

MARKET STATEMENT

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Table of contents

1.	General economic trends	3
1.1	In the German government’s autumn projection more momentum is expected from the turn of the year 2023/24 onwards	3
1.2	The economic situation in Germany in October 2023	4
1.3	Market drivers – current market situation as of September 2023	4
2.	Selected policy measures affecting the forest sector	6
2.1	Climate Action Programme 2030	6
2.2	National Forest Strategy	6
2.3	German “Charter for Wood 2.0”	7
2.4	Climate change-induced calamity since 2018	7
2.5	Renewable energy transition	8
2.6	Enhancing energy efficiency in buildings	11
2.7	Wood construction initiative	12
3.	Gender and human rights issues	12
4.	Development in forests and forest products market sectors	14
4.1	Wood raw materials	14
4.2	Sawnwood (softwood/hardwood)	16
4.3	Wood-based panels (particle board, fibreboard, MDF, OSB, plywood)	16
4.4	Pulp and paper	17
4.5	Pellet industry and producers of other agglomerates	17
4.6	Value added wood products (including furniture)	17
4.7	Housing and construction	18

1. General economic trends

1.1 In the German government's autumn projection more momentum is expected from the turn of the year 2023/24 onwards ¹

The German economy is only slowly emerging from the burdens resulting from the energy price shock, monetary tightening and the global economic slowdown. However, momentum is expected to pick up again at the end of the year and the economy is expected to pick up significantly in the coming year. The Federal Government expects a GDP change rate of -0.4% in 2023, and in 2024 and 2025 the rates should be +1.3% and +1.5%, respectively. The inflation rate is expected to fall to 6.1% on average in 2023 [2022: +6.9%]. In 2024, there is then a significant drop to +2.6% and in 2025 the inflation rate falls to 2.0%.

Table 1: Key figures of the 2023 autumn projection

Gross domestic product by expenditure (price adjusted)	2023	2024	2025
<i>Year-on-year change (in per cent)</i>			
Gross domestic product	-0.4	1.3	1.5
Private consumption ²⁾	-0.5	1.8	1.7
Public sector consumption	-2.2	1.3	1.1
Gross fixed capital formation	0.4	0.4	2.0
- of which equipment	3.8	2.9	3.3
- of which buildings	-1.3	-1.7	1.1
- of which other investment	0.0	2.6	2.5
Changes in inventories and net acquisition of valuables (contribution to GDP growth)	0.1	0.1	0.0
Domestic demand	-0.6	1.5	1,6
Exports	-1.1	1.8	3.3
Imports	-1.5	2.4	3.6
Net foreign demand (contribution to GDP growth) ³⁾	0.2	-0.2	0.0
Price development of consumer spending by households ²⁾	6.1	2.6	2.0
Gainfully employed persons (domestic)	0.7	0.3	0.2
Unemployment ratio (Federal Employment Agency)	5.7	5.7	5.5

²⁾ Including non-profit-making organisations

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

¹ <https://www.bmwk.de/Redaktion/DE/Artikel/Wirtschaft/Projektionen-der-Bundesregierung/projektionen-der-bundesregierung-herbst-2023.html>

1.2 The economic situation in Germany in October 2023²

The German economy was also in a phase of economic weakness in the third quarter of 2023: industrial production was heading downwards against the background of weakening global economic momentum and declining exports. After the positive development due to the weather at the beginning of the year, production in the construction industry has recently collapsed significantly due to the dramatic increase in material and financing costs. Domestically, the ongoing, albeit significantly decreasing, loss of purchasing power and the increasing effect of monetary policy tightening also dampened private consumption. Against this background, current leading indicators suggest that Germany's gross domestic product will decline again slightly in the third quarter.

However, recent sentiment indicators such as the Purchasing Managers' Index, the ifo situation assessments and the ZEW economic expectations – albeit from a low level – indicate that the pace of the economic downturn has slowed and that a moderate recovery is likely to begin at the turn of 2023/24. This assessment, which is reflected in the Federal Government's recently published autumn projection, is also confirmed by the economic research institutes in their most recent joint diagnosis. Growth impulses are likely to come primarily from private consumption: the inflation-related losses in purchasing power of private households are increasingly being overcome and, in conjunction with significantly rising wages and an overall robust employment situation, are leading to a revival in private consumption. Investment in machinery and equipment is likely to continue to increase given the high investment requirements in the wake of the transformation to a climate-neutral economy, whereas investment in construction is likely to initially decline further given the significantly increased interest rate level.

Despite the current economic weakness, the labour market has remained robust until recently. Demand for work remains at a high level given the shortage of skilled workers and general labour shortages. Due to the weak economy, companies' willingness to hire has recently decreased somewhat, but this is likely to reverse again with the expected economic recovery.

1.3 Market drivers – current market situation as of September 2023

In general, supply and demand have the greatest influence on the development of the market. Prices for roundwood rose continuously during 2022 until spring 2023. However, different developments of roundwood species can be observed.

Softwood sawlogs: The prices for softwood sawlogs were on a more or less stable level in the last month. The demand for softwood seems to be covered, however, there might be regional

² <https://www.bmwk.de/Redaktion/DE/Pressemitteilungen/Wirtschaftliche-Lage/2023/20230714-die-wirtschaftliche-lage-in-deutschland-im-oktober-2023.html>

differences, depending on the specific supply and demand structures. The following main causes influence the current market situation for raw softwood:

- Sawmill warehouses are full.
- The supply situation with raw wood appears to be sufficient in most regions.
- A decrease in calamity wood is to be expected this year due to the better weather conditions.
- Due to high inflation, a general economic downturn and an associated unfavourable development in major wood consuming sectors, such as construction, packaging and furniture, it is not possible to make a serious assessment of how demand will develop in the coming months.
- Building permits in Germany are declining due to the general economic downturn and a still sharp increase in building interest and rising building costs.
- In the first half of 2023, export of softwood logs fell by about 18% compared to the same period last year (decline in exports to China by 18% compared to the same period last year).
- The export of softwood lumber fell by about 10% compared to the same period last year.

