ALPINE SIGNALS 5

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Permanent Secretariat of the Alpine Convention

ALPINE SIGNALS 5

MITIGATION AND ADAPTATION TO CLIMATE CHANGE IN THE ALPINE SPACE

Permanent Secretariat of the Alpine Convention
Herzog-Friedrich-Straße 15
A-6020 Innsbruck
Tel.: + 43.512.588.589 – 0
Fax: + 43.512.588.589 – 20
Email: info@alpconv.org

Branch office:
Viale Druso 1
I-39100 Bolzano
Tel.: 0039 0471 055 352
Fax.: 0039 0471 055 359

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Permanent Secretariat of the Alpine Convention

www.alpconv.org
info@alpconv.org
Main office:
Herzog-Friedrich-Straße 15
A-6020 Innsbruck
Austria

Branch office:
viale Druso 1
I-39100 Bolzano
Italy

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Editor:
Permanent Secretariat of the Alpine Convention
viale Druso 1
I-39100 Bolzano

Responsible for this publication:
Marcella Macaluso, Permanent Secretariat of the Alpine Convention

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CCK, Kaspar & Zangerl OEG, Innsbruck (Austria)
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MITIGATION AND ADAPTATION TO CLIMATE CHANGE IN THE ALPINE SPACE

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FOREWORD

COLLECTION OF GOOD PRACTICES BY LOCAL AUTHORITIES FOR THE PREVENTION OF AND ADAPTATION TO CLIMATE CHANGE

In adopting the Alpbach Declaration the ministers at the 9th Alpine Conference expressed the determination to make the Alps an exemplary region for the prevention of and adaptation to clim ate change.

Entrusted with implementing this ambitious policy decision by drawing up an action plan for the Alps as a whole, the French Presidency of the Alpine Convention sought to draw on the practical experience gained by local elected representatives. Far from remaining passive in the face of the risks posed by global warming, many of these representatives from across the Alpine range have chosen to rethink their public policies or steer such policies towards practices which encourage sustainable development.

The examples of good practice showcased at the Bolzano seminar organised by France with the aid of the Permanent Secretariat of the Alpine Convention and published in this volume bear witness not only to the growing awareness of the challenges to the climate but also to the enormous capacity for innovation and adaptation shown by local authorities. They have been chosen among many others for their exemplary and/or role model character following a difficult selection process.

It is now up to all the stakeholders in the Alps and to the various levels of territorial organisation to embrace, adapt and enrich these examples, and perhaps take them further still. It is only by mobilising all those concerned and by making such responsible approaches more widespread that we can hope to contain climate change within acceptable limits and mitigate its impact.

It is therefore my wish and my hope that the projects featured here will give rise to new ideas and new initiatives and thus contribute to safeguarding the richness of the alpine range and the quality of life of its inhabitants, and also help maintain a vibrant and diversified economy.

Laurent Stefanini

Ambassador Delegate for the Environment
President of the Permanent Committee of the Alpine Convention

INTRODUCTION

Climate change has now become one of the most pressing issues in the Alps, particularly because the rural mountain territory is far more vulnerable to the effects of global warming than urban areas. Natural disasters, instability of the transport infrastructures, melting permafrost, flooding, variations in temperature that damage both agriculture and tourism: these are all subjects frequently found in the pages of the press connected to mountain areas and are often on the agenda of meetings by the regional and local councils of the Alpine arch. However, it would be wrong to limit the issue of climate change merely to a question of "effects", and thus of adaptation. It must not be forgotten that climate changes are – and this is no longer disputed – accelerated by Man. The Alpine regions can, and must, give their contribution to helping mitigate climate change. Figures supplied by CIPRA on the carbon footprint of the area show that more carbon dioxide is produced than is absorbed by the forests or "avoided" by generating energy from clean sources. It is essential for there to be a change in the lifestyle of the Alpine populations, and those that visit the Alps for tourism and recreation, in order to achieve the objectives set by international and Community law.

Mountain regions are ideal for generating power from renewable sources, especially solar and geothermal energy. Also wind power and biomass have an important role in the Alps, as does hydroelectricity, although further expansion of this last, already very widespread in the Alps, raises serious questions about protecting natural water flows and the habitats that depend on these environments. On the other hand, the climatic conditions in mountain areas often compel a greater use of power than elsewhere. This is therefore an ideal area for experimenting with energy saving methods. So it is no surprise that it is precisely in the Alps that cutting-edge technologies have emerged in the building industry.

In this respect, what can the Alpine Convention do? First of all, give support to and substantiate the action plan on climate change as presented by the Ministries which met at the Alpine Conference in 2006. The Alpine Convention is a system for cooperation between countries and also among the territories' populations. The distribution of knowledge, the exchange of good practices and technical information and the development of common projects, all have a fundamental role. The French presidency of the Convention and the Permanent Secretariat of the Alpine Convention therefore issued, in the summer of 2007, an invitation online to present good practices. These would form the basis for an international seminary where these practices would be described, discussed and made widely known. The ones felt most representative and viable for use were selected by the Permanent Secretary and formed the object of two days of debate held on 5 and 6 December 2007 at the operational annex of the Secretariat at Bolzano.

The intention of collecting the speeches made over the two days is therefore to spread ideas, projects, innovations (in other words, "good practices") throughout the Alpine Arch. As readers cannot fail to notice, good practices for mitigating and adapting to climate change are often the result of long and difficult processing, costly investment in technology and information, but the results achieved show that the benefits far outweigh the costs.

The structure of this collection follows that of the two days of the seminary since it was divided into two main parts: mitigation and adaptation to climate change in the Alps. As regards mitigation, Arosa municipality (Switzerland) explains how they calculate the carbon emissions from the journeys of its tourists so that they increase awareness among tourists and allow them to participate in the projects for compensating emissions as part of the climate programmes. Werfenweng (Austria) describes the network of the "Alpine Pearls", tourist spots where people are encouraged to do without their cars. From Trentino to the Tyrol, we learn what measures are being applied for reducing pollution, especially from heavy goods vehicles, and to promote the idea of using public transport. In terms of energy, the experiences are described of the German areas of Bad Tölz-Wolfsrathshausen and Miesbach, the municipality of Diex in Carinthia and, on a broader scale, of Slovenia. The issue of adaptation is covered by referring to the questions of controlling the permafrost (Aosta Valley and Haute Savoie), flood prevention (Samedan, Switzerland) and management of the waterways in the mountain territory (Baveria), planning soil usage (Austria and France, Province Alps-Côte d'Azur) and of forests (Allgäu, Germany), the management of water both for irrigation purposes (San Michele all'Adige, Italy) and for domestic use and artificial snow (Les Gets, France).

The Permanent Secretary to the Convention intends pursuing the idea of an exchange and sharing of experience and knowledge, also relying on the help from the many networks that, over the years, have been created to set up the Alpine Convention. The hope is that the cultural richness and diversity found in the Alpine region can help to act as a catalyst for an increasing number of good practices and their widespread usage, so that the Alpine territory can fully perform its function as a prime laboratory for environmental, social and economic development in Europe.

Marco Onida

General Secretary to the Alpine Convention

ACTIONS BY EUROPEAN INSTITUTIONS FOR THE FIGHT AGAINST CLIMATE CHANGE

Bolzano, 5 December 2007

The fight against climate change is not a regional matter. If action to mitigate or reduce the greenhouse gases produced is to be effective, it must be conducted on a global scale. This is why it is important that, at the next Conference of the Parties in Bali where negotiations will begin for a treaty replacing the Kyoto Protocol, an attempt is made to also involve those countries like USA and Australia that did not sign the Protocol, and countries like China and India which, although signing the Protocol, were not subject to binding commitments. The European Union has officially announced that it will come to Bali with the aim of obtaining a global agreement with objectives binding on all countries in the world.

However, the European Union has not waited for these negotiations to commence, and is already taking steps to reduce CO_2 emissions. At the European Council meeting in March 2007, the heads of State and Governments undertook to reach the well-known 20-20-20 objectives by 2020 (energy efficiency, renewable energy, reduction of emissions). In the first months of 2008, the Commission has to present an operative plan for achieving these targets.

Another major theme must be on our agendas: that of adapting. Most scientific studies (the latest one is the 4th IPCC Report) shows that climate changes are happening now, not in some unidentified future. Furthermore, greenhouse gases already emitted will continue to have an impact over the following decades. It is necessary to act immediately to prevent the effects of those climate changes that will unavoidably occur in the near future even if we were able to reduce, as of tomorrow, CO_2 emissions to zero.

In this field, the International Institutes (European Union and United Nations) can play an important support role, both technically and perhaps also financially, but the main role must be played by those who work daily on the territory. The policies of adaptation must be included in the plans for new infrastructures, when modernising old ones and also in the care of the hydro-geological structure of the territory and in economic programming, particularly in the crop and livestock farming sector.

There are plenty of examples of local and regional administrations that have been working for some time and achieving excellent results, also in the Alpine Arc. We have many examples of good practices in the field of generating energy from renewable sources, of long-term planning of cultures and infrastructural adaptation. Bolzano, where this seminary is being held, is particularly noteworthy: it was quick to recognise that investing in taking care of the environment's health is an intelligent and profitable investment. The sharing of good practices among administrations will be decisive for building a model of low environmental impact development and creating a great capacity for renewal and adaptation to the changes in climatic conditions. This is why the initiative of the Alps Convention to organise an international seminary for the exchange of information on good practices is of enormous importance.

Note in January 2008

Having reviewed the notes I had prepared for my speech at the Seminary of 5 December 2007, I feel I should add a few lines to update on the very recent steps forward achieved. First of all, on the Conference of the Parties of Bali, which closed with a full mandate for preparing a new protocol with binding commitments on all countries, USA and China included. The "common but differentiated responsibilities" formula leaves some margin for manoeuvre, but the reference to the 4th IPCC Report (obtained thanks to the determination of the European delegation) is a good guarantee that, in the new treaty, binding commitments will be stated, even though differentiated. In addition, the strong emphasising of the importance of the fight against deforestation is reassuring to us on certain particularly delicate points. Another important update concerns the plan of action proposed by the Commission for achieving the objectives indicated in the Council meeting of March 2007. The Commission presented within the scheduled times what has now become known as the "Energy and climate change package". This package involves the reform of the European Emission Trading Scheme (ETS), a plan for geological storage of carbon dioxide, the overcoming of the system of national allocation plans, a revising of the system of state help for the protection of the environment and the adopting of a common strategy for energy efficiency and renewable energies. We must work fast to prepare Europe for the next Conference of the Parties to the Framework Convention on climate change which will be held in Copenhagen. It is necessary now to build a strong political majority within the Parliament and, at the same time, give life to an exceptional cooperation between the European institutions.

Guido Sacconi

President of the Climate Change Commission – European Parliament

GOOD PRACTICES AT REGIONAL AND LOCAL LEVEL ON ADAPTATION TO CLIMATE CHANGE

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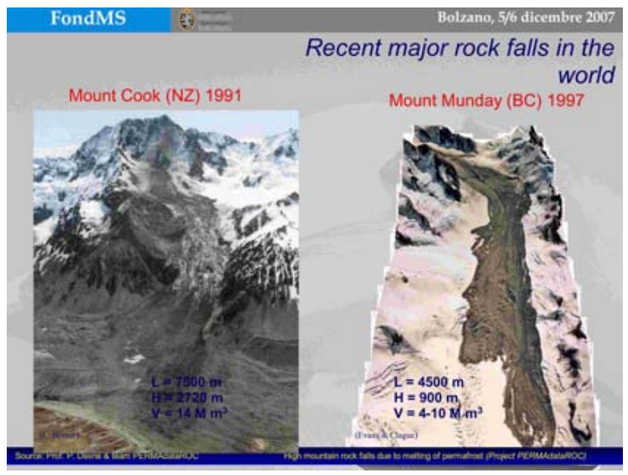
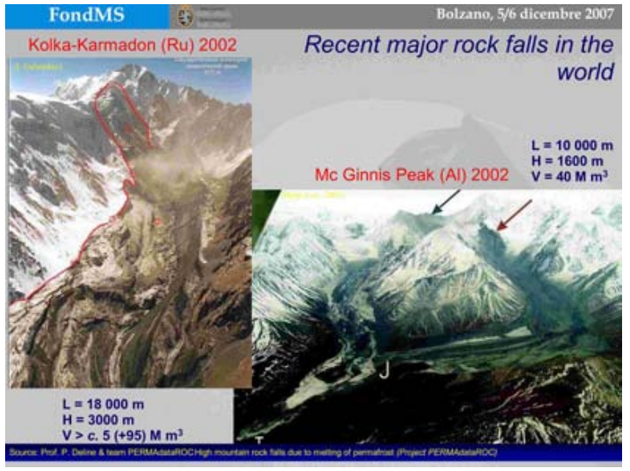
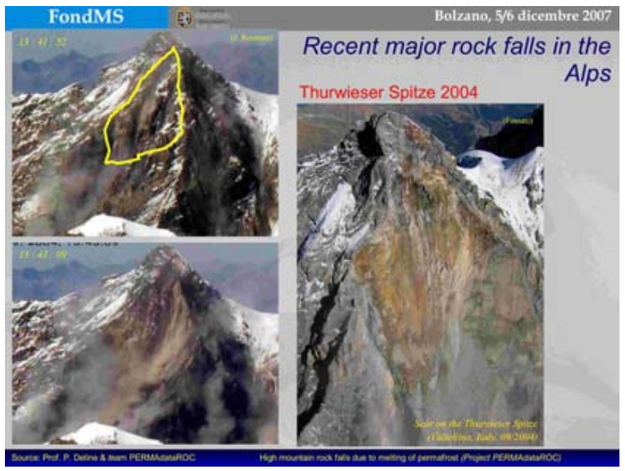
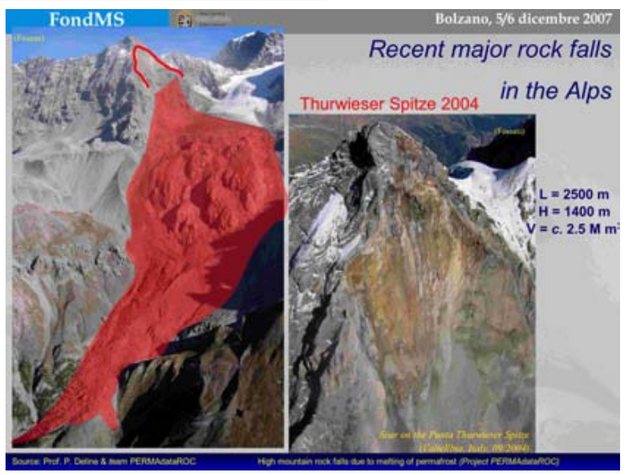
Iris Voyat









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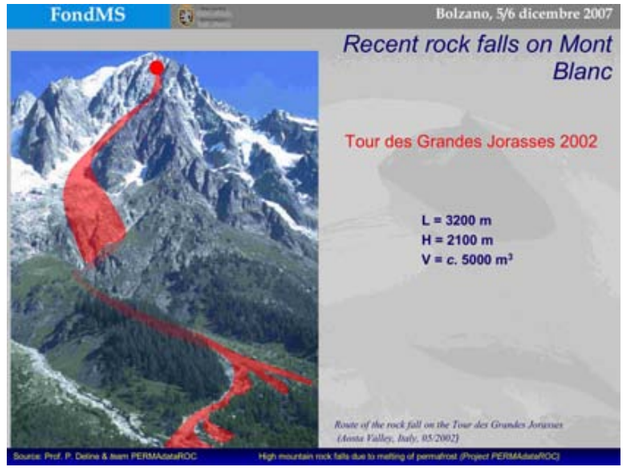

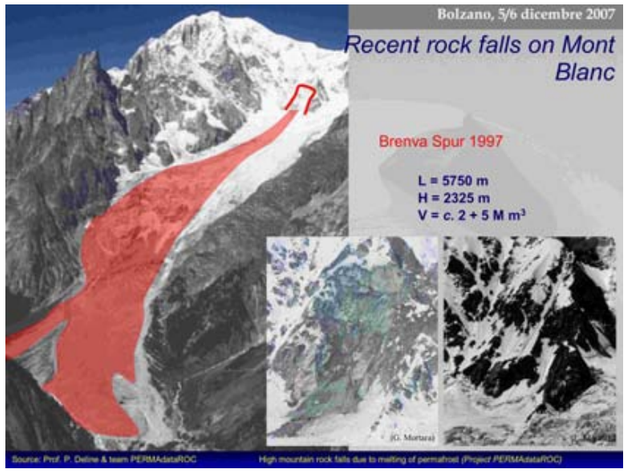

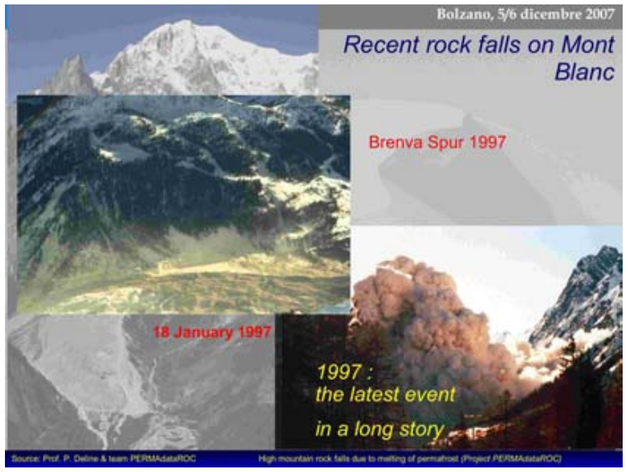

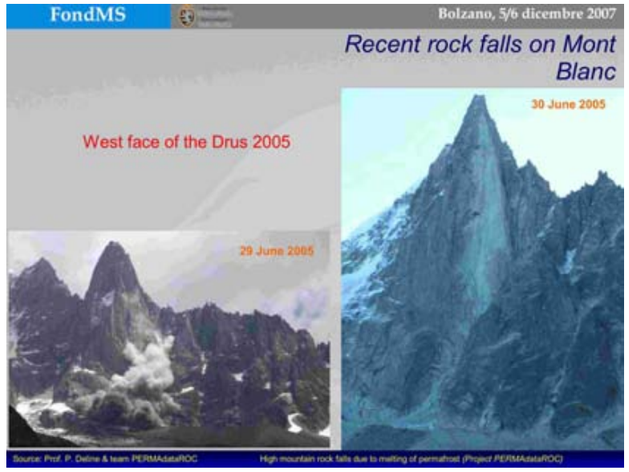

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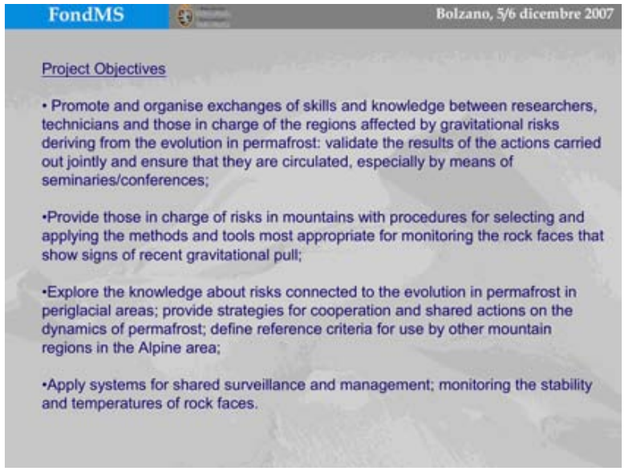

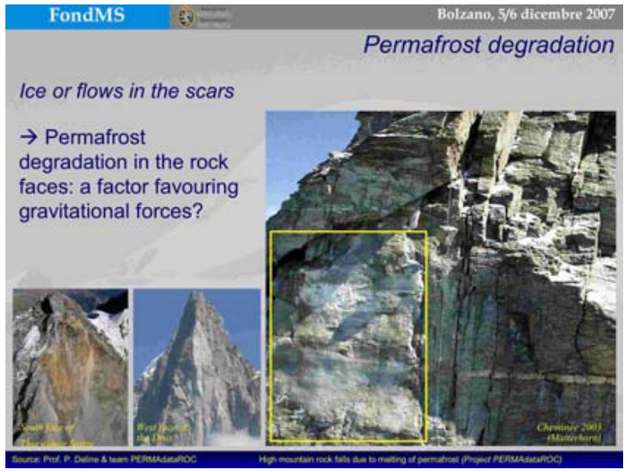

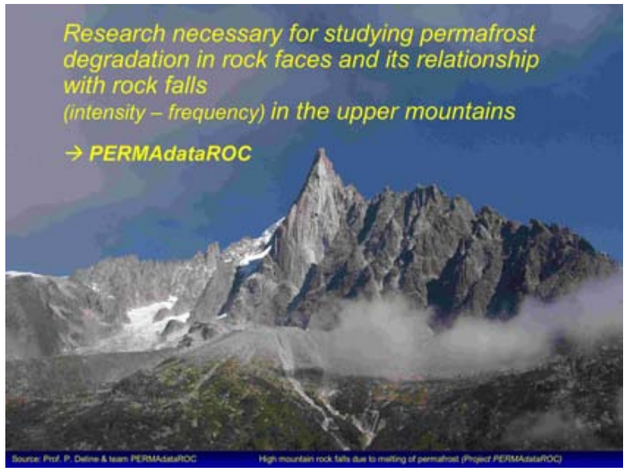

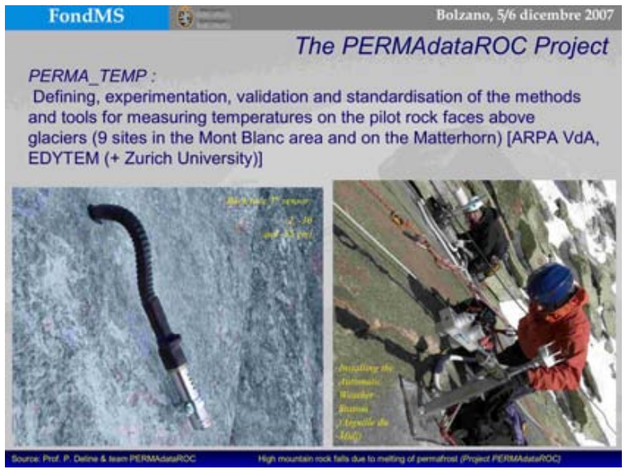

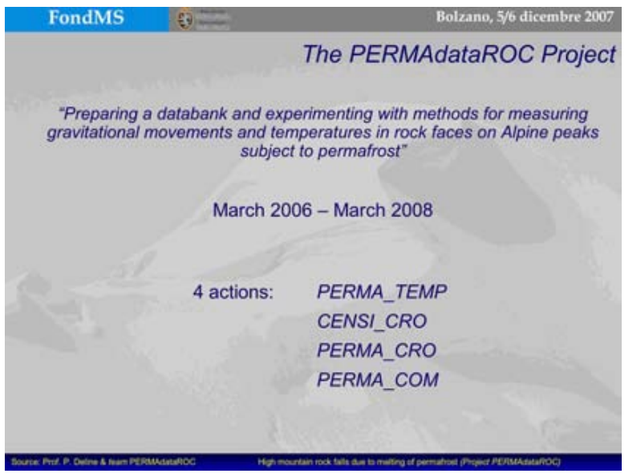

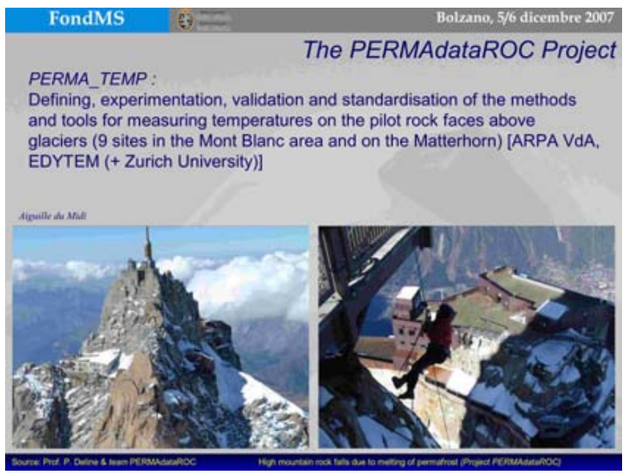

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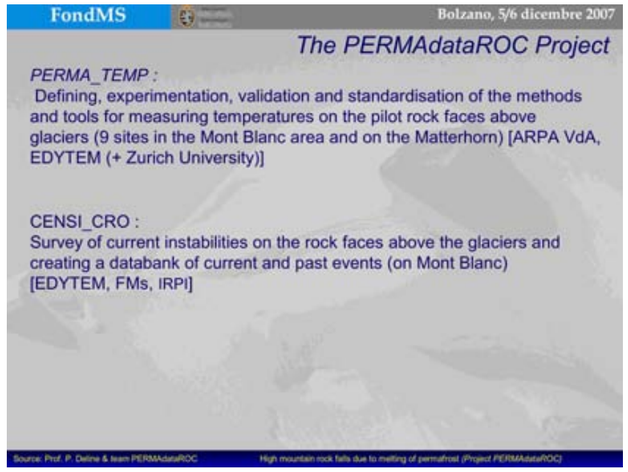

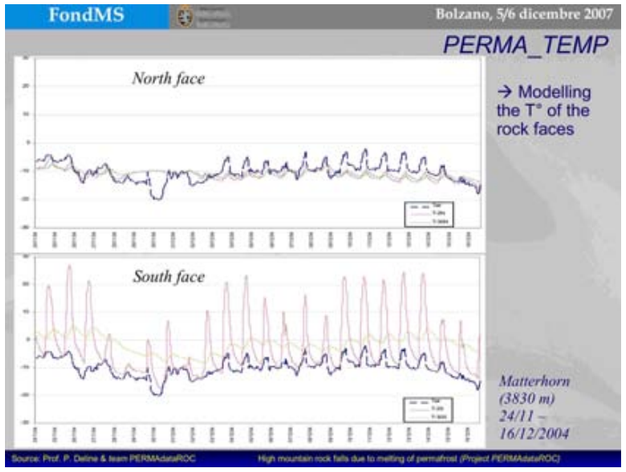

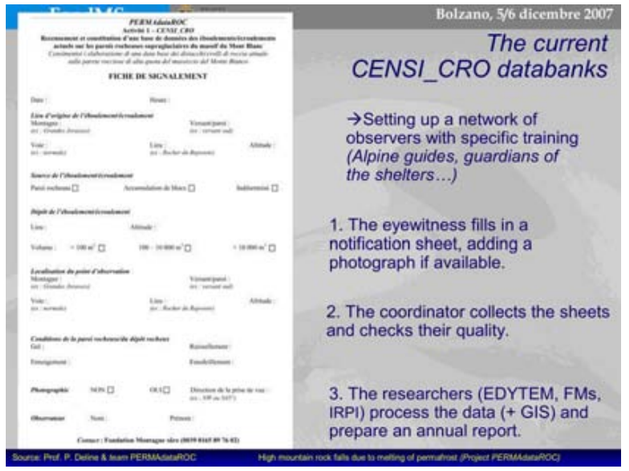

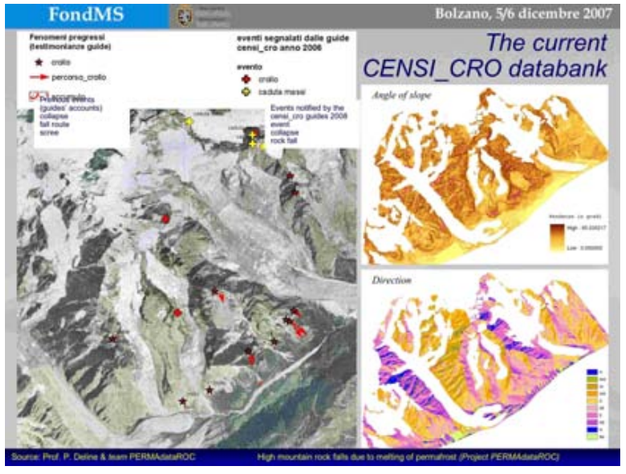

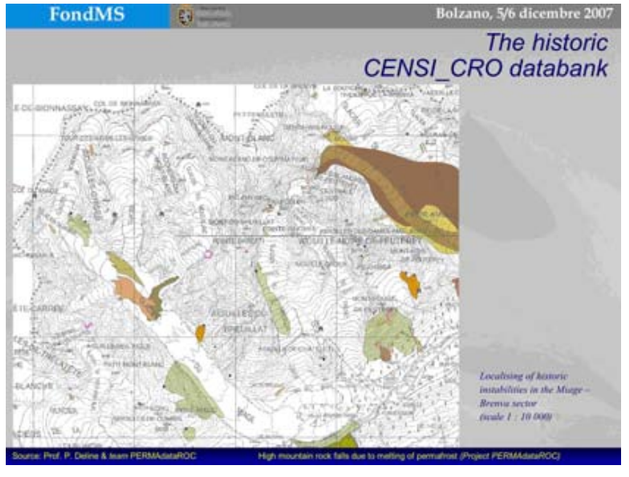

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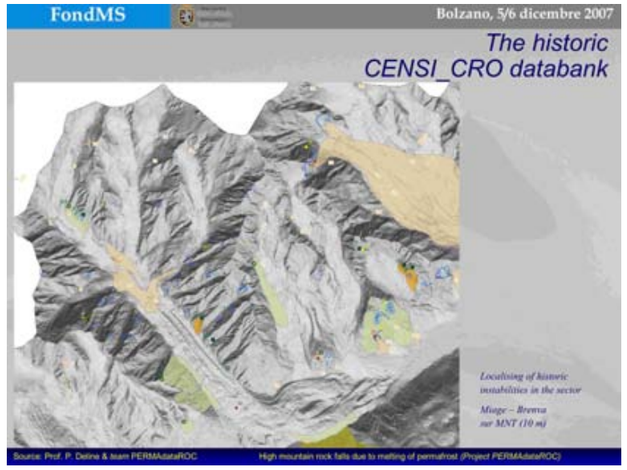

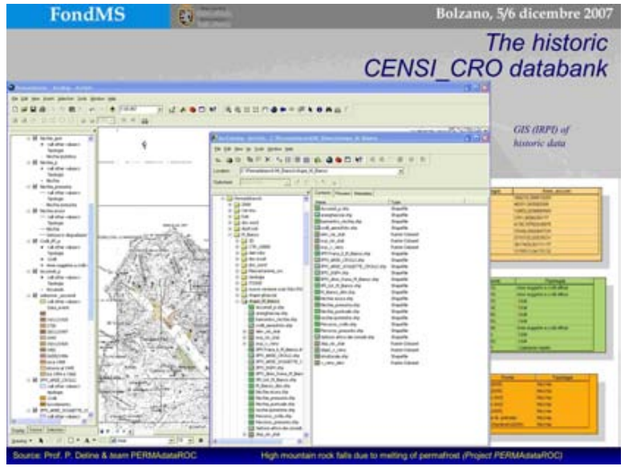

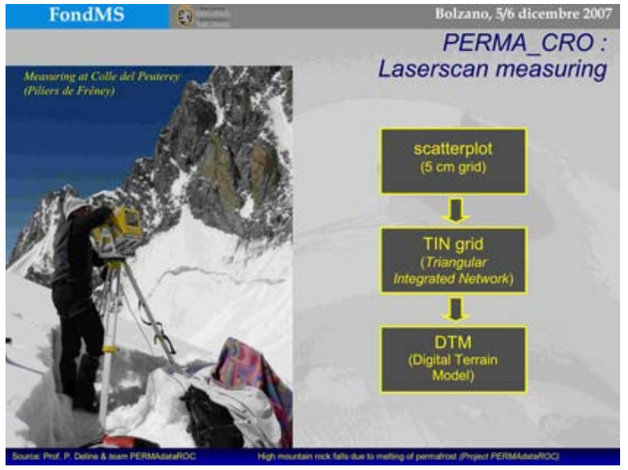

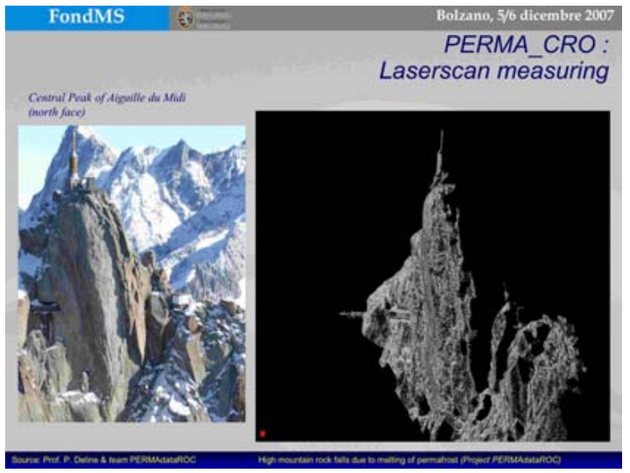

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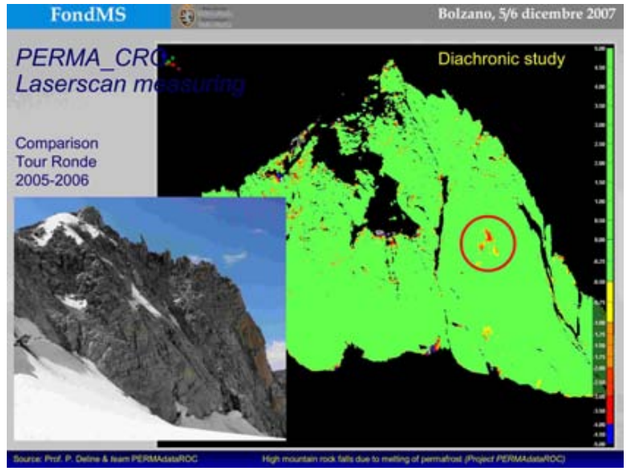

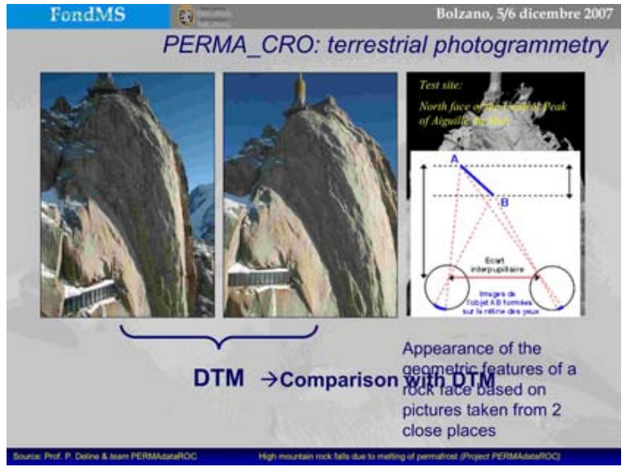

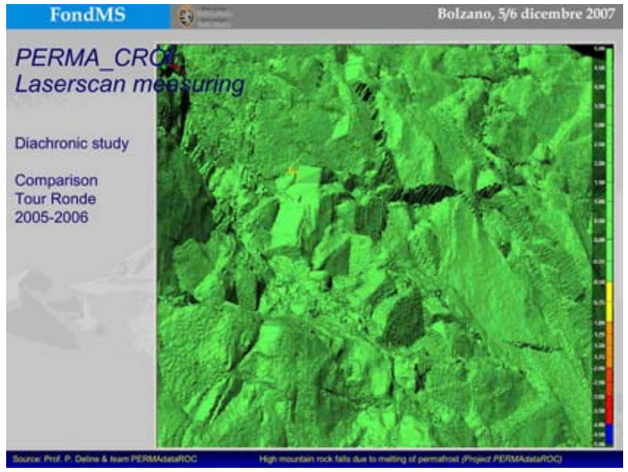

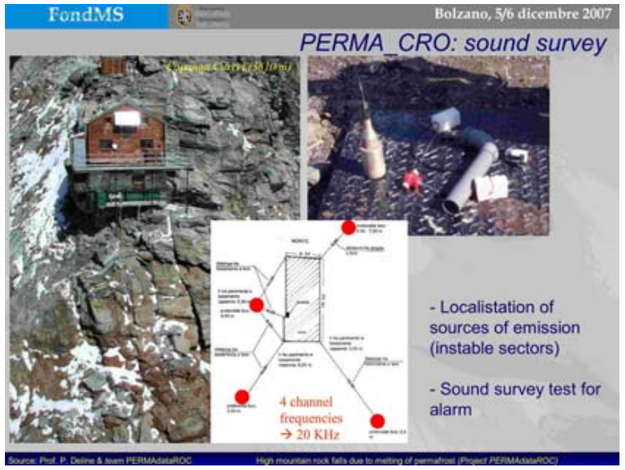

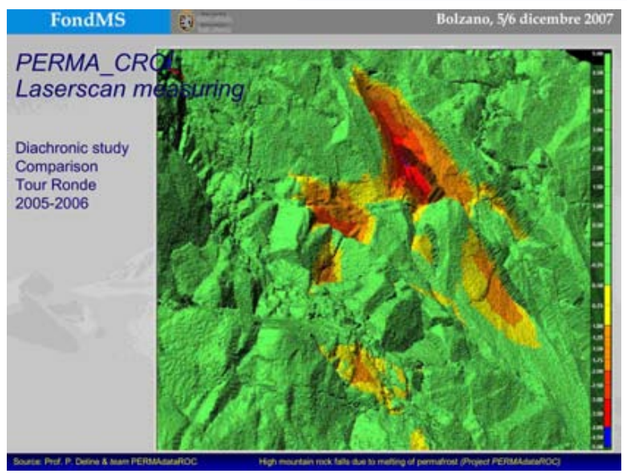

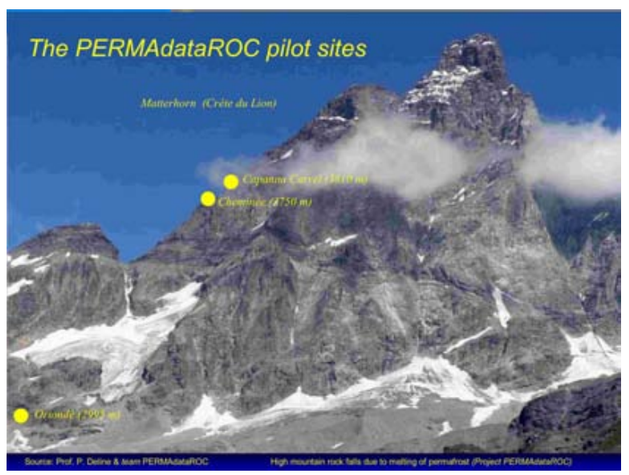

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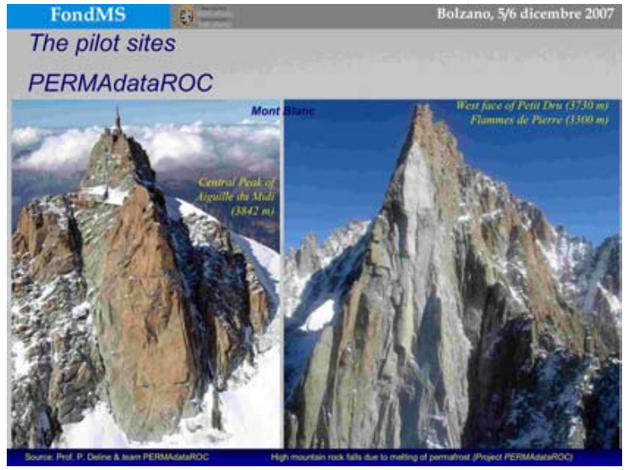

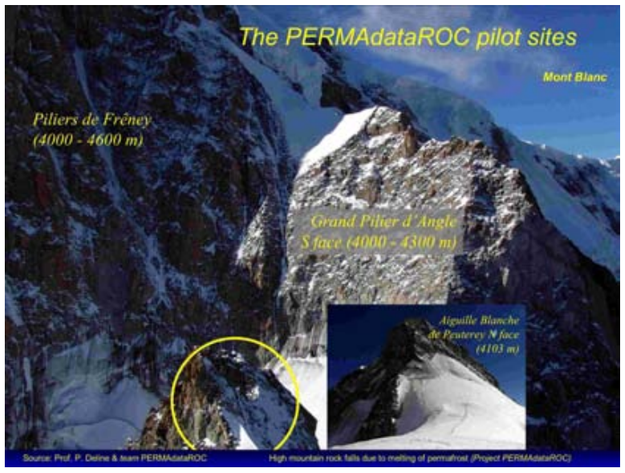

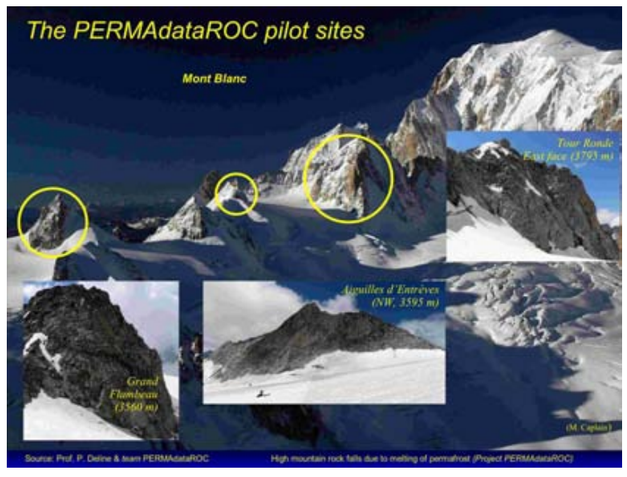

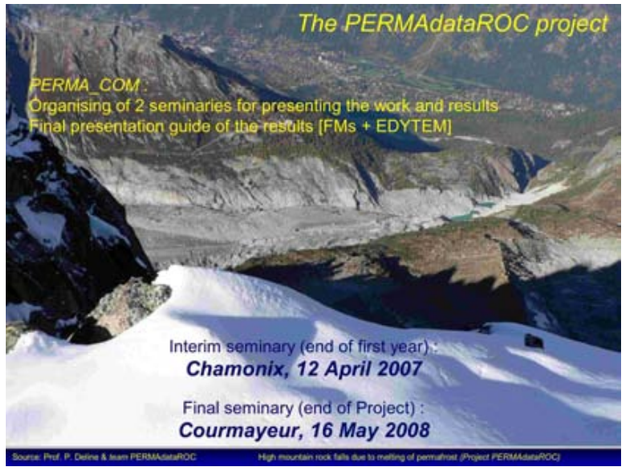

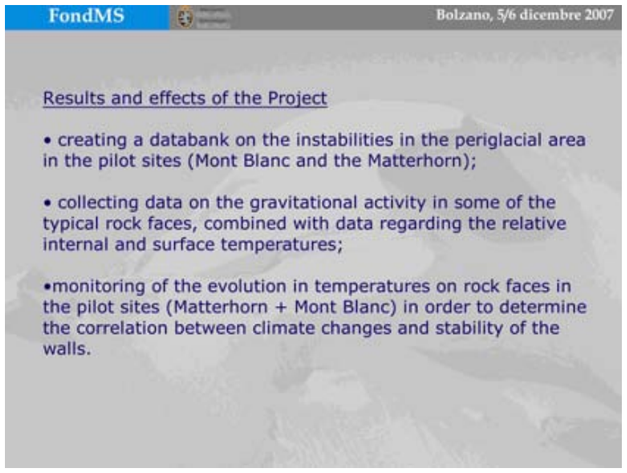

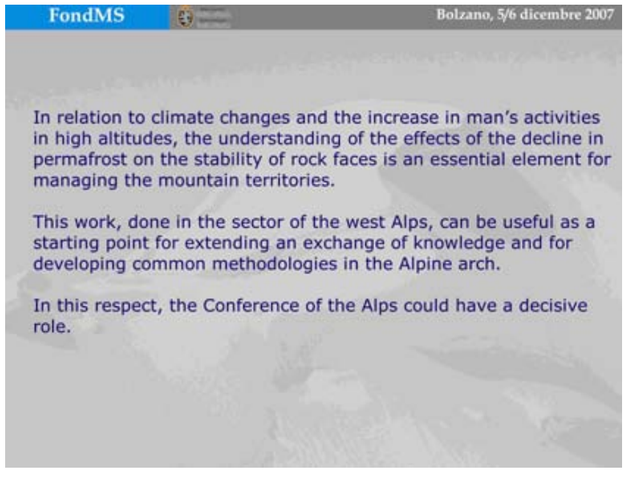

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Iris Voyat

FLOOD PROTECTION PROJECT EN/FLAZ SAMEDAN

Andri Bischoff, Thomas Nievergelt

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Grisons Public Works Office Hydraulic Engineering Dept. Workshop on Climate Change in the Alpine Region Bolzano, 5-6 December 2007 graubünden

1. Flood protection strategy and climate change

Switzerland's flood protection strategy

1. Land use, land use planning in areas with a *low potential for damage*
2. Implementation of sustainable measures in areas with a high protection deficit / high potential for damage

2.1 Basis
- Integral risk management (→ flood risk maps)
- Ecological condition of the waterways
- Project objectives:
  1. Differentiated protection objectives
  2. Ecological objectives
  3. Other project objectives

Grisons Public Works Office Hydraulic Engineering Dept. Workshop on Climate Change in the Alpine Region Bolzano, 5-6 December 2007 graubünden

