

## 6. Setting up the production chain

The Nature Park organized during the project repeatedly some awareness meetings. This means that round tables in local communities but also regular tables was hold on. The goal was always to reach the final consumer and to feed him with information. It has managed to strengthen the regional awareness, so that the willingness to rethink exists. Currently, there are 4 biomass heating plants, which are not operated exclusively with local biomass. It has now been agreed that all biomass heating will be supplied in future with regional biomass.

The public buildings are currently supplied with these biomass heating plants. An increase in efficiency is in sought. More high-quality wood should be used in the future.

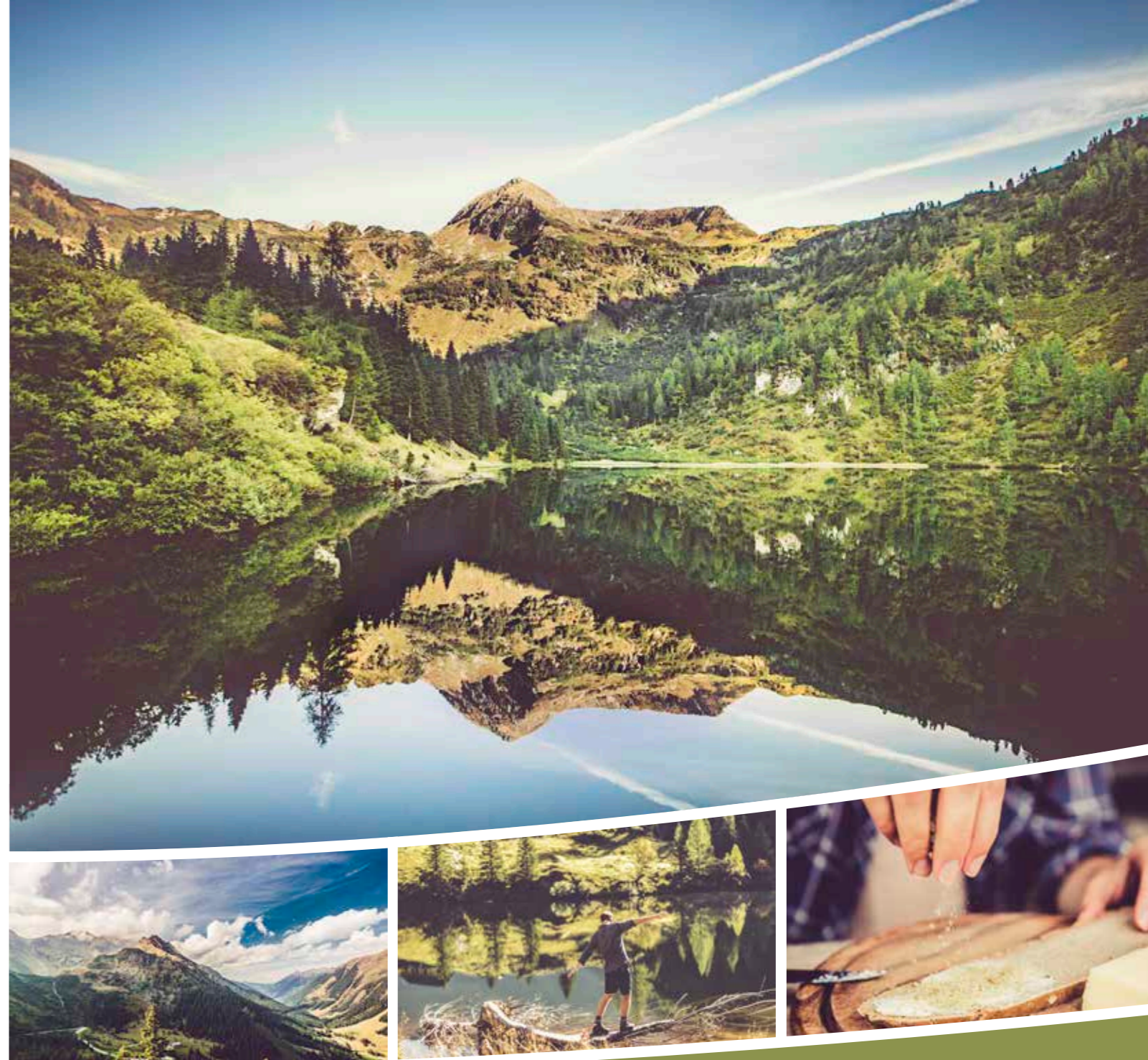
The problem is that many households still currently heat with oil stove. The change is currently still very expensive, but in a forced purchase (if the old breaks down) is a real alternative in the future. Consciousness is given and strengthen the production chain from wood to Wood chips respectively everything is available. An important element is to maintain the interest of as consciousness. Nice and slow to various oil burner for a biomass heating system begins to swap in the households.



