

## 1. Pilot Region - Val Passiria

### 1.1 General description and selection criteria

#### General Data

Country	Italy	
Province	Bolzano	
Name of Althouse-Region	Val Passiria	
Area	313,39	km <sup>2</sup>
Population	8896	i
Central town	S.Leonardo	

Table 01 – Basic Data

#### Description of the region and its location

This area is a typical Alpine Valley with small and diffused settlements located in isolated places. The value of developing a project here is the collection of replicable experiences for similar territorial contexts, the test of new tools for the implementation of sustainable development strategies in mountain areas. The approach is based on the characteristics of the area and starts from the concept of “Sustainable Energy Planning” as an opportunity to improve the resilience of the territory to the economic crisis, peak oil and climate change.

#### Selection criteria

Upper Val Passiria is the area selected for the project. In our case study we consider only three Municipalities. Since many years, the 3 Municipalities of Moso, San Leonardo and San Martino are working together by following similar development strategies focused on sustainability and energy autarchy of the area. Historically, this area has had a high potential in renewable energy production that has been valorized thorough the reorganization of the local energy production management system in the last years.

The “Burgraviato” is the inter-municipal dimension that connects all the Municipalities of Val Passiria, it manages the distributed services and the waste collection. Since five months, the 3 Municipalities are working together for the development of a common Sustainable Energy Action Plan (SEAP), while San Martino obtained the European Energy Award Silver.

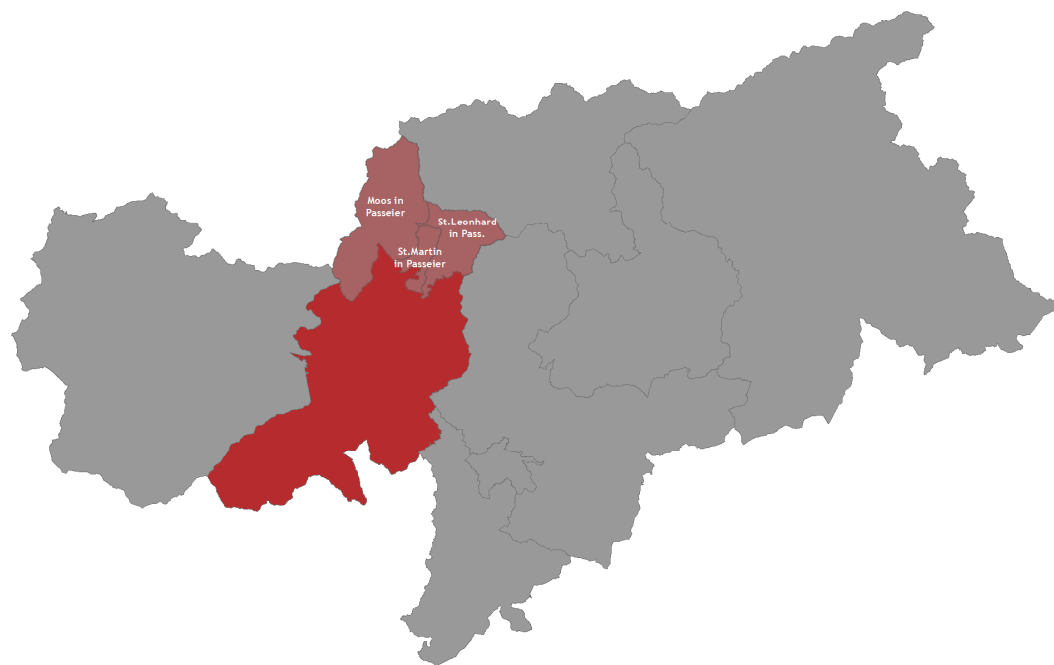


Figure 01 – overview map of the region  
EURAC Framework Analysis

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### 1.2 Regional and supra-regional framework

#### Natural landscape

The Passiria Valley is located on the Northern area of Merano plan. This Valley is framed Val Senales and Merano basin in the South, in the West by Texel Group Natural Park, in the North by the state border Italy-Austria and in the East by the Isarco Valley. The valley is crossed by Passer Torrent (a tributary of Adige River); it joins Adige River near the city of Merano. The Municipalities of Moso in Passiria, S.Leonardo in Passiria, and S.Martino in Passiria are included in the territory of Texel Group Natural Park. All these Municipalities are included in the climatic zone F. At the end of Passiria Valley one finds the High Passiria Valley, which is the most narrow valley before arriving in Moso, the main village of High Passiria Valley.

