



11.12.2018

2018 Market Statement for Switzerland Developments in Forest Product Markets



Reference: R434-1459

Biodiversity tower in the Goldau nature reserve and wildlife park, Arth-Goldau
(image source: Lignum, Michael Meuter, Zurich)

Contents

Inhaltsverzeichnis

2018 Market Statement for Switzerland	1
Developments in Forest Product Markets	1
1 General economic trends	3
2 Developments in forest products markets.....	4
2.1 Overview and general trends	4
2.2 Excellence in Swiss timber construction	4
2.3 #Woodvetia –campaign to promote Swiss timber	21
3 Roundwood: sawlogs, pulpwood and fuelwood	22
3.1 Developments up to mid-2018	22
3.2 Timber assortments and price trends.....	22
3.3 Economic situation of the forestry sector	24
3.4 Wood energy	24
3.5 Certified forest and forest products	25
3.6 Sawnwood	25
3.7 Pulpwood-processing sector	27
4 Tables.....	29
4.1 Economic Indicators for Switzerland	29
4.2 Forest products production and trade 2016-2017; Estimations and Forecasts 2018–2019 .	30

Contributions: Eduard Belser, Journalist specialising in the timber market

Compiled by: Achim Schafer, Swiss Federal Office for the Environment FOEN, Forest Division, Bern

Source cover image: see page 6

1 General economic trends

Developments up to mid-2018

For the reporting period 2017 to mid-2018, a key framework condition for the Swiss export industry improved – the euro exchange rate – which rose from 1.07 CHF/EUR in January to 1.19 CHF/EUR in April 2018. Under pressure from the low euro exchange rate, the Swiss export economy became significantly more efficient and can therefore rapidly take advantage of this development and the favourable international economic environment. In the machinery and metalwork industries in particular, the situation has eased significantly. Even tourism, which is heavily dependent on the exchange rate, has been able to make up considerable ground. The adaptation of Swiss tourism to new customer groups, particularly from Asia, has contributed to this. The higher inflation in European neighbouring countries has also supported the positive effects of the stronger euro. More visitors from neighbouring EU countries are also holidaying in Switzerland again.

GDP grew by 1.0% in 2017. In autumn 2018 the Swiss economy is booming. Experts have raised their GDP forecast for 2018 from 2.4% to 2.9% and are expecting solid 2.0% growth in 2019, although in an environment of heightened global economic risks.

From May 2018, the euro exchange rate began to weaken slightly, chiefly due to the economic war waged by the United States against China and Turkey. This environment makes the Swiss franc attractive again as a safe-haven currency, despite the Swiss National Bank's low interest rate policy. This low interest rate policy is also causing real estate investment by institutional investors to remain high. However, the rising rate of vacant housing is increasingly curbing this trend. Fears of a real estate bubble are growing again.

Against this economic backdrop, the Swiss forestry and timber sector can recover somewhat. However, the prolonged downturn has exhausted the financial reserves of forest enterprises and the first stage of processing: sawmills. There is therefore little scope for major investments to fundamentally improve structures. On the other hand, thanks to the intense building activity and the move towards timber construction, Swiss timber builders can work very successfully. Thanks to very active universities and universities of applied sciences in the field of timber construction, and the lively and regular exchange with timber construction businesses, innovations quickly find their way into building practice. Building regulations, which were updated several years ago to eliminate the disadvantages of timber construction for multi-storey buildings, have significantly contributed to this surge in timber construction. A challenge that is becoming ever more pressing is how to protect buildings against summer heat due to climate change. This area is already being prioritised in timber construction research.

In the paper and paperboard industry and among manufacturers of wood-based panels, the consolidation process continued during the reporting period. Production capacities for paper are being closed and those for fibreboard are being relocated to other European countries.

Global warming and the rising summer temperatures and increasing periods of drought are also a growing challenge for Swiss forestry in terms of forest management, particularly in the choice of tree species, e.g. the main tree species, spruce and beech, are particularly affected by climate change. For this reason, the number of cases of compulsory felling caused by spruce bark beetle infestation increased sharply in the reporting period. This increase can be absorbed by the market, however.

Outlook

The economic outlook for 2019 is shaped by uncertainty around the evolution of the euro/franc exchange rate, the lack of clarity on how the economic war between the United States and China will pan out and potentially escalate, and by tensions within the EU and between the EU and Turkey. The Swiss National Bank therefore intends to stick to its low interest rate policy, which in turn will limit investment opportunities for institutional investors and focus investment on real estate. This increases the risk of a real estate bubble, also given the declining immigration figures and growing housing vacancy rates in certain regions. However, there is also growing interest in renovating old buildings and making homes more energy-efficient.

-> 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

Over the course of 2017, a key economic parameter for the Swiss forestry and timber industry – the euro/franc exchange rate – saw a significant recovery. This positive development culminated in spring 2018, after which point it declined again. Even so, this development took some pressure off raw wood prices for a few months and reduced the price advantages of imports of sawnwood and glued semi-finished products for construction. Conversely, exports of raw wood, sawnwood and wood-based panels to the important neighbouring markets of Italy, Germany, France and Austria became more competitive. Sawmills in Switzerland, Germany, Austria and France reported above-average capacity utilisation and buoyant trade during the reporting period. However, the lean spell which lasted a number of years, exhausted the financial reserves of forest enterprises and the first stage of processing – sawmills – in Switzerland. There is thus little scope for major investments to fundamentally improve structures.

On the other hand, thanks to the intense building activity and the move towards timber construction, Swiss timber builders can work very successfully. Thanks to very active universities and universities of applied sciences in the field of timber construction, and the lively and regular exchange with timber construction businesses, innovations quickly find their way into building practice. Building regulations, which were updated several years ago to eliminate the disadvantages of timber construction for multi-storey buildings, have significantly contributed to this surge in timber construction. A challenge that is becoming ever more pressing is how to improve the protection of buildings against summer heat due to climate change. This area is already being prioritised in timber construction research.

In the paper and paperboard industry and among manufacturers of wood-based panels, the consolidation process continued during the reporting period. Production capacities for paper are being closed and those for fibreboard are being relocated to other European countries.

Global warming and the rising summer temperatures and increasing periods of drought are also a growing challenge for Swiss forestry in terms of forest management, particularly in the choice of tree species, e.g. the main tree species, spruce and beech, are particularly affected by climate change. For this reason, the number of cases of compulsory felling caused by spruce bark beetle infestation increased sharply in the reporting period. This increase can be absorbed by the market, however.

Outlook

The exchange rate between the euro and the Swiss franc, economic development in Switzerland's neighbouring countries – Italy, France, Germany and Austria – as well as the anticipated further increase in compulsory felling due to bark beetle infestation, will continue to be key topics for the Swiss forestry and timber industry in 2019. However, this is set against a positive assessment of sales markets for softwoods and a stable outlook for the difficult sales markets for hardwoods.

The boom in timber construction, as well as packaging for exports in the machinery and metalworking industries, will continue to drive strong demand for roundwood and sawnwood in 2019 and beyond.

The outlook is good that an anticipated decline in building activity can be offset by a further increase in the share of timber construction and an increase in energy-efficient renovations in the context of the 2050 Energy Strategy. A challenge that is becoming ever more pressing is how to improve the protection of buildings against summer heat due to climate change. This area is already being prioritised in timber construction research.

For industrial wood and residues from wood processing, strong demand for woodchips is expected in 2019 from the domestic paper and derived timber products industries. Sawdust and shavings will remain in demand for the production of wood energy pellets.

2.2 Excellence in Swiss timber construction

The share of timber construction continues to grow, particularly in the area of multi-storey residential buildings right up to large-scale constructions in wood. Building with wood is back in fashion: the number of planning permission applications for apartment blocks mainly made of wood has more than doubled since 2005. Wood as a building material has received a boost from new fire safety regulations, lower production costs, short construction times with less inconvenience for residents and through the quality that can be achieved through extensive prefabrication with clearly structured work processes in enclosed halls. In high-density building, when adding on to existing buildings, the weight

advantages of wood as a building material are naturally a factor. The increasingly visible appearance of wood as a building material is acting as a catalyst in this development.

