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2017 Market Statement for Switzerland Developments in Forest Product Markets

Reference: Q375-0558



Shed for historical rolling stock of the Rhaetian Railway at Samedan
(image source: Brasse Architekten, Samedan)

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Source cover image: see page 6

1 General economic trends

Developments up to mid-2017

For the reporting period 2016 to mid-2017 the Swiss export economy continued to be overshadowed by the difficult economic situation in key euro countries and the associated weakness of the euro in relation to the Swiss franc. The withdrawal of support measures to maintain a minimum euro/franc exchange rate of 1.20 CHF/EUR by the Swiss National Bank (SNB) on 15 January 2015 continues to cast a shadow over economic development in Switzerland. The monthly euro exchange rate ranged from 1.07 to 1.11 CHF/EUR over the current reporting period, peaking briefly at 1.15 CHF/EUR. Low-margin sectors that are particularly reliant on foreign demand, for example the machinery industry and tourism, still consider this rate insufficient and as posing a threat to their survival. In the tourism sector, the exchange-rate problem and various global economic developments are having a clear impact on the numbers of visitors by country. The tourism industry needs to adapt its services to the habits and needs of new visitors. Faced with the threat of terrorism in holiday destinations abroad, many people in Switzerland are now choosing to holiday in their own country, although there are considerable disparities in the extent to which the various regions are benefitting from this development. The market for city tourism is growing.

The application of negative interest to large credit balances with a view to reducing the attractiveness of the Swiss franc has only had limited success up to now and is having an increasingly negative impact on major domestic investors, in particular pension funds, other pension plans, charitable trusts etc.

These difficult conditions dealt another blow to the already weakened forestry sector and parts of the timber sector, above all sawmills and manufacturers of derived timber products, paper and paperboard, whose products came under even greater price pressure on both domestic and foreign markets. This is typical of sectors whose costs arise domestically in Swiss francs and cannot be offset by the acquisition of cheaper raw materials or inputs from the euro zone. The pharmaceutical-chemicals industry proved more resistant. The watch and jewellery industry, which experienced few effects in 2015, recorded significant declines in 2016 and 2017. GDP growth was 0.8% in 2015 and, based on provisional calculations, rose to 1.3% for the whole of 2016.

Households benefited from the lower import prices and from the price reductions implemented by domestic suppliers in response to cheaper imports. This boosted their purchasing power. Consumers are looking to 2017 with greater confidence in the economy and the labour market. The retail and gastronomy sectors in border regions are particularly severely affected by shopping in neighbouring countries. The retail trade is also under pressure from the rise of online shopping and is experiencing declining sales and pressure on margins.

Outlook

The difficult general conditions will continue to have a dampening effect. However, the success of the measures adopted by companies to adapt to the recent changes was increasingly felt in 2016, and experts within the federal authorities expect that the Swiss economy will recover in 2016, 2017 and 2018 and that GDP growth will improve as a result.

It is still difficult to estimate how the debate surrounding migration into Switzerland and the corresponding negotiations with the EU will affect economic development. Great Britain's exit from the EU is also a source of uncertainty. The weaker migration and increase in vacant residential units recorded over the reporting period will not yet have any major impact on residential construction in 2016/2017, as the low capital interest rates continue to make property investments attractive and the demand for renovation, high-density construction and energy-related upgrades is increasing.

However, the increase in vacant residential units has recently had a dampening effect on rents, which is expected to increase further.

-> For more information, see: <https://www.seco.admin.ch/seco/de/home.html>

2 Developments in forest products markets

2.1 Overview and general trends

In the Swiss forestry and timber sector, the years 2016 to mid-2017 continued to be marked by the weakening of the euro. The persistent pressure arising from currency-related developments continued

to demand a lot of staying power in the forestry industry and many areas of the timber industry. There is growing pressure in the paper and derived timber products industries to cease production or transfer it to the EU. Structural adjustment within the sector continues at sawmill level. The increase in the popularity of modern timber structures in all sectors and the new timber-friendly fire safety regulations have led to a significant rise in the demand for timber buildings. This has resulted in further growth in the workload of timber construction companies, which was already at a good to very good level. However, the latter import a large part of their derived timber products and semi-finished timber products, hence this positive development has had little impact on sawmills and forestry operations. Timber construction is a central pillar of the new "green economy" and "bioeconomy". However, it is not yet fully recognised as an integral component of these economies in Switzerland. This can only change with a policy shift towards identifying and declaring all sectors that are considered as contributing to a "green economy" and "bioeconomy", reporting their economic data separately for greater public visibility, and actively promoting them in an effective manner.

The fact that this overall picture conceals an economy of two parts is demonstrated by the situation in the different branches of the forestry and timber sector:

- The strong construction sector and the increasing popularity of timber as an ecological construction material ensured a stable demand for timber and meant that wood-processing operations in some regions are working at a good capacity.
- The stimulating domestic demand was counteracted, however, by the restraining effect of the strong Swiss franc. While the timber builders could benefit from the cheaper imports of semi-finished wood products, the margins and profits of domestic wood traders, sawmills and exporters came under pressure from the exchange rate.

Outlook

The strong Swiss franc is expected to remain an important factor for the Swiss forestry and timber sector in 2017/2018.

- The long-term buoyancy in construction, in particular residential construction, will shore up the demand for soft sawlogs.
- The high valuation of the Swiss franc against the euro will continue to generate strong pressure on imports and impacts on domestic prices in Swiss francs.
- The demand for hard sawlogs will remain weak; and the market for energy wood will grow. However, the low oil price will undoubtedly continue to have a dampening effect on growth in the demand for wood fuel in 2017/2018. The experts do not expect oil prices to rise again before 2020. Together with low wholesale prices for electrical energy, this presents an additional obstacle to the construction of large wood-fired heating plants with electricity production and creates problems for existing plants. The implementation of phase one of the Energy Strategy 2050, which was approved in a popular vote in 2017, is expected to have a positive effect in that respect.
- Demand for industrial wood may be expected to remain constant; here too the market is significantly influenced by the CHF/EUR exchange rate and part of the demand should be covered by imported wood.

2.2 Excellence in Swiss timber construction

In the residential construction sector, new building and extensions and property remodelling continue to operate at a high level. Timber construction is also gaining ground in multi-story construction and in industrial-commercial building. Capacities in the areas of timber construction, carpentry and interior construction are correspondingly well utilised. The investments made in research on timber construction and in the training of timber construction engineers and timber builders are bearing fruit. New timber construction standards and fire safety regulations that take the current status of timber construction into account are also contributing to this development. These new fire regulations entered into force on 1 January 2015 and have liberated timber construction from certain restrictive conditions, particularly in relation to multi-storey and high-rise residential buildings. This means that it is now possible to use timber construction for many buildings, for which this was not previously possible. Residential, office, school, industrial and commercial buildings, tourist accommodation and retail outlets up to a total height of 30 m can now be constructed in timber. The use of structural timber

components and timber components that form fire compartments, which contain combustible elements, is now admissible under certain conditions, even in high-rise buildings. The new timber construction solutions developed by Swiss timber builders are setting global trends for modern and energy-efficient construction based on the CO₂-neutral construction material wood. Timber is being rediscovered as a construction material by clients and architects and also, increasingly, for buildings in the tourism and transport sectors. The shorter construction periods and the possibilities for the prefabrication of large components, which can be assembled and installed quickly on the building site, also play an important role in this development. Some more pioneering projects were completed in 2016 and 2017, others are still under construction. Some flagship projects and smaller but exemplary timber buildings are presented below. However, this success has not benefited Swiss forest owners and sawmills to the extent that was hoped for. The timber builders and clients earn their profits in Swiss francs for the most part. At the same time, they can purchase sawn timber, semi-finished wood products and, above all, glued construction timber, derived timber products, and other additional supplies in the euro zone and reduce their costs in this way. As a result, considerable volumes of glued construction timber are being imported, mainly from Austria and Germany. In the case of Austria, in particular, some of this glued construction timber is produced from exported Swiss roundwood.