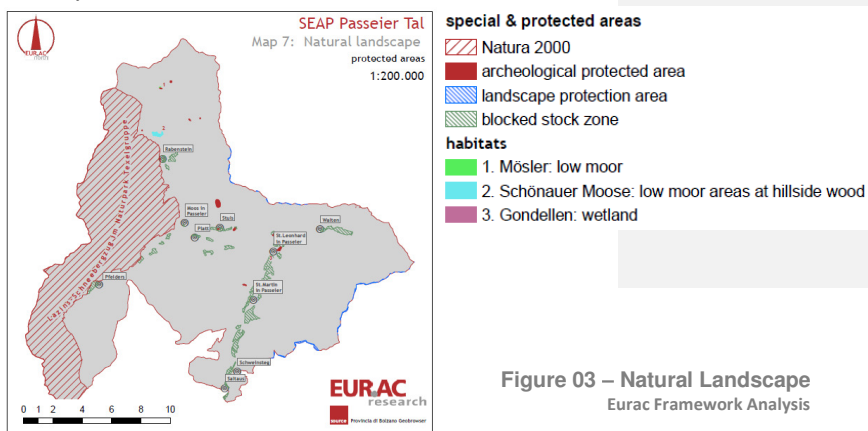


Figure 03 – Natural Landscape  
Eurac Framework Analysis

#### Settlements

The three Municipalities of Passiria Valley have shown a general increasing of the demographic trends in the last decade as well. The household's analysis of the Municipalities of Bolzano proves that the family size decreases with the increasing of the Municipality size. Thus, it is more common to have the traditional family size (a couple with sons) in the villages. The use of buildings is mainly residential, commercial and in support of the rural activities. The three municipalities have different settlement patterns. In the municipality of S. Martino in Passiria the houses and the industrial area follow a linear settlement by running along the river line and the main road.

S. Leonardo in Passiria has a nucleated settlement where a group of houses develop around a centre. The municipality of Moso in Passiria holds a dispersed settlement that is typical of the rural area.

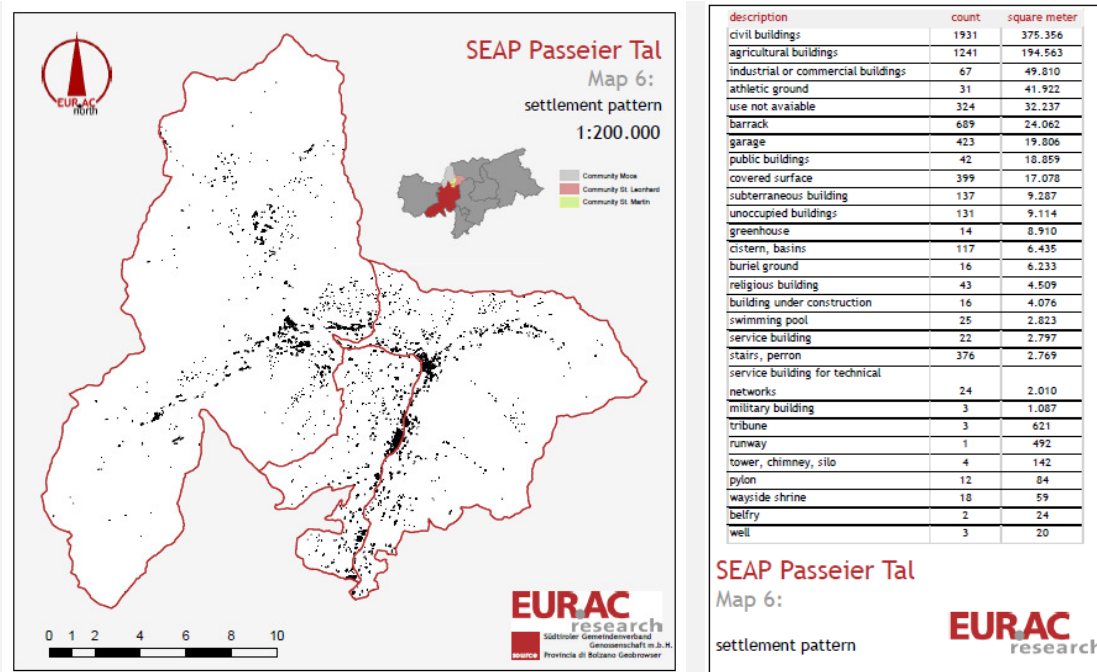
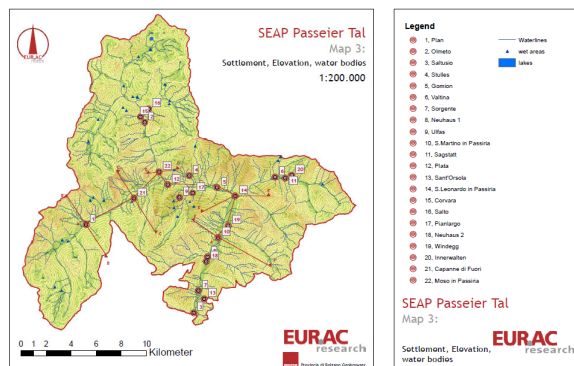