The Prix Lignum, which is awarded every three years, plays a key role in raising the profile of the importance of domestic and renewable wood as a building material and of the quality of buildings realised in wood. Once again in the 2018 competition, the prize recognises a broad range of very different wooden structures, from a small garden pavilion to large residential complexes and industrial buildings. Even for Switzerland's internationally-renowned star architects, being involved in modern timber construction is now *de rigueur* and has become a must. This development is thanks in no small part to the Prix Lignum.

Load-bearing building components are increasingly being replaced successfully with glued beechwood. In this way, building components made from energy-intensive steel and concrete can be replaced by those made from renewable, domestic beechwood, which require significantly less energy to process. Interest in such heavy-duty components made from beechwood is growing, but the corresponding production capacities in Switzerland still need to be developed. Efforts in this area are under way. The cost-effective, industrial fabrication of glued, high-performance construction components made from domestic beechwood is technically demanding, however, and requires significant investment. If these efforts are successful, the share of sales of the most important type of hardwood in Switzerland can be strengthened in sales channels with high added value. At present, a disproportionately large proportion of high-quality beechwood has to be used to generate energy or is exported at low prices to Italy and Asia.

Timber construction is the most successful area of the Swiss forestry-wood chain and is internationally renowned. This is also supported by the research activity at the two Swiss federal institutes of technology in Zurich and Lausanne, the Swiss Federal Laboratories for Material Science and Technology (Empa) and the universities of applied sciences. The digitisation of design and construction of buildings and building components, and the robotic production of complex structures have reached a high standard in Switzerland and are rapidly being developed. This research is carried out in close cooperation with the timber construction sector. However, the success in research and in the timber construction sector does not fully penetrate through to forestry and the first stage of production – sawmills – as production capacities for glued wood components remain limited in Switzerland and a large part of the demand has to be met through imports. Thus, a significant proportion of Swiss raw wood is processed cost effectively into glued components in Austria and returned to Swiss building sites.

**2.2.1 Timber construction in Switzerland – example 1:
Observation tower with two facades – Biodiversity tower in the Goldau nature reserve
and wildlife park, Arth-Goldau in the canton of Schwyz**



Fig. 1 and cover picture: Biodiversity tower in the Goldau nature reserve and wildlife park, Arth-Goldau in the canton of Schwyz. (Image source: Lignum, Michael Meuter, Zurich)



Fig. 2 Biodiversity tower in the Goldau nature reserve and wildlife park, Arth-Goldau in the canton of Schwyz (Image source: Lignum, Michael Meuter, Zurich)



Fig. 3 Biodiversity tower in the Goldau nature reserve and wildlife park, Arth-Goldau in the canton of Schwyz (Image source: Lignum, Michael Meuter, Zurich)

- Building completed: 2016
- Client: Stiftung Natur- und Tierpark Goldau, Arth-Goldau SZ
- Architecture: Gion A. Caminada Architect ETH, Vrin GR
- Timber construction engineering: Walter Bieler AG Ingenieurbüro, Bonaduz GR
- Timber construction: Annen Holzbau AG, Goldau SZ
- Wood used: 236m³ Swiss fir and spruce, featuring the “Schweizer Holz” label of origin
- Size: 29.6m high
- Awards: 2018 Prix Lignum, 3rd place in the Central Switzerland region and special “Swiss wood” prize
- Staircase: 144 steps and three platforms
- Facilities: weather station, 360°webcam, goods lift, internet connection, video monitors, 23 nesting boxes for various bird species and bats
- Special feature: The biodiversity tower in the Goldau nature reserve and wildlife park opened in 2016. It won the third prize in the 2018 Prix Lignum in the Central Switzerland region. The observation tower, which is almost 30 metres high, stands on two staircases that stand at an oblique angle in the landscape and merge into one on the third floor. The observation tower has two faces: when looked at lengthways it appears bulky, while from the narrow side it looks slim and elegant. The tower is simple. Twenty centimetre thick laminated timber panels carry the loads into the ground. The sober façade is made from silver fir planks, which give the tower a simple and unadorned appearance. Slightly offset slits between the boards let light and air into the inside of the tower. The project uses Swiss wood as a raw material from the floor panel up in a systematic and appropriate manner for load-bearing, protective and decorative purposes. (Source: Lignum, excerpt)

Reference: R434-1459

**2.2.2 Timber construction in Switzerland – example 2:
Urban lightweight construction – Addition of five residential storeys on existing semi-basement, St.Gallen in the canton of St. Gallen, 2018 Prix Lignum. 1st prize in Eastern Switzerland region.**



Fig. 4 Five-storey apartment block on existing semi-basement with meticulously structured wooden façade (Image source: Till Former, Zurich)



Fig. 5 Five-storey apartment block on existing semi-basement, model of the supporting structure (Image source: Till Former, Zurich)



Fig. 6 Five-storey apartment block on existing semi-basement, the supporting structure influences the inside space (Image source: Till Forner, Zurich)

- Buildings completed: November 2017
- Client: Webetim AG, St. Gallen
- Architecture: ForrerStieger, St. Gallen
- Timber construction: Kaufmann Oberholzer AG
- Award: 2018 Prix Lignum 1st prize, Eastern Switzerland region
- What at first glance looks like a new build is in fact a major extension and remodelling. A commercial building used to stand on the tapered plot of land, and a lens grinder had his workshop in the sloping basement level. To ensure that the machines could continue to run during the building alteration, the building owner decided to replace the two upper storeys with five floors built of wood. Using conventional construction methods, only three storeys would have been possible for structural reasons. You can do more with wood...and therefore get more added value. The existing concrete structure of the basement only required minimal reinforcement. The architects wanted to show that the building is made of wood on the façade. The city council initially rejected the proposal, pointing out that other houses in the neighbourhood were rendered. Using a 1:1 model of the façade, the architects finally managed to convince the authorities. Their meticulously planned concept is reminiscent of concrete facades but with a unique wooden touch. The holistic approach means wood makes a building possible that could not be constructed using any other building method. The architects built on the existing structure, thereby saving grey energy and building time. They developed a consistent support structure that influences the dwellings. And through the façade they convincingly bring wood into a mural context. (Source Lignum/Kaufmann Oberholzer AG)

**2.2.3 Timber construction in Switzerland – example 3:
Addition of storeys to warehouse and production hall for building material supplier in
Müstair in the canton of Graubünden, Prix Lignum, recognition in the Eastern
Switzerland region.**



Fig. 7 Addition of storeys to warehouse and production hall for building material supplier LICO, Müstair in the canton of Graubünden and café. (Image source: Foto Martin Pinggera)



Fig. 8 Addition of storeys to warehouse and production hall for building material supplier LICO, Müstair in the canton of Graubünden. (Image source: Corinne Foto Martin Pinggera)

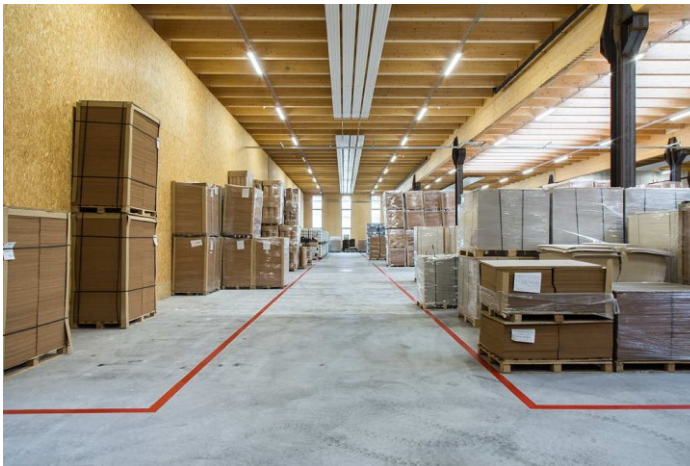


Fig. 9 Addition of storeys to warehouse and production hall for building material supplier LICO, Müstair in the canton of Graubünden. (Image source: Corinne Foto Martin Pinggera)

- Start of construction:
- Building completed:
- Client: LICO Baustoffhandel, Müstair GR
- Architecture: architectura la casa Andri + Zangerle sarl, Müstair GR
- Timber construction engineer: ?
- Timber construction: Foffa Conrad Holzbau AG, Valchava GR
- Awards: 2018 Prix Lignum, recognition in the Eastern Switzerland region.