Bioeuparks project



Sölktäler Nature Park



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## USE OF WOOD BIOMASS FROM PARK Example of Sölktäler Nature Park, Austria



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## 1. Description of the park

Söltkäler Nature Park is located in the north-western region of upper Styria in the district of Liezen and the political district of Gröbming. It involves the greater and the lesser Söltkäl with the townships of Großsölk and Kleinsölk as well as St.Nikolai (fig.1). The Nature Park covers 28,824 ha and extends from the river Enns (670 m) in the north to the most southern peak, the Lachkogel. The highest summit is the Deichsel Spitze at 2684 m above sea level. The vegetational stages range from the montane altitude zone to the alpine, a few summits are also in the periglacial zone (Badura, 2002).



The valleys morphologies are U-shaped, they were formed by glacial movements during the ice ages – in the Pleistocene the inner alpine landscape was completely changed, the Sölk valleys were also entirely glaciated. In the lesser Söltkäl, the ice thickness is estimated to have been as high as 1100 meters, which means that only peaks higher than 2100 m would have emerged through the ice. These huge glaciers during the ice ages changed the valleys form to powerful trough-valleys (Schneider, 2002). One of the characteristics of this are the often recurring straight-running segments of valleys. Often over-deepening occurs, as seen in the outer Bräualm valley and in the cross-section of Fleiß at the Großsölk stream (Schneider, 2002).

Of geological significance is the the position in the Lower Tauern, in the north-west of the mountain range described as the Muriden. The subsoil contains mostly mica slate and Ennstaler phyllite, which is classified as greywacke, both are interspersed with chalk and marble bands.

## 2. Wood biomass potentials in the park

The forested area of the Nature Park is 14,856 hectares (Natreg, 2011). Aside from harvested forests, this consists of protection, welfare, and recreational forest covered areas, and also those that are stocked with mountain pine and green alder. According to the Forest Development Plan 1999, just under half of the area (46%) belongs to small forest holders <200 ha, the second half is divided among private forest owners >200ha. The Austrian Federal Forests plc has and has had no possessions in the Nature park. The calculated standing volume pertains only to harvested forests and productive protection forests; in the course of the last Austria-wide forest inventory (ÖWI) 2007 to 2009 a standing volume of  $376 \pm 29.5 \text{ m}^3$  was measured for small forests in the Liezen district,  $311 \pm 21 \text{ m}^3$  for private forests and commercial forests >200 ha – in total there are about 2,500,000  $\text{m}^3$  in the Nature Park area.



## 3. Description of production chain

In Söltkäler Nature Park four biomass heating plants (three operators) produce nearly 2000 MWh of thermal energy. The heat plant in local district Stein on the Enns in the municipality of Großsölk is the only one still sourcing 80% of their converted biomass from outside the Nature Park, therefore it is not considered in local supply chains analysis. In contrast, biomass for the plants in Kleinsölk and St. Nikolai derive solely from Nature park area.

Biomass usage can certainly be carried out in an ecological sustainable way in the soelktaeler. A requirement of this is to limit energy usage to wood. This means the nutrient rich logging residue should be left in that stand, also working in a way which protects the soil as much as possible, and of course obeying the Austrian Forest Law. The provisions of Sustainable Forest Management (SFM) are fulfilled by the Austrian Forest Law. The economic requirements can also be sufficiently fulfilled – however this requires action. In Nature



Park Söltkäler four biomass heating plants (three operators) produce nearly 2000 MWh of thermal energy.

## 4. Description of wood biomass producers and suppliers

Due to the high density of large landowners they have for your own land mostly own forest workers. These woodsmen scour the forest and commit the timber to further processing a domestic company. However, some organizations are made up to carry out the further processing of the wood itself, also from some farmers. These chips were offered now,



also in case of the awareness campaign in the Nature Park which has taken place due to the project.

The annual harvest is dependent on several factors. They shall be composed of the current forest inventory or is based on the current price of wood. The felling work directed by law and partly by the nature conservation law. The usable potential in the Söltkälern is actually much larger than the required. Many large forests and relatively little inhabitants. The existing biomass heating are operated in majority of smaller forest owners or farmers.

## 5. Description of end users

With a population density of 5.6 persons/ $\text{km}^2$  Söltkäler Nature Park is very sparsely populated. The economic supply of buildings with heat from biomass heating plants is therefore very restricted. The four biomass heating plants were therefore built in locations with large consumers such as schools settlement houses and administrative buildings.