Figure 02 – overview building location and topography  
Eurac Framework Analysis

## Population and households

The district Burgraviato recorded a steady rise in resident population from approximately 65,000 inhabitants in 1950 to up nearly 90,000 inhabitants in 1999. It should be noted that municipalities Moso, S. Leonardo and S. Martino in the last century witnessed a significant increase in population from about 5,000 to more than 8,000 people in the 90s. Even in the last ten years, the three municipalities of the Passiria Valley show a general increase in population.

The Community of Burgraviato has had a steady increase of population from 1950 to 1999 with about 60000 inhabitants until nearly 90000 respectively. we can notice how the Municipalities of Moso, S.Leonardo and S.Martino have had an important growing in the population from 5000 inhabitants to over 8000, in 1991.



## Economy

Concerning the situation of employment/unemployment in the Province of Bolzano, it appears that employed people are the three quarter of the whole population with a percentage of 72,5% according to the population census of 2001.

Tourism is one of the most important income of the territory. It includes winter and summer sports destinations. Moso in Passiria belongs to the network of the Alpine Pearls Association, which is a network of 28 communities in the Alpine space to enjoy holidays in an environmentally and friendly way. All holiday resorts meet stringent quality criteria to assure that tourists will enjoy a stress-and carefree holiday while protecting our climate and preserving the environment. It can be noticed how, almost the 2/3 of the population in the Burgraviato Community is employed in services (especially accommodations, sports facilities, shops, etc.).

In general, the unemployment rate has increased from 2009 until today. The last value registered dated back to 2011 it has an average percentage of 3,3% between women and men.

	Regional relevance [1-5]	Comment / statement / explanation	Statistic numbers
Primary			
- Forestry			
- Farming			
- Alpine pasture			
Secondary			
- SME statistics of building sector		NACE categories	
-			
Tertiary			
- Tourisme			
- Planning		Planners, architects	

Figure 04 – Settlement, Elevations,  
Water Bodies  
Eurac Framework Analysis

Table 02 – economy  
- type figure source, use heading 4-

## 1. Pilot Region - Val Passiria

### 1.3 Overview:

#### Building stock and energy supply

##### Building stock

The building stock in the Passiria Valley is especially composed by residential buildings, rural constructions, hotels and services. Public buildings such as the town hall, schools and post offices are also included. Furthermore, in the North of S. Martino there is a small industrial area, where mostly construction companies are present and process raw materials as wood, rocks and ceramics. Lastly, there is a dairy, an agricultural consortium, car dealers and other small businesses. Since 1973 the Autonomous Province of Bolzano has the competency for the protection of historical monuments. Currently, 273 buildings have been classified as protected buildings in Passiria Valley. Furthermore, the *Ensembleschutz* is another protection mechanism for buildings used by municipalities. *Ensembleschutz* are not individual objects but represent an interplay of multiple objects, which reflect the history and the interaction between men and nature and contribute through its own nature to the local and regional identity. These are whole structures, in particular, streets, squares and townscapes as well as parks, including buildings, unbuilt land, water and plants surfaces. It consists in the preservation of special public interest, either scientific, artistic or local.

