Austrian Market Report 2018

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Federal Minister for Sustainability and Tourism
Directorate-General III - Forestry and Sustainability

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1. General economic situation

Economic outlook for 2018 and 2019: International Economic Activity Abating from Strong Growth in 2018 [1]

Leading indicators still point to favourable cyclical conditions in Austria until the end of 2018. GDP growth for the year as a whole is set to reach 3%. Currency crises in some emerging market countries, lack of clarity about the further course of US trade policy, and uncertainty surrounding the terms of Brexit increasingly strain international trade and with it business activity in highly export-oriented economies. These factors will dampen GDP growth also in Austria, which is expected to recede to 2% in 2019.

Demand and output growth has been further accelerating in Austria; after +2.0% in 2016 and +2.6% last year, real GDP is expected to gain 3.0% in 2018. In an international perspective, domestic business activity has so far proved remarkably robust, while in major euro area countries it has been clouded since early this year by slackening foreign trade. Although the growth cycle should have passed its peak also in Austria, the slowdown has so far been contained. Industrial production and exports still expanded markedly in the first half of the year. Currency crises in several emerging market economies, the trade policy strategy in the USA and the so far inconclusive search for a viable solution for the UK withdrawal from the EU in 2019 currently overshadow world trade. Austria is therefore also likely to face slower export growth in 2019, which may weaken firms' readiness to invest. Private consumption should continue to lend support to aggregate demand, without however fully compensating the shortfall of demand from abroad. GDP growth in Austria is expected to moderate to an annual rate of 2%.

The rate of inflation remains at a stable 2.1% in 2018. The moderate pace, given the strong cyclical drive, is only slightly in excess of the ECB's target for the entire euro area (below, but close to 2%). In the current year, it is mainly energy cost that is pushing up the consumer price level. In 2019, inflation may remain unchanged at an annual 2.1%.

The labour market continues to benefit from lively output growth. Overall employment is expected to increase by 88,000 persons (+2.5%) in 2018, the number of unemployed registered with the Public Employment Service Austria (AMS) keeps falling (-28,000 on annual average 2018). Monthly figures suggest the downward trend coming to a halt since summer, the main reason being a decline in training activities. The overall positive trend is set to persist until the end of the year. In 2019, the pace of job creation is expected to decelerate and progress towards lower unemployment will be more limited than in 2018. The unemployment rate is projected to ease to an average 7.3%

[1] Source: Austrian Institute of Economic Research (WIFO), 5/10/2018

2. Policy measures

Government programme

Forestry and timber management has been given a prominent position in the Austrian Government Programme 2017-2022. One of the reasons to do so is the objective of positioning Austria as a forestry country. Also the preparation of a comprehensive forestry sector strategy is provided for in this Programme – such a strategy for forests and wood is just being prepared by the Cooperation Platform Forest-Wood-Paper ("Kooperationsplattform Forst Holz Papier"). Additional topics relating to forests and wood include the Bioeconomy Strategy, protection against natural hazards as well as the implementation of the Austrian Forest Strategy 2020+.

The Austrian Forest Strategy 2020+

To implement the "Austrian Forest Strategy 2020+" adopted in 2016, a working programme with over 200 measures prepared in the framework of the Austrian Forest Dialogue was adopted in May 2017. Information about all measures of the working programme and the current level of implementation are available in a database that is publicly accessible (https://bfw.ac.at/ws/strat2020public.starten). For the presentation of sustainable forest management and the evaluation of the Forest Strategy the set of indicators from the Forest Dialogue was further developed. Actual figures and targets were set by mutual agreement for almost all of the 65 indicators. (www.walddialog.at)

Forest subsidisation

Practically all subsidies of relevance to forestry in Austria are bundled in the national programme of the EU Rural Development Regulation. The Austrian Rural Development Programme 2014-2020 was approved by the European Commission in December 2014. Funds in the amount of € 38.4 million annually are granted for forest-related measures, altogether € 269 million for the seven-year programme period, provided by the EU, the Federal Government and the nine Federal Provinces. The implementation of the new programme started in 2015.

"Climate-fit forests"

Climate change leads to higher temperatures and causes changes in the distribution of precipitation. Forests need to adapt to these changes and must be able to meet a multitude of challenges. In October 2016, the Federal Ministry for Sustainability and Tourism along with the Cooperation Platform Forest-Wood-Paper launched the campaign "Using wood is good for the climate – We make our forests fit for climate change!". The campaign aims to support forest owners in the sustainable management of their forests and to motivate the general public to use more wood. This is done by means of media awareness campaigns and concrete projects along the entire value chain of timber. The efficient use of wood as a renewable, climate-friendly raw material and source of energy contributes significantly to the saving of anthropogenic carbon dioxide emissions. One cubic metre of wood stores a whole tonne of CO_2 and can fix it for the long term, for example in buildings made of wood. At the same time, active forest management enhances the adaptation of forests to climate change.

National Forest Inventory

The Austrian Forest Inventory is in the process of switching to permanent surveying. Whereas formerly (for the last time from 2007 to 2009) a three-year period of surveying used to be followed by a period without any surveys, such surveys have from 2016 onward been conducted every year – for always one sixth of the random sample plots. First results will be available for publication in late 2018; after that, they will be updated every year.

Joint timber marketing

Numerous forest owners, especially owners of small (private) forests are organised in forest owner cooperatives. The level of organisation focuses primarily on cooperation in roundwood sales, loose machinery alliances and collaborative forest operations. Also consulting for forest owners and the preparation of forest management plans as well as training and further education opportunities are important services. In some cases local forest owner cooperatives (‘Waldwirtschaftsgemeinschaften’) even manage the forests of some of their members. For urban forest owners, the services offer a way to manage their forests. The forest owner association of greatest relevance to roundwood supply is the Austrian Forest Owner Cooperative (Waldverband Österreich, www.waldverband.at). Under its 8 provincial associations about 68,500 forest owners are organised in local forest owner cooperatives. In 2017 totally 2.95 million m³ of timber were marketed. The Austrian Forest Owner Cooperative organised 352 training and further education events with over 10,000 participants.

Cooperation Platform Forest-Wood-Paper (“Kooperationsplattform Forst Holz Papier”, FHP)

FHP (www.forstholzpapier.at) is a coordination and communication platform of Austria's forestry and timber industry as well as of the paper and pulp industry. It is a platform for lobbying and organising improved frame conditions and aims at achieving the highest possible value added for wood in all industries. FHP itself is not involved in any sales operations. Its fields of activity comprise the provision of wood (automated takeover of timber at the mill, wood flow, timber harvesting, transport and logistics), wood as (construction) material (research, standardisation), wood energy, wood balance (data service) and wood promotion (see below). The joint activities are funded through the FHP cooperation contributions of all participating industries. Presently, FHP is also working to prepare the forestry sector strategy.