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2.2.1 Timber construction in Switzerland – example 1: Shed for historical rolling stock of the Rhaetian Railway at Samedan



Fig. 1 and cover picture Shed for historical rolling stock of the Rhaetian Railway at Samedan
(Image source: Brassler Architekten, Samedan GR)



Fig. 2 Shed for historical rolling stock of the Rhaetian Railway at Samedan
(Image source: Brasser Architekten, Samedan GR)

- Bauzeit: 4,5 Monate
Building completed: 2016
- Client: Rhätische Bahn AG, Chur and Club 1889, Samedan
- Architecture: Brasser Architekten ETH/SIA, Samedan GR
- Timber construction: A. Freund Holzbau GmbH, Samedan GR
- Wood used:
 - Pine cladding, 35 mm thick, 15 m³
 - Wall girts in pine: C24, 8.5 m³
 - Trusses in spruce and gable ends in pine: GL24h, 47 m³
 - Coupled purlins in spruce: C24, 24 m³
- Size: 65 m long with a 10-m span; track length: 2 x 65 m
- Total volume of the shed: 3793 m³ (in accordance with SIA 416)
- Special feature: The shed for the historical rolling stock of the Rhaetian Railway is situated south-east of the Samedan railway, on the Bernina line. As the Rhaetian Railway is inscribed on the Unesco World Heritage List, the building had to meet specific conservation requirements. The shed spans two tracks next to the railway. The massive base course, the pine cladding and the double-pitched metal roof follow the same architectural principles as those of the RhB's adjacent minimalist railway sheds and commercial buildings. The arrangement of spruce beams adds a certain rhythm to the supporting structure. The shed is not accessible to the public, hence the doors and windows have been disguised with thin pine slats. These give the long building a filigree appearance, making it appear smaller than it actually is from the outside. The shed is equipped for the future installation of solar panels.
(Source: Brasser Architekten, excerpt)

**2.2.2 Timber construction in Switzerland – example 2:
«FachWerk» building including production facility, offices and residential units,
Ostermundigen, canton of Bern**



Fig. 3 "FachWerk" building including production facility, offices and residential units. The façade is fitted with solar panels (Image source: Beer Holzbau AG, Ostermundigen BE)

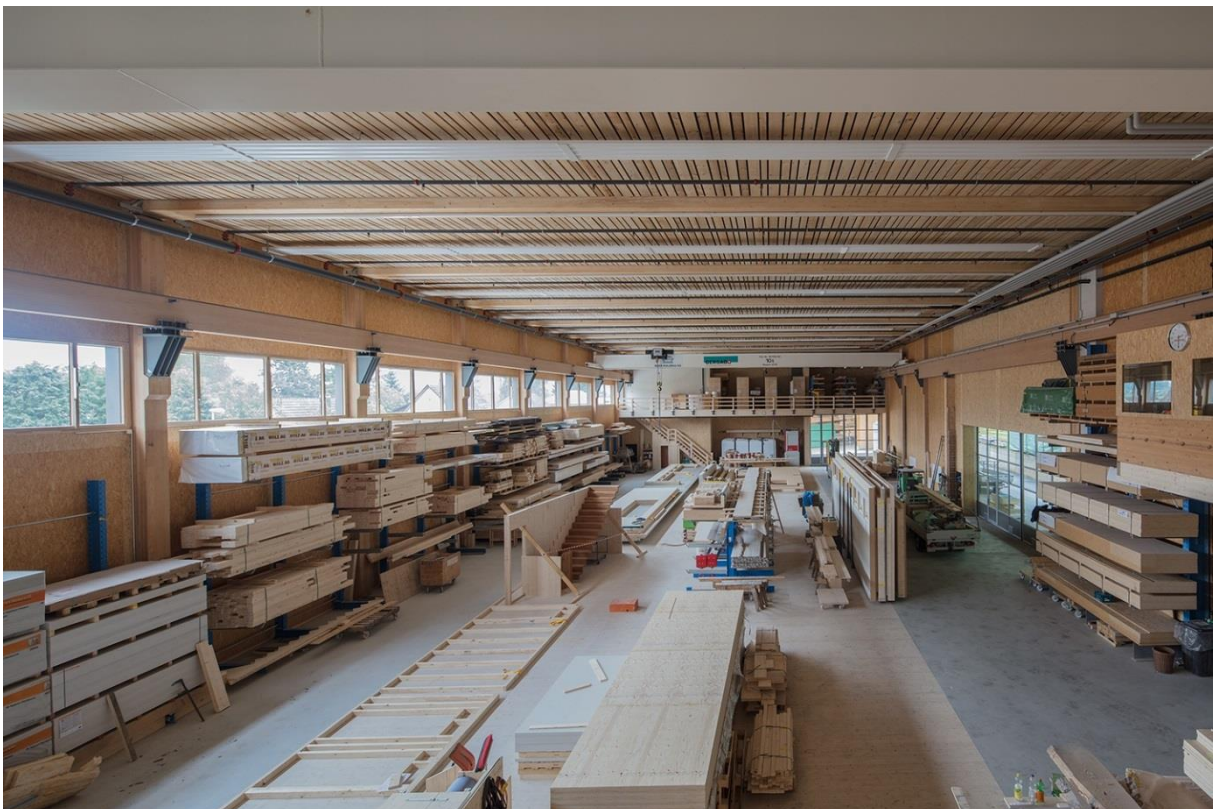


Fig. 4 "FachWerk" building including production facility, offices and residential units: the glued, reinforced beechwood crane runway is mounted on spring elements for noise reduction. (Image source: Beer Holzbau AG, Ostermundigen BE)

Reference: Q375-0558

- Buildings completed: 2017
- Client: Beer Holzbau AG, Ostermundigen
- Architecture: hb architekten ag, Düringen FR
- Timber construction: Beer Holzbau AG, Ostermundigen
- Certification: Minergie-P certificate, CO₂ certificate, "Herkunftszeichen Schweizer Holz" (HSH) label of origin
- Building volume: 18 m high x 78.5 m long x 23.2 m wide = 32,781.6 m³
- Total volume of timber used: 1615 m³
- Volume of timber used by wood type:
 - Beech (posts): 37.7 m³
 - Spruce (beams): 1,420.5 m³
 - Fir (beams): 5.7 m³
 - Ash (beams): 30.0 m³
 - Oak (parquet flooring): 10.4 m³
- Data relating to the beechwood crane runway:
 - Span, normal: 6 m/size: 200 x 600 mm
 - Span, over door: 12 m/size: 200 x 1040 mm
 - Maximum load: 26 t
- Special or innovative features: Production facility with a glued laminated, reinforced beechwood crane runway (spring-mounted for noise reduction); upper floor containing offices, meeting and recreation rooms; four spacious attic apartments. Part of the façade is fitted with solar panels

2.2.3 Timber construction in Switzerland – example 3: Naturbad Riehen swimming pool, canton of Basel-Stadt



Fig. 5 Naturbad Riehen: view across the swimming pool to the terrace, changing rooms, ticket desk and café. (Image source: Corinne Cuendet, Clarens/LIGNUM)



Fig. 6 Naturbad Riehen: view along the larchwood terrace..

(Image source: Corinne Cuendet, Clarens/LIGNUM)

Reference: Q375-0558

- Start of construction: April 2013
Building completed: June 2014
- Client: Gemeindeverwaltung Riehen BS
- Architecture: Herzog&de Meuron, Basel
- Timber construction engineer: Pirmin Jung Ingenieure AG, Rain LU
- Timber construction: PM Mangold Holzbau AG, Ormalingen BL
- Materials:
 - Glued laminated larch, 120 m³
 - Three-layer larch boards, 1900 m²
 - Wooden cladding, 720 m²
 - Larch decking, 1400 m²
- Awards: Prix Lignum 2015, Anerkennung Region Nord (recognition in the northern region).
- Special feature: The Swiss municipality of Riehen, bordering the city of Basel, lies in the gently widening valley of the River Wiese, near to its confluence with the Rhine. The changed perspectives brought by the intervening years prompted the idea of abandoning the conventional pool concept with its mechanical and chemical water treatment systems in favour of a pool closer to a natural condition with biological filtration. This approach was publicly discussed by the citizens of Riehen and officially approved by a municipal vote. The standard geometric swimming pool transforms into a bathing lake where the technical systems and machine rooms vanish, to be substituted by planted filtering cascades. This concept led to the notion of modelling the natural pool on the local "Badi", Basel's traditional wooden Rhineland baths, which combine a lively atmosphere with a timeless appearance. The site is screened on two sides by an enclosing timber wall: on the north towards the road and on to the west from adjoining private properties. The southern perimeter facing the river, on the other hand, is open, bounded only by a green hedge. On the eastern front, a timber fence merges into the amenities building, which incorporates the entrance and supporting facilities, while the wall along the northern and western boundaries offers a 200 m long sheltered solarium with recliners. In terms of ecological cleaning capacity, the baths are designed to accommodate 2000 bathers per day. (source: excerpts Herzog & de Meuron)