Industrial and energy wood: After steep price increases in the last year, the situation eased somewhat. But the situation can also be described as fragile as a cold winter and rising demand for energy could also affect prices for fuelwood and pulpwood. For the time being, supply and demand appear balanced. The following main causes influence the current market situation for industrial and energy wood:

- Lacking supply of other energy sources may lead to switching to wood as an alternative energy source.
- Weak demand in the construction and furniture sector reduces production of wood-based panels and corresponding resource demand.
- Due to the current decline in sawn timber production, the supply of wood residues for energetic and material use is also reduced.
- Demand for waste wood exceeds supply. Heating plants cannot set up winter storage and sometimes have to switch to other ranges to ensure the supply of raw materials.

Hardwood: Exports of hardwood fell slightly in the first half of 2023. Due to the continuing demand from abroad, and also to the still high demand for energetic use, the availability for domestic hardwood processing companies continues to decrease. Due to the high demand for energy wood, the prices of all hardwood assortments remain at a relatively high level. Efforts to further restrict management or renounce use can lead to a further aggravation of the situation.

Measures to balance demand and supply strongly depend on the effective implementation of the cascade use principle giving preference to material use over energy use.

2. Selected policy measures affecting the forest sector

2.1 Climate Action Programme 2030³

The greatest potential for strengthening the contribution of forests to climate protection lies in sustainable, close to nature forest management, promotion of forests' 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 Action Plan 2050, which was adopted by the Federal 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 forests. In addition, the CO₂ reduction potential of sustainable forest management, the closely related use of wood and the climate potential of natural forest development must be tapped. Measures to this end are supported by the Joint Task for the Improvement of Agricultural Structures and Coastal Protection (GAK). Funding is available for forest conversion, reforestation after damages due to extreme weather events and 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.

In autumn 2022, the Federal Government launched a new "climate-adapted forest management" support scheme. Under this scheme forest owners are required to implement forest management practices that address forest biodiversity and adaptation to climate change with a view to further providing all forest ecosystem services. Further measures to support adaptation of forests to climate change and to enhance forests' capacity to mitigate climate change will be addressed in the Federal Government's new Action Plan on Nature-based Solutions for Climate and Biodiversity, which is directly linked to the National Immediate Climate Action Programme. Measures under both programmes are under preparation.

2.2 National Forest Strategy

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 characterise the German forest with an area share of 76%. The extreme weather of the past six years represents a turning point. Since 2018, storms, drought and the bark beetle outbreak have caused massive damage: more than 500,000 hectares need to be reforested with climate adapted species in clearcut conditions.

It is now over 10 years since the German Federal Government decided on a national forest strategy. In 2021, the Forest Strategy 2050⁴ of the Federal Ministry of Food and Agriculture

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

⁴ <https://www.bmel.de/DE/themen/wald/waldstrategie2050.html>

(BMEL) was presented as a departmental strategy. Currently, the Federal Government is developing a new national forest strategy showing a pathway to the future of German forests. The main focus of this strategy is on adapting forests to climate change, better protecting biodiversity, and guaranteeing sustainable forest management, which also ensures that wood and wood products permanently store CO₂. The strategy also considers how the forest is preserved as a valuable recreation area for citizens and ways in which awareness can be raised about the value of forests.

2.3 German “Charter for Wood 2.0”⁵

The Federal Government’s “Climate Action Plan 2050” addresses the “Charter for Wood 2.0” as one particular milestone.⁶ The “Charter for Wood 2.0” aims to promote the use of wood from sustainable forestry as a positive contribution to climate protection, resource efficiency and value creation, and with its activities in seven fields of action it also supports the key objectives of the coalition agreement.

Using wood in urban and rural construction, new potential for wood in the bioeconomy, material and energy efficiency as well as forests and wood as a resource are among the central fields of action in the Charter for Wood 2.0, which are addressed in working groups, events and publications. The findings feed into research, development and knowledge transfer and contribute to redirecting the use of wood more strongly from energetic to higher-quality material use in favour of climate protection and value creation. Sustainable building with wood, conflicting goals around wood, the wood-based and circular bioeconomy are currently of particular relevance in the Charter dialogue process. The report on key figures⁷ provides a comprehensive overview of the Forest & Wood cluster. As part of the evaluation of the Charter for Wood 2.0 carried out by the Thünen Institute, the report uses 15 defined key figures to present trends and developments. In this way, interactions can be recognised and the need for action in the Charter dialogue process can be continuously adapted.

2.4 Climate change-induced calamity since 2018

Since 2018, 241 million solid cubic meters have been cut for damage management in softwood alone.