1. Flood protection strategy and climate change

2.2 Planning of sustainable protection measures
1. Cost-effective solution
2. Ecological function of waterways
3. Participation (population, agriculture, fishing, nature conservation organisations)
4. Consideration of overload scenario

Climate change

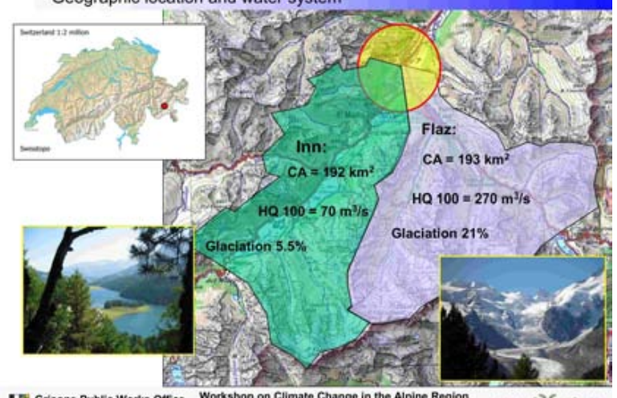
Trend: more floods/mud flows and increase in extremes
→ Design event is exceeded (HQ100 → HQ20)
→ Secure waterway space required for draining off extreme events

Switzerland's protection strategy for climate change:
- Sturdy, overloadable structures/systems
- Discharging into overspill corridors
- Emergency organisation/flood protection (minimise residual risk)

Grisons Public Works Office Hydraulic Engineering Dept. Workshop on Climate Change in the Alpine Region Bolzano, 5-6 December 2007 graubünden

2.1 Project history

Geographic location and water system



Grisons Public Works Office Hydraulic Engineering Dept. Workshop on Climate Change in the Alpine Region Bolzano, 5-6 December 2007 graubünden

2.1 Project history

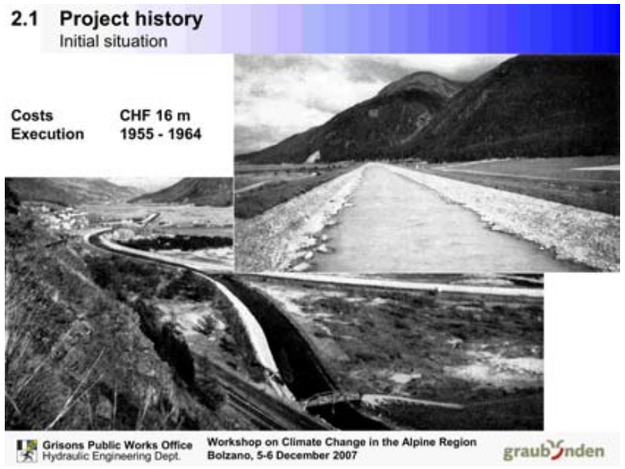
Initial situation

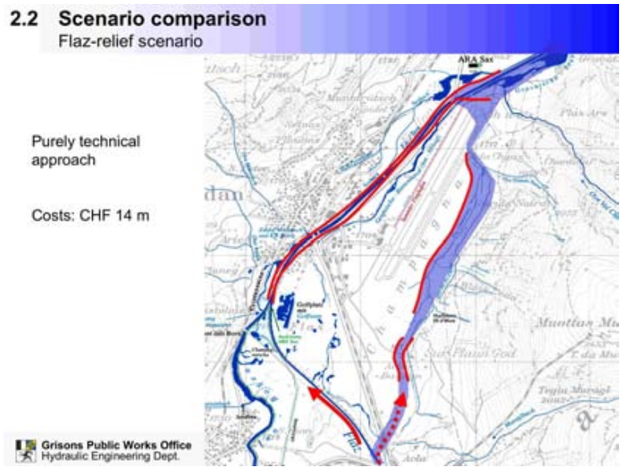
The flood years
1951
1954
1956

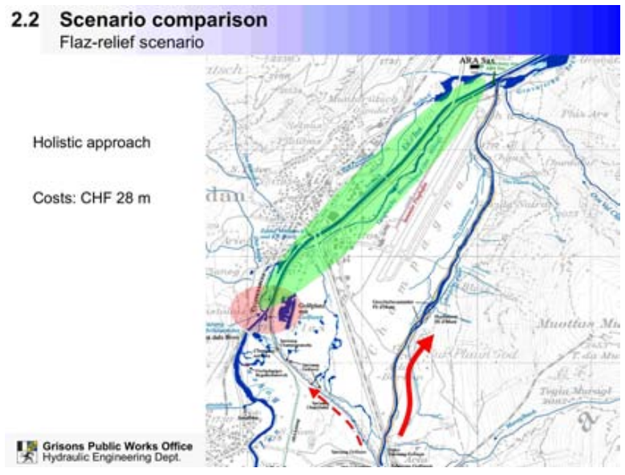
Grisons Public Works Office Hydraulic Engineering Dept. Workshop on Climate Change in the Alpine Region Bolzano, 5-6 December 2007 graubünden

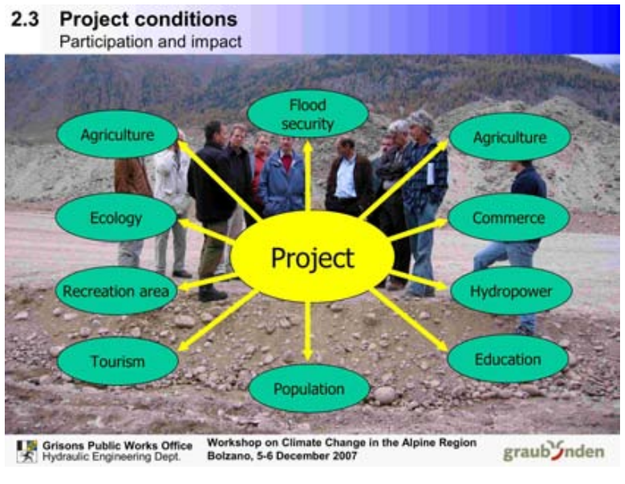
FLOOD PROTECTION PROJECT EN/FLAZ SAMEDAN

Andri Bischoff, Thomas Nievergelt









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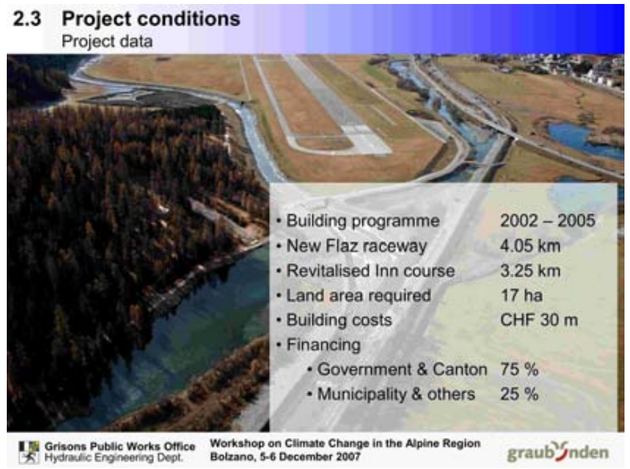

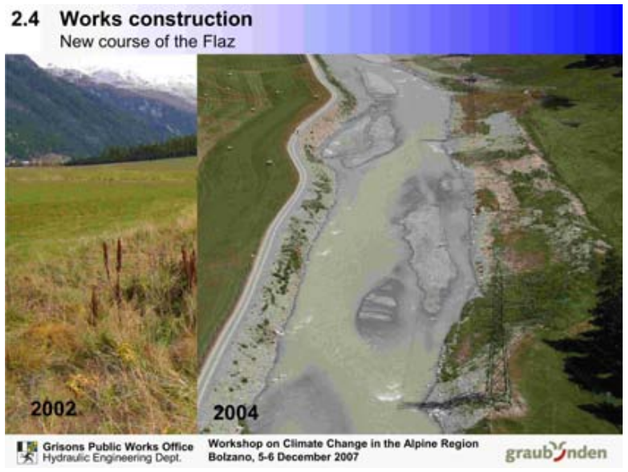

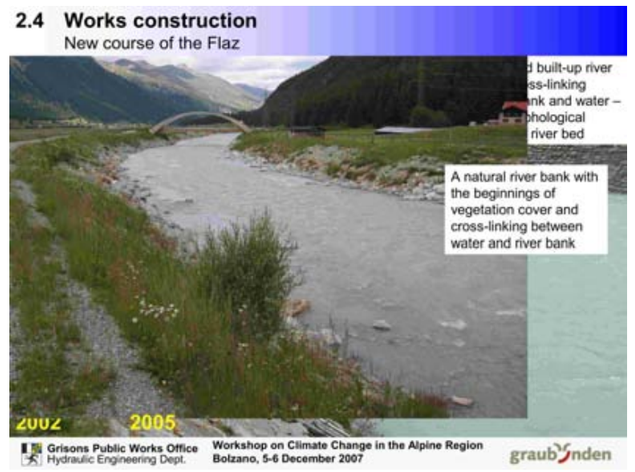

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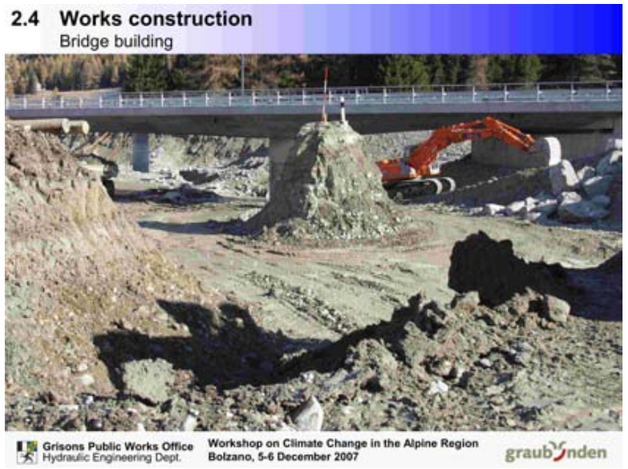
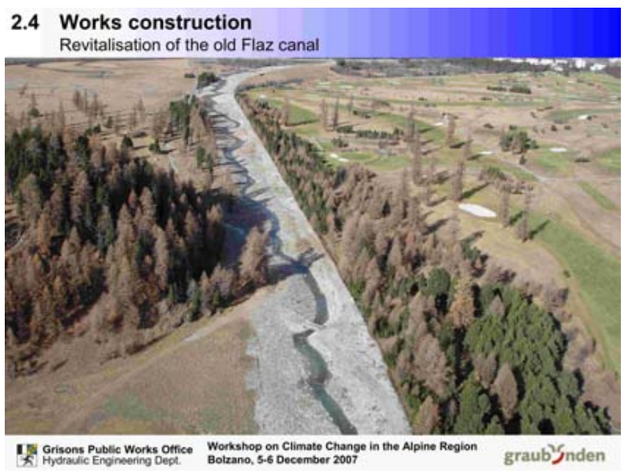
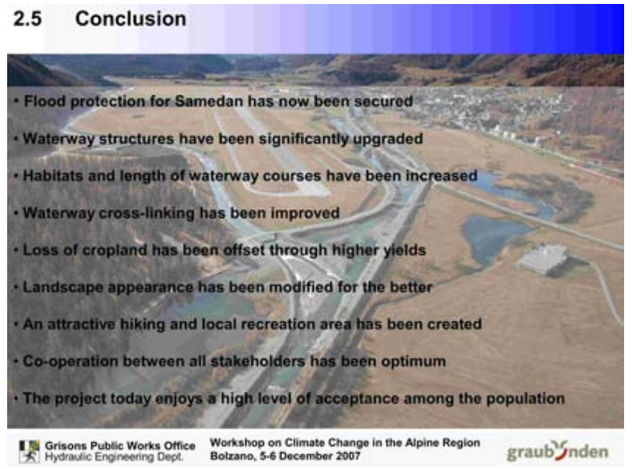






ACTIVITIES FOR WATER RETENTION AT REGIONAL LEVEL FOR PROTECTION AGAINST FLOODS AT MUNICIPAL LEVEL IN BAVARIA

Peter Frei

Bavarian State Ministry of the Environment, Public Health and Consumer Protection

Good practice for adaptation to climate change
An example from Bavaria

Activities for water retention at regional level

For protection against floods at municipal level in Bavaria

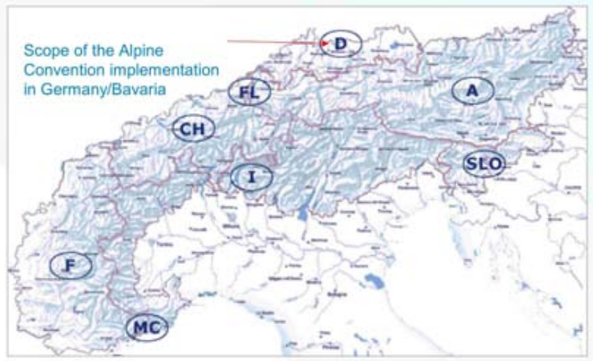
Bavarian State Ministry of the Environment, Public Health and Consumer Protection

Flood Protection at municipal level

The event that started the project:

- **extreme floods in 1999 and 2002**
- **deaths near minor watercourses due to floods**
- **according to the Bavarian law on water bodies (Bayerisches Wassergesetz), municipalities are responsible for minor watercourses**
- **Flood events interpreted as signals of ongoing climate change**

Bavarian State Ministry of the Environment, Public Health and Consumer Protection



Bavarian State Ministry of the Environment, Public Health and Consumer Protection

Aims and Activities

As a consequence of flood events and signals of climatic changes, the Bavarian government on request of the Bavarian Parliament appointed a new focal point for support on the 9th July 2003

"Active water retention at territorial level"

Bavarian State Ministry of the Environment, Public Health and Consumer Protection

Germany: a contracting party to the Alpine Convention

- Germany and its extreme southern part of Bavaria falls within the scope of the Alpine Convention
- The German part covered by the Convention accounts for 11000 km_ (5,8%)
- In Germany/Bavaria the populations is in total of about 1.3 ml people (10.1%) In the scope of the Alpine Convention
- The Alpine Space is responsible for the following administrative units:

"Landkreise" (districts, regional constituencies): Berchtesgaden, Traunstein, Rosenheim, Miesbach, Bad Tölz-Wolfratshausen, Garmisch-Partenkirchen, Weilheim-Schongau, Ostallgäu, Oberallgäu, Lindau, "Kreisfreie Städte" (independent cities): Rosenheim, Kaufbeuern, Kempten

Bavarian State Ministry of the Environment, Public Health and Consumer Protection

Aims of incentives

- **Activities for water retention in the region**
  Appoint engineers for the creation of a flood retention project
  Optimise flood retention by combining different interventions
  Territorial activities for water retention:
  - **Flood control reservoirs**
  - **Re-naturalisation of swamps and wetlands**
  - **Create land depressions and spillway tunnels**
  - **Change land cultivation methods**
  - **Afforestation**
  - **Ecological augmentation/ re-naturalization of water resources**
  - **Other relevant interventions**

ACTIVITIES FOR WATER RETENTION AT REGIONAL LEVEL FOR PROTECTION AGAINST FLOODS AT MUNICIPAL LEVEL IN BAVARIA

Peter Frei

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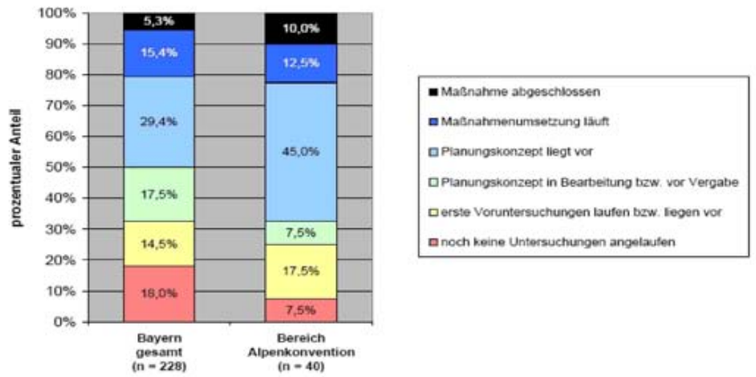
Bavarian State Ministry of the Environment, Public Health and Consumer Protection

Current State of the setting up of the focal point for incentives in 2007



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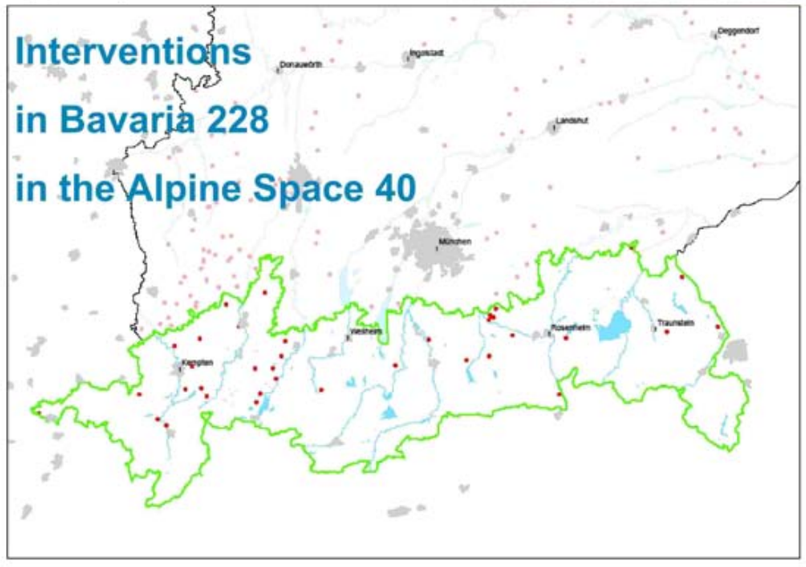
Bavarian State Ministry of the Environment, Public Health and Consumer Protection

Interventions

in Bavaria 228

in the Alpine Space 40



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Bavarian State Ministry of the Environment, Public Health and Consumer Protection

Budget

The total number of interventions for setting up of the focal point for support in Bavaria amount to 170 projects, costing around 190 million Euros till 2020

Alpine Space:

- **Within the Alpine Space 40 crucial points have been identified**
- **Project studies costs amounts to 760.000 Euros**
- **Costs for projects realization account for 52 million Euros**
- **Till 2006, out of 4.8 million for projects expenditures, 3.6 million have been paid ahead of appropriations.**

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Bavarian State Ministry of the Environment, Public Health and Consumer Protection

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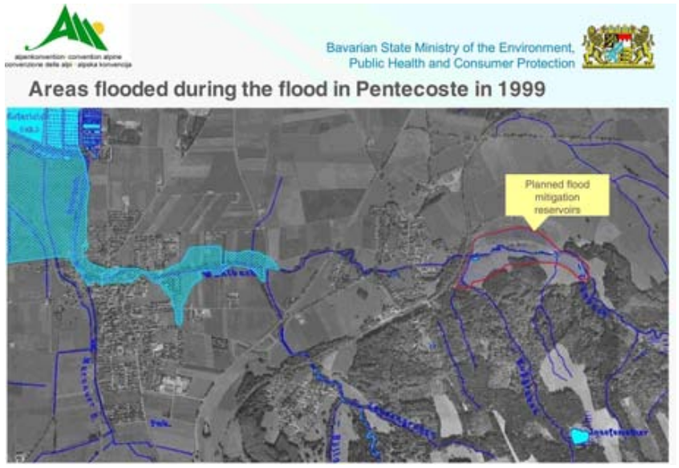
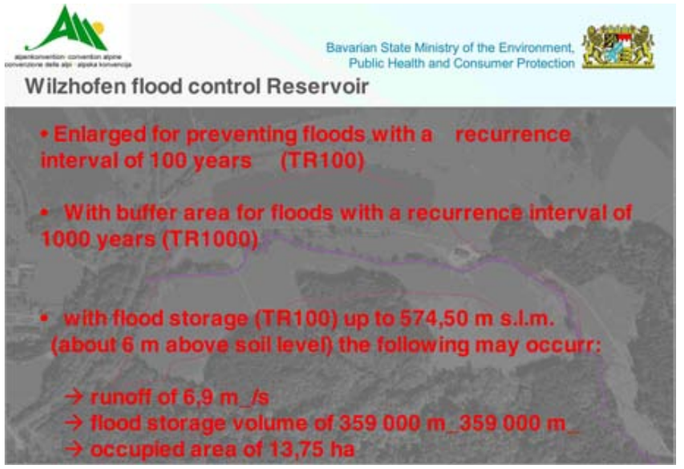
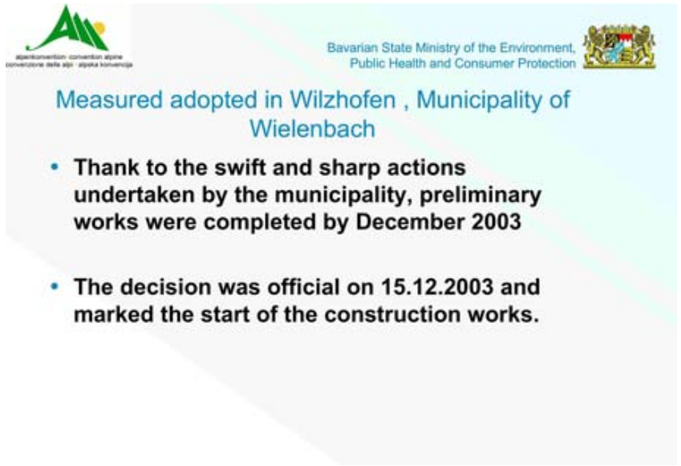
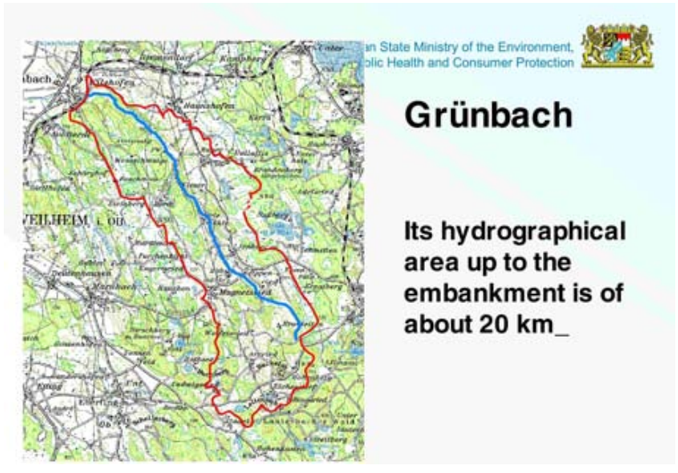
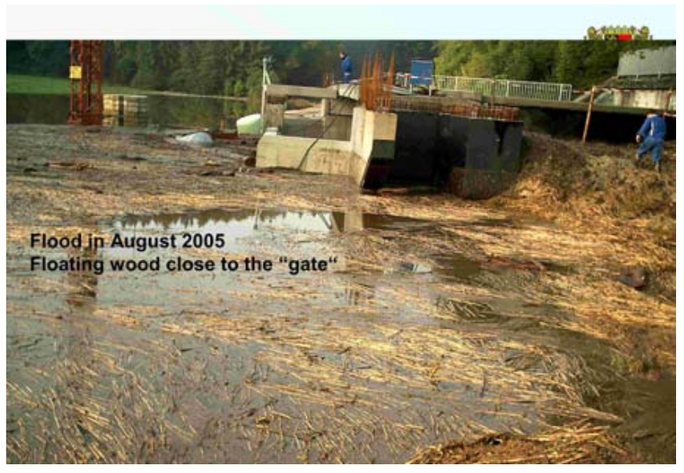
Peter Frei











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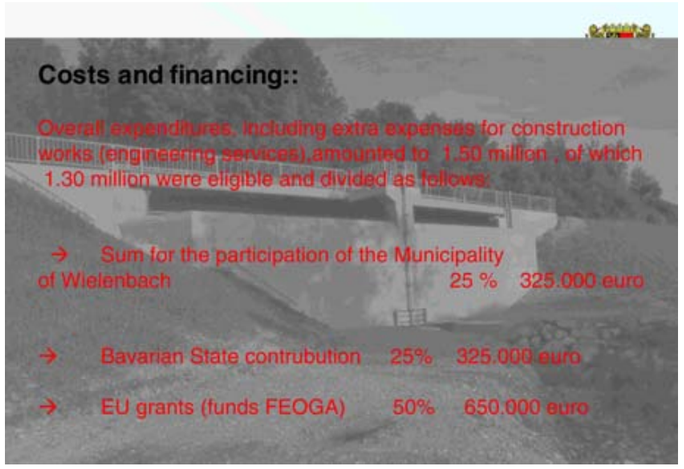

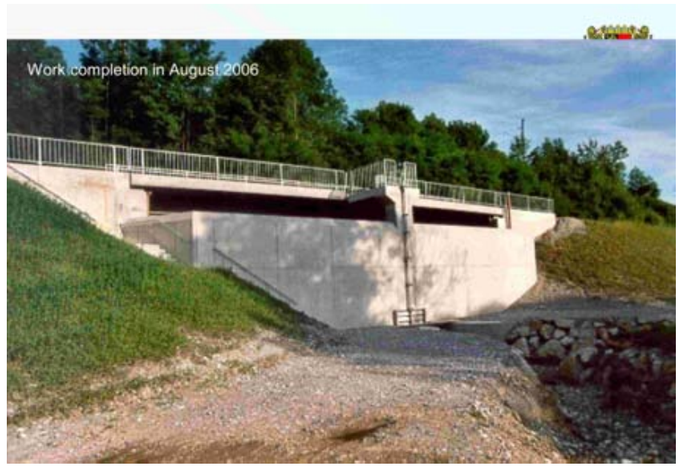

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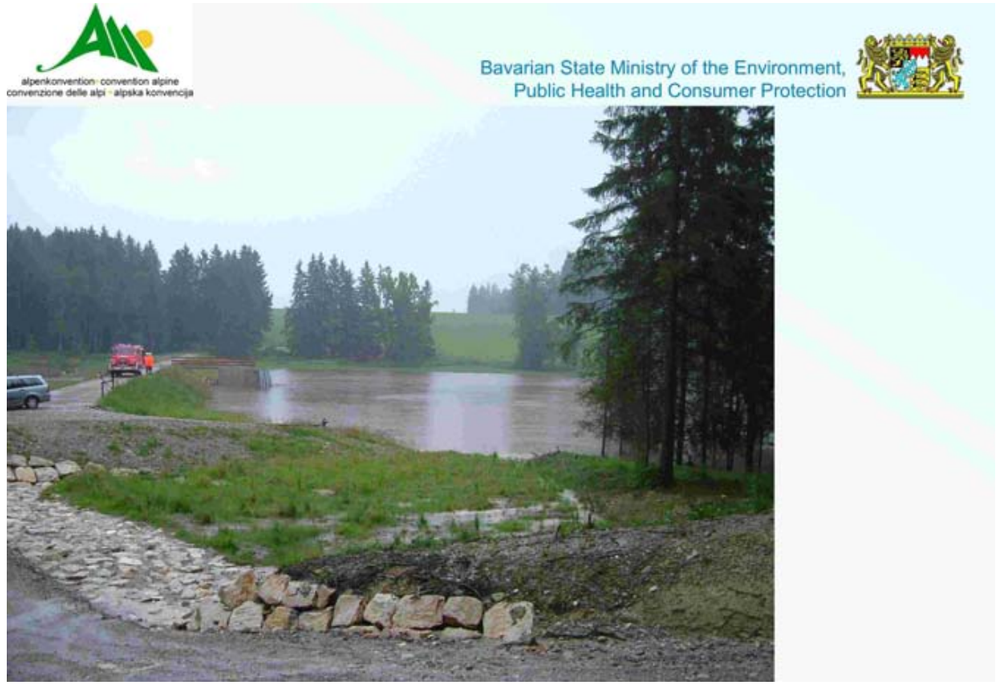
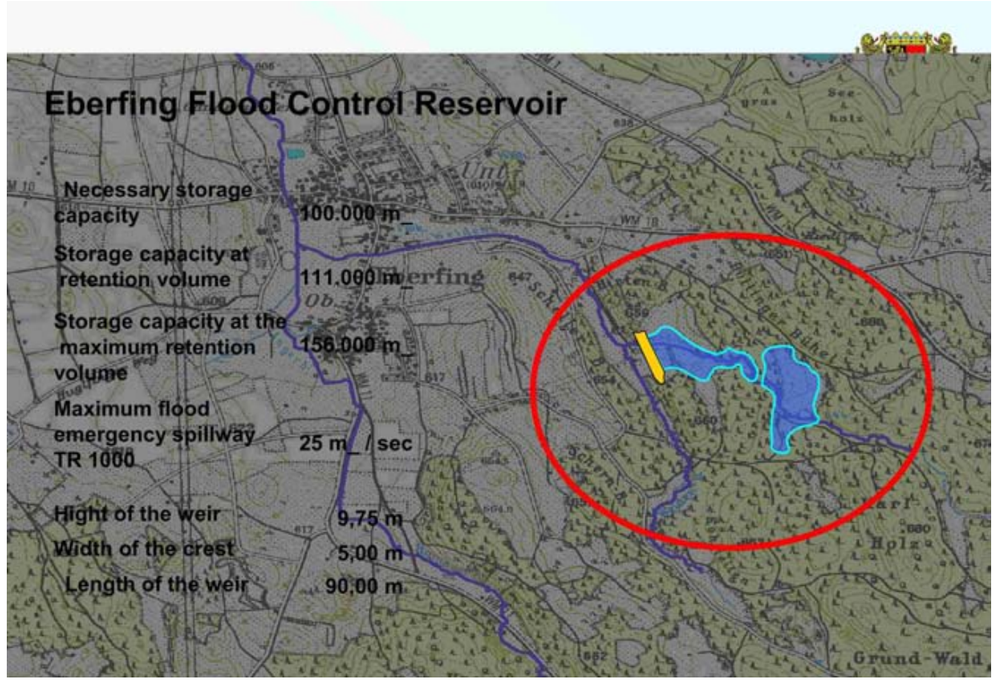
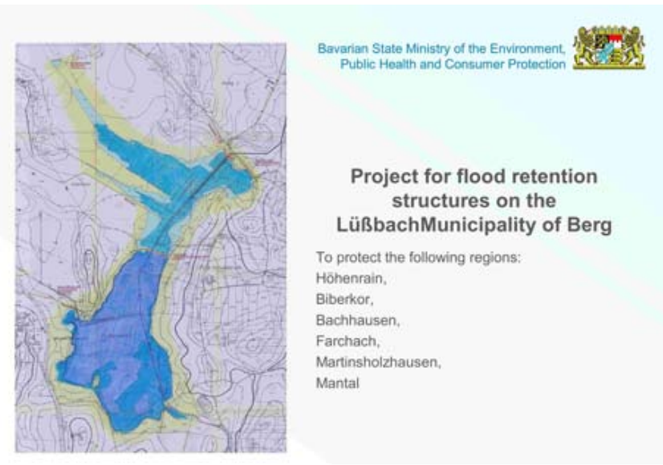




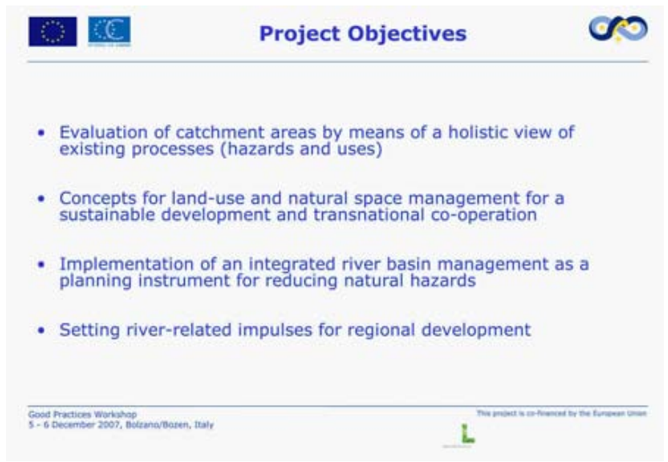


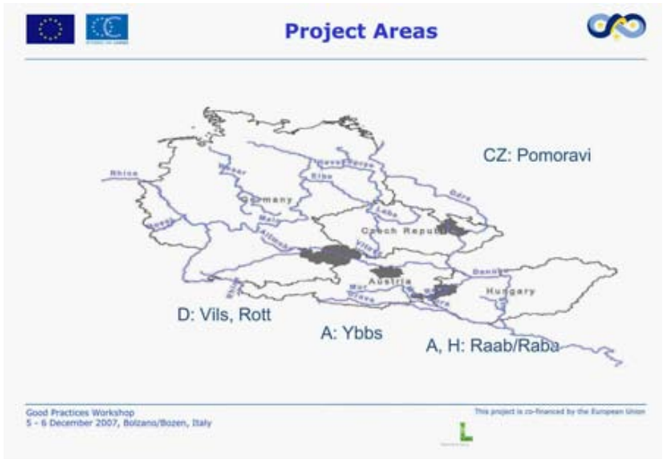
ACTIVITIES FOR WATER RETENTION AT REGIONAL LEVEL FOR PROTECTION AGAINST FLOODS AT MUNICIPAL LEVEL IN BAVARIA

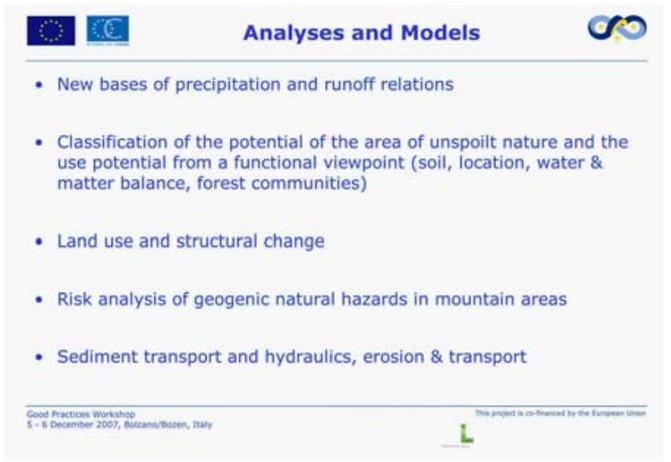
Peter Frei

ILUP: NEW APPROACHES IN LAND USE MANAGEMENT

Hubert Siegel







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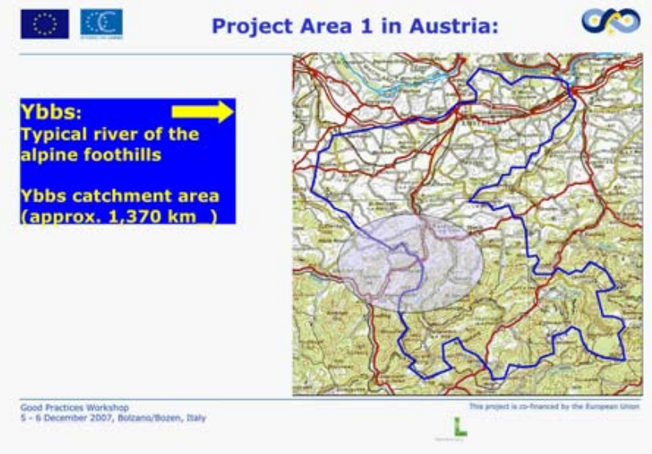

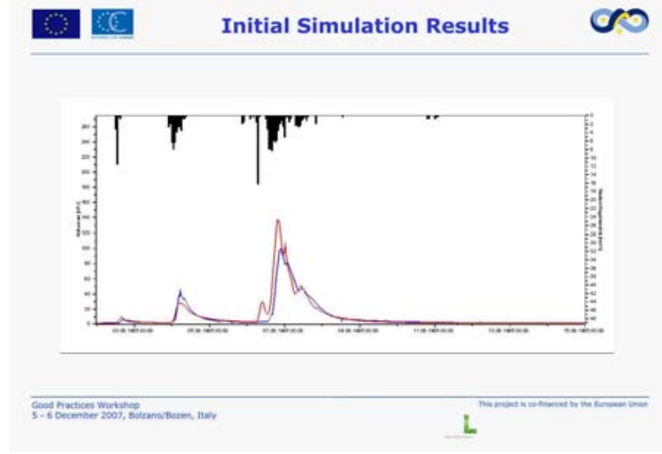

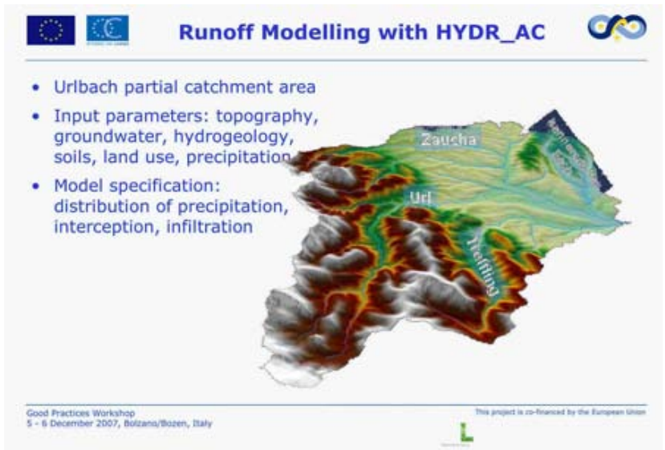

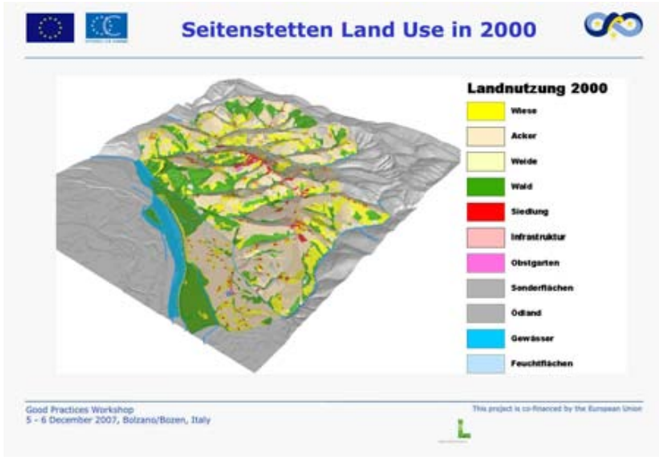

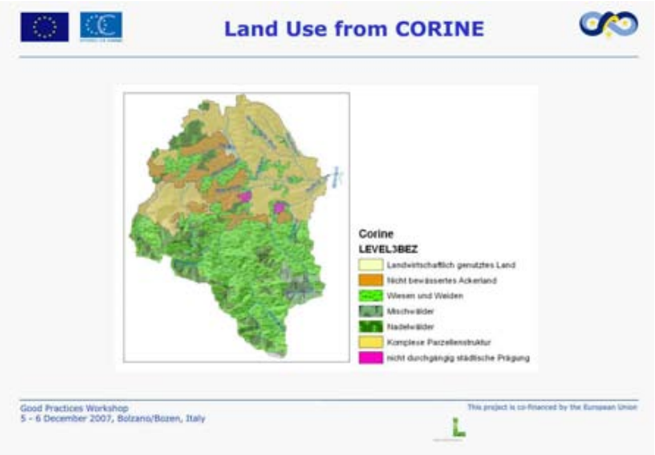

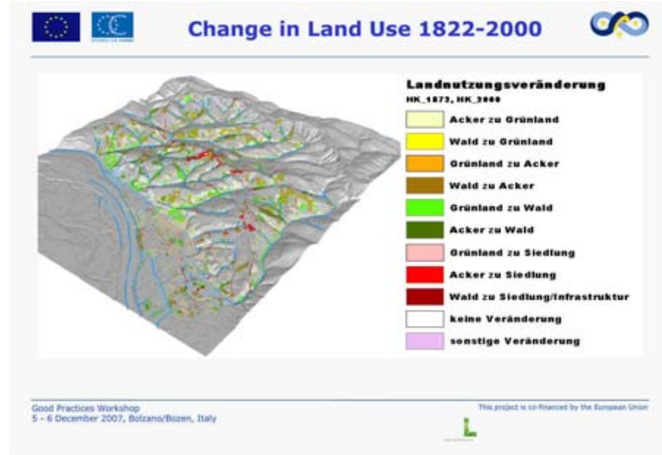

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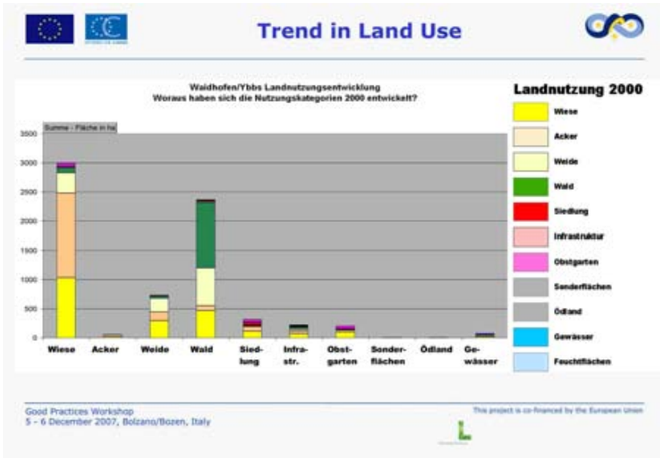

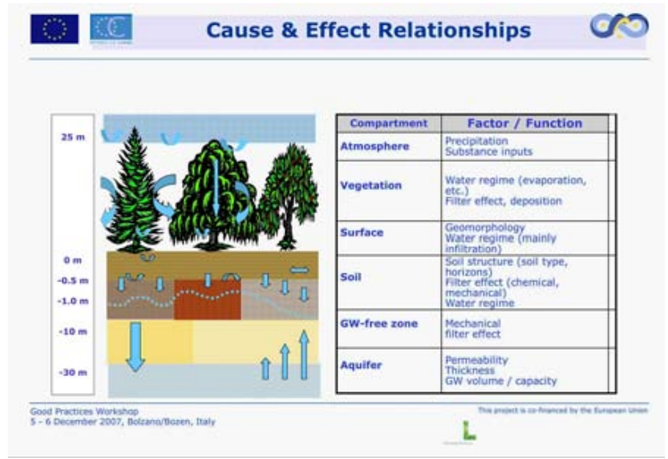

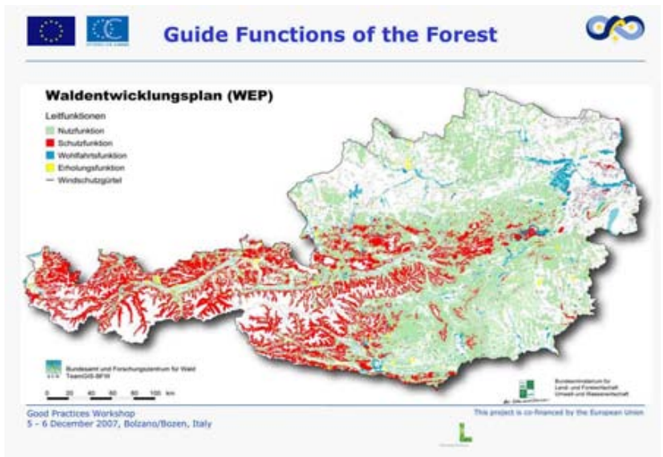

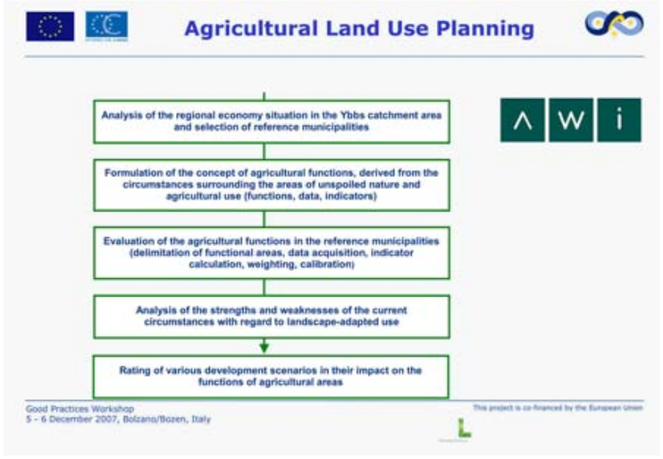

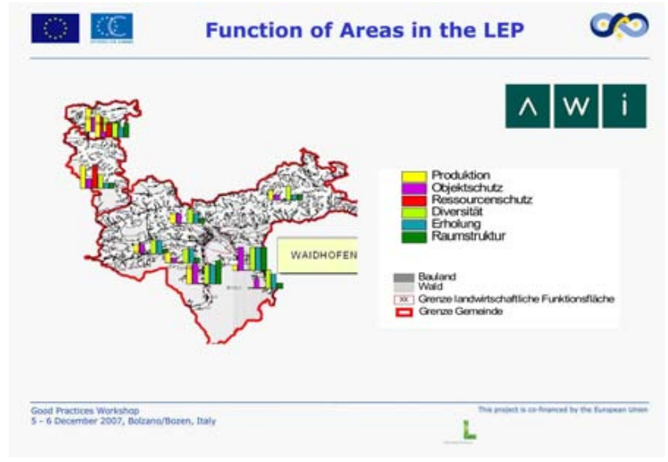

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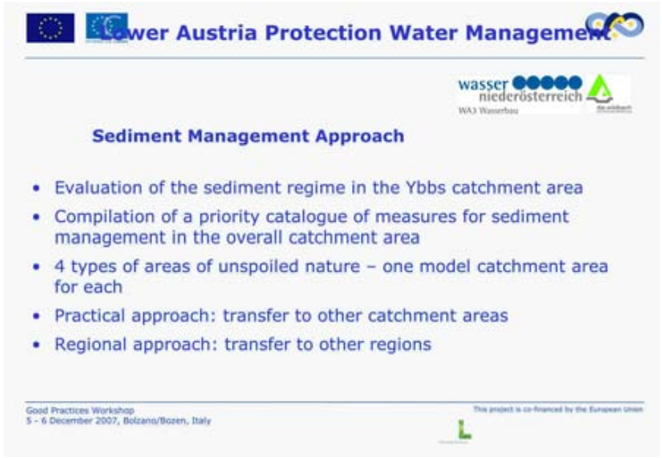