2.2.4 Timber construction in Switzerland – example 4: Bois-Genoud Steiner School, Crissier, canton of Vaud



Fig. 7 Bois-Genoud Steiner School, Crissier, canton of Vaud: The cantilevered roof and terraces provide protection from the sun in the summer and facilitates solar gain winter. (Image source: LOCALARCHITETURE, Lausanne VD)

Evolution de l'inclinaison du soleil en fonction des mois de l'année

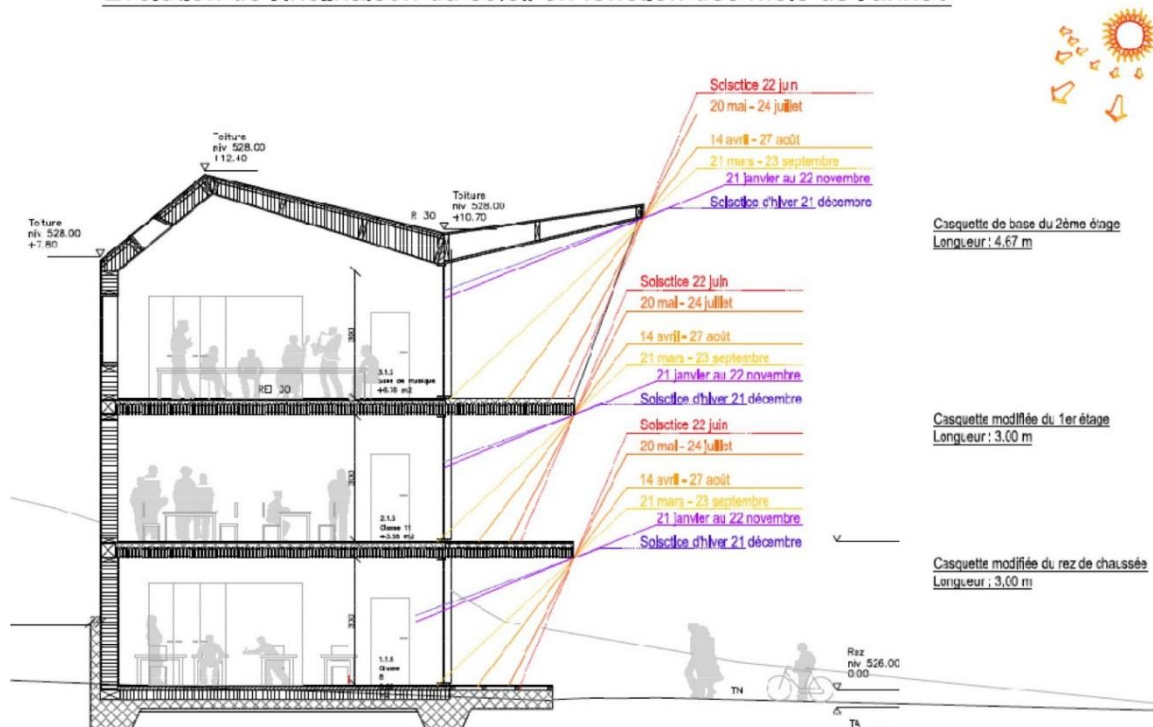


Fig. 8 Bois-Genoud Steiner School, Crissier, canton of VD: Cross-section of the building showing the inclination of the sun at different times throughout the year.

(Image source: LOCALARCHITECTURE, Lausanne VD)

- Realisation: January 2012 – August 2012
- Client: ERSL - Ecole Rudolf Steiner, Lausanne VD
- Architects: LOCALARCHITECTURE, Lausanne VD
- Civil Engineer: Ratio Bois Sarl, Villeneuve VD
- Framework: Lambelet Charpente SA, Puidoux VD
- External Woodwork: Gindraux SA, Saint-Aubin NE
- Volume: 4700 m³ (SIA)
- Main type of wood used: fir
- Awards: Prix Lignum 2015, first place within the western region.
- Special feature: Located in a green belt of Lausanne's western metropolitan area, the school building of Bois-Genoud integrates the Rudolf Steiner pavilion campus.
- The building, accommodated on three floors, takes up the external flow standard of the existing pavilions. The staircase and the ramp give access to large outside corridors which lead directly to the classrooms and cloakrooms. The spaces defined by these corridors are likewise used as external extensions for the classrooms thus allowing, in line with the educational principles of the school, a
 - teaching in direct link with the surrounding natural elements.
- Entirely executed in woodwork, the building offers a quite sealed north façade in order to provide a sheltered position against the noise pollution brought by the nearby highway. The entirely glazed southern façade works as a wide passive solar collector. In summer time, the corridors protect the façade from the sun and allow to control the overheating of the building.
- In order to stress the relationship between the interior spaces and the lush vegetation of the place, the corridors are hung from the roofing with a series of steel tie rods. (Source: excerpts press releas LOCALARCHITECTURE)

**2.2.5 Timber construction in Switzerland – example 5:
Cycling and pedestrian bridge over the A6 motorway access road at Rubigen, Bern**



Fig. 9 Cycling and pedestrian bridge over the A6 motorway access road at Rubigen, canton of Bern; View of the entire bridge from the south. (Image source: Emch&Berger, Jean-Pascal Ammann)



Fig. 10: Cycling and pedestrian bridge over the A6 motorway access road at Rubigen, canton of Bern: View from the west.(Image source: Emch & Berger, Willy Vogelsang)



Fig. 11: Cycling and pedestrian bridge over the A6 motorway acces road at Rubigen, canton of Bern: Covered central part of the bridge crossing the motorway. (Image source: Emch & Berger, Willy Vogelsang)

- Building completed: May 2017
- Client: Federal roads office FEDRO, infrastructur, Thun BE
- Design and structural analysis: Emch+Berger AG, Bern
- Timber construction: Zaugg AG, Rohrbach BE
- Timber used for the timber bridge, including the approach spans:
 - Posts, crossbeams, side-beams and braces: glued laminated timber GL24h, visual quality, 210 m³
 - Top and bottom chords of the framework: glued laminated timber GL32h N 20 m³
 - Panels: Kerto Q 25 m³
 - Façade (consisting of wedges and single-layer boards): larch, visual quality, 55 m³
- Special feature: The motorway access road at Rubigen is subject to daily tailbacks on the cantonal road crossing the motorway. The cantonal road bridge, which only has three lanes, provides insufficient capacity. In order to increase the capacity of the access road, it is planned to remove the pavement on the existing bridge this year to make way for a fourth lane. Non-motorised traffic will be diverted from the existing road bridge to a parallel wooden bridge.

The new link consists of an approximately 27-metre-long covered wooden bridge across the motorway, two wooden bridges (33 and 53 metres long respectively) designed as approach spans and another wooden bridge (over 80 metres long) along the cantonal road. The main bridge and three other sections share a common formal idiom, with a smooth inner surface and a structured outer surface.

