




Alpstar

TOWARD CARBON
NEUTRAL ALPS

12 PILOT REGIONS



A BEST PRACTICE PLATFORM

Country

Thematic

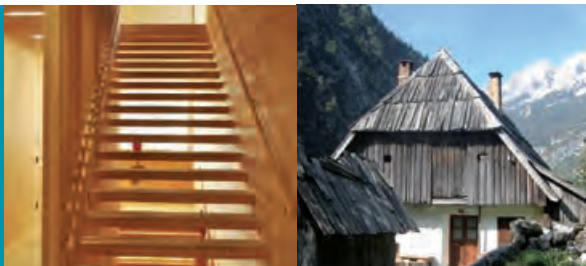
Type

Key words



www.alpstar-project.eu

PARTNERSHIP STRUCTURE



LEAD PARTNER

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PARTNERS

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| SLOVENIA | PRC | SOCA VALLEY DEVELOPMENT CENTRE | www.prc.si |
| AUSTRIA | VLBG | FEDERAL STATE VORARLBERG | www.vorarlberg.gv.at |
| | UNEP | UNITED NATIONS ENVIRONMENT PROGRAMME REGIONAL OFFICE FOR EUROPE Interim Secretariat of the Carpathian Convention, UNEP Vienna - ISCC | www.unep.org www.carpathianconvention.org |
| ITALY | EURAC | EUROPEAN ACADEMY BOLZANO | www.eurac.edu |
| | FLA | LOMBARDY FOUNDATION FOR THE ENVIRONMENT | www.flanet.org |
| | VENETO | VENETO REGION -INDUSTRY AND HANDICRAFT DEPARTMENT | www.regione.veneto.it |
| GERMANY | ASDJ | ALPINE TOWN OF THE YEAR ASSOCIATION | www.alpenstaedte.org |
| | ÖA | ENVIRONMENTAL ASSOCIATION FOR THE ALP VALLEY ACHENTAL | www.oekomodell.de |
| FRANCE | CIPRA FR | CIPRA FRANCE (FRENCH COMMITTEE OF THE INTERNATIONAL COMMISSION FOR THE PROTECTION OF THE ALPS) | www.cipra.org |
| | RAEE | RHÔNALPÉNERGIE-ENVIRONNEMENT | www.raee.org |
| SWITZERLAND | AREG | BUREAU FOR SPATIAL DEVELOPMENT AND GEO-INFORMATION OF THE CANTON OF ST. GALLEN | www.sg.ch |
| LICHTENSTEIN | AU | OFFICE OF ENVIRONMENT | www.aus.llv.li |

PROJECT PRESENTATION



Temperatures in the Alps have risen almost twice as much as the global average over the last century. And they are set to rise even more, especially if the Alps themselves continue to consume around 10 % more energy per capita than the European average. However, clever and innovative adaptation or mitigation initiatives are increasing in local and regional alpine areas facing to climate change consequences. The challenge is thus to make best practice become minimum standard if we want climate neutrality in the Alps be achieved within the next 40 years. Here is the aim of the Alpine Space project « Alpstar. Toward Carbon Neutral Alps - Make best Practice Minimum Standard » through the collection, analysis, comparison, testing and implementation of climate protection measures in 12 pilot regions all the over the Alps. It is now our turn to make mountains reach the stars!

OBJECTIVES OF THE PROJECT

MAIN OBJECTIVE

To move toward carbon neutral Alps by making best practice minimum standard !

ALPSTAR encourages the capitalization, diffusion and implementation of proven good practice measures in reduction of climate change and preparation of cross-sectoral strategies and action plans toward carbon neutrality on regional and local level.



SPECIFIC OBJECTIVES

TO ENCOURAGE and support exchanges of experiences, knowledge and know-how among pilot regions in order to facilitate their implementation and to capitalize and spread local strategies and good practices for the reduction of GHG emissions.

TO SEARCH for good practices in preparation and implementation of strategies, action plans and measures toward carbon neutrality and to make them become minimum standard.

TO IMPROVE transboundary, cross-sectoral and inter-policy-level cooperation in coping with climate change.

TO PROMOTE integrative and participatory approach in development of cross-sectoral strategies and action plans and implementation of measures toward carbon neutrality.

TO EMPOWER local and regional administrative actors and planners to become facilitators of change.

TO ENCOURAGE POOLING, transfer and implementation of innovative and efficient good practices from and to other Alpine regions and beyond.



PILOT REGIONS



THE ALPINE REGIONS INVOLVED IN PILOT ACTIONS

Alpstar encourages the capitalization, diffusion and implementation of proven good practice measures in reduction of climate change and preparation of cross-sectoral strategies and action plans toward carbon neutrality on regional and local level.

| Country | Pilote Region | Actions |
|---|---|---|
|  |  | <ul style="list-style-type: none"> Setting-up a sustainable urban mobility plan (SUMP) |
|  |  | <ul style="list-style-type: none"> Analyzing the situation of tenants regarding energy vulnerability (housing and transports) Setting up of a method to determine the level of vulnerability First test to determine the effects of building refurbishments on vulnerability |
|  |  | <ul style="list-style-type: none"> Improving energy efficiency of winter sport resort's equipments |
|  |  | <ul style="list-style-type: none"> Producing guidelines for buildings renovation according to energy and patrimony stakes Setting-up a sustainable energy action plan (SEAP) |
|  |  | <ul style="list-style-type: none"> Developing a cross-border communication campaign for carbon neutral lifestyle Promotion of alternative mobility schemes Modal shift actions |
|  |  | <ul style="list-style-type: none"> Investigating and evaluating the option to implement a light, modern and fast tram-train system and intermodal solutions Evaluation of existing heating and cogeneration plants on biomass and/or biogas and development of scenarios for new plants; support the «network for sustainable building» |

| Country | Pilote Region | Actions |
|---|---|--|
|  |  | <ul style="list-style-type: none"> Pilot analysis about carbon neutrality on industrial cases Realization of guidelines dedicated to policy makers to better link sectorial - territorial policies and to support the implementation of the LCA analysis tool in Veneto industrial chains |
|  |  | <ul style="list-style-type: none"> Spatial planning of one industrial CO₂ neutral city quarters Start of construction of net zero energy building (NZEB) |
|  |  | <ul style="list-style-type: none"> Elaboration of a renewable energy concept for the City |
|  |  | <ul style="list-style-type: none"> Creating climate neutral and climate conscious holiday services Promote the energy retrofit through preparing a concept and an information event Preparing a concept for innovative mobility offers with reduced traffic and CO₂ emissions, focus on electric mobility Awareness raising within the population |
|  |  | <ul style="list-style-type: none"> Improving regional wood value added chain Setting up a Sustainable energy action plan (SEAP) |



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PILOT REGIONS

To make best practice
minimum standard ?
Make policies maximum evolution !