Wood promotion

“proHolz Austria” (www.proholz.at) is a working group of the Austrian forestry and timber industry. Its objective is the effective marketing of wood and wood products in the domestic market and abroad. The activities of proHolz Austria are financed from the FHP contributions. Marketing, publicity and information on wood are the instruments applied to attain this goal. In 2018 the image campaign “Holz ist genial” (meaning “wood is ingenious”) launched in 2017 has been continued. With surprising facts on wood, the campaign highlights the performance of sustainable forest management as well as positive effects of building with wood (www.holzistgenial.at).

3. Market drivers

Austria’s national economy is in the second year of a phase of economic boom. The real GDP of 2018 is expected to rise by 3.0 percent. This means that the presently high capacity utilisation will – despite lively investment – continue to rise and will tighten existing capacity bottlenecks of the economy as a whole. Leading indicators show that the peak of the economic upswing has been reached. Growth has a broad basis in Austria: Both domestic demand and foreign trade contribute to the overall economic expansion.

In line with the general economic situation most production figures of the wood-processing industry were increasing in 2017. This favourable trend has continued in 2018. After a 5.3% increase in timber harvesting (2017), a further rise is expected for 2018.

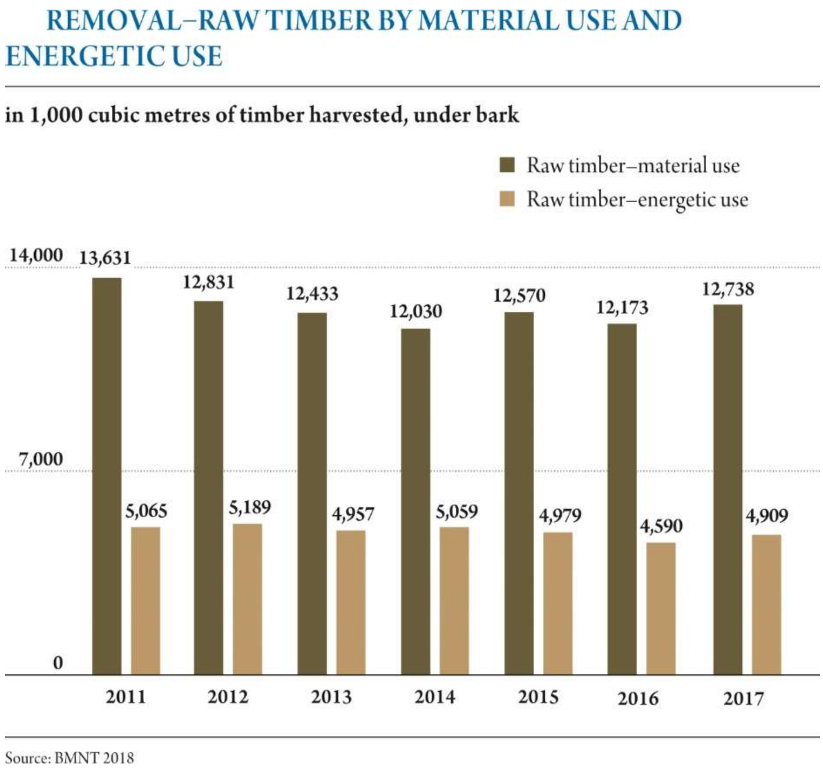
In the first half of 2018 large quantities of sawlogs were imported. This was on the one hand caused by difficult roundwood hauling as a result of high snow in the mountains and, on the other hand, was due to the abundant supply after damaging events in Germany and the Czech Republic. Later this year large quantities of damaged wood accrued especially in the north of Austria as a result of the bark beetle infestation. This has severely affected the 2018 roundwood market and is reflected in declining prices.

4. Developments in forest-products market sectors

A. Wood raw materials

With a share of 47.6% of the federal territory and about 140,000 forest land owners forests play an important part in Austria, especially in rural areas. Maintaining and increasing the yield of forests are thus of high significance not only for forest owners but also for wood-processing enterprises. As the Austrian wood and paper industry has high capacities, wood and sawmill by-products are used to a considerable extent for energy generation and imports of roundwood are required (2017: 9.3 million m³, above all from the Czech Republic and Germany), mobilising available domestic resources is a major goal of Austria's forest policy.

2017: Fears and predictions of bark beetle calamities made forest owners act cautiously with regard to regular use. Altogether 17.65 million cubic metres under bark were utilised in 2017, 5.3% more than in the year before, 2.1% more than the five-year average but 1.7% less than the ten-year average. Sawlogs accounted for 54.0%, pulpwood and other industrial roundwood for 18.2%, fuelwood and chippings from forests for 27.8% of the quantity felled. 12.74 million m^3 were assigned to material use, 4.91 million m^3 were used for energy generation. The share



of coniferous wood in the total volume felled amounted to 82.7%. Small forest owners (forest area < 200 hectares) harvested 10.37 million m³ in total in 2017 (+10.4%), the owners of forests larger than 200 hectares 5.70 million m³ (+3.2%) and the Austrian Federal Forests 1.58 million m³ (-1.5%). The percentage of wood harvested due to damage increased by 20.9%, thus reaching 6.48 million m³, which is 36.7% of the total removals. The major causes of damage were bark beetles and storms.

In 2017 Austria's forests suffered the most significant damage caused by bark beetle ever recorded (3.5 million m³). The Federal Provinces most seriously affected were Upper Austria and Lower Austria. Material which is infested or threatened by infestation has to be worked up and removed from forests rapidly to prevent the spread of the beetle. Additional storage areas outside forests are being established. In line with the initiative "Using wood is good for the climate – We make our forests fit for climate change!" reforestation after the salvaging of damaged timber is to focus on stable mixed stands.

Roundwood imports decreased by totally 4.6% in 2017, thus reaching 9.3 million m³. The import of industrial roundwood (sawlogs + pulpwood) decreased to 8.8 million m^3 (-3.9%). The import of coniferous sawlogs and veneer logs decreased by 1.9% to 6.1 million m^3, those of coniferous pulpwood decreased to 1.6 million m^3. Wood fuel imports decreased to 447,000 m^3 (-15.7%).

11.9% less coniferous sawlogs and veneer logs were exported (371,000 m^3) in 2017. Exports of pulpwood amounted to 355,000 m^3 (+17.3%); wood chips (including particles and residues) amounted to 652,000 m^3 (+10.2%) and fuelwood to 14,000 m^3 (+16.4%).

On annual average the 2017 prices of roundwood (incl. fuelwood) were 0.6% above those of 2016. This is mainly a result of the higher prices for sawlogs. On annual average, sawmills paid € 90.66 per cubic metre of sawlog spruce/fir, Cat. B, Media 2b, 0.8% more than in 2016; the annual maximum of € 93.49 was paid in July, the annual minimum of € 85.98 in October. The 2017 mixed pulpwood/mechanical pulpwood price for spruce/fir was with € 36.32 per m³ 0.2% below the average for the preceding year – pulpwood € 33.00 (-0.1%), mechanical pulpwood € 43.99 (+0.1%). The production value of domestic forestry (incl. forest-related services and non-separable non-forestry subsidiary activities) reached the total of € 1.596 billion in 2017, after € 1.509 billion in 2016. The increase by 5.7% is a consequence of the higher harvest volumes and stable or slightly higher wood prices.