2.2.4 Timber construction in Switzerland – example 4: The sequential roof, Zurich – digital waves, Arch-Tec-Lab ETH Zurich.



Fig. 10 Mounting of the roof of the Arch-Tec-Lab at the Institute of Technology in Architecture (ITA) (Image source:ETH/ITA Zurich)

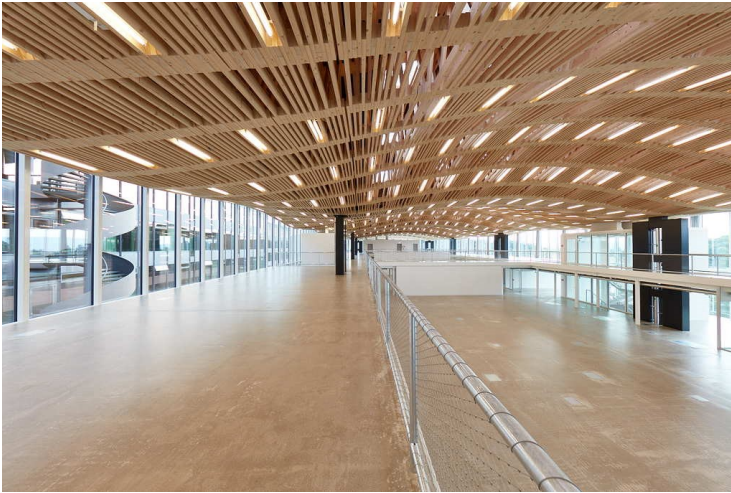


Fig. 11 View of the underside of the roof of the Arch-Tec-Lab at the Institute of Technology in Architecture (ITA) (Image source:ETH/ITA Zurich)

- Realisation: 2016
- Client: ETH Zurich represented by ETH Real Estate Management Department
- External Woodwork: ERNE AG Holzbau
- Main type of wood used: ?
- Awards: 2018 Prix Lignum, recognition in the Northern Switzerland region.
- Special features: For the reconstruction of the ETH Zurich's Arch-Tec-Lab at the Institute of Technology in Architecture (ITA), the Chair of Architecture and Digital Fabrication developed a new type of roof construction made from small wooden elements. The project showcases the potential of linking digital manufacturing technologies with sustainable and locally-sourced building materials such as wood. The construction consists of 168 individual trusses, which together form a 2,308m² free-form wooden roof. The robotic processing and assembly of the 48,624 wooden elements to individual beams allowed the free-form roof geometry to be manufactured efficiently. As a consequence, the roof structure, structural design and provision of the data required for manufacture are combined in an integrated digital planning process. In this way, the Chair's central research findings in the field of digital timber construction are consolidated and applied on an industrial scale in collaboration with various research and industrial partners. (Source: ETHZ/ITA)

**2.2.5 Timber construction in Switzerland – example 5:
A new form for an old building – Foyer of the old church in Boswil, canton of Aargau.**



Fig. 12: Foyer of the old church in Boswil, canton of Aargau. (Image source: Gian Salis)



Fig. 13: Foyer of the old church in Boswil, canton of Aargau. (Image source: Gian Salis)

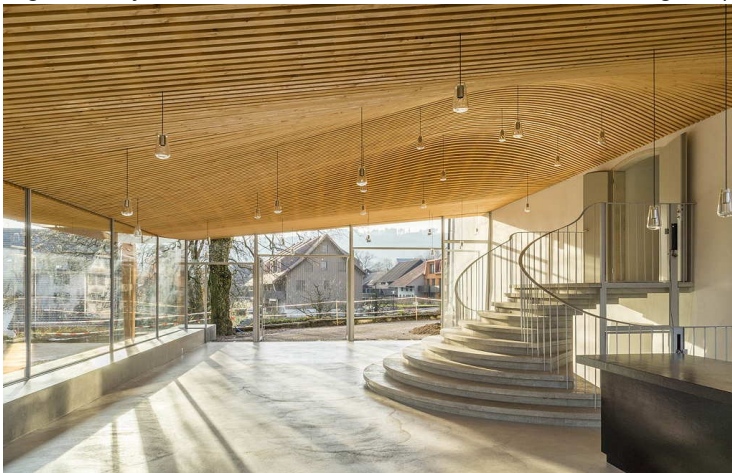


Fig. 14: Foyer of the old church in Boswil, canton of Aargau. (Image source: Gian Salis)

Reference: R434-1459

- Building completed: January 2017
- Client: Stiftung Künstlerhaus Boswil
- Architecture: Gian Salis Dipl. Architekt ETH/SIA, Zurich
- Timber construction engineer: Bonaduz Bauphysik: BWS Bauphysik AG
- Timber construction: Achaerholzbau AG, Altbüron LU
- Awards: 2018 Prix Lignum, 2nd prize in the Northern Switzerland region and special Swiss wood award
- Special feature: The former sacral building has been used as a concert hall since the 1960s. To keep visitors dry while they wait, the Stiftung Künstlerhaus Boswil commissioned a foyer. This was a difficult undertaking as the building is listed and the small plot left little room for manoeuvre. Architect Gian Salis significantly extended the existing building without destroying the location's intimacy. Between the church and the chapel he placed a glass extension, which rests on a concrete beam spread over medieval foundations. In this way, Salis makes a feature of layering the different periods and considers everyday practicalities: inside, the concrete beam serves as a bench which supports the space from below. The roof rests on timber supports that bulge slightly. Only when you enter the space do you realise that it is more than that. The ceiling slats curve upward towards the entrance, giving visitors the sense of a dramatic vertical exaggeration. Wooden blocks firmly support the main and secondary beams. This allows them to span the nine metres with apparent ease. This project combines utility, appropriateness and elegance in an exemplary manner. The foyer gives the old church a new lease of life. The roof impressively combines a supporting structure and decoration. And the extension shows that if you reconstruct existing buildings, you can create new shapes if you incorporate visual judgement and a sense of proportion into the design. (Source: Lignum)

2.2.6

2.2.7 **Timber construction in Switzerland – example 6:**
Showcase structure made from moon- and solid wood –“Moon House” detached family home in Alpnach, canton of Obwalden.



