocol**. The Protocol, whose application leads to the attribution of a score to the project of the building, has different purposes in relation to its different use: it is a tool for designing professionals, controlling and addressing public administration, supporting consumer choice, and enhancing an investment for financial operators.


In particular:

- criterion B.4.8: a higher score is attributed to the project with a content of local materials (< 200 km) higher than 18%
- criterion B.4.11: a score is attributed to the project according to the number of products and categories of products which have obtained a type I or Type III environmental label

**EXAMPLES OF REGIONAL GOOD PRACTICES**

**PIEDMONT REGION**

**PEFC/LPT companies group of the Turin department**

Environment Park, continuing its experience with the Metropolitan City of Turin, supports the group of companies in the province of Turin certificated according to the PEFC scheme (www.pefc.it), a mark that attests the source of timber used by forests managed according to criteria of Sustainability. Envipark operates as a Central Business Office supporting them in the implementation and control activities required to obtain PEFC certification chain, attesting that the company has and uses the security mechanisms required to trace certified products within the company’s production process.

Companies joining the group and using wood mainly from forests on the territory of the province of Turin can also obtain, by applying a traceability system perfectly
integrated with that required by the PEFC scheme, also the LPT (Wood of the Province Of Turin), which assures the final consumer the origin and local wood processing. The 7 companies in the group worked in 2016 over 70,000 quintals of roundwood, 28% of it coming from the territory of the province of Turin. At group level, 59% of the total sold timber sold was certified PEFC, while 29% of the woodworking products were made from timber from the forests of the province.

Web: http://www.envipark.com/?s=pefc

Local forestry chain of value – Canavese Forestry Consortium

This is a model based on the creation of local forestry and local forestry chains, according to models and strategies strongly adapted to local conditions both from the point of view of the type of raw material present in the area and of the socio-economic conditions (http://www.consorzioforestalecanavese.com/)

“12 to Many” initiative

The initiative was born with the aim of setting up networks of companies in the forest-wood chain, regulated by specific contracts, in order to make it possible to produce and propose to the national and international market wood products and services of high economic and social value with a very low environmental impact.

Characteristic elements of the initiative, which after being born in the North East of Italy, saw a first experiment in Piedmont, are as follows:

- Applying the QFD (Quality Function Deployment) methodology to the product design process for quantifying the conventional product value and relevant competitive advantage factors
- Quantifying the environmental impact of the production and logistic process through an LCA methodology
- Traceability of raw material and processing phases
- Breakdown of the economic benefit between all actors in the transformation chain
- PEFC certification of the chain of custody

The 12-to-Many Business Network model is aimed at businesses, industry associations and public administrations who see in the establishment of a corporate network of enterprises an instrument capable of enhancing the environmental resources and knowledge of their territory in a "Realistic optics.

Web: http://12tomany.net/

VAL SESIA TERRITORY
Recently, the central purchasing authority of Unione Montana Valsesia published three different calls for tenders for heating supply of woodchips fired systems on behalf of three municipalities.

Framework

Some little/medium-size remote heating systems have been operating in some municipalities of Valsesia since around 2000. A total power of about 2,5-3,0 MW is installed in 4 different public buildings in lower valley while other sites lie in upper valley. They supply various public and private buildings such as town halls, schools, blocks, sport facilities, guestrooms and more. Unione Montana Val Sesia was in charge of the renewal of contracts.

Until 2015, municipalities used to save up to 44%, compared to natural gas usage. A local woodchips supply chain was hardly operating because of the low price of heat provided.

Monte Rosa Foreste owners Association proposed to municipalities to reduce the saving rate to 10-20%, provided that the added value would create a little profit for the first stages of the chain, which are the weaker ones in Italy. This would help to give some value to aged chestnut coppices that represent 20-25% of forests in Piedmont that are collapsing.

All the contracts were awarded by the “most economically advantageous tender” procedure.

Further calls were based on the first tender rules scheme, but some substantial changes were made.

As the principle of free competition necessarily had to be guaranteed, standard carbon footprint assessment methods would have been really useful. The authorities wished to implement a short supply chain, though no local (and maybe even external) business would be equipped to meet neither any of three-party evaluation criteria for carbon footprint nor the chain of custody certification schemes. Editors of the call for tender rules had to “do-it-themselves”. The result could seem quite complicated, but it worked.