THEMATIC FIELDS OF THE PILOT ACTIONS

- | | |
|---|---|
|  Transport |  Tourism |
|  Buildings and construction |  Other industries and services |
|  Energy |  Spatial planning |
|  Land use and agriculture |  Education |





NORTHERN GORIŠKA

SUMMARY:

The pilot region has a lot of wood, but the chain from landowners to final user does not function well. Most of untreated wood is exported abroad; so the region is still dependent on external sources as fossil fuels. Therefore, among other things, the pilot region Northern Goriška is trying to create favourable conditions for the establishment of value added chain of wood.

OBJECTIVES:

GENERAL:

Creating conditions for establishment of regional wood value added chain.
In terms of :

- **Energy saving:** from fossils to local renewable energy
- **GhG emissions reduction:** refurbishment of public buildings
- **Renewable energy development:** long distance district heating systems

CONTACT:

Institution: Posoški razvojni center/Soča Valley Development Centre

Name: Miro KRISTAN

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DESCRIPTION:

The pilot region Northern Goriška in Slovenia includes five municipalities in the north-west of Slovenia: Bovec, Cerklje, Idrija, Kobarid and Tolmin. They are situated in the Alpine part of Slovenia next to the border to Italy and are combined together by river basins of the rivers Soča and Idrijca.

The pilot activities are focused in achieving lower levels of carbon in the environment to the promotion of wood, which is dominating natural resource in the area. Our actions are and will be implemented for the benefit of households and companies in the area and for emphasising the important connection of households as consumers, owners and local enterprises as providers and municipalities as intermediary between them.

The objectives are going in line with the Slovenian document Action plan (2012) to increase the competitiveness of the forest-wood chain in Slovenia with a promotional



The municipality of Tolmin

slogan: «Wood is beautiful». The document defines wood as a strategic material of Slovenia, which has a huge untapped potential.



Letter opener of wood



Door holder of scrap wood

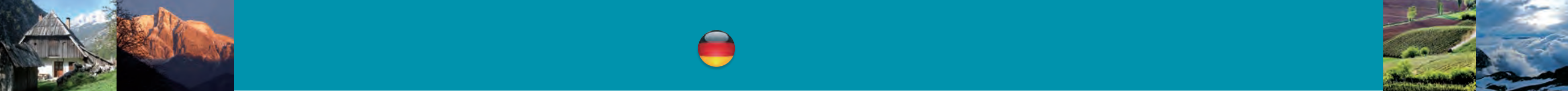
Another cross linking document is the regional development programme, where biomass is defined as a big strength and opportunity of the North Primorska region, where the pilot region Northern Goriška represent a big part.

The overall goal is next to create conditions for the establishment of value added chain of wood, to achieve more efficient and local use of the biomass' potential, to raise the energetic sufficiency of the region, to achieve a higher efficiency of single heating systems and to introduce long distance systems where possible.

In line with the objectives the pilot region...

- published a public invitation to design and produce promotional product made of massive wood (more than 20 designers participated). The winners are two: door holder of scrap wood and letter opener of wood, overgrowing on pastures.
- subcontracted an energy agency to prepare a preinvestment study as a legal basis for long distance district heating systems in Kobarid and Tolmin (still in progress)
- implemented energy performance checks already for four public buildings in the towns Tolmin and Idrija
- launched the tender for the concession for the implementation of long distance district heating in Bovec
- prepared a carbon foot print for the pilot region (the final output is still in progress)

The motivation of the municipalities of Idrija and Tolmin to prepare a 'Sustainable Energy Action Plan' and to join the 'Covenant of Mayors' upgrades all efforts to improve the energy efficiency and use of local materials in the pilot region.



ACHENTAL

SUMMARY:

The pilot region Ökomodell Achenal is implementing different actions in regard to climate change and energy consumption in the fields of tourism, building retrofit, transport and education. Important hereby is always the connection to different stakeholders as local businesses in the field of tourism or building construction and the local population.

CONTACT:

Institution: Ökomodell Achenal e.V.

Name: Stefan KATTARI

email: regionalmanagement@oekomodell.de

DESCRIPTION:

TOURISM: CREATING CLIMATE NEUTRAL AND CLIMATE CONSCIOUS HOLIDAY SERVICES

Objectives: To install in the region different offers for climate neutral and climate conscious holiday services.

Planned and achieved results: Various holiday services from the sectors of accommodation, leisure activities and restaurants will be selected and supported for designing offers with minimized CO₂-emissions. Compensation for the remaining emissions will be offered to the actors through CO₂ saving activities in the pilot region. The regional purchase of food, services and goods will be promoted (local farmers' market). The CO₂ services and the offers will be carefully included in the regional PR work. Moreover, in various activities the sensitivity for CO₂-issues will be underlined. The region's profile on alternative tourism will be enhanced. A target group analysis regarding the tourists will be made.



BUILDING RETROFIT: PROMOTE THE ENERGY RETROFIT

Objectives: House owners in the region will be addressed to get active and improve their energy balances by retrofit and renovation work.

Planned and achieved results: Preparation of a concrete event bringing together architects, craftsmen and house owners. Elaboration of a concept how to push on the energy retrofit and elaboration of information material. Special documentation of best practice examples. Pres-work to inform about the action.



TRANSPORT: PREPARE A CONCEPT FOR INNOVATIVE MOBILITY OFFERS WITH REDUCED TRAFFIC AND CO₂ EMISSIONS, FOCUS ON ELECTRIC MOBILITY

Objectives: The mobility structure in the Achenal valley will be examined. A concept to improve transport infrastructure based on electric mobility and public transport will be elaborated.

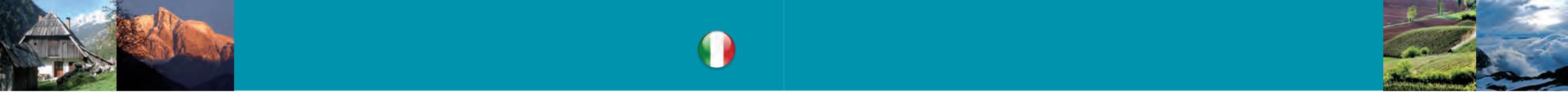
Planned and achieved results: The action should comprise the careful elaboration of the mobility needs. On this data basis then a concrete concept will be elaborated. Funding will be searched for installing the infrastructure in a second step.



EDUCATION: AWARENESS RAISING WITHIN THE POPULATION

Objectives: An important factor in mitigating climate change will be a change in behavior. To focus on this and to make the Achenal's population aware of energy consumption and energy efficiency, different actions will be planned and realized. Target groups will be the different age groups.

Planned results: Analysis of possible actions for the different target groups, realizing implementation of actions.



VENETO REGION

SUMMARY:

The Veneto Region introduces the eco-innovation process into its industrial chains. The results will deliver a roadmap for the large scale uptake of the eco-innovation patterns across the Small and medium-sized enterprises (SMEs) that represent a key vector to reduce carbon emissions and environmental stress factors in the industrial background.