The covered flyover consists of a slightly curved box section designed as a single-span girder. The curvature required the design of two steel frames, one at each end of the bridge. The longitudinal trusses consist of steel tie rods and braces and chords of glued laminated timber. The supporting structure is protected by a larch façade with a modular design to facilitate the replacement of individual sections. The approach sections of the bridge consist of continuous beams with a trough cross-section featuring integrated light fixtures as seen on the main section of the bridge. (Source: Emch & Berger, Jean-Pascal Ammann, excerpt)

**2.2.7 Timber construction in Switzerland – example 6:
Conversion of an old barn into a residential dwelling in the Dingenhart village
conservation area, Frauenfeld, canton of Thurgau**



Fig. 12 Conversion of an old barn into a residential dwelling in the Dingenhart village conservation area, Frauenfeld, canton of Thurgau. The external look of an old barn is maintained in accordance with the conservation criteria. (Image source: Prix Lignum)



Fig. 13 Conversion of an old barn into a residential dwelling in the Dingenhart village conservation area, Frauenfeld, canton of Thurgau. The modern timber structure provides contemporary living comfort in the interior. (Image source: Prix Lignum)

- Building completed: 2014
- Client: Familie, Martin Frey, Frauenfeld TG
- Architecture: bernath+widmer, Bernath Roland Bernath, Zürich

Reference: Q375-0558

- Timber construction: Sommerhalder Holzbau AG, Urban Bernhardsgrütter, Märstetten TG
- Engineer: Fitze AG, Christoph Meier, Frauenfeld
- Main type of wood used:
 - Construction timber: spruce, approx. 48 m³
 - Three-layer floor boards: spruce, 120 mm thick, approx. 20 m³
- Awards: Prix Lignum 2015, Anerkennung Region Ost (recognition in the eastern region)
- Special feature: A barn in the Dingenhart village conservation area in Frauenfeld in the canton of Thurgau that had not been used for many years was converted into a residential dwelling with three apartments. The aim was to conserve the distinctive appearance of the simple farmhouse with its plastered dwelling and adjoining wood-clad barn as far as possible. Furthermore, development of the barn was restricted to two-thirds of its volume: the remaining third could only contain unheated rooms to extend the living space. The barn's external framework and roof were in good condition and were retained. The barn is now supported by a framework of glued laminated spruce wood, which replaces the old supporting structure. Part of the roof is fitted with solar panels for the generation of electricity. (Source: Prix Lignum, excerpt)

3 Roundwood: sawlogs, pulpwood and fuelwood

3.1 Developments up to mid-2017

The Swiss forestry sector was spared the effects of major storms and compulsory logging from 2008 to mid-2017. The heat waves and regional drought spells of summer 2016 weakened spruce stocks across the entire Central Plateau and made the trees vulnerable to infestation. The number of new bark beetle infestation sites increased significantly in 2016. Consequently, even without storm events, a further increase in the volume of beetle-infested wood may be expected in 2016/2017. However, it is unlikely to reach a level that will have a disruptive impact on the market. Climate change looks set to exacerbate bark beetle damage in the future.

The Swiss timber harvest continued its decline in 2016. A total of 4.46 million cubic metres of timber was harvested in 2016, 2% less than the previous year, bringing the timber harvest to its lowest level in the past ten years. This reduction is mainly due to the difficult market conditions, with a lack of financial incentives for forest owners to harvest wood. The economic situation of Swiss forestry firms remained difficult in 2016. The wood harvest continues to operate at a loss. The shift away from higher-quality roundwood assortments with a view to increasing sales of wood fuel is having an impact.

In 2016 68% of the wood harvest, i.e. 3.02 million m³, originated from public forests and 1.44 million m³ from private forests.

The harvesting of softwood decreased from 2015 to 2016 by 3% to 3.18 million m³ and hardwood harvesting decreased by 1 % to 1.65 million m³. The proportion of harvested wood accounted for by softwood has decreased from 74% in 2006 to 63% in 2016, and the proportion of hardwood has increased from 26% to 37%. This reflects the trends in natural forest development: two thirds of the standing volume is softwood and declining, while one third is hardwood and increasing.

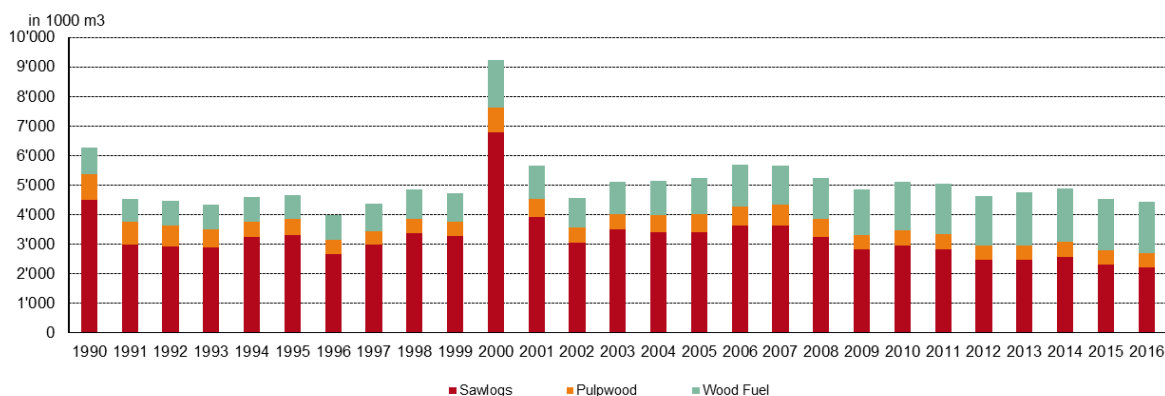


Fig. 14 – Wood harvest in Switzerland 1990 – 2016 in 1000m³

3.2 Timber assortments and price trends

Of the 2.21 million m³ of sawlogs harvested in 2016, 2.08 million m³ or 90 % were softwood and only 10 % hardwood. The market for soft sawlogs in 2015 and 2016 was influenced by the pressure arising from the low euro exchange rate: due to the changes in the exchange rate, the forestry sector had to accept price reductions to be able to sell the timber abroad and on the domestic market. As a result of the significant decline in raw wood exports, particularly to Italy and Austria, the wood from Swiss forests was also increasingly marketed within the country in 2016. Soft sawlog prices are under pressure in 2016/2017. The average price for spruce/fir sawlogs fell by 0.9 % from March/April 2016 to March/April 2017 and less wood was sold. Exports of soft sawlogs decreased by 15 % to 325,000 m³. The imports decreased by 6 % to 50,000 m³.

The market for beech sawlogs, the most important variety of hardwood in terms of volume, remains weak due to the lack of suitable processors. The majority of the traditional processing capacities for Swiss beechwood in northern Italy ceased operation in recent years. The price of beech sawlogs remained under pressure during this reporting period.

The harvesting of hard sawlogs decreased in 2016 by 4% to approximately 221,000 m³, of which 165,000 m³ was exported. At around 51,000 m³ in 2016, imports of hard stemwood were also considerably lower than exports.

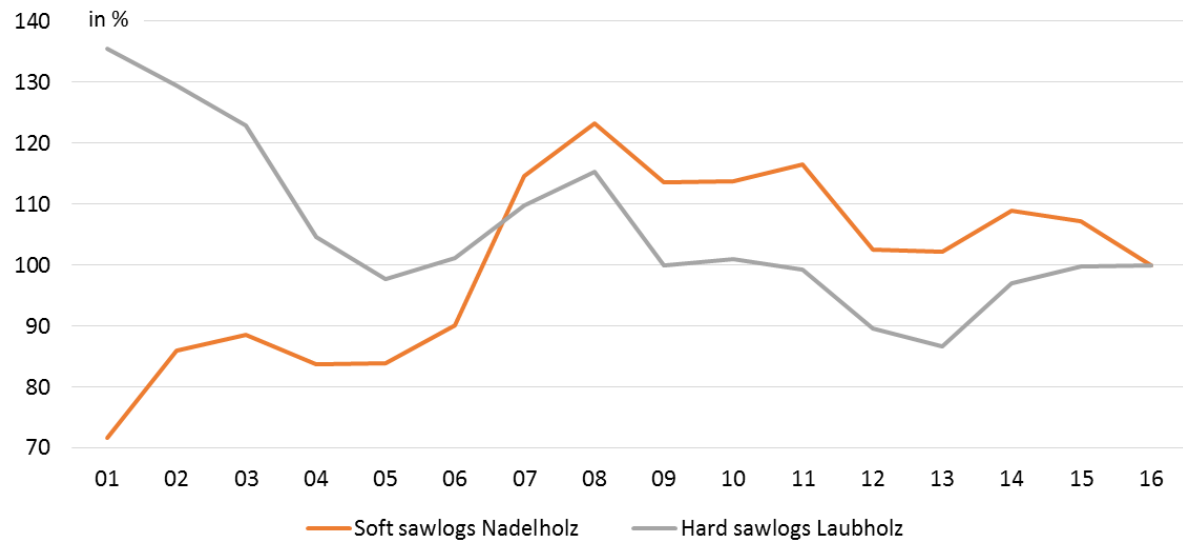


Fig. 15 – Price index for sawlogs, 2001-2016 (Sep-Oct 2015 = 100)

(Source: Federal Office for Statistics)

The harvesting of energy wood increased by 0.4% to 1.74 million m³ and that of wood for the derived wood products and paper industries (“industrial wood”) decreased by 0.4 % to 0.48 million m³. Hence the supply of wood shifted further away from higher quality roundwood assortments to lower quality assortments for industrial processing and, above all, energy production. Medium and lower quality beech roundwood, large volumes of which were exported to Italy or processed in Switzerland into the 1990s, now enter the expanding energy wood market.