Municipality 1

The municipal authorities were particularly sensitive to environmental issues and were interested in generating positive effects on the local short-chain forestry.
They agreed on accepting a higher cost of heating service and approved these procurement criteria:

- Criterion 1: previous technical experience of the candidate (20%);
- Criterion 2: the applicant should commit itself to harvest timber around 25 km, according to a supply plan, which had to be approved by the public authority, for one or more year (30%);
- Criterion 3: the applicant should offer an extra-price on a market-defined price of raw wood taken from local forests for the first three years (10%);
- Criterion 4: providing quality management product certification scheme or chain of custody certification scheme (5%)
- Criterion 5: technical improvement of the heating system (5%)

A local expert provider won the tender and a short supply chain was implemented.

**Municipality 2**

The municipal authorities were less interested in short supply chain than in case 1, though they kept a similar line up and reached the aim anyway.

**Municipality 3**

Minimizing costs was their primary priority, so the heating service was awarded at a very low price.

However, the same provider of cases 1 and 2 won and this will probably allow a short-distance supply anyway.

**Conclusions**

An external subject action has been necessary to make public authorities aware of environmental issues. Previous experiences showed that usual procedures normally got the outcome of lower prices at all. Even though the laws generically favor GPP, established customs and financial troubles prevail and the technical framework seems to be quite unsuitable.

Improving the framework can help to develop positive wills in public authorities.
1  National frameworks for Green Public Procurement

1.1  "General administrative provision for the procurement of energy-efficient products and services" (2008, revised in 2012 and 2013)

On the official European website for Green Public Procurement and its implementation through the member states the German National Strategy on GPP is incorporated in the integrated energy and climate protection program (IEKP) as measure 24: 'Procurement of energy-efficient products and services'. The operational instrument is the "general administrative provision for the procurement of energy-efficient products and services", which forms the core element of Green Public Procurement and is the mandatory target for all authorities at federal level to use life-cycle costing in their procurement procedures to ensure energy-efficient and environment-friendly public procurement (Link: http://www.verwaltungsvorschriften-im-internet.de/bsvwbund_13022013_B1581643321841199.htm).

This (very short, only 3 active articles) provision does not contain any specific hint regarding certain materials (like timber) or specific ways to monitor or document certain aspects of Green Public Procurement criteria, while some European labels are named as examples.
In the attached guidelines to this provision describe options to integrate environmental aspects in call for tenders in the frame of the valid procurement law. In the following box extractions of the attached guideline are translated and relevant sentences are highlighted.

Article 2. 'specification for tenders'

Pivotal element of the procurement of environmental friendly products or services is the specification for tenders. This part of the tendering documents where the public principal define, what forms the object of the procurement process [...] [...] Into the specification for tenders may environmental and especially energy efficiency aspects flow in through application of technical specifications. [...] Of special importance are - according to the objectives of this provision - requirements, which serve the realisation of climate protection goals and goals in terms of energy policy. With the technical specifications the most environmental friendly [...] products available on the market shall be evaluated thus ensuring a high aspiration level.

It is legitimate, when requirements addressing the production procedure are deriving out of the decision about the object of tender and the specification for tenders. This is then justified through the character of the tendered service, as the resource saving input of material is ensured and the procurement may be frugal regarding the whole life cycle costs. [...]

Article 4. Assessment criteria

The award of contract has to be given to the most economic offer, regarding all circumstances. Normative are - besides the price - all assessment criteria, which may contain for instance environmental characters or running costs of the products or services. Environmental aspects are legitimate as criteria for awarding a contract, if they are in relation to the object of tender. [...]
Regional economic cycles shall be strengthened and deliverer traffic environmental friendly organized. [...] With this current processes of regional merchandising and sales of products will be taken up. The government will use available opportunities to foster these processes, e.g. through advice.

1.2 National program for sustainable consumption

In general the program foresees the strengthening of reliable environmental labels and declarations as indicator and driver for sustainable consumption.