OBJECTIVES:

GENERAL:

Introducing eco-innovation processes in industrial chains as a strategy to reduce carbon emissions

CONTACT:

Institution: **Veneto Region – Industry and Craft Department**

Name: **Michele PELLOSO**

email: michele.pelloso@regione.veneto.it

DESCRIPTION:

WAYS OF ECO-INNOVATION AND REDUCTION OF CARBON EMISSIONS IN INDUSTRIAL CLUSTERS A STORY OF SMALL BUSINESSES, LARGE ECONOMIC GROWTH AND NEW ENVIRONMENTAL CHALLENGES

Veneto has in the industrial manufacturing chains one of the key elements that characterizes its regional production system. Unlike other regions of Italy and Europe, characterized by the presence of large industries, Veneto has grown and developed on the basis of a network of medium, small, often very small enterprises, which have developed very strong economic relations, defining a significant network of partnerships and supply chains related to the territory.

Over the recent years the “Veneto’s industrial district model” is changing: while some clusters are declining due to the economic crises, others are moving towards new development patterns characterized both by leading industries aggregating its own territorial entrepreneurship network and multi-leadership industries.



Villa Capra detta (La Rotonda)

In this frame, the issue of more environmental sustainable approaches in the production chain, the management of natural resources and reduction of emissions has recently become not only a central element in the regional industrial policies but also a market leverage. Unfortunately, as shown by a recent Eurobarometer survey, SMEs - compared to larger enterprises - are considerably

less likely to implement processes for the «greening» of the supply chain (64% vs. 82%) and to have an environmental management system (25 % vs. 48%) mainly due to the lack of experience inside SMEs and cost of information, data, and diagnosis tools.



Verona - Ponte Pietra (Verona)



Verona Arena

INTRODUCING ECO-INNOVATION IN VENETO’S INDUSTRIAL CHAINS

The pilot actions are addressed to foster eco-innovation processes in the SMEs in order to reduce carbon emissions in some industrial production areas, as well as to mitigate the global environmental impact of complex production cycles.

The specific objectives are:

- analysis of the Veneto region emission inventory to identify the main sources of atmospheric pollutions in the industrial areas and contextual analysis of the barriers that prevent districts to invest in greening the supply chain
- identification of the more representative meta-products and the more suitable industrial chains to implement an eco-innovation process based upon a Life Cycle Analysis together with the main regional industrial players and business associations
- introduction of a roadmap for eco-innovation approach into the regional industrial chains through awareness raising actions following the results of the LCA, both with the industrial players and the policy-makers, also in the perspective of profiling possible eco-innovation supporting measures into the Regional Operational Programme 2014-2020



Lago di Garda - Malcesine. (Verona)

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CITY OF BOLZANO / BOZEN

SUMMARY:

Bolzano has already started an ambitious journey towards Carbon neutrality. The elaboration in Alpstar of a Sustainable Energy Action Plan (SEAP) within the frame of the Covenant of Mayor represents a further step in the direction of sustainability. The network set up for the elaboration of the plan has led to joining another major European Research Project (Sinfonia). Alpstar also represents the opportunity for the elaboration of further studies on Net Zero Energy Buildings.

OBJECTIVES:

GENERAL:

To reduce CO₂ emissions by 20% by year 2020 in comparison to those of year 2010

In terms of :

- **Energy saving:** 530GWh of energy saved
- **GhG emissions reduction:** 124.000 tonnes of CO₂ reduction
- **Renewable energy development:** 32 MW new PV plants installed

CONTACT:

Institution: Municipality of Bolzano

Name: Dr. Emanuele SASCOR

email: emanuele.sascor@comune.bolzano.it

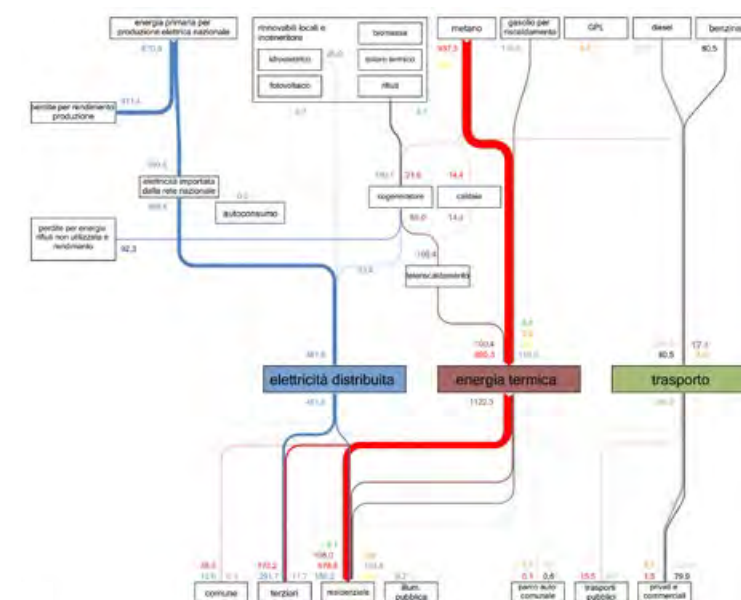
DESCRIPTION:

The main activity carried out within the project Alpstar in Bolzano has been the elaboration of the Sustainable Energy Action Plan (SEAP) in the frame of the Covenant of Mayor. The objective is to reduce by the year 2020 the CO₂ emissions of 20% in comparison to the emission of 2010.

The process of drafting the SEAP has been concluded and will be soon finalized with the formal approval by the city council. The impulse coming from the activities carried out along the preparation of the SEAP has led to the successful participation to the FP7 (EU research funding program) call for proposals "Smartcities-2013". The implementation of the winning project SINFONIA will represent an important contribute for the City of Bolzano towards the achievement of the CO₂ emissions reduction target set in the SEAP.

The project Alpstar entails also the implementation of two pilot actions: the elaboration of a technical feasibility study on spatial planning of one industrial CO₂ neutral city quarter and the elaboration of a document for the transfer of knowledge acquired by EURAC collaborators in the design and implementation phase of a Net Zero Energy office Building (NZE).

The Sankey diagram is representative of the activities carried out within the elaboration of the SEAP which has required a complete analysis of the energy consumption situation in order to calculate the CO₂ emission at stake. The preliminary analysis together with inputs from the Municipality have led to the elaboration of a set of 28 actions in the different sectors as efficiency in building, renewable share, transport, information and dissemination with the aim of reducing the CO₂ emissions. The regulations contained in the building code and the development of a district heating system will lead alone to the reduction of the CO₂ emission by more than 14% by 2020.