Since the beginning of the drought in 2018, approximately 0.5 million hectares have been reforested. Forest owners are making efforts to generate new forests as mixed forests to

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

⁷ https://www.charta-fuer-holz.de/fileadmin/charta-fuer-holz/dateien/service/mediathek/Web_Kennzahlenbericht_2021.pdf

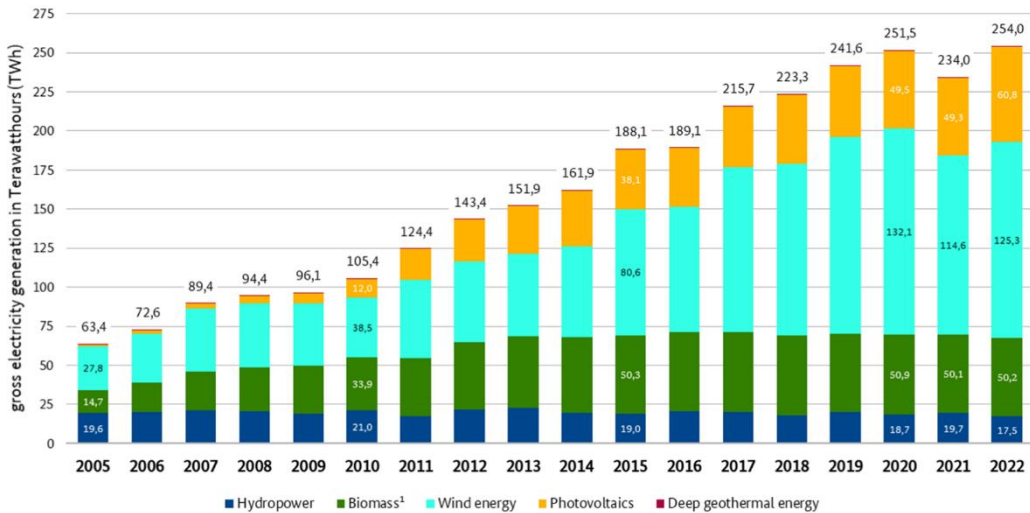
ensure that the diverse forest functions can be maintained for the longer term, even in the face of climate change.

2.5 Renewable energy transition

Following the weather-related downturn in 2021, electricity generation from renewable energy sources rose significantly in 2022. At some 254.0 billion kilowatt hours (1 billion kilowatt hours equal 1 terawatt hour (TWh)), some 8.5% more “green electricity” was produced compared with the previous year (234.0 TWh). The amount of electricity generated thus exceeded the previous peak amount reached in 2020 (251.5 TWh).⁸



Development of gross electricity production from renewable energy sources in Germany



¹ incl. solid, liquid and gaseous biomass, sewage sludge and the biologic fraction of waste (in waste incineration plants estimated at 50%, from 2008 only municipal waste)
Source: Working Group on Renewable Energy-Statistics (AGEE-Stat); as of February 2023

Figure 1: Electricity production in Germany⁹

According to available data, in 2022 end energy consumption of renewable energy sources for heating and cooling amounted to 200.5 TWh, slightly higher than in the previous year (2021: 199.2 TWh). This is due to a number of overlapping effects: While 2022 was considerably

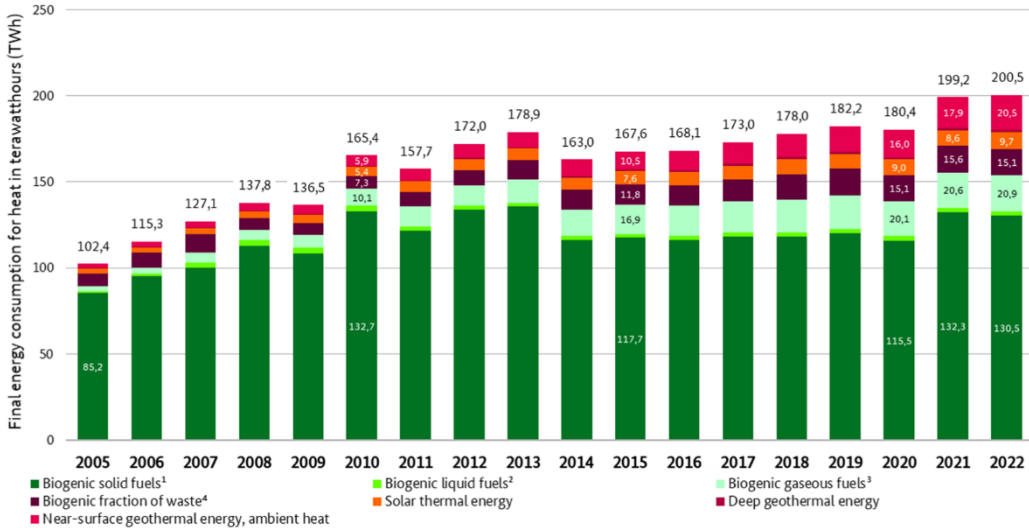
⁸ https://www.umweltbundesamt.de/sites/default/files/medien/1410/publikationen/2023-03-16_uba_hg_erneuerbareenergien_dt_bf.pdf

⁹ <https://www.erneuerbare-energien.de/EE/Redaktion/DE/Bilderstrecken/entwicklung-der-erneuerbaren-energien-in-deutschland-im-jahr-englisch.html>

warmer than 2021, overall demand for heating declined. However, as a result of the war in Ukraine and the strong rise in energy prices for fossil fuels, renewables-generated heat became far more attractive. Renewable energy sources replaced fossil fuels to a far greater extent than before, and especially in the case of gas. This led to an increase of 1.6 percentage points in the share of renewables-generated heat in total heat consumption, to some 17.4%. When it comes to the differing renewable energy sources in the heating sector, the picture is rather mixed: for biomass and biogenic waste, current data shows a slight decline (by -1%). In contrast, there was a significant rise in the supply of energy from geothermal energy and environmental heat (+13%) and in the use of heat from solar-thermal systems (+14%).¹⁰



Development of final energy consumption from renewable energy sources for heating and cooling in Germany



¹ incl. sewage sludge and charcoal; ² incl. biofuels used in agric., forestry, constr. and military; since 2010 incl. blended bioethanol
³ biogas, biomethane, sewage gas and landfill gas; ⁴ biogenic fr. of waste in waste incineration plants est. at 50 %
 Source: Working Group on Renewable Energy-Statistics (AGEE-Stat); as of February 2023

Figure 2: Energy consumption in Germany¹¹

Under the RED, Germany committed to meeting 18% of gross energy consumption from renewable energy sources in 2020. This national target was exceeded in the target year, with 19.1% achieved in 2020. In 2021, that share then rose only marginally due to significantly less green electricity and fewer renewable energy sources used in the transport sector.