In this program established in 2016, sustainable procurement is one of the action fields for German policy. Concrete proposed measures in this field are:

- Providing practical information though trainings, conducted though the federal competence centre for green public procurement (KNB), the service point of communities in the one world (SKEW) or others.
- Providing information and training materials at online platforms of KNB, SKEW a.o.
- Expanding the 'Compass Sustainability' with a communal compass as service for procurement officers in communities.

Additionally the role of public procurement as innovation driver shall be enhanced, e.g. in cooperation with the competence centre for innovative procurement (KOINNO) of the federal ministry of economy and energy.

1.2.3 Integrated environmental program 2030

The integrated environmental program (IEP) is a draft proposal of the federal ministry for environment. It is not yet a national program, but defines clear environmental goals which will suppose to be implemented by time.

The IEP describes several objectives with relation to climate friendly products and procurement:

- P. 26: [...] "Enterprises are invoked, to assess their value chains on environmental impacts. It is objective to be able to provide consumers with reliable environmental product information".
- P. 33: [...] "In addition to [that] climate protection requires not only energy efficient low emission solutions, but also resource saving construction ways and usage of sustainable and resource saving construction materials".
Connection points for implementation of low carbon timber in procurement:

Entry points are on the one hand the objective to provide consumers with environmental product information regarding the impact of value chains. Therefore establishing monitoring instruments and a product label for low carbon timber products meets this objective.

As well the emphasis on resource saving construction materials opens doors for an argumentation pro low carbon timber including the production process.

A direct connection could be the objective to widen the criteria catalogue of Green Public Procurement in Germany. In the light of the awareness of scarce progress in traffic emission reduction an implementation of transport related environmental issues in GPP may be possible.

1.3 "Thematically related European action programs"

1.3.1 "Climate action plan"

The European Union has developed a climate action plan, formulating various climate goals and related activities. This action plan underlines the enormous importance of climate protection for the European policy especially in the global context.

As one of the goals for 2050 is defined:

[...] The enhanced use of [locally produced] energy shall reduce the dependency from foreign trade and the [transition to a low carbon economy] shall lead to a reduction of air pollution and related burden to health care.

The European Union itself emphasises the meaning of local production and the carbon emission reduction in economy. That does not address directly the transportation issue, but it offers a connection point for a transport related climate effect argumentation.
Within this action plan traffic is identified as the second most important cause for carbon emissions in the entire EU. This underlines the need of activities in this field. The commission’s road map for a transition to a low carbon economy foresees that the traffic shall reduce its carbon emissions up to 2050 for about 60% related to 1990. However, up to now mainly technical innovations or alternative fuels are in focus. Transport reduction itself is not yet element of the strategy. We may propose appropriate actions deriving out of the project CaSCo.

The awareness of the freight impact on climate is raising, as indicated for instance in: https://ec.europa.eu/clima/policies/transport/vehicles_en.

As well the following table from page 5 of the road map indicates the special importance of traffic, as this sector is the only (!) one with increasing emissions instead of reductions.

<table>
<thead>
<tr>
<th>THG emission reduction vs. 1990</th>
<th>2005</th>
<th>2030</th>
<th>2050</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sector</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>-7 %</td>
<td>-40 bis -44 %</td>
<td>-79 bis -82 %</td>
</tr>
<tr>
<td>Electricity production (CO₂)</td>
<td>-7 %</td>
<td>-54 bis -68 %</td>
<td>-93 bis -99 %</td>
</tr>
<tr>
<td>Industry (CO₂)</td>
<td>-20 %</td>
<td>-34 bis -40 %</td>
<td>-83 bis -87 %</td>
</tr>
<tr>
<td>Traffic (incl. aviation, without marine shipping)</td>
<td>+30 %</td>
<td>+20 bis -9 %</td>
<td>-54 bis -67 %</td>
</tr>
<tr>
<td>Living and services (CO₂)</td>
<td>-12 %</td>
<td>-37 bis -53 %</td>
<td>-88 bis -91 %</td>
</tr>
<tr>
<td>Agriculture (non-CO₂)</td>
<td>-20 %</td>
<td>-36 bis -37 %</td>
<td>-42 bis -49 %</td>
</tr>
<tr>
<td>Other non-CO₂-emissions</td>
<td>-30 %</td>
<td>-72 bis -73 %</td>
<td>-70 bis -78 %</td>
</tr>
</tbody>
</table>
2 Regional regulations and agendas and current processes

2.1 Thuringia

In Thuringia recently a comprehensive sustainability strategy has been developed which has been nationally awarded as one of the most progressive and ambitious one. Currently the concrete and practical steps for implementation are in process.

