# MARKET STATEMENT

**submitted by the**
**Delegation of Germany**
**to**

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# 1. General economic trends

## 1.1. German government interim projection forecasts recovery after historic slump[1]

In its spring projection the German government expects gross domestic product to increase by 3.5% (price-adjusted) in 2021. For 2022, further growth of 3.6% is expected as part of the catch-up process (Table 1). The German government's projection is based on the assumption that the far-reaching measures restricting social contact in public spaces to protect health and life can be gradually relaxed in the course of the second quarter of 2021. Thereafter, a significant recovery in the domestic economy and private consumer spending is expected. Also - despite the ongoing infection - the industrial economy and the foreign trade in particular present themselves as important drivers in the current year.

**Table 1: Key figures of the 2021 spring projection**

| **Gross domestic product by expenditure (price adjusted)** | **2020** | **2021** | **2022** |
|---|---|---|---|
| *Year-on-year change (in per cent)* | | | |
| **Gross domestic product**[1)] | -4.9 | 3.5 | 3.6 |
| Private consumption[2)] | -6.1 | 0.8 | 5.5 |
| Public-sector consumption | 3.3 | 5.2 | 0.3 |
| Gross fixed capital formation | -3.1 | 3.5 | 3.6 |
| - of which equipment | -12.1 | 7.5 | 5.5 |
| - of which buildings | 1.9 | 1.4 | 2.8 |
| - of which other investment | -1.1 | 3.3 | 3.0 |
| *Changes in inventories and net acquisition of valuables (contribution to GDP growth)* | -0.8 | 0.0 | 0.0 |
| Domestic demand | -4.2 | 2.5 | 3.8 |
| Exports | -9.4 | 9.2 | 4.5 |
| Imports | -8.5 | 7.8 | 5.0 |
| *Net foreign demand (contribution to GDP growth)*[3)] | -0.9 | 1.1 | 0.1 |
| Private consumption[2)] | 0.7 | 2.2 | 1.5 |
| Gainfully active persons (domestic) | 44.8 | 44.7 | 45.0 |
| Unemployed persons (Federal Employment Agency) | 2.7 | 2.6 | 2.4 |

*[1)] In 2020, calendar-adjusted growth is -5.3% and the annualized rate is -3.6%;*
*[2)] Including non-profit-making organisations;*

[1] https://www.bmwi.de/Redaktion/DE/Pressemitteilungen/2021/04/20210427-Altmaier-Rechnen-mit-Wirtschaftswachstum-von-3,5%25-2021-und-3,6%25-2022.html

*[3] Absolute change in net foreign demand in per cent of pre-year GDP (= contribution to change in GDP).*

Average annual increases are expected in all expenditure components of gross domestic product. Due to the positive development of the sales markets, German exports will also grow by a substantial 9.2% in 2021 (2022: +4.5%). However, the still subdued domestic demand, particularly in the first half of the year, is having an impact on imports. Compared with exports, these will rise by a somewhat lower 7.8% in 2021 and 5.0% in 2022. As a result, the German current account surplus as a percentage of nominal GDP is expected to increase slightly in 2021 and then decline again in 2022.

Investment in equipment is closely linked to the capital-intensive export industry. The revival in foreign trade and the still very robust industrial economy should lead to a significant increase in equipment investment of 7.5% in 2021. Catch-up effects will also play a role, as investments were postponed due to the crisis.

Due to the low interest rate environment and high demand for housing, construction investment will continue to rise. However, the construction sector had a weak start to the year due to poor weather conditions, which is dampening the annual growth rate. Construction investment is expected to increase by 1.4% in 2021. In 2022, investment in buildings will pick up further and expand by 2.8%. The main drivers of the further recovery are residential construction due to favorable financing conditions and the continuing high demand for housing.

Government consumption spending will continue to support demand in 2021 (2021: +5.2%, 2022: +0.3%). Government investment spending will also increase strongly again in the current year and then decline again in 2022 (2021: +6.0%, 2022: -2.1%).

The labor market was clearly impacted by the crisis last year, but proved very robust in view of the sharp drop in economic output. After a subdued development in the first quarter, more significant increases in employment and especially in mini-jobbers (partly due to the reopening of the catering sector) are expected from the second quarter onwards. Overall, there will be a slight decline in employment of 60,000 persons on average in 2021. In the coming year, employment is expected to increase by 290,000 persons.

## 1.2 The economic situation in Germany in September 2021[2]

Germany's industrial sector was able to increase its production further at the beginning of Q3. Nevertheless, there are persisting bottlenecks in the supply of intermediate goods, which are likely to continue to have a negative effect on some parts of the industrial sector in the coming months. Growth in the services industries is returning to normal, following strong growth over the past few months. The manufacturing sector registered a rise in its output in July, but continues to be affected by supply shortages in some areas. Industrial orders picked up considerably, reflecting robust demand. July was the fifteenth consecutive month in which Germany was able to increase its exports. It is true that German exporters were a little less confident in August, but overall sentiment remains fairly positive in the long-term comparison. Global industrial output and global trade expanded in June, highlighting the robustness of the global economy, even despite a decline in dynamism. Recently, expectations in the services sector have been held back by uncertainty caused by the rise in infections. Since the end of lockdown in May, however, which unleased fresh cyclical dynamism, the situation has been viewed in a more positive light. Retail sales fell in July compared to the preceding months, but this was largely due to the sector's very strong performance in June. The recovery on the labour market is continuing, with another fall in unemployment and also in the number of people in short-time work, which now stands at approx. 1.6 million. Overall economic output can be expected to have risen in this ongoing Q3. Going forward to Q4, it is likely that growth rates will normalise. However, the risk posed by potential new virus variants and their influence on infection rates remains the main source of uncertainty for further economic development.

The upswing in global economic activity has recently slowed down a little. Global industrial output in June grew 1% over the preceding month and the global trade volume also expanded by a slight 0.5%, but June was also the third consecutive month that saw the sentiment indicators take a turn for the worse. In August, the J.P. Morgan/IHS Markit composite purchasing managers' index fell by 3.2 points to reach 52.6 points, which is only just above the growth threshold of 50 points. The mood in industry deteriorated only slightly, despite persisting shortages in the supply of key intermediate goods, whereas sentiment among service providers was far more subdued than before – probably in view of the increasing spread of the more contagious COVID-19 delta variant. Despite this, there are strong indications that global economic output will continue to rise in Q3, albeit at a slower pace than had been expected.

[2] https://www.bmwi.de/Redaktion/EN/Pressemitteilungen/Wirtschaftliche-Lage/2021/20210913-the-economic-situation-in-the-federal-republic-of-germany-in-september-2021.html

German foreign trade has recently lost some momentum. In July, the value of goods exports rose by a slight 0.5% over the preceding month, adjusted for seasonal variations and on a nominal basis (June: -0.5%). Goods imports fell by 3.5%, following a small increase in June. With export and import prices growing strongly and at the same time, the increase registered on a nominal basis is likely to turn into a decrease in price-adjusted terms. This effect should be even more pronounced for the import figures. By contrast, trade in services picked up considerably in July. Largely due to more foreign travel undertaken by Germans, services imports grew by 9.6%. Services exports even grew by 11.1%. The combined trade figure for goods and services exports rose by 2.4%, the respective import figure fell by 0.9%.

At national level, the slight slowdown in global economic recovery is reflected in the leading indicators for foreign trade and investment only to a limited degree. New foreign orders showed a marked increase of 8.0% between June and July. However, these figures are much affected by large orders and the three-month comparison shows only a slight rise (+0.2%) in new (foreign) orders. In August, the ifo export expectations for the manufacturing sector, although still quite confident, painted a somewhat less confident picture than before. This breather notwithstanding, the overall outlook for German foreign trade remains positive. A boost is being provided by the favourable economic development in important sales markets in Asia and in the United States.

Output in the manufacturing sector rose 1.0% between June and July. Industrial output increased by 1.3%; the construction sector recorded a 1.1% increase. The two-month comparison for June/July compared with April/May shows a slight decrease of 0.9% in manufacturing output. Whilst industrial output fell by a slight 0.4%, construction output fell markedly by 1.7% in the two-month comparison, albeit from a comparatively high level. New manufacturing orders expanded by 3.4% between June and July. The two-month comparison of June/July versus April/May also points to a significant plus (+4.6%). Excluding large orders, however, order activity dropped slightly, by 0.2%. Overall, new orders saw another considerable rise, following the one recorded in June. This was due to strong foreign demand (+8.0%), particularly from outside the eurozone (+15.7%). In contrast, domestic demand, which had been the driving force behind the rise in orders in the previous month, declined (-2.5%), but did remain at a high level. Overall, orders were marked by the strong growth in the production of machinery, pharmaceuticals and large orders in other (i.e. non-automotive) vehicle construction. New orders in the large mechanical engineering sector have been expanding continuously since December 2020, growing by almost 15% since the beginning of this year.

