

STATEMENT

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

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UNECE Committee on Forests and the Forest Industry
2 to 6 November 2015 in Engelberg**

Federal Ministry of Food and Agriculture

Bonn, 2015

1. General economic trends ¹

1.1 German economy in good shape

Employment is at a record level, unemployment is falling, and the development on the labour market is creating scope for appreciable wage rises. This year, the public-sector budget will again be close-to-balance, and there will be a slight structural surplus. A steady and reliable debt limitation policy is creating confidence amongst companies, employees and investors, and also provides an important platform for future investment and growth. Investment is a key to higher competitiveness, lasting prosperity, and a better quality of life for people in Germany and Europe. The Federal Government has therefore set itself the target of strengthening private-sector and public-sector investment in Germany and Europe.

Following a strong first quarter, economic growth tailed off appreciably in the course of 2014. The level of corporate investment fell below expectations against the backdrop of a disappointing global economic development and the uncertainties caused by increased geopolitical risks. The last few months of the year did however see a recovery driven by a strong labour market and strong consumption. The recovery is also reflected in improved business sentiment. This development is likely to continue in 2015.

For 2015, the Federal Government expects an annual average increase in gross domestic product of 1.5 % (**table 1**). Over the course of the year, i.e. from final quarter to final quarter, the German economy will grow more strongly in 2015 than last year. The dynamism of the domestic economy will mainly be driven by the sharp rises in incomes and the ongoing expansion of employment. Additional employment will chiefly be created in the services sectors. The positive development in wages and employment will boost the disposable income of private households. Economic policy measures like the minimum wage and the increase in and broadening of pension payments will also raise disposable incomes. In view of geopolitical tensions and the ongoing weak growth in the eurozone, the external economic environment remains difficult. The lower oil price is likely to stimulate growth. Overall, a moderate increase in exports can be expected. This will gradually improve the investment climate in the export-oriented German economy. Due to the falling prices for crude oil, Germany's current account surplus will be higher this year than last year.

¹ <http://www.bmwi.de/BMWi/Redaktion/PDF/J-L/jahreswirtschaftsbericht-2015-engl-langfassung,property=pdf,bereich=bmwi2012,sprache=de,rwb=true.pdf>

Table 1: Selected key figures for macroeconomic trends in the Federal Republic of Germany ¹⁾	2013	2014	Annual projection 2015
	% change on preceding year		
Gross domestic product (output approach GDP, real)	0.1	1.5	1.5
Total employment	0.6	0.9	0.4
Unemployment rate in % (Federal Employment Agency definition) ²⁾	6.9	6.7	6.6
GDP by expenditure (real)			
Private consumption expenditure	0.8	1.1	1.6
Machinery and Equipment	-2.4	3.7	1.9
Construction	-0.1	3.4	2.2
Domestic demand	0.7	1.2	1.6
Exports	1.6	3.7	3.6
Imports	3.1	3.3	4.1
External balance of goods and services (contribution to GDP growth) ³⁾	-0.5	0.4	0.1
Total gross wages and salaries per employee	2.1	2.7	3.2

¹⁾ Up to 2014 results of the Federal Statistical Office, National Accounts
Status: 15. January 2015;

²⁾ In relation to the total labor force;

³⁾ Contribution to GDP growth rate.

The pick-up in growth is likely to result in a clear improvement in corporate profits this year. Unit wage costs will mark a moderate rise. In terms of the overall economy, no inflationary tensions are expected. Low oil prices are resulting in a moderate development of the price level. There are no signs of deflationary tendencies for Germany.

A central assumption for the projection is that the financial sector will remain stable and there will be no negative developments in the eurozone or the world economy which will cause a significant rise in uncertainty.

1.2 Economic situation in August 2015 ²

Germany's economy is still clearly pointing upwards this summer. Despite a dip in June, industrial production is trending upwards at a moderate rate. Output in the services sector in particular continues to rise. In contrast, production in the construction sector declined in the second quarter. On the domestic economy side, private spending remains a reliable pillar of the economy. The solid labour market and the positive development in real incomes create an environment that encourages consumer spending. Investment activity at home is likely to have been somewhat restrained as the indicators suggest. In the second quarter, exports grew more than imports. This development was driven by the moderate recovery in the eurozone and the high level of price competitiveness. Ultimately, in spring, overall economic output is likely to have increased markedly once again.

Business confidence remains good and solid. Uncertainties relating to the continued crisis in Greece or the volatility of the Chinese stock market have not undermined business confidence. We expect that Germany's economic upswing will be sustained this summer.

German companies significantly stepped up their exports of goods in the second quarter. In comparison to the preceding quarter, nominal exports rose by 3.6 %. Following a strong increase at the beginning of the year, export prices have recently remained almost unchanged. We therefore expect a strong increase in exports, also in price-adjusted terms. At 1.6 %, nominal imports of goods were also up in the second quarter relative to the preceding quarter, although they increased a little less strongly than exports. Recently, import prices have declined. Foreign trade is likely to have boosted economic growth in the second quarter.

Industry is continuing to trend upwards at a moderate rate. In June, industrial output did fall sharply, decreasing by 1.3 %. However, this effect was partly due to days taken off by the workforce to bridge the gap between public holidays and the weekend. On average, industrial output increased slightly in the second quarter, going up by 0.2 %. This was driven by industrial output growth in the previous two months. This means that the momentum was similar to that of the first quarter. The industry's turnover rose a lot more strongly in spring, going up by 0.7 %. This development was mainly driven by foreign demand (+1.5 %); while domestic business almost flat-lined (0.1 %). This could indicate that, to some extent, industry drew on

² based on data available as of 11 August 2015

stocks to meet the strong foreign demand. The situation is even better for orders. New orders were up, growing strongly by 2.0 % in June, and by 3.0 % for the whole of the second quarter.

Again, it was foreign demand that boosted growth. As demand is trending upwards, leading to a good business climate overall, industry should continue to see a moderately positive development. In contrast to this, output in the construction sector fell by 2.3 % in the second quarter. While the construction industry proper (construction and civil engineering) saw a foreseeable dip of 0.7 % due to the weather, the finishing trades experienced a surprisingly sharp drop of 4.2 %. Overall, the conditions for the construction sector remain favourable, so that we expect the sector to recover over the course of the year.

Private spending is likely to have boosted the economy in the second quarter. However, the retail trade was not able to maintain its strong momentum. In May, sales climbed to their highest level since statistics began. In June, revenues then fell by 2.3 %. Starting at a very high level, turnover decreased slightly by 0.2 % in the second quarter as a whole. Only vehicle sales continued to rise strongly. The business climate in retail trade has experienced some ups and downs recently, but remained at a comparatively high level. Consumer confidence also remains very positive according to the GfK Consumer Climate Survey.