Sankey diagram of the energy consumption of the city of Bolzano illustrating the energy fluxes in year 2010. (source: EURAC)



The city of Bolzano has 50 km network of cycle path which in the next year will be extended with further 15 km. Almost 30% of the inhabitants use the bicycle on a daily base for their activities, while the use of cars with only 25% falls among the lowest level among Italian cities.

Map of the city of Bolzano with the cycle path. In red the programmed expansion. (source: City of Bolzano)



Rendering of the planned technology park in Bolzano. (source: Clea)

SUMMARY:

With the realization of a district heating system and the recent installation of a biomass plant, Bressanone has already significantly reduced its CO₂ emissions. The Sustainable Energy action Plan (SEAP) developed within the framework of the Covenant of Mayor entails the further reduction of the emissions by more than 10% in year 2020. A further study conducted within the framework of Alpstar will assess the possibility to cover 100% of the energy demand through renewable sources.

OBJECTIVES:

GENERAL:

To reduce CO₂ emissions by 20% by year 2020 compared to base year 2005
In terms of :

- **Energy saving:** 99GWh of energy saved
- **GhG emissions reduction:** 29.800 tonnes of CO₂ reduction
- **Renewable energy development:** 9 MW new PV plants installed

CONTACT:

Institution: **Municipality of Brixen**

Name: **Ing. Alexander GRUBER**

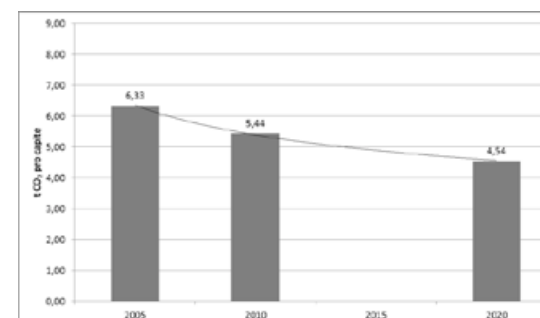
email: alexander.gruber@brixen.it

DESCRIPTION:

The pilot action foreseen for Bressanone within the project Alpstar consists of the elaboration of a renewable energy concept for the city and its territory. The idea is to assess both the potential for energy production from renewable sources and the margins of energy savings in order to evaluate the feasibility of covering 100% of the total energy demand (transport sector not included) without using fossil fuels. In the Province of Bolzano 19 small municipalities covers already their energy demand (both electric and thermal and without transport sector) using renewable energies (Report Legambiente 2013).

Bressanone with its 20.000 inhabitants presents a higher population density in comparison to the other cities mentioned above making it more difficult to cover the energy demand with renewables. This pilot action is directly connected with the elaboration of a Sustainable Energy Action Plan (SEAP) with targets for the year 2020 representing the main activity in Bressanone within the framework of the project Alpstar.

The SEAP was completed and was already approved by the City Council. The information and data collected during the drafting of the document will be used as a base for the elaboration of the renewable energy concept extending this way the content of the SEAP beyond the target set for year 2020.



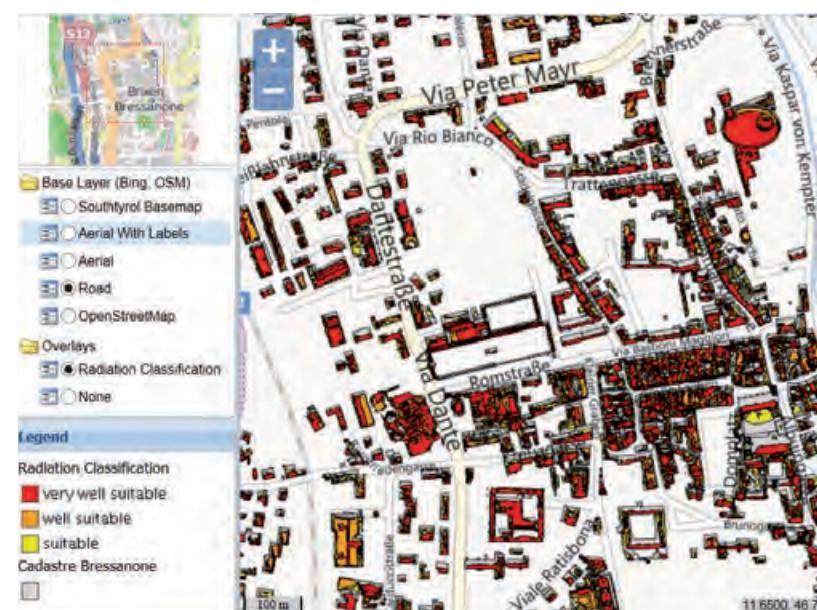
Pro-capite CO₂ emission reduction trend 2005 - 2010

(source: EURAC)



Growth of heating demand 2005-2010 vs reduction of emission 2005-2010 (source EURAC)

With regard to the emissions trend between 2005 and 2010 it is interesting to notice how the reduction of emissions (as it is the case in the heating sector) has decreased despite an increase of the total energy demand (mainly due to a growth in population).



One of the support actions of the SEAP for Bressanone is the Solar Cadastre tool which promotes the diffusion of Photovoltaic and Solar Thermal installations

The solar cadastre of Bressanone (source: EURAC)



SUMMARY:

Valtellina is a wide alpine valley in the middle of Italian Alps and constitutes a Province of the Lombardy Region with a resident population of more than 150.000 inhabitants (Province of Sondrio). The keen support provided by regional and local policy-makers to ALPSTAR project, has enabled FLA to carry out two pilot actions addressed to the two sectors responsible of largest share of carbon emissions in the Valley's area, namely road transport and civil heating.

OBJECTIVES:

GENERAL:

- Assess the maximum development potential of bio-energies.
- Assess the feasibility to integrate local public transport system covering the long-distance travels (macro-mobility) with soft and modern intermodal solutions able to cover the first and the last mile (micro-mobility).

CONTACT:

Institution: [Fondazione Lombardia per l'Ambiente](#)

Name: [Mita Lapi](#) / [Chiara Gandini](#)

email: mita.lapi@flanet.org / chiara.gandini@flanet.org

DESCRIPTION:

PRODUCING AND DISTRIBUTING ENERGY BY DIFFERENT BIO-ENERGIES: INTEGRATION OF EXISTING FACILITIES AND DEVELOPMENT SCENARIOS FOR NEW PLANTS

The territory of Valtellina is particularly rich in bio-energies deriving from different sectors (forest biomass, agricultural waste, biogas from livestock farming, wood industry residues, etc). These renewable sources already provide a significant contribution to the provincial energy balance, mainly concentrated in the residential sector with low-power heating plants.

Moreover, in the past ten years, three large energy plants fueled by forestry biomass residues and two biogas plants fed by agro-farms material have been successfully started in Valtellina and four other medium-size power plants fueled by forestry biomass and connected to small district-heating networks have recently been built in some small municipalities with very positive results.