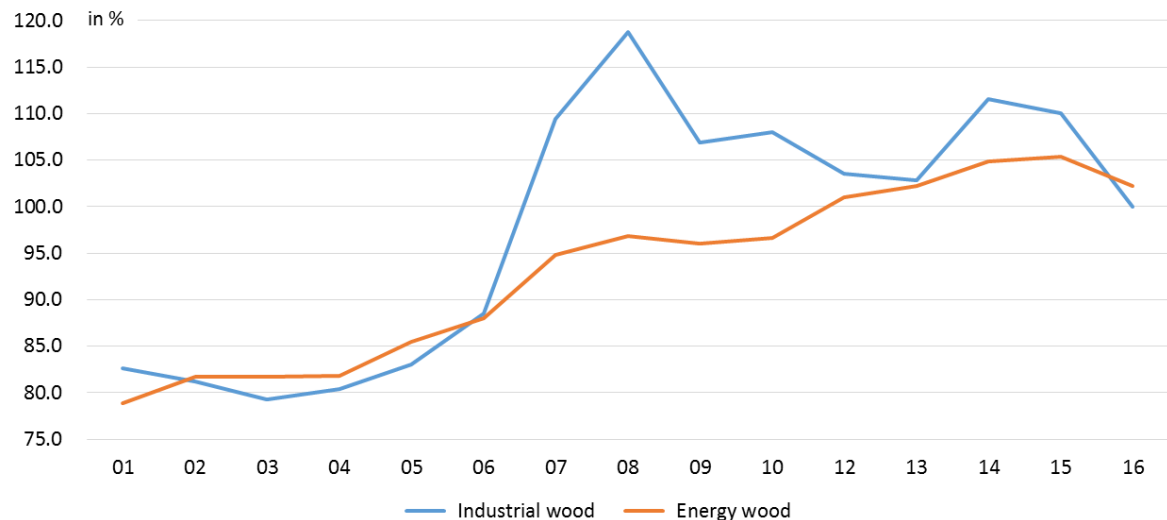


Fig. 16 – Price index for industrial wood (pulp wood) and for energy wood, 2001-2016 (Sep-Oct 2015 = 100)

(Source: Federal Office for Statistics)

3.4 Economic situation of the forestry sector

Public forestry operations manage 71% of Switzerland's productive forest area. Despite considerable cost-reduction efforts, the operating results of the Swiss forestry sector deteriorated in 2016. The corresponding data were collected via a test network of 160 forest enterprises distributed across Switzerland in the forest regions of the Jura, the Central Plateau and the Alps.

The enterprises were able to reduce their costs by 21.8%, however their income also fell by 27.9% – hence by more than the costs – resulting in a 6.1% decline in earnings. This is mainly due to the supply of wood shifting away from the higher-quality roundwood assortments to wood fuel. In 2016, total forest management costs amounted to CHF 516.80/ha, around CHF 22/ha less than in 2015. The costs of the second level of production (wood harvesting) fell by around CHF 13/ha (around CHF 5/cubic metre), amounting to CHF 302.20/ha (CHF 77.40/cubic metre). Average wood revenues across all assortments throughout Switzerland is CHF 72/cubic metre. Forest management profits declined from –CHF 59/ha to –CHF 64/ha. Profits from services rendered increased from CHF 7/ha to CHF 8/ha in 2016. The net amount invested fell from 59 CHF/ha in 2015 to CHF 45/ha in 2016.

3.5 Wood energy

In 2016, Switzerland's final energy consumption increased by 1.9 % to 854,300 TJ compared to the preceding year. This is down to cooler weather conditions with 6.7% more heating degree days, better economic development with GDP growth at 1.3%, a 1.1% increase in the average permanently resident population, an increase in housing stock and a 1.6% increase in the motor vehicle stock. Despite this slight increase, final energy consumption in 2016 was the third lowest recorded in the past 18 years after 2014. In 2016, 16% (41,350 TJ) of primary domestic energy produced (259,800 TJ) came from wood, 50% from hydropower, 23% from household and industrial waste, and 11% from other renewable energy sources (solar, wind, biogas, biofuels and ambient heat).

→ For more information, see:

http://www.bfe.admin.ch/themen/00526/00541/00542/00631/index.html?lang=de&dossier_id=00763

Due to the characteristics of this climate-neutral raw material and the subsidising of non-renewable energies, the importance of wood as an energy source continues to increase. The potential offered by wood fuel (i.e. forest, slash, wood residues and used wood) will be exploited more extensively in the future. *The cost-covering remuneration for feed-in to the electricity grid (CRF)* for electricity generated from renewable sources affects the viability of wood-fired heating plants and, together with a desired gain in terms of image, increases the (economic) attractiveness of business with green electricity for the Swiss electricity companies.

Four large wood-fired power plants currently operate in Switzerland. Despite the current difficult economic climate, there are plans to build more plants to support the implementation of the Energy Strategy 2050. Construction will begin on a second wood-fired power plant in Basel in early 2017, which is expected to yield an annual reduction in CO₂ emissions of 19,000 tonnes. The new plant, which will be fuelled by wood chips, is expected to generate around 80 gigawatt hours of thermal energy and 27 gigawatt hours of renewable electricity. A large portion of the wood chips will be sourced from forests in the region, but wood residues and waste wood will also be used. The power plant is scheduled to commence operation in winter 2018/2019.

Another new wood-fired power plant with a heat input of 36 MW to be constructed in Sisselerfeld (Basel region) is intended to partially replace an existing gas-fired power plant, enabling an annual reduction in CO₂ emissions of 35,000 tonnes. The investment decision is due in May 2017, and the wood-fired power plant is due to commence operation in 2018. The main customers for the energy to be produced by the plant are two large chemical companies. Operating at 86% capacity, the plant is expected to generate 200 gigawatt hours of thermal energy and 42 gigawatt hours of electrical energy annually from 110,000 tonnes of wood.

Small to medium-sized wood-fired heating systems of local and regional importance are also being installed on a regular basis. Small to medium-sized wood-fired heating systems of local and regional importance are also being installed on a regular basis. For example, a smaller district heating plant with electricity production is being built in Baden-Dättwil, which will supply, inter alia, a large hospital. Foreign trade in wood fuel is relatively insignificant. In other words, the wood fuel harvested in Switzerland is also burned within the country.

3.6 Certified forest and forest products

3.6.1 FSC and PEFC certification

Approximately 0.65 million ha of Swiss forest (i.e. 51 % of the total forest area) was certified in 2014. Of these certified areas, more than the half have both FSC and PEFC certification. Of the timber harvested in Switzerland in 2014, 66% was certified. The corresponding data were not surveyed from 2015 since the revision of the Swiss forestry statistics.

At present, over 900 companies operating at all levels in the timber processing sector hold a certificate. In contrast to the situation in the forestry sector, the majority of these companies, only hold the FSC certificate. Thus, the Swiss wholesale distributors, which also hold a significant share of the market in the DIY sector, are FSC-certified. 30% hold both the FSC and PEFC certificate. At present there are no companies in Switzerland that are solely PEFC-certified.

In 2009 a national certification standard, which forms the basis of certification for FSC and PEFC in Switzerland, was introduced by both label organisations. However, this harmonisation is criticised today as the competition between the private labels is disappearing as a result of its introduction. The main driving forces for certification in Switzerland are the DIY sector and the demand for certified paper products. However, the sellers of certified wood cannot demand a higher price ("green premium"). Thus the market does not compensate for the additional costs incurred in certification. For this reason, certification is a contentious issue in the forestry and timber sector.

3.6.2 "Herkunftszeichen Schweizer Holz" (label of origin)

The origin of the wood is not declared under the FSC and PEFC certification systems. In 2009 the forestry and timber industry introduced a new label ("Herkunftszeichen Schweizer Holz", HSH). It is managed by LIGNUM, the Swiss timber sector umbrella organization. Its main purpose is to show and proof the Swiss origin of the timber products. The intention here is to raise the awareness of end users about Swiss wood that is produced in accordance with the strict sustainability requirements of the Swiss forest legislation and has not caused environmental pollution as a result of being transported over long distances.