Following the slowdown in industrial production in Q2, the ongoing Q3 began on a brighter note. The important motor vehicles and parts sector increased its output by 1.9% in July. The mechanical engineering sector, which is of similar significance, saw a 6.9% increase in output. The shortage of semiconductors, which has recently slowed down production, is, however, expected to persist. Construction output remains at a high level. Given the constant high level of demand and the growth in output, the industrial outlook remains positive, even though surveys have shown that business prospects have recently been affected by less positive expectations, not least because of the rise in infections.

Retail sales (excluding cars) have recently fallen. Having increased by a hefty 4.5% in both May and June, retail sales fell by approx. 5% in July. The rise in infections is creating elevated levels of uncertainty on the part of both consumers and retailers. Following a strong recovery in May and June, retail sales of textiles, clothing and footwear fell by around 10% in July. E-commerce and mail order sales continued to normalise (-11.9%), but the figure was still well above the pre-crisis level (+21%). New car registrations by private owners once again rose considerably in August (+3.1%).

The ifo figures for business expectations in the retail sector dipped in August, in fact even more so than they had done in July. The GfK consumer climate index is expected to register a small decline in September, with the rise infections and resulting consumer insecurity as a main reason.

The consumer price level remained unchanged between July and August (±0.0%). Before, in July, there had been an increase of 0.9%, which mainly resulted from higher energy prices. The inflation rate, the year-on-year development of prices, rose by 0.1 percentage points to 3.9% in August. This comes after a strong hike by 1.5 percentage points in July. This sudden surge towards the middle of the year was the result of a base effect cased by the temporary reduction in VAT rates in the preceding year. In other words, the current consumer prices – which include the regular VAT rates – are being compared with prices that were subject to reduced VAT rates. Other special effects that have also resulted in a considerable increase in the inflation rate since the beginning of the year include the recovery of import and commodity prices and the introduction of carbon pricing. Once these special effects cease to exert their influence at the end of the year, the upward trend in consumer prices is likely to weaken considerably. The core inflation rate (excluding energy and food) rose slightly to +2.8% in August (from +2.7% in July). Energy prices soared 12.6% in year-on-year terms (July: +11.6%). Current developments on the commodity markets, however, suggest that the oil price will ease in the medium term.

The remarkable recovery of the labour market continued through August; prospects for the coming months are also positive. Following the loosening of COVID-19 restrictions, particularly in the hospitality, retail, and services sectors, unemployment and underemployment again fell considerably in August (in seasonally-adjusted terms), by 53,000 and 38,000 persons respectively. Typically, one would expect a seasonal rise in unemployment in the summer months. According to the unadjusted figures, however, unemployment fell by 12,000 to now stand at 2.58 million people. Compared with the previous month, the number of unemployed persons was down by 377,000. Gainful employment is also developing extremely well, with a seasonally adjusted increase of 100,000 persons.

According to the unadjusted figures, there were 45 million people who were gainfully active, which is an increase of 280,000 year-on-year. In June, the number of people in jobs subject to social security contributions saw a strong rise (+79,000 compared to May), and the number of people in short-time work dropped to 1.6 million (figures extrapolated by the Federal Employment Agency). The number of people in short-time work is expected to fall again by a considerable margin in July. Demand for labour continues to remain high. The leading indicators used by ifo and the Institute for Employment Research (IAB) improved again in August, from what had already been a very high level. The number of unfilled vacancies reported is also high. This suggests that the upswing on the labour market is likely to continue over the coming months.

In the first semester of 2021, the German local courts registered 17.7% fewer filings for insolvency than they did in the first semester of 2020. For July and August, the Federal Statistical Office reported a month-on-month reduction of 0.1% and 19.3% respectively in the number of companies filing for regular insolvency. The general insolvency situation thus remains unremarkable; only the first quarter registered a temporary increase in insolvencies following the shortening of the residual debt discharge procedure. On the whole, it is still not possible to rule out a slight rise in company insolvencies for the rest of the year; however, it would probably be fairly moderate – if at all noticeable.

## 2. Selected policy measures affecting the forest sector and market drivers

### 2.1 Climate Protection Program 2030[3]

The greatest potential for strengthening the contribution of forests to climate protection lies in sustainable, near-natural forest management, the promotion of their carbon sink capacity, both in standing stock and in deadwood and soil, and greater use of wood in the form of durable products.

The Climate Protection Plan 2050, which was already adopted by the German government in November 2016, takes up these aspects. In the field of action "Forest and forest management", the focus is on preserving and improving the sink capacity of the forest. In addition, the CO2 reduction potential of sustainable forest management and the closely related use of wood and the climate potential of natural forest development must be tapped. Measures to this end are supported by GAK funding for forest conversion and by the measures funded by the Forest Climate Fund to preserve and expand the CO2 reduction potential of forests and wood and to adapt German forests to climate change.

On September 25, 2019, the Federal Cabinet approved the key points of the Climate Protection Program 2030 agreed by the Climate Cabinet on September 20, 2019. The agreement of the Climate Cabinet is the basis for the additional budgetary resources made available for forests in climate change in the years 2020 to 2023.

### 2.2 Forest Strategy 2050[4]

Germany is one of the most densely forested countries in Europe, with around one third of its territory covered by forest. It is primarily mixed forests that characterize the German forest with an area share of 76 percent. The extreme weather of the past three years represents a turning point. Storms, drought and the bark beetle have caused massive damage: around 280,000 hectares need to be reforested.

The Forest Strategy 2050 shows a pathway to the future of German forests. The main focus of this strategy is on how forests are adapted to climate change, biodiversity can be better protected, sustainable forest management is guaranteed, which also ensures that wood and wood

[3] https://www.bmel.de/SharedDocs/Downloads/DE/Broschueren/waldbericht2021.pdf?__blob=publicationFile&v=9

[4] https://www.bmel.de/SharedDocs/Pressemitteilungen/DE/2021/143-waldstrategie-2050.html

products permanently store CO2. The strategy also considers how the forest is preserved as a valuable recreation area for citizens and awareness is created among them of the value of the forest.

### 2.3 German "Charter for Wood 2.0"[5]

The Federal Government's "Climate Action Plan 2050" addresses the "Charta for Wood 2.0" as one particular milestone[6]. The "Wood Charter 2.0", initiated by the Federal Ministry of Food and Agriculture (BMEL) in April 2017, focusses on assurance of continuous raw material supply and increase of timber demand, as well as aspects of a cycle-driven economy and resource efficiency, in order to mitigate climate change and create additional value. With the objectives of mitigating climate change, creating value and utilizing resources efficiently, the German "Charter for Wood 2.0" focuses on qualitative growth in order to support vital international, European and national political objectives. In this context the "Charter for Wood 2.0" further develops and substantiates the "Forest Strategy 2050".

The following priority fields of action and their central topics provide the framework for specific action and create the basis for further development:

- Using wood in urban and rural construction (increasing the share of wooden buildings in the various building categories, increasing the use of wood in building renovations, curbing prejudice against wood in leading regulations and guidelines, more consideration of the effects on climate change mitigation in strategies, programmes, manuals and guidelines for the construction sector).
- The potential of wood in the bioeconomy (increasing the number of patent registrations, increasing the proportion of hardwood used as a material).
- Material and energy efficiency (increasing raw material yields and reducing the use of materials in the wood sector, reducing energy consumption in the forestry and wood sector, increasing the efficiency/reducing emissions of wood combustion plants).
- Forests and wood as resources (increasing viable forest wood potential in the long-term, safeguarding the long-term availability of softwood, increasing the amount of raw wood harvested in small private forests, increasing the short-term and medium-term potential of wood by tapping unutilized as well as alternative sources of raw materials, ensuring that imported wood products are sourced legally and sustainably).

[5] https://www.charta-fuer-holz.de/

[6] http://www.bmub.bund.de/themen/klima-energie/klimaschutz/klima-klimaschutz-download/artikel/klimaschutzplan-2050/?tx_ttnews%5BbackPid%5D=3915

- The forestry and wood cluster (increasing revenues and value creation in the forestry and wood cluster, safeguarding employment, especially in rural areas).
- Forests and wood in society (expanding the scope of communication with consumers and the information available to them in order to promote awareness of the positive aspects of forest and wood use for society).
- Research and development (increasing investments in research and development by the forestry and wood cluster as well as by public sponsors, maintaining and expanding staff capacities in research, science and teaching).

### 2.4 Supporting programs for the timber industry and climate-friendly construction with wood[7]

The federal government's economic stimulus and crisis management package, amongst others, aims at supporting the forest product industry and promotes a modern timber industry, including the increased use of wood as a building material. In the future, the forestry and timber industry will have to adjust to unplanned quantities of calamity wood, which will have to be processed and create value. The proportion of usable hardwood will continue to increase as forests adapt to climate change, while the expansion of capacities for the use of hardwood as a material is stagnating or even declining. As the most important market segment, construction with wood plays a key role in the sale of forest products. The further development of climate-friendly construction with wood and the increase in the use of hardwood is therefore of fundamental importance.