¹⁰ https://www.umweltbundesamt.de/sites/default/files/medien/1410/publikationen/2023-03-16_uba_hg_erneuerbareenergien_dt_bf.pdf

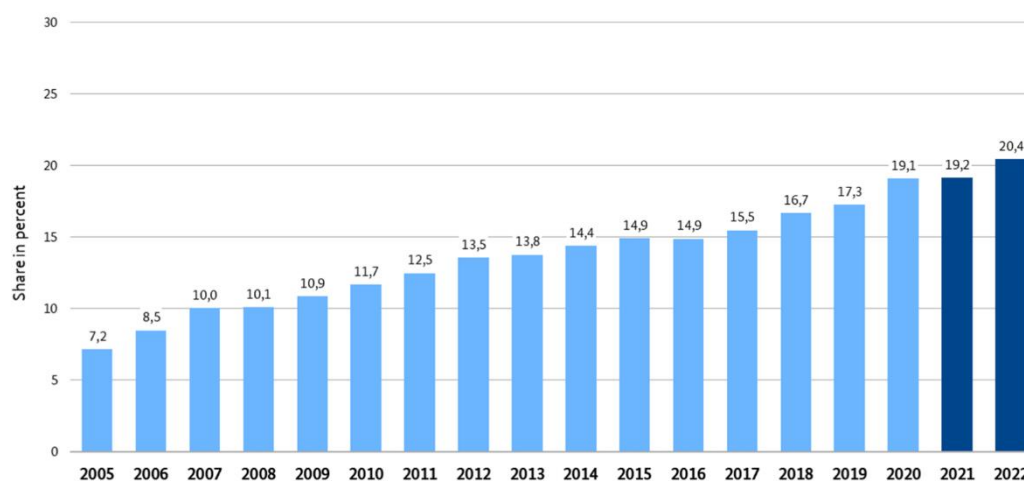
¹¹ <https://www.erneuerbare-energien.de/EE/Redaktion/DE/Bilderstreifen/entwicklung-der-erneuerbaren-energien-in-deutschland-im-jahr-englisch.html>

However, in 2021, the basis for calculating the share was aligned with the new RED III provisions, meaning that a comparison with the values from the previous years is only possible to a limited extent. In 2022, a significant increase in the share of renewables can be expected across all sectors. Analysis of available data shows an increase in the share of renewable energy sources in gross energy end-use to 20.4%. This would represent a significant jump of 1.2 percentage points compared with the previous year, which is largely due to the use of renewable energy sources in the electricity and heating sectors. In both these sectors (electricity and heat), more renewables were used although total demand for electricity and heat decreased. In the transport sector, slightly more biofuels eligible under RED II were used compared with the previous year.¹²



Development of renewable energy share of gross final energy consumption in Germany

share according EU directive¹



¹ until 2020 according to EU-directive 2009/28/EG, from 2021 according to EU-directive (EU) 2018/2001

Source: Working Group on Renewable Energy-Statistics (AGEE-Stat); as of February 2023

Figure 3: Renewable energy share in Germany¹³

¹² https://www.umweltbundesamt.de/sites/default/files/medien/1410/publikationen/2023-03-16_uba_hg_erneuerbareenergien_dt_bf.pdf

¹³ <https://www.erneuerbare-energien.de/EE/Redaktion/DE/Bilderstreifen/entwicklung-der-erneuerbaren-energien-in-deutschland-im-jahr-englisch.html>

2.6 Enhancing energy efficiency in buildings¹⁴

There is a strong need for climate policy action in the building sector. The building sector emitted 119 million tons of CO₂ equivalents in 2020. In the reference period 2010 to 2019, emissions (not climate-adjusted) were reduced by around 18%. Nevertheless, the building sector failed to meet its climate protection target under the Federal Climate Change Act in both 2020 and 2021. In 2021, the value was 115 million tons of CO₂ equivalents (target 113 million tons of CO₂ equivalents), which is around 15% of the total emissions for the year. In order to change this in the future, the Federal Government intends to step up promotion of energy-efficient building refurbishment over the next two years as part of the Immediate Climate Action Programme: 4.5 billion euros alone are to be made available for this purpose. From 2021, the Federal Government no longer wants to subsidise heating systems that run exclusively on fossil fuels.

The medium and long-term climate goals in the building sector can only be achieved if a rapid and significant increase in renovation dynamics is achieved, which includes both an increase in the renovation rate and depth, and the heat supply is decarbonised at the same time. The aim must therefore be to effectively reduce the heating and energy requirements of buildings (increase in energy efficiency) and to promote the use of renewable energy sources.

The measures chosen as part of the Immediate Climate Action Programme for the building and heating sectors are aimed at strengthening regulatory requirements, diversifying and increasing existing funding programmes, and intensifying eligibility measures as well as serial renovation processes. If implemented consistently, the proposed measures would result in high reduction effects through an increased number of high-quality (deep) renovations of existing buildings as well as specifications for new construction and the transformation of the existing heating network structure.

The measures include:

- Amendment of the Building Energy Act
- Federal funding for efficient buildings
- Guidelines for the funding of pilot projects for serial renovation and accompanying measures
- Federal funding for efficient heating networks
- Municipal Heat Planning Act
- Development programme and eligibility campaign for heat pumps
- Optimization of existing heating systems
- Public buildings initiative
- Refurbishment of municipal facilities in the areas of sport, youth and culture
- “Zukunft Bau” model project for innovation in the building sector

¹⁴https://www.bmwsb.bund.de/SharedDocs/downloads/Webs/BMWSB/DE/veroeffentlichungen/bauen/sofortprogramm-sektor-gebaeude.pdf?__blob=publicationFile&v=1

2.7 Wood construction initiative

The Federal Government's wood construction initiative (*Holzbauintiative*) was adopted by the Federal Cabinet in June. In presenting its initiative to promote wood construction as a key contributor to climate-appropriate and resource-efficient construction, the Federal Government is implementing a coalition agreement objective.