Positive labour market trends continue, but at a more subdued rate. In June, the number of gainfully active grew by 10,000 (seasonally adjusted) compared to the previous month. Compared with 2014, Germany's active workforce grew by 157,000 (unadjusted), reaching almost 43.0 million people. The number of jobs subject to social security contributions continues to grow. Another 22,000 were added in May (seasonally adjusted). However, the recent trend in registered unemployment was interrupted, as the number of unemployed persons fell by 9,000 (seasonally adjusted) in July. According to the unadjusted figures, unemployment rose a little more strongly than is usual in this season, reaching 2.773 million people. However, year-on-year, the number of unemployed people fell sharply by 99,000. Overall, the indicators suggest that the labour market will continue on its current upward trajectory, but at a slower pace.

1.3 International trade and sustainable economic development

The Federal Government supports the thorough implementation of the Bali Agreement of the World Trade Organization. It is also advocating free-trade agreements in order to improve market access for German and European companies in major – in terms of market size and market potential – third countries. The negotiations on a Transatlantic Trade and Investment

Partnership (TTIP) between the EU and the USA commenced in 2013. The Federal Government is calling for their conclusion by the end of 2015.

The aim is to open the markets further on both sides of the Atlantic and thus to foster growth and higher employment. The draft Comprehensive Economic and Trade Agreement between the EU and Canada (CETA) is currently being checked for legal consistency and translated. The Federal Government would like to bring the procedure to a good conclusion. However, there is still a need for improvements on certain aspects of investment protection.

A sustainable economic development in Europe is a crucial precondition for growth and employment in Germany. Sustainable, balanced economic growth which opens up opportunities for economic and social participation for all citizens can also improve and safeguard the social situation of people in the European Union. In order to improve the potential for growth in Europe on a lasting basis, the Federal Government is relying on a triad of accelerated investments, ambitious structural reforms and pro-growth fiscal consolidation. This requires national efforts by the member states, but also joint measures at European level. The strengthened Stability and Growth Pact offers an appropriate framework to place the budgets on a sustainably sound basis, to ensure that debts can be coped with in all the euro countries, and at the same time to set pro-growth priorities in such a manner that efforts to ensure fiscal discipline and to strengthen growth are mutually reinforcing.

2. Policy measures and market drivers affecting the forest sector

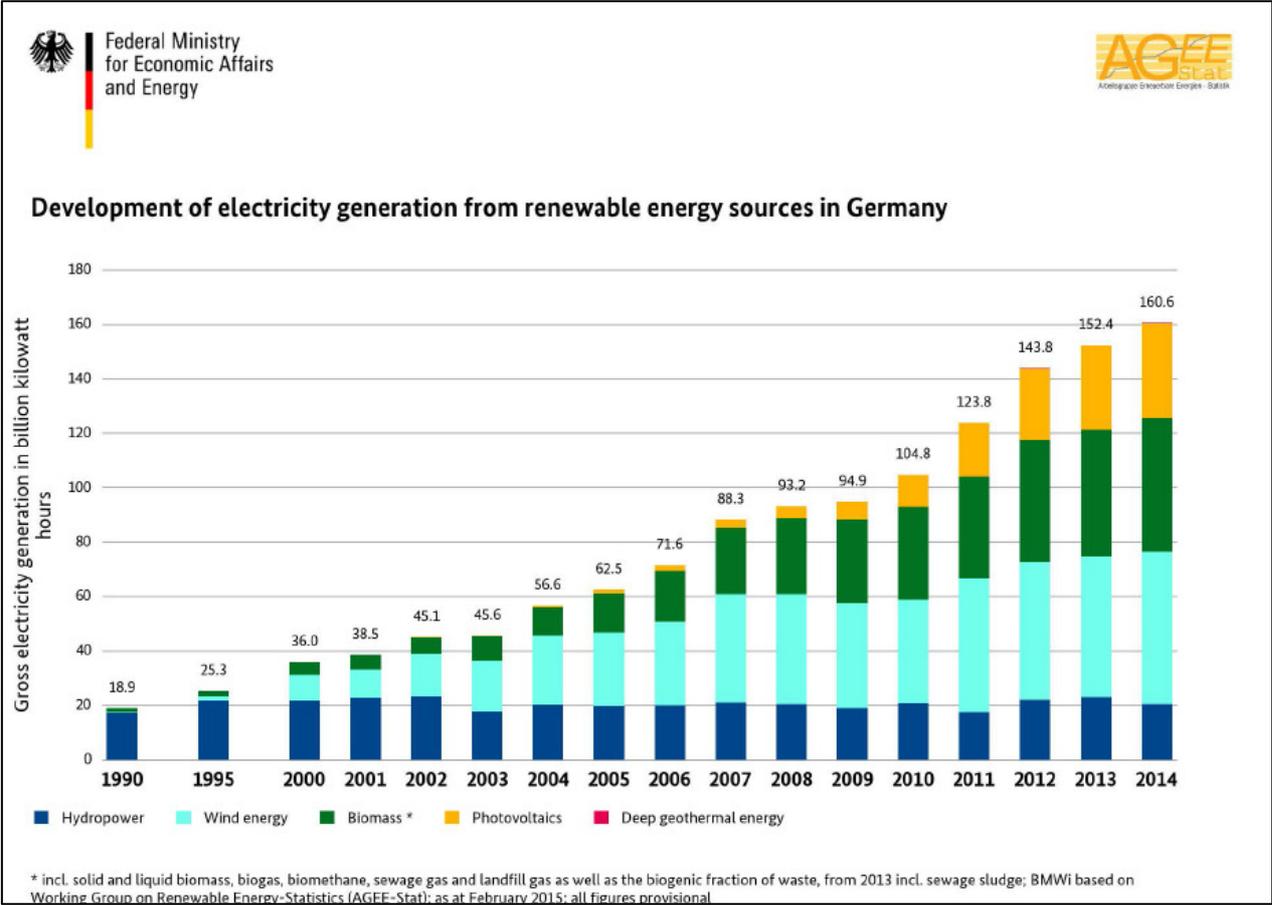
2.1 Developing renewable energy and securing energy supply

In order to meet the EU- Climate and Energy package of 2008 the Federal Government launched on the basis of the 2010 Energy Concept ³ a fundamental restructuring of Germany's energy supply towards renewable energy and higher energy efficiency in 2011. The proportion of energy consumption covered by renewables is to rise to 30 % by 2030 and to 60 % by 2050. The share of gross electricity generation is to rise to at least 35 % by 2020 at the latest and to at least 80 % by 2050 at the latest. By 2020, primary energy consumption is to fall by 20 % and by 2050 by 50 % (base year: 2008).

³ http://www.bundesregierung.de/Content/DE/Anlagen/2012/02/energiekonzept-final.pdf?__blob=publicationFile&v=5

As the development of renewables-based electricity generation demonstrates, the upswing of renewable energy in Germany is already in progress (**figure 1**). Renewable energy share of total “final energy consumption” is 12.4 % (2013) of which more than 60 % are based on bio-energy from biomass (mostly wooden biomass). But for meeting the targets of EU-Biomass Action Plan, an ongoing development of energy saving, increase of efficiency and expansion of renewable energy sources as well as availability of renewable raw materials is necessary.