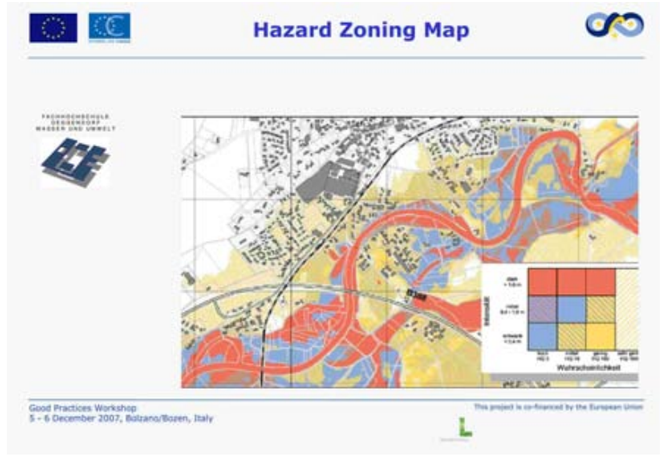

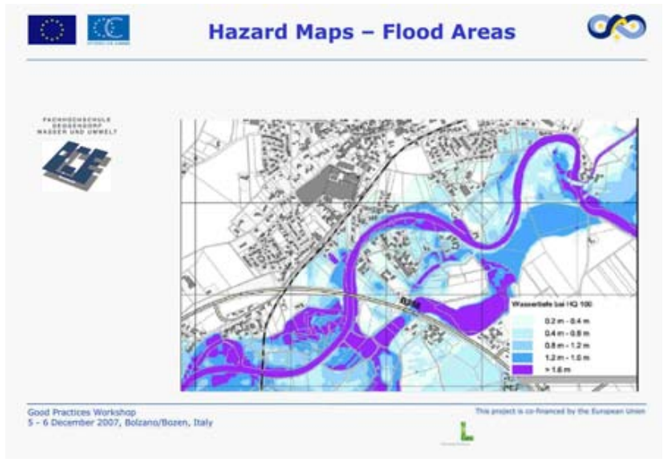

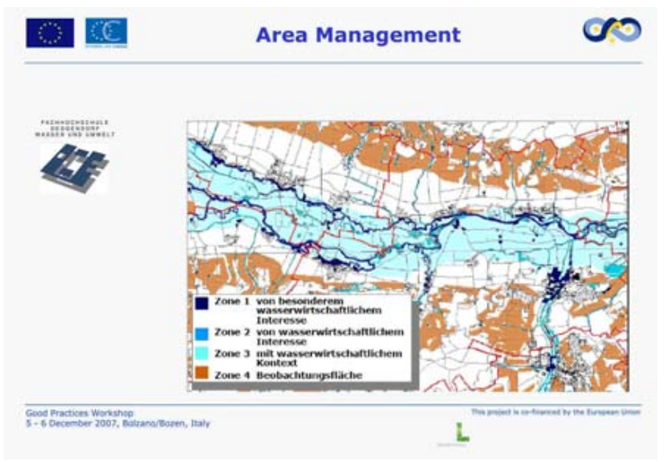

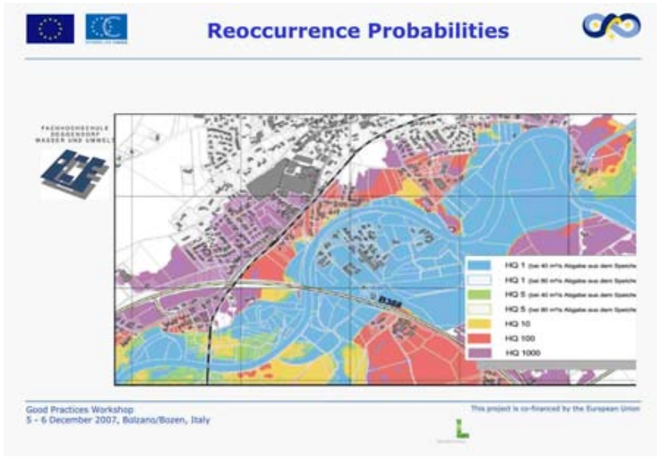

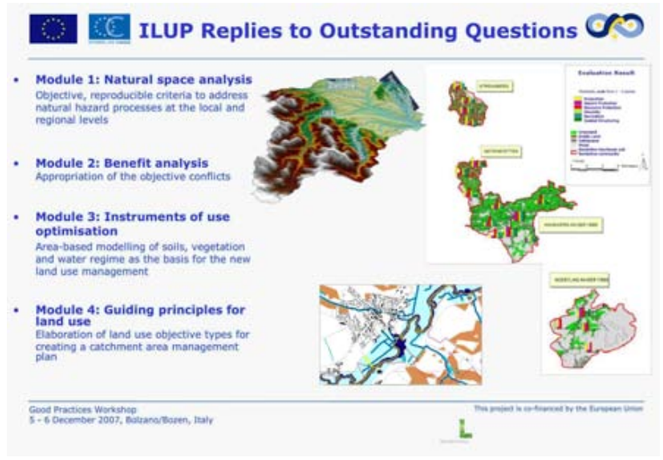

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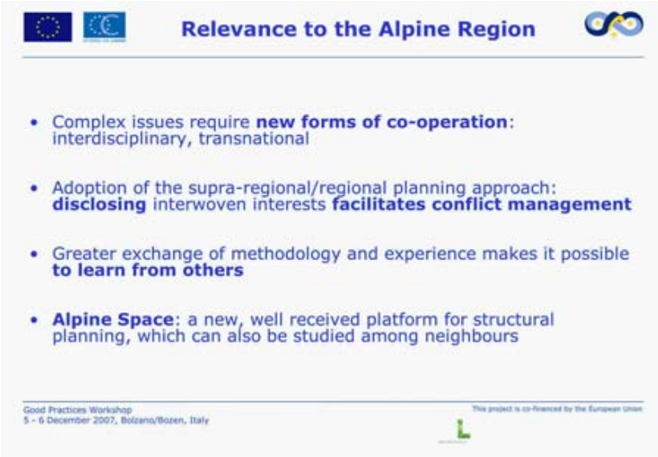
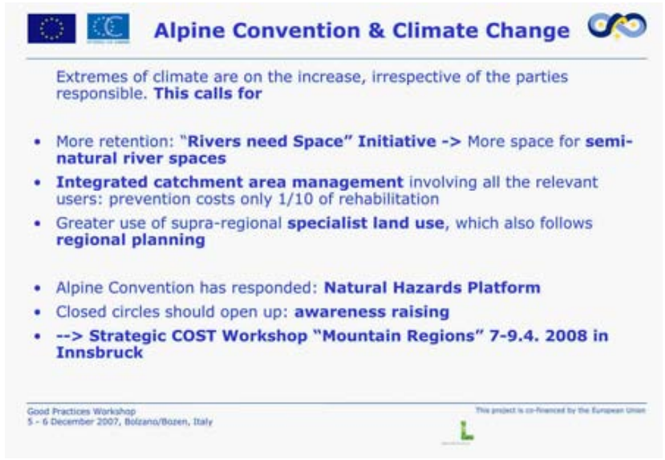
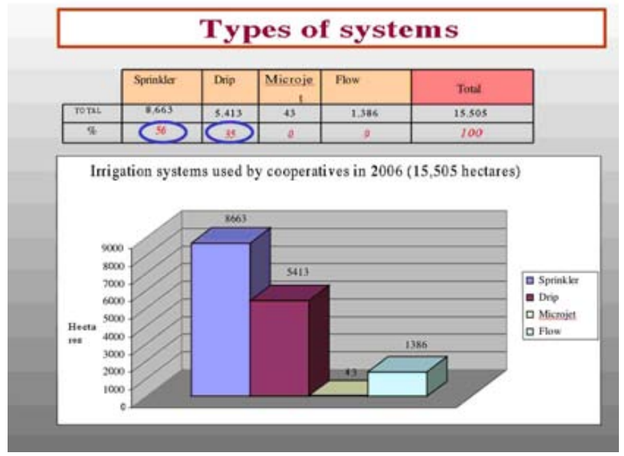
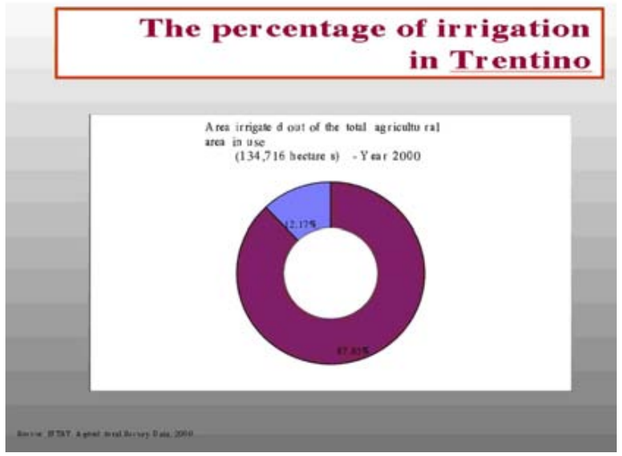


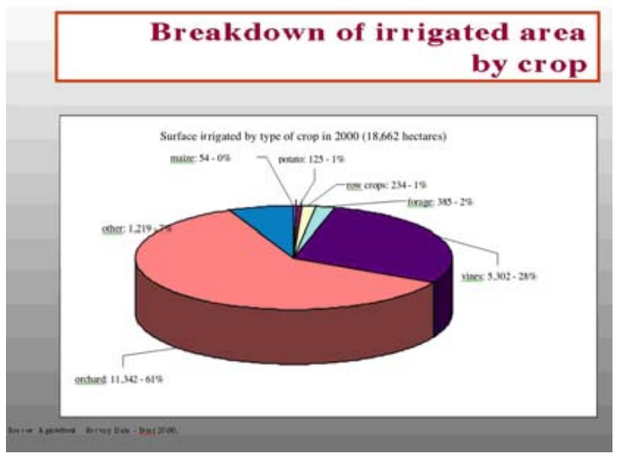


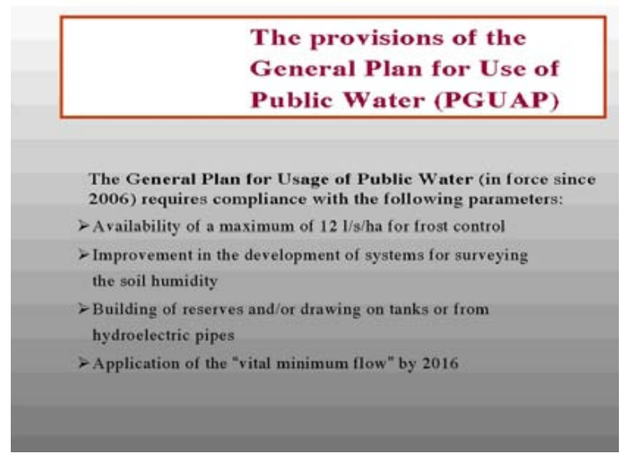
IRRIWEB: CLIMATE CHANGE AND IRRIGATION NEEDS FOR AGRICULTURE IN TRENTO

Emanuele Eccel









IRRIWEB: CLIMATE CHANGE AND IRRIGATION NEEDS FOR AGRICULTURE IN TRENTO

Emanuele Eccel

The provisions of the General Plan for Use of Public Water (PGUAP)

The General Plan for Usage of Public Water (in force since 2006) requires compliance with the following parameters:

- Availability of a maximum of 12 l/s/ha for frost control
- Improvement in the development of systems for surveying the soil humidity
- Building of reserves and/or drawing on tanks or from hydroelectric pipes
- Application of the "vital minimum flow" by 2016

The provisions of the General Plan for Use of Public Water (PGUAP)

- Permits in progress for irrigation use (theoretical accumulated flow
  40.3 m³/s
- Requirements estimated by PGUAP (assuming correct cooperative management)
  21.1 m³/s
- For a maximum summer requirement of 0.81 l/s/ha, with the assumption of improvements to systems, joining cooperatives, changes to type of plant and, above all, considering that the outlets will not all be used simultaneously, the PGUP has set an irrigation requirement of
  0.5 l/s/ha

The IRRIWEB project: general goal

"To produce a system for supporting decisions on irrigation management in the form of an integrated approach model, also with a view to limits on water availability"

The IRRIWEB project: specifics

PARTICIPANTS:

- S. Michele Agricultural College (IASMA), Dept. for Enhancement of Natural Resources + Centre for Technical Assistance to Agriculture (CAT)
- Trento University, Civil and Environmental Engineering Dept.
- *(Consultancy entrusted to CNR – IBIMET + soil expert)*

BUDGET: €240,000

DURATION: two-year (extension requested)

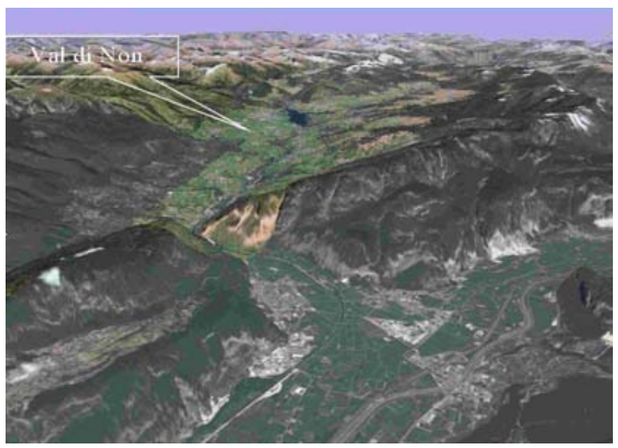
The IRRITRENTINO project: expected results

WP1

- pilot soil map for irrigation, including the hydrological features of the land
- irrigation IT system for user interface operating on the IASMA server, to estimate the water balance per farm with high territorial resolution

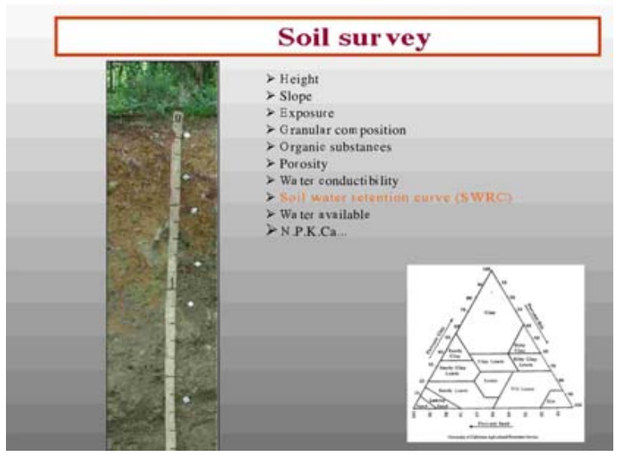
WP2

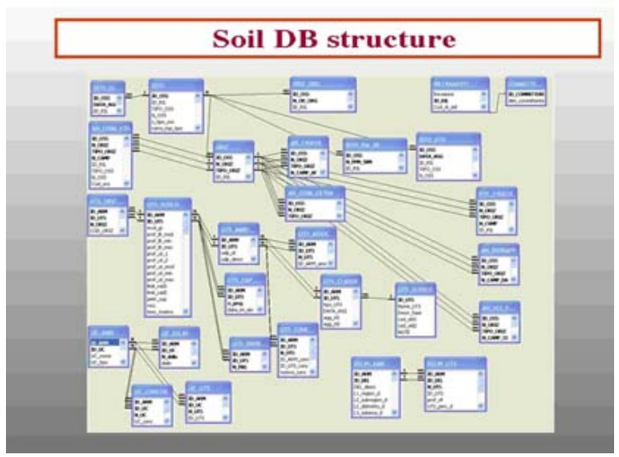
- innovation in physiological knowledge for early warning of water shortage for apple trees
- scale hydrological model of the basin (flow model) to estimate the impact of irrigation managements situations.



IRRIWEB: CLIMATE CHANGE AND IRRIGATION NEEDS FOR AGRICULTURE IN TRENTO

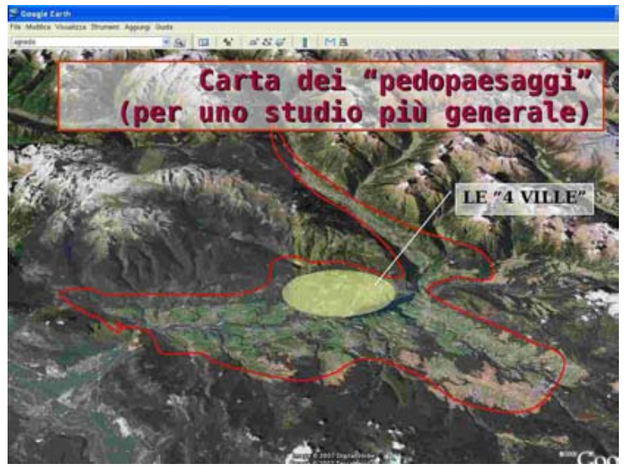
Emanuele Eccel

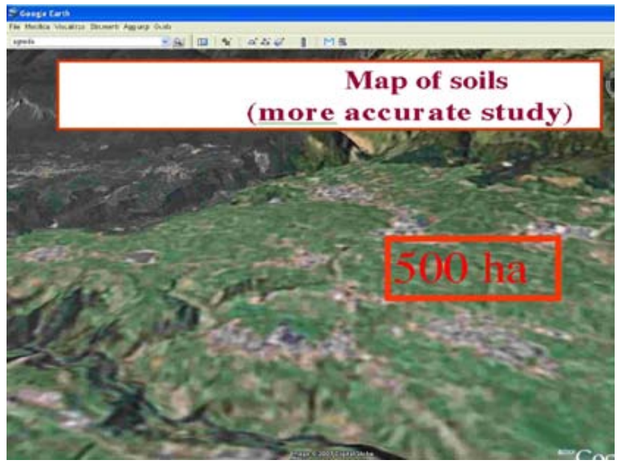


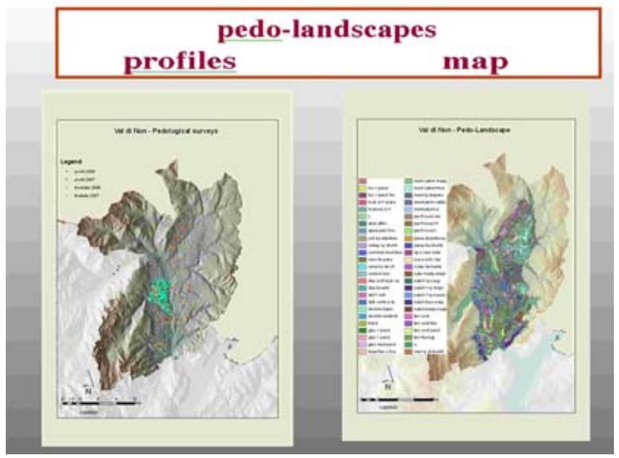


Soil landscape map
(for a more general study)

"4 VILLE" SITE







IRRIWEB: CLIMATE CHANGE AND IRRIGATION NEEDS FOR AGRICULTURE IN TRENTO

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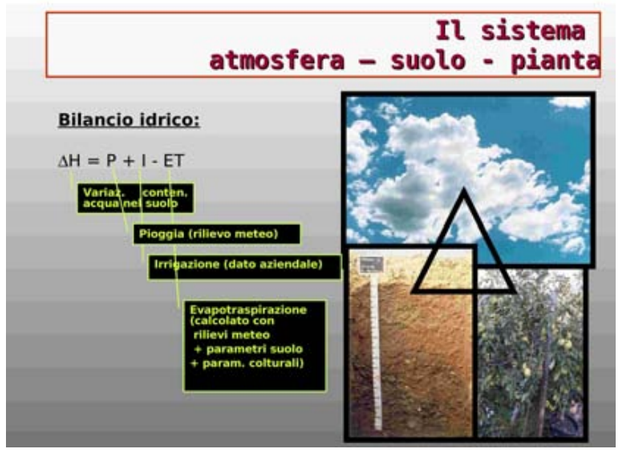
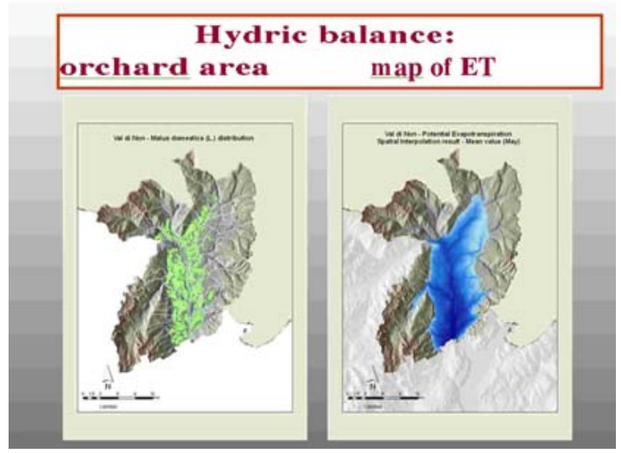


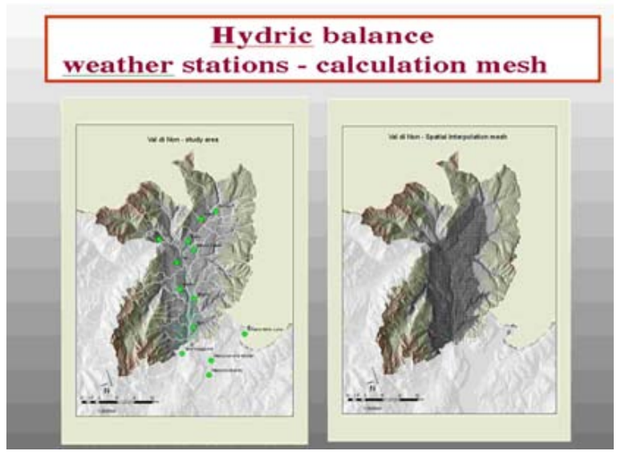
The atmosphere – soil – tree system

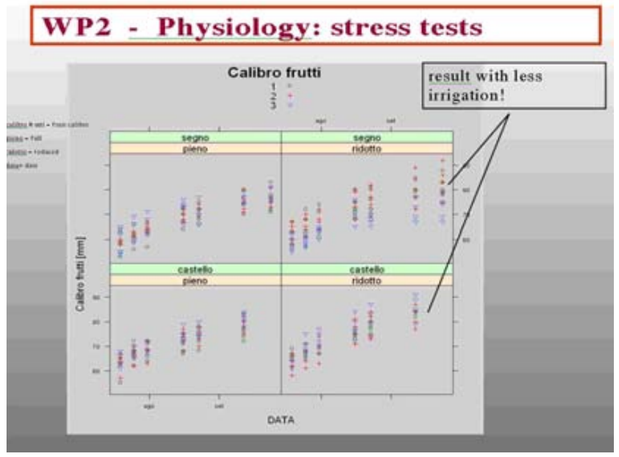
Hydric balance:

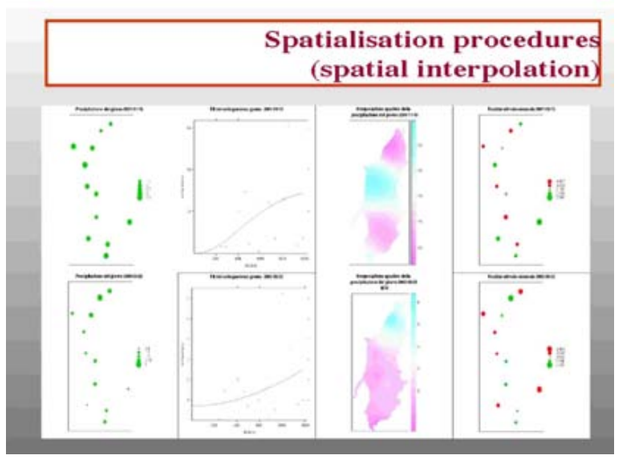
DH = P + I - ET

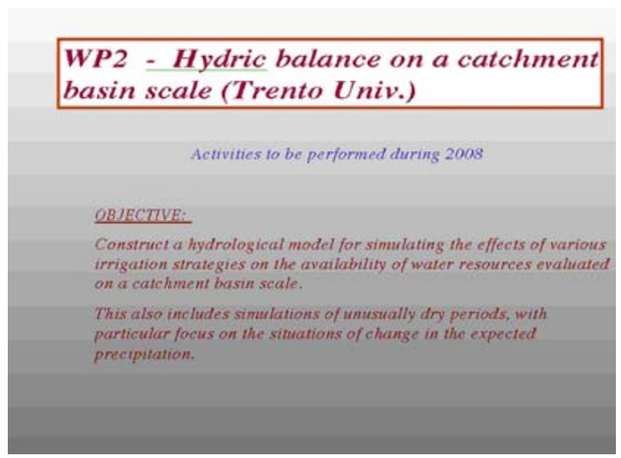
- Limited change in soil water
- Precipitation (weather survey)
- Irrigation (farm data)
- Evapotranspiration (calculated with weather survey + soil parameters + crop parameters)











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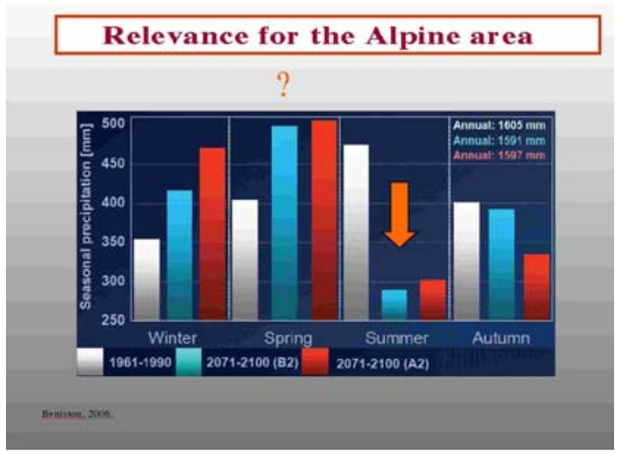
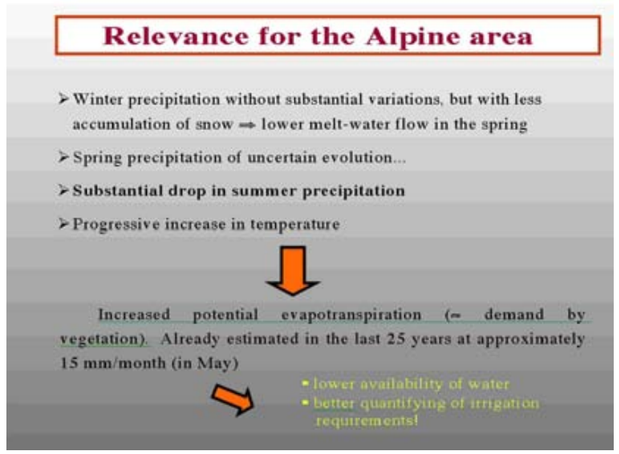
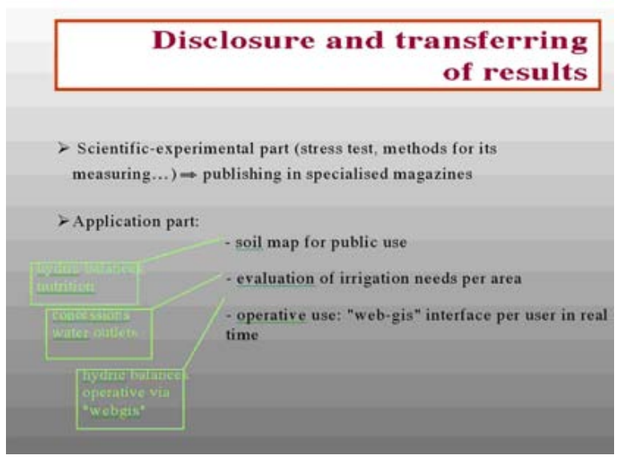
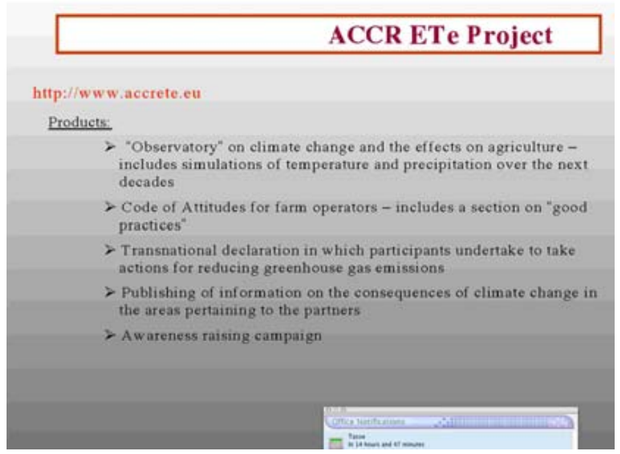
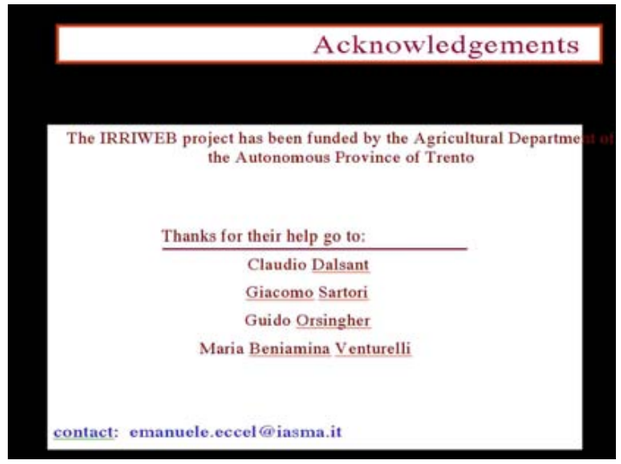










LES GETS AND WATER-DEALING WITH A SHORTAGE

Keran Larue

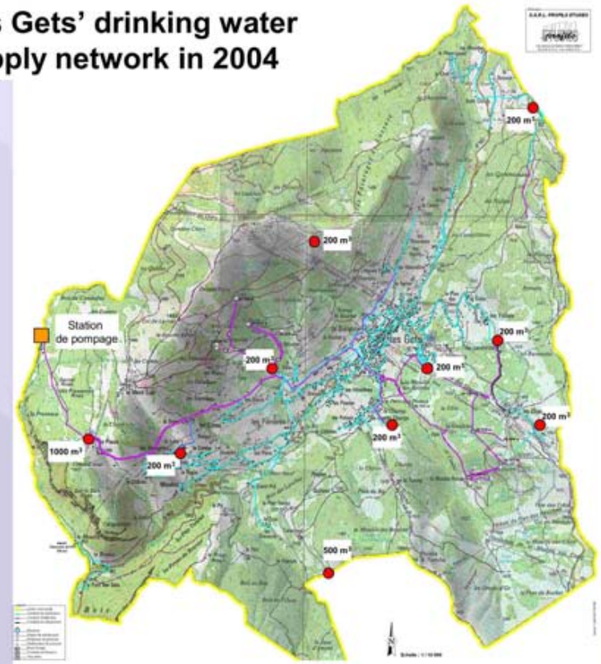
Les Gets and water – Dealing with a shortage

Keran Larue, Mairie des Gets

Climate Seminar – Alpine Convention
5 December 2007, Bolzano

alpenkonvention · convention alpine
convenzione delle alpi · alpska konvencija

Les Gets' drinking water supply network in 2004



Presentation of the area and the municipal water supply services

- Winter and summer sports village resort in the heart of the *Portes du Soleil*
- Population fluctuates according to season, with 1,352 permanent residents and accommodation for 15,000 guests
- Region staggered from 950 m to 1800 m, col situation, i.e. no significant basin slopes
- Fresh-water supply and waste water under public-sector management
- Bipolar supply system (2 independent resource types):
  - 16 catchment points supplying 9 gravity-fed reservoirs (3,100 m^3)
  - 1 groundwater borehole piped to a reservoir (1,000 m^3)
  - Interconnected and modular distribution network

Local context: water is a scarce resource

- Drinking water supply: a recurring problem for the past 50 years
  - First difficulties in the 1950s: insufficient flow rate (3 l/s)
  - 1960s: 17 new catchment points (800 m^3/day during low-water levels)
  - 1970s: concerns about the future expressed by the municipality and the public-sector services
- Since the early 2000s: an unprecedented shortage
  - Winters 2001, 02, 03, 04, 05: main catchments and reservoirs dry
  - Emergency solutions: cuts at peak times, distribution of water bottles, tanker-trucks, derogations

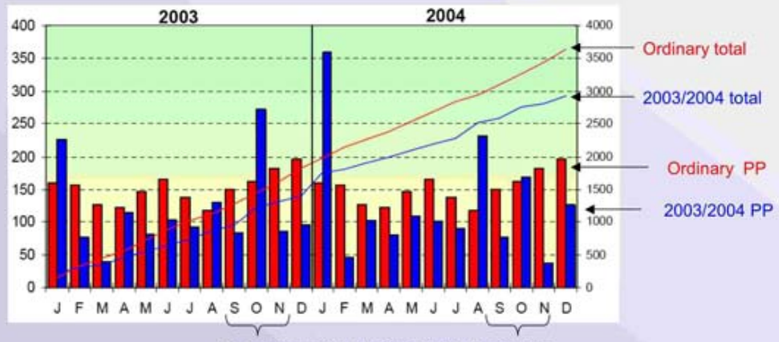
Catchment water resources are no longer sufficient to supply the municipality as a whole during the resort's period of maximum replenishment – what are the solutions?

LES GETS AND WATER-DEALING WITH A SHORTAGE

Keran Larue

Before taking any action, we need to understand the origins of the problem, 4 contributing factors

1- Weather: rainfall at record lows

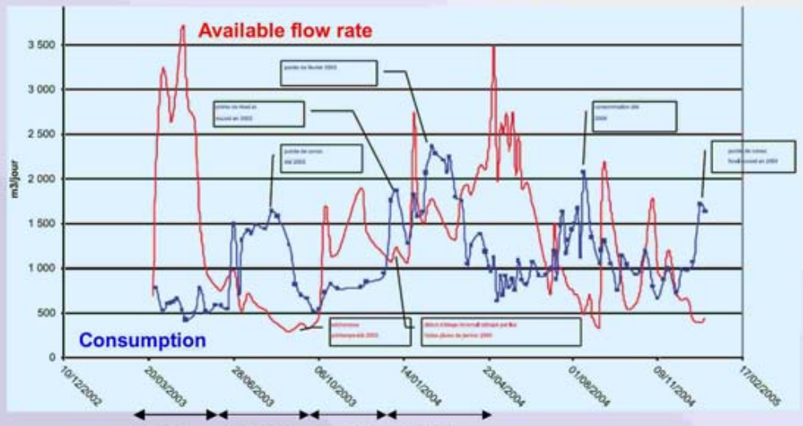


The shortfall is set to worsen if tourist capacities are allowed to increase

Low-water type	Current needs (16,000 inhabitants)	Future needs (20,000 inhabitants)
Winter 2001/2002 low-water Resource: 2100 m3/day	2400 m3/day at peak times Shortfall: 300 m3/day	3000 m3/day at peak times Shortfall: 900 m3/day
Summer 2003 low-water Resource: 1360 m3/day	2070 m3/day at peak times Shortfall: 710 m3/day	2400 m3/day at peak times Shortfall: 1040 m3/day

2- Presence of tourists during periods of low water

Trend in gravity-fed resources in relation to requirements



3- Significant urban development

- The increase in the number of consumers has not taken account of the amount of water available
- Unbalanced resource management

4- Daily consumption on the rise

- Consumption up from 150 l/person/day to 200 or even 250 l in 20 years
- Lack of awareness of how fragile the resource actually is

LES GETS AND WATER-DEALING WITH A SHORTAGE

Keran Larue

Situation in 2002: *"In the light of current resources urban development cannot be confidently envisaged."*

In view of the contributing factors, it is necessary to take action at several levels in both the short and medium term:

- **Regulatory** _ land use authorisations to be subject to the capacity to supply drinking water
- **Scientific** _ large-scale programme of water research
- **Technical** _ improvement in the supply network
- **Civic**_ change in user behaviour

Search for new resources

Water research: costly and inconclusive studies

- Gravity-fed sources: failures (€14,000)
- Underground water points: 7 drillings, 5 of which are abandoned (€113,100)
- Groundwater tables: 2 viable sites, one of which is outside the municipality, administrative and political difficulties (€189,900)

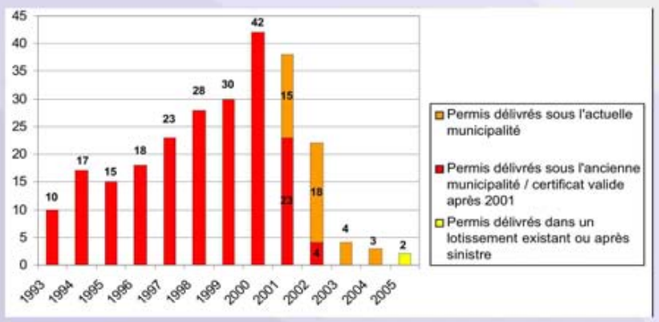
since 2002: **€317,000**

Insufficient solutions in the long term, complementary measures required

Urban planning and regulations

Review of the Local Urban Planning Scheme

- Approved by the municipal council on 24 November 2005
- Objective: Urbanisation of the various zones of the LUPS subject to the capacity to supply drinking water; "not succumbing to market demand; setting the rate of development in keeping with local resources". Observance of the Water Act 1992.
- Result: Number of building permits drastically curtailed since 2001



Search for new resources

The solution: store water in a hillside barrage

- Why? Significant rainfall over the course of the year
- Supplied by catchment during periods of high outputs, proximity to 3 reservoirs
- A single task: to supply drinking water, creation of a drinking water processing plant
- Basin volume (40,000 m3) corresponding to requirements for a whole winter
- Survey campaign lasting 4 years at 24 sites
- Site complies with numerous environmental, health-related and safety criteria: minimising the impact (e.g.: earthworks to be re-used on site)

Total cost of the operation: €3,000,000

LES GETS AND WATER-DEALING WITH A SHORTAGE

Keran Larue

The barrage at la Mouille au Blé

Search for new resources

A few words about the artificial snow-making installation at Les Gets

- Utilises resources unsuitable for the water supply and stored in 4 barrages, incl. 1 resort lake
- Investments in high-performance equipment
- Concertation and co-operation between water dept., *mairie* and ski-lift operators
- Use of water from the municipal network:
  - During low tourist season
  - If resource is plentiful (winter rainfall, snow-melt)

"During periods of low-water levels, consumers take priority; artificial snow is secondary."

Other solutions provided

Technical

- Sewerage rehabilitation programme over several years
- Objective: improvement in the output of the distribution network
- Results: renewal rate above French average (5% against 0.6%). Risk of pipe bursts and leakage contained.

Responsibility and eco-citizenship

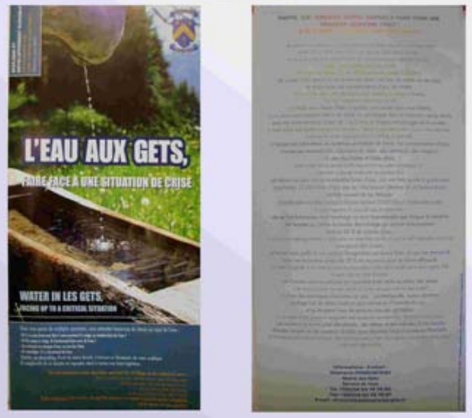
- Publication of a bilingual awareness and information brochure distributed by the *mairie* and the tourist office
- Reminder of easy ways to save water

Current situation

- Mouille au Blé barrage not operated
- Hire of a drinking water processing plant
- Some difficulties still feared for this winter
- Improvement in the situation during 2008

"Despite significant improvements, water at Les Gets remains a fragile resource that requires sensible management and daily attention."

Other solutions provided



Water, "the blue gold", in jeopardy?

- The Alps are Europe's water tower, but there is a deficiency both qualitatively and quantitatively
- Vulnerability beyond mountain populations, "think globally, act locally"
- Manage resources sustainably without penalising economic activities; particular challenge of alpine resorts
- Necessity to endow the Alpine Convention with a Water Protocol recognising the resource's specificity in our environment
- Les Gets as an example of best practice

SUSTAINABLE DEVELOPMENT AND SOLIDARITY IN THE FIELD OF OPEN-AIR ACTIVITIES AND SPORT TOURISM IN MOUNTAINOUS RURAL AREAS

Maurice Marais

Région
Provence-Alpes-Côte d'Azur

Sustainable development and solidarity in the field of open-air activities and sport tourism in mountainous rural areas

Conseil Régional PACA - Direction de l'Aménagement des Territoires - Mission Montagne - 2007

Summary

Open-air activities

1. The mountains seen as an ideal environment for open-air activities
2. Revival of shared values
3. The Massif of the Southern Alps, an area of great cultural, environmental and symbolic significance
4. Open-air sports in all geographic areas
5. The history of regional policy interventions
6. 2007-2013: a new step for the development of areas around the massif and organization of open-air activities
7. Open-air activities, one of the objectives of the regional scheme for tourism development 2006-2010
8. Events concerning open-air activities in the areas around the Massif, divided according to sectors
9. Regional plan on solidarity and sustainable management of open-air activities
10. Regional provision based on two pillars:
    - Pillar 1 – Solidarity and sustainable development of the territory around the massif starting with open-air activities
      - Regional provisions, searching for projects
      - Implementation of regional provisions
      - Implementation of a welfare market for labour
    - Pillar 2 – Implementation, coordination, organization and promotion of open-air activities in the mountains

1. The mountains: a favourable environment for open-air activities

Open-air activities

Development of tourism offer and demand both in summer and in winter

- Encourage local actors to differentiate tourism offer

Encourage the practice of different sports in the mountains

- Improvement of areas and itineraries

Risk of desertification of rural areas which do not benefit from high tourist flow

- Consider open-air sports in mountain areas as a driver for local development

Passion for nature: "green" tourism

A significant share of investments for the development of tourist areas in the mountains

*Improve sites, itineraries and areas used for practising sports in the mountains which have become essential **elements for tourism in mountainous rural areas***

*However, open-air activities in the mountains **are not always organised** in the most efficient manner*

Sustainable development and solidarity in the field of open-air activities and sport tourism in mountainous rural

2. Revival of shared values

Open-air activities

- Appreciate genuineness
- Back to the roots
- Escape the crowds
- Draw closer to nature
- Regain freedom
- Socialisation
- Get some fresh air and relax
- A protected natural and cultural heritage
- Enjoy outstanding landscapes
- Live in an healthy environment
- Keep fit

*«Today's demand for open-air sports entails **interconnections** among different activities, strong environmental awareness and interest towards the assiduous practice of open-air activities, as well as an higher consideration of the people´s real needs in terms of services and access to what it is offered".*

Philippe BRUNET , Office Manager of ALTIMAX - Extrait du Cahier Espaces n°81- Sports de nature. Evolution de l'offre et de la demande - mai 2004

Sustainable development and solidarity in the field of open-air activities and sport tourism in mountainous rural

3. The Massif of the Southern Alps is an area of great cultural, environmental and symbolic significance

Open-air activities

The massif of the Southern Alps is

… an alpine area with a mediterranean climate, ideal for open-air sports

➢ It is possible to practice different sports in the same year

… an area of unspoilt wild nature

➢An outstanding area starting from the mountains all the way to Provence for those who are passionate about open-air activities

… a appealing residential and recreational site

➢ High number of pensioners, second home owners and summer tourists

… a multi-purpose space for tourist, pedagogic and sport activities

➢Pedagogic, sport and tourist activities, are part of the economic and social development of mountainous rural areas

*Open-air activities are a positive input **for the management and development of tourism and economy** in the northern and southern part of the Massif*

Sustainable development and solidarity in the field of open-air activities and sport tourism in mountainous rural

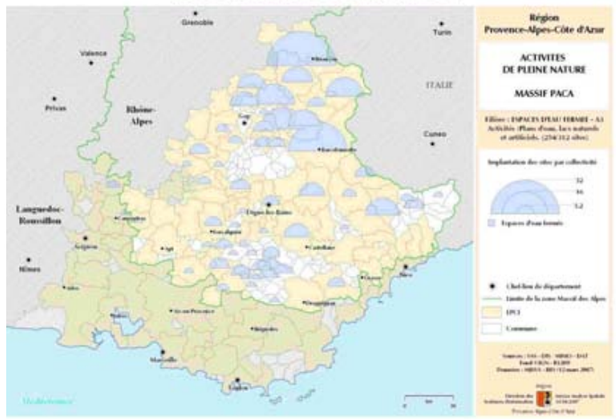
Regions in the Massif: the PACA

SUSTAINABLE DEVELOPMENT AND SOLIDARITY IN THE FIELD OF OPEN-AIR ACTIVITIES AND SPORT TOURISM IN MOUNTAINOUS RURAL AREAS

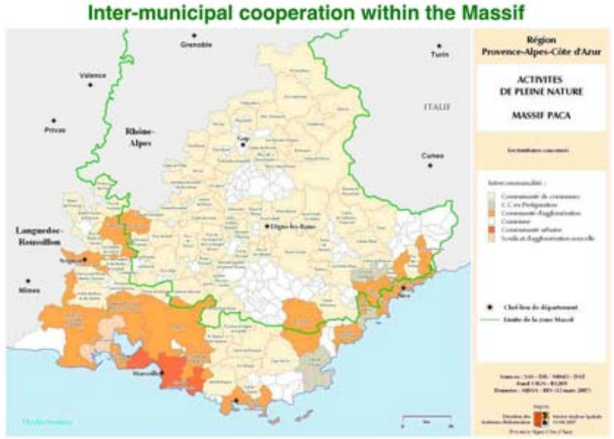
Maurice Marais

The Massif Natural Park

Water resources in the Massif



Inter-municipal cooperation within the Massif



4. Open-air sports in all geographic areas (1)_

Open-air activities

Law 06 July 2000 amending the law of the year 1984 on the organization and promotion of physical and sport activities

Ministry of Youth and Sport

- The *Regional Center for Popular Education and Sport* (CREPS) supports the promotion of physical and sport activities, youth initiatives, popular education and recreational activities

- *Regional authorities and departmental authorities for youth and sport* are responsible for supervising the sites used for activities, observing and analysing the regions where initiatives take place, the overall professionalism and the Council of local actors

4. Open-air sports in all geographic areas (2)_

Open-air activities

At national level

In the framework of the National Council of Physical and Sport activities, a **Committee *for open-air sport sites, localities and* itineraries** has been established.