In this context, the pilot action aims at assessing the maximum development potential of bio-energies from different sources

| Sector | Value (TOE) | % |
|-----------------------|----------------|---------------|
| Residential | 183.221 | 42,2% |
| Extra-urban transport | 89.607 | 20,6% |
| Industry | 55.011 | 12,7% |
| Tertiary | 53.096 | 12,2% |
| Urban transport | 49.641 | 11,4% |
| Agriculture | 4.102 | 0,9% |
| TOTALE | 434.678 | 100,0% |

Final energy consumption in 2010 (sectors)

Source: SIRENA Regione Lombardia

in the whole provincial territory, taking into account their local supply and sustainable use, in order to set up the design and management of a local energy strategy aimed at a Carbon Neutrality by 2050.

The objectives achieved by the project's midway are the followings:

- detailed assessment of the current state of existing plants from the energy, environmental and economic point of view;
- identification of positive and critical aspects of the current local system of energy production from bio-energies (supply, economic and environmental benefits);
- evaluation of the growth potential of the different «bio-energies» of the whole province, consistent with local availability and a sustainable use.

ENHANCEMENT OF VALTELLINA PUBLIC TRANSPORT

The urban-territorial structure of the Province of Sondrio is based on 5 small towns that constitute the axial backbone of the local transport network and act as branch points for the daily commuters and public transport customers. The Valtellina railway is the historical spine of the public transport system of the Province and is the only railway route to get to the greater metropolitan area of Milan, as well as to the rest of the Region and any other national or international connection. The opportunities offered by the railway are only partially exploited by visitors and tourists directed to the Valley and even the residents are often more willing to use their own car due to the limited daily runs of the trains. This causes intense vehicles' flows on the valley-bottom roads, frequent traffic jams, daily congestion during the rush hours and consequent **high rates of air pollutants emissions** (PM10 and PM 2.5, nitrogen oxides, benzene).

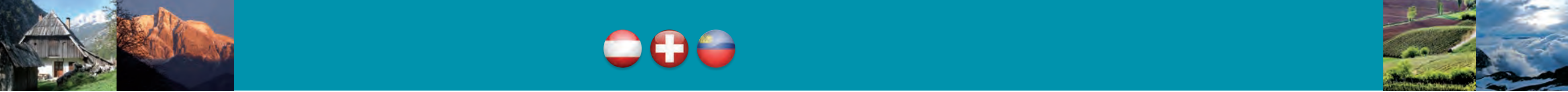


Source: Shutterstock

This ALPSTAR pilot action proposed to assess the feasibility of a new transport scheme based on the integration of the existing public transport system (train + bus) with light and modern intermodal solutions capable to cover the "first and last mile" (bicycles, electric cars, e-bike and car sharing, set-up and optimization of short-range collective public transport).

The objectives achieved by the project's midway are the followings:

- assessment of present mobility structure in the valley;
- sample social survey to assess the actual habits of inhabitants and their potential willingness towards major changes in their mobility behaviour.



ALPINE RHINE VALLEY

SUMMARY:

In the Alpine Rhine Valley pilot region, Liechtenstein, the Canton of St. Gallen and the Vorarlberg region are together showing how commuters can be motivated to make the change to sustainable means of transport. Hilti AG, one of Liechtenstein's largest employers, is participating as a model company.

OBJECTIVES:

AIMS:

Implementing a cross-border mobility campaign for a CO₂-neutral lifestyle as regards:

- Modal transport shift
- Reduction in greenhouse gases
- Reduction of air and noise pollution

DESCRIPTION:

More than half of all employees in Liechtenstein commute from surrounding countries. The Hilti AG company is a particularly attractive employer for commuters from the adjacent Swiss canton of St. Gallen and the Austrian state of Vorarlberg. Many of those travelling live in areas close to the border, meaning they could come to work by public transport or by bicycle. Nevertheless the car is the main means of transport used, which in turn creates polluting noise and emissions.

Information and awareness-raising activities motivate commuters to consider their transport choices. The project partners make clear that sustainable mobility increases the quality of life and that leisure time begins as soon as employees leave the workplace. Hilti AG, which with some 1,800 staff is one of the Liechtenstein's largest employers, is participating in the cross-border mobility activities as a model company.

How can commuters be persuaded to travel to work by bicycle, train or bus rather than by car? Those concerned are themselves providing the answers to this question. Hilti employees have been discussing their mobility choices and developing suggestions for improvements in focus groups that include travellers by bicycle, train and bus, as well as car drivers willing to make the change. A central observation is that mobility must be a central theme in the company itself. The activities in the Alpstar pilot region of the Alpine Rhine Valley are intended to persuade other colleagues (and employees of other companies) to make the shift.

FOCUS: BIKES

MOBILITY INFORMATION DAYS

In a kick-off event lasting several days at the Hilti AG company, the project partners motivated employees to "get on their bikes". Among other things E-bikes were tested, cycle clothing demonstrated, the benefits for the personal quality of life explained and a commuter bike map presented.

COMMUTER BIKE MAP

Cycle paths are only partially suitable for quick, short journeys, as they are designed for leisure trips. A bike map with everyday routes for commuters provides one answer. These proposed routes are now available to all those commuting to work in the border triangle (Liechtenstein, Austria, Switzerland) as a digital map at www.radwege.llv.li.

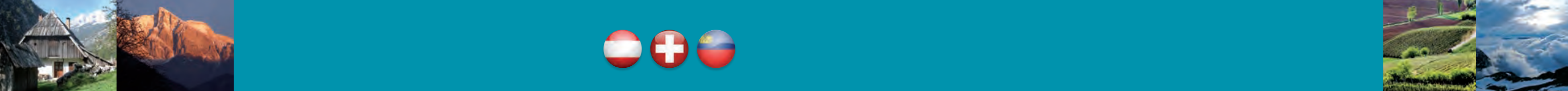
PERSUADING PEOPLE

Media work, addressing the relevant stakeholders and appearances at events can all sensitise the wider public to the topic of commuter mobility. Facts and testimonials from Hilti staff in the focus group get the message across in a clear and understandable form. Personal statements by those from the immediate social surroundings motivate others to follow.

IF THEY CAN DO IT, SO CAN I!

A survey of employee mobility was conducted at Hilti AG. As the results are available for all to see, it is possible to make a comparison of the personal mobility practised by colleagues or other departments. This motivates people to make the change and makes a substantial contribution to its social acceptance.





FOCUS: PUBLIC TRANSPORT

Constraints such as the weather, distance or physical limitations mean that not all employees can commute to work by bike. Alpstar is thus also working to promote the use of forms of public transport such as the bus or train.

NEW RAPID-TRANSIT RAILWAY

The new rapid-transit rail system in the Canton of St. Gallen substantially increases service frequency while reducing journey times. In collaboration with the carriers commuters are being informed about the new offering and Improvements, e.g. by actions at stations, thus making use of synergies. The time and cost savings will be communicated in the relevant media using the example of a commuter to Hilti AG.