The economic situation in the forestry and timber sectors has developed differently under the influence of the calamities as well as the Corona pandemic. As demand for timber construction continues to rise, it is becoming increasingly important to develop the necessary capacities and know-how - especially with regard to large-volume, multi-story timber construction. Overall, two programs provide strategic impetus for necessary transformation processes in the areas of digitalization, new technologies and processing capacities. This is intended to support the necessary adaptation of the wood based industry to future challenges and at the same time improve sales prospects for forest owners. The aim of the programs is to ensure a greater contribution to more resource efficiency and climate protection through the use of wood as a renewable resource.

[7] https://www.bmel.de/SharedDocs/Downloads/DE/Broschueren/waldbericht2021.pdf?__blob=publicationFile&v=9

The first program supports the modernization of the wood-based industry through grants for investments, thereby creating incentives for the value-preserving or value-enhancing use of calamity wood, increased use of hardwood, and expansion of the use of wood as a building material. In addition, the funding is intended to have a positive steering effect with regard to digitalization, resource efficiency and climate protection.

A second program focuses on the further development of climate-friendly construction with wood. In view of the rapid technological change, further development in the field of development, introduction and dissemination of innovative technologies, processes and products is necessary. At the same time, increasing demand and the need for complex construction projects pose new challenges for companies in the predominantly small-structured sector. This requires not only technological changes but also an adjustment of structures and capacities. The directive is geared to two funding areas. Funding can be provided for consulting services provided by third parties to companies. In addition, the funding is aimed at supporting innovation clusters. This supports the necessary transfer of knowledge, innovation and technology between science and practice by improving the networking of cooperation between companies, institutions, science and research.

### 2.5 Restrictions of regular timber fellings[8]

Due to the enormously high quantities of calamity wood as a result of the forest damage in 2017 to 2020, the German state of North Rhine-Westphalia applied to the Bundesrat (upper house of the German parliament) in November 2020 for a nationwide restriction of the regular (scheduled) felling of spruce to 70 percent of the regular felling. The logging restriction was to be limited to the two forestry years 2021 and 2022 (October 1, 2020 to September 30, 2022). The states of Bavaria, Baden-Württemberg and Lower Saxony then submitted an amendment to the Bundesrat, which was adopted by the Bundesrat at its meeting on November 27, 2020. This amendment provides for limiting regular logging to only 85 percent and limiting the period of validity to one forestry year (October 1, 2020 to September 30, 2021).

This corresponds to a nationwide reduction of about 3 to 3.5 million m³ of the regular felling of spruce. The Federal Ministry of Food and Agriculture has adopted the logging restriction ordinance as it was last passed in the Bundesrat. A renewed discussion in the Bundesrat was

[8] https://www.bmel.de/SharedDocs/Downloads/DE/Broschueren/waldbericht2021.pdf?__blob=publicationFile&v=9

nevertheless necessary. On March 26, 2021, the plenum of the Bundesrat approved the BMEL's draft ordinance. The so called HolzEinschlBeschrV2021 came into force on April 22, 2021 after the Federal Minister of Agriculture signed it. The logging restrictions are monitored by the state forest authorities of the Länder.

The logging restriction ordinance will apply retroactively from October 1, 2020. The logging restriction ordinance will also provide additional tax benefits for forest owners and wood processing companies from October 1, 2020 to the end of September 2021. Nevertheless a hardship regulation for smaller forest owners was issued.

## 2.6 Expanding renewables and boosting energy efficiency[9, 10]

Germany's electricity supply is becoming "greener" every year. The share of renewables in electricity consumption has steadily grown over the last few years – rising from around 6% in 2000 to more than 45% in 2020. This means that Germany significantly overachieved its 35% target for 2020. By 2030, 65 % of electricity consumed in Germany is to derive from renewables. This is the aim set out in the Renewable Energy Sources Act. The following **Figure 1** provides an overview of Germany's electricity mix, i.e. illustrating the share of renewables.

[9] https://www.bmwi.de/Redaktion/EN/Dossier/renewable-energy.html
[10] https://www.bmwi.de/Redaktion/EN/Dossier/economic-policy.html

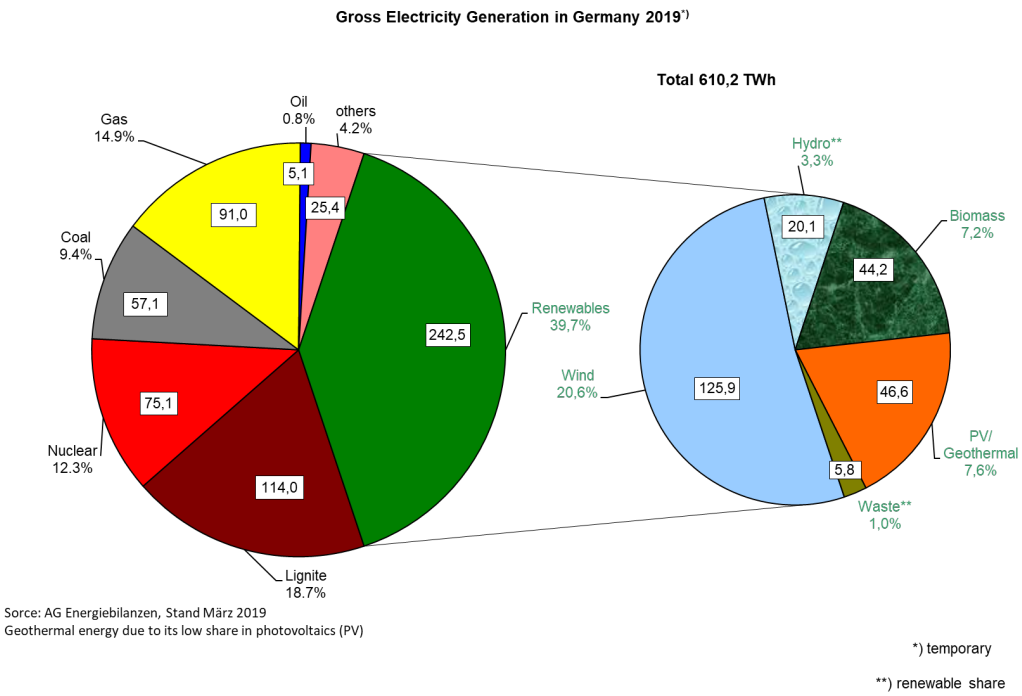



**Figure 1: Gross electricity generation in Germany in 2019 in TWh; last update: September 2020**

Renewables are also becoming more important with regard to heat supply. In 2020, they accounted for 15.2 % of final energy consumption for heating and cooling, above Germany's targeted share of 14 %.

The energy transition is one of the Federal Government's key projects for a secure, environmentally compatible and economically successful future. An overall framework, bringing together the various fields of action, including energy efficiency, renewables, the electricity market and grids, is set out in Germany's Climate Action Plan 2050 and corresponding measures were compiled in the Climate Action Programme 2030, in 2019.

The energy transition is not only making it possible to phase out nuclear power by the end of 2022, but is also helping Germany to attain its climate targets. At the core of the energy transition are energy efficiency and a further increase in renewables capacity. Just like our economy as a whole, the energy transition must be underpinned by the principles of the social market economy. This means that we need to bring together economic success and a high level of social security. We must ensure that our energy supply remains stable, at a cost that does not harm our businesses' ability to compete or our consumers' ability to buy.

Digitalization is a key element of the energy transition, required to further integrate renewables in the electricity market and to make the electricity market 2.0 fit for a growing share of renewables. The Federal Ministry for Economic Affairs and Energy is putting the conditions in place for a digital infrastructure which will link up more than 1.5 million electricity generators and large consumers.

For the energy transition to be a success, it is necessary to significantly improve energy efficiency. In addition to the expansion of renewable energies, energy efficiency plays an important part in reaching Germany's climate targets. The goal must be to consume as little energy as possible in the first place and to use renewables to cover the remaining needs. The key instrument steering energy efficiency policy in Germany is the National Action Plan on Energy Efficiency (NAPE), which defines the strategic direction of efficiency policy and brings together key measures, programmes and instruments.

## 2.7 Enhancing energy efficiency in buildings[11, 12, 13]

The construction sector is one of the most resource-intensive industries in Germany. 90% of all utilised mineral resources are used to manufacture construction materials and products. This means that the construction sector accounts for a significant share of the required energy and the CO2 emissions they cause. Less fossil energy is usually required to manufacture and dispose of construction materials made from wood than materials made from finite mineral resources. Building with wood can therefore make a considerable contribution to reducing CO2 emissions and, consequently, to climate change mitigation.