<u>2018:</u> The price of sawlogs spruce/fir, Cat./ B, Media 2b, reached its annual high to date in March 2018 (€ 91.05), and has been declining since then. The most recently available prices for August amounted to about € 87.06. This is a result of the huge amounts of damaged wood accruing due to the bark beetle infestation, above all in the Waldviertel and the Mühlviertel (located between the Danube in the south and the border to the Czech Republic in the north). Prices therefore varied according to region. While they dropped substantially in the Federal Provinces most seriously affected, Upper Austria and Lower Austria, declines were less serious in the south of Austria, in Carinthia and Styria. Forest owners assume that, as a result of the economic trend and the amount of damaged wood, the volume felled in Austria will increase by 10.7%, thus reaching 19.5 million m³. The volume of wood damaged by bark beetles is expected to amount to approximately 4 million m³.

<u>The roundwood market in October 2018:</u> The sawing industry continues to be very well stocked with coniferous sawlogs from Austria and abroad. Sawnwood markets are estimated as having large capacity to absorb more again next year. However, stocks in timber storage places that

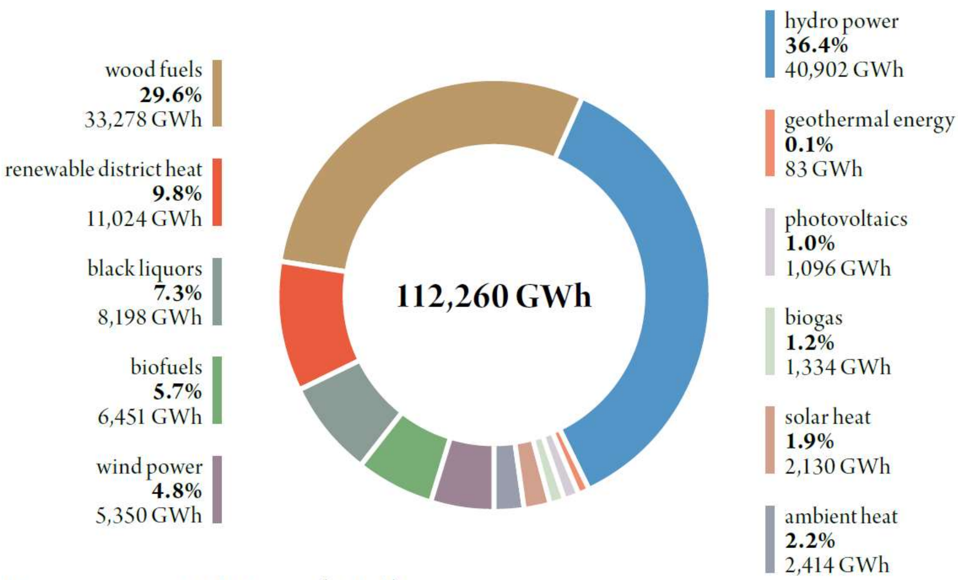
are located in bark-beetle infested forests are reduced only slowly – sometimes it takes several weeks to remove the timber that has been provided. Nevertheless utilisation is in some cases anticipated to prevent a massive loss of value due to beetle infestation next year. Prices have remained stable at a low level. Outside the regions where damaged wood is easily available the demand for spruce sawlogs has increased. In some cases prices have been slightly lifted. Due to the excess supply of spruce selling pine remains difficult. Larch and strong Douglas firs are continuously in demand at attractive prices.
The pulp, paper and board industry, too, is very well supplied with coniferous industrial roundwood. As the demand for mechanical spruce pulpwood is lively, there is potential for thinning. Except for Upper Austria, pulpwood can be sold without any problems. The demand for pulpwood of common beech continues to be strong with constant prices. However, missing transport capacities affect the removal of all industrial timber assortments.
The situation on the wood-for-energy market remains divided. Whereas there are favourable marketing opportunities in the south of Austria, selling is difficult in the north due to the oversupply caused by beetle-infested wood. The demand for high-quality fuelwood is excellent. Uncertainty prevails over wood-fired power plants. As the support scheme for eco-electricity is successively phased out, facilities are disconnected from the grid. Should there be no follow-up regulation for wood-fired power plants, it is to be feared that further bulk purchasers retire from the grid and that the wood-for-energy market suffers impairments.
At the beginning of October, bark beetle swarming is almost over. This means that the salvaging of damaged timber can be adapted to the transport capacities and the absorbing capacity of plants.

Considerable amounts of wood damaged by bark beetle are expected to accrue also in 2019. In the areas affected the price situation will probably remain tense.

B. Wood energy

In 2016 the Austrian gross domestic energy consumption amounted to 1,435 PJ or 399,000 GWh, thus being 1.4% higher than in 2015. The increase is due to additional consumption in

FINAL ENERGY CONSUMPTION PROVIDED BY RENEWABLE ENERGY 2016



Data source: Statistik Austria (2017b)

households, transport and industry, the reasons of the extra consumption being the economic growth, the low fuel prices and the higher total heating degree in 2016. The share of renewable energy (acc. to the EU Renewables Directive 2009/28/EC) was 33.5%.

In 2016, the largest contributions of renewable energy in Austria's final energy consumption came from wood fuels, including district heating from wood fuels, with 43,895 GWh and from hydropower with 40,902 GWh. Together, these two groups of energy sources account for a share of 75.5% of the total renewable final energy consumption in Austria. Other branches with significant contributions included black liquors with a share of 7.3%, biofuels with 5.7% and wind energy with 4.8%. From 2015 to 2016 the total final energy consumption provided by renewable energy increased by 3.8%, thus reaching 112,260 GWh. This increase was due to a production-related rise in the use of black liquors (+25,5% or +1,666 GWh), a rise in the use of wood fuels caused by the weather conditions (+3,8% or +1,205 GWh), and a rise in the amount of electricity from hydropower which was a consequence of the available quantity (+2,9% or +1,150 GWh).

According to the official removals statistics 4.91 million m³ of fuelwood and chippings from forests were harvested in 2017, which corresponds to a 27.8% share in the total removal and a rise of 6.9% compared to 2016. Fuelwood accounted for 2.31 million m³ (1.24 million m³ of coniferous wood, 1.07 million m³ hardwood), wood chips from forests for 2.60 million (solid) m³. With € 62.30 per m³ of stacked wood (with bark, without turnover tax) the price of non-coniferous fuelwood in 2017 rose by 0.2% compared to 2016, that of coniferous fuelwood rose by 0.1%, thus reaching € 41.93. All in all there were hardly any fluctuations. This stable trend has continued throughout the year 2018 so far.