- It formulates opinions on every bill or decree concerning open-air sport activities
- It makes proposals to the Ministry in charge regarding sport activities and safety, accessibility, space management, locations and itineraries

Departmental authorities: management and harmonisation of open-air activities

The creation of a **Departmental Commission for areas, sites and itineraries (CDESI)** concerning open-air sports with two main objectives:

- Establishing a **Departmental Plan for the areas, sites and itineraries (PDESI)** concerning open-air sport activities
- Guarantee a controlled and long-lasting development of the department supervising open-air activities and equipment

4.A departmental approach to open-air activities (3)

Open-air activities

Alpes de Haute-Provence

Reflect upon the adoption of « CDESI » and « PDESI »

Maritime Alpes

✓Adoption on the 27 January 2006 together with the departmental assembly for the creation of the CDESI

✓ CDESI already set up

✓ PDESI still under way

Bouches du Rhône

Initial stage

Hautes-Alpes

Reflect upon the adoption of « CDESI » and « PDESI »

Var

The Sports and Olympics Departmental Committee is working on setting up this Commission

Vaucluse

Initial stage

SUSTAINABLE DEVELOPMENT AND SOLIDARITY IN THE FIELD OF OPEN-AIR ACTIVITIES AND SPORT TOURISM IN MOUNTAINOUS RURAL AREAS

Maurice Marais

5. The History of Regional Policy Interventions(1)

Open-air activities

✓In the framework of the State-Region contract 2000-2006 (referring to the Massif of the Southern Alps), contracts regarding the mountains have favoured and supported development strategies specific to mountain areas.

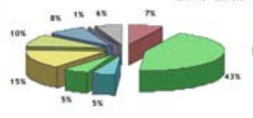
✓Particularly in the framework of measures favouring the development of the Massif, especially in the field of activities regarding tourism diversification

Sustainable development and solidarity in the field of open-air activities and sport tourism in mountainous rural areas

5. The History of Regional Policy Interventions (2)_

Open-air activities

Breakdown of Regional Interventions 2000-2006



From 2000 to 2006, the Region, in the context of regional planning schemes, has invested **€ 7 735 000** for the development of open-air activities

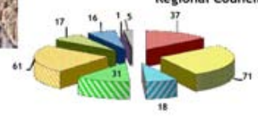
- Support - Research - Promotion
- Facilities for hosting infrastructures, buildings and tourist accommodations
- Drafting of a "water plan" and nautical base
- Climbing, "Iron way"
- Itineraries for excursions and adventures
- Pathways, adventure parks
- Running water
- Fishing
- Open-air sports

Sustainable development and solidarity in the field of open-air activities and sport tourism in mountainous rural

5. The History of Regional Policy Interventions (3)_

Open-air activities

The number of initiatives « Open-air activities » financed by the Regional Council from 2000 to 2006



From 2000 to 2006, the Region, in the context of regional planning schemes, has financed **257 initiatives** for the development of open-air activities

- Support - Research - Promotion
- Facilities for hosting infrastructures, buildings and tourist accommodations
- Drafting of a "water plan" and nautical base
- Climbing, "Iron way"
- Itineraries for excursions and adventures
- Pathways, adventure parks
- Running water
- Fishing
- Open -air sports

Sustainable development and solidarity in the field of open-air activities and sport tourism in mountainous rural

6. 2007-2013 : a new step for the development of areas around the Massif and organization of open-air activities

Open-air activities

It is necessary to have a much broader structure in order to reconcile the **economic development or the territory and to protect the areas and the environment**

- ✓ Prolong the seasons when it is possible to practice open-air sports
- ✓ "Renew" clients, still faithful to the mountains but too traditional
- ✓ Clients typologies that complement one another: different demands and behaviours
- ✓ Development of summer sports complementing winter ones
- ✓ Spatial re-distribution of tourist flow, from very busy areas towards the less accessible ones
- ✓ Ensure high life expectancy to residents

A regional initiative driven by values of solidarity and enhancement of the territory and of mountain activities

Sustainable development and solidarity in the field of open-air activities and sport tourism in mountainous rural

7. Open-air activities, one of the objectives of the regional scheme for tourism development 2006-2010

Open-air activities

Objectives based on four strategic pillars :

1. Strengthen the attractiveness and competitiveness of a region
2. To turn Provence-Alpes-Côte d'Azur into a destination for all kinds of tourists
3. To make Provence-Alpes-Côte d'Azur a point of reference in the field of sustainable tourism
4. Favour employment, vocational training and professionalism in jobs related to tourism

The future of mountainous rural areas depends on 3 main factors:

Climate change

Diversification and adaptation abilities of the tourism offer

Sufficient capital mobilization

Cooperation between "tourism" and "mountain" with the common aim of developing open-air activities in mountain rural areas

Sustainable development and solidarity in the field of open-air activities and sport tourism in mountainous rural

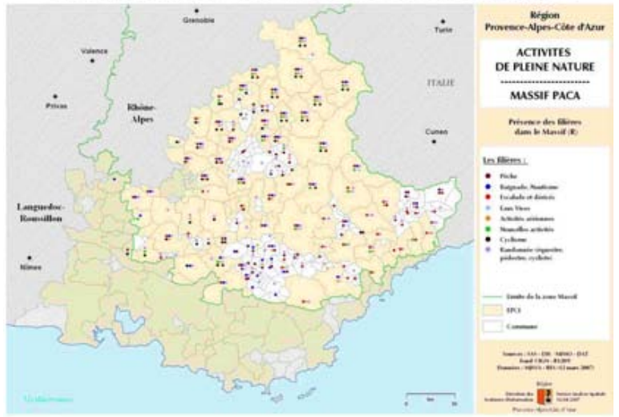
Open-air activities

8. Events concerning open-air activities in the areas around the Massif, divided according to sectors

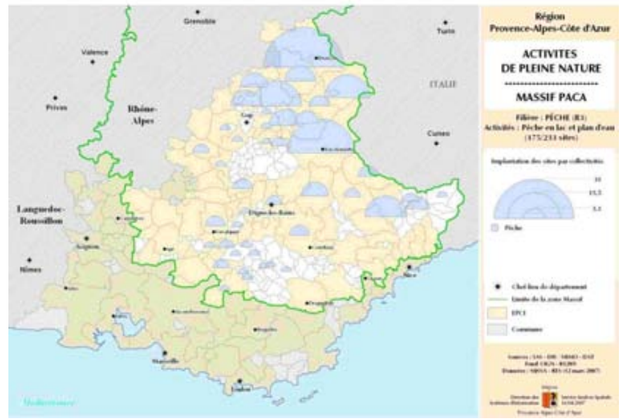
SUSTAINABLE DEVELOPMENT AND SOLIDARITY IN THE FIELD OF OPEN-AIR ACTIVITIES AND SPORT TOURISM IN MOUNTAINOUS RURAL AREAS

Maurice Marais

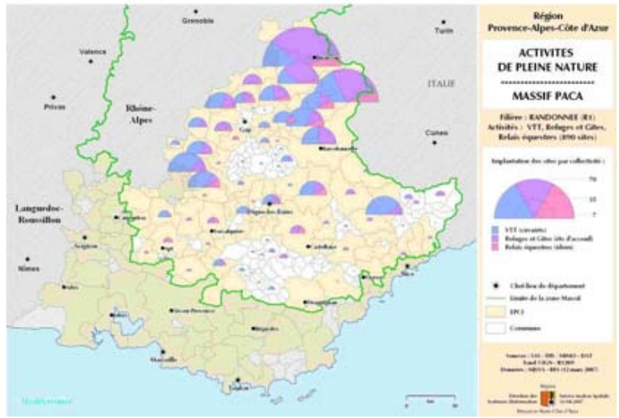
Open-air activities– The different sectors in the Massif



Open-air activities– Fishing

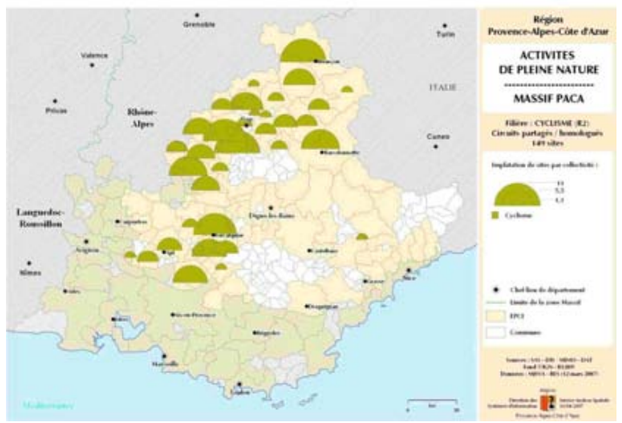


Open-air activities – Excursions

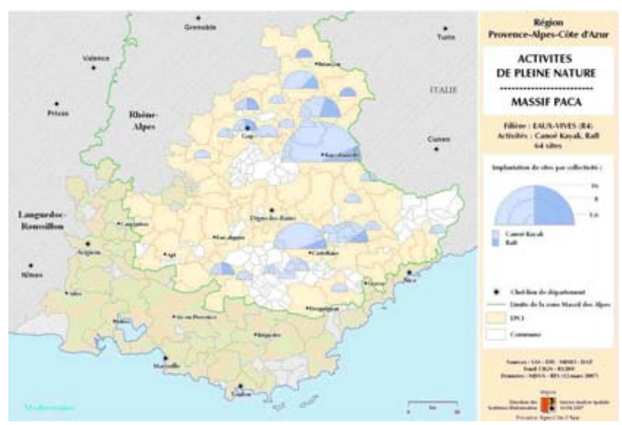


Open-air activities – Fishing

Open-air activities– Cycling



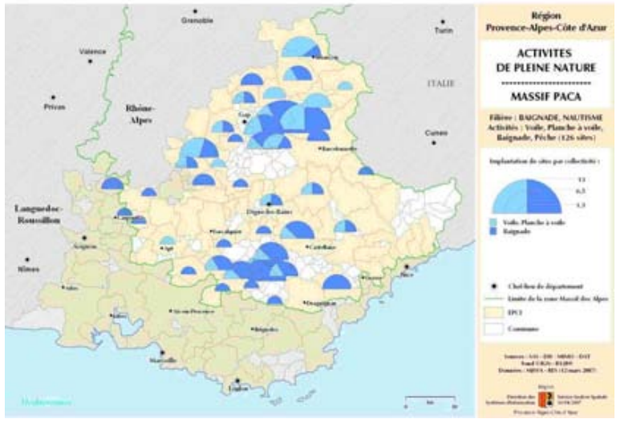
Open air activities – Running water



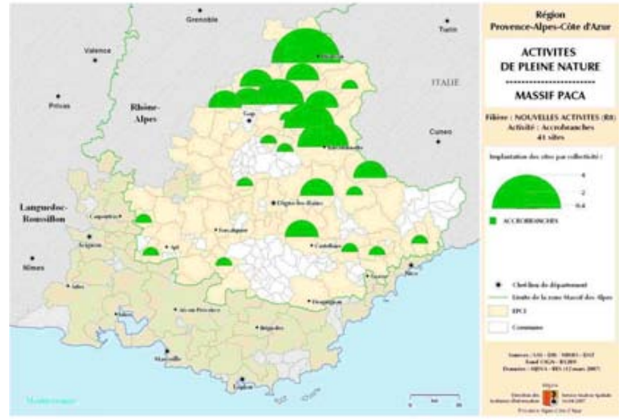
SUSTAINABLE DEVELOPMENT AND SOLIDARITY IN THE FIELD OF OPEN-AIR ACTIVITIES AND SPORT TOURISM IN MOUNTAINOUS RURAL AREAS

Maurice Marais

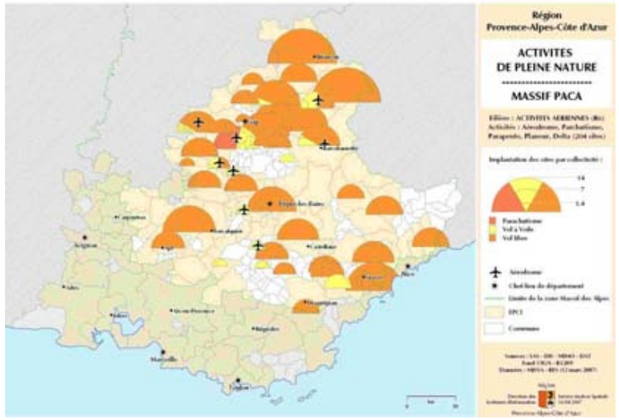
Open-air activities – Bathing areas and water sports



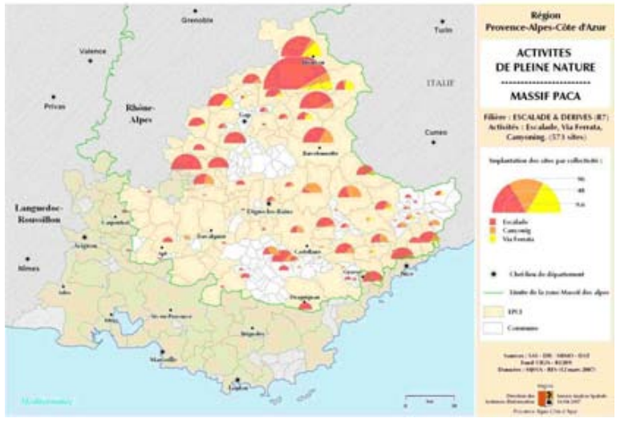
Open-air activities– New activities



Open-air activities



Open-air activities– Climbing and related activities



9. Regional plan on solidarity and sustainable management of open-air activities (1)_

Approved by the Regional Assembly on 10th November 2006

Strengthen and develop the attractiveness of a region which identity emerges from the combination of sport, adventure and diversification of its natural and cultural heritage

To encourage the development and evolution of specific regions and tourist activities on the mountains considering the following principles:

Open-air activities

- Take into consideration the economic potential generated by the dynamic nature of open-air activities in mountain areas
- A support for the sustainable development of open-air activities taking into consideration a sustainable management based on solidarity and focused on mountain areas
- Need to enhance and organise by actively involving the regional administrations, the development and promotion of open-air activities and to combine them consistently with other tourist, agricultural, craft and business activities

Sustainable development and solidarity in the field of open-air activities and sport tourism in mountainous rural

9. Its objectives (2)_

To support quality and coherence of open-air activities in the Massif of the Southern Alps in relation to the economic, social and environmental situation of every specific region

Open-air activities

- Continuously **enrich and strengthen industrial engineering training for experts,** in coherence with development policies and the Massif PNR, particularly with the networks of municipalities, inter-municipal Trade Unions and alpine departments
- **Improve the quality of projects for the development of open-air activities** and promote the Southern Alps by supporting the setting up of the different open-air activities
- **To tailor regional interventions** towards projects which are consistent with the characteristics of a region and are chosen after assessing different projects

Sustainable development and solidarity in the field of open-air activities and sport tourism in mountainous rural

SUSTAINABLE DEVELOPMENT AND SOLIDARITY IN THE FIELD OF OPEN-AIR ACTIVITIES AND SPORT TOURISM IN MOUNTAINOUS RURAL AREAS

Maurice Marais

9. The Region commissioned the programme 3)_

Open-air activities

The programme is structured around two main objectives:

- To seek projects for the network of municipalities, regions and inter-municipal Trade Unions in the Massif to cooperate for the selection of pilot regions to experiment economic development originated by advantages and potentials brought by open-air activities
- Regional support, strengthen the structure of sectors and their professional expertise as well as networking between stakeholders

This programme requires a strong involvement of the region over time and especially fin the case of mostly rural areas which are poor in engineering techniques and in techniques for the support of the activities

Sustainable development and solidarity in the field of open-air activities and sport tourism in mountainous rural

Regional provision– projects seeking

Open-air activities– Pillar 1

Support for pilot areas for local development (between 7 and 15 regions) in form of a projects seeking activity launched in 2007

Projects seeking activities are structured in 4 phases

- **Nomination**
  - Assess the advantages and potentials for tourism development starting with open-air activities
  - Assess motivation and mobilization of local stakeholders
- **A Regional Committee will select the pilot regions**
1. **Drafting strategic development projects based on open-air activities**
   - Support, through assessments and recommendations from the Region and other local stakeholders. Cooperation among stakeholders
   - Establish a development and local organization plan
- **An action plan**, which will set the main priorities in order to attract investments needed through regional credit transfer

The beneficiaries of the project seeking initiatives

Network of municipalities, regions and inter-municipal Trade Unions in the Massif, consistent to the regional projects promoted by the Regional administrations and the Regional Natural Parks

10. A regional provision based on two main principles:

Open-air activities

Principle1

Support mountain areas in the development of a sustainable and diversified tourism-based economy

Principle2

Support of activities, setting up and promotion of different sectors of open-air activities by participating actively

A three year support programme for ten pilot regions in the Massif chosen on the basis of projects research

Support consistent structural projects regarding open-air activities in the regions and in the Regional Natural Park of the Massif

Sustainable development and solidarity in the field of open-air activities and sport tourism in mountainous rural areas

Implementation of Regional Provisions

AOpen-air activities– Pillar 1

A regional committee for selection and piloting

Co-directed by the vice-president responsible for territorial management and the vice-president responsible for the mountains and for the promotion of the Alpine Massif

made up by elected candidates and by experts for the projects supervision

The Audit Committee is responsible for the selection of the pilot regions, the projects follow-up, the project validation and the annual planning. It is assisted by competent groups for the project supervision

Technical Committee

made up by "Mountain Mission" and the regional services (services in the field of tourism, sport, territorial policies, etc)

It will be established in the region itself in order to guarantee consistency and coordination of regional policies

Pillar 1 – Sustainable development and solidarity in the territories in the Massif starting with open-air activities

Open-air activities

Support mountain areas in the development of a sustainable and diversified tourism-based economy

A three year support programme for ten pilot regions in the Massif chosen on the basis of projects research

Support consistent structural projects regarding open-air activities in the regions and in the Regional Natural Park of the Massif

Sustainable development and solidarity in the field of open-air activities and sport tourism in mountainous rural

reation of a market for employment support and supervision(1)_

Open-air activities– Pillar 1

A market will be set up for three years and entrusted to SOMIVAL

A support action for the pilot regions chosen after the call for proposals deadline, published on January 2007

The support to the development project in the pilot region will first be discussed and reflected upon by the community during "locally organised open-air activities". The aim is to draft a project for the development of each region regarding open-air sport based on a broader participation involving all the local stakeholders

The Region can give further support through the promotion of the territorial industrial engineering through the mobilisation of the regional plan for employment

Support the creation of new employment possibilities for individuals involved in the development of open-air activities in each of the pilot regions

SUSTAINABLE DEVELOPMENT AND SOLIDARITY IN THE FIELD OF OPEN-AIR ACTIVITIES AND SPORT TOURISM IN MOUNTAINOUS RURAL AREAS

Maurice Marais

Open-air activities– Pillar 1

reation of a market for employment support and supervision (2)_

A market will be set up for three years and entrusted to SOMIVAL

- A three year long support for the global promotion of the programme aiming at:

  - providing the PACA region with an excellent system for the mobilization of researchers, professionals and elected individuals

  - strengthening local and regional competencies and "know-how" bearing in mind that the development of tourism, sport, services, culture and heritage are intertwined

SOMIVAL proposes the following steps:

- Networking between pilot regions and other sectors which involve open-air activities to create an "Open-air activities Office"
- Support the drafting of a promotion and communication plan for open-air activities

Open-air activities

Asse 2– Promotion, coordination and establishment of all the sectors concerned with open-air activities in the mountain

Support creation and/or development as well as the establishment of the sectors involved with open-air activities in the alpine regions of the PACA

Objectives

Enhance and support the areas around the Massif, their promotion, structuring and development together with Technical Regional Committee in the field of open-air activities together with stakeholders from various sectors and regions

Open air activities in the mountain

- Walking excursions
- Mountain cycling
- Horse riding
- Fishing
- Climbing, canoeing and iron ways/ roped party
- Running water
- Water sports and bathing
- Open-air activities sector
- New activities - pathways and adventure parks

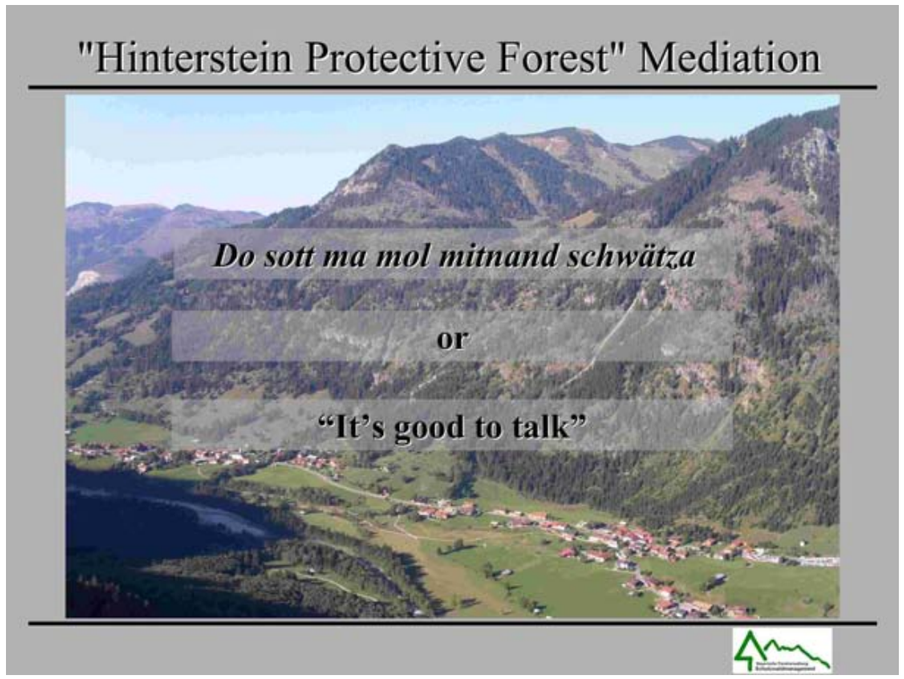
Possibilities for regional interventions

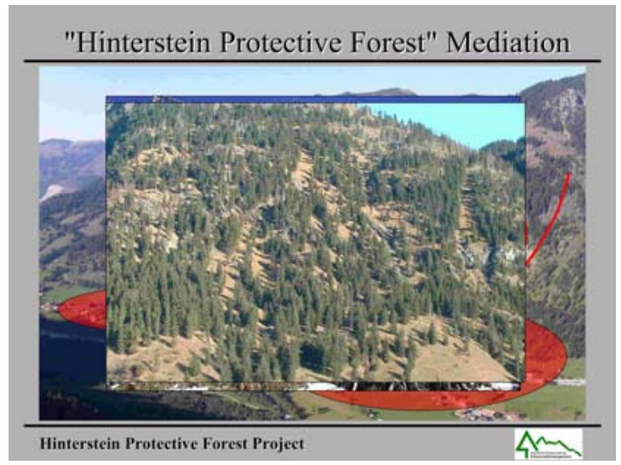
⇨ Regional support through Conventions as well as qualified and elected purchaser

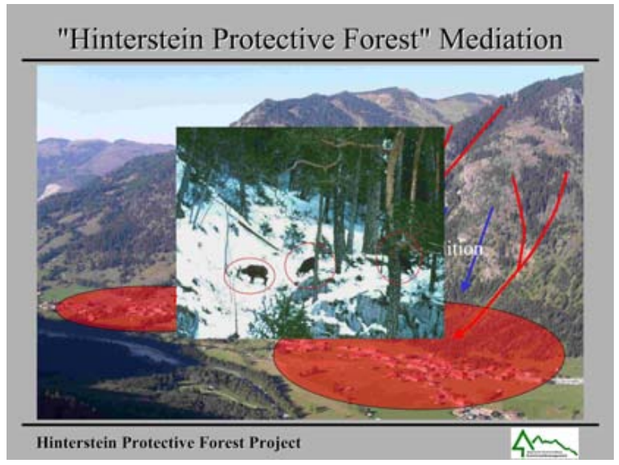
Sustainable development and solidarity in the field of open-air activities and sport tourism in mountainous rural

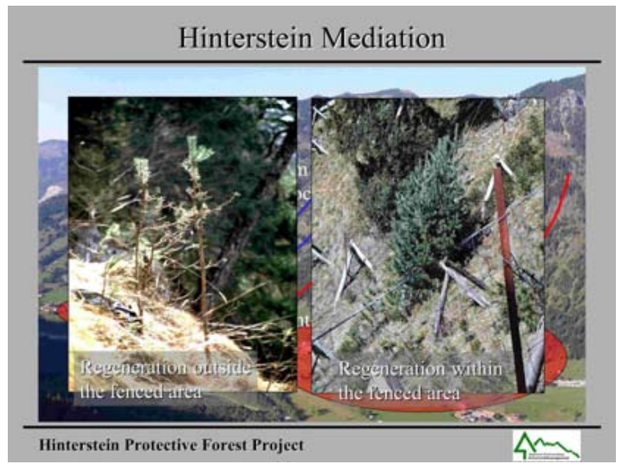
"HINTERSTEIN PROTECTIVE FOREST" MEDIATION

Klaus Dinser









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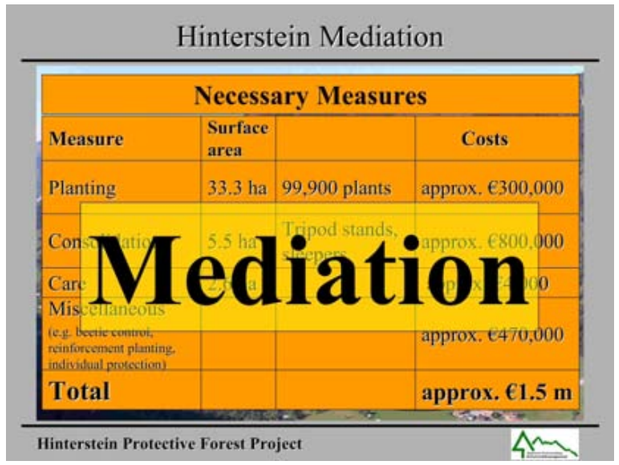

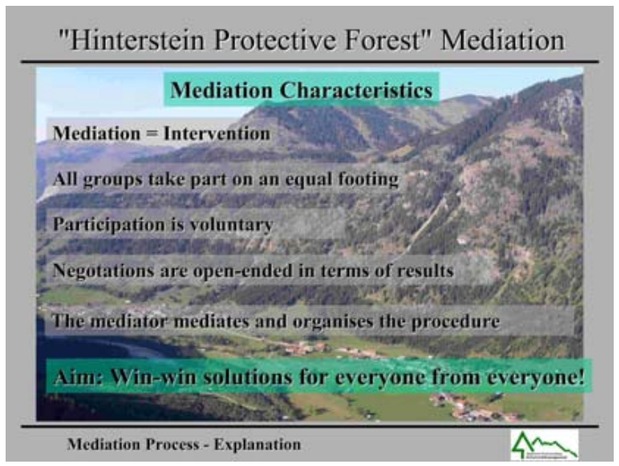

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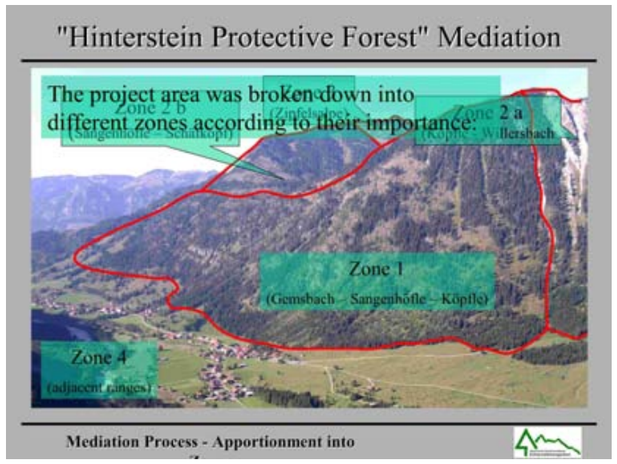

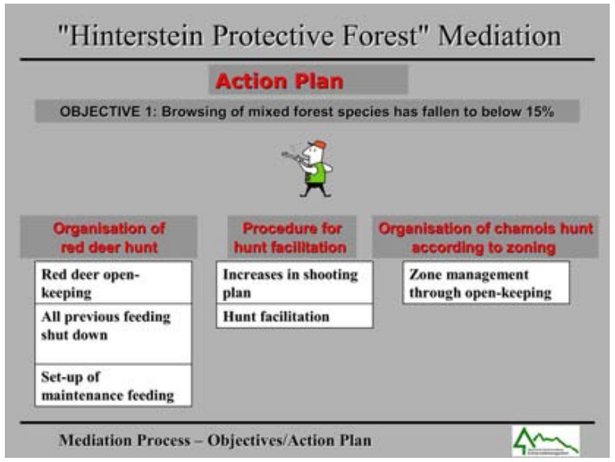

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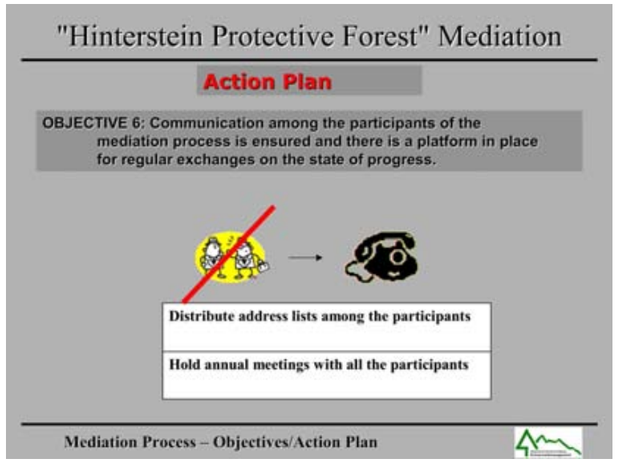

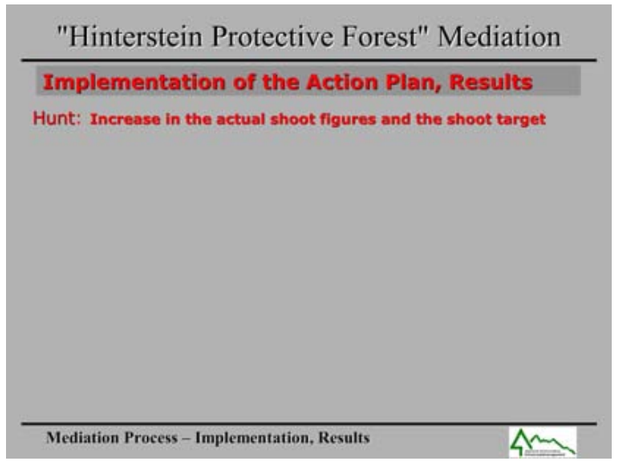

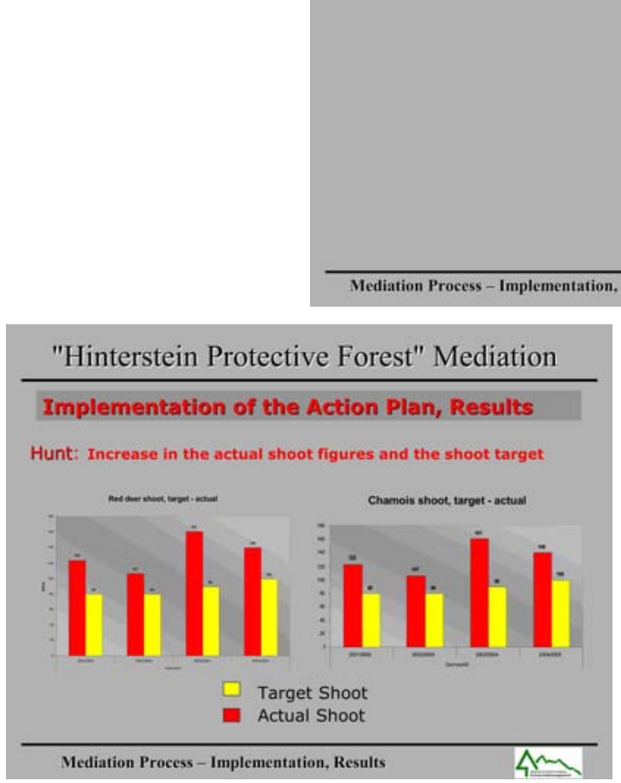

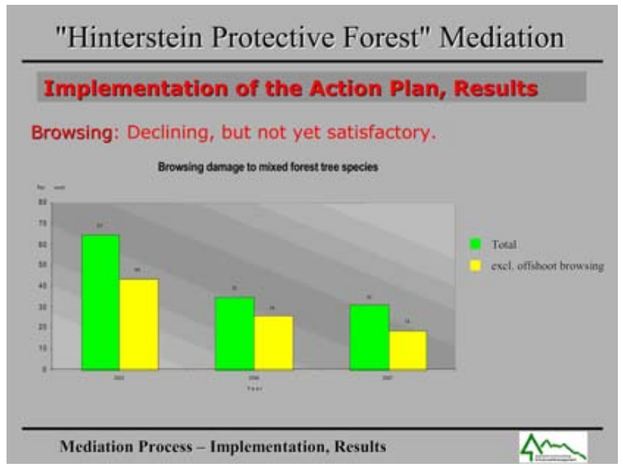

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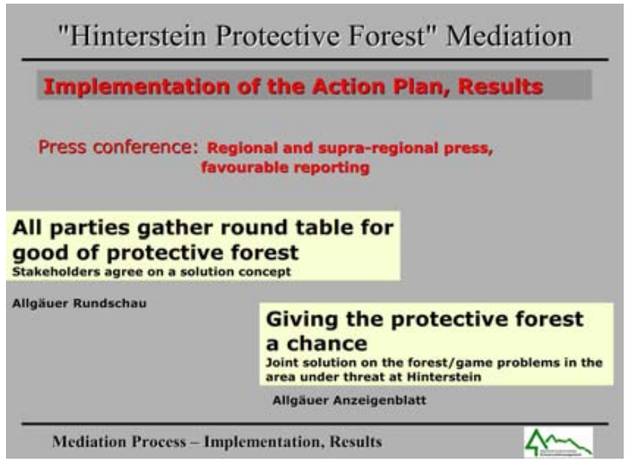
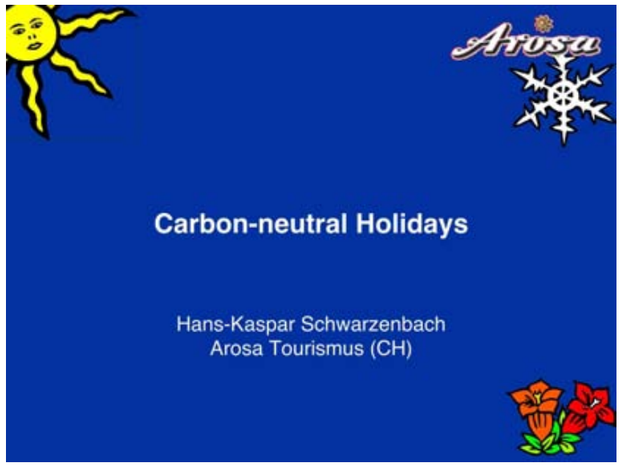
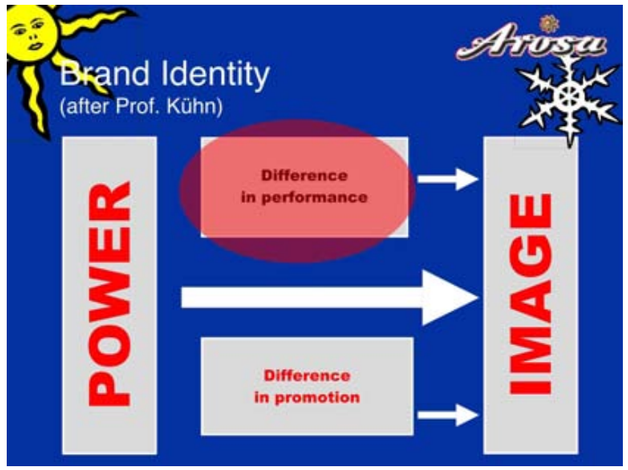


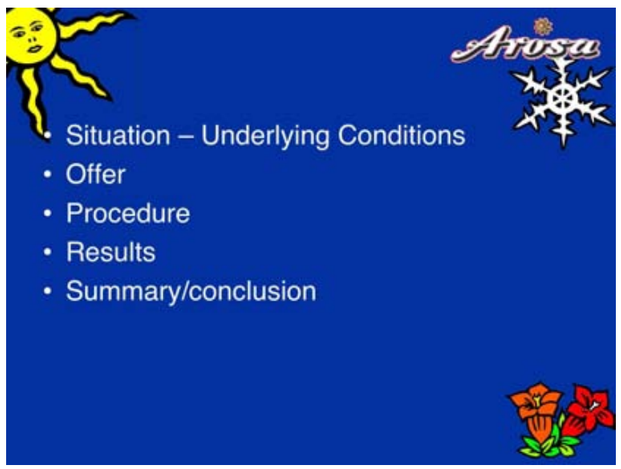
GOOD PRACTICES AT REGIONAL AND LOCAL LEVEL ON MITIGATION TO CLIMATE CHANGE

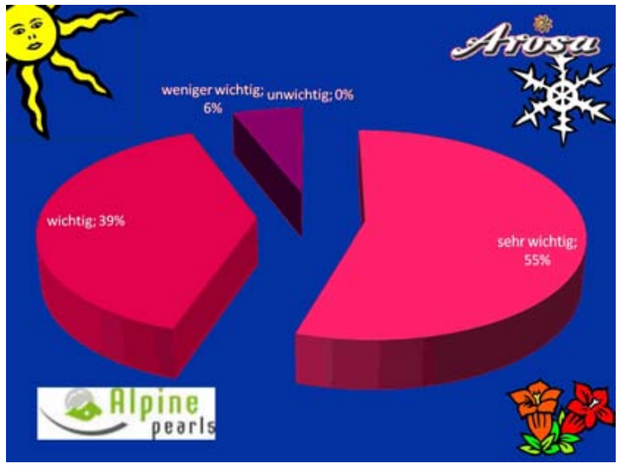
CARBON-NEUTRAL HOLIDAYS

Hans-Kaspar Schwarzenbach









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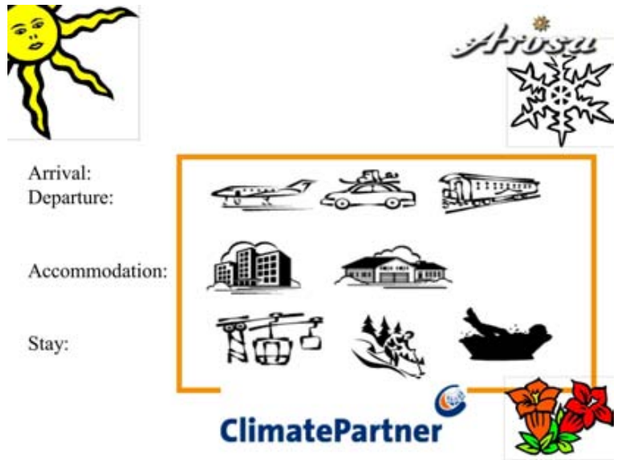

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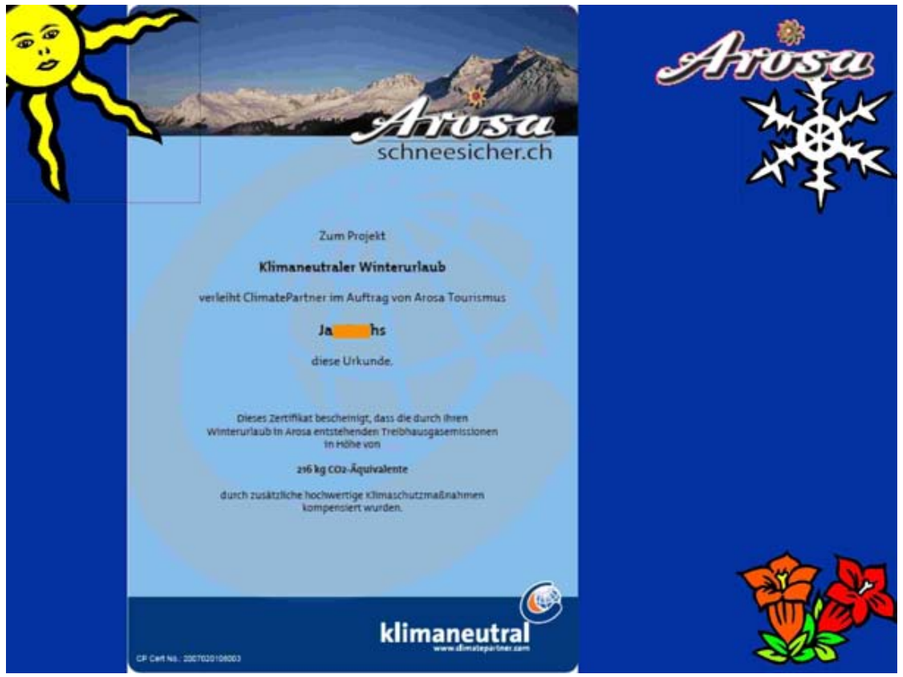

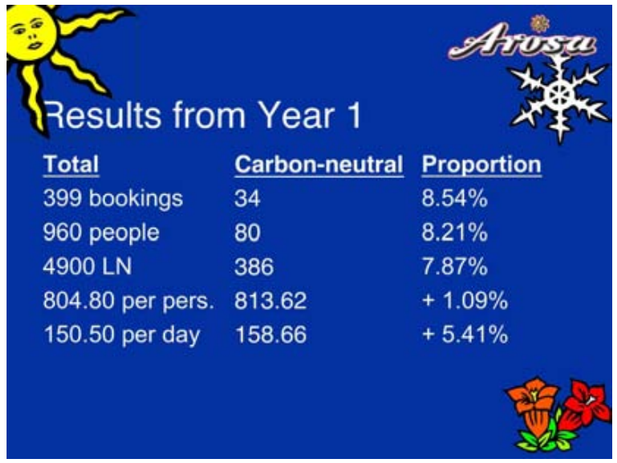

ALPS MOBILITY II - ALPINE PEARLS, A SUSTAINABLE MOBILITY APPROACH IN THE ALPINE AREA

Veronika Holzer

Interreg III B

lebensministerium.at

Alps Mobility II - Alpine Pearls

A sustainable mobility approach in the Alpine area

Background

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Alpine Region:

>> very sensitive ecological balance

>> one of the most important recreation areas in Europe

>> concentrated transport flows through the Alps

Tourism and mobility:

>> entail each other and are economic and regional key factors

>> have considerable impacts on environment, health and life quality

Results of the MuSTT-study *:

>> 50% to 75% of environmental impact of tourism are caused by transport

>> 47% of holiday journeys of EU+ are undertaken by car, 39% by air transport

>> very small share on bus and railway

* European Commission, 2004

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Background

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CO2-emissions of transport means*:

>> highest emissions per passenger kilometre: air transport

>> ca. 72% of CO2 emitted during holiday trips of EU-inhabitants are caused by in- and outbound air transport

Outlook:

>> further dramatic increase of passenger kilometres for holiday and leisure is to be expected for the next years, with further shifts towards air and car transport

➔ **Up to date, measures were mostly taken on national or sectoral level and were too one-dimensional: Transsectoral measures and transalpine co-operations are necessary!**

* European Commission, 2004

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sanfte mobilität
Modellvorhaben Autofreier Tourismus

The Austrian model project „Sustainable Mobility - Car-free Tourism“

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The partners:

Ministry for Agriculture, Forestry, Environment and Water Management,

Ministry for Transport, Innovation and Technology,

Ministry for Economy and Work,

Province of Salzburg,

Bad Hofgastein (6.000 inhabitants, 8.000 beds, 1 million overnight stays per year)

Werfenweng (650 inhabitants, 1.800 beds, 190.000 overnight stays per year).