More than half of all finished products made from wood (excluding paper) are used in the construction sector. This makes the construction sector the most significant area in which wood products are used. Increased demand has led to wood construction becoming the driving force in wood use – with positive effects on employment and value creation for the entire forestry and wood cluster. As a result, the number of people employed in wood construction has risen by 28% within a period of ten years.

While only 6% of single-family and two-family houses were built from wood at the beginning of the 1990s, this percentage has increased to around 21% in 2020. But the use of wood in

[11] https://www.bmwi.de/Redaktion/EN/Dossier/economic-policy.html
[12] https://www.bmwi.de/Redaktion/EN/Artikel/Energy/energy-efficiency-strategy-for-buildings.html
[13] https://www.charta-fuer-holz.de/fileadmin/charta-fuer-holz/dateien/service/mediathek/Web_ENGL_BMEL_Charta_130721_komplett_1250.pdf

multi-family residential construction paints a very different picture. The percentage here is still only 3% (**Table 2**). In high-rise apartment building construction, wood construction is limited to a few reference buildings and flagship projects. In cities, wood construction is therefore still clearly under-represented, although the technical and economic advantages of wood as a construction material are obvious when it comes to meeting the growing demand for affordable urban housing. These advantages, especially in urban densification projects, include short building periods, high load capacity in spite of its light weight and flexibility when it comes to adding new storeys or extensions.

**Table 2: Timber construction rates in Germany in 2020 (in %)**

| | |
|---|---|
| Single-family and two-family houses | 21.0 |
| Multi-family houses | 3.3 |
| Non-residential buildings | 19.6 |

*Source: Destatis*

Alongside new construction, the modernisation and renovation of existing buildings also plays an important role. Roughly two-thirds of the wood used in the construction sector is used in modernisation and renovations, such as to create extra living space or to renovate buildings in a way that increases their energy efficiency. About 75 per cent of the approx. 40 million German residential units were constructed before 1979 and are therefore in greater need of renovation. This is where wood can provide energy-efficient solutions (e.g. energy-efficient insulation).

Residential sector demands a significant amount of final energy use in Germany. Where consumption is high, there is a lot of potential for energy savings. There are many benefits of improving energy efficiency and using renewable energy to power the home. These include lower energy costs, greater living comfort and a higher property value, as well as the valuable contribution that is made towards mitigating climate change. The Federal Ministry for Economic Affairs and Energy will provide further support in this field with a range of attractive funding programmes. Since 2006, more than six million flats, 7.000 commercial buildings and 4.000 buildings of social institutions such as kindergartens or schools have been refurbished or newly built while benefiting from government funding in this process. Making homes energy efficient significantly reduces heating costs and allows to enjoy a pleasant indoor climate. The Federal Government wants to make Germany climate-neutral by 2045 which also sets the long-term target for the building sector. In order to achieve this, our buildings need to be made more energy-efficient and more of our heating needs to be covered by renewables.

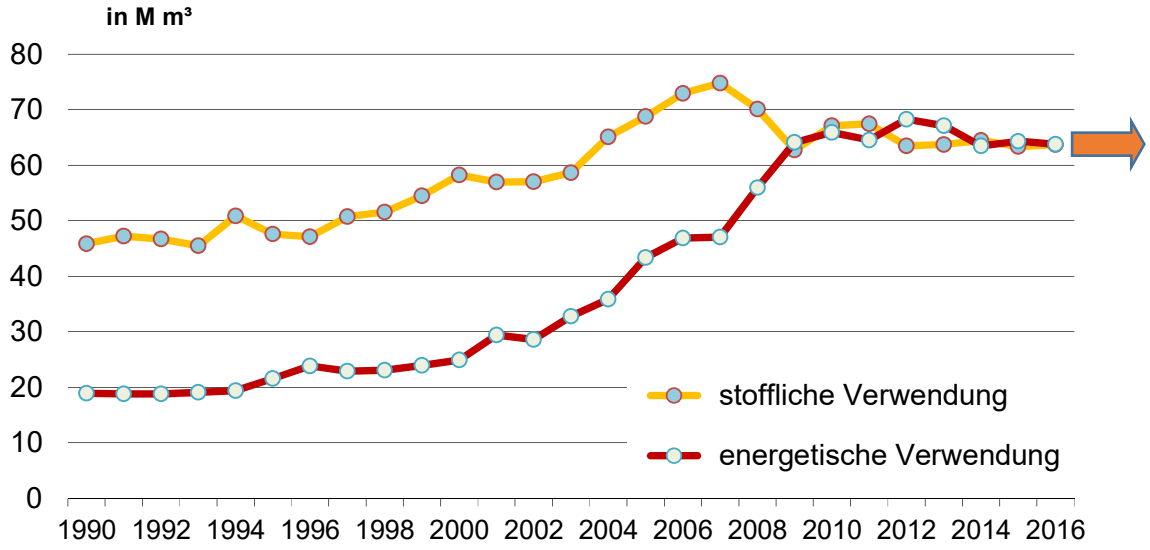
Since 1 July 2017, the Federal Ministry for Economic Affairs and Energy has been providing support for local and district heating systems based on renewable energy. For the first time, funding is available not just for individual technologies or components, but for innovative overall systems that rely on renewables for at least 50 % of the heat or cooling energy they deliver. These heating systems can help significantly raise the share of renewables, make better use of waste heat, and allows for systems to be operated at lower temperatures compared to traditional heating systems. This helps minimise losses, enhances energy efficiency and promotes the use of renewable energy in local and district heating systems. It supports feasibility studies and investment costs for the construction of 4th generation heating networks systems. The respective programme will be replaced by the new and more ambitious Federal Programme Efficient Heat Networks which is expected to start in autumn 2021. The new scheme will provide funding for the planning and construction of district heatingnetworks with at least 75 % of heating from renewable energies (including biomass) and waste heat on the one hand. On the other hand, it will induce the transformation of existing district heating networks, mainly supplied by fossil fuels, into climate-neutral infrastructures fed by renewables and waste heat. Feasibility and transformation studies will be funded with 50 % of the costs, investments with 40 % of the costs.

Through a combination of energy conservation and the use of renewable energy, the Federal Government aims to significantly cut primary energy demand in the building stock in order to achieve its long-term energy and climate targets. The existing set of instruments is already reaching large numbers of building owners and landlords, and encouraging them to invest in energy conservation in their buildings. In order to meet the ambitious goals in the buildings sector, additional investment is needed to make homes more energy efficient and use more renewable energy for heating. To achieve this, the " Long-Term Renovation Strategy of the German Federal Government" lays down key principles, such as giving people advice on energy, the continued development of energy conservation legislation, customised renovation roadmaps for individual buildings as well as the "Federal Funding Scheme for Efficient Buildings" which combines  funding programmes for energy-efficient construction and renovation and incentives for using renewable energy sources for heating and cooling in buildings.

## 3. Development in forest products sectors

### 3.1 Timber and roundwood markets

Forests play the key role in timber and fuelwood supply, which has increased significantly during the two decades since 1990. After the boom period 2003 to 2007 and the downturn in the wake of the subsequent financial crisis, the material use of wood is largely stable at around 65 million m³. In the period 2009 to 2016 the energetic use of wood resources (incl. wood sourced from forests, wood residues, post-consumer-recovered wood etc.) has been more or less balanced at the same level as the material timber use. The levelling of fuelwood utilization is mainly attributable to the declining application in private households as a result of warm winter seasons and lower oil prices (**Figure 2**).




*Source: Mantau U (2018): INFRO Holzrohstoffbilanzen und Stoffströme des Holzes – Entwicklungen in Deutschland 1987 bis 2016. Schlussbericht. Hamburg*

**Figure 2: Development of material utilization (yellow line, starting on higher level) and energetic utilization (red line, starting on lower level) of wood resources in Germany (million m³)**

In late 2017 and especially during 2018, 2019 and 2020, roundwood production in Germany was strongly affected by windthrow, drought and pests. Heavy storms led to significant forest damage. The following drought period during 2018 to 2020 caused severe calamities by bark beetle infestation in many regions. The damages mainly affected softwood, especially spruce. It is reported that in the years 2018, 2019 and 2020 the damage due to drought and bark beetle infestation accounted for 36 million m³, 69 million m³ and 72 million m³, respectively. The

costs of the damage caused to forestry by the extreme weather events of 2018 to 2020 amounts to more than 12.7 billion euro (Möhring et al. 2021[14])

The total volume of about 177 million $m^3$ of damaged timber, accumulated within the last three consecutive years, has led to continued oversupply, severe market pressure and dropped roundwood prices. About 277,000 ha forest area has been affected between 2018 and 2020 in Germany. The damage does not only concern the forest ecosystem, but also threatens the existence of many forest holdings. In order to combat spreading bark beetle disease and to preserve timber quality, the clearing of affected forest areas is most important. But storage sites have already been filled. Forestry companies are reaching limits regarding work force, logistics and financial resources. Another future challenge is the question of reforestation with special focus on climate change aspects (financing, seedlings, species etc.). Against the backdrop of ongoing climate change it is supposed that in some regions Norway spruce may not be able to maintain as a species as it seems not to be robust enough against storms and drought. Another task is the suppression of emerging natural rejuvenation of spruce. Therefore, it is challenging to choose climate change appropriate tree species for replanting resilient German forests.