Wood pellets are currently produced at 43 sites in Austria, predominantly by the sawmill industry. The production capacity increased to 1.6 million tonnes. In 2017, real production amounted to 1,225,000 tonnes (+14% compared to the preceding year); 403,000 tonnes were imported, above all from Romania, the Czech Republic and Germany; 675,000 tonnes were exported (+18%), mainly to Italy. According to proPellets Austria the domestic consumption increased by 7% and amounted to 960,000 tonnes. The estimated production for 2018 amounts to 1.3 million tonnes. Depending on the next winters, future production might rise significantly as a result of the higher production capacity. In 2017 5,118 new pellet boilers (< 100 kW) were installed (+18%). The price survey done by proPellets Austria (www.propellets.at) resulted in an average price of 23.97 cent/kg of (bulk) wood pellets (incl. turnover tax) in October 2018. Compared to October 2017 this means an increase in prices by 3.7%. Wood pellets in bags (when ordered by the pallet) cost an average € 4.06 per 15 kg sack (27.04 cent/kg, +2.2%).

C. Certified forest products

PEFC Austria was founded in 1999. Since September 2000 the Austrian PEFC certification system has been applied. Both forest certification by means of the regional model and the "Chain of Custody" (CoC) certification have been developed so as to suit the specific requirements of small- and medium-sized enterprises in Austria. On 29 March 2018 the third Standard Revision was completed and the updated standards of PEFC Austria entered into force. Currently, about 63,000 forest owners holding about 3.0 million hectares effectively take advantage of the certification and 484 CoC certificates are valid.

Forest Stewardship Council (FSC): In Austria, 587 hectares of forest are currently certified according to FSC. There are 289 valid CoC certificates.

D. Value-added wood products

In addition to the sawmill and board industries (see E, F, G), also the construction sector, the furniture industry, and the ski industry represent important lines of business of Austria's wood industry.

2017's sold production in the construction sector amounted to € 2.63 billion, an increase of 3.3% compared to the previous year. The individual sectors of the construction-related industries show different trends. The production of windows rose to € 417 million (+2.1%). The production of prefabricated wooden houses declined to € 513 million (-4.0%) and the production of doors by 4.9% to € 226 million. Glued structural components' production increased to a total of € 796 million (+6.8%). Exports of wooden floors (€ 215 million, -1.7%) and doors (€ 42 million, -3.1%) decreased. More windows (€ 73 million, +1.6%) were exported; exports of laminated wood reached € 476 million (+6.6%). The most important foreign markets for wooden floors were Germany (market share: 65%) and Switzerland. These two countries were also the major destinations for exports of windows and doors. The largest portion of the laminated wood was exported to Italy (37%), although exports to Italy dwindled by 11.9%. Germany (21%), Japan (10%) and Switzerland (8%) followed in the ranking.

The Austrian furniture industry comprises 50 industrial plants with about 6,000 employees – most of them are privately owned medium-sized companies. The furniture industry was able to maintain its production level in 2017 (€ 2.0 billion, +0.1%). With a production increase to € 219.5 million (+23.5%), shopfitting recorded the highest growth rate. Wooden bedroom furniture, dining room furniture and living room furniture, too, saw increases (+3.6%, € 375.1 million). Seating furniture (+0.0%, € 212.7 million) and kitchen furniture (+0.1%, € 281.3 million) remained more or less constant. Office furniture and mattresses did not benefit from the positive development and recorded a loss of production volume.

Exports did well again in 2017; Austria's furniture producers were again able to increase their exports, by 2.4% to € 902.6 million. The main export market was Germany (€ 380.1 million, +5.6%). Furniture imports to Austria rose by 1.6% and resulted in a total value of € 1.84 billion. The bulk of the imported furniture came from Germany (€ 878 million, -4.2%). Imports from Poland (+5.2%, € 183 million), China (+5.5%, € 153 million) and Italy (+14.2%, € 135 million) increased.

According to preliminary results the first six months of 2018 went well with a production growth of 3.9%. Taking everything into account, furniture worth € 957.4 million were produced and sold. Exports increased by 7.4% during the first half of 2018.

E. Sawn softwood

With more than 1,000 companies and about 6,000 employees the Austrian sawmill industry is the biggest processor of wood in Austria (see wood flow diagram, page 17). It mainly consists of small- and medium-sized enterprises. However, the eight largest companies generate half of the total production volume, its 40 largest companies almost 90%. 98% of the total production is sawn softwood, mainly spruce and fir. About 60% of the total sawn softwood production is designated for the export. In absolute terms Austria is among the top 6 world-wide as regards the export of sawn softwood.

In 2017 the sawnwood markets experienced a positive trend in almost all sales markets. The production of sawnwood amounted to 9.61 million m³ (2016: 9.41 million m³), of which 9.44

million m³ were sawn softwood. The production value of the Austrian sawmill industry recorded a 10% increase, thus amounting to € 2.15 billion. In 2017, processed roundwood accounted for approximately 16.2 million solid cubic metres, including 5.9 million solid m³ of imported coniferous sawlogs. Most of the sawlog imports were from the Czech Republic (2.9 million solid m³) and from Germany (1.7 million solid m³). Imports from Slovenia decreased by 23% to 1.0 million solid cubic metres.

5.45 million m³ of sawn softwood were exported in 2017 – an increase by 2.4% compared to the previous year (5.32 million m³). Exports to the main market, Italy, rose by 8% to 2.6 million m³. This means that 45% of the total sawn softwood exports were shipped to Italy. Exports to Germany increased to 955,000 m³ (+4%), whereas the continued political uncertainty in the countries of the Levant caused a reduction of exports to 795,000 m³ (-16%) in 2017. Imports of sawn softwood decreased by 1.7% compared to the previous year in 2017 and totalled 1.78 million m³.

2018: The Austrian sawmill industry assumes that their production of sawn softwood will, after 9.7 million m^3 in 2017, grow to about 10.1 million m^3 this year. After the snowy start of the year, the following months provided for outstanding growth. At that time large amounts of roundwood were offered – also due to the calamity – and the demand for sawn softwood was high. Until August the volume cut was 7% above the level of the preceding year.

During the first half of 2018 more or less all sales markets developed favourably. The main market, Italy, experienced a slight increase as well. Recently, especially packaging goods boomed in exports to Italy, but slight increases were also recorded for the construction sector. Compared to the reference period of the previous year, Austrian sawmills' exports of sawn softwood increased by 8% (+256.000 m³) between January and July (Italy +2%, Germany +6%, Slovenia +55%, Japan -32%).

For 2019 large quantities of damaged wood are expected to accrue again which need to be sold on the market. In this context, the supply with fresh roundwood will play an important role. The sawmill industry is expecting another production increase (+3%). A positive sentiment is currently prevailing on most markets.