Holz von Hier is in touch with one of the authors of the sustainability strategy who as well is one of the coordinator for implementation. Implementation of low carbon timber in public procurement on country level as well as in internal guidelines for instances of ministries and other public authorities is in discussion.

2.2 Hessen

In the federal state of Hessen the government has enacted a regulation which forms the legal framework for procurement, the "Hessisches Vergabe- und Tariftreuegesetz (HVTG) from 2014" (see google drive casco/Germany/documents/action programs/country level/Hessen).

In § 3 a central option for integrating environmental aspects into the procurement process is described:

"[...] (1) public authorities are free in the frame of call for tenders, to consider social, ecological and innovative requirements, if they are in relation to the object of procurement or refer to certain aspects of the production process and are recognizable from the specification of tendering."

This opens doors for the implementation of low carbon timber in procurement processes as a process related requirement for climate and environmental friendly products.

Additionally Hessen is currently establishing a climate action plan "Klimaschutzplan Hessen". The Klimaschutzplan Hessen describes various measures in different action fields. There are potential action fields for implementation of low carbon timber like sustainable procurement, but up to now this proposal in this action field focus on energy saving products.

In the action field 4.4 "land use management" one measure targets the increased usage of timber in long living products as contribution to climate protection.

However the aspect of transport related emissions is not yet part of the activities and need to be brought into the current discussions. Holz von Hier is currently in dialogue with actors, politicians and ministries regarding this issue.
A very concrete connection point exists on the level of communities. There exists a program, where communities commit themselves to climate protection actions ("Hessen aktiv: 100 Kommunen ... für eine Stärkung der nachhaltigen Beschaffung").

In this program target agreements are set up, which foresee a procurement of regionally produced goods with the aim of lowering transport emissions and fostering regional added value! Holz von Hier is already in contact with the focal points for this program to address communities implementing Holz von Hier as low carbon timber products in their procurement processes.

2.2 Baden-Wuerttemberg

In Baden-Wuerttemberg a regulation for awarding of contracts is in place (see VwV-Beschaffung_150317 on google drive casco/Germany/documents/action programs/country level/Baden-Württemberg). Within this regulation however no concrete or specific requirements regarding the character of products or services tendered are named. It just define the frame of general procurement procedures. In the frame of that the demand for an environmental label as proof for environmental product characteristics is legitimate, if the label meets 5 conditions:

- The label criteria refer only to aspects which are in relation to the object of procurement and which are suitable to define characteristics of the product or service to be tendered
- The label requirements are based on objective and verifiable criteria
- The label has been developed and introduced in an open and transparent procedure open to all stakeholders [...] may participate
- The label is accessible to all interested offerors
- The requirements of the label are defined by actors on which the business participants aiming to achieve the label do not have influence.

For purchasers and procurers a guideline for sustainable procurement gives more practical advice: ‘sustainable procurement in practice’. This guideline names some relevant environmental label. There is not yet a transportation aspect regarded, but current negotiations between Holz von Hier and the ministry for environment aiming this.

3 Other references, connecting points and options for applying or fostering low carbon timber

3.1 Legal opinions

Low carbon products because of low transportation production are not yet topic of sustainable procurement. Therefore one cannot draw on extensive experiences in this field. As the implementation of environmental issues in procurement in
general is a fairly new development, a lot of decision makers and procurement officers are reluctant in demanding regionally produced goods in calls for tender. Nevertheless there are various opportunities to integrate this aspect in procurement processes, if certain conditions are fulfilled. In the general perception it is illegitimate in the light of the inner European market to demand just regional products as such. As this is supposed to be true, the criterion for a legally implementation of such products is the climatic argument. The argumentation chain is basically that even in compliance with European law it is definitely legitimate to limit the competition if there is a substantiated cause for that. As ‘regional production’ does not meet these conditions, especially climate friendly and resource saving product do so.