Buildings account for a significant share of carbon emissions. To achieve the much-needed transformation towards making Germany's building stock climate neutral, the advantages offered by the technology already available to achieve greenhouse gas reductions, and also long-term carbon capture, must be exploited.

In the building sector, wood for use in structural and civil engineering is so far the only technology available today with which carbon can be captured in the supporting structures and shells of buildings. Also, when compared with other forms of construction, the substitution potential of wood construction can demonstrably contribute to greenhouse gas reduction. Given the current huge demand for affordable housing, wood construction offers additional potential for redensification in urban spaces in the form of adding additional storeys or floors, building extensions and closing gaps between buildings.

Against the backdrop of the impact of the climate crisis on our forests, greater use of wood construction would also contribute to wise use of the coniferous wood resulting from the much-needed transition to mixed and deciduous forest, thereby increasing added value and boosting regional value chains.

The initiative will be used to implement measures surrounding promotion and funding, research and development, and specialist and consumer information. It will also involve a review of the current legal provisions which unjustifiably hinder the use of available technology in wood construction, thereby creating a level playing field. Another key component of the initiative involves dialogue and exchange with the Länder (states), some of which have already implemented their own programmes and initiatives to promote wood construction or are planning corresponding activities.

The wood construction initiative runs until 2030 and interfaces with a wide range of other policy strategies and programmes at various different levels (at EU level, notably the EU Green Deal and the New European Bauhaus (NEB) initiative).

3. Gender and human rights issues

Forestry work and people who work in the forest industry.

In many forestry companies, the average age of employees is extremely high. The reasons are many and varied. In addition to demographic change, the working conditions in and thus the attractiveness of forest work are of great importance. Further improvements are needed in

work and workplace design, ergonomic workload management and occupational health and safety.

Across all sectors, the shortage of skilled workers has sparked a recruitment race to find the best talents. In forestry work, too, greater efforts are needed to attract and recruit younger people.

In Germany, it is evident that the number of companies offering services in the areas of wood harvesting and wood transport has declined. The tasks involved are increasingly being performed by companies whose employees are not or not sufficiently qualified in terms of their language and skills.

Modern methods used in vocational and continuing training – such as e-learning – provide opportunities for life-long learning, including in forestry occupations.

Key responsibilities and tasks include:

- Guidelines on designing safe, at best accident-free and health-promoting workplaces (safety culture)
- Review operating equipment and resources for ergonomics, occupational health and safety, accident prevention and efficiency
- Identify suitable and comfortable protective workwear and equipment
- Create transparency regarding the occurrence of accidents in the forest
- Develop attractive conditions to aid recruitment of young people for forestry occupations
- In the face of changing conditions, drive greater automation in forestry work and forest logistics
- Improve human-machine interactions
- Ensure the employability and skills of forestry employees in an international labour market and thereby place occupational health and safety at the forefront, including where multinational-staffed working groups are involved
- Assess the impact of modern work systems on forestry employees
- Develop targeted educational/informational programmes on forestry work, focusing on consumer protection and environmental compatibility
- Aid the introduction of modern training methods (e.g. e-learning)

In 2019, a network for women in the forestry and wood sector was called into being under the auspices of the German Center for Forest Work and Technology (Kuratorium für Waldarbeit und Forsttechnik e.V. or KWF).

The network takes the form of an open platform which women can use to exchange experience on specialist and inter-disciplinary training and qualifications. Topics and focus areas include leadership, communication, conflict resolution, business management/corporate governance, cooperation and collaboration, family and work, work organisation, women in “male” professions, forestry technology, timber harvesting processes and climate change.

4. Development in forests and forest products market sectors

4.1 Wood raw materials

Supply of roundwood is still influenced by windthrow, drought and bark beetle pests, albeit at a lower level than the years before. The damage mainly affected softwood, especially spruce. In total, in the years 2018 to 2023 the quantity of damaged wood amounts to about 260 million m³. The greatest amount of damaged wood fellings was recorded in the years 2020 and 2021, with 60.1 and 50.5 million m³, respectively.¹⁵ After a constant decrease since then, actual estimates for the current year 2023 add up to 26.8 million m³ of damaged wood. Affected forest area for reforestation required due to damage during the period 2018 to 2023 amounts to about 600,000 hectares.

As already mentioned in previous market statements, against the backdrop of ongoing climate change it is expected that in some regions Norway spruce may not be able to be maintained as a species as it appears not to be robust enough against storms and drought. Another task is the suppression of emerging natural rejuvenation of spruce. Choosing climate change-appropriate tree species for replanting resilient German forests thus poses a challenge.

It is also stated in previous market statements that in Germany it is known that historically, official felling statistics have underestimated the timber volumes which are harvested and removed from forests. In particular, removals in enterprises managing smaller forest areas (i.e. registration problems) and fuelwood removals are underestimated. In order to provide more realistic accounts of harvesting volumes a 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. 2015¹⁶, TI-WF 2023¹⁷). Considered data sources include official statistics, statistics of industry associations, and results of various empirical studies (e.g. fuelwood consumption in private households). Interestingly, in the last three years, official statistics show much better agreement with the results of the use-side calculation. This may be due to better estimation of fellings in private forests in the light of the recent damage. However, the official data on the felling of fuelwood still show a clear underestimation.

Results of the data of roundwood fellings and damaged wood for the last ten years are provided in Table .