The Federal Government has already taken first measures to deal with forest damage during the year 2018. The German Bundestag has decided on an additional 25 million Euros (earmarked) within the 2019 budget of the "German Joint Task for the Improvement of Agricultural Structures and Coastal Protection (GAK)" for a period of 5 years. The government's draft budget for 2020 and the 2023 financial planning foresees doubling the funding for the management of extreme weather events in forests from 5 million to 10 million Euros per year. Additionally, tax reliefs for the year 2018 have been achieved in favor of heavily affected forest enterprises. Furthermore, there are particularly favorable financing conditions for reforestation measures offered by Landwirtschaftliche Rentenbank (Development Agency for Agribusiness and Rural Areas).

As forest damage heavily increased during 2019, these measures will not be sufficient. Hence, the Federal Government will provide further financial resources for necessary measures as part of the national climate package.

[14] Möhring B, Bitter A, Bub G, Dieter M, Dög M, Hanewinkel M, Graf von Hatzfeld N, Köhler J, Ontrup G, Rosenberger R, Seintsch B, Thoma F (2021) Schadenssumme insgesamt 12,7 Mrd. Euro: Abschätzung der ökonomischen Schäden der Extremwetterereignisse der Jahre 2018 bis 2020 in der Forstwirtschaft. [Total damage 12.7 billion euros: estimation of the economic damage of the extreme weather events of 2018 to 2020 in forestry]. Holz Zentralbl 147(9):155-158

What needs to happen to deal with the forest damage immediately and in the long term? The following corner stones may provide a basis for further action:

1. Combating bark beetle spread (i.a. evacuation of affected forest areas considering biodiversity aspects)
2. Transportation relief (i.a. temporary increase of permitted total weight for heavy duty vehicles from 40 tonnes up to 44 tonnes, temporary suspension of the driving ban on Sundays and holidays) and suspension of the cabotage scheme.
3. Acceleration and simplification of approval procedures for wood storage sites (wet and dry storage)
4. Prompt reforestation of damaged forest areas taking into account climate change as well as the need of high-quality seed and planting material (climate resilient mixed stands)
5. Adaptation of the wild population to the requirements of close-to-nature forest management
6. Restoration/maintenance of the infrastructure in the forest (e.g. network of forest roads, fire-fighting ponds, defusing of the situation in areas contaminated with ammunition) and coordination of measures with the nature conservation authorities
7. Support of small private forest owners (e.g. intensify advice on the adaptation of forests to climate change including training)
8. Backup for sufficient and well-trained staff (i.a. reversing staff reductions of the past; rising attraction and expansion of education in forestry science, timber construction and wood technology with practical relevance)
9. Expansion of research and development with special focus on forests, timber and climate protection
10. Intensification/expansion of forest monitoring (i.a. systematic detection of forest damage using new technologies such as remote sensing)
11. Review and adaption of the German Forest Damage Compensation Act (i.a. definition of thresholds for forest crisis, traffic and tax regulations)
12. Strengthening the climate-friendly use of wood originating from sustainable forest management (major project: continued and intensified implementation of the Timber Charter 2.0 measures focusing on i.a. climate protection, cycle-driven economy, raw material and energy efficiency, intensified use of hardwood products)
13. Strengthening cooperation on European and international level in the field of sustainable forest management (other countries are facing similar challenges as Germany)
14: Intensification of public relations in the forest and wood sector (i.a. fact-based information and education about the interrelationships of forest, wood, climate protection and conservation of finite resources)

In addition to the above-mentioned key points and possible measures, an overarching, comprehensive, medium- and long-term strategy for the conservation and sustainable development of the German forest is necessary. To this end, the Forest Strategy 2050[15] provides valuable input.

## 3.2 Method to detect more realistic harvests and removals

According to official harvest statistics, in 2020 about 80.4 million m³ commercial volume under bark were felled (+16.8 % compared with 2019). The fellings are strongly affected by damaged timber from drought and bark beetle. According to official statistics, the species group "spruce" accounted for 77 % of the total fellings, "pine" for 10 %, "beech" for 11 % and "oak" for 2 %. The share of the species group "spruce" increased by about 8 percentage points compared to 2019 which is mainly caused by bark beetle damage of spruce trees.

Comparing the development of removals in recent years with German Forest Resource Assessment data seems to show that in comparison with potential coniferous wood resources (in particular potential resources of spruce) in hardwood there is still considerable untapped potential. However, the official felling statistics (average of the last decade: about 59 million m³) underestimate the real timber volumes, harvested in and removed from the forest. Especially removals in enterprises managing smaller forest areas (i.a. registration problems) and fuelwood removals are underestimated.

In order to provide more realistic accounts of harvesting volumes an additional methodological approach has been developed in Germany. The method is based on the recalculation of the used amount of roundwood, differentiated into the various users (Jochem et al. 2015, TI-WF 2021)[16]. Considered datasources include official statistics, statistics of industry associations, and results of various empirical studies (e.g. fuelwood consumption in private households).

Also, results from the most recent third Federal Forest Inventory Study 2012 and the Carbon Inventory Study 2017 estimate the average annual harvest in the period 2003 to 2012 and 2013 to 2017 respectively. The third Federal Forest Inventory allows at a ten-year interval the determination of fellings and verifies the derivation on the demand side. The Carbon Invento-

[15] https://www.bmel.de/SharedDocs/Downloads/DE/Broschueren/Waldstrategie2050.pdf?__blob=publicationFile&v=6

16 Jochem D, Weimar H, Bösch M, Mantau U, Dieter M (2015): Estimation of wood removals and fellings in Germany: a calculation approach based on the amount of used roundwood. Eur J Forest Res 134(5):869-888, DOI:10.1007/s10342-015-0896-9; TI-WF (2021): Fellings and Use of Roundwood [online]. Hamburg: Thünen Institute of International Forestry and Forest Economics. Access: https://www.thuenen.de/en/wf/figures-facts/production-and-use/fellings-and-roundwood-use/

ry is an intermediate inventory conducted in the middle of the obligatory ten-year circle of the Federal Forest Inventory. Results of the statistical data for the most recent years as well as for the period 2003 to 2012 are provided in **Table 3**.

**Table 3: Comparison between official felling statistics with results of Federal Forest Inventory 2012 and WEHAM-potential (in million m3 of solid wood under bark per year)**

| Year/ Period | official statistics | Federal Forest Inventory 2012 (Ø 2003-2012) | WEHAM-potential | Carbon Inventory 2017 (Ø 2013-2017) | Thünen Estimation on Roundwood Fellings |
|---|---|---|---|---|---|
| 2003-2012 | 56.8 | 75.7 | 78.3 | | 74.1 |
| 2013 | 53.2 | | | | 73.9 |
| 2014 | 54.4 | | 77.7 | | 68.9 |
| 2015 | 55.6 | | | | 71.4 |
| 2016 | 52.2 | | | | 68.4 |
| 2017 | 53.5 | | | 62.0 | 69.0 |
| 2018 | 64.6 | | | | 76.8 |
| 2019 | 68.9 | | | | 79.2 |
| 2020 | 80.4 | | | | 86.1 |

*Source: BMEL, Thünen-Institute*[17,18]

Still, the domestic use of roundwood is dominated by softwood (roughly about three quarters of the used roundwood are coniferous species). The German timber industry is further based upon softwood processing. Roundwood utilisation accounts for about 90 % softwood and about 10 % hardwood species. Predicted growth of global wood demand on the one hand and declining softwood potentials in German forests on the other hand suggest that there will be a major future challenge for the enterprises (e.g. to open up additional import opportunities for softwood; to develop new markets for hardwood products). It is necessary to develop alternative utilisation and supply strategies with specific emphasis on improved raw material efficiency and intensified "cascaded" use of wood. This situation seems to accelerate due to the heavy damage in coniferous forest areas in Germany.