Regarding the *Ensembleschutz*, the three municipalities (Moso, S. Martin and S. Leonardo) do not have any tutelage yet. However, the Province of Bolzano indicates that for the designation of an *Ensembleschutz* it has to be adopted at least two of the following ten criteria of the State Government:

1. Historical value
2. Picturesque character
3. Monumentality of the buildings to each other and to the landscape
4. Stylistic identification
5. Appearance
6. Panorama
7. Collective memory
8. Continued existence of the urban construction
9. Continued existence of building typology
10. Natural features, geomorphology and natural character

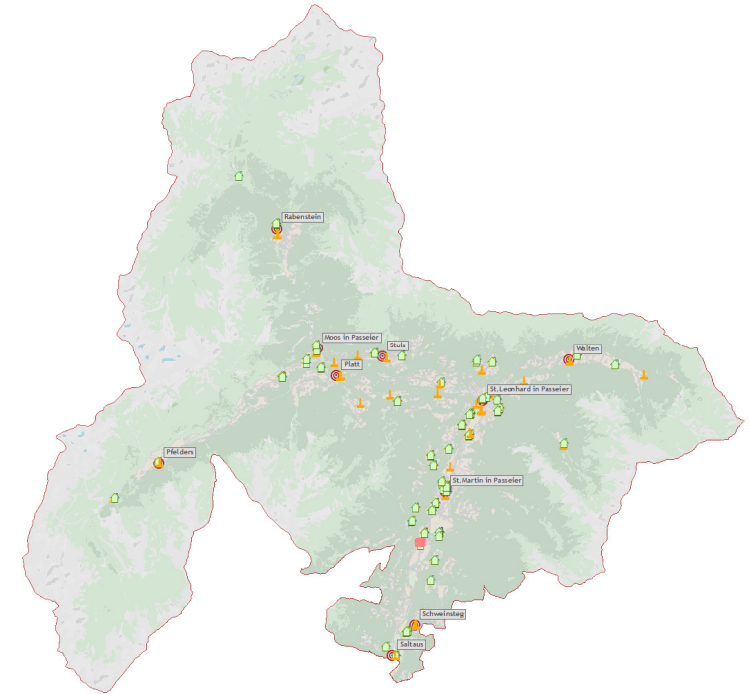


Figure 05 – Hystorical Building Location And Typical Buildings Appearance  
Eurac Framework Analysis

## 1. Pilot Region - Val Passiria

### Energy usage

At this moment, the only available data regarding the energy consumption in the three Municipalities, are referred to 2007. EURAC Research and Dachverband für Natur- und Umweltschutz in Südtirol have collected these data for every Municipality in South Tyrol.

### SURVEY RESULTS

#### Boiler Installation Year

- <1981: 12%
- 1981-1991: 13%
- 1991-2001: 24%
- >2001: 38%
- Not known: 13%

#### Fuels

- 25% Methane
- 25% Biomass
- 16% Firewood
- 34% Solar Water Heaters for DHW production