Supported by the EU

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ALPS MOBILITY II - ALPINE PEARLS, A SUSTAINABLE MOBILITY APPROACH IN THE ALPINE AREA

Veronika Holzer

March 2001:
opening of the Mobility Management Centre „mobilito“ at the Bischofshofen railway station

e-vehicles for car rental, car sharing, hotels and delivery in the two model communities

Re-charging stations for electric vehicles in Werfenweng

ALPS MOBILITY II - ALPINE PEARLS, A SUSTAINABLE MOBILITY APPROACH IN THE ALPINE AREA

Veronika Holzer

History of the Project:

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Interreg II C: „Alps Mobility I":

9 partners from Austria, Germany and Italy:

Implementation of pilot projects for environmentally sound travel logistics and electronic booking and information systems in 8 regions

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3 components for sustainable mobility in the Alpine Space in Interreg III B:

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Alps Mobility II - Alpine Pearls:

creation of innovative eco-tourism offers called "Alpine Pearls", combining the touristic points of interest with the advantages of sustainable mobility with environmentally sound transport means

Alpine Awareness:

transalpine awareness raising for sustainable mobility, with a focus on young people, employees in transport and tourism and the general public

MOBILALP:

Alpine mobility management: development of innovative sustainable mobility offers and services for transport users at local and regional level

integrated approach for sustainable mobility in the Alpine Space

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Alps Mobility II: Project partners

Lead Partner: Bundesministerium für Land- und Forstwirtschaft, Umwelt und Wasserwirtschaft (A)

Land Salzburg (A)
Autonome Provinz Bozen (I)
Bayerisches Staatsministerium für Umwelt, Gesundheit und Verbraucherschutz (D)
Bundesministerium für Verkehr, Innovation und Technologie (A)
Bundesministerium für Wirtschaft und Arbeit (A)
Commune de Morzine-Avoriaz (F)
Commune des Gets (F)
Gemeinde Werfenweng (A)
Provincia Autonoma di Belluno (I)
Regione Autonoma Friuli-Venezia-Giulia (I)
Regione Autonoma Valle d'Aosta (I)
Kanton Graubünden (CH)
Kanton Zürich (CH), represented by Kanton Graubünden
Interlaken Tourismus (CH)

Alps Mobility II: Duration, Volume, Focus

Project duration: May 2003 to September 2006

Financial volume (including EU-co-financing): EUR 3.216.960,--

Focus: creation of an attractive travel package to the most beautiful landscapes and the environmentally most benign resorts in the Alps ("Pearls") by rail and bus, environmentally sound vehicles, by bicycle or foot, with horse carriages or sleighs

Alps Mobility II: Objectives

Main objective: holiday pleasure through "holidays from the car"

The visitor

- >> travels sustainably on routes with the most beautiful scenery
- >> experiences interesting mobility adventures with perfect information
- >> travels comfortably, through e.g. luggage transport
- >> experiences very different cultures, cuisines and landscapes.

ALPS MOBILITY II - ALPINE PEARLS, A SUSTAINABLE MOBILITY APPROACH IN THE ALPINE AREA

Veronika Holzer

Alps Mobility II: Tasks

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- >> an implementation study, fixing the details for transalpine implementation
- >> planning of a sustainable travel chain to the Alps and between the partner regions (the "string of pearls")
- >> development and improvement of mobility services and infastructural conditions for the environmentally sound travel chain between the resorts ("Pearls") and their surrounding regions, e.g. bicycle routes, charter-train and -bus offers
- >> improvement of regional mobility services (e.g. innovative public transport services, promotion of non-motorized transport, use of new technologies etc.) and infrastructural conditions (e.g. traffic-calming measures, improvement of non-motorized transport infrastructure)
- >> development and implementation of a common PR and marketing concept for the tourism product

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Alps Mobility II: How to become a „Pearl“

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An "Alpine Pearl" must:

- >> be a municipality or a destination
- >> fulfill certain mobility and tourism standards in the sense of sustainability according to a fixed criteria catalogue. These are minimum criteria. Higher standards and specializations are recommended
- >> undergo regular process of independent quality control
- >> be a member in the umbrella organization and pay annual fees for common marketing actions

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Alps Mobility II

The Alpine Pearls are:

The Alpine Pearls Association

The "Association ALPINE PEARLS – Promotion of a sustainable tourism with environmentally friendly mobility"

- >> was founded in January 2006 in the framework of the EU-Conference "Environmentally Friendly Travelling"
- >> has its seat in Werfenweng/Austria and is currently presided by Mr. Peter Brandauer with Vice-Presidents from each partner country
- >> is financed by yearly membership and marketing contributions from the Pearls
- >> consisted of 17 founding members

klima:aktiv mobil

ALPS MOBILITY II - ALPINE PEARLS, A SUSTAINABLE MOBILITY APPROACH IN THE ALPINE AREA

Veronika Holzer

klima:aktiv mobil

klima:aktiv mobil…

- **… is an Austrian initiative for climate protection, launched by the Ministry of Agriculture and Forestry, Environment and Water Management**
- **action programmes:** information and counselling programmes in the field mobility management
  - mobility management programmes are tailor-made for for varying target groups
  - free expert consulting is available
- **awareness raising and PR campaigns:** targeting the general public
- **support programmes:** offering financial subsidies for mobility management measures

www.klimaaktivmobil.at

klima:aktiv mobil

klima:aktiv mobil

action programmes

- mm for companies
- eco-driving initiative
- mm for schools
- mm for leisure and tourism
- mm for administrations
- mm for municipalities &regions
- mm land use planning (projected)

awareness raising campaigns

- focus on eco-driving & public transport
- focus on cycling

support programmes

- federal environmental support schemes for companies
- **klima:**aktiv mobil support scheme

www.klimaaktivmobil.at

klima:aktiv mobil

klima:aktiv programmes

energy efficiency	mobility	communities	renewable energy
eco facility	mm for companies	e5-communities	biogas
live modern	eco-driving initiative	klima:aktiv for communities	solar heat
klima:aktiv house	mm for schools		qm for biomass district heating plants
energy performance contracting	mm for administrations		energy wood
energy efficiency for private homes	mm for leisure and tourism		heat from wood
top products	mm for municipalities &regions		heat pump
energy efficient companies	mm land use planning		solar electricity
energy saving appliances			

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klima:aktiv mobil

klima:aktiv mobil
action and counselling programmes

- **klima:aktiv mobil action programmes**
- klima:aktiv mobil awareness raising campaigns
- klima:aktiv mobil support programmes

www.klimaaktivmobil.at

ALPS MOBILITY II - ALPINE PEARLS, A SUSTAINABLE MOBILITY APPROACH IN THE ALPINE AREA

Veronika Holzer

alpenkonvention · convention alpine
convenzione delle alpi · alpska konvencija

Study on the Accessibility by Public Transport to Alpine Tourist Stations from Major European Origin Regions and Cities of Tourists

The Transport Group (and the Sub Group on sustainable mobility) decided to implement a Study on the means of access by public transport, to alpine tourist stations from major European towns and cities **("long-distance-study"):**

- Transport services to the Alps on the main routes
- The interconnection between both long- and short-distance networks
- Local or regional transport networks

Objectives:

- Analysis of the situation
- Identification of the gaps, missing links and obstacles
- Synthesis report
- Early integration of regional/local stakeholders (tourism & transport); transnational seminars
- Report for the Alpine Space Summit in 2008/2009

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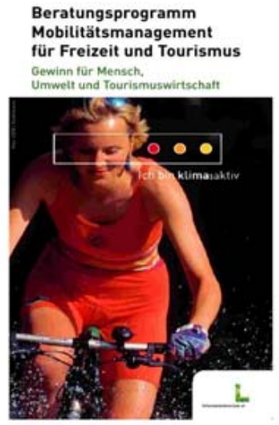
Study on the Accessibility by Public Transport to Alpine Tourist Stations from Major European Origin Regions and Cities of Tourists

- **Mandat of the X. Alpine Conference (November 2006):**
- To analyse the quality of the long-distance public transport to the Alps (eg, to tourist and urban areas) and it´s linkage to all forms of sustainable regional transport,
- to analyse the weak points in the service offer and service infrastructure (cross-border lines, connection to the regional transport networks, etc.),
- to collect and disseminate good practices of sustainable mobility in the Alps (connections between

TRAFICO

klima:aktiv mobil

Mobility Management for leisure trips and tourism



- **supports the development, implementation and commercialisation of „gentle mobility" for tourism associations and municipalities**
  - climate friendly travelling and mobility on site
  - leisure and weekend transport
  - special focus on big events
- **free counselling for**
  - tourism associations and municipalities
  - leisure companies
  - event organisers

P **Experts for mobility management are on their way throughout Austria; 8500 t of CO2 saved /year**

www.klimaaktivmobil.at

Thank you for your attention!

Contact: Federal Ministry for Agriculture and Forestry, Environment and Water Management,
Dept. V/5, DI Robert Thaler, Dr. Veronika Holzer, Stubenbastei 5, A-1010 Vienna,
Tel: +43-1-51522-1208, veronika.holzer@lebensministerium.at

www.alpsmobility.net

lebensministerium.at

ALPS MOBILITY – ALPINE PEARLS: SOFT MOBILITY FOR TOURISM AND LEISURE.

Paper presented by Veronika Holzer, Austrian Ministry of Life, at the Workshop on *Mitigation and Adaptation to Climate Change in the Alpine Region. Workshop on the Good Practices of Regional and Local Authorities,*

organised by the French Presidency of the Alpine Convention
with the support of the Permanent Secretariat
Bozen-Bolzano, 5-6 Dezember 2007

The Alps represent a region whose ecology is particularly worthy of protection; it is also one of Europe's most important recreation areas. However the increase in road traffic is placing a considerable burden on the region, with factors such as exhaust fumes, noise and the use of land. This is having detrimental repercussions on the environment and the quality of life, and therefore also on tourism.
However holidaying is synonymous with mobility and would be unthinkable without it.
The traffic burden associated with mobility affects environmental quality and, with it, the appeal of many holiday destinations; increasingly it represents a disruptive factor for visitors and residents alike. 23% of total CO_2 emissions caused by the EU-25 in 2003 was due to the transport sector (road traffic and transport in the sectors of shipping, railways and domestic air traffic – excluding transport in the sectors of households, industry, agriculture and forestry). For Austria that share was even 30%, and the trend is upwards.[1] A European-wide study commissioned by the European Commissi on, Directorate General (GD) Enterprise[2], shows that 50% to 75% of tourism's environmental impact is caused by tourist traffic. So if the **appeal of holiday regions is to be preserved and improved** and if tourism is to be supported as a sustainable development, then **the burdens caused by tourist traffic in particular must be reduced**. Air traffic and the use of individual cars in particular are among the less environmentally acceptable forms of travel; by contrast travel by rail, bus and ship, hiking and cycling are to be ranked as considerably more eco-friendly ways of getting about. So implementing environmentally friendly solutions for tourist traffic and developing holiday offers based on "soft mobility" are therefore important measures for ensuring a high level of environmental quality in the long term, and with it high levels of holiday and living quality.
The transport sector as a whole is one of the largest CO_2 emitters in Austria (approx. 27%

[1] EEA based on GHG inventories of EU Member States; UBA Wien, Österreichische Luftschadstoffinventur 2005

[2] Feasibility and preparatory study regarding a Multi-stakeholder European Targeted Action for Sustainable Tourism & Transport – kurz „MuSTT"

of all CO_2 emissions). What's more, transport-related CO_2 emissions have continued to increase significantly (by around +90% between 1990 and 2005 according to the Climate Strategy; 2005: approx. 24.4 million tonnes of CO_2). Around 80% of transport-related CO_2 emissions comes from motor vehicle traffic (cars 49%; lorries 33%), air traffic 9%, with rail accounting for only around 2%! Despite improvements in technology, transport-related greenhouse gas emissions are expected to rise further through to 2010 if traffic goes on increasing.
The MuSTT Study has shown that on average air traffic causes the highest air emission values per passenger kilometre. By comparison rail and bus traffic are considerably more eco-friendly modes of transport. Approx. 72% of all CO_2 emissions caused by European citizens' when travelling is the result of outbound and inbound air travel. Even with EU-Plus internal tourist traffic, air traffic still accounts for a share of 56%; travel by car accounts for 41%.

1.) For this reason the Austrian Ministry of the Environment has launched a number of **projects** which implement objectives of environmental, transport, tourism, technology and regional policy, and highlight **exemplary, sustainable means for tourism in the alpine region**. The measures focus not just on **eco-friendly mobility schemes within and between tourist regions, but also on interlinking innovative mobility and tourist offers as well as solutions for eco-friendly travel to such regions:**

1.1.) At the centre of these projects in Austria is the **"Soft Mobility Pilot Scheme – Car-free Tourism"**; under the scheme, measures have been implemented with and in the municipalities of Werfenweng and initially also Bad Hofgastein, with the support of the Austrian Federal Ministries of Agriculture, Forestry, Environment and Water Management, of Transport, Innovation and Technology, and of Economics and Labour, as well as the support of the federal province of Salzburg.
The pilot scheme implemented the objectives of environmental, transport, tourism, technology and regional policy, and highlighted successful, sustainable ways for tourism in Austria. The measures focus not just on sustainable mobility schemes in the tourist regions and resorts, but also on interlinking innovative mobility and tourism offers and solutions to the problems of travelling to those destinations. Implementation partnerships were set up to enable co-operation between transport undertakings, car manufacturers, tour operators, tourist organisations and NGOs.
The following **measures** were implemented:

- Austria's first regional mobility headquarters (*Mobilito*) with four new employment opportunities was set up in the Pongau. It provides a significantly improved service for customers using public transport, with full timetable information, new mobility services, the sale of tickets, the sale of rail travel, mobility advice for guests arriving by public transport, and attractive offers for excursions and other travel.

- An electronic timetable information service covering all means of transport was set up for the first time for the federal province of Salzburg. An integrated travel information system is currently being set up in the Pongau. Attractive offers and co-operation schemes with international carriers and tour operators (TUI, Dutch Railways) have been drawn up for car-free arrival by train and bus, including luggage service and bus and taxi transfers (door-to-door service for home to hotel).

- A whole range of electric vehicles are in operation for different uses in the two municipalities: electric scooters, electric bicycles and electric cars. A car-sharing scheme and a rental system with electric cars, electric bicycles and electric scooters have been put into place in Werfenweng, along with one of Austria's first solar service stations for electric vehicles.

- *Urlaub vom Auto* is a new tourist offer package developed to combine sensibly the offers for car-free arrival and soft mobility in the municipalities with a multitude of tourist benefits and accommodation. This offer has been very well received by guests and has resulted in above-average increases in the number of overnight stays.

- A shuttle service to and from the Bischofshofen railway station has been set up in Werfenweng, and in Bad Hofgastein a city bus system.

- Traffic calming measures and improvements in the public transport offer have been implemented in both municipalities.

1.2.) Alps Mobility:
In spring 1998 nine project partners from Germany, Italy and Austria joined forces to set up "**Alps Mobility** – a pilot scheme for eco-friendly travel logistics combined with electronic booking and information systems in alpine tourist regions" as part of the EU joint action programme on regional planning in the alpine region (Art. 10 ERDF). The scheme ended in 2001.
The pilot scheme focused on developing and implementing solutions for regulating tourist traffic into the Alps and in holiday destinations in an ecologically compatible way. The pilot scheme was aimed principally at:

- creating transnational co-operation to promote environmentally compatible travel to the model region;

- implementing measures for environmentally compatible transport solutions in model regions and model resorts;

- networking these regions and resorts, and creating a model solution for tourist regions in general.

The results of the scheme ranged from new findings in demand in tourist traffic to attractive soft-mobility tourism packages, the creation of regional mobility centres with new and innovative services, new information systems for tourists and day-trippers, to optimised and innovative public transport offers. One of the mainstays of the scheme's success was the excellent co-operation and the direct exchange of experience among the partners.

In the light of the good experience with co-operation under the Alps Mobility scheme, the partners in the scheme **developed and implemented three other schemes** with other partners as part of the Alpine Space EU Interreg Programme III B, which looked at various components of soft mobility in the alpine region. The aim was the practical implementation of an integrated approach to this topic:

- Alps Mobility II - Alpine Pearls:
  Creation of "Alpine Pearls", i.e. innovative eco-tourism offers which combine tourist sights with the benefits of soft mobility and environmentally compatible modes of transport,

- Alpine Awareness:
  Transalpine awareness-raising enterprise for soft mobility, particularly for young people, people working in the transport and tourism sectors, and the public at large,

| MOBILALP:
Mobility management in the alpine region: Developing innovative sustainable mobility offers and services at the local and regional levels

1.3.) Alps Mobility II – Alpine Pearls:
This project was implemented from May 2003 to September 2006 by partners of the Alps Mobility scheme with the involvement of additional partners from Switzerland and France, with a financing volume of EUR 3,216,960.00 (including co-funding from the EU).

The partners were:
Lead Partner: Federal Ministry of Agriculture, Forestry, Environment and Water Management (A)
Federal Province of Salzburg (A)
Autonomous Province of Bolzano (I)
Bavarian State Ministry of the Environment, Public Health and Consumer Protection (D)
Federal Ministry of Transport, Innovation and Technology (A)
Federal Ministry of Economics and Labour (A)
Municipality of Morzine-Avoriaz (F)
Municipality of Les Gets (F)
Municipality of Werfenweng (A)
Provincia Autonoma di Belluno (I)
Regione Autonoma Friuli-Venezia-Giulia (I)
Regione Autonoma Valle d'Aosta (I)
Canton of Grisons (CH)
Canton of Zurich (CH), represented by Canton of Grisons
Interlaken Tourismus (CH)

The main **emphasis** was on creating the innovative "Alpine Pearls" eco-tourism offer, which combines tourist attractions with the benefits of soft mobility and environmentally compatible modes of transport. "Alpine Pearls" combines not just tourism and mobility, but also – in the transalpine sense – the participating model regions with one another and with the arrival of their guests. The **aim** was to achieve a travel package through the Alps using environmentally compatible modes of transport exclusively such as the railways, buses, bicycles, zero-emission vehicles, horses and on foot.
An **umbrella organisation** was established as part of the project, its members being the "Alpine Pearls". An Alpine Pearl

| is a municipality;
| satisfies certain mobility and tourism standards based on sustainability, in accordance with a predefined catalogue of criteria. The criteria in question are minimum criteria. Higher standards and specialisations are recommended;
| undergoes regular, independent quality control;
| is a member of the umbrella organisation and pays annual fees towards joint marketing campaigns.

At present 22 municipalities from six alpine countries are members of this umbrella organisation:

More details can be found at **www.alpine-pearls.com**
The umbrella organisation of participating municipalities "ALPINE PEARLS – Promoting sustainable tourism with eco-friendly mobility" was founded in January 2006 as part of the **European Conference "Environmentally Friendly Travel in Europe"** (see: **www.eco-travel.at**).

The network's current president is the mayor Peter Brandauer from the Austrian municipality of Werfenweng, where it is also based.

2.) Klima:aktiv mobil:

Under the terms of the Kyoto Protocol, Austria is committed to reducing greenhouse gas emissions – the measures scheduled are set out in the **Federal Government's Climate Strategy**. Alongside the use of regulatory and fiscal policy measures it also provides for a number of soft measures for active and comprehensive support of the market launch of climate-compatible technologies and services and the promotion of environmentally friendly and sustainable development in the transport sector.
As a contribution towards the implementation of the climate strategy, Austria's Ministry of Life introduced the *klima:aktiv* initiative in the sectors of energy and mobility. The priority programme ***klima:aktiv mobil*** was launched as part of *klima:aktiv* to **motivate the relevant players and decision makers to concerted efforts on behalf of climate protection**, particularly **in the transport sector and its target groups**; the programme

itself is co-ordinated by the department for transport, mobility, settlements and noise: the aim of the programme is to bring about a trend reversal in greenhouse gas emissions in the transport sector by promoting climate-friendly and sustainable mobility. Concomitant und complementary awareness campaigns are a key element of *klima:aktiv mobil*, alongside political initiatives and statutory measures, advisory and support programmes in the various sectors.
Based on the very favourable experiences with other *klima:aktiv* programmes ("Mobility management in enterprises", "Mobility management in public administration", "Mobility management for schools" and "Mobility management for towns, municipalities and regions"), the Ministry of Life launched its **advisory programme "Mobility management in leisure and tourism traffic"** in 2006. This advisory programme is aimed at the broad-based implementation of climate-friendly measures in the area of leisure and tourism mobility. The many different and favourable experiences gained in the projects described under 1.) were incorporated in the drafting of this advisory programme.
In May 2007 the Ministry of Life also launched the **support programme *klima:aktiv mobil*** to aid project partners with the implementation of climate-friendly transport solutions developed as part of the advisory programmes. The funding framework focuses on climate-friendly transport investments for pedestrians, cyclists and innovative public transport, environment-relevant conversions of transport systems and vehicle fleets, measures for innovative mobility services, measures for implementing information and marketing concepts, and awareness-raising for eco-friendly mobility. Besides investment measures the related transport and mobility concepts, the marketing concepts, and the start-up operating costs are funded by up to 50%.
More details can be found at .

3.) Alpine Convention:
From the very outset the topics of sustainable mobility and tourism have also been key issues within the framework of the Alpine Convention. As a binding treaty under international law between the Alpine States and the EU, the Alpine Convention and its Protocols strive to achieve an integrated, sustainable development of the alpine region and, with its work programme over many years, it provides a constructive framework for cross-border, region-specific measures.

The **Transport Protocol** sets out the following commitments:
- To guarantee inner-alpine and cross-alpine transport by increasing the effectiveness and efficiency of transport systems and by promoting eco- and resource-friendly modes of transport at economically justifiable costs (Art. 1, lit. d),
- the particular suitability of the railway to handle long-distance traffic, and making better use of the railway network for the economic and tourist development of the alpine region (Art. 10);
- To create and maintain traffic-calmed and traffic-free zones; to set up car-free tourist resorts; and to promote initiatives for a car-free arrival and a car-free stay by holiday guests (Art. 13, Para. 2)

The **Tourism Protocol** sets out the following commitments:
- To promote measures aimed at restricting motorised traffic in tourist centres. To support private or public initiatives which improve the accessibility of tourist destinations and centres by public transport and facilitate the use of such modes of transport by tourists (Art. 13).

The **Transport Working Group and the "Sustainable Mobility" Sub-working Group set up within its framework** address these issues in-depth on the basis of the **Mandate of the Alpine Conference in Alpbach on 9 November 2006**:
Accordingly it devotes a considerable part of its work to the issues of sustainable alpine mobility, particularly where urban and tourist traffic is concerned. The basis consists of the recommendations adopted at the "Environmentally Friendly Travel" conference in Vienna, the data collated for the Report on the State of the Alps, the conclusions of the Italian SWOM seminars, and the relevant INTERREG projects. Objectives include
- gathering the corresponding examples of good practice regarding sustainable mobility in the alpine region so they can be disseminated (links between alpine localities and the eco-friendly accessibility to the major alpine tourist regions),
- examining the public transport service offer in long-distance transport in the alpine region (e.g. to tourist regions and conurbations) and its interlinking with all forms of local environmentally compatible transport to determine any weaknesses in the service offer and the infrastructure (cross-border lines, connections with regional networks, etc.).

In implementation of this mandate the **"Inner-alpine Transport" Sub-working Group of the Transport Working Group** is currently drawing up
- a long-distance transport study
- a compilation of examples of best practice.

The following are to be submitted at the next **Alpine Conference at the end of 2008/beginning of 2009** under France's chairmanship:
- A report on the results of the long-distance transport study and a corresponding proposal for measures, and
- the compilation of examples of best practice for submission for resolution.

Natural hazards in alpine region such as floods are on the increase as the intensity of climate change gathers pace. The statements issued by the IPCC point to dramatic changes in the climate. The following conclusions can therefore be drawn from the paper on "Active Area-based Retention":

- We need to adapt to climate change as quickly as possible. In particular we need to adapt to the impact of alpine natural hazards such as floods, mud flows, rock falls, avalanches, etc. Investments into adaptation prevent potential damage in the alpine region, the costs of which would be five to ten times greater.
- Flood protection is one of the main adaptation measures for climate change.
- Flood protection is a cross-alpine task.
- Protection against natural hazards is both a national and a European task.
- So intensifying adaptation to climate change should be defined as a pan-European objective.
- The EU with its own programmes must adopt initiatives to promote flood protection and protection against natural hazards in the alpine region.
- With regard to adaptation to climate change the EU has so far not drawn up any financing programme to meet the demands for instance from the EU flood directive.
- The EU's Green Paper on climate change takes insufficient account of the necessary measures for adaptation to the changes in natural hazards in the alpine region. So far the EU's call for adaptation measures in its Green Paper (adaptation to climate change …) does not correspond to the change in the hazard situation in the alpine region. Efforts should therefore be made to bring about rectifications to the Green Paper:

- The threat posed by natural hazards is not in keeping with its significance for the alpine region.
- It should be stressed that there are already flood risks for existing settlement and industrial areas in the alpine region, not just for energy infrastructures.
- The announcement that potential measures would be taken into account in support programmes remains too vague and lacks emphasis.
- There is also a considerable need for research on the subject of natural hazards in the alpine region.

As a cross-alpine body the Permanent Secretariat of the Alpine Convention is therefore called upon to formulate the alpine states' joint demand for a separate funding instrument from the European Union.

WERFENWENG MOBIL. NEW PATHS TO SUSTAINABLE LIVING AND SOFT TOURISM

Peter Brandauer

Werfenweng mobil +

New paths to sustainable living and soft tourism

Das Rezept für 100% Urlaub.
wundermittel
werfenweng

Beautiful Werfenweng

We proudly present: Werfenweng, Austria

- 850 inhabitants, altitude 900 m
- 45 km south of Salzburg, nestled in the Tennengebirge mountains

Beautiful Werfenweng

Tourism

- 1800 hotel-beds
- **36.000 arrivals**
- **212.000 overnight stays**
- 50 % Summer, 50 % Winter **tourism**

Beautiful Werfenweng

General information

- Since 1995 measures and activities for Soft Mobility
- Member of the Austrian association for soft mobility "IG Sanfte Mobilität"
- Member Alliance of the Alps (Gemeindenetzwerk Allianz in den Alpen)
- Member at Climate Alliance (Klimabündnis)
- strong co-operation with mobilito – the mobility service centre salzburg
- Use of solar energy

Beautiful Werfenweng

Solar energy

- Photovoltaic power plant
- Solar filling station for e-vehicles
- Solar Streetlamps

Beautiful Werfenweng

Austrian Model project „Soft Mobility - car-free tourism":

Werfenweng is part of this Austrian pilot project for the environment, tourism and mobility. Partners:

- Austrian Ministry for agriculture, environment and water
- Austrian Ministry for traffic, innovation and technology
- Austrian Ministry for Economies and Labor
- Government of Salzburg
- pilot region **Werfenweng**
- supported by the European Union.

1996 - 2007

Beautiful Werfenweng

WERFENWENG MOBIL. NEW PATHS TO SUSTAINABLE LIVING AND SOFT TOURISM

Peter Brandauer

WERFENWENG MOBIL. NEW PATHS TO SUSTAINABLE LIVING AND SOFT TOURISM

Peter Brandauer

Our soft-mobile offer: „Fun Mobility"

- **Soft-mobility Fun park: electric and fun vehicles**
  The car-free center of our village with solar filling station is our soft-mobile hire-station:

electric vehicles and scooters,
bicycles, carts, e-quads
funrider, bigas, e-velos,
alpine flyer, segways, etc.

Mobility and entertainment for our guests!

Beautiful Werfenweng

Further benefits with the SAMO-Passport: Summer

- Day tours by bus to Salzburg, to Ice caves of Werfen „Eisriesenwelt",
  to Castle Hohenwerfen, to ski jump Bischofshofen
- Guided hiking tours: alpine pastures, herbs
- Guided nordic walking tours
- Barefoot trail
- Bicycle taxi
- Painting lessons
- Natural swimming lake

Beautiful Werfenweng

Further benefits with the SAMO-Passport: Winter

- Trip with horse coach/sledge
- Ice skating including skates
- Trekking with lamas
- Ski-shoe walking

Beautiful Werfenweng

Further benefits with the SAMO-Passport: Winter

- Cross country equipment
- Trail fees for cross country
- Tobogganing hire
- 10 % discount on bus tour to Salzburg

Beautiful Werfenweng

Soft-mobility hotels – certified for quality

48 hotels offer soft-mobile holidays in Werfenweng.
This co-operation group seeks to satisfy the soft-mobile guest with all amenities needed for an **unforgettable holiday from the car**.

Beautiful Werfenweng

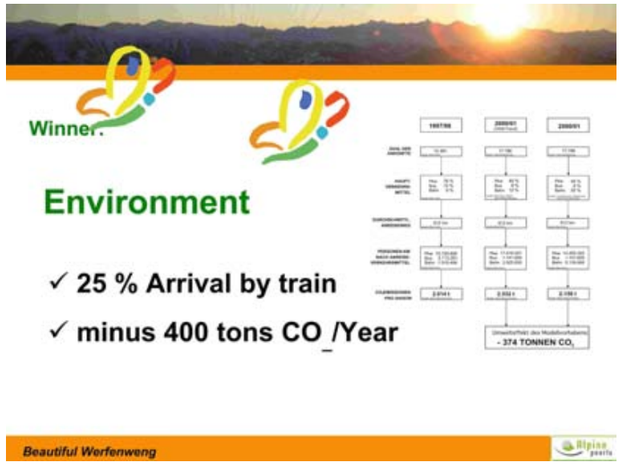
… the lucky winners are

- ✓ **the environment AND**
- ✓ **the entreprises AND**
- ✓ **the guests AND**
- ✓ **the inhabitants**

Beautiful Werfenweng

WERFENWENG MOBIL. NEW PATHS TO SUSTAINABLE LIVING AND SOFT TOURISM

Peter Brandauer

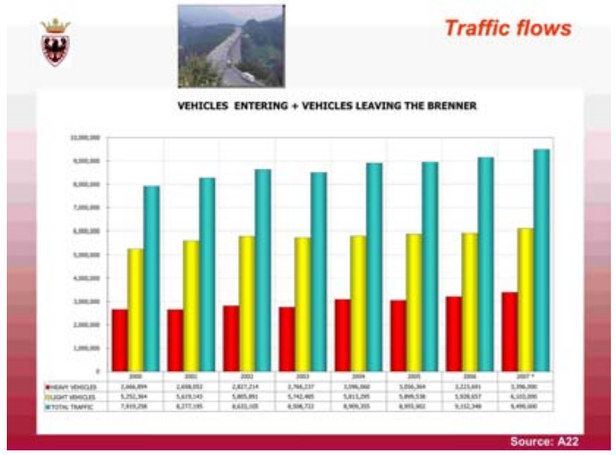


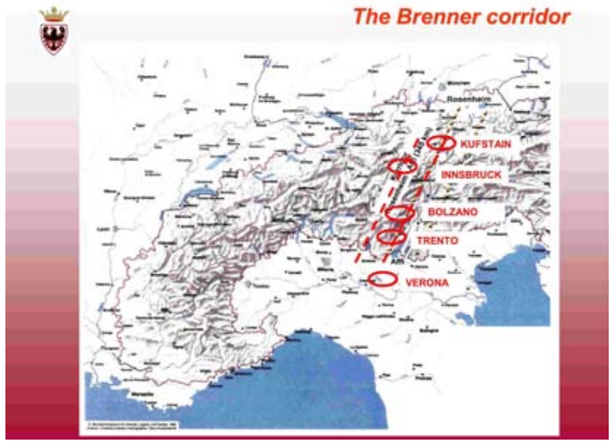
WERFENWENG MOBIL. NEW PATHS TO SUSTAINABLE LIVING AND SOFT TOURISM

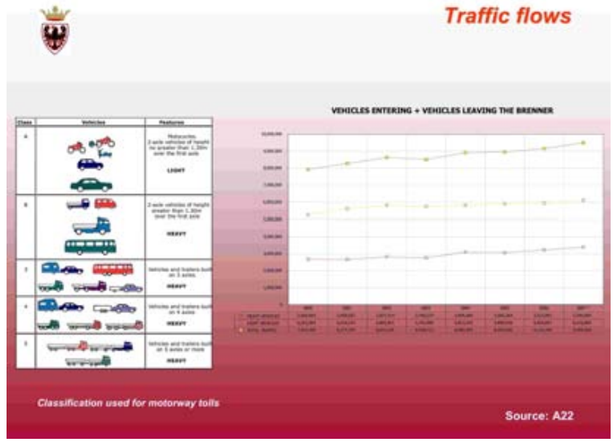
Peter Brandauer

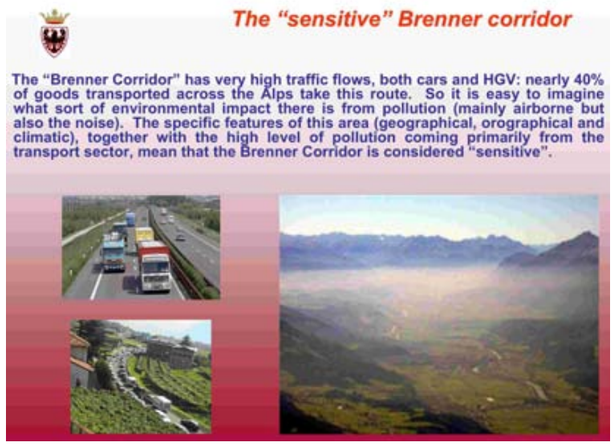
IMPROVEMENT OF AIR QUALITY ALONG THE BRENNER CORRIDOR: LIMITATIONS TO THE TRANSIT OF HEAVY FREIGHT TRAFFIC ON THE A22 MOTROWAY

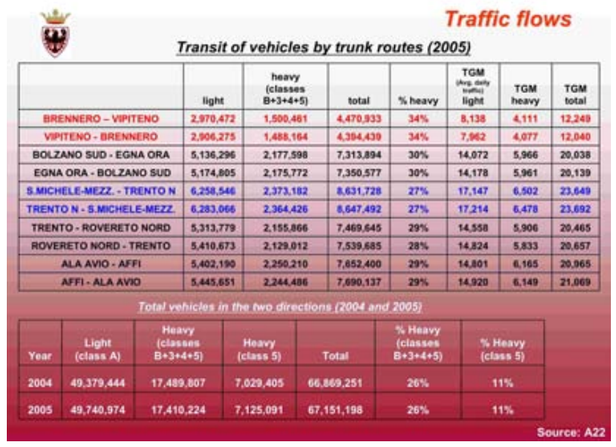
Enrico Franceschi











	light	heavy (classes B+3+4+5)	total	% heavy	TGM (Avg. daily traffic) light	TGM heavy	TGM total
BRENNERO – VIPITENO	2,970,472	1,500,461	4,470,933	34%	8,138	4,111	12,249
VIPITENO - BRENNERO	2,906,275	1,488,164	4,394,439	34%	7,962	4,077	12,040
BOLZANO SUD - EGNA ORA	5,136,296	2,177,598	7,313,894	30%	14,072	5,966	20,038
EGNA ORA - BOLZANO SUD	5,174,805	2,175,772	7,350,577	30%	14,178	5,961	20,139
S.MICHELE-MEZZ. - TRENTO N	6,258,546	2,373,182	8,631,728	27%	17,147	6,502	23,649
TRENTO N - S.MICHELE-MEZZ.	6,283,066	2,364,426	8,647,492	27%	17,214	6,478	23,692
TRENTO - ROVERETO NORD	5,313,779	2,155,866	7,469,645	29%	14,558	5,906	20,465
ROVERETO NORD - TRENTO	5,410,673	2,129,012	7,539,685	28%	14,824	5,833	20,657
ALA AVIO - AFFI	5,402,190	2,250,210	7,652,400	29%	14,801	6,165	20,965
AFFI - ALA AVIO	5,445,651	2,244,486	7,690,137	29%	14,920	6,149	21,069

Year	Light (class A)	Heavy (classes B+3+4+5)	Heavy (class 5)	Total	% Heavy (classes B+3+4+5)	% Heavy (class 5)
2004	49,379,444	17,489,807	7,029,405	66,869,251	26%	11%
2005	49,740,974	17,410,224	7,125,091	67,151,198	26%	11%

IMPROVEMENT OF AIR QUALITY ALONG THE BRENNER CORRIDOR: LIMITATIONS TO THE TRANSIT OF HEAVY FREIGHT TRAFFIC ON THE A22 MOTROWAY

Enrico Franceschi

Air pollution in the Autonomous Province of Trento

The zoning of the territory of Trento Province was approved by Provincial Council Decision no. 3347 of 24 December 2003, complying with Legislative Decree no. 351 of 4/08/1999 "Implementation of Council Directive 96/62 on ambient air quality assessment and management".

The blue areas show the "most polluted" zone. The Adige Valley, through which runs the A22, is affected by high levels of pollution.

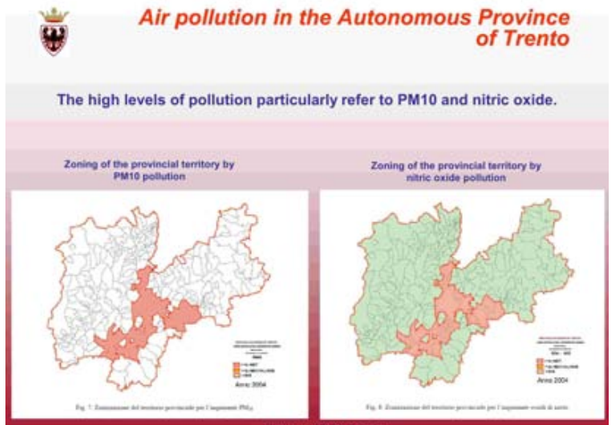
Source: APPA Trento

Air pollution in the Autonomous Province of Trento

The high levels of pollution particularly refer to PM10 and nitric oxide.

Zoning of the provincial territory by PM10 pollution

Zoning of the provincial territory by nitric oxide pollution



Source: APPA Trento

Joint meeting at Merano

In order to put actions and common policies in place that can effectively deal with the problem of pollution, the Legislative Assemblies of the Autonomous Provinces of Trento and of Bolzano, and of the Tyrol *Land* (in the presence of the Voralberg as an observer), promoted approval of various resolutions at the joint meeting of 22 February 2005 in Merano.

PROVINCIA AUTONOMA DI BOLZANO

PROVINCIA AUTONOMA DI TRENTO

Land Tirol

Land Vorarlberg

Joint meeting at Merano

Specifically, by resolution no. 17, the legislative Assemblies request that the European Union:

- officially designates the north-south axis crossing the Tyrol, Alto Adige and Trentino as a "sensitive zone";
- makes provision, in the new directive on road tolls, for an increase in the toll from the current 25% to 50% and to introduce road-rail combined funding;
- orders a general prohibition on heavy vehicles classed in the EURO 0 and EURO 1 categories;

while the respective executive committees were asked to harmonise and coordinate their transport policies with a series of measures, such as encouraging the rapid development of the Brenner Base Tunnel project.

Programme Agreement (APQ)

To protect the environment and the health of the population it was decided to form a pact on air quality in the "Brenner sensitive corridor" among the Autonomous Provinces of Trento and Bolzano and the Tyrol *Land* as stakeholders. The aim was for reciprocal consultation, sharing and coordination in order to ensure inter-regional and cross-border actions for the transport sector.

PROVINCIA AUTONOMA DI BOLZANO

PROVINCIA AUTONOMA DI TRENTO

Land Tirol

ACCORDO DI PROGRAMMA PER IL MIGLIORAMENTO DELLA QUALITÀ DELL'ARIA NEL CORRIDOIO SENSIBILE DEL BRENNERO

PROGRAMMVEREINBARUNG ZUR VERBESSERUNG DER LUFTQUALITÄT IM SENSIBLEN KORRIDOR BRENNER

The "Programme Agreement for the improvement of air quality in the sensitive corridor of Brenner" was signed by the Autonomous Provinces of Trento and Bolzano and the Tyrol *Land* on 31 October 2006.

Programme Agreement

By signing the agreement, the parties undertook – to the extents of their authority – to take the actions and the initiatives set out in the programme.

The principles for determining the actions to take were 1) to eliminate the causes of pollution at their source, focusing on the highest polluters and therefore those with most impact, and 2) ensuring that the measures taken were in proportion to the result to be achieved.

These actions mainly consist of placing a temporary prohibition (from 1 November to 30 April each year) on the use of the Brenner motorway and alternative routes by highly pollutant vehicles i.e. the 'heavy vehicles' (for transporting goods, with a overall mass weight exceeding 7.5 tons) which belong to the "Euro 0" and "Euro 1" classes.

IMPROVEMENT OF AIR QUALITY ALONG THE BRENNER CORRIDOR: LIMITATIONS TO THE TRANSIT OF HEAVY FREIGHT TRAFFIC ON THE A22 MOTROWAY

Enrico Franceschi

Programme Agreement

The intended effects of the measure were to encourage the use of alternative means of transport, switching traffic from road to rail, and stimulating the replacement of the more obsolete and polluting vehicles.

Use of combined road-rail transport (with any method)

Programme Agreement

The Programme Agreement provides for the possibility of introducing further limitations on vehicular traffic (in addition to those on "Euro 0" and "Euro 1"), which could be planned based on study and monitoring and after having assessed the various potential alternative means of transport.

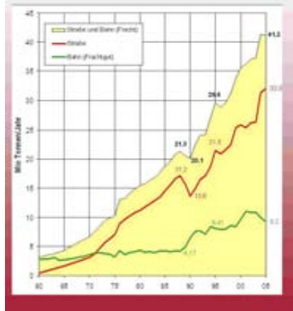
It also provides for the possibility to enact further measures such as calibrating tolls or tariffs to the quantity of pollutants emitted, introducing speed limits and limiting the transit of heavy vehicles at peak times.

Monitoring

Rail alternative

"Road" and "rail" transport

At the moment, goods are primarily transported by road



(Source: BBT, 2005)

Directive of the Ministry of Transport

On request from the Autonomous Provinces of Trento and Bolzano, the Ministry of Transport issued the Directive on 20 November 2006 which laid the basis for the provision for limiting traffic.

The necessary prerequisites set out were:

Preparing an Action Plan (as at Leg. Decree no. 351/1999),

The existence of transport alternatives (any restrictive measures should not result in an impediment to the free circulation of goods, as is required by Articles 28, 29 and 30 of the EEC Treaty),

Information and prior notification,

The measure would be temporary (for the purposes of protecting health, in line with Article 6, subsection 1 of Leg. Decree no. 285/1992 – "Highway Code"), aimed at bringing concentrations of pollutants back to within legal limits.

Ordinance of the Government Commissioner

According to the terms of the Ministerial Directive, the work of assessing (by means of a formal investigation) whether there were the conditions necessary was delegated to the Government Commissioner of both Trento and Bolzano, which would issue the ordinance on request from the Provincial Councils.

The ordinance, dated 21 December 2006, provided for:

the temporary suspending, from 10 January 07 to 30 April 07, of transit along the A22 motorway and the alternative route (State Road 12) by articulated and trailer lorries for carrying goods of overall mass weight, at full load, exceeding 7.5 tons, with a category "Euro 0" or "Euro 1" engine. An exception was made for heavy vehicles whose origin or destination was in the Trentino-Alto Adige Region.

Instead of the road route, the combined "road-rail" link could be used for transport

Ordinance of the Government Commissioner "the rail alternative"

The residual rail transport capacity was sufficient to ensure the "railroad" alternative for Euro 0 and Euro 1 heavy vehicles.

However, the Verona terminal, although ideal for ensuring that pollutant emissions in the entire "sensitive" area are reduced, can only provide "unaccompanied transport". Therefore, for heavy vehicles not equipped with the specific hooks for lifting the containers (not possible to lift by crane), there was permitted the possibility of boarding at the Trento interport using the "accompanied transport" system (rolling motorway – RoLa).