COMMUTER INFORMATION PACKAGE

The new timetable for winter 2013/2014 sees major changes being made in Vorarlberg. For instance, the 365-euro ticket is being introduced, valid for all means of transport throughout Vorarlberg. The ticket can additionally be used in Liechtenstein. The timetable is also being changed, with new connections to the Canton of St. Gallen. The practical benefits are presented via information and awareness-raising activities in regional media as well as by means of flyers and counselling.

PUBLIC TRANSPORT INFORMATION DAYS

Employees were informed of the benefits of public transport in a kick-off event over several days held in the entrance to the Hilti AG company. Personal mobility advice helped motivate staff to make the change. The costs, times and emissions of personal routes to work via train, bus, bike or car are shown and can be obtained as a printout.



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ST. GALLEN

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VORARLBERG

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CO-ORDINATION:

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PARC NATUREL RÉGIONAL DU QUEYRAS

SUMMARY:

The PNR Queyras is involved in an objective of energy self-sufficiency for 2050. The sustainable energy action plan will give to decision makers the intermediate objectives to reach this goal.

OBJECTIVES:

GENERAL:

The objectives of the PNR Queyras are to elaborate a strategy, the action plan and to increase the participation of partners as professionals of the tourism sector, farmers and citizens. Furthermore the park wants to elaborate guidelines for buildings renovation.

CONTACT:

Institution: **Parc Naturel Régional du Queyras (PNR Queyras)**

Name: **Emmanuel JEANJEAN**

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DESCRIPTION:

A GUIDELINE FOR IMPROVING ENERGY-EFFICIENCY OF BUILDINGS

As part of a recent project, the park started a study concerning the energetic renovation of buildings respecting the cultural heritage. The objective is to make recommendations for improving the energy efficiency of buildings in the PNR Queyras taking into account the potential of solar energy of each building and their value of heritage.

Thanks to the Alpstar project the study could have been synthesized and published as a guideline. This practical guideline *Habitat du Queyras et énergie* is developed for the contracting authority and the professionals in the field of building construction.



Front page of the guideline

CLIMATE-ENERGY PLAN AND STAKEHOLDER MOBILISATION

The energy and climate plan was officially launched on May 30, 2013 during the first meeting of the steering group committee. The prior specification of the process was developed by the park, to build a participatory approach. Therefore a consultant company was selected.

The energy analysis of the territory, which is still in process, already shows some interesting data:

- the territory is for 90% dependent on external energy resources with energy costs of 30 million €
- the major emitters of greenhouse gas emissions are the residential areas with 46% and transport with 44%

A special effort will be made to distinguish the balance sheet of GHG emissions related to the touristic seasons in summer and winter. An analysis of the potential to develop renewable energy in the area and its potential benefit is also still in continuation.



STAKEHOLDERS' MOBILIZATION IN THE AGRICULTURAL AND TOURISM SECTOR

Several workshops have already been organized to mobilize professionals of the agricultural and tourism sectors to discuss the vulnerability to climate change. These groups highlighted the main concerns related to climate change as future snow ski resorts, diversification of tourism activities, the development of water resources, the frequency of floods and their impact on agricultural activities.

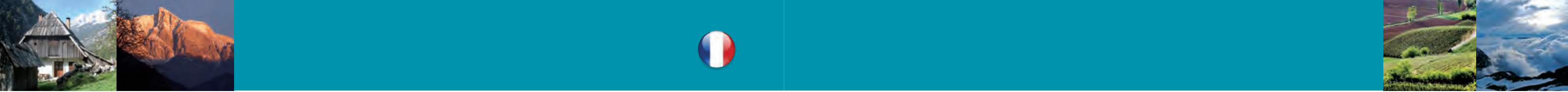
MOBILIZATION OF CITIZENS

A citizens' conference is implemented. At these meetings information is provided by outside experts on issues of energy and climate. Furthermore study visits will be organized.

The idea is that the citizens provide advice and recommendations on the objectives and actions of the 'Climate Plan Energy Plan' of the PNR Queyras.

In parallel, events are organized regularly for locals and tourists to learn about energy and climate issues:

- a public walk with thermal infrared imaging camera during winter 2013
- three projections debate on climate change in summer 2013



PAYS-SUD - PAYS SERRE-PONÇON UBAYE DURANCE

SUMMARY:

Energy efficiency in ski resorts! Trying to limit ski resorts impact on climate change, is the focus point of the pilot region Pays SUD. From setting-up an energy and green house gases measurement protocol as a technical standard to an on-site testing phase.

OBJECTIVES:

GENERAL:

To identify existing sources for energy and GHG saving in ski resorts
In terms of :

- **Energy saving:** 15% of the electrical consumption
- **GHG emissions reduction :** reduction of 25% in a ski resort

CONTACT:

Institution: Pays Serre-Ponçon Ubaye Durance

Name: **Jérémy NAHMIYAZ**

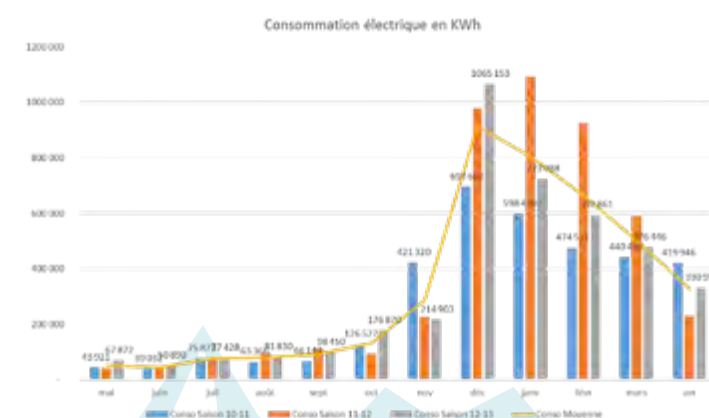
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DESCRIPTION:

Energy consumption can reach 8.5% of the annual turnover of ski resorts equipment operators, energy saving is still a common skill which needs to be improved!

Some facts concerning the project focus points:

- the mountain resorts and their ski stations represent the principal energy users and GHG producers in the territory
- the modernisation of a the equipments and the development of artificial snow increases the energy demand
- the energetic operation of the technical equipment is not sufficiently known, so that the ability to optimise the process is limited
- one energetic focus point of the territory is linked to the artificial snow production

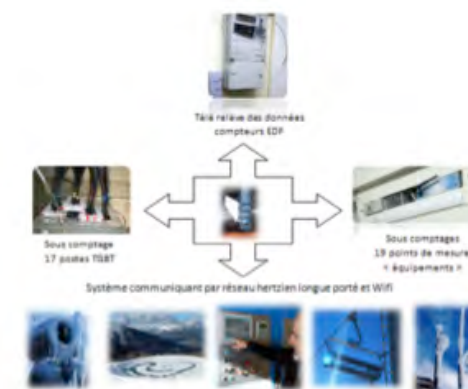


Due to these facts the pilot region wants to realize an energetic and technical inventory, undertake a monitoring of the electrical consumption during one whole winter season and to develop the discussions and experience exchange between experts as managers, subcontractors and providers.