¹⁵ Destatis (2023): Logging statistics. Federal Statistical Office, Wiesbaden 2023 | Stand: Sep 25, 2023

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

¹⁷TI-WF (2023): Fellings and Use of Roundwood [online]. Hamburg: Thünen Institute of Forestry. Access: www.thuenen.de/en/institutes/forestry/figures-facts/fellings-and-roundwood-use

Table 2: Comparison between official felling statistics, Thünen estimation of roundwood felling and damaged wood (in million m³ of solid wood under bark per year)

Year	Official statistics	felling	Damaged wood fellings	Thünen estimation on roundwood fellings
2013	53.2		6.0	72.1
2014	54.4		5.5	68.8
2015	55.6		12.9	70.0
2016	52.2		7.8	67.3
2017	53.5		12.3	67.2
2018	64.6		31.9	75.0
2019	68.9		46.2	75.3
2020	80.4		60.1	80.6
2021	83.0		50.5	84.0
2022	78.7		44.7	80.7

Source: Destatis,¹⁵ Thünen-Institute¹⁷

The constant high supply of domestic roundwood leads to an ongoing high level of exports. In 2022, 10.1 million m³ of roundwood were exported, with China still a main destination. This is a decrease of 17.0% over the previous year, but still one of the highest export volumes achieved so far. Imports of roundwood also decreased, but at a relatively lower -10.3%, to 5.9 million m³.

Domestic use of roundwood remains dominated by softwood (roughly about three quarters of the used roundwood are coniferous species). The German timber industry is further based upon softwood processing. In recent years, roundwood utilisation has accounted for more than 90% softwood and less than 10% hardwood species. Main domestic users of roundwood are sawmills (39.4 million m³) and private households, which used 17.1 million m³ as fuelwood for energy generation in 2022.

4.2 Sawnwood (softwood/hardwood)

In 2022, about 20,452 people were employed in the German sawmilling industry (+3.5% compared with 2021). The total turnover showed an increase to 10.6 billion euros (+15.0% over the previous year), which is still a result of the high price levels for sawn softwood driven by strong demand. The export quota decreased by 1.5 percentage points to 33.7%, while export turnover amounted to 3.6 billion euros. Compared with 2021, total export turnover increased by 10.2% (companies with 20 and more employees).¹⁸

With about 24.3 million m³, domestic production of sawn softwood (coniferous) decreased by 4.0% in 2022 compared with 2021. The apparent consumption of coniferous sawnwood further decreased significantly to 17.3 million m³ (-14.0 % compared with 2021). German exports of sawn softwood slightly increased to 10.8 million m³ (+2.2%) while imports decreased to 3.8 million m³ in 2022, a drop of 29.2% compared to 2021.

The annual apparent consumption of sawn hardwood amounted to 0.7 million m³ and shows a decrease of 11.7% compared with 2021. Domestic production also decreased by about 6.8% and is once more at a level of about 1.0 million m³ of sawn hardwood.

In 2021 and 2022, the market for sawn softwood was mainly influenced by strong demand and high, fluctuating prices in the US market, notably from spring 2021. This caused uncertainties among domestic market participants regarding expectations of market development. Exports to the US increased significantly. In some cases, domestic demand was not met. In autumn 2021, the market situation eased somewhat. However, exports to the US in particular continued to increase and, parallel to reduced domestic production and imports, led to increasing prices during spring and summer. Also, in 2022 the war in Ukraine played a role in destabilising the situation, as market structures started to change and inflation increased. With a cooling economy, strong demand and hence prices started to decrease in late summer 2022.

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

In 2022, the German panel industry employed 14,713 people (+1.0% over 2021) and recorded a total turnover of 6.4 billion euros. Compared with 2021, total turnover increased by 7.9%, also caused by rising prices. About 38.4% of the turnover depended on foreign trade (2.5 billion euros). Compared with 2021, the entire export turnover increased by 11.0% (companies with 20 and more employees).¹⁹ The annual production of the German panel industry in 2022 amounted to 6.7 million m³ of particle boards (including OSB) (- 8.6%) and to 5.2 million m³ of fiberboards (-14.9%). The apparent consumption of particle boards

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

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

(including OSB) was estimated to be 6.9 million m³ (-8.5% compared with 2021) and of fibreboards to be 3.8 million m³ (-15.3% compared with 2021).

4.4 Pulp and paper

In 2022, approximately 37,523 people were employed in the German pulp and paper industry (+0.1% compared with 2021) at about 172 production sites (no change against 2021). The total turnover increased significantly to 23.6 billion euros (change from previous year: +29.2 %). With an export quota of 57.4%, export turnover amounted to 13.5 billion euros. Compared with 2021, total export turnover increased by 31.4% (companies with 20 and more employees).²⁰ Annual production of paper and paperboard amounted to 21.6 million tons (-6.6% compared with 2021).²¹ Total apparent consumption of graphic papers, papers and boards for packaging, sanitary and household papers and other papers and board was calculated to be 17.8 million tons (-6.5% compared with 2021 and according to actual data published by Die Papierindustrie). Wood consumption by German pulp and paper mills was reported to be 8.9 million m³ in 2022, a decrease of 4.8% compared with 2021..

4.5 Pellet industry and producers of other agglomerates

German producers of wood pellets and other agglomerates still show increases in annual production. In 2022, production decreased to 4.0 million tons (-7.3% compared to 2021). About 882,000 tons of pellets and briquettes were exported in 2022 (-3.6% compared with 2021) and imports increased in 2022 to 814,000 tons (+6.8% compared to 2021). Domestic consumption decreased in 2022 to 3.9 million tons (a drop of 5.6% compared with 2021). 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). However, an especially high supply of damaged roundwood in Germany has affected the use roundwood in recent years.