#### Type of Plants

##### Generation

- 75% Combined
- 15% Separate

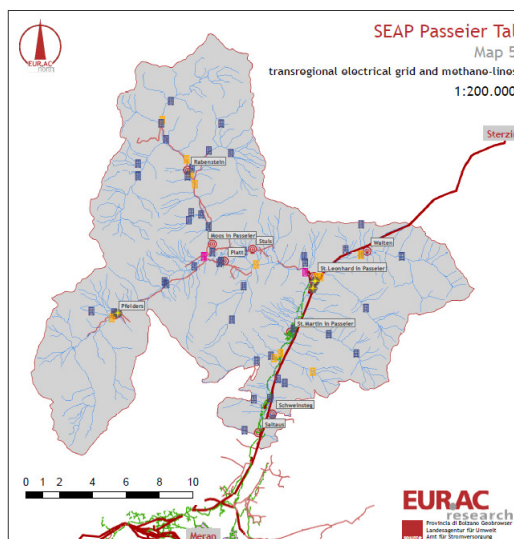
##### Heating System

- 62% Centralized
- 38% Autonomous

Category	ENERGY CONSUMPTION - MWh					
	S. Leonardo in Passiria		S. Martino in Passiria		Moson in Passiria	
	electric energy	other energies	electric energy	other energies	electric energy	other energies
<b>I. PUBLIC AND PRIVATE CONSTRUCTIONS/SERVICES</b>						
public buildings, constructions / institutions	361,5	451,2	320,9	1.129,9	238,0	30,7
Tertiary (non public) buildings, constructions / institutions	5.203,6	4.775,6	4.655,2	8.236,0	3.307,7	151,9
residential building	3.883,3	5.417,4	3.408,2	4.883,9	2.418,1	1.513,0
public illumination	308,0		282,3		200,6	
industry (without participants by EU Emissions Trading Scheme)	6.954,2	1.050,7	6.173,9	6.631,0	4.336,8	0,0
intermediate I.	16710,62	11894,96	14835,67	20990,87	10541,14	1685,652
<b>II. TRAFFIC</b>						
municipality motor pool		470,8		118,8		33,7
public transport		241,6		27,6		67,4
private and commercial traffic		45.669,4		14.434,0		3.270,6
motorway		0,0		0,0		0,0
intermediate II.		47081,87		14830,37		3371,741
<b>Total</b>	<b>17589,46</b>	<b>58976,83</b>	<b>15615,91</b>	<b>35811,24</b>	<b>11095,51</b>	<b>5057,393</b>

table 04 –Energy usage and generation

EURAC Research and Dachverband für Natur- und Umweltschutz in Südtirol -



- District-Heating / CHP - Biomass
- hydroelectric power stations
- < 220 kW
- 220 kW - 3000 kW
- > 3000 kW
- Waterlines
- electrical grid
- high voltage power line (220 kV)
- middle voltage power line
- methane grid
- methane gas line

Figure 06 –Electrical grid and methane lines  
Eurac Framework Analysis



### Legal background

The Autonomous Province of Bolzano is active in many areas related to the themes of the SEAP. In particular, the fields of urban planning, construction and renewable energies are promoted and standardized with rules and special instruments.

After various provisions relating to a country planning law (Decree LP 13/97) in connection with the approval of the Statute of the new Autonomies of the Provinces in 1997, the urban planning is currently being revised by the state government (LP 10/2013).

In 1995 LEROP, the "land development and spatial development plan" was approved. According to this plan, compared to other alpine areas, the province of Bolzano faces higher inhabitable areas and is vulnerable to its environment, thus mainly actions need to be taken to avoid surface sealing and preserve the environment.

Before defining new areas for residential, industrial or public purposes, you will need to maintain existing buildings and urban internal, and exploit unused areas.

In addition to the urban planning and construction law additional guidelines have to be considered:

- Renewable energy - Decree of the President of the Province, 28 September 2007, No. 52 and subsequent amendments and additions
- Energy saving - Decree of the President of the Province, 29 September 2004, No. 34
- Energetic requalification of buildings and their extensions (Article 127, paragraph 2, LP)
- Decision of the Provincial Government, 15 June 2009 No 1609
- Energy performance of buildings (Article 127, Paragraphs 5 and 6) - Decision of the Provincial Government dated 30 June 2008, no. 2299 and subsequent amendments

In addition, the Directive 2010/31/EU on the energy performance of buildings was implemented by the decision of the Provincial Government of 4 March 2013 n 362. The resolution introduced the so-called "bonus cubing" offers new possibilities for the implementation of incentive measures to improve energy efficiency within the territory.