Regarding the compliance of demanding low carbon timber products in the light of this argumentation in public procurement processes meanwhile three legal opinions are existing, testifying this for the example of the environmental label Holz von Hier©. Up to now they exist in German language.
3.2 Existing procurement and construction guidelines naming Holz von Hier© or other examples for addressing transport intensity in call for tenders.

In the meantime Holz von Hier© as climate and environmental label has been integrated in different guidelines for public procurement or public construction. They will be subsequently described. Additionally a guideline has been published by the German association of cities and towns for procurement of waste paper disposal, proposing transport related selection criteria.

**Federal agency for renewable raw materials (FNR).**

The Federal agency for renewable raw materials is engaged in advising public authorities in sustainable procurement with renewable raw materials. This is operated through different online platforms (see chapter 3.3) as well as through printed guidelines for public procurement in specific sectors.

Up to now one thematic guideline has been published for the sector public green spaces and another thematic guideline for office equipment and furnishing will be published soon. In both guidelines Holz von Hier presented as one of potential environmental labels for public procurement.

**Developmental Policy Network of Rhineland-Palatinate (Elan RLP)**

The Developmental Policy Network of Rhineland-Palatinate is an association of developmental policy groups and initiatives in Rhineland-Palatine. It advises public authorities in eco-fair procurement issues. The Elan-RLP publishes different guidelines and brochures for that purpose and operates an online platform. In the currently upgraded guideline “sustainable procurement” for regional initiatives in RLP the label Holz von Hier is mentioned as a relevant label for procurement of wood products. We will place it on the folder at google drive if it officially published.

**Ministry of infrastructure and state development of Brandenburg**

The Ministry of infrastructure and state development of Brandenburg published a guideline for procurer and consumer for the choice of sustainable construction materials. These guideline present relevant labels for the selection of materials and products. As one of the labels as well Holz von Hier is named. See the guideline on google drive casco/Germany/documents/procurement guidelines and regulations.
3.3 Placement of Holz von Hier® as indicator for low carbon timber in existing online platforms for sustainable consumption and procurement

Besides the printed guidelines a set of online platforms does exist, which give orientation to purchasers, planners as well as consumers regarding a sustainable procurement or sustainable consumption. They are shortly characterized below.

A. For public authorities

http://beschaffung.fnr.de. This platform of the federal agency for renewable raw materials (FNR) gives advice for public procurement of renewable materials. The FNR evaluated, together with the institute for research on ecological economy (IÖW), more than 300 european environmental labels and has choosen 8 out of it as recommendable for sustainable procurement of timber products (pers. Communication FNR & IÖW). One of it is Holz von Hier®.

http://das-nachwachsende-buero. A specific platform regarding office furnishing and equipment with renewable materials, operated by the FNR as well, ist the "renewable office". It presents materials, producers and labels to interested public procurers. Holz von Hier is listed with regard to timber products on this platform.
http://siegelklarheit.de. This platform is a common online platform of several German federal ministries aiming to give orientation on trustworthy environmental labels on the market.
http://kompass-nachhaltigkeit.de. This platform is operated from the ministry of development and economic collaboration as a federal guidance platform which gives public authorities and procurers information regarding environmental and sustainability requirements in procurement processes, providing them as well with best practice examples.

http://www.nachhaltige-beschaffung-thueringen.de. This online platform on country level is the official orientation platform for public procurement in Thruringia. Regarding the procurement of wood products the label Holz von Hier is presented as a comprehensive certificate for climate friendly timber products from sustainable managed forests.

B. Procurement in churches

www.ci-romero.de/glaubhaftfair_gh_holz. This non-profit organization developed guidelines for a sustainable procurement in churches. Meanwhile they took up as well the label Holz von Hier in the portfolio of eco-fair procurement. The integration of Holz von Hier in Procurement rules of both national churches in Germany is currently in discussion.

C. For planners

www.wecobis.de. This platform is an official federal platform, run by the ministry of environment together with the Bavarian architect’s chamber. The platform addresses planners and architects and gives information on the character and environmental footprint of various construction materials and products. The
platform as well displays relevant environmental and quality labels. For wood products the wecobis present as well the label Holz von Hier.