4.6 Value added wood products (including furniture)

The German woodworking and furniture industry (including manufacturers of assembled parquet floors, of other builders' carpentry and joinery, of wooden containers and other wood products, manufacturers of office and shop furniture, kitchen furniture and other furniture)²²

²⁰ "17.1 H.v.Holz-u. Zellstoff, Papier, Karton u. Pappe,, (StBA-genesis table 42271-0003)

²¹ Die Papierindustrie (2023): Papier 2023 – Statistiken zum Leistungsbericht [Statistics on the Annual Report]. Tab. N8; N16, N18

²² In accordance with NACE Codes 16.22, 16.23, 16.24, 16.29, 31.01, 31.02, 31.09


employed 150,452 people in 2022 (+0.5% compared with 2021). A total of 58,302 (+3.3%) were employed in the woodworking industry and 92,150 (-1.1%) in the furniture industry. The total turnover amounted to 33.7 billion euros, an increase of 11.0% compared with 2021. The increase is mainly due to the woodworking industry (+15.9%) while the furniture industry showed a still high but lower increase of 8.0%. The turnover of the furniture industry is significantly higher (20.3 billion euros in 2022) than the turnover of the woodworking industry (13.4 billion euros). With an export quota of 23.5%, the export turnover of the woodworking and furniture industry amounted to 7.8 billion euros in 2022. The export quota of the furniture industry is considerably higher than the export quota of the woodworking industry (31.2% compared to 11.1% in 2022). The export turnover of the woodworking industry increased compared to 2021, by 11.0% This is also true for the export turnover of the furniture industry, which increased by 9.1%.


4.7 Housing and construction

The housing and construction sector is most important regarding use of wood products. In Germany, roughly between one half and two-thirds of roundwood are transformed into products designed for building construction and housing elements. In 2022, about 74,689 people were employed (+1.3 %) in the carpentry and wood construction industry in 12,157 companies (+1.2%). The total turnover was about 9.1 billion euros (-5.9%). Please note that part of this data is also contained in the section on the woodworking sector in the previous Section 4.6. In 2022, a total of 23,539 residential buildings in wood construction were approved (-14.3% compared to 2021). This represents a share of 21.3% compared to all approved residential buildings (+0.1 percentage points compared to 2021). The number of approved non-residential buildings in wood construction decreased by 11.6%, to 5,533, which represents a share of 21.3% of all approved non-residential buildings (-0.4 percentage points compared to 2021).²³

²³ Holzbau Deutschland. Lagebericht 2023. https://www.holzbau-deutschland.de/fileadmin/user_upload/eingebundene_Downloads/Lagebericht_2023_mit_Statistiken.pdf

Annex: Highlights of the Timber Forecast Questionnaire

 TF1 TIMBER FORECAST QUESTIONNAIRE Roundwood		Country: Germany	Date:				
		Name of Official responsible for reply:					
		Official Address (in full):					
		Telephone:	Fax:				
		E-mail:					
Product Code	Product	Unit	Historical data		Revised	Estimate	Forecast
			2021	2022	2022	2023	2024
1.2.1.C	SAWLOGS AND VENEER LOGS, CONIFEROUS						
	Removals	1000 m ³ ub	44.666 N	41.761 N		38.500	37.000
	Imports	1000 m ³ ub	3.190 #	3.300 #		3.000	3.100
	Exports	1000 m ³ ub	8.006 #	5.670 #		5.700	5.200
	Apparent consumption	1000 m ³ ub	39.850	39.391		35.800	34.900
1.2.1.NC	SAWLOGS AND VENEER LOGS, NON-CONIFEROUS						
	Removals	1000 m ³ ub	2.762 N	2.995 N		2.700	2.500
	Imports	1000 m ³ ub	110 #	111 #		110	110
	Exports	1000 m ³ ub	727 #	574 #		520	480
	Apparent consumption	1000 m ³ ub	2.144	2.532		2.290	2.130
1.2.1.NC.T	of which, tropical logs						
	Imports	1000 m ³ ub	11 #	10 #		10	10
	Exports	1000 m ³ ub	5 #	5 #		5	5
	Net Trade	1000 m ³ ub	7	5		5	5
1.2.2.C	PULPWOOD (ROUND AND SPLIT), CONIFEROUS						
	Removals	1000 m ³ ub	10.675 N	10.541 N		11.500	9.000
	Imports	1000 m ³ ub	2.523 #	2.200 #		2.100	2.000
	Exports	1000 m ³ ub	2.331 #	2.430 #		1.700	1.500
	Apparent consumption	1000 m ³ ub	10.867	10.311		11.900	9.500
1.2.2.NC	PULPWOOD (ROUND AND SPLIT), NON-CONIFEROUS						
	Removals	1000 m ³ ub	1.115 N	1.103 N		1.100	1.000
	Imports	1000 m ³ ub	261 #	259 #		270	270
	Exports	1000 m ³ ub	269 #	246 #		190	180
	Apparent consumption	1000 m ³ ub	1.107	1.116		1.180	1.090
3	WOOD CHIPS, PARTICLES AND RESIDUES						
	Domestic supply	1000 m ³	16.703 C	16.292 C		14.500	13.500
	Imports	1000 m ³	1.108 C	2.015 C		1.500	1.500
	Exports	1000 m ³	2.551 C	3.179 C		2.500	2.500
	Apparent consumption	1000 m ³	15.261	15.128		13.500	12.500
1.2.3.C	OTHER INDUSTRIAL ROUNDWOOD, CONIFEROUS						
	Removals	1000 m ³ ub	153 N	123 N		120	120
1.2.3.NC	OTHER INDUSTRIAL ROUNDWOOD, NON-CONIFEROUS						
	Removals	1000 m ³ ub	8 N	12 N		10	10
1.1.C	WOOD FUEL, CONIFEROUS						
	Removals	1000 m ³ ub	9.096 N	8.834 N		9.200	9.200
1.1.NC	WOOD FUEL, NON-CONIFEROUS						
	Removals	1000 m ³ ub	13.704 N	13.504 N		13.500	13.500