Figure 1: Development of renewables-based electricity generation in Germany 1990 - 2014 (1 GWh = 1 million kWh)



Still an important challenge is to liberalize the energy markets in Germany and Europe further. Competition in the energy sector is to ensure that all consumers can benefit from energy which is as low-cost as possible. The Federal Government has taken some initial steps to restrict the rise in the cost of subsidizing renewable electricity production (“Feed-in-tariffs”

were generally reduced in the context of EEG-amendment 2014 ⁴). Yet the Government is paying particular attention to maintaining security of supply to households and companies. The comprehensive expansion of the grids must put the necessary infrastructure in place so that the energy supply will remain secure even as the proportion of renewables grows. Also the public is being involved in projects at an early stage in order to boost public acceptance and the transparency of the expansion of the grid.

At last the aim has to be to integrate renewable energy into the electricity market, to restrict costs to a reasonable level, to ensure a high degree of investment security, and to improve the integration of renewable energies within the energy supply system. In particular, the storage capacities must be expanded. They have to keep pace with the creation of new wind and solar capacities. Energy produced by flexible and storable biomass can play also a key role for the compensation of increasing amount of fluctuating renewable electricity production.

In addition to energy savings, energy efficiency also plays a vital role in a successful re-orientation of energy policy. It reduces the level of dependency on imports and cuts the costs of energy for companies and consumers. Germany wants to become one of the world's most energy-efficient and environmentally-friendly economies, while at the same time enjoying competitive energy prices and a high level of prosperity.

2.2 Continuing trend towards renewable energy sources

Renewable energy provided an estimated 19.1 % of global final energy consumption in 2013, and growth in capacity and generation continued to expand in 2014. Heating capacity grew at a steady pace, and the production of biofuels for transport increased for the second consecutive year, following a slowdown in 2011–2012. The most rapid growth and the largest increase in capacity occurred in the power sector, led by wind, solar PV, and hydropower.

In the end of year 2014 renewables comprised an estimated 27.7 % of the world's power generating capacity, enough to supply an estimated 22.8 % of global electricity. Although Europe remained an important market and a center for innovation, activity continued to shift towards other regions. China again led the world in new renewable power capacity installations in 2014, and Brazil, India, and South Africa accounted for a large share of the capacity added in

⁴ <http://www.bmwi.de/EN/Topics/Energy/Renewable-Energy/2014-renewable-energy-sources-act,did=693154.html>

their respective regions. An increasing number of developing countries across Asia, Africa, and Latin America became important manufacturers and installers of renewable energy technologies. (Excerpt from: RENEWABLES 2015 GLOBAL STATUS REPORT by the REN21 policy network ⁵). Development of renewable energy sources over the last years in Germany is shown in **table 2**.

Table 2: Contribution of renewable energy sources to energy supply in Germany		
Share of renewable energy sources (%)		
	2012	2014
in total final energy consumption	12.6	not available
in total gross electricity consumption	22.9	27.8
in total heat supply	9.8	9.9
in total fuel consumption	6,1	5,4
in total primary energy consumption	10,3	11,1

Source: BMWi according to Working Group on Renewable Energy-Statistics (AGEE-Stat)

2.3 Protecting the global climate – strengthening the role of renewables

With its National Energy Strategy the Federal Government is ensuring that

- energy supply will not be interrupted,
- cost of power does not become prohibitive,
- Germany remains an attractive place to do business and that
- climate change mitigation targets will be met.

Boosting energy efficiency is the key to this, by using modern technologies to reduce electricity consumption or by refitting our buildings, which in any case raises their value. It will be

⁵ The Renewable Energy Policy Network for the 21st Century (REN21) is a global network that was formed in 2005 after the "renewables 2004" conference in Bonn. It unites governments, international organizations and non-governmental organizations as well as representatives of the private sector, the financial sector, and civil society organizations from the energy, environment and development spheres. REN21 receives financial support from the German Environment and Development Ministries

putting in place the pertinent legal framework and introducing economic incentives, while making sure that all measures taken are affordable, cost-efficient and effective.

A faster phase-out of nuclear energy requires a faster reorganization of energy supply - a process started under the National Energy Concept. Climate protection will remain the decisive driving force. The climate targets agreed in the Energy Concept will be adhered to. This sends a strong signal about investment in innovation and technological progress. The thorough re-vamping of energy supply in Germany is a task for future decades, and is thus above all an opportunity for future generations. Political decisions aimed at combating climate change, saving energy and the latest decisions to close down nuclear power in Germany are increasingly exerting an influence on forestry, timber markets and timber trade.

Even without nuclear power Germany is sticking to the target of reducing emissions of greenhouse gases by 40 % by 2020 and by at least 80 % by 2050 (taking 1990 as a base year). By 2020 power generated from wind power, biomass, solar power and other renewables is to account for a minimum of 35 % of the total (2014: 27.8 % achieved) and in heat consumption up to 14 % (2014: 9.9 % achieved). In the course of the further development of its Biomass Strategy the Federal Government has revised the original goal of expansion for renewable mobility. In the year 2020 the target now is 10 % instead of 12 % (2014: 5.5 % achieved by biofuels).

Following the main guiding principles “security of supply”, “economic efficiency” and “environmental protection”, the Energy and Climate Programme contains about 30 key elements including a package of different acts and ordinances. Offering incentives for modernization and technological innovation the programme aims at stepping up the number of jobs within the renewable energy sector. Some examples of measures:

- The Renewable Energy Sources Act (EEG) built a platform for the expansion of renewables, enabling them to emerge from a niche to become one of the mainstays of Germany's power supply, generating 27 % of electricity in Germany. The rapid expansion also resulted in a rise in the surcharge imposed under the Renewable Energy Sources Act ("EEG surcharge"). In addition, it posed a growing challenge for the stability of the electricity grids and the security of our energy supply. The amendment of the Renewable Energy Sources Act in 2014 was therefore an important step towards ensuring the continued success of Germany's energy transition. The revision particularly aims to substantially slow any further rise in costs, to systematically steer the expansion of renewable energy, and to bring renewable energy more and more to the market.