Energy consumption in KWh

The project objectives are thus the following:

- characterising the energetically operations of the artificial snow production, ski lifts, maintenance of ski slopes and the ski resort buildings
- definition of an protocol for the energetic analysis in a ski resort and to test it
- identification of optimal prices in regard to power and consumption
- identification of the optimal technology
- establishing prospective in regard to the *Energy Efficiency Credit (EEC)* and energy storage



Energy consumption analysis

With a large involvement of professional actors, this standard had been validated and concluded. Its aim is to integrate all factors that influence energy needs and GHG correlated emissions in ski resort equipments operators activities as ski lifts, artificial snow, technical buildings and engines.

This measurement protocol has been tested in the ski resort 'Les Orres' (France, PACA Region) during the winter season 2012-2013. All data on energy consumption, frequentation, snow characteristics and meteorology conditions have been

monitored. Within these analyses all the networks interactions can be precisely estimated. The upcoming step is to formalise an audit standard document on the measurement protocol to adjust and improve it.



Ski lift in 'Les Orres'



Energy consumption analysis at the ski station 'Les Orres'

SUMMARY:

OPAC 38, a public social housing company that rents 22 000 flats, has promoted and implemented an environmental and energy policy since 1995, on the ground to achieve a "rent and service charge" under control. Its specific objective is to combine reduction of GHG emissions and of energy vulnerability of tenants, by determining global energy vulnerability (housing + transports).

OBJECTIVES:

GENERAL:

Build a tool to analyse the impact of refurbishment works on energy vulnerability and GHG emissions.

In terms of :

- **Energy saving:** a average consumption of 150 kWh/m² by 2020
- **Renewable energy development :** wood or solar for 200 apartments each year

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Institution: **OPAC 38**

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DESCRIPTION:

WORK ON ENERGY VULNERABILITY (BUILDING AND TRANSPORT) IN SOCIAL HOUSING

To achieve the goals of OPAC 38 in the field of energy vulnerability and GHG reduction, the activities include:

- situation analysis of the tenants regarding this problem
- determination of the main factors of energy vulnerability of inhabitants (both for housing and transport)
- search of the most efficient actions to reduce it and then implement refurbishment

Results concerning energy vulnerability by type of the building, heating system, size, heating energy, year of construction, etc. have been set up. For each flat the vulnerability level can now be defined so that we can know how many people could be in a situation of vulnerability. These results have been discussed in an internal steering committee in OPAC 38, which was so interested that a workshop has been organised during autumn 2012.



The main results are:

- a methodology to determine the level of vulnerability of a building: It has been generalized for other housing companies or local authorities for which the data used are available
- the first tests of this methodology to determine the effects of building refurbishments



For the next step RAEE is working the vulnerability of inhabitants linked to transport. More than 7 000 households, representative of the situation of the tenants, are involved. Since there is no available data, they will receive in September 2013 a questionnaire on their transporting schemes, including distances, modal split, costs, constraints, etc. Main results will be known by the end of 2013.

TARGET GROUPS

The technicians, managers and the inhabitants, and also other stakeholders implied in building management.

POTENTIAL FACTORS OF SUCCESS

- specific data on consumption and energy expenses available for each apartment
- OPAC 38 is motivated by this study, because it gives them new keys for their policy. Its steering committee for energy and environment is involved. The work has been conducted with employees of OPAC 38 and is linked to the Agenda 21
- The set-up of a methodology that can be used by other stakeholders will allow motivating them.

BARRIERS

- to get specific information on incomes is difficult, due to confidentiality reasons
- the availability of detailed data on transports (need of specific enquiries)

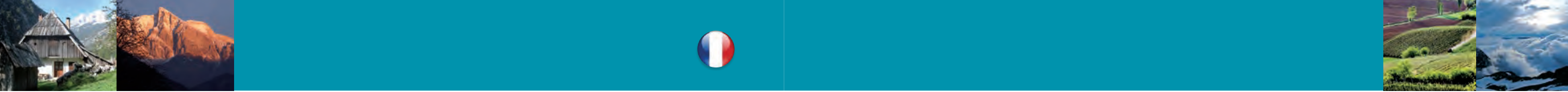


TRANSNATIONAL RELEVANCE

The question of vulnerability of inhabitants is of high importance everywhere in Europe and the methodology developed with OPAC 38 could be used other where in Europe.

INNOVATIVENESS

Both building and transport vulnerability is taken into account.



VALENCE ROMANS DÉPLACEMENTS

SUMMARY:

In 2010, 39 municipalities decided to create a union of municipalities (with more than 200 000 inhabitants) in the field of transports. Previously different SUMP, compulsory in France, existed in the territory (in Valence and Romans) and a Territorial development plan (SCoT) was launched. It was decided to elaborate a diagnosis in the field of transports. both for the SUMP and for the SCoT. Furthermore, the SUMP of VRD could use the results of the Territorial Energy Climate Plan of Valence.

OBJECTIVES:

GENERAL:

The transport plan of VRD aims to define the conditions to reduce the share of cars in transport, increase a sustainable transport system, public transports, walking and biking, work on urban sprawling, an assessment of environmental impacts and a study of environmental impacts and freight transport

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Name: [Julien MICHELON](#)

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DESCRIPTION:

SETTING UP OF A SUSTAINABLE URBAN MOBILITY PLAN

The SUMP aims at making a census of the transports flow (travellers and merchandises), the principle dysfunctions, the projects, the parking and public transport offer and the alternatives to the car. A study of environment impacts was realised and should propose different solutions of improvement in the field of transports. A quantification of CO₂ emissions has been realized and will be used for the final choice of scenarios and actions.



At the very beginning of the project (July to September 2011) a first draft of study content and main goals of the transport plan have been firstly written. From January to June 2012 the state of art has been defined and discussed through several steering committees (with inhabitants, politician people, technical staff, NGO, etc.)

From June 2012 to June 2013 three scenarios have been defined and discussed: one of them has finally been selected to be declined in actions. These actions will be discussed in the steering committees so that it will be possible to know exactly the costs, environmental impacts and GHG emissions in 2014.

Several dozens of meetings have been organized both to meet elected representatives and technicians of the different municipalities and to gather the steering committee which debated the diagnosis, scenarios and actions before the end of the year. Each meeting of the steering committee gathered several dozens of participants.