Fig. 15 “Moon House” detached family home in Alpnach. (Image source: Küng Holz, Alpnach OW/Rasmus Norlande)



Fig. 16 “Moon House” detached family home in Alpnach. (Image source: Küng Holz, Alpnach OW/Rasmus Norlander)



Fig. 17 “Moon House” detached family home in Alpnach. (Image source: Küng Holz, Alpnach OW/Rasmus Norlande)

Reference: R434-1459

- Building completed: 2018
- Client: Regina und Stephan Küng, Alpnach OW
- Architecture: Seiler Linhart Architekten AG, Lucerne/Sarnen
- Timber construction: Küng Holzbau AG, Alpnach OW
- Wood used: approx. 270m³ Swiss fir and spruce and 10m³ glued wood
- Awards: 2018 Prix Lignum, 2nd price in the Central Switzerland region
- Special feature: The “Moon House” detached family home in Alpnach is bound to the regional building tradition but consciously stands out. It is based on the idea that wood was a traditional material and should still play an important part in modern constructions. What from a distance looks somewhat nostalgic, up close turns out to be a contemporary construction. Horizontal and vertical slats, window panels and alcoves subtly break up the façade. The attention to detail is already evident from the exterior. The shutter cases are discreetly decorated. The rooms located around the central column are surprisingly light. Two walls made from rammed earth that go all the way up to the roof regulate humidity and store the heat from the wood burning stove. Ceiling-high sliding doors and a gallery enhance the impression of space. Nowhere does one feel the heaviness of solid wood constructions. The interior finish and construction reflect a broad environmentally-minded approach. The building does not only rely on the traditional knowledge and skills of the building trade. It shows on a small scale how you can build an energy-efficient and comfortable home for the 21st century using minimal building technology. (Source: Prix Lignum, excerpt)

**2.2.8 Timber construction in Switzerland – example 7:
Smart structure – Bicycle pavilion at Schulhaus Rohrdorferberg, Niederrohrdorf in the
canton of Aargau.**



Fig. 18 Bicycle pavilion at Schulhaus Rohrdorferberg, Niederrohrdorf AG. (Image source: Prix Lignum)



Fig. 19 Bicycle pavilion at Schulhaus Rohrdorferberg, Niederrohrdorf AG. (Image source: Prix Lignum)



Fig. 20 Bicycle pavilion at Schulhaus Rohrdorferberg, Niederrohrdorf AG. (Image source: Prix Lignum)

- Building completed: 2016
- Client: Gemeindeverband Kreisschule Rohrdorferberg AG
- Architecture: Fiechter & Salzmänn Architekten, Zurich
- Structural engineers: WMM Ingenieure, Münchenstein BL
- Award: 2018 Prix Lignum, recognition in the Northern Switzerland region
- Special features: The bicycle pavilion also serves as a covered break area and is made from spruce wood. Featuring a bench that goes all the way round under the overhanging canopy, it offers an inviting space with lovely views of the surrounding Aargau landscape. All the wooden pillars are mounted on the concrete base. The pavilion roof measures 12.5m x 25m, and the roof has a 2.80m overhang all the way round. The large roof overhang protects the fine wooden construction from the elements. Roof water run-off is collected in several pillars and runs into the concrete base.

2.2.9 Timber construction in Switzerland – example 8: Pedestrian and cycle path at the marina in Portalban, canton of Fribourg.



Fig. 21 Pedestrian and cycle path at the marina in Portalban, FR. (Image source: Prix Lignum)



Fig. 22 Pedestrian and cycle path at the marina in Portalban, FR. (Image source: Prix Lignum)



Fig. 23 Pedestrian and cycle path at the marina in Portalban, FR. (Image source: Prix Lignum)

- Building completed: 2016
- Project owner: Commune de Delley-Portalban
- Architecture/planning/engineering: Charpente Concept SA, Thomas Buchi, Perly GE
- Woodwork: JPF Ducret SA, Jean-Marc Ducret, Bulle FR
- Span width: 30.0m
- Static height of supports: 2.3m
- Effective width: 1.80m
- Weight of path without abutment: 15 t
- Laminated timber: approx. 2.02m³ larch
- Solid timber: approx. 4.4m³ larch
- Special features: The path replaces a previous path which was also made of wood. It was pre-assembled in a workshop and transported in one piece in a heavy goods vehicle to the building site and lifted into position on the prepared abutment. It connects the marina quay on the south bank of Lake Neuchâtel with the eastern section of the boat moorings. (Source: Prix Lignum)

**2.2.10 Timber construction in Switzerland – example9:
Reaching record heights with wood – Wooden multi-storey building, Suurstoffi
Rotkreuz, in the canton of Zug.**

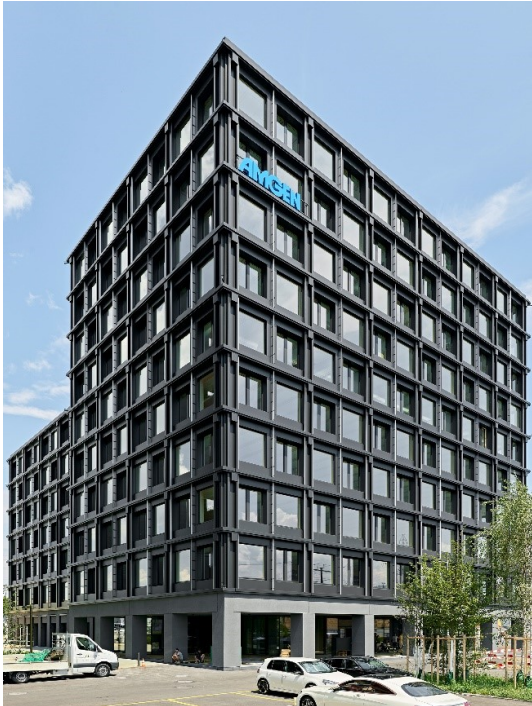


Fig. 24 Wooden multi-storey building Suurstoffi Rotkreuz ZG . (Image source: ERNE AG Holzbau CH-Laufenburg; Bernhard Strauss)



Fig. 25 Wooden multi-storey building, Suurstoffi Rotkreuz ZG (Image source: ERNE AG Holzbau CH-Laufenburg; Bernhard Strauss)

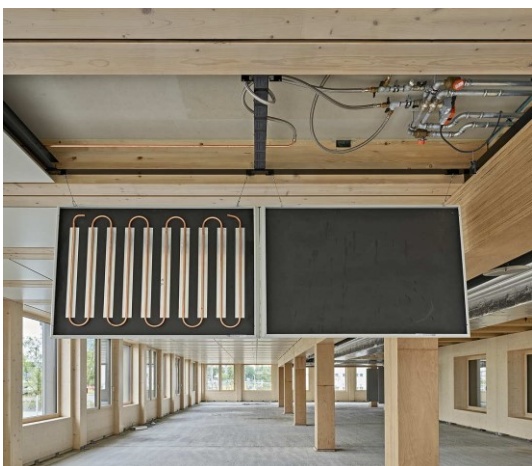


Fig. 26 Wooden multi-storey building Suurstoffi Rotkreuz ZG. (Image source: ERNE AG Holzbau CH-Laufenburg; Bernhard Strauss)

- Building completed: 2018
- Project owner/building contractor: Zug Estates AG, Tobias Achermann, Zug
- Architecture/planning: Burkard Meyer Architekten BSA, Daniel Krieg, Baden AG
- Engineer: MWV Bauingenieure AG, Peter Hohn, Baden AG
- Timber construction engineer: ERNE AG Holzbau, Joachim Schabel, Laufenburg AG
- Fire protection planner: Makiol Wiederkehr, Beat Bart, Beinwil am See AG
- Woodwork: ERNE AG Holzbau, Andreas Hirschbühl, Laufenburg AG
- Awards: 2018 Prix Lignum, silver medal, 1st place, Zurich region
- Special features: The S22 office building on the Suurstoffi site in Rotkreuz is Switzerland's first wooden multi-storey building, taking wood to new heights previously reserved for reinforced concrete. The 36-metre-high building is a flagship for the industry. It impressively shows that since the introduction of the new fire safety regulations, the boundaries have shifted. Wood is permitted and able to support multi-storey buildings – and need not be clad. This convinced the Prix Lignum national jury to award the wooden high-rise S22 the silver medal in 2018 - a recognition that further justifies its 1st prize in the Zurich region. An innovative wood-concrete-composite support system was specifically developed for the office block Suurstoffi 22. The exposed vertical timber columns on the façade (spruce/pine laminated timber) and the inner circumferential load-bearing level with beams and joists in BauBuche (laminated beech veneer lumber), are combined with a wood-concrete-composite ceiling. The shell construction leaves a mark of precision on the space, which showcases its meticulous prefabrication. The joists and beams break up the offices in an imposing manner and create a cosy working atmosphere. Only wood can do all these things at once. The project consciously applies each material: the core is supported by concrete, increased loads are carried by laminated beech veneer lumber, and laminated spruce and pine timber are used on the façade. The wood-concrete-composite ceiling elements include various elements in a space-saving way to offer an economic benefit. The envelope consists of non-flammable matt Alucobond cladding. The development behind it is pioneering as it cleverly exploits the advantages of prefabrication. (Source: Prix Lignum)