- Obligations to use renewables in new buildings are laid down in the Renewable Energies Heat Act. All owners of newly erected buildings are obliged to use a certain amount of renewables for their heat requirements (solar radiation, geothermal energy, ambient heat or biomass). For example, the use of biomass has to cover at least 50 % of the new building's heat demand. However, pellets, wood chips and fuelwood may only be used in furnaces which comply with strict national provisions on air quality control and have a particularly high boiler efficiency factor. Alternatively it is possible to improve insulation of buildings, obtain heat from district heating systems or use heat from combined heat and power generation (CHP). An amendment of this act is expected for 2016.
- Since the Federal Market Incentive Programme for renewable energies was launched in 2000 it has successfully provided financial support, amounting in 2013 to nearly 300 million euros, which in turn has triggered investments of about 1.4 billion euros. The Market Incentive Programme (MAP) promotes investment in renewable energy for heating and cooling, primarily in existing buildings, and for commercial and industrial processes. The details of the assistance are stipulated in a current guideline, revised in 2015.
- Sustainability Ordinances for biofuels and electricity from biomass will ensure that when producing biomass for biofuels and electricity, a minimum requirement for sustainable management of resources and for the conservation of natural habitats are complied with. Furthermore the entire production, processing and supply chain must show a certain potential for reducing greenhouse gases.
- The Act on Combined Heat and Power Generation and regulations for small and medium combustion installations in order to reduce particulate emissions are additional examples for improvements of underlying conditions for renewables.
- The German National Biomass Action Plan (2009), which outlines measures for the expansion of bioenergy, is expected to influence future developments on the wood energy market. Another important cornerstone in order to increase the share and efficiency of biomass for material purposes is the National Action Plan for the Industrial Use of Renewable Resources (2009).

2.4 On the way to a “green economy”

Green economy, according to UNEP, is a system which results in improved human well-being and social equity, while significantly reducing environmental risks and ecological scarcities. In its simplest expression, a green economy can be thought of as one which is low carbon, resource efficient and socially inclusive. Sustainably managed forests play an essential role in

the carbon cycle and provide essential environmental and social values and services, beyond their contribution as a source of wood, such as biodiversity conservation; protection against erosion; watershed protection and employment in often fragile rural areas. The forest sector has therefore a key role to play in the transition towards a more sustainable economy.

2.4.1 The Rovaniemi Action Plan of UNECE and FAO

The Rovaniemi Action Plan for the Forest Sector in a Green Economy was adopted on 13 December 2013 at the joint session of the UNECE Committee on Forests and the Forest Industry (COFFI) and the FAO European Forestry Commission (EFC). It proposes a vision, strategies and objectives for the forest sector in the UNECE region and possible actions towards a green economy. Possible actions could be implemented by international organizations, governments of Member States, the private sector, civil society and other stakeholders. For each action, possible actors were identified by the stakeholder meetings. The Action Plan is meant to inspire action and provide the basis for plans and activities to focus on the contribution of forests in a green economy. It provides suggestions and is not a work programme for any of the bodies mentioned⁶. Subsequently some German activities are introduced, which may contribute to support the targets of the Rovaniemi Action Plan.

2.4.2 The National Policy Strategy on Bioeconomy ⁷

The concept of bioeconomy takes natural cycles of materials as its point of orientation. It encompasses all sectors of the economy that produce, work and process, use and trade with renewable resources. This includes raw materials produced in the agricultural, forestry and fisheries sectors, as well as in aquaculture or in microbial production. Increasingly, biogenic waste materials and residual materials are also taken into consideration. The bioeconomy is thus also resource-efficient recycling. Renewable resources are worked and processed to form a variety of products, also by means of industrial application of biotechnological and microbiological processes. Additionally, the use of sustainably produced biomass also acts as a significant renewable source of energy – with preference given to incinerate at the end of the cas-

⁶ <https://sustainabledevelopment.un.org/partnership/?p=2584>

⁷ The National Policy Strategy on Bioeconomy
http://www.bmel.de/SharedDocs/Downloads/EN/Publications/NatPolicyStrategyBioeconomy.pdf?__blob=publicationFile

cading processes of material utilization. The Policy Strategy on Bioeconomy builds upon the Federal Government's Sustainability Strategy. This dovetails with the "National Research Strategy Bioeconomy 2030 – our route towards a biobased economy", adopted in 2010, providing the foundation for innovations in the bioeconomy by means of research and development. Main fields of action:

- Coherent policy framework for sustainable bioeconomy
- Information and dialogue within society
- Education and apprenticeship
- Sustainable production and provision of renewable resources
- Growth markets, innovative technologies and products
- Processes and value-adding networks
- Competition among uses of land
- International context.

The Energy Concept for an Environmentally Sound, Reliable and Affordable Energy Supply (2010), the Raw Materials Strategy (2010), the German Resource Efficiency Programme (2012), the Biorefineries Roadmap (2012), in addition to other strategies and concepts formulated by the Federal Government, describe further sources of policy orientation and conclusions with effects on the bioeconomy.

2.4.3 The National Forest Strategy 2020 ⁸

Whereas the National Policy Strategy on Bioeconomy covers the whole range of topics regarding renewable sources, the National Forest Strategy 2020 concentrates on forest resources. The National Forest Strategy 2020, developed in an open process by interested stakeholders and adopted by the Federal Cabinet in September 2011, is the latest initiative aimed at evaluating the different demands in an overall context and establishing the underlying conditions that enable forestry and timber management to meet the challenges in a sustainable and, if possible, optimum manner. The Strategy therefore contains a number of different approaches for possible action in order to specifically define the forest management goals and to identify ways of solving the problems and conflicts thrown up by the wide-ranging, different social interests. The strategy identifies 9 main areas of action and related subordinated goals. They range from silvicultural approaches to measures for timber mobilisation, intensification of

⁸ The National Forest Strategy 2020

http://www.bmel.de/SharedDocs/Downloads/EN/Publications/ForestStrategy2020.pdf?__blob=publicationFile

“cascaded use of wood”, increased efficiency of timber use and optimisation of the closed substance cycle to the cultivation of fast growing species outside forests and an increase in timber imports.

By means of an close to nature and environmentally compatible increase in forest productivity, the tapping of additional land potential and the sustainable use of large timber reserves, particularly in small private forests, a major contribution can be made to increasing the stability and vitality of forests and securing the future timber supply. The National Forest Strategy mentions the following approaches as suitable ways of achieving this:

- Creation of diverse, stable and high yield mixed forests
- Risk reduction by avoiding unstable density or excessive stocks as a consequence of consistent forest tending (cleaning, thinning)
- Planting of site-adapted species of trees with a high level of resistance and growth rate
- Forest planting concepts and production periods which lead to optimum yields in harmony with nature conservation and environmental protection requirements
- Use of high quality, site-adapted, resistant and high yield forest plants
- Maintaining the genetic diversity of forest plants.

Research and development represent another key element in the implementation of this strategy. Via the Agency for Renewable Resources, the Federal Ministry of Food and Agriculture provides funding for a large number of projects under the Renewable Resources Funding Programme ⁹. These projects are inter alia targeted at increased timber mobilisation and efficient use of wood (tapping additional potential through fast-growing tree species, pilot plant lignocellulose biorefinery etc.).

The National Forest Strategy 2020 should, furthermore, be in harmony with the Federal Government's other strategies such as the National Sustainability Strategy, the National Biodiversity Strategy, the Biomass Action Plan and measures to mitigate climate change. Attempts to improve the efficiency of raw material utilisation and to reduce energy consumption in the timber sector also constitute core activities in the Federal Government's Action Plan for the Industrial Use of Renewable Resources ¹⁰ that are also currently being put into practice.

