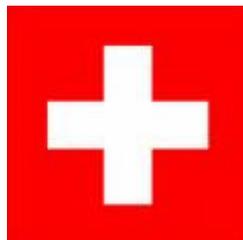


Development and promotion of a transparent European Pellets Market
Creation of a European real-time Pellets Atlas

Pellet market country report SWITZERLAND



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1. Introduction

Switzerland is considered one of the smaller and less developed pellet markets. This is true when only absolute numbers are taken into account: The Swiss association “Holzenergie Schweiz” estimates the installed annual production capacities at 170,000 tonnes (End of 2007) and the consumption in the winter of 2008/2009 at 90,000 tonnes. However, considering the resulting per capita values of pellet consumption of almost 12 kg per person, Switzerland becomes comparable to Germany.

Similar to Germany and Austria, wood pellets are mostly used in small scale applications for heating purposes in the residential sector. This market has great potential due to good raw material availability and a professional wood energy image campaign organized by “Holzenergie Schweiz”. The pellet trading infrastructure is well developed and end-consumers are supplied reliably.

One difference to Germany is that there are no large pellet producers (> 100,000 tonnes per year). Pellet production takes place mainly at wood processing businesses that use their own by-products. Consequently, there are a number of small producers (< 10,000 tonnes per year) and two medium scale producers of which one buys raw materials for pellet production. Some of the producers will expand their capacities while all of them state that their current capacities are not used fully.

Nevertheless “Holzenergie Schweiz” estimates that 10 – 20 % of the domestic demand is satisfied by imported pellets. This can be explained by looking at the price development of pellets. The prices as evaluated by “Transan” (www.transan.ch) show relatively stable prices with reasonable fluctuations between summer and winter. The price in February 2008 was the same as it was in February 2009. Looking at the same prices converted to EUR shows that due to fluctuations of exchange rates the prices for wood pellets rose by 20 EUR per tonne within one year and are extraordinary high compared to prices e.g. in Germany. Therefore pellets import to Switzerland becomes attractive.

2. History of market development

Due to a high abundance of potential raw materials first experiences with pellet production were already gained during the 1980's. From 1996 and later more pellet producers entered the market. Most of them operate the pellet business as a minor second activity in addition to their wood processing business. The installed production capacities tripled from 2003 to 2004 and reached 50,000 tonnes per year in 2005. The strong growth continues until today.

Together with the production the installation of pellet boilers and stoves started in the late 1990's. In 2000, less than 1000 pellet applications were installed while around 5000 pellet boilers alone were installed in 2005. High prices for fossil fuels caused a pellet boom but already in the winter of 2006, problems occurred that resemble the course of events in Germany or Austria: After a long winter, the customers' storage tanks emptied while the resulting high demand could hardly be satisfied because of insufficient storage at retailers. Low activity of the wood industries and high prices for saw dust made newly produced pellets expensive as well.

As a result consumer confidence was gone and the market had to recover in the following years.

Today, the main competitor of pellet (and wood) heating is the heat pump technology since around 80 % of the newly built single family houses are equipped with electricity driven heat pumps.

3. Pellet production

In 2008, 14 pellet producers were active in the Swiss market. Together they represent an installed annual production capacity of at least 170,000 tonnes and most of the producer state to plan for extending their capacities. They are obviously counting on further market growth because in 2007, the existing capacities were, with a total production of 70,000 tonnes, already hardly used. After significant growth of production capacity in 2007 and 2008 the total production was certainly higher in 2008, but still the use of capacities was probably quite low.

12 of the mentioned 14 producers operate in the small scale with production capacities between 1,000 and 12,000 tonnes. Two of them are drying cooperatives processing a variety of agricultural and wooden biomass while the rest are saw mills or they are active in wood processing such as pallet production or construction. Consequently, the pellet production is operated only as an additional business and mainly own by-products are used as feedstock.

Despite the small scale, many independent brands are on the market and the distribution is often organized by the producers who deliver the pellets regionally by their own logistic park. In parallel, production and distribution networks are forming.

Besides the small scale producers, two medium scale producers are dominating the market.

The AEK Pellet AG extended their production capacity in 2007 up to 60,000 tonnes. AEK is the only Swiss company specialized in pellet production only and buying raw

materials from other wood processing companies. They produce pellets of DINplus quality which is the high quality certification label developed in Germany. AEK pellets are marketed under their own brand and they are distributed by a nation-wide retail network.

Tschopp Holzindustrie produces pellets from own raw materials with a capacity of 50,000 tonnes. The pellets are of DINplus quality and are distributed via an agricultural trading and logistics network (Fenaco-Landi) with more than 400 stores across Switzerland.