POTENTIAL FACTORS OF SUCCESS

- The aptitude of the consultant to identify the big stakes, to ask the good questions to elected representatives and to propose concrete solutions adapted to VRD
- The ambition of the territory and its aptitude to integrate the CO₂ emissions in its criteria of choice

BARRIERS

- The territory's size (number of municipalities and inhabitants) that complicates all decisions by elected representatives and has delayed the progress of the project planned initially
- The complexity of transports when one tries to work on the fight against urban sprawl to reduce the motorized mobility needs
- The fear of some elected representatives about public consultation and the taking into account of inhabitants' propositions
- The citizens' mobilization which is not so easy in such a large territory

TRANSNATIONAL RELEVANC

The SUMP in VRD is particularly interesting because of the methodology used (steering committee with politician, technical committee, committee with the inhabitants) but also because of the type of territory (wide, rural, involving several public bodies). In this way the methodology and its results are of great interest for several partners in Europe.

INNOVATIVENESS

In the same way the time to set up the transport plan, the type of governance are innovative.



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BEST PRACTICE DATABASE

AIM:

The ALPSTAR Best practices database has been set-up and designed to promote existing local initiatives through the Alps on energy saving and greenhouse gases emissions reduction, to serve as inspiration.

SPREAD!

The most important goal of this platform is to be well used and shared! Feel free to spread it across your region and to all your contacts. For any suggestion or information, please contact: info@alpstar-project.eu

To make best practice minimum standard ?
Make policies maximum evolution !

INSPIRE!

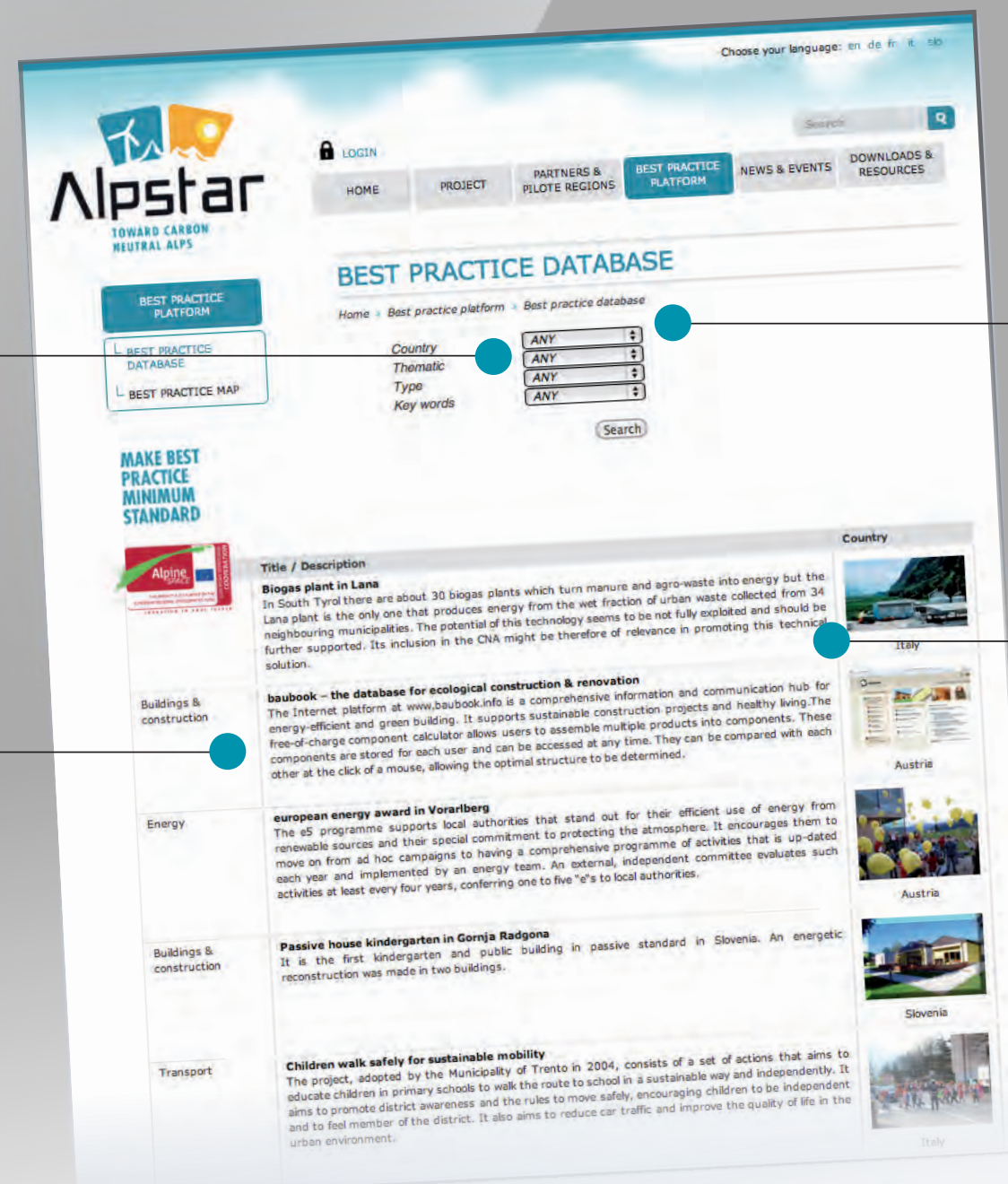
We hope that this database will serve to inspire policy makers, industrials, national administrations, foundations and individuals to search for good examples and use them as models to be readjusted as personalised ones!

DATABASE SEARCH ENGINE BY:

- Country
- Theme
- Type
- Key words

THEMATIC FIELD:

- Transport
- Building & construction
- Energy
- Land use
- Tourism
- Industry & Services
- Spatial planning
- Other fields



TYPE:

- Technological
- Legal
- Financial
- Educational
- Other type

TECHNICAL AND FINANCIAL INFORMATION:

- I - Description of the measure
- II - Assessment criteria
- III - Executive body and contact information
- IV - Photos, illustrations and documents

BEST PRACTICES MAP: FIND THE PLACE!



PROJECT STRUCTURE

7 WORK PACKAGES

STARTING DATE: 01/07/2011

CLOSURE DATE: 30/06/2014

DURATION: 36 months

ALPSTAR: A CONTRIBUTION TO THE CLIMATE ACTION PLAN OF ALPINE CONVENTION

The project is addressing the need for well-directed and cross-cutting action to effectively manage climate change and reduction of climate-damaging emissions in the Alpine region, which was expressed by the Action Plan on Climate Change in the Alps approved within the frame of the Alpine Convention during the 10th Alpine Conference. Project's objective is thus to encourage implementation of this Climate Action Plan through multiplication of best practice measures on regional and local level.

MAIN OUTPUTS

Good practice transfer webplatform
Practical guidelines for Alpine regions
12 inter-sectoral strategies or action plan toward carbon neutrality in the pilots regions
12 pilot actions (implementation starts during the project)
Network of 12 pilot regions at first
Networks of stakeholders
Capacity building activities and seminars
Alpstar Policy Board



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