The HSH guarantees the traceability and documentation of a wood product from its origin to the end user. Products bearing the Herkunftszeichen Schweizer Holz label of origin may contain up to 20% of wood of foreign origin if it comes from a comparable production region (low risk origin) and has a sustainability certificate or declaration of origin.

Since September 2011, all wood origination from Swiss forest areas can be marked with the Herkunftszeichen Schweizer Holz label of origin. Use rights are assigned to forest owners if they are prepared to fulfil the conditions of the regulation. The cantonal forestry sector associations monitor compliance with the regulation requirements.

-> http://www.lignum.ch/fr/technique/certification_du_bois/; <http://www.wvs.ch/fr/taches-centrales/dossiers/certificat-dorigine-bois-suisse.html>

3.7 Sawnwood

The construction industry remained dynamic in 2016, with timber construction also gaining ground and attaining a 14.0% market share across all types of buildings. At 40.0%, timber construction represents the largest share of the market in the agricultural category, and at 10.0% the smallest share in the leisure, sport and recreation category. The new fire regulations introduced in 2015 have liberated timber construction from certain restrictive conditions, thus speeding up development particularly in relation to multi-storey buildings. However, owing to a lack of domestic production capacity for glued laminated wood, domestic wood-processing plants and sawmills are only benefiting partly from this trend. The trend towards glued laminated components made from small-diameter timber is also reflected in the debate surrounding large-diameter timber.

Despite a 4% decrease in harvested stemwood to 2.21 million cubic metres, Swiss sawmills produced 0.4% less sawnwood (1.15 million cubic metres) from 1.88 million cubic metres in 2016 compared to the 1.16 million cubic metres produced in 2015. In 2016, 94% of sawnwood produced was soft sawnwood and 6% was hard sawnwood. While exports of sawnwood increased slightly, exports of stemwood and industrial wood decreased slightly in 2016. In other words, a larger proportion of the

harvested stemwood was processed in Switzerland in 2016

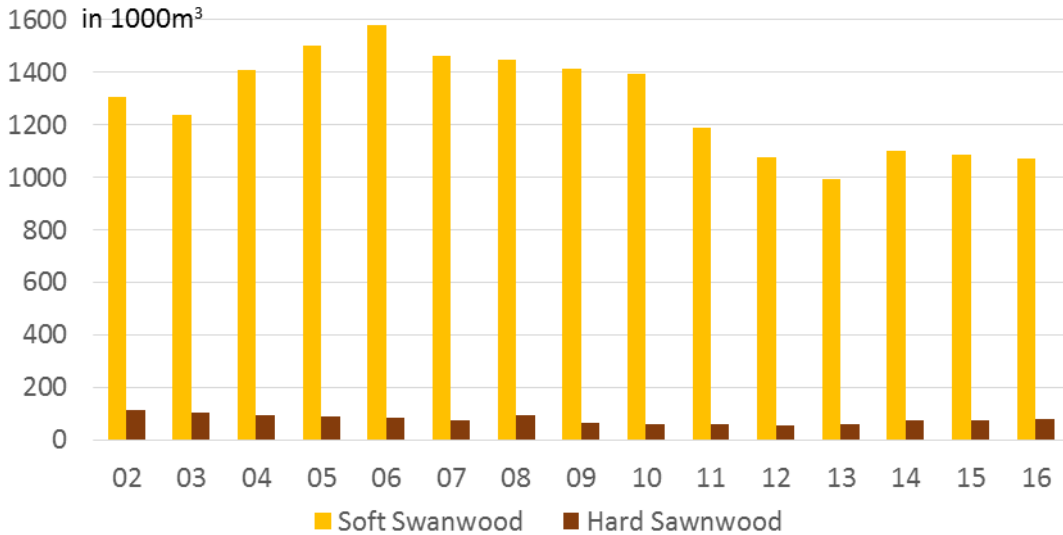


Fig. 17– Sawnwood production in Switzerland, 2002-2016

(Source: Federal Office for Statistics)

Swiss sawmills largely cover their sawlog requirements from domestic sources – at prices charged in Swiss francs. They also export sawnwood and sawnwood residues into the euro zone. As a result they face a double, and correspondingly severe, competitive disadvantage vis-à-vis their competitors from the EU. Moreover, the Italian sawnwood market, a traditional sales channel, is declining, and, on the domestic market, traditional wood boards cut to the customer’s specifications for construction purposes, are being increasingly replaced by further processed semi-finished products such as glued construction timber. The prices of imported glued-laminated beams correspond approximately to those that Swiss laminated wood producers have to pay for domestic sawnwood.

Given that the increase in the average prices of the sawnwood assortments was lower than those of sawn roundwood, the economic scope available to the sawmills decreased further.



Fig. 18– Price index for soft sawnwood, 2001-2016 (Sep-Oct 2015 = 100)

(Source: Federal Office for Statistics)

In 2016, 61% of felled roundwood was turned into sawnwood; 21% of wood residues were used to generate energy within the forestry operations themselves, 27% was sold as wood fuel, 43% went to the paper and derived timber products industries, and 9% was used in other ways.

3.8 Pulpwood-processing sector

In 2016, 486,000 m³ of industrial wood was harvested, of which 53 % was softwood. 88,000 m³ of industrial wood was imported and 54,000 m³ exported, giving a domestic consumption of industrial wood of 520,000 m³ for 2016.

The paper and derived timber products industries purchased 6.3% less wood in 2016 (1.14 million cubic metres) than in the previous year (1.22 million cubic metres). Cellulose is no longer produced in Switzerland since 2008. Of the wood purchased, 48% was industrial wood and 52% wood residues. Imports of industrial roundwood are subject to major fluctuations as the internationally oriented industrial wood processors take greater account of the prevailing supply situation and currency developments than the sawmills when purchasing raw wood.

3.8.1 Wood-based panels

The Swiss particle board and fibreboard industry benefited from the thriving domestic construction economy in 2016 (particularly in the area of residential construction, the finishing of buildings and renovation projects), from the new fire safety regulations introduced in 2015 and from the higher standards of energy efficiency and living comfort. However, it came under particular pressure in the export sector as a result of the low euro exchange rate. Production figures for particle board and fibreboard are no longer collected and published for data protection reasons and must be estimated. In 2016, 76% of the particleboard and fibreboard produced was exported.

Switzerland's only fibreboard manufacturer was sold to a French group in 2016. Soft fibreboard is preferred for the energy-based renovation of buildings and used for high-quality heat and noise insulation. Particleboard is mainly used in the production of furniture and in interior construction. Hard fibreboard is not produced in Switzerland.

3.8.2 Pulp and paper

The Swiss paper and paperboard industry held up well in 2016 in a generally difficult economic environment. However, it suffered from the repercussions of the lifting of the minimum euro/franc exchange rate and from the excess production capacity on the European market, which put pressure on prices and margins. 2016 saw the closure of a factory specialised in the production of high-quality paper.

Digitisation and changes in the media market put pressure on newspaper printing and other graphic paper, while the market for hygiene, household and packaging paper remained strong and recorded a slight upward trend.

2016 saw a 7.4% reduction in the production of wood pulp (0.11 million tonnes) compared to the previous year. Member companies of the Association of the Swiss Pulp, Paper and Paperboard Industry (ZPK) supplied 3.6% of paper and paperboard (1.23 million tonnes) in 2016. Exports declined by 1.8% from 940,000 tonnes to 923,000 tonnes. However, of the lower quantities supplied, exports accounted for a slightly larger share. Imports decreased by 1.7% to 898,000 tonnes. Domestic consumption of paper and paperboard decreased by a further 3.5% to 1.21 million tonnes in 2016. In 2016, per capita consumption decreased by 4.6% from 151 kg to 144 kg, a decline of around 16% compared to 2012.