Regarding pellet quality, it is remarkable that AEK and Tschopp are the only companies stating on their websites to produce DINplus certified pellets. However, it can be assumed that all pellets traded within the Fenaco-Landi group are DINplus pellets. Most of the other companies display the Swissspellet certificate on their websites. Swissspellet is a pellet quality certification scheme developed by Holzenergie Schweiz in 2001. This standard was based upon the German DIN. Due to a lack of acceptance in the market it was given up in 2006. Table 1 shows the specifications of the German pellet quality standard / certification.

Table 1: Quality standard requirements of DIN 51731 and DIN plus

		DIN 51731	DIN plus
Diameter	[mm]	$4 \leq d < 10$	$4 \leq d < 10$
Length	[mm]	$> 50 \text{ mm}$	$\leq 5 \times d$
Density	[kg / dm ³]	> 1	≥ 1.12
Water content	[%]	< 12	≤ 10.0
Ash content	[%]	< 1.5	≤ 0.50
Energy content	[MJ / kg]	17.5 – 19.5	≥ 18.0
Sulphur content	[%]	< 0.08	≤ 0.04
Nitrogen content	[%]	< 0.30	≤ 0.30
Chlorine content	[%]	< 0.03	≤ 0.02
Abrasion	[%]	--	2.3

Regarding raw material use for pellet production, the structure of the Swiss pellet industry suggests that by-products such as saw dust are still the dominant feedstock for pellet production. It can also be assumed that the large forest and wood processing sector in Switzerland provides plenty of these feedstocks even when the production is extended significantly. However, at least two (smaller) pellet producers state that they started using also round wood as raw material for pellet production in 2008.

4. Pellet trade and logistics

High quality pellets for small scale heating in the residential sector are traded in small / big bags and in bulk. However, boilers are the dominant pellet heating application and therefore, loose delivery by blower lorries is the main mean of pellet distribution to end-customers. Pellet stoves and delivery in bags play a certain role in Southern Switzerland where consumption is similar to Italy.

As described earlier, many producers market their pellets themselves under their own brand and with their own logistics. In addition, two major distribution networks can be identified. One of the large pellet producers (Tschopp) and some small producers market their product exclusively via the Fenaco-Landi logistics and retail network. AEK on the other hand, established partnerships with a number of traders / retailers covering the whole country.

Statistics on international trade are not available. However, it is known that pellet export is negligible and production / export of industrial pellets do not occur.

In general, the recently increased value of the Swiss Franc does not really favor exports to countries in the Euro-zone while pellet producers in Germany and Austria might be willing to import pellets to Switzerland. Accordingly, Holzenergie Schweiz estimates the import quota in 2008 at 10-20 % with the majority of imported pellets coming from neighboring regions near the Swiss border.

5. Pellet consumption

In Switzerland, pellets are almost exclusively used for small scale heating in the residential sector. It is estimated that around 8,500 boilers and at least 5,000 stoves were installed in 2008. The resulting total consumption is estimated at 90,000 tonnes in the winter of 2008/2009.

End-consumer prices for pellets are evaluated by Transan (www.pelletpreis.ch).

Figure 1 shows that prices were quite stable since 2008 with basically the same prices in February 2008 and February 2009. Another characteristic is the typically lower price during the summer but as in other countries, the customers do not take advantage of this fact. Many customers still fill their stores during the heating season.

The Euro-prices in Figure 1 are created by using the official ECB currency exchange rates (<http://www.ecb.int/home/html/index.en.html>) of the respective first of the month. Fluctuations in currency rates result in a significant rise of prices between 2008 and 2009. Prices of more than EUR 260 in early 2009 are much higher than in Austria and Germany. The export of Swiss pellets is improbable while pellet import to Switzerland can be very attractive.