F. Sawn hardwood

After the low level recorded in 2014 (134,000 m³), the production of hardwood sawmills went up to 154,000 m³ in 2016 and to 175,000 m³ in 2017. The demand for oak sawnwood increased over the past few years; presently, the roundwood supply for this type of wood is good in Central Europe. Solely the transport ban for oak roundwood and fresh sawnwood issued by Croatia in 2017 impaired market flows.

G. Wood-based panels

For Austria's board industry, 2017 was a positive business year with a production increase along with a slight increase in sales in Austria and abroad. This is evident especially in a very high export quota (~80%) and the trade surplus of about € 700 million. The most important sales markets are located in Europe, notably in Germany, Italy and Czech Republic. At the top of the non-European markets are the U.S.A., Canada and Chile as well as – in Asia – Japan, Taiwan and China. The successful export developments demonstrate the efficiency and competitiveness of Austrian locations. Austria's board industry is managed by Austrian owner families. This family background is a vital element of the sustainable development of enterprises. Due to the international orientation of the sector the competition for business locations within business groups is highly transparent.

The Austrian enterprises of the particle, MDF and fibre board industries produced at seven Austrian premises and employed about 3,000 persons. The largest portion of the turnover was made with particle boards. Particle board production amounted to about 2.4 million m³ in 2017, of which about 82% were exported.

Ensuring the long-term supply of wood as a raw material is a key issue for Austria's wood-based panel industry. In 2017 the quantity of the raw material used comprised 1.33 million m³ of roundwood (type "Plattenholz") and 1.39 million m³ of sawing by-products and shavings, plus the use of recycled wood. The import share for the roundwood used amounted to 24%, that for sawing by-products and shavings to 15%.

2018: As the overall economic development continues to be favourable both on global and on regional level, this positive trend is also reflected in constantly high production figures as well as in a slight increase in turnover and sales of the Austrian board industry. Expectations for 2018 are similar to those for 2017. In general, the raw material supply of the board industry is satisfactory in all fresh wood assortments. There are regional differences as regards the supply rate which, depending on the season, are caused by weather conditions or calamities. Buying recycled wood, the board industry makes a valuable ecological contribution in the context of value-adding cascade use. The recent amendment to the Recycled-Wood Ordinance ("Recyclingholz-Verordnung") includes a requirement to recover wood waste and takes account of the five-step hierarchy of waste management.

2019: A stable development is expected, even though forecasts for the time after 2018 indicate a slight slowdown in the economy. A hazardous environment with continued military conflicts and the current trade policy of the U.S.A. with its isolationist orientation as well as the Brexit cause some insecurity. However, all in all strong domestic demand and good export results are expected. Above all, the lively construction activity in all Europe has become a driver of the industry.

H. Pulp and paper

In Austria 24 mills produce pulp and paper. In 2017 they employed 7,835 (-1.7%) persons. The volume of paper declined by 2.7% to 4.9 million tonnes. The total turnover increased to € 4.0 billion (+0.7%).

Due to the strong economy of 2017 the consumption of paper products rose slightly by 0.3% and reached 1.9 million tonnes. Following the long-term trend, the demand for graphical paper decreased (-8.5%) while consumption of packaging paper rose (+6.4%). Speciality papers showed a temporary decline in 2017 (-1.3%), but these figures have been influenced by changes in stock.

In 2017 the Austrian pulp and paper industry implemented a number of major projects with total investments of € 220 million. There are projects in Lenzing, where the pulp mill is being expanded, in Frohnleiten, where Mayr-Melnhof opened a new power plant, in Traun, where Delfort greatly improved the PM 3, and in Gratkorn, where Sappi now supplies the city of Graz with district heat. Two other projects were successfully completed in Laakirchen: the enhancement of PM 11 and the conversion of PM 10 to a new paper grade, resulting in production based purely on recycling paper.

Production: 2006, with its 5.2 million tonnes produced, remained the Austrian paper industry's record year. Due to extended shut-downs resulting from modifications in Laakirchen und Traun and the closure of a machine in Steyrermühl no quantitative growth was achieved in 2017, which otherwise proved to be a strong year. The total paper production decreased by 2.7% and reached only 4.9 million tonnes. The graphic sector lost 6.8%, thus falling to 2.6 million tonnes, and speciality papers saw a decline of 1.7%, thus falling to 310,000 tonnes. The packaging sector grew by 3.0% to 2.0 million tonnes. The utilised capacity of machinery declined to roughly 91%. Rigorous cost management, high quality and customer orientation play a crucial role.

With a very high export ratio (88%) and paper exports of € 3.0 billion the paper industry made a positive contribution to Austria's trade balance. Total paper exports decreased by 2.1% to 4.26 million tonnes. The largest delivery markets, alongside the 598,000 tonnes domestic market, remain Germany (1.02 million t, -3.0%) and Italy (468.000 t, -0.5%). In 2017 a total amount of 1.35 million tonnes of paper were imported to Austria.

2018: During the first six months of 2018 paper production generated a plus of almost 2% compared to the reference period of the previous year, but recorded rather different results for the individual types of paper. The production volume of packaging and speciality papers as well as of hygiene paper products has increased, while that of graphic paper declined. The consumption of waste paper showed a marked increase and for the first time a rate of waste-paper use above 50% was reached. The yields for paper and market pulp went up as well; as a consequence, a plus in turnover of about 6% was recorded at the end of the first half-year.

Pulp: In 2017, the Austrian volume trend for virgin fibre was negative, with a decrease of 2.8% to 2.1 million tonnes. The chemical pulp production decreased to 1,269,000 tonnes (-0.8%), the production of mechanical and semi-mechanical wood pulp decreased to 329,000 (-12.4%), and the production of textile fibres declined by 0.8%, thus amounting to 458.000 tonnes. The amount of wood used by the Austrian paper industry decreased by 2.2% to 8.55 million solid cubic metres in 2017; 4.08 million m³ accounted for roundwood (-8.5%) and 4.47 million m³ for sawing by-products (+4.4%). Purchases of domestic roundwood decreased by 6.5%, thus reaching 2.45 million m³; imports declined by 12.0% and reached 1.56 million m³. For sawing by-products, domestic purchases amounted to 3.55 million m³ (+1.6%) and imports accounted for 0.94 million m³ (+4.4%). The importance of secondary pulp in Austria (1.95 million tonnes, -0.8%) declined somewhat in 2017. 2.24 million tonnes of waste paper were used (-4.4%), of which 1.05 million tonnes from domestic sources. The waste paper collection rate was again on a very high level (73.8%).

Outlook: Publication paper's biggest competitor remains digital media, which offer rapid consumption of information. The positive development in packaging paper can be attributed to a general rise in consumer goods, smaller packaging sizes in the food industry and the booming mail-order business. Growth can be seen within speciality papers, where sanitary paper has a very good consumption forecast.