IMPROVEMENT OF AIR QUALITY ALONG THE BRENNER CORRIDOR: LIMITATIONS TO THE TRANSIT OF HEAVY FREIGHT TRAFFIC ON THE A22 MOTROWAY

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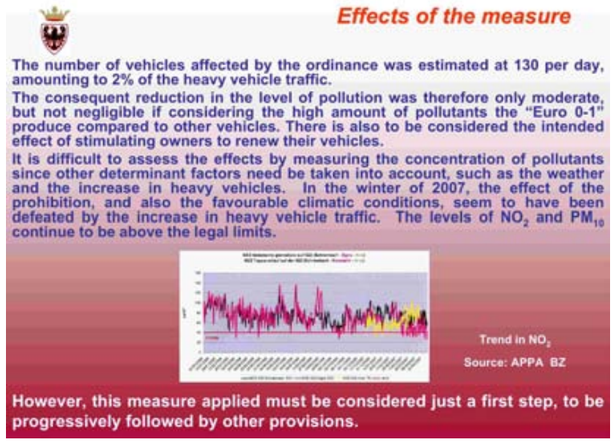

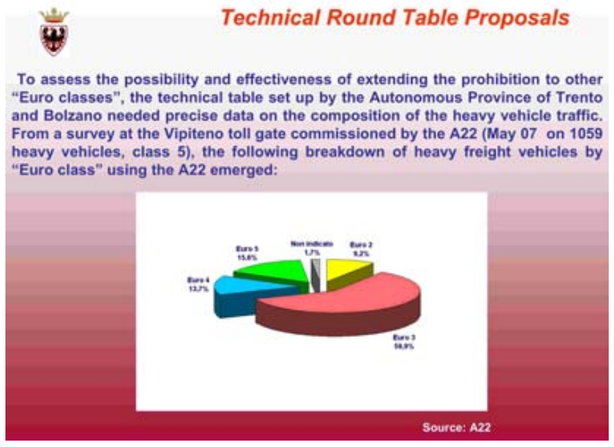

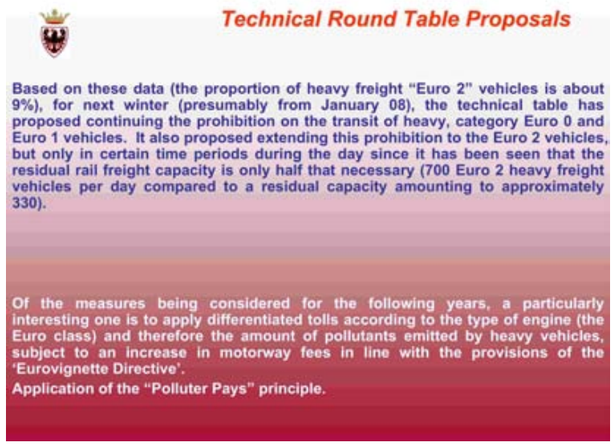

MEASURES TO IMPROVE THE AIR QUALITY ON THE BRENNER-CORRIDOR IN TIROL AND THEIR EVALUATION

Ekkehard Allinger-Csollich

Measures to improve the air-quality on the Brenner-corridor in Tyrol and their evaluation

Ekkehard Allinger-Csollich
Governmental office of Tyrol
Dept. for traffic engineering

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1. situation - developments of traffic and air-quality
2. measures
3. evaluation
4. résumé

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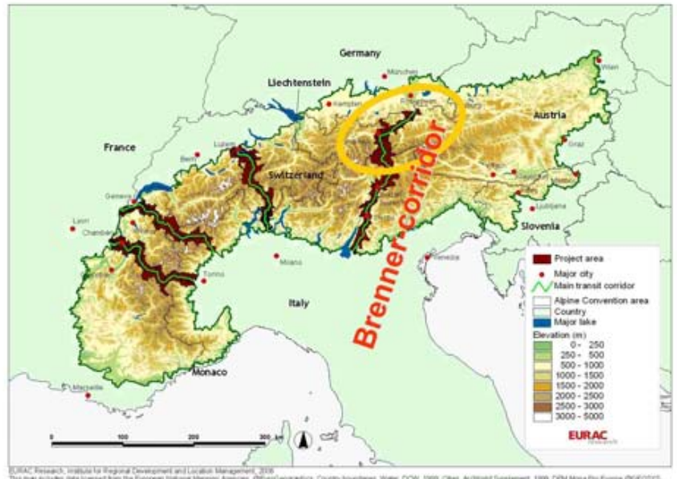
The corridors of the Alps



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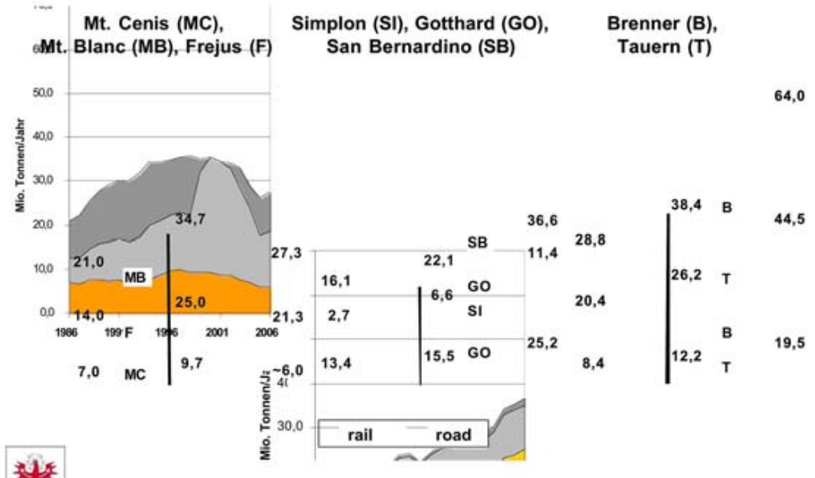
Traffic-Development in the Alps



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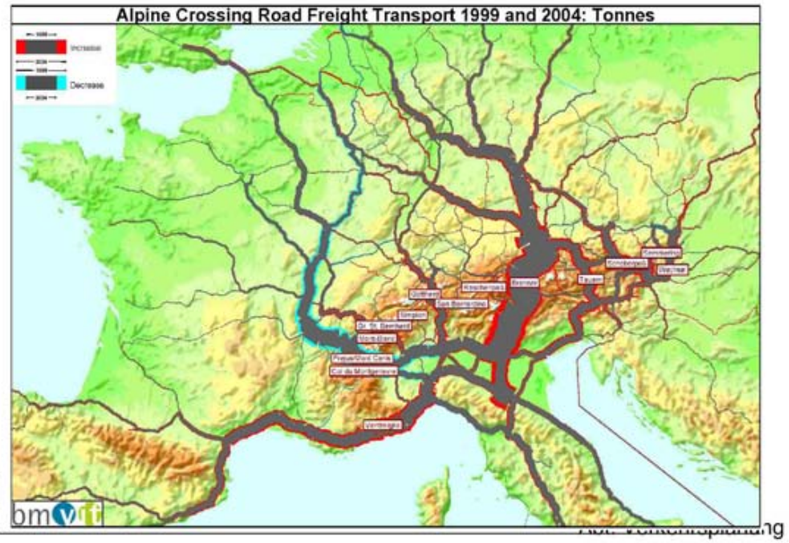
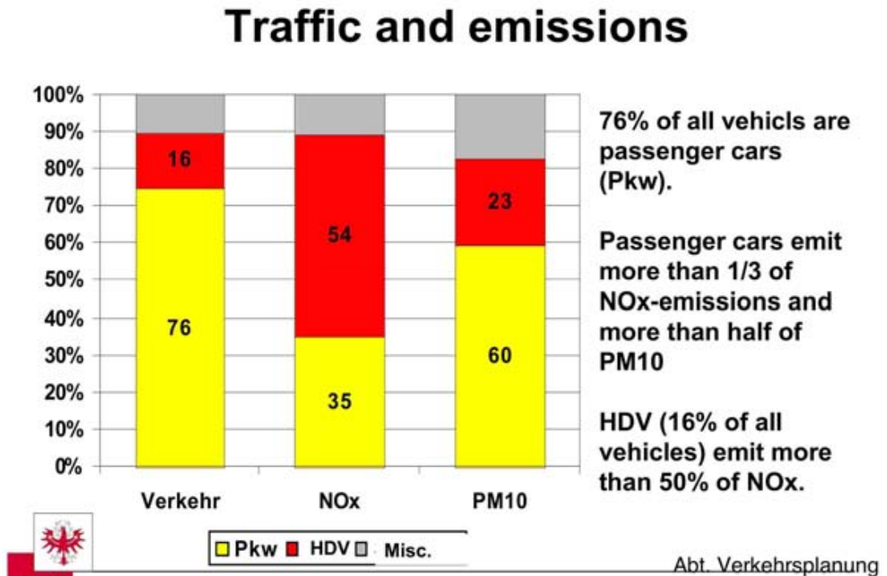
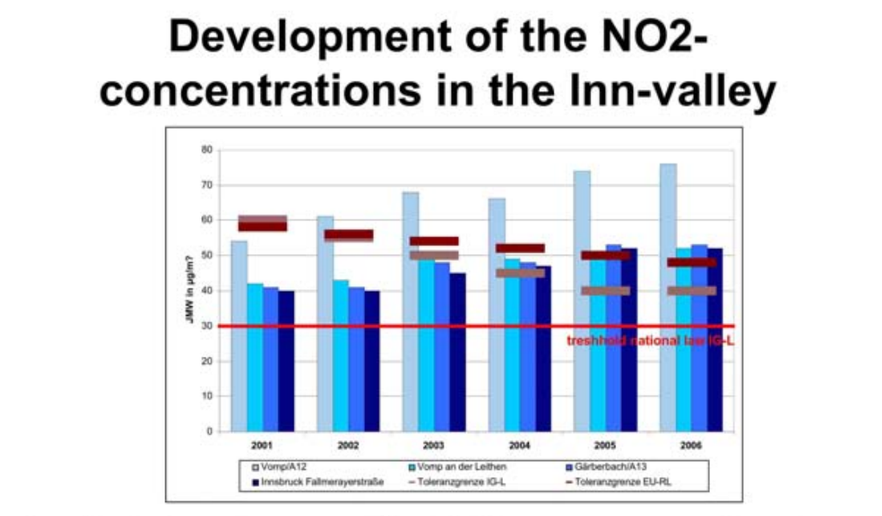
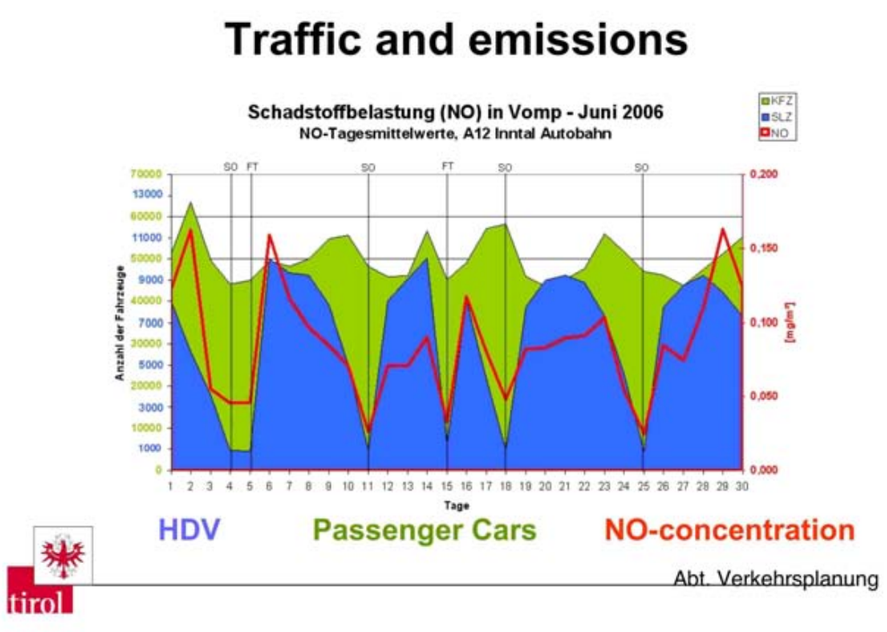
MEASURES TO IMPROVE THE AIR QUALITY ON THE BRENNER-CORRIDOR IN TIROL AND THEIR EVALUATION

Ekkehard Allinger-Csollich









MEASURES TO IMPROVE THE AIR QUALITY ON THE BRENNER-CORRIDOR IN TIROL AND THEIR EVALUATION

Ekkehard Allinger-Csollich

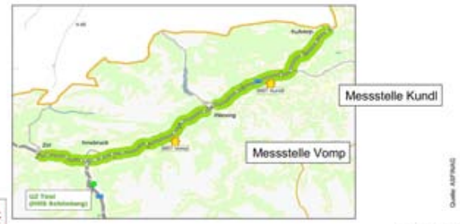
Measures I

Strategy	Existing measures	Action plan 2006
decrease of emissions by better motor-technologies	• ecopoint-system until 2003 • Limited exception for Euro 4 and 5 vehicles concerning night-ban	• ban off old motor classes (Euro 0,1,2)

dynamic Speed limit Lower Inn-valley

Length: A12 about 89 km

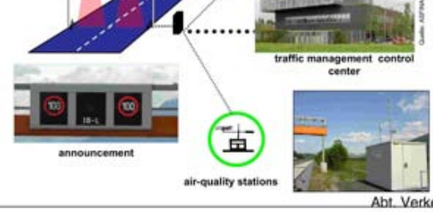
2 air-quality station control the speed limit in two sections of the valley



Measures II

Strategy	Existing measures	Action plan 2006
Promotion of transport alternatives with low emissions	• Extension of rail-infrastructure in the lower Innvalley • Rolling road	• New interurban trains • BBT • New terminals

dynamic Speed limit Lower Inn-valley



Measures III

Strategy	Existing measures	Action plan 2006
Harmonization of traffic	• Speed limit during the night • Construction of a traffic management system	• Dynamic speed limit

Measures IV

Strategy	Existing measures	Action plan 2006
Decrease of air-concentration by shifting the emissions to better climate-conditions	• Night ban for HDV • Higher night toll system for HDV on the A13	• Local extension of the night ban

MEASURES TO IMPROVE THE AIR QUALITY ON THE BRENNER-CORRIDOR IN TIROL AND THEIR EVALUATION

Ekkehard Allinger-Csollich

Measures V

Strategy	Existing measures	Action plan 2006
Decrease of HDV-traffic by shifting to rail	• Cap of ecopoint-system until 2003	• "Sectoral" driving ban for specific goods

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sectoral driving ban

- Shifting of goods, which can easily transported by rail (long distances, no deadlines)
- reduction of about 200.000 trips/year
- goods:

waste	vehicles
cereals	construction steel
wood	marble
metals	flagging
stones, excavation material	

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Measures VI

Strategy	Existing measures	Action plan 2006
Harmonization of traffic frames conditions	• Traffic enforcement	• Additional enforcement stations • Alpine transit bourse

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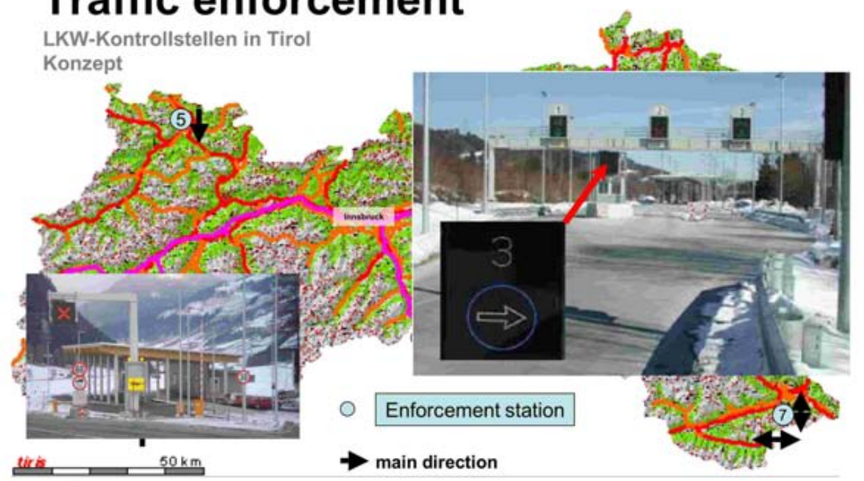
Traffic enforcement

LKW-Kontrollstellen in Tirol
Konzept



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Alpine transit bourse

- discussed in
  - European Projects on national and regional level (E.g. MONITRAF)
  - Alpine convention
  - Zurich Group (transport ministers of Alpine countries)
- decisions on European level required

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MEASURES TO IMPROVE THE AIR QUALITY ON THE BRENNER-CORRIDOR IN TIROL AND THEIR EVALUATION

Ekkehard Allinger-Csollich

Evaluation of measures

Maßnahmen, Entwicklungen	Auswirkungen JMW NO_2 (µg/m≥)	? %
1. Flottenentwicklung 2005 – 2010 (A 12 Inntal Autobahn, Kfz konstant)	-10,5	-14,2%
2. Verkehrszunahme bis 2010	+3,0	+4,8%
3. Grundszenarium 2005 – 2010 (Kfz-Zunahme und Flottenentwicklung: Komb. 1+2)	-7,5	-10,2%
4. Tempo 100, VBA (Pkw, 2010)	-3,5	-5,3%
5. Fahrverbot Euro 0,1,2 (Lkw, 2010)	-0,5	-0,8%
6. Nachtfahrverbot Euro 4,5 (Lkw, 2010)	-1,2	-1,8%
7. Sektorales Fahrverbot (Lkw, 2010)	-1,0	-1,5%
8. Maßnahmenbündel 2006 (Komb. 4+5+6+7)	-6,1	-9,1%
9. Maßnahmenbündel, Lkw (Komb. 5+6+7)	-2,7	-4,0%
10. Maßnahmenbündel 2006 + NFV 2005 (Komb. 8+NFV)	ca. - 9,5	rd. - 13,0 %

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transport policy approach

- sustainable transport policy – change of modal shift from road to rail (EU white book 2001)
- new main focus (2006)
  - target: uncoupling of traffic emissions from traffic growth
  - forecast for freight traffic: + 55% road
    + 13% rail
- modal shift of long distance freight traffic

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implementation of transport objectives

- inclusion of
  - tariff
  - taxes
  - traffic-security
  - environment
  - security policy etc.
- the choice of route can easier be influenced than the means of transport

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résumé

- one-dimensional measures can not solve such a complex problem
- the capacity overload of the transport system has economical consequences (prediction, degree of reliance,...)
- to avoid negative effects on the market the European transport policy needs am economical mechanisms

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MONITRAF

MONITRAF/ ALPNAP
Abschlusskonferenz

23.-25. Jänner 2008
Innsbruck, Raiffeisensäle

www.monitraf.org

tirol Abt. Verkehrsplanung

TIROLER GEMEINDEN MOBIL

Ekkehard Allinger-Csollich, Siegrid Sapinsky

A car-free day in Tyrol

Tyrol's Municipalities Go Mobile!

The Municipality as Mobility Headquarters

Ekkehard Allinger-Csollich, Federal Province of Tyrol
Sigrid Sapinsky, *Klimabündnis Tirol* [Tyrol Climate Alliance]

2006 Launch with ten municipalities

2007 Scheme expanded to 22 municipalities

- Module 1: "Local Mobility Headquarters" for public transport
- Module 2: "Promote Cycling!"
- Module 3: Networking with *klima:aktiv-mobil*

- Car-free day in Tyrol
- More than 70 municipalities are now taking part!
- Public transport is the focal point
- Wide variety of initiatives within the municipalities aimed at promoting the use of buses and trains
- Co-operation with transport-sector operators
- Idea for the pilot scheme is born

The municipality is particularly well suited for promoting eco-friendly mobility patterns:

- because of its proximity to citizens
- because information can be geared to local interests
- because of their positive connotations

TIROLER GEMEINDEN MOBIL

Ekkehard Allinger-Csollich, Siegrid Sapinsky

Concept

- Develop concept based on past experience and existing structures within the municipalities
- Collate the various sustainable and lasting initiatives
- Evaluate according to feasibility
- Evaluate according to financial cost

Module 1: The Mobility Headquarters

Mobility Headquarters

- Based at the Citizens Advice Bureau or Register Office
- Information provided by trained municipal employees
- Services provided include local pocket timetables, free introductory tickets, car pools, etc.
- Timetable information posted on the homepage
- Information for cyclists and pedestrians
- Information pack for new residents

Pocket timetable

Information pack for new residents

Introductory ticket

TIROLER GEMEINDEN MOBIL

Ekkehard Allinger-Csollich, Siegrid Sapinsky

Volders homepage

Promote Cycling!

- Consulting services for traffic engineering issues to improve the cycling infrastructure through the province of Tyrol
- Kick-off event for easy-to-implement, high-visibility initiatives
- Workshop on “soft measures”
- Bicycles also for official use within municipalities

Advisory Services

- Kick-off events and training courses held jointly with the federal province of Tyrol, the VVT, and transport-sector operators
- Creation of timetables, posters, and information packs for new residents
- Assistance with homepage design
- Support with PR work for press releases to local newspapers, homepages, printed forms for mailshots, flyers, etc.
- Newsletter on topical issues

Promote Cycling!

- Regular services available to citizens: bicycle servicing, code-marking (jointly with bike shops)
- Co-operation with transport-sector operators: promotion of bike & ride initiatives
- Homepages with tips and information on cycling

Module 2: Promote cycling!

“Soft Measures”

TIROLER GEMEINDEN MOBIL

Ekkehard Allinger-Csollich, Siegrid Sapinsky

"Soft Measures"

Advice on transport-related organisational measures

- Reducing speed (30 km/h speed limit)
- Opening one-way streets
- Creating parking facilities
- Signposting
- Correct cycle-traffic planning

Guides

http://www.tirol.gv.at/themen/verkehr/verkehrsplanung/publikationen/

Module 3: Networking

Networking

- Interlinked with the Austrian Ministry of Life's *klima:aktiv mobil* schemes
- ***klima:aktiv mobil –*** Mobility management for towns, municipalities and regions
- ***klima:aktiv mobil –*** Mobility management in public administration

Liaison agency: *Klimabündnis Tirol*

The Next Steps

- Increase the number of participating municipalities
- Co-operate with South Tyrol as part of an EU project:
  - Cross-border co-operation
  - Joint advisory service
  - Making use of synergetic effects

Klimabündnis Tirol
Leopoldstrasse 2
6020 Innsbruck
Tel.: +43 (0)512 583558
e-mail: tirol@klimabuendnis.at
www.klimabuendnis.at/tirol

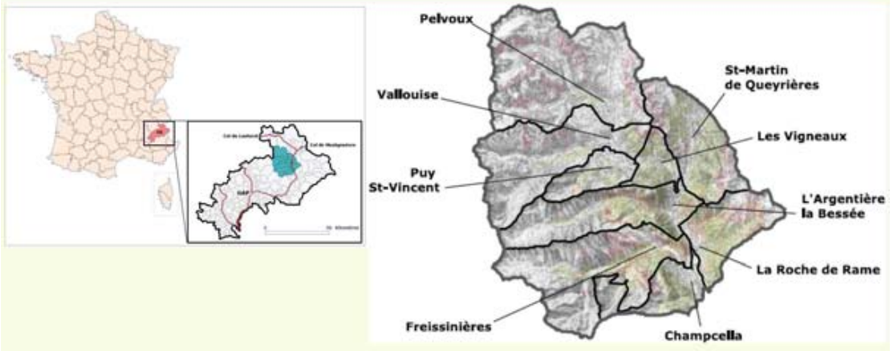
DISCOVERY SHUTTLES IN THE PAYS DES ECRINS

Nicolas Pons

Communauté de communes du Pays des Ecrins

DISCOVERY SHUTTLES IN THE PAYS DES ECRINS

Communauté de communes du Pays des Ecrins



- Nine municipalities, around 6,500 inhabitants, with a core municipality of 2,500 inhabitants (l'Argentière la Bessée)
- A mountain territory split into three main valleys
- A strong commitment to tourism: around 30,000 tourist beds; 1.2 million overnight stays each year

Communauté de communes du Pays des Ecrins

WHAT ARE DISCOVERY SHUTTLES?

2 TYPES OF SHUTTLE

Communauté de communes du Pays des Ecrins

TYPE 1: ACCOMPANIED SHUTTLES

PRINCIPLE: To use public transport to explore the main tourist sites in the company of a heritage guide.

The shuttles are theme-based, with a choice of eight themes:

-The wine-growing heritage
-The religious heritage
-Sundials
-Discovering the *vallon du Fournel* (its fauna, flora & geology)
-The hydrological heritage (hydropower, canals, etc.)
-The villages and the life of yesteryear
-Retracing the Vaudois
-The silver mines

RATES: €20 to access all shuttles

Communauté de communes du Pays des Ecrins

ONE EXAMPLE

DISCOVERY SHUTTLES IN THE PAYS DES ECRINS

Nicolas Pons

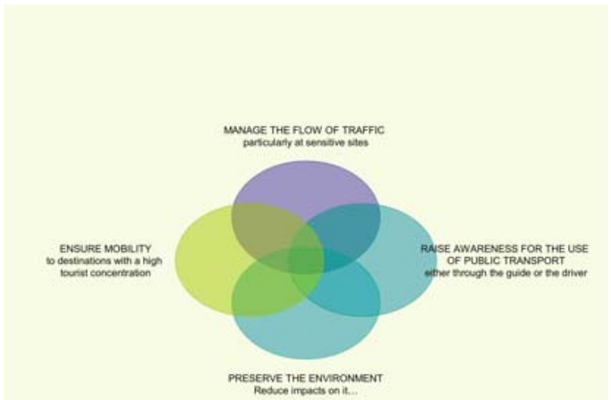
Communauté de communes du Pays des Ecrins

TYPE 2: UNACCOMPANIED SHUTTLES

PRINCIPLE: To use public transport to travel to the main tourist sites.
The transport is free.

The shuttles operate according to the destination, with a choice of three:

- The meadow of Madame Carle
- The Col of the Pousterle
- Dormillouse



Communauté de communes du Pays des Ecrins

BUDGET

Expenditure	**€30,000**
- transport	€20,000
- labour costs	€5,000
- communication	€5,000
Income	
- ticket sales	**€10,000**

Communauté de communes du Pays des Ecrins

DISCOVERY SHUTTLES: RESULTS

Communauté de communes du Pays des Ecrins

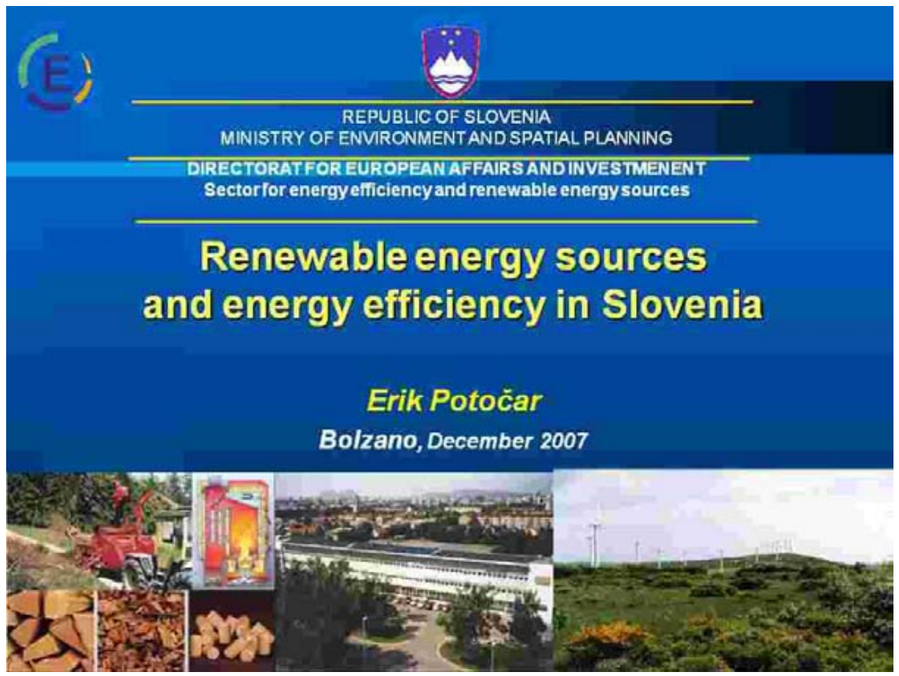
DISCOVERY SHUTTLES: OBJECTIVES

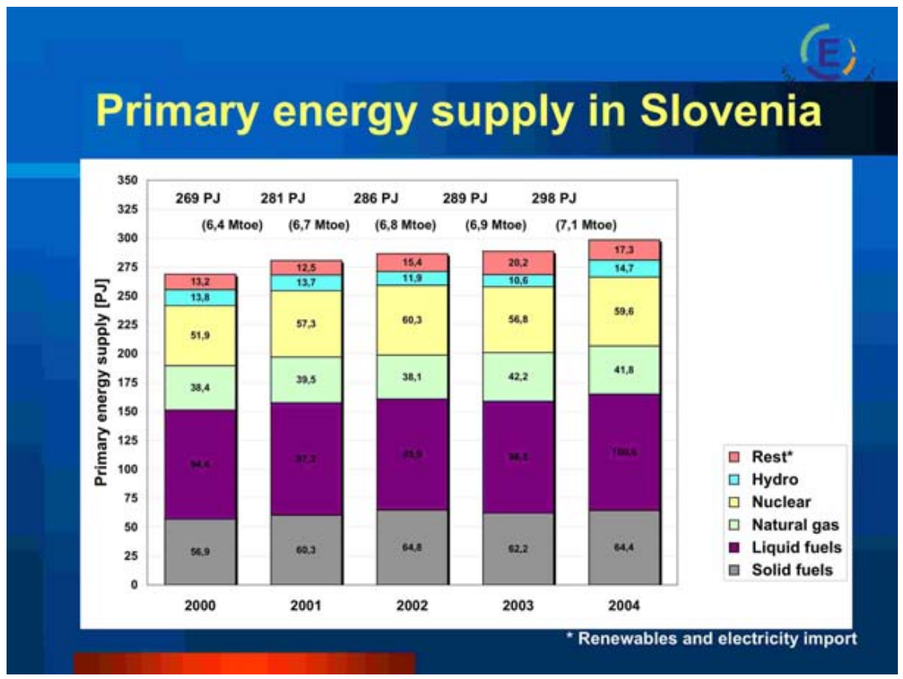
Communauté de communes du Pays des Ecrins

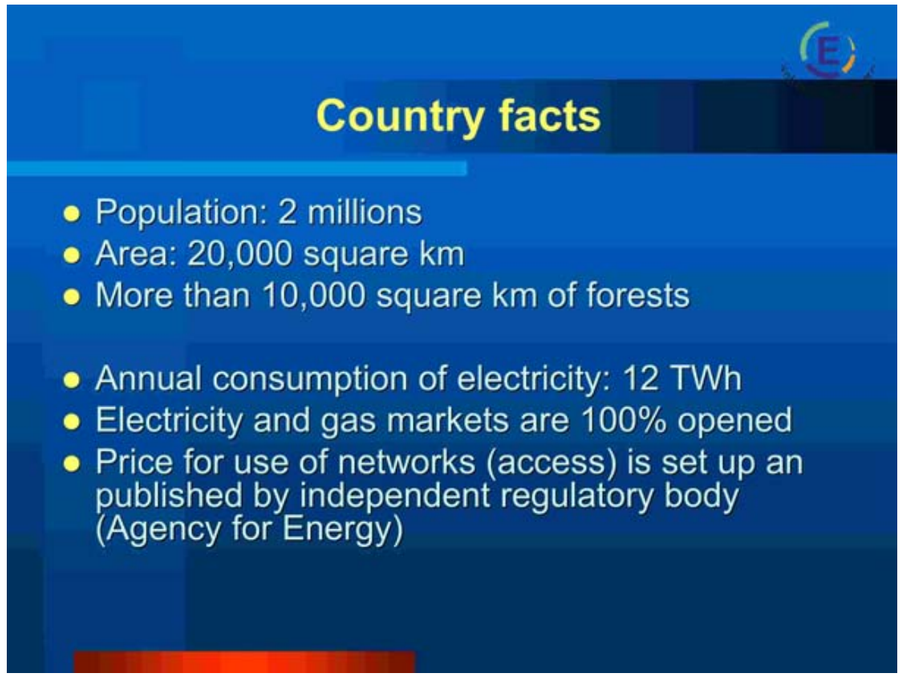
	2007	2006
Free shuttles	759	965
Accompanied shuttles	4797	5373
TOTAL	5556	6338
Assuming 2.5 passengers per car	2222.4 fewer cars	2535.2 fewer cars

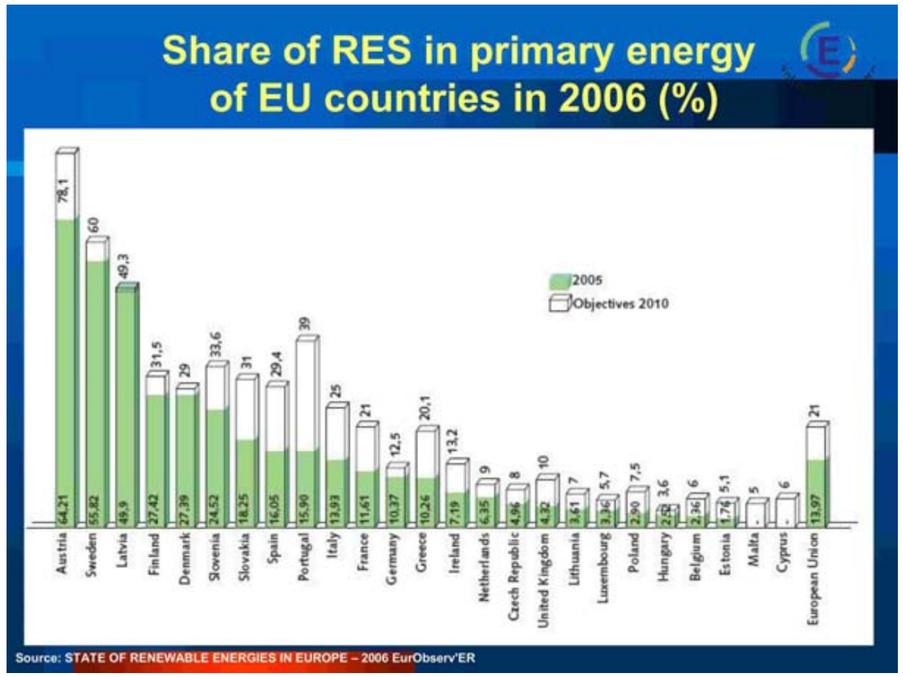
RENEWABLE ENERGY SOURCES AND ENERGY EFFICIENCY IN SLOVENIA

Erik Potočar









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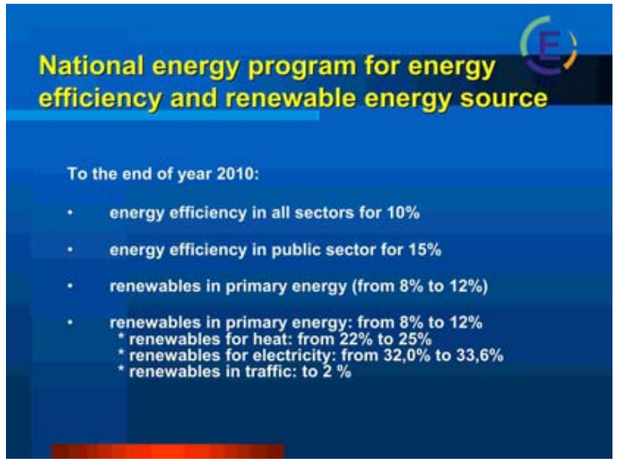
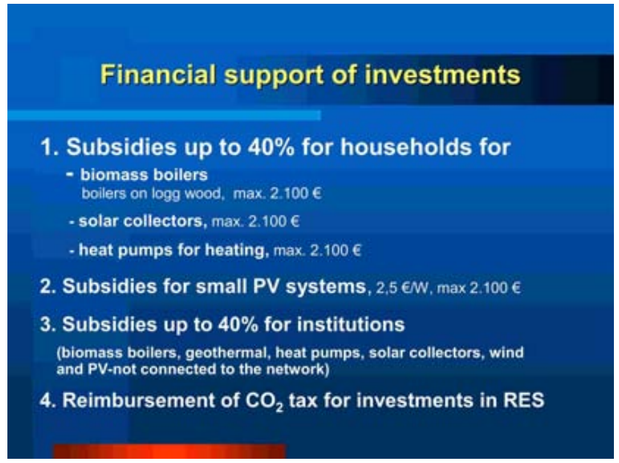
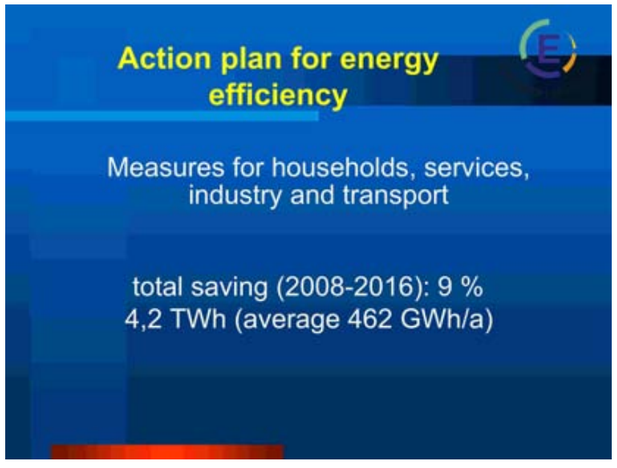
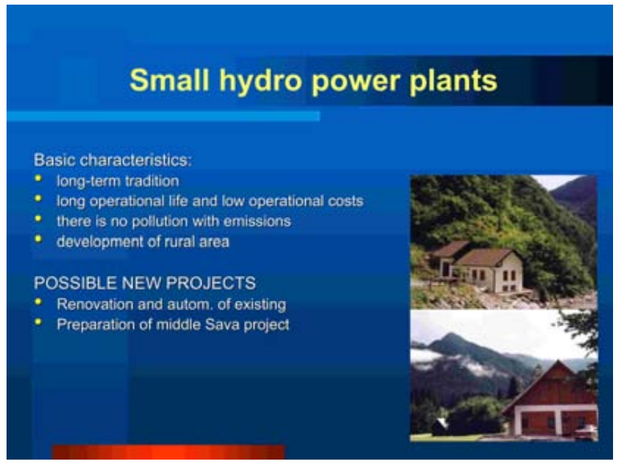
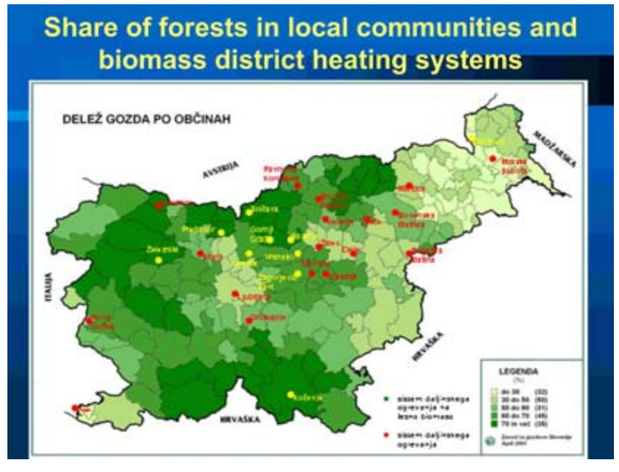
Erik Potočar





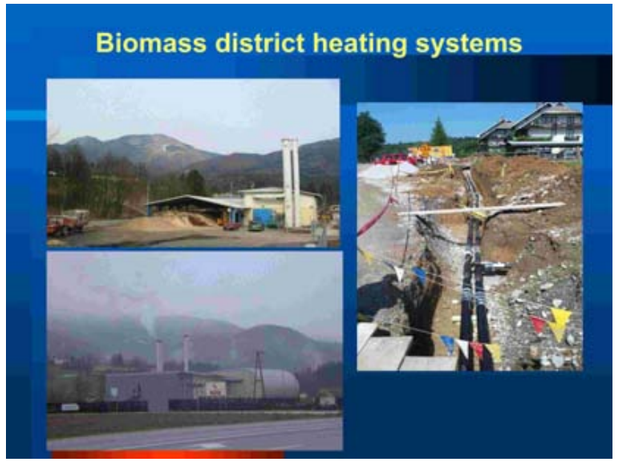


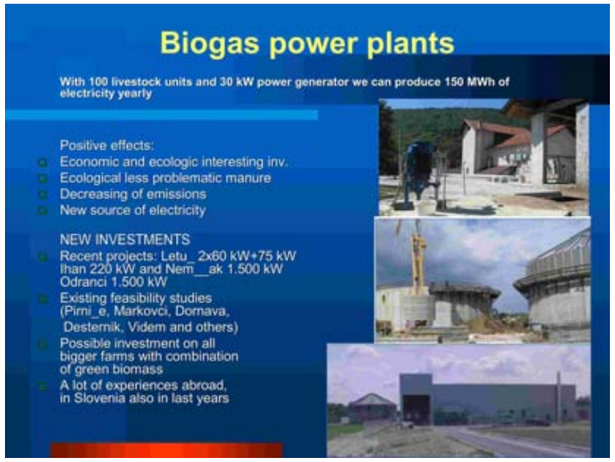


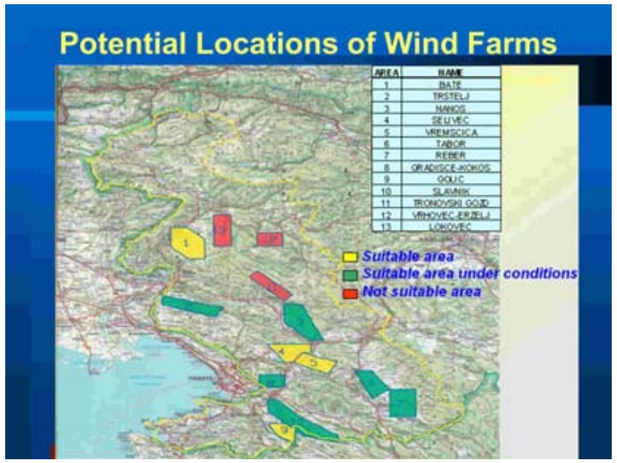


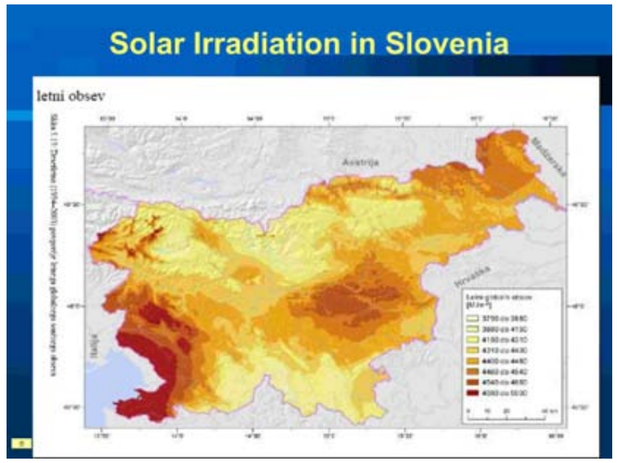
RENEWABLE ENERGY SOURCES AND ENERGY EFFICIENCY IN SLOVENIA

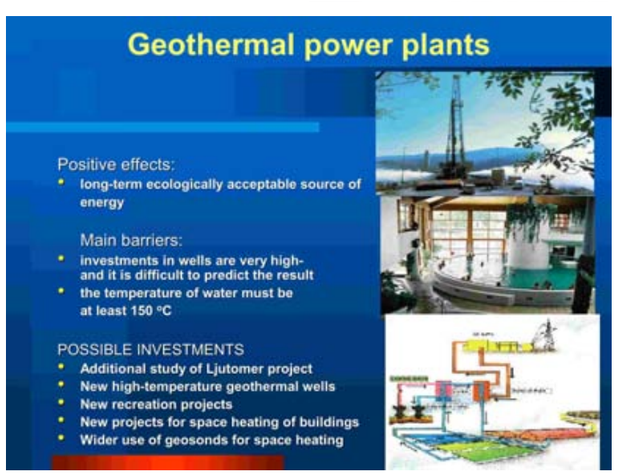
Erik Potočar











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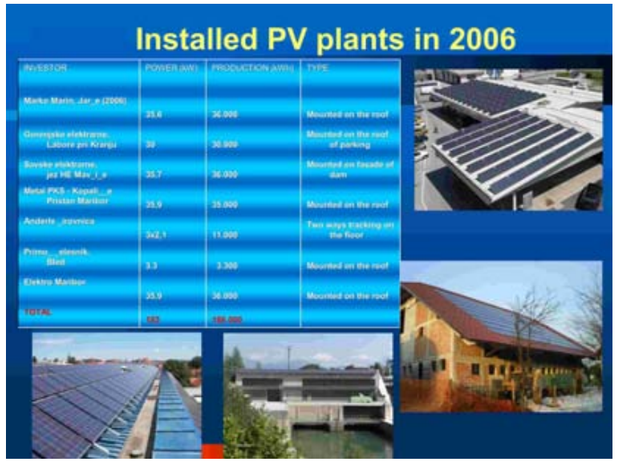
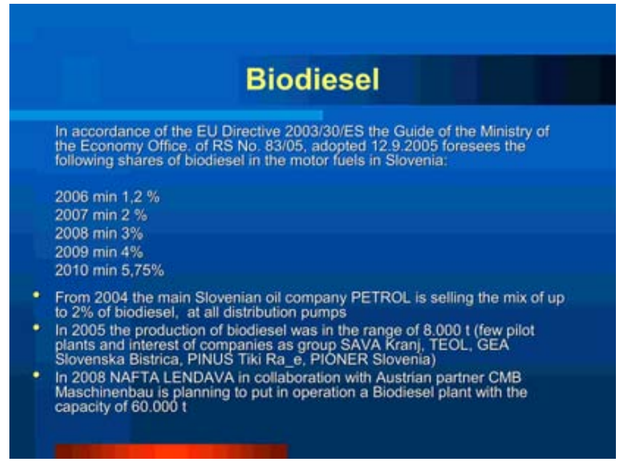
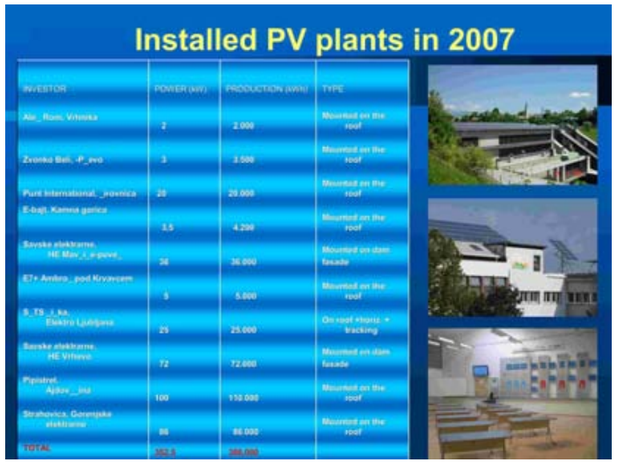
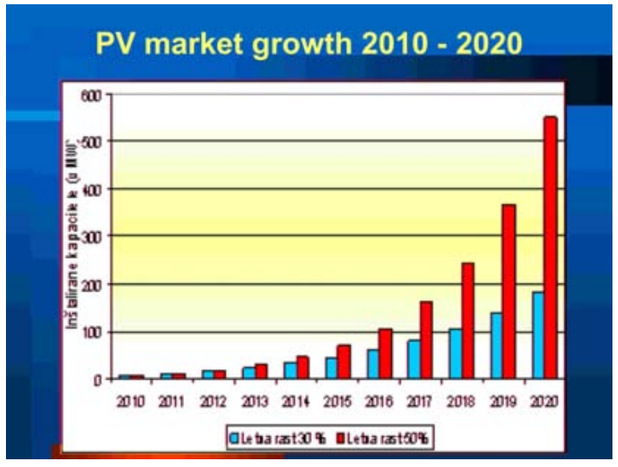


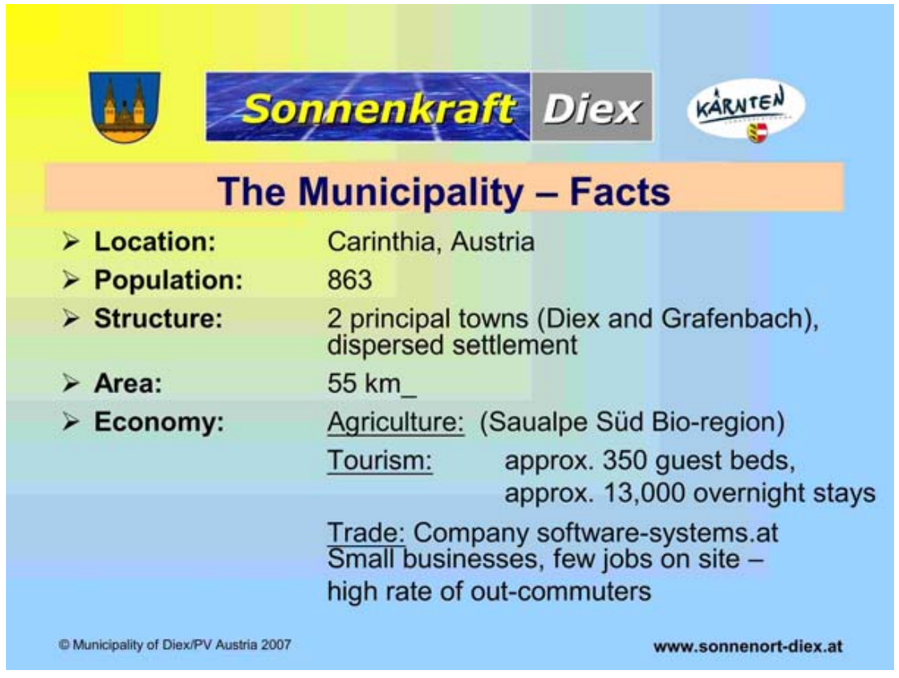


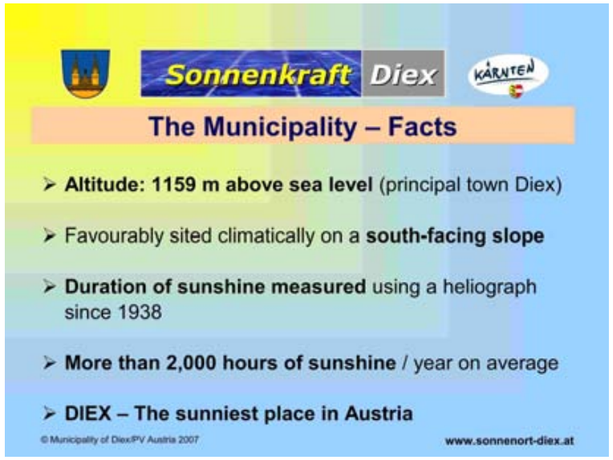




CLIMATE WARNING AND ADAPTATION TO CLIMATE CHANGE IN THE ALPINE REGION

Stefan Krapesch, Fallent Gerhard, Rennöckl Sandra





CLIMATE WARNING AND ADAPTATION TO CLIMATE CHANGE IN THE ALPINE REGION

Stefan Krapesch, Fallent Gerhard, Rennöckl Sandra

Sonnenkraft Diex

KÄRNTEN

Photovoltaic Installations

- 1996: Town signs and signboards illuminated using photovoltaic installations (4 installations)
- 1997: Construction of a 3 kWp photovoltaic installation at the new town hall
- Private investors (residents, businesses – currently totalling 26 kWp)

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Sonnenkraft Diex

KÄRNTEN

- Town signs and signboards lit by photovoltaic systems

Town hall with 3 kWp photovoltaic install. and solar-thermal install.