[17] TI-WF (2021): Fellings and Use of Roundwood [online]. Hamburg: Thünen Institute of International Forestry and Forest Economics. Access: www.thuenen.de/en/wf/figures-facts/production-and-use/fellings-and-roundwood-use/

[18] Hennig P, Schnell S, Riedel T (2019) Rohstoffquelle Wald - Holzvorrat auf neuem Rekord. AFZ Wald 74(14):24-27

## 3.3 Positive development in timber construction

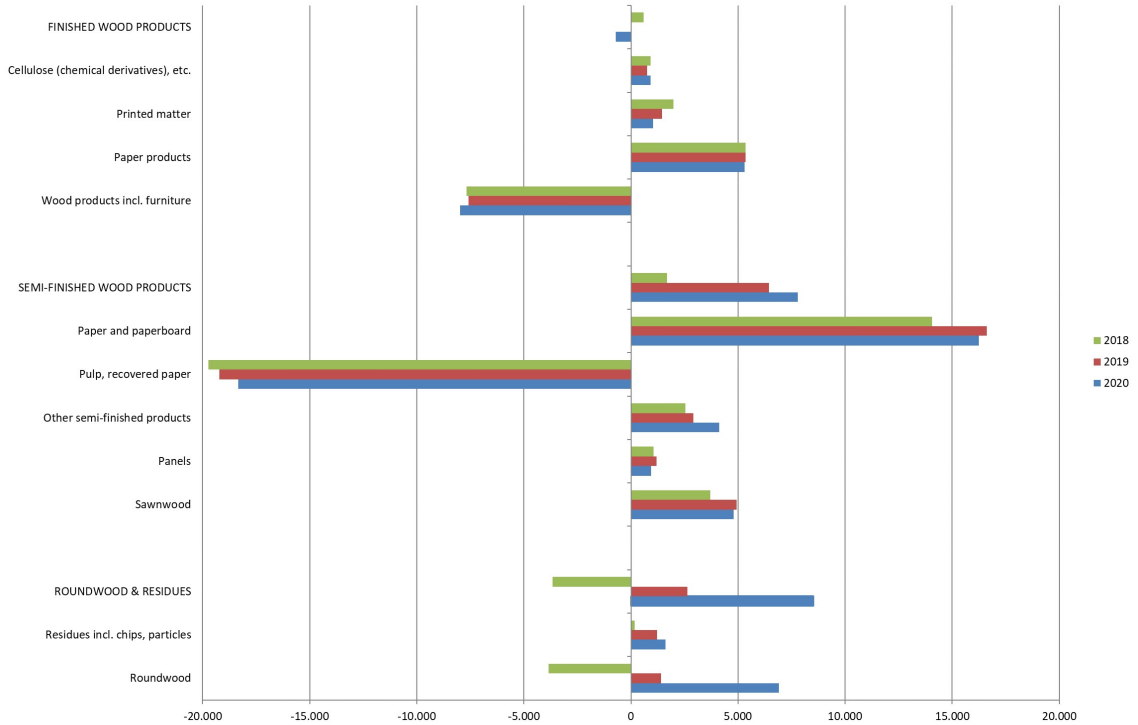
Roundwood markets are closely linked to developments in the construction sector. Regarding wood consumption this industry sector is most important. In Germany roughly between one half and two third of removals are transformed into products designed for building construction and housing elements. The German construction, housing and property industries form a key sector for growth (turnaround 2019 estimated at about 307 billion Euros) and labor force (about 2.5 million employees). About 75 per cent of the approx. 40 million German residential units were constructed before 1979. In 2020 the completed number of new residential buildings has increased against the previous year by 4,864 units to 112,935 units. The share of new wooden buildings in the whole building market has slightly increased from 18.7% in 2019 to 20.4 % in 2020.

## 3.4 Trade policy issues - Trade with wood and wood-based products

German trade with wood and wood-based products showed an increase in net imports from the years 2018 to 2020[19], measured in roundwood equivalents ($m^3$(r)): -1.4 million $m^3$(r) in 2018, 9.0 million $m^3$(r) in 2019 and 15.6 million $m^3$(r) in 2020, respectively. In monetary terms, however, net trade shows a surplus in these years: In 2018 net exports of 6.5 billion euro of wood and wood-based products could be achieved. 2019 shows a further increase to 6.9 billion and, however, 2020 a slight decline to 6.7 billion euro.

The following **Figure 3** and **Figure 4** show the German trade balance of wood and wood-based products of different product groups in the years 2018 to 2020 in 1,000 $m^3$(r) and in 1,000 million euros.

[19] Trade data for 2020 are preliminary

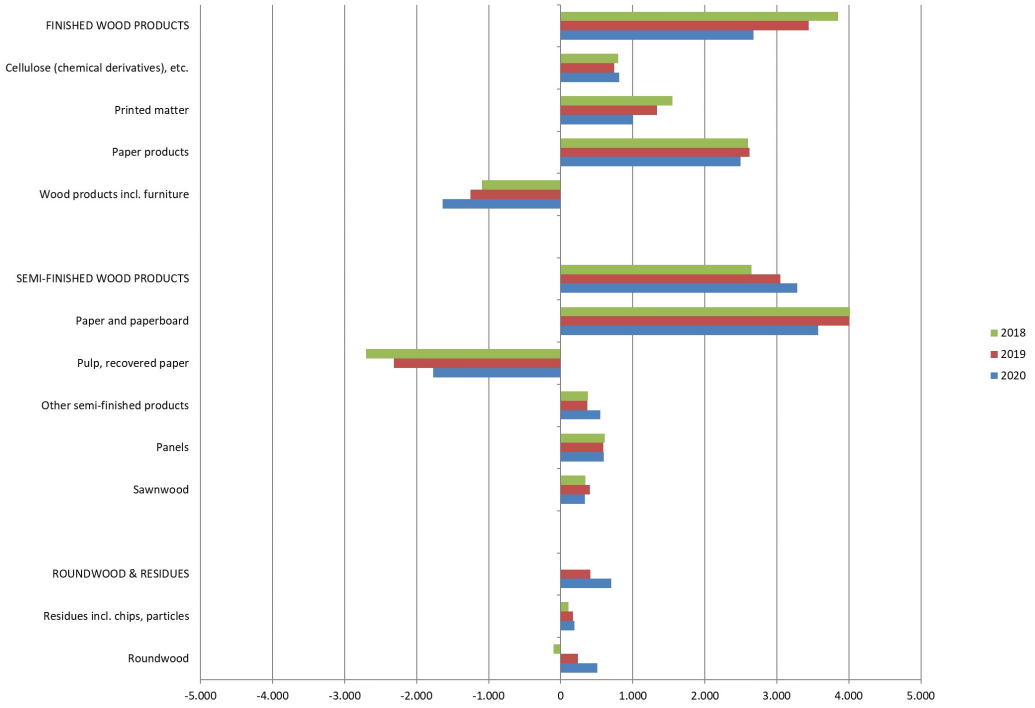



*Source: Federal Statistical Office, calculated by Thünen Institute. 2020: Preliminary data*

**Figure 3: Trade balance of product groups of wood and wood-based products in the years 2018 to 2020 (in 1,000 m³ (r))**

The main product group of roundwood and residues shows net imports in the year 2018 and a drastic change to net exports in 2019 and 2020. This change is mainly due to the strong increase of domestic supply of roundwood because of ongoing drought and bark beetle damage and options of forest enterprises to generate income in oversea markets. Especially exports of coniferous roundwood to China increased significantly. 2019 is the first year since 2008 which shows net exports of roundwood. Measured in monetary values, already 2018 showed net exports of roundwood and residues. In 2019 and 2020 further increases can be seen to 412 million and to 701 million euro.

Trade with semi-finished wood products shows an increase in net exports measured in roundwood equivalent m³(r) as well as in euro. In 2018, net export summed up to 1.7 million m³(r) and further increased to 6.4 million m³(r) in 2019 and to 7.8 million m³(r) in 2020. Net exports in monetary values show an annual export surplus of 2.6 billion euro in 2018, 3.1 billion euro in 2019 and 3.3 billion euro in 2020. Within this main product group, pulp and recovered paper show significant net imports, while the export surplus is mainly due to paper and paperboard and to a minor degree to panels, sawnwood and other semi-finished products.




*Source: Federal Statistical Office, calculated by Thünen Institute. 2020: Preliminary data*

**Figure 4: Trade balance of product groups of wood and wood-based products in the years 2018 to 2020 (in million euro)**

The main product group of finished products shows net exports in volume only in 2018 (600 million m³(r)) and rising net imports in 2019 (21 million m³(r)) and in 2020 (709 million m³(r)). In value, net exports could still be achieved. However, they also show a decreasing trend. In 2018 the export surplus amounted to 3.9 billion euro, in 2019 to 3.4 billion euro and in 2020 to 2.7 billion euro. This development is mainly due to increased net imports of wood products including furniture and decreasing net exports of printed matter, while paper products still show roughly constant net exports in quantity and value.

### 3.5 Sawnwood (softwood/hardwood)

In 2020, about 18,866 people were employed in the German sawmilling industry (+0.5 % against 2019). The total turnover amounted to 6.5 billion euro (+4.0 % against previous the year). With an export quota of 32.5 %, the export turnover amounted to 2.1 billion euro.

Compared with 2019, the entire export turnover increased by 5.9 % (companies with 20 and more employed persons)[20].