The association of the Austrian paper industry, Austropapier (www.austropapier.at), deals with wood availability, energy efficiency, work safety, research and other forward-looking topics. Due to the generally positive economic outlook and export situation, the paper industry expects slight increases in production for 2018 (+1.8%) and 2019 (+1.0%).

I. Innovative wood products

To strengthen the timber sector and to enhance its competitive and innovative power concrete measures have been taken in Austria for years, among them the establishment of timber clusters in several Federal Provinces, the initiation of institutes and chairs for timber engineering and timber technology at several universities, targeted research promotion, and the use of international, in particular European, aid programmes.

The Forest-based Sector Technology Platform (FTP) is a joint initiative of the European associations of forestry, the wood industry and the paper industry. For important research topics the FTP is the mouthpiece of these branches vis-à-vis the European Commission. The National Support Group brings together national concerns and communicates them to the FTP. Within the framework of the Austrian EU Council Presidency the 2018 FTP Conference will take place in Vienna on 20 November 2018. Its topic will be “Vision 2040: The future role of the forest bioeconomy in Europe”.

Another initiative to promote innovations and strengthen the competitiveness of the European forest-based sector is the Schweighofer Prize which, so far, used to be awarded to innovative ideas, technologies, products and services that concern the whole value chain. A reorientation of the prize, which will be awarded to students of forestry and timber industry in the future, is currently being worked on. (www.schweighofer-prize.org)

J. Housing and construction

Over the past years wood has become a high-tech construction material which increasingly finds its way into urban areas. One current highlight in Austria is the construction of the 24-storey high-rise timber building “HoHo Wien” (84 m high) in Vienna, which is to be completed in 2019.

Some Federal Provinces grant timber construction awards to strengthen the awareness for the high design qualities of timber construction and its ecological and climate-protecting properties. proHolz Austria offers comprehensive information about the building with wood. See also *2 Wood promotion*.

Pre-fabricated houses account for a market share of 33%. 99% of these prefabs are built in accordance with passive or low-energy standards. The export quota amounts to 20%.

The Austrian construction industry has overcome its long-standing weak phase. After the industry’s turnover showed a nominal increase by 7.4% to € 47 billion in 2017, it increased again during the first six months of 2018 and achieved the best half-year result recorded since 2007. According to the industry report of Uni Credit Bank Austria the turnover of the first half of 2018 showed a nominal increase by 12%. The significant growth of the industry is expected to continue until the end of the year and will allow an 8% increase in nominal turnover.

For 2019 the growth curve of the construction sector is expected to flatten, as investment gaps have already been closed in the preceding years. Due to the high level of capacity the growing demand also leads to a greater extent than before to higher prices. Moreover, rising interest rates could make funding more difficult.

See also *4D Value-added wood products*.

5. Charts

Economic indicators (WIFO, Economic Outlook, 05/10/2018)

	2014	2015	2016	2017	2018	2019
	Percentage changes from previous year					
GDP Volume	+ 0.7	+ 1.1	+ 2.0	+ 2.6	+ 3.0	+ 2.0
GDP Value	+ 2.9	+ 3.3	+ 3.5	+ 3.8	+ 4.7	+ 4.1
Export of goods Volume	+ 2.9	+ 3.5	+ 2.1	+ 4.9	+ 5.6	+ 4.5
Export of goods Value	+ 2.0	+ 2.4	+ 1.0	+ 6.7	+ 6.7	+ 4.7
Import of goods Volume	+ 2.1	+ 4.1	+ 3.2	+ 4.2	+ 4.4	+ 4.0
Import of goods Value	+ 0.2	+ 1.3	+ 1.4	+ 7.6	+ 6.4	+ 4.2
Consumer prices	+ 1.7	+ 0.9	+ 0.9	+ 2.1	+ 2.1	+2.1
Active dependent employment	+ 0.7	+ 1.0	+ 1.6	+ 2.0	+ 2.5	+1.5

Wood resources

Product	Year	Production	Imports	Exports
		1,000 m³		
Sawlogs, pulpwood and other industrial roundwood	2016	12.173	9.188	879
	2017	12.738	8.825	876
	2018	14.125	9.500	920
	2019	14.270	9.650	900
Wood residues, chips, particles	2016	6.780	1.814	592
	2017	6.955	2.192	652
	2018	7.450	2.250	640
	2019	7.700	1.950	650
Fuelwood	2016	4,590 [1)]	530	12
	2017	4,909 [1)]	447	14
	2018	5,402 [1)]		
	2019	5,200 [1)]		

[1)] incl. chippings from forests

Sawnwood

Product	Year	Production	Imports	Exports
		1,000 m³		
Coniferous sawnwood	2016	9,256	1,809	5,320
	2017	9,439	1,779	5,449
	2018	10,120	1,800	5,777
	2019	10,450	1,850	5,900
Non-coniferous sawnwood	2016	154	192	141
	2017	175	178	165
	2018	180	205	195
	2019	200	200	200