**2.2.11 Timber construction in Switzerland – example10:
A wooden snake in the park – Headquarters of the Swatch Group, Biel/Bienne, canton
of Bern (see 2014 Market Statement for Switzerland, page 7/17, point 2.2.4.**



Fig. 27 Headquarters of the Swatch Group, Omega Fabrik, Biel/Bienne BE. (Image source: Eduard J. Belser)



Fig. 28 Headquarters of the Swatch Group, passage between the Omega Museum and Swatch Museum, Biel/Bienne BE. (Image source: Eduard J. Belser)



Fig. 29 Headquarters of the Swatch Group, Biel/Bienne BE. (Image source: Eduard J. Belser)

Reference: R434-1459

- Start of construction: 2014
- Buildings completed: 2018
- Client: Swatch Group: Swatch Group, Biel-Bienne
- Architecture: Shigeru Ban, Tokyo/Paris
- Timber construction: Blumer-Lehmann AG, Gossau
- Timber used: Swiss spruce, Swiss copper beech
- Special features: at a planned total construction cost of around CHF 150 million, this is one of the biggest timber construction projects to be carried out in Switzerland to date. The biggest challenge that the Swatch Group headquarters poses for designers is the spherical timber net structure which is intended to envelop the building. There are no level surfaces on the roof. The roof and façade surfaces are used for energy production. 2014 Market Statement for Switzerland

2.3 #Woodvetia –campaign to promote Swiss timber

The awareness campaign #Woodvetia, run in 2017/2018 and initiated by the Federal Office for the Environment (FOEN), aims to raise awareness of the far-reaching significance of timber to the Swiss population. Artist Inigo Gheyselinck was commissioned to create and produce a series of realistic wooden sculptures of key Swiss figures from the last 300 years, such as experimental physicist August Piccard, children's author Johanna Spiri, painter Giovanni Segantini, and Red Cross founder, Henry Dunant. Inigo Gheyselinck was born in São Paulo in 1980 and raised in Zurich and has devoted himself exclusively to figurative art since 2008.

The life-size sculptures were each made with a type of wood which comes from the figure's place of origin. In addition, the trees lived at the same times as the figures depicted. For this purpose, the selected trees were felled, and the wood was sawn into square timbers, dried, dowelled, planed, glued, CNC-milled and subsequently carved and sanded by hand. 3D scans of portraits modelled from clay and costumes typical of the period were used as models.

The sculptures have been exhibited at various locations throughout Switzerland. (Source: FOEN/#Woodvetia)



Fig. 30 Psychiatrist and adventurer Bertrand Piccard (circumnavigation of the Earth in a hot air balloon in 1999 and in a solar aircraft in 2015/2016) with the sculpture of his grandfather August Piccard (1884 – 1962) and the artist Inigo Gheyselinck (Source: FOEN/#Woodvetia)

3 Roundwood: sawlogs, pulpwood and fuelwood

3.1 Developments up to mid-2018

Unlike previous reporting periods, Swiss forests were severely affected by significant storm damage in the current reporting period. Storm Eleanor, which hit Switzerland on 3–4 January 2018, led to forest damage in all cantons except Ticino. According to a survey of the cantons conducted by the Federal Office for the Environment (FOEN), a total of approximately 1.3 million m³ of wood was felled by the storm, which equates to around a quarter of Switzerland's annual wood consumption. This does not include any additional, smaller amounts following storm front "Evi" on 17 January 2018. As the storm damage did not exceed annual wood consumption, these storms are not nationally significant, as was the case with storm "Lothar" in 1999. Because these storms occurred in January, however, the accumulated windthrow timber could be included in current wood consumption and absorbed by the market. This storm event occurred in a phase when bark beetle populations were on the rise again, which is likely to lead to a significant increase in compulsory felling due to bark beetle infestation in the coming years.

At 4.69 million m³, the total Swiss timber harvest in 2017 was only 5.1% higher than in 2016 (4.46 million m³). This small increase reflects the continued difficult situation of the Swiss forestry sector and the initial processing stages of sawmills, which, despite a certain easing of the situation, still face stiff competition from foreign suppliers. For the forestry sector, the timber harvest continues to operate at a loss in many cases, with revenues from wood sales failing to cover costs.

The total wood harvest originating from public forests remained static at around 3.07 million m³, which is more or less at the prior-year level. The harvest from private forests rose by 12.0% to 1.61 million m³, in other words, the increase in the timber harvest is mainly from private forests. It can be assumed that given the slightly more favourable price situation, among other things, private individuals placed more wood on the market. According to the Producer Price Index, raw wood prices rose by around 2% year-on-year in 2017.

At 64%, the proportion of softwood remained roughly at the prior-year level. It has sharply declined in recent years as storm-damaged forests are reconstructed depending on their location with more stable mixed and hardwood stands. However, this ecologically and socially desirable development harbours potential for conflict with the sawmill industry, which is mainly geared towards the processing of softwood.

Harvested volumes increased for all the timber assortments surveyed in 2017, apart from energy logs. At around 7%, sawlogs, the most significant assortment in terms of volume, saw the largest increase, to 2.37 million m³. The harvest of wood chips, which are mainly used in large wood chip furnaces, also saw a sharp increase of 6.5%, to 1.06 million m³. The renewed decline in energy logs to 0.74 million m³ is in line with the trend that has persisted for several years and reflects the advance of automatic wood-fuelled installations that run on wood chips.

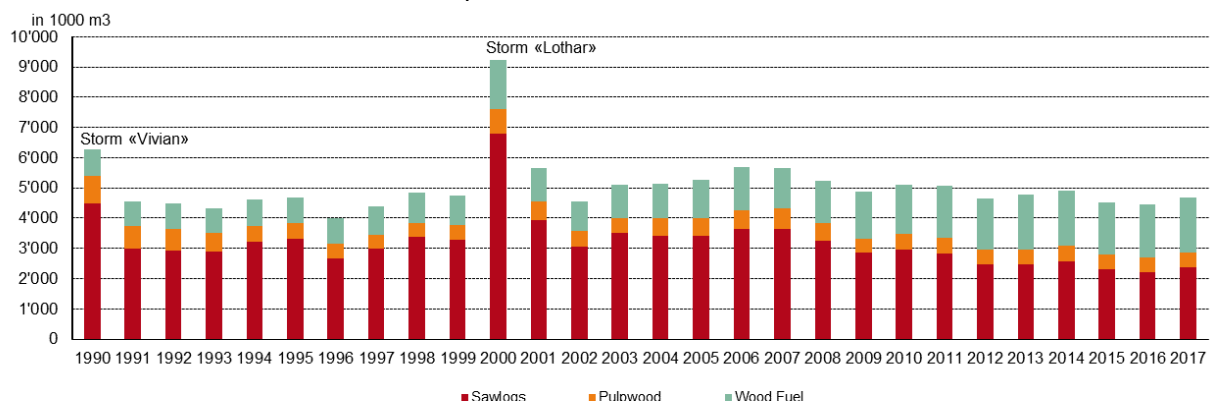


Fig. 31 – Wood harvest in Switzerland 1990 – 2017 in 1000m³

3.2 Timber assortments and price trends

In 2017 2.37 million m³ of roundwood (sawlogs) were harvested. This is 10.7% more than in 2016 (2.21 million m³). In the second half of 2017 and in the first few months of 2018, the exchange rate

between the euro and Swiss franc improved, which enhanced framework conditions for Swiss sawmills, revived the market and led to a slight increase in sawnwood exports. However, roundwood prices stagnated in 2017. The export of soft sawlog was also static. On the other hand, imports rose by 42% to 71,000 m³, driven by increased demand.