With about 25.2 million $m^3$, the domestic production of sawn softwood (coniferous) increased by 9.9 % in 2020 compared with 2019. The apparent consumption of coniferous sawnwood also increased to 20.6 million $m^3$ (+6.6 % compared with 2019). German exports of sawn softwood amounted to 9.6 million $m^3$ and the imports to 5.0 million $m^3$ in 2020. The annual apparent consumption of sawn hardwood amounted to 0.7 million $m^3$ and shows a decrease of 22.8 % compared to 2019. The domestic production also decreased significantly with about 20.8 % and is at a level of 1.0 million $m^3$ of sawn hardwood.

In 2020, the Covid-19 pandemic led to a significant increase in domestic consumption of coniferous sawnwood. One reason was a still functioning construction sector and another reason a stimulated demand in the DIY market as a lot of people stayed much longer at home, travelled less and spent more money in renovation and similar activities. At the beginning of 2021, sawnwood demand exceeded supply while domestic sawmill industry continued to operate at full capacity. During this period, high price levels indicated a shortage of sawnwood. Recent market information suggest however, that the price rally stopped. Nevertheless, it's likely that future sawnwood prices will be slightly higher compared to past ones.

### 3.6 Wood-based panels (particle board, fibreboard, MDF, OSB, plywood)

In 2019, the German panel industry employed 14,067 people (-0.9 % against 2019) and recorded a total turnover of 4.8 billion euro. Compared with 2019, the total turnover increased by 2.7 %. About 34.3 % of the turnover depended on foreign trade (1.6 billion euro). Compared with 2019, the entire export turnover decreased by 1.3 % (companies with 20 and more employees)[21]. The annual production of the German panel industry in 2020 amounted to 6.8 million $m^3$ of particle boards (including OSB) (-1.3 %) and to 5.8 million $m^3$ of fiberboards (+5.0 %). The apparent consumption of particle boards (including OSB) was estimated to be 7.4 million $m^3$ (+0.6 % compared with 2019) and of fibreboards to be 4.1 million $m^3$ (+10.2 % compared with 2019).

[20] „16.1 Säge-,Hobel-u.Holzimprägnierwerke“ (StBA-genesis table 42271-0003)

[21] „16.21 H.v.Furnier-,Sperrholz-, Holzfaserplatten-und-spanplatten“ (StBA-genesis table 42271-0003)

## 3.7 Pulp and paper

In 2019, approximately 37,814 people were employed in the German pulp and paper industry (-3.7 % compared with 2019) at about 170 production sites (-3.4 % against 2019). The total turnover decreased to 15.3 billion euro (change from previous year: -10.5 %). With an export quota of 58.7 %, the export turnover amounted to 9.0 billion euro. Compared with 2019, the entire export turnover decreased by 10.4 % (companies with 20 and more employed persons)[22]. The annual production of paper and paperboard amounted to 21.3 million tons (-3.4 % against 2019)[23]. The apparent consumption of graphic papers, papers and boards for packaging, sanitary and household papers and other papers and board in total was calculated to be 18.1 million tons (-3.3 % compared with 2019 and according to actual data of the German Pulp and Paper Association). Wood consumption by German pulp and paper mills was estimated to be 9.2 million m³ in 2020, which is a minus of 1.2 % compared with 2019[23].

## 3.8 Pellet industry and producers of other agglomerates

German producers of wood pellets and other agglomerates still show increases in annual production. In 2020 production increased to 3.9 million tons (+6.7 % compared to 2018). About 797,000 tons of pellets and briquettes have been exported in 2020 (-2.3 % compared with 2019), while imports decreased in 2019 to 535,000 tons (-13.6 % compared to 2019). Domestic consumption increased in 2020 to 3.6 million tons (a plus of 5.2 % compared with 2019). Main raw material sources for pellet production are wood residues originating from softwood sawmills. Additional sources only play a minor role (e.g. residues from forests, fast growing species, hardwood species).

## 3.9 Value added wood products (including furniture)

The German woodworking and furniture industry (incl. manufacturers of assembled parquet floors, of other builders' carpentry and joinery, of wooden containers and of other products of wood and manufacturers of office and shop furniture, of kitchen furniture and of other furniture[24]) employed 150,290 people in 2020 (-1.4 % compared with 2019). 54,868 were employed within the woodworking industry, 95,422 in the furniture industry. The total turnover amounted to 28.9 billion euro, a decrease of 0.6 % compared with 2019. The increase is main-

[22] „17.1 H.v.Holz-u. Zellstoff, Papier,Karton u.Pappe“ (StBA-genesis table 42271-0003)
[23] VDP (2021): Paper 2021 – Statistiken zum Leistungsbericht [Statistics on the Annual Report]. Tab. N8; N16, N18
[24] In accordance with NACE Codes 16.22, 16.23, 16.24, 16.29, 31.01, 31.02, 31.09

ly due to the furniture industry (-4.1 %) while the woodworking industry showed an increase of 6.3 %. The turnover of the furniture industry is significantly higher (18.3 billion euro in 2020) than the turnover of the woodworking industry (10.6 billion euro). With an export quota of 22.9 % the export turnover amounted to 6.6 billion euro in 2020. The export quota of the furniture industry is considerably higher than the export quota of the woodworking industry (29.9 % compared to 10.7 %). The export turnover of the woodworking industry decreased compared with 2019 (-2.6 %). This is also due for the export turnover of the furniture industry (-8.6 %).

UNECE

# TF1

## TIMBER FORECAST QUESTIONNAIRE

## Roundwood

| | |
|---|---|
| **Country:** | **Germany** |
| **Date:** | **21/10/2021** |
| **Name of Official responsible for reply:** | Holger Weimar |
| **Official Address (in full):** | Thünen Institute |
| | Leuschnerstr. 91, 21031 Hamburg/DE |
| **Telephone:** | +49 40 73962 314 |
| **E-mail:** | holger.weimar@thuenen.de |

**Note:** Complete only if data for 2020 have been revised.

| Product Code | Product | Unit | Historical data 2019 | Historical data 2020 | Revised 2020 | Estimate 2021 | Forecast 2022 |
|---|---|---|---|---|---|---|---|
| 1.2.1.C | SAWLOGS AND VENEER LOGS, CONIFEROUS | | | | | | |
| | Removals | 1000 $m^3$ ub | 38.141 N | 45.700 N | | 46.500 | 45.000 |
| | Imports | 1000 $m^3$ ub | 4.300 # | 3.900 # | | 3.500 | 4.000 |
| | Exports | 1000 $m^3$ ub | 5.300 # | 6.000 # | | 8.000 | 6.000 |
| | Apparent consumption | 1000 $m^3$ ub | 37.141 | 43.600 | | 42.000 | 43.000 |
| 1.2.1.NC | SAWLOGS AND VENEER LOGS, NON-CONIFEROUS | | | | | | |
| | Removals | 1000 $m^3$ ub | 3.193 N | 2.513 N | | 2.400 | 2.300 |
| | Imports | 1000 $m^3$ ub | 200 # | 150 # | | 150 | 140 |
| | Exports | 1000 $m^3$ ub | 1.000 # | 800 # | | 700 | 650 |
| | Apparent consumption | 1000 $m^3$ ub | 2.393 | 1.863 | | 1.850 | 1.790 |
| 1.2.1.NC.T | of which, tropical logs | | | | | | |
| | Imports | 1000 $m^3$ ub | 8 # | 8 # | | 9 | 10 |
| | Exports | 1000 $m^3$ ub | 2 # | 2 # | | 5 | 4 |
| | Net Trade | 1000 $m^3$ ub | 6 | 6 | | 4 | 6 |
| 1.2.2.C | PULPWOOD (ROUND AND SPLIT), CONIFEROUS | | | | | | |
| | Removals | 1000 $m^3$ ub | 9.518 N | 10.590 N | | 10.600 | 11.000 |
| | Imports | 1000 $m^3$ ub | 2.500 # | 2.200 # | | 1.500 | 2.000 |
| | Exports | 1000 $m^3$ ub | 2.000 # | 2.500 # | | 4.500 | 4.000 |
| | Apparent consumption | 1000 $m^3$ ub | 10.018 | 10.290 | | 7.600 | 9.000 |
| 1.2.2.NC | PULPWOOD (ROUND AND SPLIT), NON-CONIFEROUS | | | | | | |
| | Removals | 1000 $m^3$ ub | 3.200 N | 2.913 N | | 2.800 | 2.800 |
| | Imports | 1000 $m^3$ ub | 200 # | 150 # | | 150 | 140 |
| | Exports | 1000 $m^3$ ub | 600 # | 400 # | | 300 | 250 |
| | Apparent consumption | 1000 $m^3$ ub | 2.800 | 2.663 | | 2.650 | 2.690 |
| 3 | WOOD CHIPS, PARTICLES AND RESIDUES | | | | | | |
| | Domestic supply | 1000 $m^3$ | 14.890 C | 16.115 C | | 17.500 | 17.500 |
| | Imports | 1000 $m^3$ | 1.500 C | 1.002 C | | 1.000 | 1.000 |
| | Exports | 1000 $m^3$ | 2.762 C | 2.468 C | | 2.500 | 2.500 |
| | Apparent consumption | 1000 $m^3$ | 13.628 | 14.649 | | 16.000 | 16.000 |
| 1.2.3.C | OTHER INDUSTRIAL ROUNDWOOD, CONIFEROUS | | | | | | |
| | Removals | 1000 $m^3$ ub | 71 N | 72 N | | 75 | 75 |
| 1.2.3.NC | OTHER INDUSTRIAL ROUNDWOOD, NON-CONIFEROUS | | | | | | |
| | Removals | 1000 $m^3$ ub | 0 N | 2 N | | 2 | 2 |
| 1.1.C | WOOD FUEL, CONIFEROUS | | | | | | |
| | Removals | 1000 $m^3$ ub | 9.607 N | 9.005 N | | 8.500 | 8.500 |
| 1.1.NC | WOOD FUEL, NON-CONIFEROUS | | | | | | |
| | Removals | 1000 $m^3$ ub | 14.090 N | 13.257 N | | 12.800 | 12.800 |

**Please return (preferably by e-mail) to Timber Section no later than 15 October 2021.**

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.