⁹ Renewable Resources Funding Programme <http://international.fnr.de/index.php?id=152>

¹⁰ Action Plan for the Industrial Use of Renewable Resources
http://www.bmelv.de/SharedDocs/Downloads/Broschueren/AktionsplanNaWaRo.pdf?__blob=publicationFile

2.4.4 Forest Climate Fund ¹¹

The Forest Climate Fund is part of the programme associated with the Energy and Climate Fund. A decision by the German Bundestag called for it to be established from 2013 under the joint responsibility of the Federal Ministry of Food and Agriculture and the Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety.

Due to carbon storage, build-up of carbon stocks in forests and the prevention of emissions as a result of an enhanced use of timber, recycling and energy recovery, German forestry and forest industries are playing an important role in combating climate change. The Federal Ministry of Food and Agriculture and the Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety therefore regard it as a necessity to promote measures aimed at tapping the potential of forests and timber for CO₂ reduction and energy generation as well as measures aimed at adapting German forests to climate change, and in this way to help the Federal Government achieve its climate goals. Measures are to be funded in the following priority areas:

- Adaptation of forests to climate change
- Safeguarding of carbon storage and increasing the CO₂ sequestration of forests
- Increasing of carbon storage in wood products and reduction/substitution of CO₂ via wood products
- Research and monitoring
- Information and communication.

2.4.5 Possible contribution to the Rovaniemi Action Plan

Strategies like those mentioned above have been initiated in order to tackle future challenges (e.g. climate change, energy savings, exit from nuclear power, balance different interests of society on forests). They offer suitable framework conditions for the access into a green economy at the same time offering opportunities to renewable rawmaterials and energy as well as to bio-based products. Against this backdrop, actions within those strategies may also contribute to the targets of the Rovaniemi Action Plan. The following selection of actions and projects on national and subnational level may offer a first impression about possible national German contributions to the Rovaniemi Action Plan (**table 3**).

¹¹ Forest Climate Fund

<http://www.bmel.de/EN/Forests-Fisheries/Forests/Texte/ForestClimateFund.html>

Table 3: Possible contribution to the Rovaniemi Action Plan (RAP)	RAP
Legality of wood origin (Timber Trade Safeguard Act as of 15 July 2011; Thünen Centre of Competence on the Origin of Timber)	A.0 A.7
Certification sustainable sources of wood and wood products	A.1
Adaption of forests to the ongoing climate change	B.3
Forest protection (e.g. against fires, storms, pests, beetles)	A.3
Maintenance of forest genetical resources, breeding fast growing tree species	A.3
Forest inventories	B.4
Improve harvest techniques including cost reduction	C.3
Greenhouse gas monitoring forests and timber	A.5
Life-cycle-assessment incorporating the whole value-added-chain from forests via timber products to recycling	B.4
Cluster and market analyses forest and timber sector	E.0
Wood mobilization; Rawmaterial supply timber and paper industry	A.3
Wood-cascading, energy efficiency and avoidance of waste	B.2
Product innovations (e.g. wood-polymer composites, sustainable building movement, Lignocellulose biorefinery)	A.4 A.6
Emissions and emission control of harmful substances	B.1
Energetic use of wood including combined heat and power	A.4
Research and development (e.g. http://www.fnr.de/ , Wood-Wisdom era net)	A.4
Communication on benefits of forests and timber for society and the environment competitions/awards timber construction (all media)	E.2 E.4

3. Underlying conditions for the forest product markets sector

Globalization means that there are challenges and opportunities that are not limited to within national borders. The demand for natural resources will increase on a global scale and it is of growing interest to use these resources responsibly. While ensuring food supply as well as a supply of raw materials and energy for a growing world population it is necessary to face additional global challenges, such as the mitigation of climate change and the preservation of biological diversity and the natural environment. Industrial and other uses of renewable and sustainably used resources are important contributions to protecting the climate and the environment, to saving fossil fuel reserves and to sustaining rural areas. In view of finite fossil resources, sustainable forest management plays an important role to securing future needs.

3.1 Sustainable and legal wood-trading policies

An important initiative at EU level is the EU-FLEGT (Forest Law Enforcement, Governance and Trade) Action Plan on Illegal Logging. The Federal Government is backing preparations and negotiations with interested countries of voluntary FLEGT partnership agreements (VPA) with the EU.

The EU-FLEGT approach is supplemented by the EU timber regulation (EUTR). The regulation prohibits the placing of illegal timber on the common market and commits operators who place timber and wood-based products on the market to furnishing proof of legality by applying due diligence systems. The regulation is effective since the 3rd of March 2013 and more than 350 controls of operators have been conducted in Germany since this date.

Furthermore Germany is especially engaged in work on improved methods for timber origin identification (genetic and isotopic fingerprinting methods). Based on international projects with ITTO and Bioversity International an international partnership was founded at the World Forestry Conference in Durban in September 2015. Founding members are, besides Germany, Australia, the EU Commission and the USA with the World Resources Institute acting as interim Secretariat. The mission of the partnership is to connect scientific and technological experts, and catalyze information and progress on wood and wood fiber identification in order to use these innovative methods more widely in tracking timber and fiber supply chains and preventing illegal logging and associated trade. At national level a further strengthening of the Thünen Centre of Competence on the Origin of Timber is foreseen so that it will be able to cope with the still strongly increasing demand for its services.

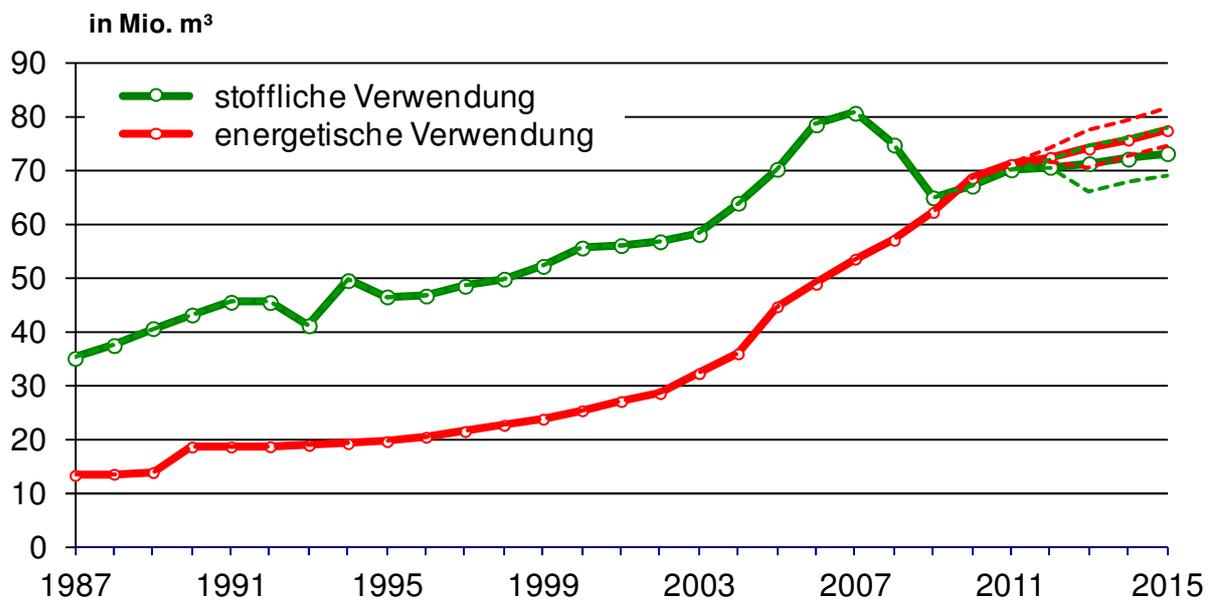
3.2 Wood demand and raw material potential