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. Efforts to build new processing capacities for building components made from glued beechwood made very slow progress.

The harvesting of hard sawlogs increased in 2017 by 8% to approximately 246,000m³, of which 129,000m³ was exported (a decrease of 22% compared with 2016). At around 54,000m³ in 2017, imports of hard stemwood were also considerably lower than exports.

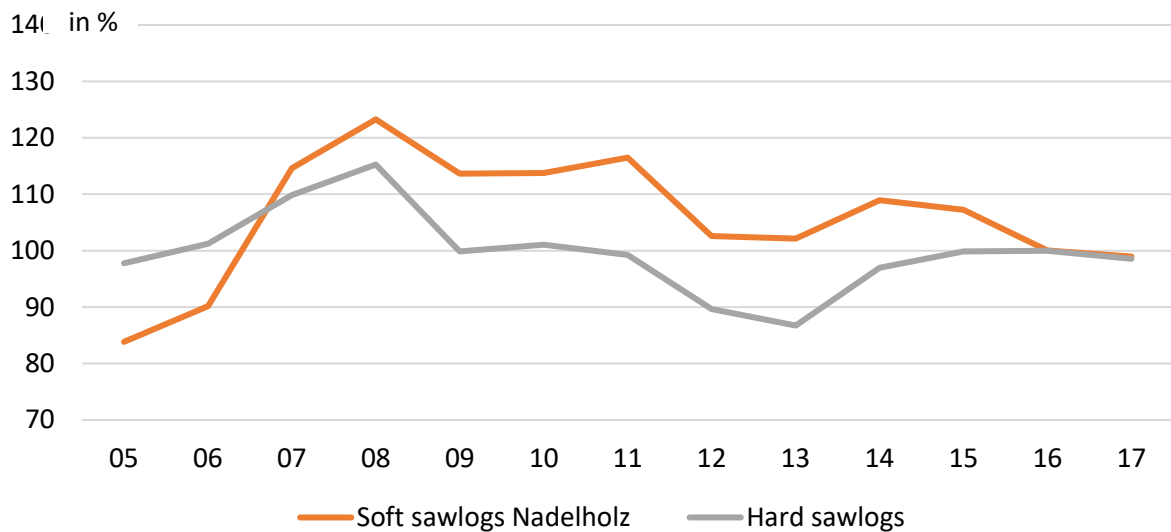


Fig. 32 – Price index for sawlogs, 2005-2016 (Sep-Oct 2015 = 100)

(Source: Federal Office for Statistics)

The harvesting of energy wood increased in 2017 by 3.4% to 1.80 million m³ and the harvesting of wood for the derived wood products and paper industries (“industrial wood”) increased by 4.1% to 0.51 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 in the 1990s, now enter the expanding energy wood market.

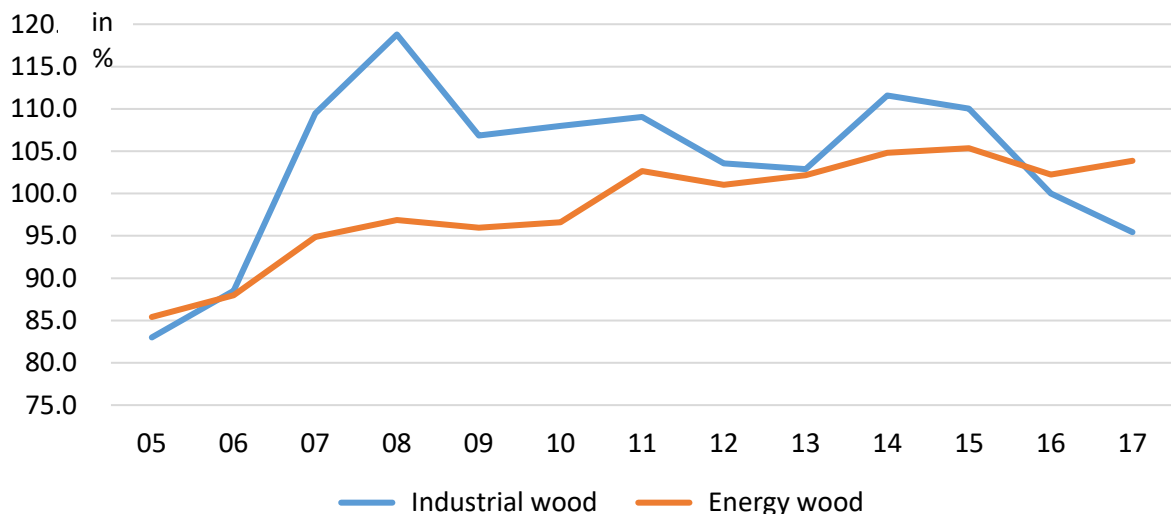


Fig. 33– Price index for industrial wood (pulp wood) and for energy wood, 2005-2017 (Sep-Oct 2015 = 100) (Source: Federal Office for Statistics)

3.3 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 2017. The corresponding data were collected via a sample network of 160 forest enterprises distributed across Switzerland in the forestry zones of the Jura, the Central Plateau and the Alps.

The economic situation of the forestry sector changed little in 2017. Forest management losses amounted to CHF 62/ha, which is CHF 2/ha less than in 2016 at CHF 64/ha. In terms of services provided by forest enterprises, profits fell by CHF 2/ha, from CHF 8/ha in 2016 to CHF 6/ha. Overall, losses increased across all main activities in 2017, from CHF 60/ha to CHF 63/ha. Since 2012, when losses amounted to CHF 87/ha, there is a recognisable trend towards loss minimisation. In the forestry zones of the Central Plateau and Alpine foothills, the result improved, while in the Jura and Alps it deteriorated.

Total forest management costs across all 160 forest enterprises in the sample network increased by CHF 3/m³ year-on-year, to CHF 133/m³. The reason for this lies in the second stage of production – timber harvesting. Costs for timber harvesting rose from CHF 77/m³ in 2016 to CHF 81/m³ in 2017. In 2017, felled timber sales had to cover the costs of road and control structure maintenance (CHF 15/m³), the first level of production (cultivation, harvesting forest residue, forest stand establishment) (CHF 14/m³), administrative expenses (CHF 15/m³) and other activities (CHF 8/m³). Losses were reduced from CHF 17/m³ to CHF 16/m³ (i.e. CHF 65/ha to CHF 62/ha). This is due to the slightly higher subsidies, which rose by CHF 2/m³, or CHF 12/ha, respectively.

In terms of material goods, the loss in the production of energy logs is justified, as the revenue only covers 69% of the costs of CHF 34/ha. The production of wood chips, on the other hand, reports a profit of 11%, or CHF 9/ha. Other cost units, such as seedling nurseries, Christmas trees, decorative branches and other material goods, also report losses. In terms of services, only 79% of forestry service activities are covered. For pure services and services for third parties, a profit of 11% or CHF 18/ha is reported. However, services for private ownership report a loss of 4%. Forest schools, talks and tours are clearly very valuable to forest enterprises. For these costs units, only 35% of the costs of CHF 4/ha are covered. (Source: 2017 BAR report, forest and timber 2018-08).

3.4 Wood energy

In 2017, Switzerland's final energy consumption decreased by 0.4% to 849,300 TJ compared to the preceding year. This is down to cooler weather conditions with 1.5% less heating degree days, better economic development with GDP growth at 1.0%, a 0.9% increase in the average permanent resident population, an increase in housing stock and a 1.2% increase in the motor vehicle stock. The annual ex-post analyses will provide further information on the factors determining the evolution of energy consumption. In 2017, 15.3% (40,590 TJ) of primary domestic energy produced (264,500 TJ) came from wood, 49.9% from hydropower, 23.0% from household and industrial waste, and 11.7% 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.

3.5 Certified forest and forest products

3.5.1 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 half have both FSC and PEFC certification. Of the timber harvested in Switzerland in 2014, 66% was certified. The corresponding data have not been 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 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.