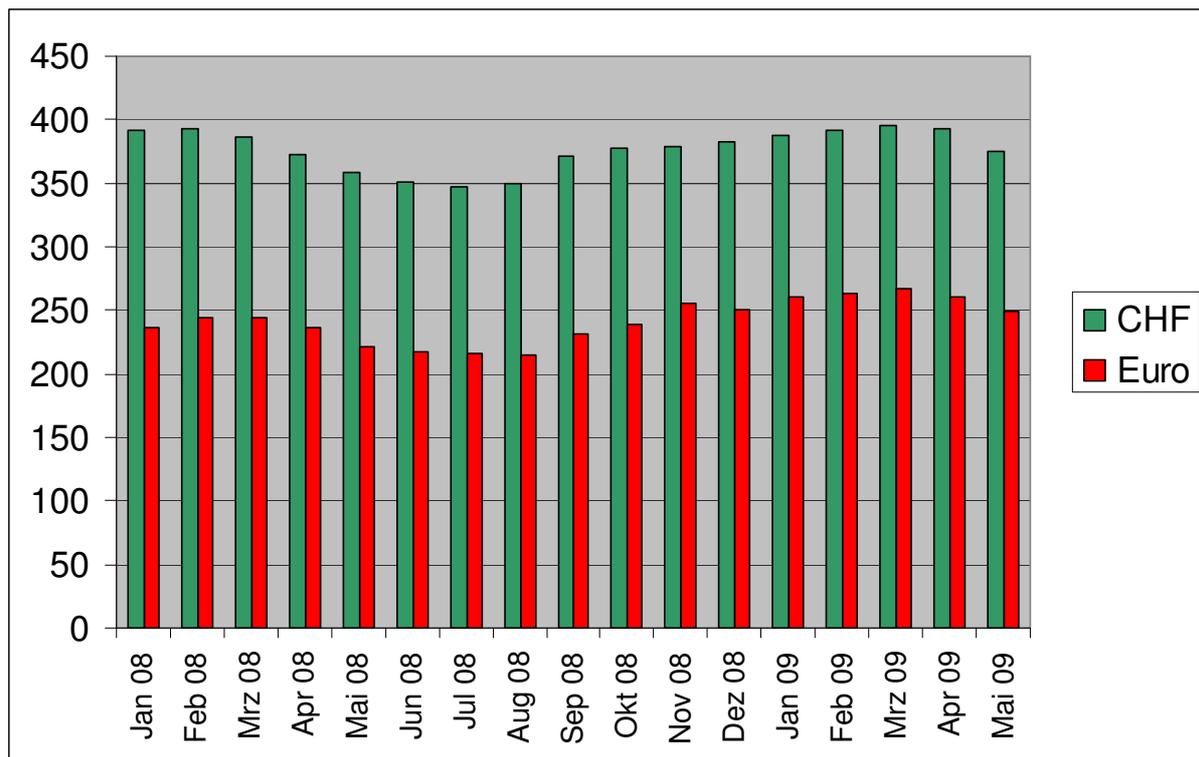


Figure 1: End-consumer prices for loose pellets in Switzerland, VAT and loose delivery included (Source: Transan)

6. Mixed biomass pellets

While forested area and therefore wooden raw materials are abundant in Switzerland, the availability of agricultural area and agricultural by-products is rather limited.

Accordingly, the use of MBP is no major option for future biomass heating and the activity in this area is low. No major initiatives concerning the use of MBP and no evidence for MBP fuel production or use could be identified.

However, some companies were found producing straw pellets. These pellets are used for littering exclusively and prices are hardly competitive.

In addition, potential biomass fuels other than wood are no regular heating fuels. Straw pellets for example would be “agricultural wastes or products” according to the Clean-Air-Ordinance (see below) and as such forbidden as fuel in heating units below 70 kW. Between 70 kW and 10 MW, dust thresholds are too strict (20 mg/m^3) in order to allow the use of MBP without dust reducing measures.

7. Legal framework & Policy

Switzerland set very conservative targets for renewable energy use compared to the EU targets. However, strong efforts are undertaken to promote renewable heating. Very successful promotion and information campaigns contributed a lot to increasing the uptake of renewable heating in the residential sector. Especially heat pump technologies are very successful in Switzerland.

But also wood and pellet heating is popular. The installation of pellet heating and other renewable heating technologies is also supported by a number of regional financial incentive programmes.

The legal framework for the installation of pellet heating appliances is provided by the Clean-Air-Ordinance (Luftreinhalte-Verordnung LRV). It was amended in 2007 and stricter rules are applied since January 2008:

Wood and pellet heating units below 350 kW are only legal when the producer (importer, retailer) provides a declaration of conformity, declaring that the boiler / stove was tested according to the effective European standard and that the effective emission thresholds are fulfilled. The thresholds (per m^3) are 300 mg CO and 60 mg dust for automatically stocked pellet boilers and 500 mg CO and 50 mg dust for pellet stoves. The values for dust will be lowered again from 2011 onwards.

Additional thresholds apply during the operation of pellet appliances:

Between 70 and 500 kW (per m^3): 150 g dust and 1000 g CO (This threshold for dust does not require measures for dust reduction when state-of-the-art technology used).

The dust thresholds for units above 500 kW (20 mg/m^3) do require additional dust reduction measures such as particle filters.

8. Projections on future developments

Switzerland is heavily forested and the activity of the wood processing industry is very high. In 2007, around 2.5 million m³ wood were processed. Given this potential the production could be easily extended to around 150,000 tonnes annually even when the largest part of the resulting raw materials goes into other production chains. In addition, some pellet producers started using round wood as raw material in 2008. This broadens the raw material base and therefore potential and enables further potential market growth. However, the use of more expensive raw materials and rising prices for traditional raw materials will cause higher pellet prices in the long run, also in Switzerland.

On the other hand, financial incentives provided by regional governments and the high professionalism in the pellet industry (quality assurance, well developed distribution channels and high visibility) ensure further growth of the Swiss pellet market. Especially the market of larger pellet appliances (e.g. for multi family dwellings) developed very promising during the last years.

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