According to the results of the third National Forest Inventory ¹² (covering the years 2002 to 2012) Germany has about 11.4 million hectares of forests (32 % of territory) which have been sustainably managed for about 300 years now. The fact that increment (average of about 11.2 m³/ha * year) has been higher than the amount of removals has again led to the creation of substantial timber stocks (3.7 billion m³; average about 336 m³/ha). In comparison with the results of the second Forest Inventory this means + 7 % within 10 years in spite of intensive

¹² http://www.bmel.de/SharedDocs/Downloads/EN/Publications/ForestsInGermany-BWI.pdf?__blob=publicationFile

wood utilization. Forests play the key role in timber and fuelwood supply, which has increased significantly during the past decade (**figure 2**). Besides timber demand, this is mainly due to the renaissance of bioenergy with woody biomass as the most important raw material source.

Figure 2: Development of material and energetic utilization of wood in Germany (million m³)



Mantau, U. (2012): Holzrohstoffbilanz Deutschland. Entwicklungen und Szenarien des Holzaufkommens und der Holzverwendung 1987 bis 2015, Hamburg, 2012, 65 S.

Renewable raw materials like timber and woody biomass offer significant opportunities to mitigate the effects of climate change, secure supply and promote economic development. CO₂ is sequestered not only while trees grow, but also stored in timber products. Every cubic meter of timber removes about 1 ton of CO₂ from the atmosphere and stores it in the form of carbon, in some cases over many decades. Sustainable material use of timber is favourable regarding climate protection and energy saving. Its carbon balance is mostly superior to those of competing raw materials. In addition, it helps to reduce energy consumption and to replace fossil fuels at the end of the life cycle. Finally, the whole wood product chain serves to boost domestic value creation, especially in rural areas.

Renewables are becoming increasingly important in a society geared towards sustainable development. As a multi-purpose raw material, the demand for woody biomass has increased greatly, with it being put to several major uses. Due to its many different utilization possibilities it has the potential to successfully break into new markets. Against the backdrop of economic growth scenarios and due to the ongoing ambitions to achieve the given climate protec-

tion targets 2020 and beyond (“bio-based economy”), some studies expect a shortage in timber supply^{13 14} in the medium and longer term.

Depending on the degree of mobilization of existing biomass stocks, worst-case scenarios are indicating supply deficits. However, these estimated supply “gaps” must be considered as theoretical figures because in real terms, markets as well as enterprises will react to an ongoing shortfall of timber and woody biomass in due time. Besides price movements, such developments may cause suitable reactions on the markets, such as reduction of production capacities, shutdown of facilities or relocation of investments to more favourable raw material supply regions.

One key to preventing such developments from coming true is to mobilize existing timber and woody biomass stock not only in forests but also to tap additional raw material sources outside forests (e.g. re-use of residues and recovered wood, fast growing species on arable land, landscape care wood). Policy efforts are aimed at tapping such additional potentials of forest timber. However, the prospects of success are uncertain and the subject of intensified political discussion. They are largely determined by market development as well as by the underlying economic and political conditions.

3.3 Competing requirements of society as a challenge for multifunctional forestry

Following moderate growth in the 1990s, the use of timber as a raw material and fuel in Germany has risen substantially since the turn of the millennium. The use of wood resources has been based on domestic availabilities, especially those of forest resources. Further growth in demand is expected due to the economic development in general, rising energy prices and the political environment for the promotion of renewables.

The rising use of fuelwood in private households increases raw material competition, especially in respect of the availability of softwood. According to current evaluations, nearly 34 million m³ of wood resources (this figure has tripled within 10 years) and thereof 22 million m³ of split logs directly from forests were used for energy generation in private households

¹³ Mantau, U. et al. 2010: EUwood - Real potential for changes in growth and use of EU forests. Final report. Hamburg/Germany, June 2010. 160 p.

¹⁴ The European Forest Sector Outlook Study EFSOS II
http://www.unece.org/fileadmin/DAM/timber/efsos/data/Country_profiles.pdf

(2010)¹⁵. 9.5 million m³ of softwood were used in this context. This timber is, however, also partially in demand for use as a material (industrial roundwood, industrial wood). Consequently, the timber industry has had to face some regional bottlenecks in spruce supply over the past years. Ongoing demand resulted in some reduction of the respective timber stock in forests as well as in net imports of about 3.4 million m³ of roundwood. This process was also backed by a policy of promoting more close to nature and mixed stands.

Against this backdrop, momentum is increasing in the ongoing debates on maximum sustainable harvesting potential, the identification of wood resources being available for sustainable mobilisation and the growing competition between material and energetic use of timber. In general, the annual timber harvest in German forests is still below increment. There is space for mobilizing additional domestic forest resources e.g. regarding hardwood species and small forest holdings. One decisive question is to what extent German forests will be able to contribute to meet future demand without jeopardizing sustainability rules. Subsequently some arguments are listed, which are being considered in current forest policy discussion and represent major future challenges:

- Sustainable forestry is closer to nature in comparison to other forms of land use. High nature conservation standards for forestry are anchored in the Federal Forest Act and Federal Nature Conservation Act and the corresponding laws of the Laender. When it comes to forest management, stiff requirements are imposed today on the protection and the preservation of nature and the environment. In Germany's forests as a rule measures for the preservation and the protection of biodiversity are integrated into use. This means that, in principle, no distinction is made between commercial forests and conservation forests. This is one of the main components of modern multifunctional forestry. Forest conservation will continue to be an integral part of modern forestry in the future.
- In contrast to the generally growing timber stock in German forests the spruce is the only tree species of which the stock declined, and that was by 4 %. At the same time the area of spruce shrank. This corresponds to the silvicultural and forestry policy target objective of recent years (e.g. promotion of deciduous trees/mixed stands). It was accelerated by storms and the mass propagation of beetles. The spruce stock declined particularly intensely in Nordrhein-Westfalen, where in January 2007 the windstorm Kyrill uprooted or fractured approximately 15.7 million m³ of mainly pure spruce

¹⁵ Mantau U. (2012); Energieholzverwendung in privaten Haushalten 2010; INFRO Informationssysteme für Rohstoffe, Universität Hamburg

stands over an area of roughly 50,000 hectares. However, in the case of spruce, which is, in terms of quantity and for the profitability of the forest sector, the most important tree species, stock reduction means a real challenge for future raw material supply of the softwood industry.