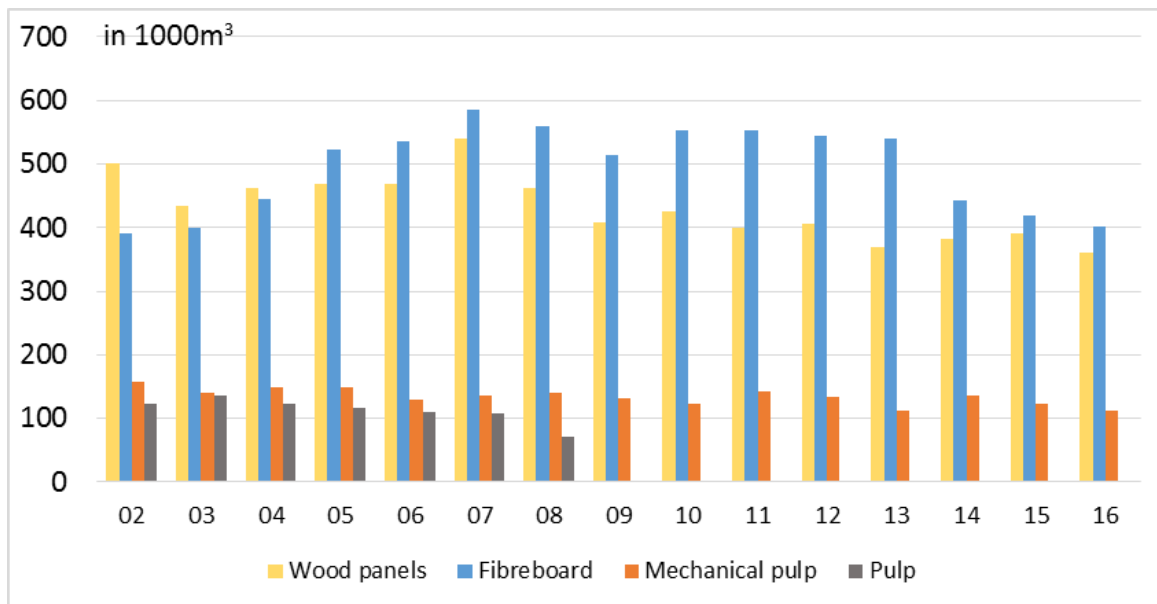


Fig. 19– Production of wood panels, fibreboards, mechanical pulp and wood pulp 2002-2016

(Source: Estimated values; Federal Office for the Environment FOEN, Forest Division)

4 Tables

4.1 Economic Indicators for Switzerland

Economic Indicators for Switzerland

| | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 ^F | 2017 ^F | 2018 ^F |
|--|------|------|------|------|------|------|------|------|------|------|------|------|------|-------------------|-------------------|-------------------|
| Economic growth in % ¹ | 0 | 2.4 | 2.7 | 3.8 | 3.8 | 2.2 | -1.9 | 3 | 1.8 | 1 | 2 | 2 | 0.8 | 1.5 | 1.4 | 1.9 |
| Inflation in % ² | 0.6 | 0.8 | 1.2 | 1.1 | 0.7 | 2.4 | -0.5 | 0.7 | 0.2 | -0.7 | -0.2 | 0 | -1.1 | -0.4 | 0.5 | 0.2 |
| Unemployment rate in % ³ | 3.7 | 3.9 | 3.8 | 3.3 | 2.8 | 2.6 | 3.7 | 3.5 | 2.8 | 2.9 | 3.2 | 3 | 3.2 | 3.3 | 3.2 | 3.1 |
| Interest yields in 10-year government bond in % ⁴ | 2.6 | 2.7 | 2.1 | 2.5 | 2.9 | 2.9 | 2.2 | 1.6 | 1.5 | 0.7 | 0.9 | 0.8 | 0.7 | -0.4 | 0.0 | 0.2 |
| Currency rate ⁴ | | | | | | | | | | | | | | | | |
| EUR | 1.52 | 1.54 | 1.55 | 1.57 | 1.64 | 1.59 | 1.51 | 1.38 | 1.23 | 1.21 | 1.23 | 1.20 | 1.07 | 1.09 | 1.13 | 1.16 |
| USD | 1.35 | 1.24 | 1.25 | 1.25 | 1.2 | 1.08 | 1.09 | 1.04 | 0.89 | 0.94 | 0.93 | 0.90 | 0.96 | 0.98 | 0.98 | 0.98 |


1) State Secretariat for Economic Affairs SECO, revised 2012 in accordance with NOGA 2008 (Nomenclature Générale des Activités économiques), statistical series retrospectively revised


2) Consumer Price Index, Swiss Federal Statistical Office BFS

3) State Secretariat for Economic Affairs SECO

4) Swiss National Bank SNB

4.2 Forest products production and trade 2015-2016; Estimations and Forecasts 2017–2018

|  TF1 TIMBER FORECAST QUESTIONNAIRE Roundwood | | Country: Switzerland | | | Date: 07.09.2017 | | |
|---|--|--|-----------------|-------|-------------------|------------------|------------------|
| | | Name of Official responsible for reply: | | | | | |
| | | Achim Schafer | | | | | |
| | | Official Address (in full): | | | | | |
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| | | Telephone: +41584691796 | | | Fax: +41584647866 | | |
| | | E-mail: achim.schafer@bafu.admin.ch | | | | | |
| Product Code | Product | Unit | Historical data | | Revised 2016 | Estimate 2017 | Forecast 2018 |
| | | | 2015 | 2016 | | | |
| 1.2.1.C | SAWLOGS AND VENEER LOGS, CONIFEROUS | | | | | | |
| | Removals | 1000 m ³ ub | 2'077 | 1'986 | 1'988 | 2'050 | 2'100 |
| | Imports | 1000 m ³ ub | 53 # | 55 # | 50 | 45 | 40 |
| | Exports | 1000 m ³ ub | 382 # | 420 # | 325 | 350 | 380 |
| | Apparent consumption | 1000 m ³ ub | 1'748 | 1'621 | 1'712 | 1'745 | 1'760 |
| 1.2.1.NC | SAWLOGS AND VENEER LOGS, NON-CONIFEROUS | | | | | | |
| | Removals | 1000 m ³ ub | 236 | 228 | 227 | 235 | 250 |
| | Imports | 1000 m ³ ub | 48 # | 50 # | 51 | 50 | 50 |
| | Exports | 1000 m ³ ub | 178 # | 180 # | 165 | 170 | 180 |
| | Apparent consumption | 1000 m ³ ub | 106 | 98 | 113 | 115 | 120 |
| 1.2.1.NC.T | of which, tropical logs | | | | | | |
| | Imports | 1000 m ³ ub | 0 # | 0 # | | 0 | 0 |
| | Exports | 1000 m ³ ub | 0 # | 0 # | | 0 | 0 |
| | Net Trade | 1000 m ³ ub | 0 | 0 | | 0 | 0 |
| 1.2.2.C | PULPWOOD (ROUND AND SPLIT), CONIFEROUS | | | | | | |
| | Removals | 1000 m ³ ub | 250 | 234 | 260 | 245 | 230 |
| | Imports | 1000 m ³ ub | 89 # | 80 # | 88 | 80 | 70 |
| | Exports | 1000 m ³ ub | 59 # | 60 # | 54 | 50 | 50 |
| | Apparent consumption | 1000 m ³ ub | 280 | 254 | 294 | 275 | 250 |
| 1.2.2.NC | PULPWOOD (ROUND AND SPLIT), NON-CONIFEROUS | | | | | | |
| | Removals | 1000 m ³ ub | 238 | 209 | 227 | 230 | 245 |
| | Imports | 1000 m ³ ub | 0 # | 0 # | 0 | 0 | 0 |
| | Exports | 1000 m ³ ub | 23 # | 25 # | 15 | 15 | 25 |
| | Apparent consumption | 1000 m ³ ub | 215 | 184 | 212 | 215 | 220 |
| 3 | WOOD CHIPS, PARTICLES AND RESIDUES | | | | | | |
| | Domestic supply | 1000 m ³ | 701 C | 731 C | | 740 | 750 |
| | Imports | 1000 m ³ | 671 C | 585 C | | 580 | 580 |
| | Exports | 1000 m ³ | 158 C | 43 C | 137 | 140 | 145 |
| | Apparent consumption | 1000 m ³ | 1'214 | 1'272 | 1'179 | 1'180 | 1'185 |
| 1.2.3.C | OTHER INDUSTRIAL ROUNDWOOD, CONIFEROUS | | | | | | |
| | Removals | 1000 m ³ ub | 11 | 11 | | 10 | 10 |
| 1.2.3.NC | OTHER INDUSTRIAL ROUNDWOOD, NON-CONIFEROUS | | | | | | |
| | Removals | 1000 m ³ ub | 6 | 4 | 5 | 5 | 5 |
| 1.1.C | WOOD FUEL, CONIFEROUS | | | | | | |
| | Removals | 1000 m ³ ub | 548 | 495 | 553 | 555 | 560 |
| 1.1.NC | WOOD FUEL, NON-CONIFEROUS | | | | | | |
| | Removals | 1000 m ³ ub | 1'186 | 1'096 | 1'188 | 1'200 | 1'230 |