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Sonnenkraft Diex

KÄRNTEN

DIEX SOLAR ENERGY Project

- November 2006 – Municipal council resolution
- 2007 - LEADER Project
  - Feasibility study – Construction of 1 m_ of PV area / resident
  - (project application January 2007)
- Project partners:
  - Photovoltaic Austria Federal Association, GF Ing. Gerhard Fallent
  - Southern Carinthia Regional Development Association
  - Carinthia Energy Aware Association
- July 2007 – Completion of the project report
- 7 December 2007 – Presentation of the project report
- Diex becomes e5 municipality (e5 Programme of Energy-efficient Municipalities)

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Sonnenkraft Diex

KÄRNTEN

Project Objectives

- To develop a solar living environment – Building Land Model South

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Sonnenkraft Diex

KÄRNTEN

Project Objectives

- Energy autonomy in the electricity sector - timetable

Zeitraum	Geplante Schritte	Anzahl Anlagen [Stk.]	PV-Leistung Installiert [kWp]	El. Energie Prod./Red. [kWh]	El. Energie Import [kWh]	Autonomie Grad [%]
Aktuell		2	6	5.320	2.419.330	0,2
	PV-Anlagen bis 5 kWp	5	20	21.259		
	PV-Anlage Software Systems	4	20	21.259		
	PV- Straßenleuchten Bauland Süd	6		330		
	Adaptierung Bebauungspläne					
	Thema Energiesparen an VS Diex					
	Fortsetzung Bürgerinformation					
	Σ Dato – Ende 2007	9	40	42.847		

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CLIMATE WARNING AND ADAPTATION TO CLIMATE CHANGE IN THE ALPINE REGION

Stefan Krapesch, Fallent Gerhard, Rennöckl Sandra

Sonnenkraft Diex

KÄRNTEN

Project Objectives

Zeitraum	Geplante Schritte	Anzahl Anlagen [Stk.]	PV-Leistung Installiert [kWp]	El. Energie Prod./Red. [kWh]	El. Energie Import [kWh]	Autonomie Grad [%]
2007	Kumuliert	11	46	48.167	2.376.483	2,0
	PV-Dach Volksschule Diex	1	28	33.600		
	PV-Anlagen bis 5 kWp	25	100	106.293		
	PV-Anlagen Bauland Süd Ø 5 kWp	5	25	26.573		
	PV-Anlagen Ø 20 kWp	10	200	212.585		
	PV-Anlagen Ø 30 kWp	2	60	63.776		
	PV-Straßenleuchten Grafenbach	4		387		
	Energiekonzept Rüsthäuser			40.000		
	Energieeinsparkampagne			121.233		
	Entwicklung PV-Anzeigetafel					
	Thema Photovoltaik VS Diex					
	Σ 2008 – Ende 2010	43	413	604.446		

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Sonnenkraft Diex

KÄRNTEN

Project Objectives

Zeitraum	Geplante Schritte	Anzahl Anlagen [Stk.]	PV-Leistung Installiert [kWp]	El. Energie Prod./Red. [kWh]	El. Energie Import [kWh]	Autonomie Grad [%]
2010	Kumuliert	54	459	652.613	1.772.037	26,9
	PV-Anlagen bis 5 kWp	32	125	132.866		
	PV-Anlagen Bauland Süd Ø 5 kWp	10	50	53.146		
	PV-Anlagen Ø 20 kWp	13	260	276.361		
	PV-Anlagen Ø 30 kWp	3	90	95.663		
	Fassadenintegrierte PV-Anlagen	1	5	4.200		
	PV- Straßenleuchten Diex	22		1.210		
	Energieeinsparkampagne			121.233		
	PV-Energielehrpfad Diex					
	Σ 2011 – Ende 2015	59	530	684.679		

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Sonnenkraft Diex

KÄRNTEN

Project Objectives

Zeitraum	Geplante Schritte	Anzahl Anlagen [Stk.]	PV-Leistung Installiert [kWp]	El. Energie Prod./Red. [kWh]	El. Energie Import [kWh]	Autonomie Grad [%]
2015	Kumuliert	113	989	1.337.292	1.087.358	55,2
	PV-Anlagen bis 5 kWp	25	100	106.293		
	PV-Anlagen Ø 20 kWp	15	300	318.878		
	PV-Anlagen Ø 30 kWp	3	90	95.663		
	Energieeinsparkampagne			121.233		
	Ausbau des el. Netzes					
	Integration Energiespeicher					
	Σ 2016 – Ende 2020	43	490	642.067		

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Sonnenkraft Diex

KÄRNTEN

Project Objectives

Zeitraum	Geplante Schritte	Anzahl Anlagen [Stk.]	PV-Leistung Installiert [kWp]	El. Energie Prod./Red. [kWh]	El. Energie Import [kWh]	Autonomie Grad [%]
2020	Kumuliert	156	1.479	1.979.359	445.291	81,6
	PV-Anlagen bis 5 kWp	12	45	47.832		
	PV-Anlagen Ø 20 kWp	10	200	212.585		
	PV-Anlagen Ø 30 kWp	2	60	63.776		
	Energieeinsparkampagne			121.233		
	Σ 2021 – Ende 2025	24	305	445.425		
2025	Kumuliert	180	1.784	2.424.784	-134	100

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Sonnenkraft Diex

KÄRNTEN

Project Objectives

- Guidelines for development plans for solar living environments
  - Compilation of energy characteristics relating to m_ of building land and type of development

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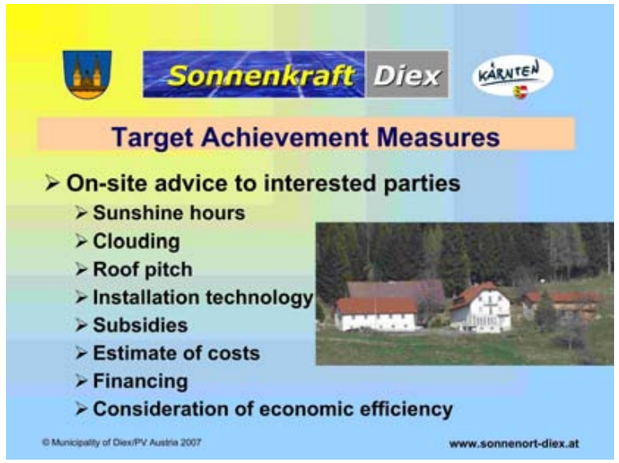
CLIMATE WARNING AND ADAPTATION TO CLIMATE CHANGE IN THE ALPINE REGION

Stefan Krapesch, Fallent Gerhard, Rennöckl Sandra



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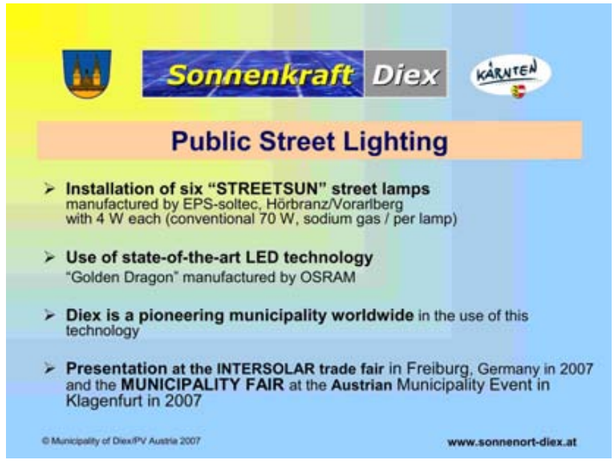

ENERGY TURNAROUND. DREAM OR ATTAINABLE VISION?

Karlheinz Rauh

ENERGIE WENDE OBERLAND

ENERGY TURNAROUND

Dream or Attainable Vision?

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ENERGIE WENDE OBERLAND

4th World Climate Report

IPPC

70% increase in greenhouse gases since 1970

One of the "motors" driving climate change is our current form of energy supply

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ENERGIE WENDE OBERLAND

ENERGY

Fossil Fuels	Renewable Energy Sources
Oil	Hydro
Gas	Wind
Nuclear	Solar
Coal	Biomass

Properties

• cause residues • finite • unevenly distributed	• do not cause residues • no time limit • available everywhere

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ENERGIE WENDE OBERLAND

Part 1

What does Energy Turnaround Mean for the Administrative Districts of Bad Tölz-Wolfratshausen and Miesbach?

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ENERGIE WENDE OBERLAND

Administrative Districts of Bad Tölz-Wolfratshausen and Miesbach, 220,000 inhabitants

Surface area of 2,000 km², 52% forested
Livestock farming, virtually no arable farming
Region with high incident solar radiation
Located in a molasse basin
No industry with a high energy demand
Tourism of great importance

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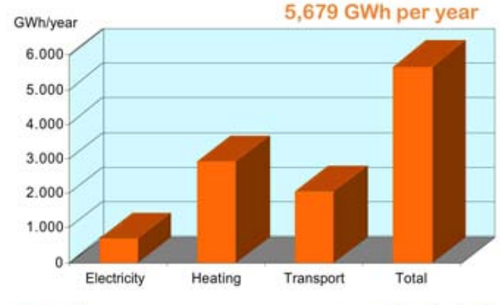
ENERGIE WENDE OBERLAND

Energy Consumption

for the Administrative Districts of Bad-Tölz - Wolfratshausen and Miesbach (situation as at 2004)

5,679 GWh per year



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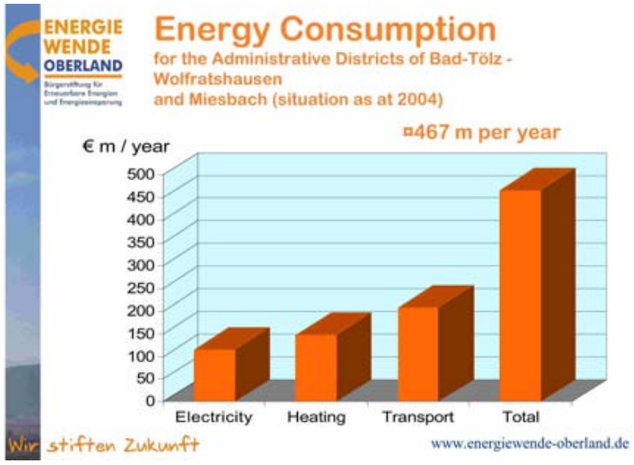

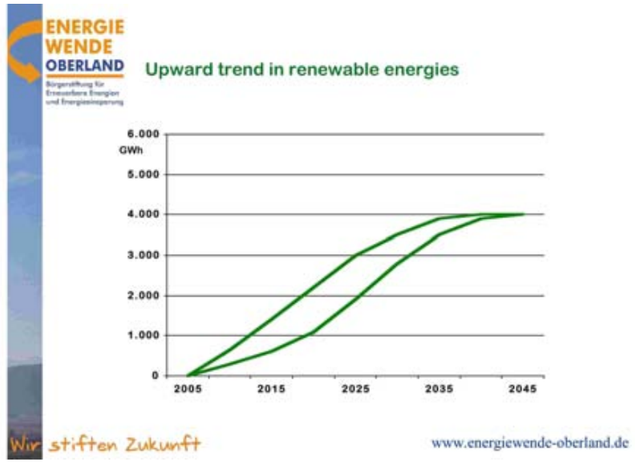

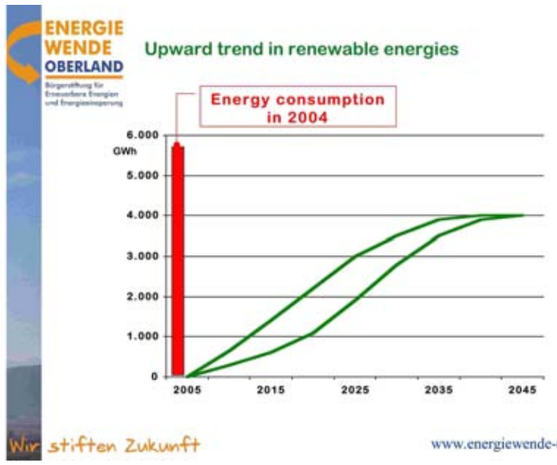

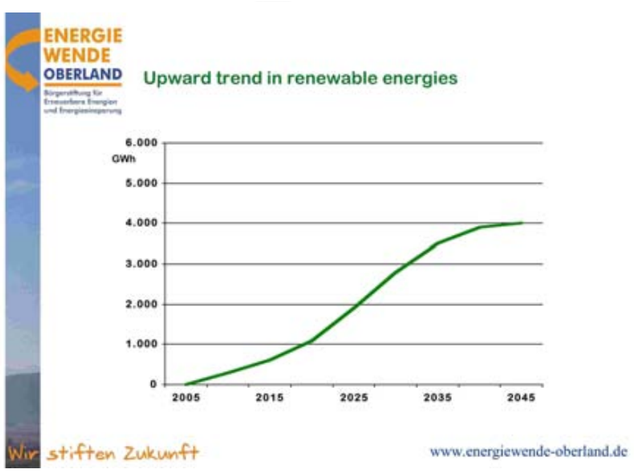

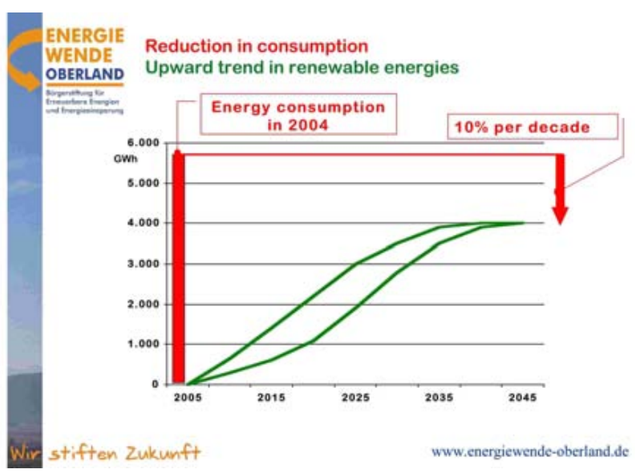

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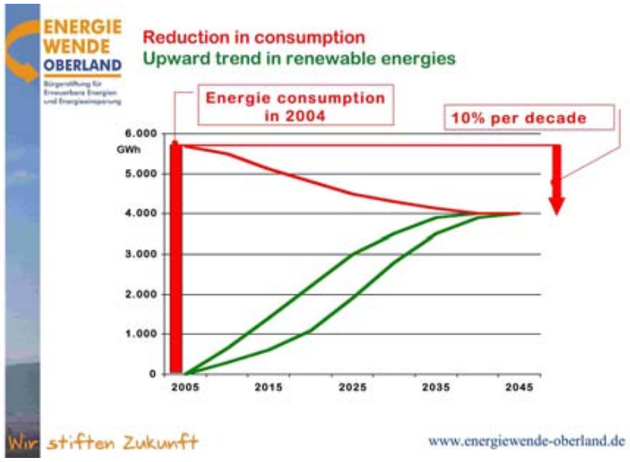

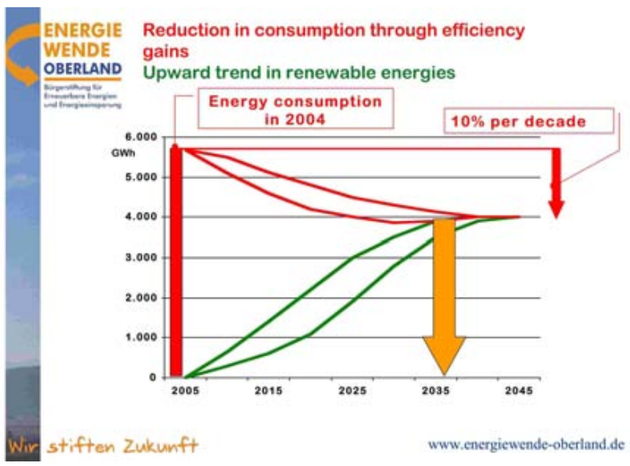

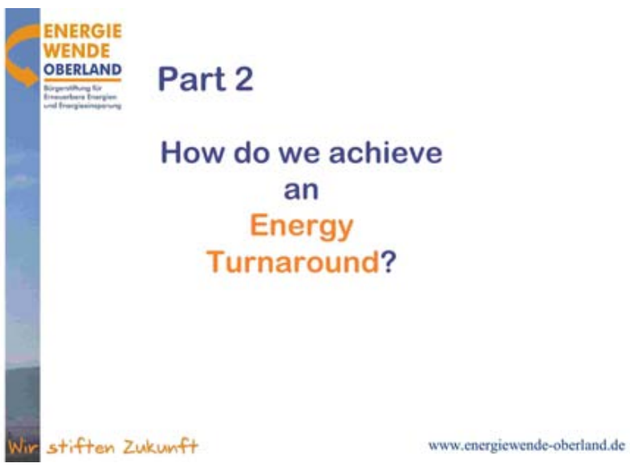

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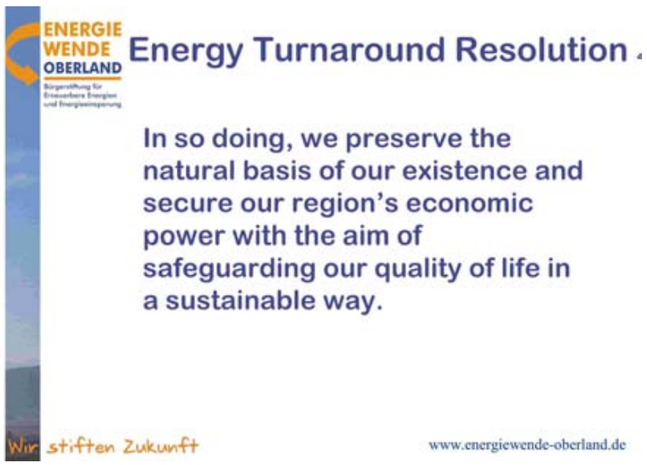

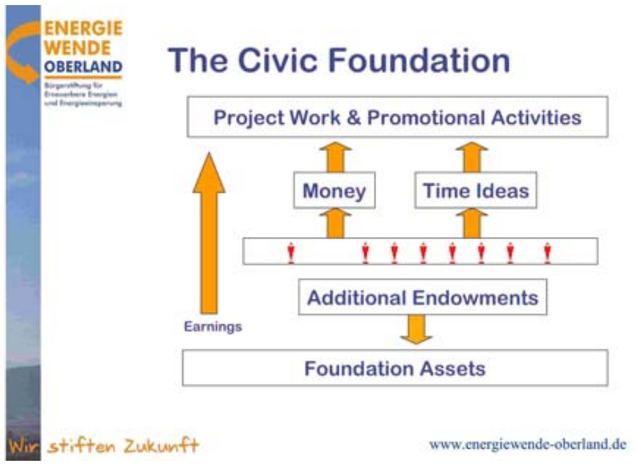

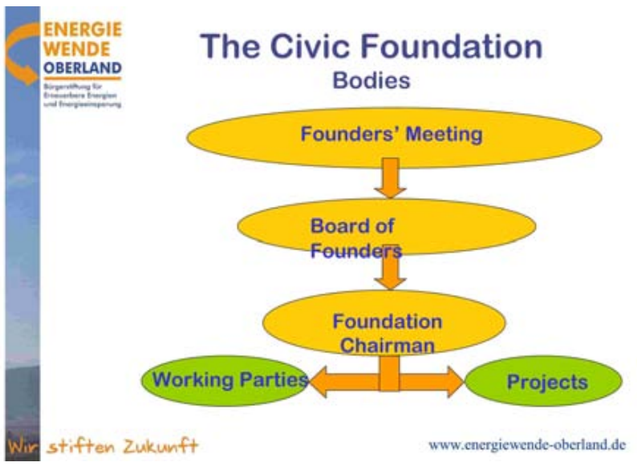

ENERGY TURNAROUND. DREAM OR ATTAINABLE VISION?

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ENERGIE WENDE OBERLAND

ENERGY supply of tomorrow

- Use less energy
  - Sufficiency
- Technical innovations/setting the organisational course
  - Efficiency
- Banking on renewable energies
  - Substitution

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ENERGIE WENDE OBERLAND

Our Economic Projects

Bioenergie Oberland GmbH

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ENERGIE WENDE OBERLAND

Our Working Parties

- Working Party on EnergySavings
- Working Party on Renewable Resources
  in solid, gaseous and liquid form
- Working Party on SolarEnergy
  with solar electricity and solar heating
- Working Party on GeoThermal Energy
  - Near-surface geothermal energy
  - Geothermal energy at depth
- Working Party on Mobility

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ENERGIE WENDE OBERLAND

Our Citizens' Solar Roof Panels

Wackersberg

Miesbach

Bad Tölz

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ENERGIE WENDE OBERLAND

Our Ideas-based Projects

PR work

e.g. Participation at trade fairs:

- Bad Tölz 07 Environment Trade Fair
- Miesbach Trade Show

Events:

- Solar energy event
- Open stove-door days
- Ways out of the energy trap
- Participation at farm festivals and eco-markets
- Energy symposium

Flyers, brochures, presentation boards

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ENERGIE WENDE OBERLAND

How we're networking…

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ENERGY TURNAROUND. DREAM OR ATTAINABLE VISION?

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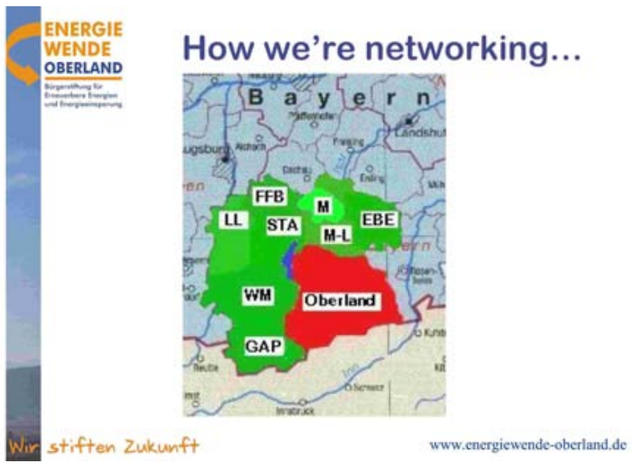


POSTERS

Good Practices

Monitoring methods on glacier's dynamics

Mitigating and adapting to climate change in the Alpine Space

Workshop on Good Practices of regional and local Authorities organized by the French Presidency of the Alpine Convention with the suport of the Permanent Secretariat

Bozen-Bolzano, 5-6 December 2007

Alpine Space Programme
Interreg III B

2.2 | Alps Mobility II

Alps Mobility II – Alpine Pearls

A network of Alpine holiday resorts with environmentally sound mobility.

transport

Lead partner
A Bundesministerium für Land- und Forstwirtschaft, Umwelt und Wasserwirtschaft

Other partners
A Land Salzburg
I Provincia Autonoma di Bolzano/Bozen
D Bayerisches Staatsministerium für Umwelt, Gesundheit und Verbraucherschutz
A Bundesministerium für Verkehr, Innovation und Technologie
A Bundesministerium für Wirtschaft und Arbeit
F Commune de Morzine-Avoriaz
F Commune des Gets
A Gemeinde Werfenweng
I Provincia di Belluno
I Regione Autonoma Friuli Venezia Giulia
I Regione Autonoma Valle d'Aosta
CH Kanton Graubünden
CH Kanton Zürich
CH Interlaken Tourismus

Project website
www.alpsmobility.net

Contact person
Veronika Holzer
Tel +43 (0)1 51522 1210
Fax +43 (0)1 51522 7208
veronika.holzer@lebensministerium.at

Duration
06.2003 – 09.2006

Total budget in EUR
3.216.960

ERDF in EUR
1.486.680

Aim

The sensitive Alpine region, its inhabitants and visitors suffer from the environment and health impacts of transport. Activities for an improvement of the situation are urgently required.
Partners from Germany, France, Italy, Austria and Switzerland therefore have joined forces to develop the transalpine project „Alps Mobility II – Alpine Pearls". Working transnationally with a trans-sector approach, all partners elaborated innovative environmentally benign solutions for soft mobility, car-free tourism and sustainable regional development.

Activities

Since the beginning of the project, the following activities have been carried out:

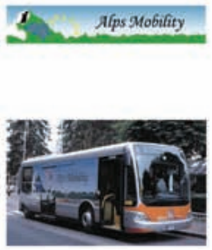
- An implementation study, fixing the details for it's transalpine implementation
- A criteria catalogue fixing the standards for Alpine Pearls in terms of mobility, transport, tourism, environment
- Planning and founding of the transnational association „Alpine Pearls"
- Planning of a sustainable travel chain to the Alps and between the partner regions (the "string of pearls")
- Development and improvement of mobility services and infastructural conditions for the environmentally sound travel chain between the resorts ("Pearls") and their surrounding regions, (e.g. bicycle routes, charter-train and -bus offers)
- Improvement of regional mobility services (e.g. innovative public transport services, promotion of non-motorised transport, use of new technologies etc.) and infrastructural conditions (e.g. traffic-calming measures, improvement of non-motorised transport)
- Development and implementation of a common PR and marketing concept for the tourism product: infrastructure

Outcomes and results

A holiday trip to an "Alpine Pearl" is based on the principle of guaranteed mobility for guests, who stay at an exceptionally beautiful resort – a genuine "pearl" – in the Alps and can rely on convenient arrangements for getting there and back home as well as on good local and excursion transport. The transport provided is supposed to meet every possible requirement, from being convenient, through being absolutely reliable, amusing, enjoyable, innovative and comfortable, to being – naturally – environmentally friendly! Instead of having to make sacrifices, vacationers should be able to enjoy the added value.

After a long preparation and coordination phase, in January 2006 the Association „Alpine Pearls" with 17 members (Pearls) from all involved partner countries was founded. Until the end of 2006, all founding members will fulfill the requested criteria. In the current final phase of the project, the project partners are setting concrete implementation activities (infrastructural measures, in the Alpine Pearls). Furthermore, the Pearls are preparing special „soft mobility offers" (tourism packages) and are still working on the improvement of public transport connections between them.

After the end of the Interreg project, the Alpine Pearls cooperation will continue. The Alpine Pearls will carry out joint marketing activities and work on the further improvement of their product. New members are welcome at any time.



Mitigazione ed adattamento al cambiamento climatico nello Spazio Alpino

Workshop sulle Buone Pratiche degli enti regionali e locali organizzato dalla Presidenza francese della Convenzione delle Alpi in collaborazione col Segretariato Permanente

Bolzano - Bozen, 5-6 Dicembre 2007

Piedi sicuri (safe feet)

This is a venture coordinated by the Youth Policies Project of Trento Municipality which involves numerous services of the local administration, aimed at Trento's primary schools for increasing the independence of children in their 'commute' between home and school. It proposes for children to go to school on their own or, in the case of small children being accompanied, proposes not using or limiting the use of private vehicles, giving preference to sustainable means of transport: on foot, by bicycle or in a bus.
"Safe feet" is a fun, healthy, ecological and economic way for: reducing vehicle traffic and air pollution near schools, contributing to improve the quality of life in urban settings; give children back the possibility of feeling independent and responsible outside their own homes; helping them learn about their district and the rules for getting around safely.
http://trentogiovani.it/cittabambini/apiedisicuri.html

Ecomobile

This project, shared between UniCredit Banca and Trento Municipality, aims at facilitating light mobility systems i.e. mobility systems that favour non-polluting, quiet and non-invasive means of transport.
The free loan of "Eco Mobile" electric cars is mainly aimed at access to the ZTL (area of traffic limitations) and therefore supplementing the issue of temporary permits by the local police normally granted for loading/unloading heavy materials or for transporting the elderly or people needing assistance.
In addition to tangibly reducing a percentage of polluting traffic in the historic centre of town, this project also introduces the message of the need to regulate entry to the ZTL according to the principle of maximum respect for the historic setting.
However, apart from offering a broader timescale for issuing temporary permits (the temporary permits are issued until 3 p.m. in line with loading and unloading times, while the Ecomobile service is active until 7 p.m.), this service also aims at giving more extensive answers to the question of urban mobility.
Specifically, the service is also for pregnant women and for people accompanying children up to one year of age (therefore irrespective of loading and unloading operations), for retailers and operators within the ZTL for their deliveries and bringing in their own supplies, for Associations, Agencies or organisations when cultural, sports or recreational events have been scheduled on the whole urban area and for the time the event lasts (therefore regardless of the time limits set out by the regulations), with a number of vehicles to be established each time in relation to the needs of the event and, obviously, of continuity of the Service.
As was said, the use of the Service vehicles, given their low environmental impact is mainly aimed at access to the ZTL of Trento Municipality (historic centre), but is also extended to the whole municipal territory. Furthermore, in case of needing to park outside the ZTL, the vehicles of the "Eco Mobile" Service can park for free even in spaces that normally apply a fee (blue parking).
http://www.trentinomobilita.it/ecomobile.htm

Good Practices
Provincia Autonoma di Trento

Attività nel campo dell'edilizia sostenibile

La provincia di Trento è situata nel nord-est dell'Italia, ha un'estensione di circa 6.200 Km quadrati, per il 70% sopra i 1.000 metri sul livello del mare,la cui superfice è ricoperta per più del 50% da boschi. La popolazione ammonta a circa 480.000 abitanti, suddivisi in 223 Comuni molti dei quali di piccola e piccolissima dimensione.

Politicamente, la Provincia di Trento gode di una particolare forma di autonomia legislativa, amministrativa e finanziaria, ottenuta attraverso successive evoluzioni dello Statuto di Autonomia, a partire dal 1948 ad oggi.

Il grande patrimonio del territorio è costituito dal patrimonio ambientale, sapientemente preservato e valorizzato, che alimenta un flusso turistico di rilevante dimensione. Da un punto di vista energetico, la provincia è caratterizzata dall'abbondante produzione di energia idroelettrica, circa 4 TWh/anno, di cui una buona parte viene esportata fuori provincia.

A partire da questo patrimonio idroelettrico e dalle particolari competenze riconosciute nel settore, la Provincia Autonoma di Trento, in seguito più brevemente PAT, ha costruito fin dal 1980 una politica complessiva dell'energia, mirata in particolare al settore delle fonti rinnovabili e del risparmio energetico.

In circa 25 anni, utilizzando lo strumento della Legge Provinciale 29/05/80 n. 14, sono stati realizzati circa 30.000 progetti e interventi, numero ragguardevole di iniziative rispetto alla dimensione provinciale, 1 ogni 16 abitanti e 1 ogni 6 famiglie, contribuendo alla diffusione di una forte consapevolezza nei confronti dell'energia. Ciò ha fatto si che progettisti, installatori e aziende maturassero un know-how fra i più avanzati e che si sviluppasse un vivace settore economico-produttivo, coagulatosi recentemente nel Distretto tecnologico per l'energia e l'ambiente con sede a Rovereto.

E' dal 1998 in avanti, le più recenti edizioni del Piano energetico-ambientale provinciale assumono come obiettivo principale la riduzione dei gas serra; in tale contesto, l'attività di incentivazione viene particolarmente intensificata e gli interventi diventano numerosissimi (vedi grafico successivo). In particolare, con il Piano del 2003, vengono fissati precisi obiettivi in termini di riduzione delle emissioni di CO2, 300.000 t. al 2012, e viene stabilito di realizzare tali obiettivi pressocchè esclusivamente con azioni di efficienza energetica e di sfruttamento delle fonti rinnovabili

Un capitolo particolare dell'esperienza trentina è rappresentato dalle azioni che si sono realizzate nel settore dell'edilizia e delle attività ad esse connesse in termini di acquisizioni culturali, formazione tecnica, concretizzazione di esperienze avanzate.

Dal punto di vista culturale, va sicuramente sottolineata la pluriennale collaborazione con il prof. Los e l'arch. Pulitzer che ha portato alla pubblicazione della prima "Guida alla progettazione bioclimatica nel Trentino", seguita dal volume "I caratteri ambientali dell'architettura – Guida alla progettazione sostenibile in Trentino". Contestualmente, sono stati progettati e realizzati alcuni interventi dimostrativi di edilizia abitativa e sportiva.

Attengono a questo filone culturale anche le attività legate all'implementazione dei criteri energetici nei piani urbanistici, primo fra tutti il PRG di Cavalese, al quale più recentemente si ricollegano le azioni per l'incentivazione della bioedilizia realizzate nei comuni di Rovereto, Trento e, a seguire, in alcuni altri.

Alla fine degli anni '90, mettendo a frutto le esperienze realizzate, è stato varato il concetto di "Edificio a basso consumo e a basso impatto ambientale" che ha costituito in seguito un modello per tutta una serie di ulteriori esperienze in campo nazionale. L'edificio a basso consumo ed a basso impatto ambientale rappresenta il primo tentativo in Italia di stabilire limiti più severi per i consumi energetici degli edifici, introducendo altresì i primi elementi per una riduzione dell'impatto ambientale complessivo quali, ad esempio, il riciclaggio dell'acqua piovana, l'uso di materiali rinnovabili, ecc..

In termini di risparmio, il limite tecnico individuato con la consulenza dell'Università di Trento (55 kWh/mq) consente di consumare il 50% in meno rispetto ad un edificio costruito secondo le leggi vigenti. Il grafico successivo mostra il numero di edifici a basso consumo finanziati dal 2000 ad oggi; grazie all'ottimo favore incontrato, lo standard del basso consumo è diventato tecnicamente e socialmente condiviso e da standard volontario potrebbe presto diventare norma obbligatoria.

Un altro passo avanti sulla strada della consapevolezza energetica e ambientale è rappresentato dall'approvazione, da parte della Provincia, delle norme tecniche per la certificazione energetica e la certificazione di sostenibilità ambientale degli edifici in vista della prossima approvazione di una legge provinciale che introduce formalmente tali opportunità.

Trento, giugno 2005
arch. Giacomo Carlino

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Workshop sulle Buone Pratiche degli enti regionali e locali organizzato dalla Presidenza francese della Convenzione delle Alpi in collaborazione col Segretariato Permanente

Bolzano - Bozen, 5-6 Dicembre 2007

GOOD PRACTICES
AUTONOMOUS PROVINCE OF TRENTO
"Green architecture" actions

Trento Province is located in the north-east of Italy, covers an area of approximately 6,200km^2, 70% of which is more than 1000 m above sea level, and 50% of which is forested. The population numbers 480,000 inhabitants living in 223 Municipalities, many of which are either small or extremely small.

Politically, Trento Province has a special form of legislative, administrative and financial autonomy gained by subsequent stages in the Statute of Autonomy starting from 1948 through to the present date.

The wealth of this territory lies in its environmental features, carefully preserved and enhanced, which draws in large numbers of tourists. In terms of energy supplies, the province generates abundant quantities of hydroelectric power – about 4 TWh/year – a large amount of which is exported through the national grid outside the Trento territory.

On the back of this "wealth" of hydroelectric power and the specific knowledge in the sector, the *Provincia Autonoma di Trento* (PAT) has been building up a general energy policy since 1980, focusing particularly on the sector of renewable sources and energy saving.

In the last 25 years, backed by Provincial Law no. 14 of 29/05/80, some 30,000 schemes and projects have been activated, a huge number considering the size of the territory and which translates into 1 for every 16 inhabitants or 1 every 6 families. This has helped make people strongly aware of energy and its sources. It has also ensured that designers, installers and companies have amassed some of the most advanced knowledge available and developed a buoyant industry in this sector, which has recently coalesced in the Technological District for energy and the environment in Rovereto.

Since 1998, the main goal of the most recent versions of the Energy-Environment Plan for the Province has been to reduce 'greenhouse gases': incentives schemes have been fortified resulting in a multiplying in the number of actions put in place (see graph). The 2003 Plan set out the specific objective of reducing Carbon Dioxide emissions to 300,000 tons by 2012, and stated that this goal would be achieved almost solely by means of energy efficiency and the use of renewable sources.

A particular chapter in Trento's eco-history has been in the construction industry and related activities in terms of expanding awareness, technical training and applying the advance experience accrued.

From the perspective of raising awareness, there is definitely to be underscored the many years of work done with Professor Los and the architect Pulitzer, which led to publishing the first "Guide to bioclimatic design in Trentino", followed by the book "The environmental features of architecture – Guide to sustainable design in Trentino". At the same time demos of applications in residential and sports buildings were also designed and developed.

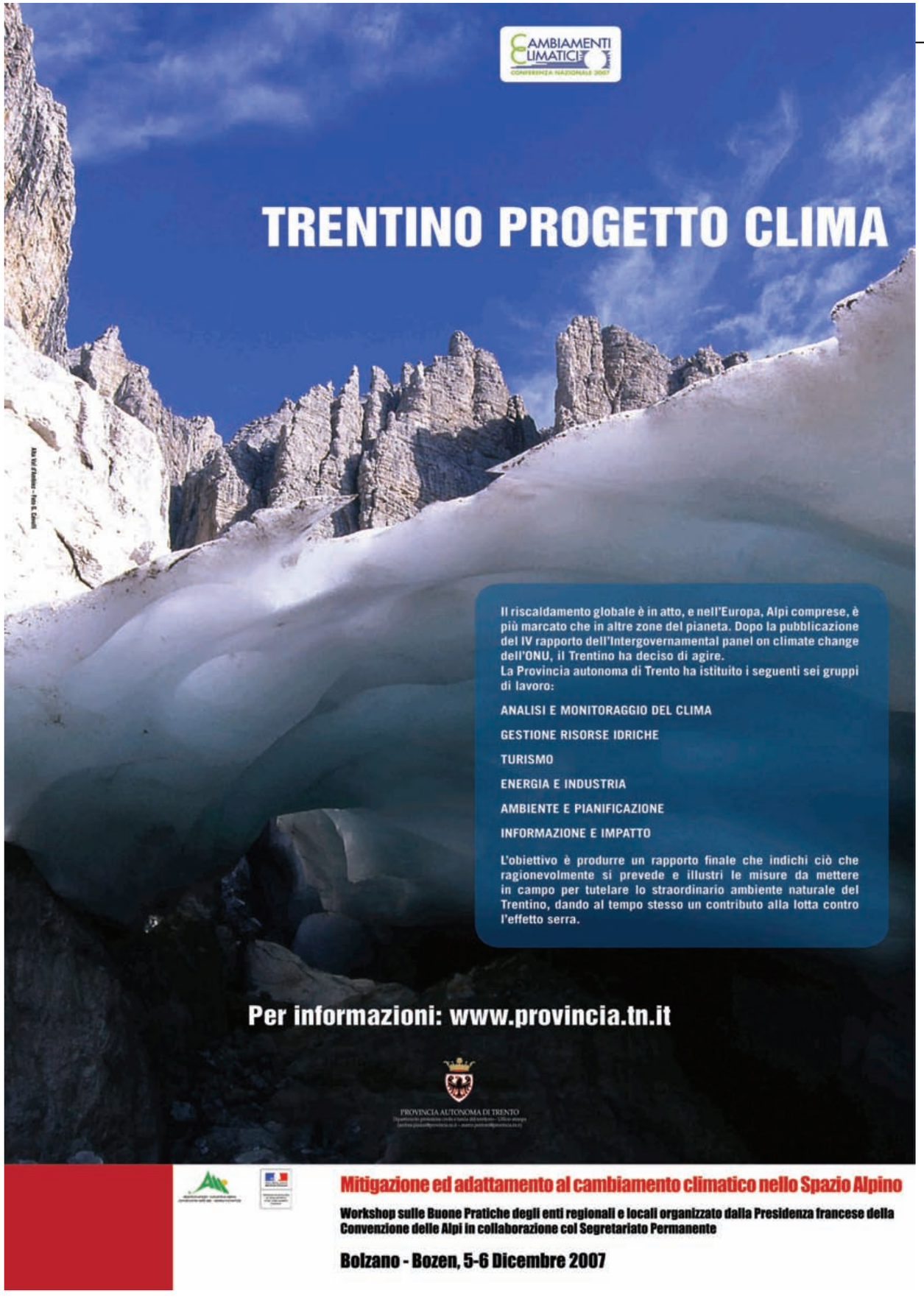
Forming part of this awareness orientation is also the work for applying energy criteria to town planning schemes, first of all the Urban General Plan for Cavalese, to which has more recently been connected the actions for giving incentives for biobuilding developments in the municipalities of Rovereto, Trento and, subsequently, a few others.