- Given the comparatively high level of timber stocks accumulated in historical and regional terms, these could even be reduced to a certain extent without violating the principles of sustainability. Yet, such a cutback in stocks is subject to controversy. A general reduction in stock could only be achieved by a general shortening of rotation periods. In this regard it is important to know that in Germany it is not the Federal Government but the forest owners concerned who stipulate the rotation periods. Finally in its National Forest Strategy 2020 German Federal Government has recorded that timber harvesting should increase up to the maximum average annual growth.
- Shorter rotation periods have so far been inconsistent with the Federal Government's and the Laender forest promotion policies that have been in force for decades (close-to-nature silviculture with a high percentage of hardwood and long rotation periods, old tree and habitat tree schemes etc). It would, at present, be difficult to enforce market and funding policy incentives fostering shorter rotation periods. Moreover, regulatory policy requirements in this regard would interfere with property rights. Nevertheless, to tackle the risks of climate change in forestry, shorter rotation periods could be one approach to minimize damages caused by extreme weather events.
- A possible reduction in stocks/shorter rotation periods meets with strong opposition from nature conservationists. Requirements and policy decisions for nature conservation are increasingly curbing timber production in forests (e.g. the setting-up of national parks in forests, implementation of the target of "5 % set-aside for natural forest development" of the National Biodiversity Strategy and restrictions on timber use in Natura 2000 areas). In addition, nature conservation would like to have the very hardwood potential set aside that is intended for increased use. Further potential that is presumed to lie in small private forest properties is difficult to mobilize.
- Demographic processes suggest that this situation will tend to worsen rather than improve. The general trend for the percentage of forest owners who take either little or no interest in forestry as a source of income is to rise. This holds true for urban forest owners and increasingly for forests owned by nature conservation organizations and foundations (e.g. National Natural Heritage). Incidentally, the decision on whether to harvest or to market wood rests solely with the forest owner.
- The options for increasing forest increments seem to be limited. Opportunities lie in a replacement of tree species and provenances by more vigorous alternatives, fertilization and modification of silvicultural treatment. This is called into question by the following factors: The size of the annual regeneration area is small. It is only after several

decades that the change of tree species or provenances will result in an increase in raw wood potential. It is also disputed whether this could be an alternative, given the role played by other factors such as production security, falsification of flora and nutrient sustainability. These measures are furthermore subject to the targets set by owners and are inconsistent with current forest policy goals which championed close-to-nature silviculture with a high proportion of hardwood and long rotation periods.

- Another aspect to satisfying demand is to increase imports of wood, semi-finished and finished products. The option to cover the forecast demand for raw wood via the global market on a lasting basis seems uncertain. Regarding increased raw material imports there may be only limited options due to a generally growing global demand, additional costs for transport and adverse impacts on life-cycle-balances. However, examples of major export countries round the globe demonstrate that there is some potential in this respect.

3.4 How to best meet future challenges

The above-mentioned arguments clearly demonstrate the complex initial situation for identifying best possible solutions. Expectations of society on forest functions are increasing not only due to a higher demand for timber and woody biomass as renewable materials, but also as a consequence of more stringent requirements regarding nature conservation, adaptation of forests to climate change, their possible contribution to reducing greenhouse gas emissions and services for recreation. Taking into account those expectations and keeping in mind the needs of future generations as well as the acceptance of possible decisions and actions, initiatives should in principal be based on the equal consideration of the three dimensions of sustainability (ecological, economic and social matters). As renewable resources will gain importance in a society based on green economy, this raises the question as to how forests can best contribute towards meeting the numerous future challenges within the framework of multifunctional forestry. One major task of future forest policy, as pursued with the National Forest Strategy 2020, is to aim at striking a resilient balance between differing interests and growing demands made on forests and their sustainable performance.

4. Development in forest products sectors

4.1 Wood raw materials

An overview of supply and use of all wood raw materials is provided in the wood resource balance (**table 4**). It shows the relevance of the different assortments of wood raw materials for satisfying the demand for material and energetic use. The following table reveals the developments which have taken place in the period 2000 to 2010 (more recent data are not available).

Table 4: Wood resource balance Germany 2000 and 2010							
Supply	Wood Resource Balance			Wood Resource Balance			Use
	2000	2010	Δ	2000	2010	Δ	
	mill. m ³			mill. m ³			
Sawlogs	30,3	37,3	7,0	30,3	37,3	7,0	Sawmill industry
Other roundwood	17,8	36,5	18,7	14,3	16,9	2,6	Pulp industry
Forest residues	3,1	8,0	4,9	7,2	10,6	3,4	Panel industry
Bark	3,6	4,7	1,0	3,7	2,3	-1,4	Other material uses
Landscape care wood	1,9	4,5	2,6	0,4	4,6	4,3	Solid wood fuels
Short rotation coppice	0,0	0,0	0,0	8,6	22,6	14,1	Large-scale firing plants (≥ 1MW)
saw mill by products	11,5	15,0	3,5	4,3	7,2	2,9	Small-scale firing plants (< 1MW)
Other industrial residues	3,9	5,8	1,8	12,0	33,9	21,9	Private households
Black liquor	2,0	3,6	1,6	0,0	0,1	0,1	Other energetic uses
Post consumer wood	5,5	14,0	8,4	0,0	0,0		Balance adjustment
Solid wood fuels	0,4	4,6	4,3				
Balance adjustment	0,7	1,5					
total	80,8	135,4	54,6	80,8	135,4	54,6	total

Source: Mantau, U. (2012): Holzrohstoffbilanz Deutschland : Entwicklungen und Szenarien des Holzaufkommens und der Holzverwendung von 1987 bis 2015. Hamburg: Universität Hamburg, 65 p

Total supply and use of wood raw materials increased about 55 million m³ in the period 2000 to 2010. Supply of primary wood raw materials from forests increased about 30.6 million m³. This increase is mainly driven by higher demand of sawlogs for the sawmill industry and higher demand of other roundwood (fuel wood) for private households and firing plants. Energetic use of wood resources accounts to 47% of the total wood resource use in 2010. A significant increase can also be stated for the supply of postconsumer wood. The major share of the increased supply is used by large-scale firing plants, while the material use of post-consumer wood in the panel industry for the production of particle boards remains on a quite constant level.

4.2 Roundwood markets

The domestic use of roundwood is dominated by softwood. Roughly three quarters of the used roundwood were coniferous species. The German timber industry is even more based upon softwood processing. Roundwood utilisation accounts for about 90 % softwood and only 10 % hardwood species. Predicted growth of global wood demand on the one hand and limited 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.

According to official harvest statistics, in 2014 about 52 million m³ were felled (+ 1.7 % compared with 2012). The species group “spruce” accounted for 48 % of the total felling, “pine” for 25 %, “beech” for 23 % and “oak” for 4 %. Comparing the development of felling in recent years with German forest resource assessment data clearly show that in comparison with potential coniferous wood resources (in particular potential resources of spruce) in hardwood there is still considerable untapped potential.