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TF1

TIMBER FORECAST QUESTIONNAIRE
Roundwood

Product Code	Product	Unit	Historical data 2016	Revised 2017	Estimate 2018	Forecast 2019
1.2.1.C	SAWLOGS AND VENEER LOGS, CONIFEROUS					
	Removals	1000 m^3 ub	**8.686**	**9.237**	**10.258**	**10.400**
	Imports	1000 m^3 ub	**6.207**	**6.089**	**6.810**	**7.000**
	Exports	1000 m^3 ub	**421**	**371**	**410**	**400**
	Apparent consumption	1000 m^3 ub	**14.471**	**14.954**	**16.658**	**17.000**
1.2.1.NC	SAWLOGS AND VENEER LOGS, NON-CONIFEROUS					
	Removals	1000 m^3 ub	**321**	**299**	**332**	**330**
	Imports	1000 m^3 ub	**347**	n.a.	n.a.	n.a.
	Exports	1000 m^3 ub	**91**	n.a.	n.a.	n.a.
	Apparent consumption	1000 m^3 ub	**577**			
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	**2.459**	**2.485**	**2.819**	**2.820**
	Imports	1000 m^3 ub	**1.732**	**1.606**	**1.600**	**1.600**
	Exports	1000 m^3 ub	**303**	**355**	**350**	**350**
	Apparent consumption	1000 m^3 ub	**3.888**	**3.736**	**4.069**	**4.070**
1.2.2.NC	PULPWOOD (ROUND AND SPLIT), NON-CONIFEROUS					
	Removals	1000 m^3 ub	**708**	**718**	**716**	**720**
	Imports	1000 m^3 ub	**902**	n.a.	n.a.	n.a.
	Exports	1000 m^3 ub	**65**	n.a.	n.a.	n.a.
	Apparent consumption	1000 m^3 ub	**1.546**			
1.2.NC	Sawlogs & Veneer logs + Pulpwood, NON-CONIFEROUS					
	Removals	1000 m^3 ub	**1.029**	**1.016**	**1.048**	**1.050**
	Imports	1000 m^3 ub	**1.249**	1.131	1.090	1.050
	Exports	1000 m^3 ub	**155**	150	160	150
	Apparent consumption	1000 m^3 ub	**2.122**	1.997	1.978	1.950
1.2.3.C	OTHER INDUSTRIAL ROUNDWOOD, CONIFEROUS					
	Removals	1000 m^3 ub	**0**	**0**	**0**	**0**
1.2.3.NC	OTHER INDUSTRIAL ROUNDWOOD, NON-CONIFEROUS					
	Removals	1000 m^3 ub	**0**	**0**	**0**	**0**
1.1.C	WOOD FUEL, CONIFEROUS					
	Removals	1000 m^3 ub	**2.710**	**2.873**	**3.187**	**3.000**
1.1.NC	WOOD FUEL, NON-CONIFEROUS					
	Removals	1000 m^3 ub	**1.880**	**2.036**	**2.215**	**2.200**
1	**TOTAL REMOVALS**	1000 m³ ub	16.763	17.647	19.527	19.470
3	WOOD CHIPS, PARTICLES AND RESIDUES					
	Domestic supply	1000 m^3	**6.780**	**6.955**	**7.450**	**7.700**
	Imports	1000 m^3	**1.814**	**2.192**	**2.250**	**1.950**
	Exports	1000 m^3	**592**	**652**	**640**	**650**
	Apparent consumption	1000 m^3	**8.003**	**8.495**	**9.060**	**9.000**
5.1	WOOD PELLETS					
	Production	1000 m.t.	**1.071**	**1.225**	**1.300**	**1.400**
	Imports	1000 m.t.	**392**	**403**	**355**	**300**
	Exports	1000 m.t.	**610**	**671**	**750**	**700**
	Apparent consumption	1000 m.t.	**854**	**957**	**905**	**1.000**

TF2

TIMBER FORECAST QUESTIONNAIRE

Forest products

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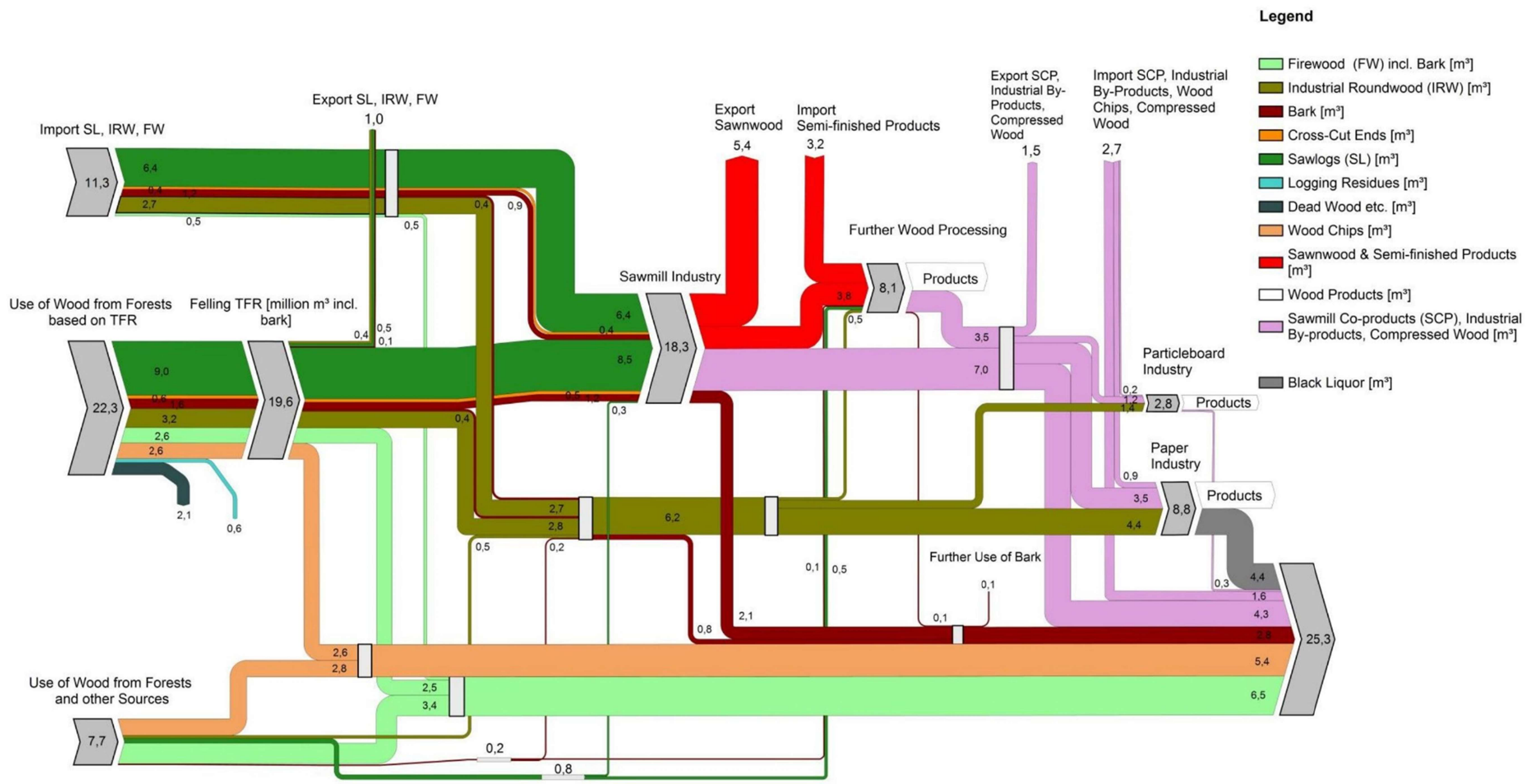
Product Code	Product	Unit	Historical data 2016	Revised 2017	Estimate 2018	Forecast 2019
6.C	SAWNWOOD, CONIFEROUS					
	Production	1000 m^3	9.256	9.439	10.120	10.450
	Imports	1000 m^3	1.809	1.779	1.800	1.850
	Exports	1000 m^3	5.320	5.449	5.777	5.900
	Apparent consumption	1000 m^3	5.745	5.769	6.143	6.400
6.NC	SAWNWOOD, NON-CONIFEROUS					
	Production	1000 m^3	154	175	180	200
	Imports	1000 m^3	192	178	205	200
	Exports	1000 m^3	141	165	195	200
	Apparent consumption	1000 m^3	205	188	190	200
6.NC.T	of which, tropical sawnwood					
	Production	1000 m^3	0 N	0	0	0
	Imports	1000 m^3	6	7	6	6
	Exports	1000 m^3	1	1	1	1
	Apparent consumption	1000 m^3	5	6	5	5
7	VENEER SHEETS					
	Production	1000 m^3	7 N	7	7	7
	Imports	1000 m^3	53	58	62	60
	Exports	1000 m^3	16	18	22	20
	Apparent consumption	1000 m^3	44	47	48	47
8.1	PLYWOOD					
	Production	1000 m^3	n.a.	n.a.	n.a.	n.a.
	Imports	1000 m^3	181	231	270	280
	Exports	1000 m^3	340	348	320	320
	Apparent consumption	1000 m^3				
8.2	PARTICLE BOARD (including OSB)					
	Production	1000 m^3	2.350	2.390	2.420	2.410
	Imports	1000 m^3	413	542	525	515
	Exports	1000 m^3	1.906	1.957	1.970	1.950
	Apparent consumption	1000 m^3	858	975	975	975
8.2.1	of which, OSB					
	Production	1000 m^3	0	0	0	0
	Imports	1000 m^3	161	173	182	180
	Exports	1000 m^3	10	10	8	8
	Apparent consumption	1000 m^3	152	162	174	172
8.3	FIBREBOARD					
	Production	1000 m^3	644 C	627	640	638
	Imports	1000 m^3	294	324	368	366
	Exports	1000 m^3	547	508	534	530
	Apparent consumption	1000 m^3	391	442	474	474
8.3.1	Hardboard					
	Production	1000 m^3	82 N	72	80	80
	Imports	1000 m^3	25	29	27	27
	Exports	1000 m^3	60	57	63	63
	Apparent consumption	1000 m^3	48	44	44	44
8.3.2	MDF/HDF (Medium density/high density)					
	Production	1000 m^3	556 N	555	560	558
	Imports	1000 m^3	174	164	185	184
	Exports	1000 m^3	482	444	465	462
	Apparent consumption	1000 m^3	248	276	280	280
8.3.3	Other fibreboard					
	Production	1000 m^3	6 N	0	0	0
	Imports	1000 m^3	94	130	156	155
	Exports	1000 m^3	5	8	6	5
	Apparent consumption	1000 m^3	95	123	150	150
9	WOOD PULP					
	Production	1000 m.t.	2.116	2.056	2.030	2.050
	Imports	1000 m.t.	822	752	740	750
	Exports	1000 m.t.	418	424	428	436
	Apparent consumption	1000 m.t.	2.519	2.384	2.342	2.364
12	PAPER & PAPERBOARD					
	Production	1000 m.t.	4.995	4.860	4.950	5.000
	Imports	1000 m.t.	1.315	1.409	1.399	1.409
	Exports	1000 m.t.	4.250	4.150	4.260	4.320
	Apparent consumption	1000 m.t.	2.060	2.120	2.089	2.089