| Product Code | | Product | Unit | Historical data | | Revised | Estimate | Forecast |
|---|---------------------------------------|---------------------|---------|--|-------|-------------------|----------|----------|
| | | | | 2015 | 2016 | 2016 | 2017 | 2018 |
|  <p style="text-align: center;">TF2 TIMBER FORECAST QUESTIONNAIRE Forest products</p> | | | | | | | | |
| | | | | Country: Switzerland | | Date: 07.09.2017 | | |
| | | | | Name of Official responsible for reply: | | | | |
| | | | | Achim Schafer | | | | |
| | | | | Official Address (in full): | | | | |
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| | | | | E-mail: achim.schafer@bafu.admin.ch | | | | |
| 5.C | SAWNWOOD, CONIFEROUS | | | | | | | |
| | Production | 1000 m ³ | 1'089 E | 1'045 E | 1'074 | 1'100 | 1'150 | |
| | Imports | 1000 m ³ | 345 | 348 | 348 | 320 | 300 | |
| | Exports | 1000 m ³ | 176 | 190 | 190 | 200 | 220 | |
| | Apparent consumption | 1000 m ³ | 1'257 | 1'203 | 1'203 | 1'220 | 1'230 | |
| 5.NC | SAWNWOOD, NON-CONIFEROUS | | | | | | | |
| | Production | 1000 m ³ | 75 | 131 | 79 | 85 | 90 | |
| | Imports | 1000 m ³ | 50 | 56 | 56 | 53 | 50 | |
| | Exports | 1000 m ³ | 15 | 17 | 17 | 20 | 20 | |
| | Apparent consumption | 1000 m ³ | 109 | 169 | 118 | 118 | 120 | |
| 5.NC.T | of which, tropical sawnwood | | | | | | | |
| | Production | 1000 m ³ | 3 N | 3 N | | 3 | 3 | |
| | Imports | 1000 m ³ | 10 | 10 | | 10 | 10 | |
| | Exports | 1000 m ³ | 0 | 0 | | 0 | 0 | |
| | Apparent consumption | 1000 m ³ | 12 | 13 | | 13 | 13 | |
| 6.1 | VENEER SHEETS | | | | | | | |
| | Production | 1000 m ³ | 1 C | 1 C | | 1 | 1 | |
| | Imports | 1000 m ³ | 5 C | 5 C | | 5 | 5 | |
| | Exports | 1000 m ³ | 2 C | 2 C | | 2 | 2 | |
| | Apparent consumption | 1000 m ³ | 4 | 4 | | 4 | 4 | |
| 6.1.NC.T | of which, tropical veneer sheets | | | | | | | |
| | Production | 1000 m ³ | 0 N | 0 N | | 0 | 0 | |
| | Imports | 1000 m ³ | 0 | 0 | | 0 | 0 | |
| | Exports | 1000 m ³ | 0 | 0 | | 0 | 0 | |
| | Apparent consumption | 1000 m ³ | 0 | 0 | | 0 | 0 | |
| 6.2 | PLYWOOD | | | | | | | |
| | Production | 1000 m ³ | 7 C | 7 C | | 7 | 7 | |
| | Imports | 1000 m ³ | 182 C | 192 C | | 195 | 200 | |
| | Exports | 1000 m ³ | 4 C | 5 C | | 5 | 5 | |
| | Apparent consumption | 1000 m ³ | 185 | 195 | | 197 | 202 | |
| 6.2.NC.T | of which, tropical plywood | | | | | | | |
| | Production | 1000 m ³ | 0 N | 0 N | | 0 | 0 | |
| | Imports | 1000 m ³ | 3 R | 25 R | 3 | 3 | 3 | |
| | Exports | 1000 m ³ | 0 R | 3 R | 0 | 0 | 0 | |
| | Apparent consumption | 1000 m ³ | 3 | 21 | | 3 | 3 | |
| 6.3 | PARTICLE BOARD (including OSB) | | | | | | | |
| | Production | 1000 m ³ | 391 | 391 R | 361 | 365 | 370 | |
| | Imports | 1000 m ³ | 238 | 247 | 247 | 230 | 220 | |
| | Exports | 1000 m ³ | 229 E | 237 E | 241 | 220 | 210 | |
| | Apparent consumption | 1000 m ³ | 400 | 401 | 367 | 375 | 380 | |
| 6.3.1 | of which, OSB | | | | | | | |
| | Production | 1000 m ³ | 0 | 0 | 0 | 0 | 0 | |
| | Imports | 1000 m ³ | 87 | 93 | 93 | 96 | 100 | |
| | Exports | 1000 m ³ | 1 E | 2 R | 1 | 2 | 2 | |
| | Apparent consumption | 1000 m ³ | 85 | 91 | 92 | 94 | 98 | |
| 6.4 | FIBREBOARD | | | | | | | |
| | Production | 1000 m ³ | 420 C | 401 C | | 390 | 380 | |
| | Imports | 1000 m ³ | 242 C | 245 C | | 190 | 200 | |
| | Exports | 1000 m ³ | 363 C | 354 C | | 330 | 320 | |
| | Apparent consumption | 1000 m ³ | 299 | 293 | | 250 | 260 | |
| 6.4.1 | Hardboard | | | | | | | |
| | Production | 1000 m ³ | 0 | 0 | | 0 | 0 | |
| | Imports | 1000 m ³ | 27 | 27 | 27 | 27 | 27 | |
| | Exports | 1000 m ³ | 5 E | 17 E | 5 | 5 | 5 | |
| | Apparent consumption | 1000 m ³ | 22 | 10 | 22 | 22 | 22 | |
| 6.4.2 | MDF/HDF (Medium density/high density) | | | | | | | |
| | Production | 1000 m ³ | 231 E | 199 E | 235 | 240 | 250 | |
| | Imports | 1000 m ³ | 64 | 71 | 71 | 70 | 70 | |
| | Exports | 1000 m ³ | 215 E | 201 E | 241 | 245 | 250 | |
| | Apparent consumption | 1000 m ³ | 80 | 69 | 65 | 65 | 70 | |
| 6.4.3 | Other fibreboard | | | | | | | |
| | Production | 1000 m ³ | 190 E | 202 E | 166 | 165 | 170 | |
| | Imports | 1000 m ³ | 151 | 148 | 148 | 145 | 140 | |
| | Exports | 1000 m ³ | 144 E | 136 E | 108 | 100 | 100 | |
| | Apparent consumption | 1000 m ³ | 197 | 214 | 206 | 210 | 210 | |
| 7 | WOOD PULP | | | | | | | |
| | Production | 1000 m.t. | 122 C | 113 C | | 110 | 105 | |
| | Imports | 1000 m.t. | 149 C | 121 C | | 110 | 100 | |
| | Exports | 1000 m.t. | 4 C | 0 C | | 0 | 0 | |
| | Apparent consumption | 1000 m.t. | 266 | 234 | | 220 | 205 | |
| 10 | PAPER & PAPERBOARD | | | | | | | |
| | Production | 1000 m.t. | 1'279 C | 1'233 C | | 1'200 | 1'175 | |
| | Imports | 1000 m.t. | 745 C | 728 C | | 720 | 700 | |
| | Exports | 1000 m.t. | 953 C | 943 C | | 950 | 950 | |
| | Apparent consumption | 1000 m.t. | 1'071 | 1'019 | | 970 | 925 | |
| 4.1 | WOOD PELLETS | | | | | | | |
| | Production | 1000 m.t. | 160 | 183 | | 185 | 190 | |
| | Imports | 1000 m.t. | 85 | 67 | | 70 | 70 | |
| | Exports | 1000 m.t. | 1 | 0 | | 0 | 0 | |
| | Apparent consumption | 1000 m.t. | 244 | 250 | | 255 | 260 | |