At the end of the 90s, putting the accrued experience to use, the concept was launched of the "Low energy consumption and low environmental impact building" which then formed a benchmark for a whole series of further experiences across the country. Creating low energy consumption and low environmental impact buildings is a first step in Italy for laying down stricter regulations for energy use in buildings, and also introducing the first elements for a reduction of overall environmental impact, such as the recycling of rainwater, the use of renewable materials, etc.

In terms of saving, the technical limit ascertained with the help of Trento University (55kWh/m^2) makes it possible to use 50% less power than conventional buildings constructed to present-day requirements. The graph shows the number of low-energy consumption buildings funded since 2000 to the present date; consensus by the population has meant that the low energy standard has become technically and socially acceptable and, from being a voluntary standard could, soon, become mandatory.

Another step forward towards awareness of energy and the environment has been the approval by the Province of technical standards for energy certificates and environmental sustainability certificates for buildings, in anticipation of the imminent approval of a Provincial law formally introducing these possibilities.

Trento, June 2005
Architect Giacomo Carlino



TRENTINO CLIMATE PROJECT

Global warming is already happening. And in Europe – Alps included – it is more noticeable than in other areas on the planet. After publishing the 4th report from the UNO intergovernmental panel on climate change, the Trentino area has decided to act.
The Autonomous Province of Trento has set up the following six working groups:

CLIMATE ANALYSIS AND MONITORING
MANAGEMENT OF WATER RESOURCES
TOURISM
ENERGY AND INDUSTRY
ENVIRONMENT AND PLANNING
INFORMATION AND IMPACT

The goal is to produce a final report stating what can be reasonably forecast and to describe the measures to put in place for protecting the exceptional natural environment of Trentino, while also helping to take action against the greenhouse effect.

For info: www. provincia.tn.it

Good Practices

Diffusione dei sistemi di gestione ambientale negli enti locali, nelle aziende artigiane e negli Istituti scolastici della Provincia di Trento.

1. Introduzione all'aspetto legislativo e al contesto locale delle Buone pratiche attuate
Attore: Provincia Autonoma di Trento – Dipartimento Urbanistica e Ambiente
Aspetti legislativi rilevanti:
- Art. 12 bis della legge provinciale 29 agosto 1988, n. 28 "*Disciplina della valutazione dell'impatto ambientale e ulteriori norme di tutela ambientale*".
- La Mozione n. 1 di data 5 febbraio 2004 approvata dal Consiglio della Provincia Autonoma di Trento sulla diffusione dei sistemi di gestione ambientale e dei sistemi di certificazione di qualità.
- Deliberazione della Giunta Provinciale n. 493 del 18 marzo 2005, "*Approvazione dei criteri e delle modalità di gestione del fondo per le iniziative e gli interventi di promozione dello sviluppo sostenibile dell'ambiente previsto dall'art. 12 – bis della L.P. 29 agosto 1988 n. 28 come introdotto dall'art. 58 della L.P. 19 febbraio 2002 n. 1*".
- Due bandi per lo sviluppo di certificazioni ambientali di processo – ISO 14001 ed EMAS - in Enti pubblici della Provincia Autonoma di Trento
Deliberazione della Giunta Provinciale n. 1589, 29 luglio 2005
Deliberazione della Giunta Provinciale n. 967, 19 maggio 2006.
- Protocollo d'intesa tra la Provincia autonoma di Trento e l'Associazione Artigiani e Piccole Imprese della provincia di Trento per la promozione e diffusione di sistemi di gestione ambientale - Deliberazione della Giunta Provinciale n. 2156, 5 ottobre 2007.
Budget: circa 4.000.000,00 ¤

2. Obiettivi
Dotare i soggetti interessati dall'intervento di un Sistema di Gestione Ambientale da certificare secondo la normativa internazionale ISO 14001 o il Regolamento comunitario 761/2001 EMAS (Eco-Management and Audit Scheme).
La certificazione ambientale è uno strumento volontario di autocontrollo e responsabilizzazione adottabile da tutte le organizzazioni che intendano perseguire un miglioramento continuo delle proprie performance ambientali. Il soggetto che avvia il processo di certificazione si impegna non solo ad osservare le disposizioni di legge in materia ma anche a migliorare le proprie prestazioni e la trasparenza verso l'esterno, aumentando l'efficienza ambientale.
Questo percorso porta quindi le organizzazioni coinvolte ad analizzare e determinare i propri impatti ambientali e di conseguenza a dotarsi di obiettivi misurabili di miglioramento ambientale attraverso procedure definite.
Uno dei settori d'intervento, condiviso da tutti i soggetti coinvolti, è la diminuzione degli impatti ambientali che incidono sui cambiamenti climatici.

3. Attività
Dal 2004 ad oggi, soprattutto attraverso i due bandi emanati rispettivamente nel 2005 e nel 2006, si è arrivati ad attivare in provincia di Trento il processo di certificazione ambientale in 136 Comuni su un totale di 223, in 10 aziende di gestione dei servizi pubblici quali la raccolta rifiuti, l'erogazione di acqua ed energia elettrica, in 6 Comprensori (Bassa Valsugana e Tesino, Val di Fiemme, Val di Non, Valli Giudicarie, Vallagarina e Primiero) e in due Enti Parco, Paneveggio – Pale di San Martino e Adamello-Brenta.
Il Protocollo d'Intesa con l'Associazione Artigiani ha aggiunto 5 aziende artigiane che operano in settori particolarmente impattanti sull'ambiente per le quali una corretta gestione ambientale e una riduzione della loro incidenza sull'ambiente naturale determina un importante contributo nel preservare il territorio e nel ridurre l'influenza sui cambiamenti climatici, il progetto prevede anche la costituzione di un tavolo di semplificazione amministrativo-normativa che agevoli le aziende che intraprendono questo tipo di percorso virtuoso e ambientalmente attento.
Il progetto "EMAS va a Scuola", da ultimo, ha aperto la strada all'applicazione di questo strumento di gestione ambientale anche agli Istituti Scolastici, avvicinando le nuove generazioni alle tematiche ambientali e agli strumenti per ridurre l'impatto dell'uomo sulla natura e dando loro strumenti concreti che possano applicare anche nel quotidiano per una gestione sostenibile dell'ambiente.

4. Principali risultati ed effetti
Il miglioramento della qualità ambientale attraverso l'uso di strumenti volontari, quali la certificazione/registrazione ambientale, sta interessando il territorio trentino non solo attraverso la partecipazione del mondo delle aziende, sensibili a portare un contributo alla soluzione delle problematiche ambientali, ma anche delle "organizzazioni" pubbliche responsabili della gestione del territorio, della sua pianificazione e preservazione, nonché della scuola, interlocutore privilegiato per agevolare una sensibilità ambientale e nuovi modelli comportamentali orientati verso una sostenibilità degli stili di vita e di sviluppo che gli studenti porteranno nei loro futuri ambiti professionali e attività sociali, quali famiglia e tempo libero.
Il risultato di diffondere in maniera capillare i sistemi di gestione ambientale applicandoli a soggetti diversi che possano interagire insieme per tutelare un unico territorio è stato raggiunto, gli effetti si potranno riscontrare nel tempo, nel momento in cui i sistemi saranno attuati nella loro interezza e apporteranno benefici ambientali condivisi e misurabili.

5. Rilevanza per le Alpi
All'interno dei programmi ambientali di ciascun ente, azienda o istituto scolastico si è dato ampio spazio alla risoluzione delle problematiche inerenti la riduzione dei gas climalteranti derivati dalle emissioni in atmosfera, alla tutela delle biodiversità territoriali proprie e peculiari dell'arco alpino, alla tutela della risorsa idrica, alla riduzione dei consumi di energia elettrica, all'utilizzo di fonti di energia alternativa, nell'ottica di ridurre la pressione antropica sull'ambiente naturale, causa dei recenti cambiamenti climatici.
Tali problematiche, considerate all'interno di un sistema di gestione ambientale, trovano una soluzione integrata e misurabile nel tempo.

6. Elementi chiave di successo
L'applicazione di un sistema di gestione ambientale da parte di un ente locale passa necessariamente attraverso il miglioramento dell'efficienza di pianificazione, tutela e gestione dell'intero patrimonio ambientale e dell'efficacia delle azioni rivolte al controllo e alla gestione degli aspetti ambientali, aumentando in misura sempre maggiore la qualità dell'ambiente "locale". Non solo, porta anche alla diffusione di una nuova **cultura ambientale** che promuove azioni per incrementare la tutela dell'ambiente e la consapevolezza delle risorse naturali, stimolando un processo di crescita collettiva.
I cambiamenti verso uno stile di vita più sostenibile rientrano intatti nella comunicazione ai dipendenti e ai cittadini promossa dai sistemi di gestione ambientale, affiancata da numerosi progetti che tentano di ridurre l'utilizzo della risorsa idrica e dell'energia elettrica, insegnando ai cittadini una serie di nuove pratiche da applicare nel quotidiano.
Anche e soprattutto il progetto "EMAS va a Scuola..." può, da una parte lavorare sulla diminuzione dell'impatto ambientale dell'edificio scolastico, e dall'altra veicolare una serie di approfondimenti ambientali a studenti e professori, integrando le proposte didattiche offerte solitamente dalla scuola con argomenti specifici sulla tutela ambientale, così attuali ed importanti oggi.

Mitigazione ed adattamento al cambiamento climatico nello Spazio Alpino

Workshop sulle Buone Pratiche degli enti regionali e locali organizzato dalla Presidenza francese della Convenzione delle Alpi in collaborazione col Segretariato Permanente

Bolzano - Bozen, 5-6 Dicembre 2007

GOOD PRACTICES
SPREAD OF ENVIRONMENTAL MANAGEMENT SYSTEMS IN LOCAL AUTHORITIES, MANUFACTURING COMPANIES AND SCHOOLS IN TRENTO PROVINCE

1. Introduction to the legislative aspect and the local context of Good Practices applied
Player: Autonomous Province of Trento – Urban Planning and Environment Department
Important legislative aspects:
- Art. 12(ii) of Provincial Law no. 28 of 29 August 1988 "*Discipline for the evaluation of environmental impact and further regulations for environmental protection*"
- Motion no. 1 dated 5 February 2004 approved by the Council of the Autonomous Province of Trento on extending environmental management systems and quality certificate systems.
- Resolution by the Provincial Council no. 493 of 18 March 2005 "*Approval for the criteria and methods for managing the fund for projects and schemes promoting the sustainable development of the environment as required by Article 12(ii) of Provincial Law no. 28 of 29/08/88 and introduced by Article 58 of Provincial Law no. 1 of 19/02/2002*".
- Two notices for the development of environmental process certificates – ISO 14001 and EMAS – among public authorities of the Autonomous Province of Trento
Resolution of the Provincial Council no. 1589, 29 July 2005
Resolution of the Provincial Council no. 967, 19 May 2006.
- Protocol of understanding between Autonomous Province of Trento and the Association of Manufacturers and Small Businesses in the province of Trento for promoting and extending environmental management systems – Resolution of the Provincial Council no. 2156, 5 October 2007.
Budget: about ¤4,000,000.00

2. Objectives
Provide the subjects concerned by the project with an Environmental Management System for certifying according to the international standard ISO 14001 or the European Community Regulation 761/2001 EMAS (Eco-Management and Audit Scheme).
Environmental certificates are a voluntary system of self-monitoring and self-responsibility that can be adopted by all organisations intending to pursue an ongoing improvement of their environmental performance.
Subjects embarking on the certification process undertake not only to comply with the law in these areas but also to improve their performance and transparency to the outside world, increasing their environmental efficiency.
This route therefore leads the organisations involved towards analysing and determining their own environmental impacts and, as a result, to set out environment improvement objectives measurable by means of defined procedures.
One of the sectors for action, shared by all the subjects involved, is the reduction of environmental impact that affects climate changes.

3. Activities
Since 2004 to the present date, the two notices issued in 2005 and 2006 have led to activating, in the Trento Province, the process for environmental certification in 136 Municipalities out of a total of 223, in 20 companies operating public services such as waste collection, water and electricity distribution, in 6 Districts (Lower Valsugana and Tesino, Val di Fiemme, Val di Non, Valli Giudicarie, Vallagarina and Primiero) and in two Park Authorities of the province, Paneveggio – Pale di San Martino and Adamello-Brenta.

The Protocol of Understanding with the Manufacturers' Association has added 5 manufacturing companies working in sectors with a particularly high impact on the environment, for which correct environmental management and a reduction in their effect on the natural environment means an important contribution to preserving the territory and reducing their influence of climate change.
The project also includes the instituting of a table for administrative-regulatory simplification which will help companies taking this type of 'virtuous' and environmentally-aware direction.
Lastly, the "EMAS goes to School" project has opened the way to applying this environmental management tool also in Schools, making new generations aware of environmental topics and the means for reducing Man's impact on nature and giving them tangible systems that can even be applied in their everyday lives for a sustainable management of the environment.

4. Main results and effects

The use of voluntary means, such as environmental certification/registration, to improve environmental quality is involving the Trento territory not only through the participation of the world of businesses (which are eager to offer solutions to environmental problems), but also the public "organisations" responsible for the management of the territory, its planning and preservation. It is also being applied to schools, a particularly fertile ground for raising environmental awareness and establishing new models of behaviour for sustainability in lifestyles and development which pupils will take with them into their future careers and to their families and leisure time.
The result of spreading environmental management systems far and wide, applying them to differing subjects that can interact for protecting a single territory has been reached, and the effects will be felt over the years, once the systems are fully activated, and will bring shareable and measurable benefits to the environment.

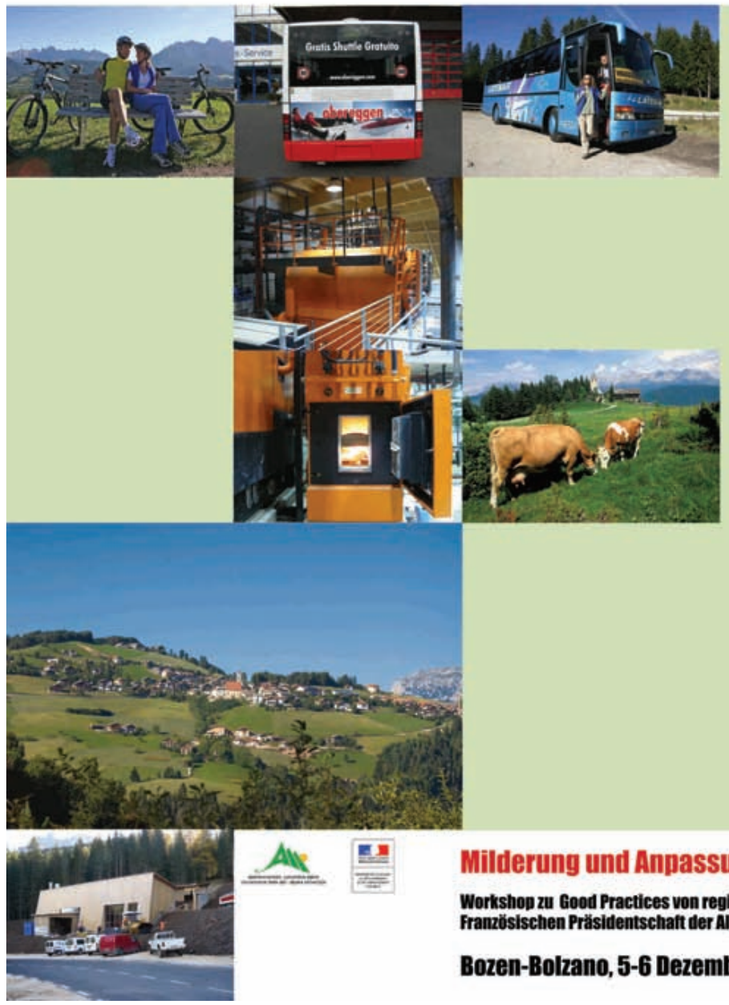
5. Relevance for the Alps

Within the environmental programmes of each agency, company and school, focus has been placed on resolving the problems relating to reducing gases with Global Warming Potential, the protection of biodiversity specific to the Alpine Arc, the safeguarding of water resources, reduction of electricity consumption, and the use of alternative power sources, all with a view to reducing the pressure of Man on the natural environment which has been the cause of recent climate change.
These problems, considered within a system of environmental management, have an integrated solution that can be measured over time.

6. Key elements for success

The applying of an environmental management system by a local body requires an improvement in planning, the protection and management of the entire environmental heritage, and effectiveness in the actions taken to control and manage the environmental aspects, progressively increasing the quality of the "local" environment. It also helps convey a new **environmental philosophy** which promotes actions for increasing the protecting of the environment and the awareness of natural resources, stimulating a process of collective growth.
Changes towards a more sustainable lifestyle form part of communications to employees and citizens promoted by environmental management systems, going alongside numerous projects that aim to reduce the use of water and electricity, teaching the public a series of new practices to apply in their daily lives.
And so, above all, not only does the "EMAS goes to School..." project help to reduce the environmental impact of school buildings, it also conveys a series of environmental topics to pupils and teachers, adding to the curricula normally offered by schools with specific subjects on environmental protection, so important and topical today.

Good Practices der Gemeindeverwaltung Deutschnofen



In der Bevölkerung von Deutschnofen hat sich ein wachsendes Bewusstsein gebildet, um den Klimawandel zu mildern und um die Treibhausgasemissionen zu verringern. Durch eine gemeinsame Zusammenarbeit zwischen der Gemeindeverwaltung und der Bevölkerung wurden in den letzten Jahren besonders folgende Aktionen durchgeführt:

Tourismus:
Beitritt zur Dachorganisation der **Alpine Pearls** mit Sitz in Werffenweng. (erstreckt seine Tätigkeit auf das Gebiet der Alpen)

Energie:
Errichtung von **alternativen Energiequellen** wie z.B. Heizanlagen mit Hackschnitzel, Solarenergie, Heizung von Gebäuden mit Erdwärme.
Es wurden zirka 50 kleinere und mittlere Hackschnitzelanlagen errichtet, um die zerstreuten Weiler und einzelne Gebäude mit erneuerbarer Energie zu versorgen. Auf diese Weise wird die Verbrennung von Biomasse angekurbelt, weil im Gemeindegebiet genügend minderwertige Holzabfälle vorhanden sind.

Wasser:
Sanierung und Neufassung aller bestehenden Trinkwasserquellen im Gemeindegebiet und Vergrößerung der Wasserspeicher, um Wasserverluste zu vermeiden und größere Wasserreserven zu schaffen.

Verkehr:
Einführung eines öffentlichen Busverkehrsnetzes im Stundentakt für das gesamte Eggental gemeinsam mit der Landesverwaltung und **Einführung des Skibusses für die Skigebiete und des Wanderbusses im Gemeindegebiet,** um die Bevölkerung zu ermutigen den Gebrauch des eigenen Fahrzeuges zu reduzieren, weil auf diese Weise eine klimaverträgliche Entwicklung aktiv gestaltet werden kann.

Milderung und Anpassung an Klimaveränderungen im Alpenraum

Workshop zu Good Practices von regionalen und lokalen Gebietskörperschaften organisisiert von der Französischen Präsidentschaft der Alpenkonvention mit der Unterstützung des Ständigen Sekretariats

Bozen-Bolzano, 5-6 Dezember 2007

GOOD PRACTICES OF THE DEUTSCHNOFEN MUNICIPAL ADMINISTRATION

There is a growing awareness among the population of Deutschnofen for the need to mitigate climate change and reduce greenhouse gas emissions. As a result of joint co-operation between the municipal administration and the population, the following campaigns among others have been carried out in recent years:

Tourism:
Membership of the **Alpine Pearls** umbrella organisation with headquarters in Werfenweng (extends its activities to the area of the Alps)

Energy:
Provision of **alternative energy sources** such as heating systems using woodchips, solar energy, heating buildings with geothermal energy
Around fifty small and medium-sized woodchip installations were built to supply the scattered hamlets and individual buildings with renewable energy. The combustion of biomass is stimulated in this way as there is sufficient low-value wood waste in the area covered by the municipality.

Water:
Rehabilitation and recasting of all existing drinking water sources in the municipal area and enlargement of the water reservoirs to prevent water losses and create greater water reserves

Transport:
Launch of a public bus service network operating on an hourly basis for the entire Eggental valley jointly with the provincial administration and **launch of a ski bus service for the skiing areas and a hiking bus in the municipal area** to encourage the population to reduce the use of their own car in order actively to bring about an eco-friendly trend.

Fotomontage Windpark Munderfing, Energiewerkstatt GmbH

Photo montage of the Munderfing Wind Farm, Energiewerkstatt GmbH

GOOD PRACTICES
THE MODULAR ENERGY SYSTEM
MUNICIPALITY OF MUNDERFING

Outline conditions
The Modular Energy System® is a concept designed to convert the energy supply of municipalities over to 100% renewable energy within 30 years. While energy efficiency is the topmost priority, public relations and communication are also one of the focal points. The programme is drawn up the citizens themselves and subsequently adopted by the municipal council. The practical implementation of the individual projects then begins with immediate effect.

Objectives
Leaving aside the environmental aspects (e.g. climate change) the issue of energy supply is increasingly important in the light of recent political developments (e.g. crises and conflicts surroundings resources, the scarcity of resources, soaring prices, billions in costs for the purchase of emission rights as a result of missing the Kyoto targets). The Municipality of Munderfing approached *Energiewerkstatt GmbH* with a request jointly to draw up an energy concept that sees itself as **contributing to climate protection, safeguarding peace, increasing value added and stabilising energy prices**.

Activities
Specifically, the modules are as follows:
Module 1: Survey of energy consumption (spring 2005)
Module 2: Survey of potential savings
Module 3: Survey of the potential of renewable energy
Module 4: Drafting of the programme for “100% renewable energy in 30 years” (spring 2006)
Module 5: Implementation of energy savings
Module 6: Implementation of energy production
PR Module: From start to finish

As the first results provided by the example of the Municipality of Munderfing the figures below show key data for energy consumption and the potential for renewable forms of energy over the period 2005 to 2035. (see ***).

The mainstays and key findings on which the formulation of objectives is based are as follows:
- In 2004 the Municipality (households, farming, trade and municipal facilities) consumed a total of 56 million kWh of energy in the areas of heating, electricity and fuel, spending ¤4 million as a result.
- In 2004 around one fifth of the total energy consumption of the Municipality of Munderfing was covered by renewable forms of energy (result of the 2005 survey).
- In the light of current trends the total energy consumption is expected to grow by 7% between 2005 and 2035.
- According to the estimate made in 2005 the potential for renewable energy that is technically feasible is around twice as great as the current energy consumption.
- In view of the existing potential the objective of meeting the entire energy consumption with renewable forms of energy by 2035 appears feasible.

Results / Modules of the Munderfing Modular Energy System®

Biomass Module:
Munderfing is located on the edge of the Kobernaußerwald forest. Indeed more than half the area covered by the municipality consists of forest (1,760 of 3,110 hectares). By 2035 half the energy consumption is to be covered by biomass. Given the rise in oil prices farmers have also seized their opportunity. Six of them have got together and planned a biomass heating plant to supply the secondary school and residential buildings nearby; the plant was commissioned in autumn 2007. Committed businesses in the town have opted to use pellet heating systems.

Solar Module:
Already by the end of 2006 Munderfing could substantiate through figures that the growth in collector surface area has been accelerated. The Municipality's subsidy statistics for the construction of solar power installations show that twice as many solar installations were built in 2006 than in the previous year. The surface area installed is three times greater.

Wind Module:
The Municipality of Munderfing is characterised by above-average growth rates for both population and jobs. For these and other reasons, an increase in energy consumption is therefore to be expected. That is why the Municipality intends to build nine wind power stations rather than the five originally set out in the energy concept. Wind energy is widely accepted and seen as desirable by the Municipality. The land-use procedure was been initiated following a unanimous decision of the municipal council.

Hydropower Module:
There are six small hydroelectric power plants in the Municipality of Munderfing (total rated output of 142 kW, current energy production of 315,000 kWh). The efficiency of the power plants can be improved through optimisation and, in a first step, production can be increased by around one quarter.

Modules on "Saving Energy" and "Using Energy Efficiently"
The Municipality has appealed to young people in particular and involved schools from the very outset. They are the ones who take the Modular Energy System® home with them. Dedicated secondary school teachers and their pupils helped with the survey and were specially trained for the task. An exhibition on "Saving Energy" went on show as a result.

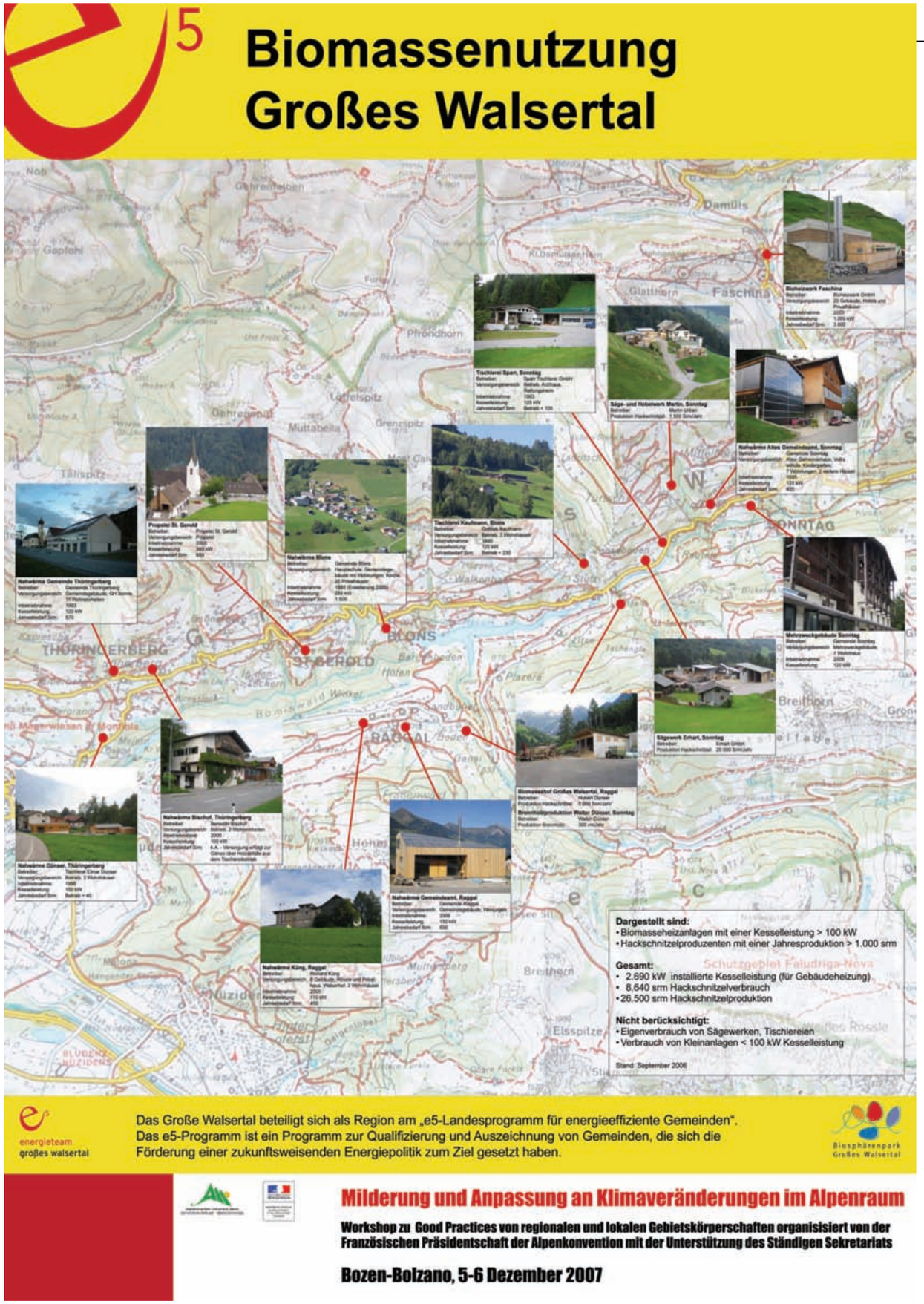
The "Save & Win" project was the culmination. The secondary school's electricity consumption was too high and the reasons had to be found. The lighting was reduced and unnecessary electricity-consuming appliances (stand-by mode) were switched off. The accounts show that the secondary school was able to save around 20% of its electricity consumption, i.e. around ¤1,500. The school and the Municipality shared the savings = money won, leaving ¤750 for school projects, in this case for modular systems with solar cells.

Another example that should be mentioned here is that a plumbing firm, a roofing company and an electrical installation company joined forces to implement the idea of an "energy roof". The plumbing firm in question also specialises in biomass heating systems and is committed to their widespread use at the municipal level.

PR Module
Coverage in the local media helps to publicise the events beyond the borders of the Municipality itself. The Municipality has been invited on several occasions to present the Modular Energy System® as part of various events such as the *Energiekirchtag*, or Energy Fair. The traditional Munderfingen Energy Fair was complemented with the topic of Energy on 23 April 2006. Fifteen exhibitors reached a total of around 8,000 visitors.
Around 30 business entrepreneurs listened to the information provided at the Climate Alliance of Upper Austria on 16 May 2006. Nine businesses have since joined the Climate Alliance. For the Municipality of Munderfing joining the Alliance was essential to securing funds for the Modular Energy System® from the federal province of Upper Austria.

Relevance to the Alps
Any municipality can work with the Modular Energy System, allowing it to switch efficiently to renewable energy. The relevance of energy efficiency and renewable energy to the Alps is obvious (keyword "contribution to climate and environmental protection").

Key elements of success
What makes the Modular Energy System® so special is that the programme is drawn up together with local residents and adopted by the municipal council. The measures are selected by the community's citizens; in Munderfing for instance they range from consultation days to the planning of a biomass heating plant and the planning of a wind farm with nine installations in the MW category. PR work is carried out at the same time, from start to finish. The concept formulation begins with the founding of an energy group, which is kept informed of all the results and represents a key link to the local residents. In Munderfing for example some 50 people in total were motivated to participate – from mayor to teacher, journalist to engineer. It is also important to underscore the integration and active involvement of local businesses – whether for economic or ecological reasons – and of schools. The Modular Energy System does not end with the programme itself, but once the structure for its implementation has been found and finalised. Indeed, it is the be-all and end-all for effectively carrying out the measures needed to achieve the set objectives.



BIOMASS USE GROSSES WALSERTAL

Municipality of Thüringerberg Local Heating System
Operator: Municipality of Thüringerberg
Coverage area: Municipal building, Gasthaus Sonne, 11 housing units
Commissioned: 1993
Boiler output: 120 kW
Annual need, loose m³: 570

Propstei St. Gerold
Operator: Propstei St. Gerold
Coverage area: Priory
Commissioned: 2005
Boiler output: 340 kW
Annual need, loose m³: 950

Blons Local Heating System
Operator: Municipality of Blons
Coverage area: secondary school, municipal building with apartments, church, 25 private houses
Commissioned: 1998 (extended 2005)
Boiler output: 280 kW
Annual need, loose m³:1.500

Tischlerei Kaufmann, Blons
Operator: Gottlieb Kaufmann
Coverage area: joiner's workshop, 3 residential buildings
Commissioned:1990
Boiler output: 120 kW
Annual need, loose m³: workshop + 230

Tischlerei Sparr, Sonntag
Operator: Sparr Tischlerei GmbH
Coverage area: joiner's workshop, doctor's surgery, rescue home
Commissioned: 1993
Boiler output: 125 kW
Annual need, loose m³: workshop + 100

Säge- und Hobelwerk Martin, Sonntag
Operator: Martin Urban
Woodchip production: 1,500 loose m³/year

Altes Gemeindeamt Local Heating System, Sonntag
Operator: Municipality of Sonntag
Coverage area: old municipal house, primary school, kindergarten, 7 apartments, 2 other houses
Commissioned:1995
Boiler output: 125 kW
Annual need, loose m³: 400

Faschina Bio Heating Plant
Operator: Bioheizwerk GmbH
Coverage area: 20 buildings, hotels and private houses
Commissioned: 2003
Boiler output: 1,000 kW
Annual need, loose m³: 3.800

Sonntag Multipurpose Building
Operator: Municipality of Sonntag
Coverage area: multipurpose building, 1 residential building
Commissioned: 2006
Boiler output: 120 kW

Erhart Sawmill, Sonntag
Operator: Erhart GmbH
Woodchip production: 20,000 loose m³/year

Grosses Walsertal Biomass Plant, Raggal
Operator: Hubert Dünser
Woodchip production: 5,000 loose m³/year

Walter Dünser Firewood Production, Sonntag
Operator: Hubert Dünser
Firewood production: 300 loose m³/year

Municipal Office Local Heating System, Raggal
Operator: Municipality of Raggal
Coverage area: Municipal building, apartments
Commissioned: 2006
Boiler output: 150 kW
Annual need, loose m³: 600

Küng Local Heating System, Raggal
Operator: Richard Küng
Coverage area: 6 buildings, Rössle und Privathaus, Walserhof, 3 residential buildings
Commissioned: 2005
Boiler output: 110 kW
Annual need, loose m³: 450

Bischof Local Heating System, Thüringerberg
Operator: Benedikt Bischof
Coverage area: firm, 2 housing units
Commissioned: 2000
Boiler output: 100 kW
Annual need, loose m³: n.s. – supplied entirely from wood waste from the joiner's workshop

Dünser Local Heating System, Thüringerberg
Operator: Elmar Dünser Joinery
Coverage area: joiner's workshop, 3 residential buildings
Commissioned:1996
Boiler output: 100 kW
Annual need, loose m³: workshop + 40

Illustrated:
* Biomass heating plants with boiler output > 100 kW
* Woodchip producers with an annual production > 1,000 loose m³

Total:
* 2,690 kW installed boiler output (for building heating systems)
* 8,640 loose m³ woodchip consumption
* 26,500 loose m³ woodchip production

Not taken into account:
* Own consumption of sawmills, joiner's workshops
* Consumption by small plants < 100 kW boiler output

Situation as at: September 2006

e5
energieteam
grosses walsertal

Biosphere Reserve
Grosses Walsertal

As a region the Grosse Walsertal is taking part in the "e5 provincial programme for energy-efficient municipalities". The e5 programme is a programme for the qualification and commendation of municipalities which have set themselves the objective of promoting a trendsetting energy policy.

Good Practices
Neubaugebiet Röfleuten-Nord

Pfrontens Punktekatalog für zukunftsorientiertes Bauen – ein Erfolgsmodell

Der CO2-Ausstoß von Wohngebäuden hat sich durch Verbesserungen im Bau und beim Heizen deutlich verringert. Der Ausstoß des klimaschädlichen Kohlendioxids verringerte sich von 1990 bis 2006 um 13 Prozent oder rund 16 Millionen Tonnen, wie Bundesbauminister Tiefensee (SPD) bei der Vorstellung des bundesweiten ersten CO2-Gebäudereports am 27. November 2007 in Berlin mitgeteilt.

Einen kleinen Anteil an der Reduzierung des CO-Ausstoßes haben auch die Bauherren im Neubaugebiet Röfleuten-Nord, durch die Erstellung von energetisch sinnvollen Bauten und der Verwendung von intelligenten Heizsystemen.

Ausgangssituation:
Die Gemeinde Pfronten liegt am südwestlichen Rand des Landkreises Ostallgäu, Bayern, direkt an der Landesgrenze zum österreichischen Bundesland Tirol. Der Ort setzt sich aus 13 ursprünglich selbständigen Ortsteilen zusammen und ist geprägt vom Tourismus und von einer umfangreichen Feinmechanik- und Maschinenbauindustrie.

Pfronten hat rund 7.800 Einwohner und eine Gesamtfläche von 6.238 ha. Wie bei so vielen Tourismusgemeinden sind auch in Pfronten die Baulandpreise relativ hoch und so entschloss sich der Gemeinderat im Jahr 1996 ein Neubaugebiet für junge einheimische Familien auszuweisen. Am nördlichen Ortsrand von Röfleuten wurde eine 3,5 ha große Fläche mit 38 Einfamilienhäusern, 10 Doppelhäusern, 10 Reihenhäusern und 2 Mehrfamilienhäusern überplant.

Ein grundlegendes Anliegen der Planung war dabei, dass die künftigen Grundstückseigentümer in Bezug auf die Umweltbelange sensibilisiert werden und energetisch sinnvolle Gebäude unter dem Niedrigenergiehausstandard entstehen.

Die Gemeinde Pfronten erarbeitete in enger Zusammenarbeit mit dem Energie- und Umweltzentrum Allgäu einen Punktekatalog, der den Bauherrn Anreiz und Anregungen gab, bei der Planung ihrer Gebäude den vernünftigen Energieeinsatz für die Nutzung des Eigenheims und den Gedanken der Nachhaltigkeit zu berücksichtigen.

Dem Punktekatalog liegen dabei folgende Ziele zu Grunde:

Wirtschaftlichkeit:
Unter Berücksichtigung, dass fossile Energieträger zunehmend knapper werden und damit in absehbarer Zeit teurer werden, gehören Energieeinsparmaßnahmen zu den Investitionen, die sich langfristig amortisieren

Ökologie:
Da die Umwelt durch geringeren Energieverbrauch weniger stark belastet wird und über nachwachsende Rohstoffe und Sonnenenergie nachhaltig eine Energieversorgung aufrecht erhalten werden kann.

Steigerung des Wohnkomforts:
Durch gut gedämmte Häuser, moderne Fenster und Lüftungsanlagen ist eine Steigerung der Behaglichkeit und damit der Wohnqualität der bewohnten Räume zu erreichen.

Der Gemeinde standen zur Erreichung dieser Ziele über einen Energiezuschlag beim Verkauf der Grundstücke rund 145.000 ¤ zur Verfügung, die auf Grundlage von 11 festgelegten Maßnahmen an die Bauherrn ausbezahlt werden konnten. Die Modalitäten wurden über die Grundstückskaufverträge privatrechtlich geregelt und nach Abstimmung der eingereichten Maßnahmen mit dem gemeindlichen Energieberater ausbezahlt. Bislang haben 90 % der Hauseigentümer von der Möglichkeit der Rückerstattung gebrauch gemacht und so konnten rund 90.000 ¤ ausbezahlt werden.

Gefördert wurden dabei folgende Maßnahmen:
1. Unterschreitung der Wärmeschutzverordnung von 1995 um 30 % bis 50 %
2. Verdichtetes Bauen
3. Solaranlagen – Förderung nach Kollektorfläche
4. Photovoltaikanlage nach eingespeisten kWP
5. Hauptwärmeversorgung mit nachwachsenden Rohstoffen
6. Lüftungsanlagen mit Wärmerückgewinnung nach den Richtlinien der Wärmeschutzverordnung 1995
7. Blower door Test
8. Wärmepumpe zur Gebäudeheizung
9. Brennwerttechnik
10. Kochen mit Gasherd
11. Regenwassernutzung für die Toilettenspülung

Zur sinnvollen Umsetzung der Maßnahmen stand den Bauherren die kostenlose Energieberatung der Gemeine Pfronten mit Rat und Tat zu Seite. Die Maßnahmen wurde von den Bauherrn so positiv aufgenommen und umgesetzt, weil hier nichts mit Druck von Außen durch Auflagen im Bebauungsplan übergestülpt wurde, sondern der Bauherr die Möglichkeit hatte die für ihn passenden Maßnahmen auszuwählen und über das Anreizsystem für die Umsetzung belohnt wurde.

Das Pfrontener System hat sich sehr bewährt und wurde nicht nur in Neubaugebieten im Ostallgäu kopiert bzw. weiterentwickelt, sondern hat weit darüber hinaus Nachahmer gefunden, die unserem Beispiel folgten und dadurch die nachhaltige Entwicklung von Neubaugebieten beeinflussten.

Pfronten, 15.11.2007

Richard Nöß
Projektleiter

Milderung und Anpassung an Klimaveränderungen im Alpenraum

Workshop zu Good Practices von regionalen und lokalen Gebietskörperschaften organisisiert von der Französischen Präsidentschaft der Alpenkonvention mit der Unterstützung des Ständigen Sekretariats

Bozen-Bolzano, 5-6 Dezember 2007

GOOD PRACTICES
DEVELOPMENT AREA OF RÖFLEUTEN-NORD

Pfronten's catalogue of measures for future-orientated construction – a model of success

The amount of CO_2 emissions from residential buildings has diminished significantly as a result of improvements in building and heating. At the presentation of the first nationwide CO_2 building report in Berlin on 27 November 2007 the Federal Minister for Building, Mr Tiefensee (SPD), announced that emissions of harmful carbon dioxide fell by 13%, or around 16 million tonnes, between 1990 and 2006.

And so by constructing energy-sensitive buildings and using intelligent heating systems the promoters of the development area of Röfleuten-Nord have also contributed in a small way towards reducing CO_2 emissions.

Initial situation:
The Municipality of Pfronten is located on the south-western edge of the District of Ostallgäu, Bavaria, right on the national border with Austria's federal province of Tyrol. The town consists of thirteen originally autonomous localities and is characterised by tourism and a well-established precision and mechanical engineering industry.

Pfronten has around 7,800 inhabitants and covers a total surface area of 6,238 ha. As with so many tourism communities the price of building land is relatively high in Pfronten, and so in 1996 the municipal council decided to earmark a development area to provide housing for young local families. An area of 3.5 hectares was set aside at the north-east edge of Röfleuten and plans were drawn up for 38 single-family dwellings, 10 semi-detached houses, 10 terraced houses and 2 apartment buildings.

One of the fundamental concerns of the planning work was that future property owners should be made aware of environmental issues and that energy-sensitive buildings be erected in keeping with the standard for low-energy homes.

In close co-operation with the Allgäu Energy and Environment Centre the Municipality of Pfronten drew up a catalogue of measures that gave the promoters the incentive to take account of the sensible use of energy for use in owner-occupied dwellings and the concept of sustainability when planning their buildings.

The catalogue of measures is based on the following objectives:

Efficiency:
Given that fossil energy forms are becoming increasingly scarce and will therefore become even more expensive in the near future, energy-saving measures are among the investments which pay off in the long run.

Ecology:
As the environment is less burdened by lower energy consumption, a sustainable energy supply can be maintained using renewable raw materials and solar energy.

Increase in living comfort:
Well insulated houses, modern windows and ventilation systems help to increase overall comfort and therefore the living quality of the rooms used.

To achieve these objectives the Municipality provided had an energy subsidy of around ¤145,000 on the sale of the plots of land, which could be paid out to promoters based on eleven stipulated measures. The terms were set out under private law via the property purchase agreements and paid out once the measures submitted had been agreed with the municipality's energy consultant. To date 90% of house owners have availed themselves of the refund, which means that around ¤90,000 has already been paid out.

The subsidised measures included:
1. Undercutting the 1995 Heat Insulation Ordinance by 30% to 50 %
2. Compacted building
3. Solar installations – subsidising according to the collector surface area
4. Photovoltaic installation according to kWP infeed
5. Main heating supply based on renewable raw materials
6. Ventilation installations with heat recovery based on the guidelines of the 1995 Heat Insulation Ordinance
7. Blower door test
8. Heat pump for building heating
9. Condensing boiler technology
10. Cooking with gas cooker
11. Use of rainwater for toilet flushing

To ensure the measures were sensibly implemented the promoters had at their disposal the free energy consultancy services of the Municipality of Pfronten. The reason the developers embraced and adopted the measures so readily is that nothing was imposed from the outside through regulations in the development plan; instead the developers had the possibility of choosing the measures that best suited them and were rewarded by the incentive scheme for implementing them.

The Pfronten system has certainly proved itself; not only was it copied and developed further in new development areas in the Ostallgäu, it has also been emulated by others far beyond the region who have followed our lead and as a result have influenced the sustainable development of new-build areas.

Pfronten, 15.11.2007

Richard Nöß
Project Manager