3.5.2 "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 prove 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>

3.6 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. This development continued in 2017/2018. Despite a 6.8% increase in harvested stemwood to 2.37 million m³, in 2017 Swiss sawmills produced 1.085 million m³ or 3.9% less sawnwood compared to 2016. In 2016, 95.6% of sawnwood produced was soft sawnwood and only 4.4 % was hard sawnwood.

Exports of soft sawnwood increased by 4.2% to 190,000m³ and those of hard sawnwood rose by 47% to 25,000m³ in 2017. Meanwhile, imports of soft sawnwood declined by 2% to 341,000m³ and of hard sawnwood fell by 14.5% to 47,000m³.

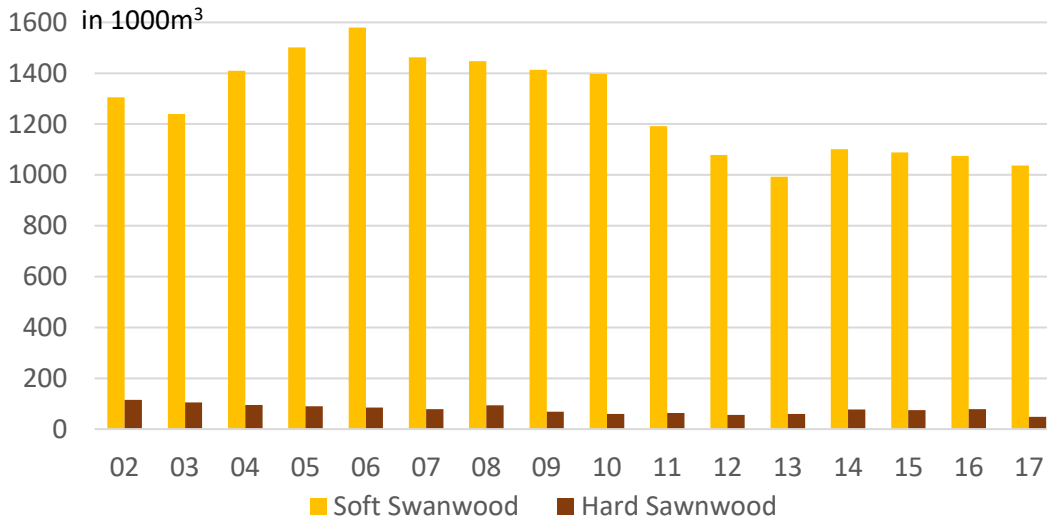


Fig. 34 – Sawnwood production in Switzerland, 2002-2017

(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. 35 – Price index for soft sawnwood, 2008-2017 (Sep-Oct 2015 = 100)

(Source: Federal Office for Statistics)

In 2017, 61% of felled roundwood was turned into sawnwood; 23% of wood residues were used to generate energy within the forestry operations themselves, 22% was sold as wood fuel, 44% went to the paper and derived timber products industries, and 11% was used in other ways.

3.7 Pulpwood-processing sector

In 2017, 506,000 m³ of industrial wood was harvested, of which 54% was softwood. 51,000 m³ of industrial wood was imported and 115,000 m³ exported, giving a domestic consumption of industrial wood of 442,000 m³ for 2017.

The paper and derived timber products industries purchased the same amount of wood in 2017 (1.14 million m³) as the previous year. Cellulose has no longer been 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.

3.7.1 Wood-based panels

The Swiss particle board and fibreboard industry benefited from the thriving domestic construction economy in 2017 (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 2017, 73% 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.

3.7.2 Pulp and paper

The Swiss paper and paperboard industry held up well in 2017 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. 2017 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.

This environment has led to radical structural changes in the sector. The paper mill in Utzenstorf, which produced 200,000 tonnes of recycled paper for advertising and newspaper printing a year, 60% of which was for export, closed at the end of 2017. The remaining waste paper has been taken over by the paper mill in Perlen. The Cham Paper Group sold its special paper production operation to the South African

Sappi Group. Finally, the Swiss National Bank acquired a majority stake in Landquart Papier AG in order to shore up domestic production of special paper for bank notes. However, the production of corrugated board and packaging solutions made from corrugated board saw marked growth in 2017.

Member companies of the Association of the Swiss Pulp, Paper and Paperboard Industry (ZPK) supplied 1.24 million tonnes of paper and paperboard in 2017, which was slightly more than in 2016 (1.23 million tonnes). Exports increased by 1.2%, from 923,000 tonnes to 934,000 tonnes. However, of the larger quantities supplied, exports accounted for a slightly greater share. Imports decreased by 3.2% to 870,000 tonnes. Domestic consumption of paper and paperboard decreased by a further 2.5% to 1.18 million tonnes in 2017. In 2017, per capita consumption decreased by 2.2% from 144 kg to 139 kg, a decline of around 15% compared to 2013.

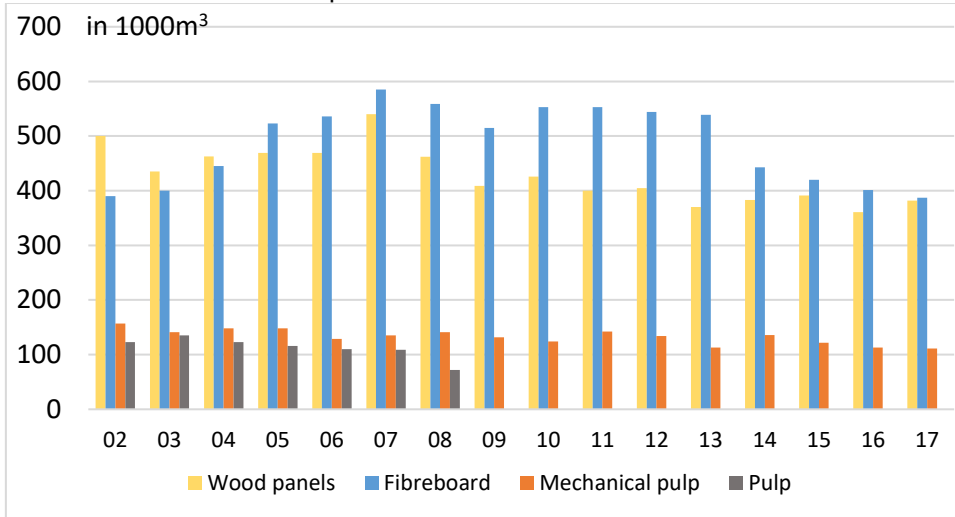


Fig. 36 – Production of wood panels, fibreboards, mechanical pulp and wood pulp 2002-2017

(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	2017	2018 ^e	2019 ^f
Economic growth in % ¹	0.0	2.4	2.7	3.8	3.8	2.2	-1.9	3.0	1.8	1.0	2.0	2.0	0.9	1.5	1.0	1.9	2.0
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	0.0	-1.1	-0.4	0.5	0.7	0.8
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	3.0	3.2	3.3	3.2	3.1	3.0
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	0.3
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	1.11	1.16	1.18
USD	1.35	1.24	1.25	1.25	1.20	1.08	1.09	1.04	0.89	0.94	0.93	0.91	0.96	0.99	0.98	0.98	1.00


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 2016-2017; Estimations and Forecasts 2018–2019