D. For consumers

www.label-online.de. This platform is run by the German association of consumers protection initiatives. It evaluates and assesses various kinds of labels regarding different products and environmental criteria. Holz von Hier is evaluated as especially recommendable.
http://UBA.de/siegelkunde. The federal environment agency operates a section on its website regarding environmental labels, it judged as trustable and recommendable for sustainable consumption. Holz von Hier is recommended for the purchase of wood products at the example of furniture’s.
http://nachhaltiger-warenkorb.de. The platform 'nachhaltiger-warenkorb.de' is an online platform of the federal council for sustainable development, presenting and rating environmental signs and labels for sustainable consumption in various applications.

### 3.4 Existing incentive programs

Besides the vehicle of public procurement, public authorities have other opportunities to foster climate protection and sustainable development in their range. One possibility are funding instruments as incentive for sustainable living and acting of their inhabitants. The city of Munich has established such a funding program for private and public principals and building contractors, the **Munich funding program for energy saving**. In this guideline owners can obtain a grant to certain measures, if they meet defined requirements. If they use for instance regional wood with low transport distances, documented by a certificate of Holz von Hier®, they can apply for a grant of 150 € per cubic meter of used timber. (see the complete regulation as well as the relevant excerpt on google drive at: Casco/Germany/documents/procurement guidelines and regulations/fes-richtliniepdf.pdf)

On national level a funding program for multilevel timber buildings is in development. The draft version of this planned regulation, developed by the German eco institute, foresees a special funding for the usage of wood from
certified forests or low carbon timber with a low transport balance, documented through a certificate of Holz von Hier (pers. Communication eco institute). However this regulation is not yet finally in force.

### 3.5 Low carbon timber as criterion in certification schemes for sustainable buildings

The new German federal certification standard for small building (BNK) set requirements to wooden materials in buildings. The wood product achieves the full score, if it originates from sustainable managed forests or alternatively has been regionally produced with low transportation balance. The documentation through for instance a certificate of Holz von Hier is in preparation and will be taken up into the FAQ-manual for this regulation. see the complete regulation as well as the relevant excerpt on google drive at: casco/Germany/documents/procurement guidelines and regulations/3.3.1_Einsatz_Holz_V1.0.pdf.

### 3.6 Other european projects

The project **BuyZET.**

Within this project, funded by the European program Horizon 2020, each of the 2 participating cities will **study the transportation impacts of different types of procurement activities** following different methodologies being developed within the project:

1. City owned fleet (e.g. office car fleet, garbage trucks, maintenance staff)
2. Purchased transport services (e.g. bus services, social transportation, school transport)
3. Delivery of other goods and services by contracted suppliers (e.g. construction, road maintenance, office supplies, cleaning services, school catering).

Each city will then identify two priority procurement areas to focus on for the project. For each procurement priority area, the cities will explore potential innovative procurement solutions by:

- Establishing a constant dialogue with all relevant market actors in the supply chains of the selected procurement areas
- Engaging with other cities
- Exploring best practice from across Europe
- Forming Buyers Groups to launch joint or collaborative procurement actions

At the end of this process Innovative Procurement Plans will be developed for each procurement area, to be implemented by the cities in the coming years.
4 Fields of action

As especially smaller communities do not necessarily plan new buildings or the application of wood in other forms it is worthwhile to identify the potential action fields of public authorities to foster the usage and application of low carbon timber. Public authorities may influence the use of wood in various ways, as subsequently described. Such implicit activities and measures may be realized under activity 4.2 - 4.4 in work package 4 of the CaSCo project.

4.1 Adaptation of procurement rules

The primary target of the CaSCo project is to establish the issue of low carbon timber explicitly in internal procurement rules of the public authority. This will have a long lasting effect. Nevertheless this path is a stony one and takes considerable time, as various levels of actors in the public authority have to be involved. But on the other hand, this process serves the common understanding of all forces within a public authority.

4.2 Development of incentive programs

Following the example of the City of Munich, bigger cities may establish an own funding program, where low carbon timber is better scored and appreciated by a financial support for purchasing related application services. The city of Hamburg currently is in process of developing a comparable funding regulation. However this may only be suggested and initiated within the CaSCo project but not implemented.

4.3 Influencing the type and origin of construction material in land-use planning

Public authorities establish framework development planning for building intentions on their territory. In such framework planning for certain areas assigned to construction and building purposes, often specific regulations and requirements are made. Potentially the usage of wood resp. especially low carbon timber may be implemented.