 TF2 TIMBER FORECAST QUESTIONNAIRE Forest products		Country: Germany		Date:			
		Name of Official responsible for reply:					
		Official Address (in full):					
		Telephone:		Fax:			
E-mail:							
Product Code	Product	Unit	Historical data		Revised	Estimate	Forecast
			2021	2022	2022	2023	2024
6.C	SAWNWOOD, CONIFEROUS						
	Production	1000 m ³	25.335 N	24.314 N	24.309	21.400	19.800
	Imports	1000 m ³	5.317	3.763	4.146	2.700	3.000
	Exports	1000 m ³	10.552	10.781	11.162	9.200	9.500
	Apparent consumption	1000 m ³	20.101	17.295	17.294	14.900	13.300
6.NC	SAWNWOOD, NON-CONIFEROUS						
	Production	1000 m ³	1.103 N	1.028 N	997	800	800
	Imports	1000 m ³	502	420	395	300	300
	Exports	1000 m ³	782	721	699	450	450
	Apparent consumption	1000 m ³	823	727	693	650	650
6.NC.T	of which, tropical sawnwood						
	Production	1000 m ³	2 N	4 N	0	0	0
	Imports	1000 m ³	75	79	79	60	60
	Exports	1000 m ³	38	50	50	40	40
	Apparent consumption	1000 m ³	39	33	29	20	20
7	VENEER SHEETS						
	Production	1000 m ³	116 C	110 C		105	105
	Imports	1000 m ³	114 C	99 C		78	70
	Exports	1000 m ³	62 C	52 C		40	50
	Apparent consumption	1000 m ³	168	157		143	125
7.NC.T	of which, tropical veneer sheets						
	Production	1000 m ³	2 N	3 N		2	2
	Imports	1000 m ³	10	8		8	8
	Exports	1000 m ³	2	2		2	2
	Apparent consumption	1000 m ³	9	9		8	8
8.1	PLYWOOD						
	Production	1000 m ³	103 C	85 C		80	80
	Imports	1000 m ³	1.483 C	1.319 C		1.281	1.000
	Exports	1000 m ³	388 C	330 C		207	240
	Apparent consumption	1000 m ³	1.198	1.073		1.154	840
8.1.NC.	of which, tropical plywood						
	Production	1000 m ³	0 N	0 N		0	0
	Imports	1000 m ³	134	156		150	150
	Exports	1000 m ³	38	60		60	60
	Apparent consumption	1000 m ³	96	96		90	90
8.2	PARTICLE BOARD (including OSB)						
	Production	1000 m ³	7.318 N	6.690 N		6.300	6.100
	Imports	1000 m ³	2.959	2.649		2.603	2.500
	Exports	1000 m ³	2.745	2.450		2.445	2.500
	Apparent consumption	1000 m ³	7.532	6.889		6.458	6.100
8.2.1	of which, OSB						
	Production	1000 m ³	1.282 N	1.164 N		1.105	1.080
	Imports	1000 m ³	759	679		669	600
	Exports	1000 m ³	555	526		536	550
	Apparent consumption	1000 m ³	1.485	1.316		1.238	1.130
8.3	FIBREBOARD						
	Production	1000 m ³	6.105 C	5.194 C		4.900	4.800
	Imports	1000 m ³	2.026 C	1.590 C		1.543	1.300
	Exports	1000 m ³	3.654 C	2.993 C		2.986	3.000
	Apparent consumption	1000 m ³	4.477	3.791		3.457	3.100
8.3.1	Hardboard						
	Production	1000 m ³	0 N	0 N		0	0
	Imports	1000 m ³	249	200		203	180
	Exports	1000 m ³	30	23		20	15
	Apparent consumption	1000 m ³	219	176		183	165
8.3.2	MDF/HDF (Medium density/high density)						
	Production	1000 m ³	4.693 N	3.792 N		3.700	3.650
	Imports	1000 m ³	654	424		395	370
	Exports	1000 m ³	2.936	2.345		2.367	2.300
	Apparent consumption	1000 m ³	2.410	1.870		1.728	1.720
8.3.3	Other fibreboard						
	Production	1000 m ³	1.412 N	1.402 N		1.200	1.150
	Imports	1000 m ³	1.123	966		945	920
	Exports	1000 m ³	687	624		619	630
	Apparent consumption	1000 m ³	1.848	1.745		1.526	1.440
9	WOOD PULP						
	Production	1000 m.t.	2.327 C	2.172 C		1.850	2.000
	Imports	1000 m.t.	4.534 C	4.173 C		3.900	4.200
	Exports	1000 m.t.	1.177 C	1.253 C		1.150	1.200
	Apparent consumption	1000 m.t.	5.684	5.092		4.600	5.000
12	PAPER & PAPERBOARD						
	Production	1000 m.t.	23.127 C	21.612 C		17.500	21.000
	Imports	1000 m.t.	10.115 C	9.302 C		8.000	9.500
	Exports	1000 m.t.	14.166 C	13.078 C		10.900	13.500
	Apparent consumption	1000 m.t.	19.076	17.836		14.600	17.000
5.1	WOOD PELLETS						
	Production	1000 m.t.	3.353 N	3.569 N		3.700	3.900
	Imports	1000 m.t.	404	477	443	480	420
	Exports	1000 m.t.	817	683	684	640	600
	Apparent consumption	1000 m.t.	2.939	3.363		3.500	3.820