Product Code		Product	Unit	Historical data		Revised	Estimate	Forecast
				2016	2017	2017	2018	2019
 <p style="text-align: center;">TF1 TIMBER FORECAST QUESTIONNAIRE Roundwood</p>								
				Country: Switzerland		Date: 05.10.2018		
				Name of Official responsible for reply:				
				Achim Schafer				
				Official Address (in full):				
				Federal Office for the Environment FOEN				
				3003 Bern				
				Telephone: 41584691796		Fax:		
				E-mail: achim.schafer@bafu.admin.ch				
1.2.1.C	SAWLOGS AND VENEER LOGS, CONIFEROUS							
	Removals	1000 m ³ ub	1'988	2'069	2'121	2'200	2'100	
	Imports	1000 m ³ ub	50 #	45 #	71	70	70	
	Exports	1000 m ³ ub	325 #	350 #	324	340	360	
	Apparent consumption	1000 m ³ ub	1'712	1'764	1'867	1'930	1'870	
1.2.1.NC	SAWLOGS AND VENEER LOGS, NON-CONIFEROUS							
	Removals	1000 m ³ ub	227	248	246	250	260	
	Imports	1000 m ³ ub	51 #	50 #	54	55	55	
	Exports	1000 m ³ ub	165 #	170 #	129	130	135	
	Apparent consumption	1000 m ³ ub	113	128	170	175	180	
1.2.1.NC.T	of which, tropical logs							
	Imports	1000 m ³ ub	0 #	0 #	0	0	0	
	Exports	1000 m ³ ub	0 #	0 #	0	0	0	
	Net Trade	1000 m ³ ub	0	0	0	0	0	
1.2.2.C	PULPWOOD (ROUND AND SPLIT), CONIFEROUS							
	Removals	1000 m ³ ub	260	238	275	280	285	
	Imports	1000 m ³ ub	88 #	80 #	48	50	50	
	Exports	1000 m ³ ub	54 #	50 #	57	60	65	
	Apparent consumption	1000 m ³ ub	294	268	266	270	270	
1.2.2.NC	PULPWOOD (ROUND AND SPLIT), NON-CONIFEROUS							
	Removals	1000 m ³ ub	227	214	232	240	250	
	Imports	1000 m ³ ub	0 #	0 #	3	5	5	
	Exports	1000 m ³ ub	15 #	15 #	58	60	65	
	Apparent consumption	1000 m ³ ub	212	199	176	185	190	
3	WOOD CHIPS, PARTICLES AND RESIDUES							
	Domestic supply	1000 m ³	731 C	752 C	698	710	720	
	Imports	1000 m ³	585 C	673 C	673	680	690	
	Exports	1000 m ³	137 C	54 C	126	130	140	
	Apparent consumption	1000 m ³	1'178	1'372	1'245	1'260	1'270	
1.2.3.C	OTHER INDUSTRIAL ROUNDWOOD, CONIFEROUS							
	Removals	1000 m ³ ub	11	9	8	10	10	
1.2.3.NC	OTHER INDUSTRIAL ROUNDWOOD, NON-CONIFEROUS							
	Removals	1000 m ³ ub	5	7	6	5	5	
1.1.C	WOOD FUEL, CONIFEROUS							
	Removals	1000 m ³ ub	553	552	611	630	650	
1.1.NC	WOOD FUEL, NON-CONIFEROUS							
	Removals	1000 m ³ ub	1'188	1'057	1'190	1'200	1'220	

Please return (preferably by e-mail) to Timber Section no later than 5 October 2018.

By e-mail to stats.timber@un.org.

Questions? Please contact Alex McCusker at the above address or telephone +41 22 917 2880.

The historical data are from the most recent Joint Forest Sector Questionnaire (blank) or the Timber Forecast Questionnaire (#). For explanations please see cover letter.

These data are flagged with E, R, N or C for secretariat estimate, repeat, national estimate or calculated totals (from subitems). If there is no flag, this indicates officially supplied data.

Product Code		Product	Unit	Historical data		Revised	Estimate	Forecast
				2016	2017	2017	2018	2019
		Country: Switzerland		Date: 05.10.2018				
		Name of Official responsible for reply:						
		Achim Schafer						
		Official Address (in full):						
		Federal Office for the Environment FOEN						
		3003 Bern						
		Telephone:		41584691796		Fax:		
		E-mail:		achim.schafer@bafu.admin.ch				
		TF2						
		TIMBER FORECAST QUESTIONNAIRE						
		Forest products						
6.C		SAWNWOOD, CONIFEROUS						
		Production	1000 m ³	1'074	1'107 N	1'037	1'050	1'050
		Imports	1000 m ³	348	341		290	290
		Exports	1000 m ³	190	198		200	200
		Apparent consumption	1000 m ³	1'232	1'250		1'140	1'140
6.NC		SAWNWOOD, NON-CONIFEROUS						
		Production	1000 m ³	79	81 N	48	55	60
		Imports	1000 m ³	56	47		50	50
		Exports	1000 m ³	17	25		30	30
		Apparent consumption	1000 m ³	117	103		75	80
6.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	13	13		13	13
7		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	3		4	4
7.NC.T		of which, tropical veneer sheets						
		Production	1000 m ³	0	0		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
8.1		PLYWOOD						
		Production	1000 m ³	7 C	8 C		8	9
		Imports	1000 m ³	192 C	203 C		205	210
		Exports	1000 m ³	5 C	5 C		5	5
		Apparent consumption	1000 m ³	195	206		208	214
8.1.NC.T		of which, tropical plywood						
		Production	1000 m ³	0 N	0 N		0	0
		Imports	1000 m ³	3	3		3	3
		Exports	1000 m ³	0	0		0	0
		Apparent consumption	1000 m ³	3	3		3	3
8.2		PARTICLE BOARD (including OSB)						
		Production	1000 m ³	361 E	295 E	382	390	400
		Imports	1000 m ³	247	240		245	250
		Exports	1000 m ³	241	246		250	255
		Apparent consumption	1000 m ³	367	290		385	395
8.2.1		of which, OSB						
		Production	1000 m ³	0	0		0	0
		Imports	1000 m ³	93	89		90	95
		Exports	1000 m ³	1	1		1	1
		Apparent consumption	1000 m ³	92	88		89	94
8.3		FIBREBOARD						
		Production	1000 m ³	401 C	387 C		400	420
		Imports	1000 m ³	245 C	235 C		240	245
		Exports	1000 m ³	354 C	317 C		320	330
		Apparent consumption	1000 m ³	293	306		320	335
8.3.1		Hardboard						
		Production	1000 m ³	0	0		0	0
		Imports	1000 m ³	27	32		35	40
		Exports	1000 m ³	5	6		7	8
		Apparent consumption	1000 m ³	22	27		28	32
8.3.2		MDF/HDF (Medium density/high density)						
		Production	1000 m ³	235	227 E	221	220	230
		Imports	1000 m ³	71	81		80	80
		Exports	1000 m ³	241	244		240	245
		Apparent consumption	1000 m ³	65	64		60	65
8.3.3		Other fibreboard						
		Production	1000 m ³	166	160 E	166	170	175
		Imports	1000 m ³	148	122		125	130
		Exports	1000 m ³	108	67		70	75
		Apparent consumption	1000 m ³	206	215		225	230
9		WOOD PULP						
		Production	1000 m.t.	113 C	111 C		110	105
		Imports	1000 m.t.	121 C	108 C		100	95
		Exports	1000 m.t.	0 C	0 C		0	0
		Apparent consumption	1000 m.t.	234	219		210	200
12		PAPER & PAPERBOARD						
		Production	1000 m.t.	1'233 C	1'243 C		1'245	1'250
		Imports	1000 m.t.	728 C	699 C		695	690
		Exports	1000 m.t.	943 C	941 C		955	960
		Apparent consumption	1000 m.t.	1'019	1'000		995	980
5.1		WOOD PELLETS						
		Production	1000 m.t.	183	210		220	230
		Imports	1000 m.t.	67	91		100	110
		Exports	1000 m.t.	0	0		0	0
		Apparent consumption	1000 m.t.	250	301		320	340

Please return (preferably by e-mail) to Timber Section no later than 5 October 2018.

By e-mail to stats.timber@un.org.

Questions? Please contact Alex McCusker at the above address or telephone +41 22 917 2880.

The historical data are from the most recent Joint Forest Sector Questionnaire (blank) or the Timber Forecast Questionnaire (#). For explanations please see cover letter.

These data are flagged with E, R, N or C for secretariat estimate, repeat, national estimate or calculated totals (from subitems). If there is no flag, this indicates officially supplied data.