4.4 Citizen information & awareness campaigns

Even if a public authority would not purchase local wood by itself, it may influence or trigger the climate friendly usage of low carbon timber through sensitizing their citizens. This may happen from just displaying information material in the town hall or courthouse over presenting an exhibition up to installing a smart places point, as a possible action proposed in AT 4.4. Furthermore usually principals need to submit a building application to the administrative office of the public authority. The applicants receive in connection herewith a folder with relevant
information. The public authority could add information about the meaning of low carbon timber for climate and environment as well as purchasing sources into this folder.

4.5 Internal awareness rising

Often the usage or application of low carbon timber is a matter of sensitivity or lack of information. Provided with information about low carbon timber, related products, sources of supply etc. actors in public authorities may inform colleagues, persons responsible for application of wood or decision makers about the opportunities they have. This sometimes makes a change even without political decisions and regulations.
LIST OF REFERENCES AND MAIN RESOURCES USED AND NAMED IN THE REPORT

EU directives:

Directive 2014/24/EU (replacing directive 2004/18/EC)
http://eur-lex.europa.eu

Useful Green Public Procurement websites

http://ec.europa.eu/environment/gpp/index_en.htm
http://www.gpp2020.eu
http://primes-eu.net/
http://greensproject.eu/en/

France

https://www.legifrance.gouv.fr/affichTexte.do?cidTexte=JORFTEXT000031493783
http://boisdesalpes.net/
http://www.bois-de-chartreuse.fr/
www.b.bourgognefranchecomte.fr/guide-bois-local

Austria

https://www.vorarlberg.at/pdf/forststrategie201805_03_2.pdf
http://www.steirischerwald.at/ntaautor/napro4/appl/na_professional/parse.php?mlay_id=20000&mdoc_id=5015198&npf_set_pos%5B%5D=3
https://www.vorarlberg.at/pdf/oekolandvorarlbergbroschu.pdf
https://www.vorarlberg.at/pdf/koalition_regierungsprogr.pdf
www.vorarlberg.at/pdf/schlussberichtenkeltagli.pdf
https://www.ris.bka.gv.at/
Slovenia

http://www.ekoart.si/
http://www.biofuture.si/eng/

Italy

http://www.minambiente.it/sites/default/files/archivio/allegati/impronta_am bientale/2_RegMadeGreenItaly.pdf
http://www.reterurale.it/flex/cm/pages/ServeBLOB.php/L/IT/IDPagina/16329
http://www.cittametropolitana.torino.it/cms/ambiente/agenda21/ape
https://www.acquistinretep.it/opencms/opencms/main/programma/servizi/A cquisti_verdi/Criteri_Verdi_iniziative.htm
http://www.envipark.com/?s=pefc
www.consorzioforestelecanavese.com/
http://12tomany.net/

Germany

http://www.verwaltungsvorschriften-im-internet.de/bsvwwbund_13022013_B1581643321841199.htm
http://beschaffung.fnr.de
http://das-nachwachsende-buero
http://siegelklarheit.de
http://kompass-nachhaltigkeit.de
http://www.nachhaltige-beschaffung-thueringen.de
www.ci-romero.de/glaubhaftfair_gh_holz
www.wecobis.de
www.label-online.de
http://UBA.de/siegelkunde
http://nachhaltiger-warenkorb.de
CaSCo partners

Business Support Centre, Kranj (SI)
www.bsc-kranj.si

Rhônalpénérige-Environnement (FR)
www.raee.org

Development Agency Sinergija (SI)
www.ra-sinergija.si

IG Kraftspendedorfer Joglland (AT)
www.kraftspendedoerfer.at

Parco Scientifico per l’Ambiente (IT)
www.envipark.com

E-Institute (SI)
www.ezavod.si

Regionalentwicklung Vorarlberg eGen (AT)
www.regio-v.at

Mountain Union of the Municipalities of Valsesia (IT)
www.unionemontanavalsesia.it

Environment Protection Agency for the Piedmont Region (IT)
www.arpa.piemonte.gov.it

Holz von Hier gemeinnutzige GmbH (DE)
www.holz-von-hier.de

Climate Alliance Klima Bundnis (DE)
www.climatealliance.org