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# TF2

## TIMBER FORECAST QUESTIONNAIRE
## Forest products

Country: Germany | Date:

Name of Official responsible for reply:

Official Address (in full):

Telephone:

E-mail:

Note: Complete only if data for 2020 have been revised.

| Product Code | Product | Unit | Historical data 2019 | Historical data 2020 | Revised 2020 | Estimate 2021 | Forecast 2022 |
|---|---|---|---|---|---|---|---|
| 6.C | SAWNWOOD, CONIFEROUS | | | | | | |
| | Production | 1000 m³ | 23.307 N | 25.217 N | 25.216 | 27.000 | 27.000 |
| | Imports | 1000 m³ | 4.868 | 4.956 | 5.519 | 6.300 | 6.000 |
| | Exports | 1000 m³ | 8.889 | 9.618 | 10.105 | 11.000 | 10.500 |
| | Apparent consumption | 1000 m³ | 19.286 | 20.555 | 20.630 | 22.300 | 22.500 |
| 6.NC | SAWNWOOD, NON-CONIFEROUS | | | | | | |
| | Production | 1000 m³ | 1.266 N | 1.002 N | 962 | 1.010 | 1.000 |
| | Imports | 1000 m³ | 413 | 389 | 379 | 416 | 400 |
| | Exports | 1000 m³ | 768 | 688 | 681 | 784 | 760 |
| | Apparent consumption | 1000 m³ | 912 | 704 | 660 | 642 | 640 |
| 6.NC.T | of which, tropical sawnwood | | | | | | |
| | Production | 1000 m³ | 2 N | 1 N | | 1 | 1 |
| | Imports | 1000 m³ | 74 | 65 | 66 | 66 | 62 |
| | Exports | 1000 m³ | 34 | 30 | 31 | 27 | 25 |
| | Apparent consumption | 1000 m³ | 42 | 36 | | 40 | 38 |
| 7 | VENEER SHEETS | | | | | | |
| | Production | 1000 m³ | 98 C | 100 C | | 100 | 100 |
| | Imports | 1000 m³ | 106 C | 104 C | | 90 | 82 |
| | Exports | 1000 m³ | 58 C | 55 C | | 43 | 41 |
| | Apparent consumption | 1000 m³ | 146 | 150 | | 147 | 141 |
| 7.NC.T | of which, tropical veneer sheets | | | | | | |
| | Production | 1000 m³ | 1 N | 1 N | | 1 | 1 |
| | Imports | 1000 m³ | 8 | 8 | | 8 | 8 |
| | Exports | 1000 m³ | 3 | 2 | | 2 | 2 |
| | Apparent consumption | 1000 m³ | 7 | 8 | | 7 | 7 |
| 8.1 | PLYWOOD | | | | | | |
| | Production | 1000 m³ | 111 C | 100 C | | 100 | 100 |
| | Imports | 1000 m³ | 1.486 C | 1.410 C | | 1.100 | 1.250 |
| | Exports | 1000 m³ | 376 C | 363 C | | 360 | 350 |
| | Apparent consumption | 1000 m³ | 1.222 | 1.146 | | 840 | 1.000 |
| 8.1.NC.T | of which, tropical plywood | | | | | | |
| | Production | 1000 m³ | 0 | 0 | | 0 | 0 |
| | Imports | 1000 m³ | 154 N | 123 N | | 125 | 142 |
| | Exports | 1000 m³ | 41 N | 36 N | | 35 | 34 |
| | Apparent consumption | 1000 m³ | 114 | 87 | | 90 | 108 |
| 8.2 | PARTICLE BOARD (including OSB) | | | | | | |
| | Production | 1000 m³ | 6.878 N | 6.790 N | | 6.800 | 6.850 |
| | Imports | 1000 m³ | 2.787 N | 2.749 N | | 2.500 | 2.700 |
| | Exports | 1000 m³ | 2.349 N | 2.181 N | | 2.000 | 2.100 |
| | Apparent consumption | 1000 m³ | 7.316 | 7.358 | | 7.300 | 7.450 |
| 8.2.1 | of which, OSB | | | | | | |
| | Production | 1000 m³ | 1.163 N | 1.234 N | | 1.250 | 1.275 |
| | Imports | 1000 m³ | 792 N | 846 N | | 840 | 860 |
| | Exports | 1000 m³ | 525 N | 511 N | | 450 | 500 |
| | Apparent consumption | 1000 m³ | 1.430 | 1.569 | | 1.640 | 1.635 |
| 8.3 | FIBREBOARD | | | | | | |
| | Production | 1000 m³ | 5.527 C | 5.801 C | | 5.850 | 5.900 |
| | Imports | 1000 m³ | 1.508 C | 1.782 C | | 1.835 | 1.940 |
| | Exports | 1000 m³ | 3.295 C | 3.461 C | | 3.530 | 3.605 |
| | Apparent consumption | 1000 m³ | 3.740 | 4.122 | | 4.155 | 4.235 |
| 8.3.1 | Hardboard | | | | | | |
| | Production | 1000 m³ | 0 | 0 | | 0 | 0 |
| | Imports | 1000 m³ | 223 | 231 | | 235 | 240 |
| | Exports | 1000 m³ | 26 | 28 | | 30 | 30 |
| | Apparent consumption | 1000 m³ | 197 | 203 | | 205 | 210 |
| 8.3.2 | MDF/HDF (Medium density/high density) | | | | | | |
| | Production | 1000 m³ | 4.505 N | 4.600 N | | 4.625 | 4.650 |
| | Imports | 1000 m³ | 495 N | 593 N | | 600 | 650 |
| | Exports | 1000 m³ | 2.878 N | 2.877 N | 2.879 | 2.900 | 2.925 |
| | Apparent consumption | 1000 m³ | 2.123 | 2.315 | | 2.325 | 2.375 |
| 8.3.3 | Other fibreboard | | | | | | |
| | Production | 1000 m³ | 1.022 N | 1.201 N | | 1.225 | 1.250 |
| | Imports | 1000 m³ | 789 | 961 | | 1.000 | 1.050 |
| | Exports | 1000 m³ | 391 | 556 | 581 | 600 | 650 |
| | Apparent consumption | 1000 m³ | 1.420 | 1.606 | | 1.625 | 1.650 |
| 9 | WOOD PULP | | | | | | |
| | Production | 1000 m.t. | 2.326 C | 2.255 C | 2.255 | 2.267 | 2.278 |
| | Imports | 1000 m.t. | 4.755 C | 4.034 C | 3.952 | 4.000 | 4.000 |
| | Exports | 1000 m.t. | 1.254 C | 1.146 C | 1.192 | 1.100 | 1.100 |
| | Apparent consumption | 1000 m.t. | 5.827 | 5.143 | 5.015 | 5.167 | 5.178 |
| 12 | PAPER & PAPERBOARD | | | | | | |
| | Production | 1000 m.t. | 22.080 C | 21.339 C | 21.348 | 23.060 | 23.383 |
| | Imports | 1000 m.t. | 10.914 C | 10.420 C | 9.999 | 10.000 | 10.000 |
| | Exports | 1000 m.t. | 14.244 C | 13.632 C | 13.096 | 14.400 | 14.400 |
| | Apparent consumption | 1000 m.t. | 18.750 | 18.127 | 18.251 | 18.660 | 18.983 |
| 5.1 | WOOD PELLETS | | | | | | |
| | Production | 1000 m.t. | 2.821 N | 3.100 N | | 3.300 | 3.600 |
| | Imports | 1000 m.t. | 317 | 278 | 291 | 325 | 350 |
| | Exports | 1000 m.t. | 771 | 751 | 801 | 745 | 725 |
| | Apparent consumption | 1000 m.t. | 2.366 | 2.627 | 2.331 | 2.704 | 2.948 |

**Please return (preferably by e-mail) to Timber Section no later than 15 October 2021.**

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.