These data are flagged with E, R, N or C for secretariat estimate, repeat, national estimate or calculated totals (from subitems).

https://www.klimaaktiv.at/erneuerbare/energieholz/holzstr_oesterr.html

WOOD FLOWS IN AUSTRIA



Issue: June 2018 / Reference year: 2016

All values given in million m³; values <0.1 million m³ are not shown; numerical values partially rounded

This illustration is based on the current state of knowledge and information, and has been compiled to the best of the authors' knowledge and experience. However, the authors accept no liability whatsoever for errors or omissions and reserve the right to incorporate latest findings.
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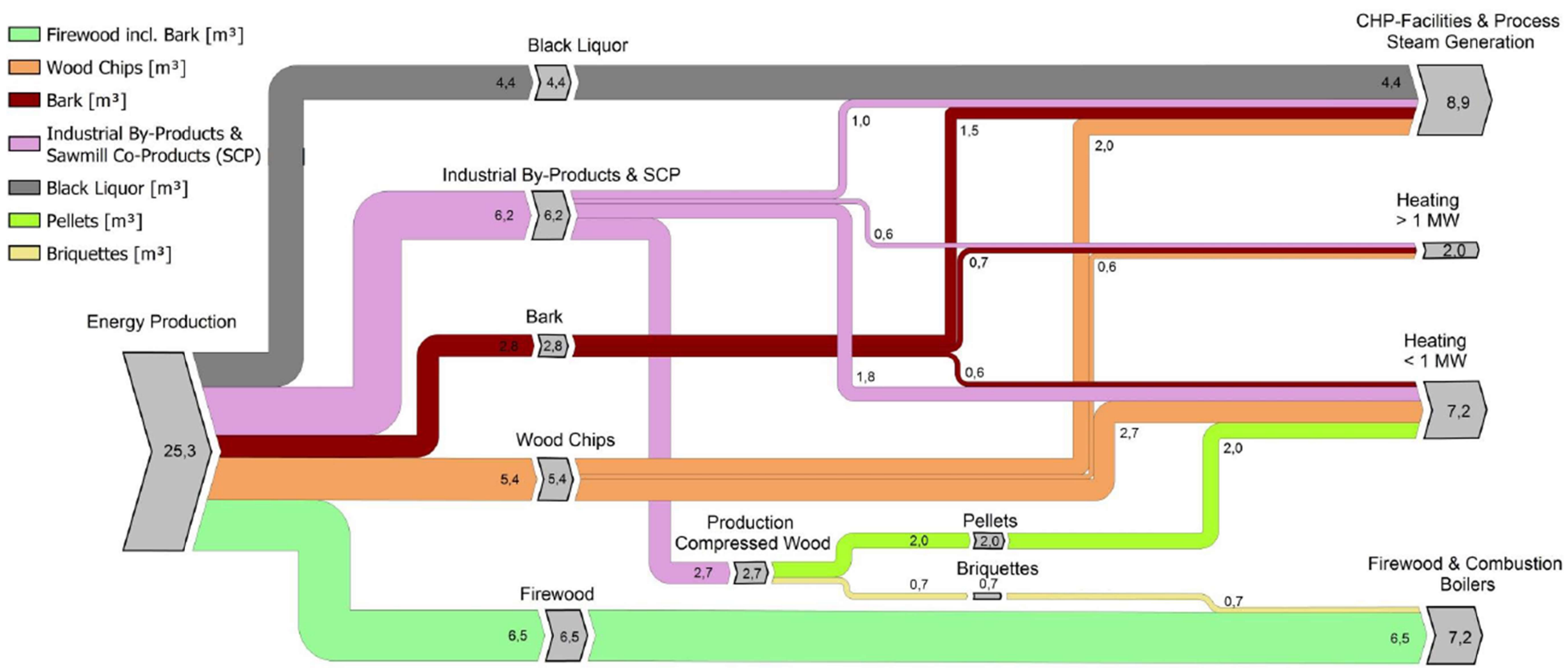
AUSTRIAN ENERGY AGENCY

Federal Ministry
Republic of Austria
Sustainability and Tourism

WOOD FLOWS IN AUSTRIA

Energy Production



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