The official felling statistics (2014: 54.4 million m³ commercial volume under bark, average of the last decade: about 57 million m³) do not completely cover the volumes, harvested in the forest (**table 5**). Especially removals in enterprises managing smaller forest areas (*inter alia* registration problems) and fuelwood consumption are underestimated (it is particularly unlikely that the use of forest residue volumes is fully recognized).

In order to provide more realistic accounts of harvesting volumes additional methodological approaches can be used. Results from the most recent third Federal Forest Inventory Study estimate the average annual harvest in the period 2003 to 2012. The third Federal Forest Inventory allows at a ten-year interval the determination of felling and verifies the derivation on the demand side. The new data from the third Federal Forest Inventory allows, for the first time for the entire German forest area, a detailed verification of timber use in forests broken down by the Laender and categories of forest ownership.

Roundwood markets are closely linked to developments in the construction sector. Regarding wood consumption this industry sector is most important, for in Germany almost 2/3 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 and employment. With a workforce of around 3.8 million and a gross value added of

about 400 billion euros, it is among the most important sectors in the national economy. In Germany there are about 16 million buildings, of which 80 % are older than 25 years. This means a huge dormant potential to be mobilized.

Table 5: Comparison between official felling statistics, WEHAM potential and estimates of use				
in million m³ of solid wood under bark per year				
(after deduction of harvesting losses)				
Year	Wood harvest according to official felling statistics	Federal Forest Inventory 2012	Estimates of fellings	
			Thünen Institute of International Forestry and Forest Economics	University of Hamburg
2002	42,4		55.3	47.5
2003	51.2	75.7	64.2	51.5
2004	54.5	75.7	72.2	54.6
2005	56.9	75.7	75.4	62.4
2006	62.3	75.7	81.9	
2007	76.7	75.7	93.1	73.3
2008	55.4	75.7	75.3	71.9
2009	48.1	75.7	64.5	
2010	54.4	75.7	75.0	73.8
2011	56.1	75.7	68.9	
2012	52.3	75.7	69.2	
2013	53.2		68.8	
2014	54.4			

Source: BMEL, Thünen-Institute (Jochem et al. 2015 ¹⁶)

Since the first Thermal Insulation Ordinance entered into effect in 1978 the energy efficiency of buildings has been improved step by step. In spite of this many buildings still do not meet

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

any energy saving requirement. Building owners and tenants increasingly realise that energy saving is not only an environmental issue but also most interesting in economic terms. For example, the cost for heating and hot water make up around 87 % of total energy consumption of private households. 80 % of those costs could be saved by professional refurbishment such as improvements in building shells, energy efficiency and modern building services.

Important incentives for investments in the building sector besides the Renewable Energies Heat Act is the development of a German Green Building Certificate in close cooperation between the Federal Government and research institutions and interested associations. The first German Sustainability Certificates were granted to office buildings in January 2009 ¹⁷. Ecological advantages of sustainable wood products may open up new perspectives within the building sector, especially in respect of modernization and renovation. However, thanks to advanced insulation technology, low-energy buildings are in general independent of construction material (timber, concrete etc.). This means intensified competition between construction materials and a constant need for innovation.

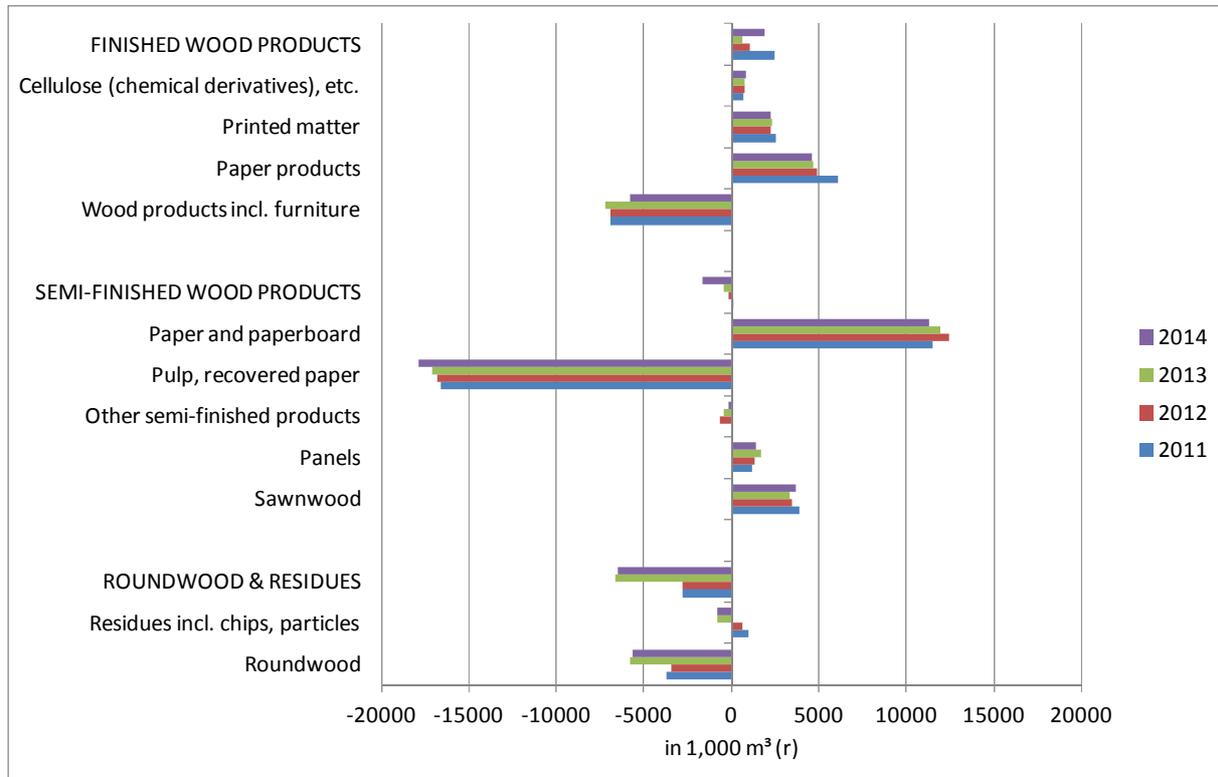
4.3 Trade policy issues - Trade with wood and wood based products

German trade with wood and wood based products showed in the period 2011 to 2014 a further rise in net imports, measured in roundwood equivalents ($m^3 r$). After many years of net exports, in 2011 net imports of 146,000 $m^3(r)$ were balanced. In the following years this trend continued to net imports of 1.9 million $m^3(r)$ in 2012, 6.4 million $m^3(r)$ in 2013 and 6.2 million $m^3(r)$ in 2014. In monetary terms, however, exports show a surplus in all recent years - but with a decreasing trend. In 2011 net exports of 8.2 billion Euros of wood and wood based products could be achieved. 2012 and 2013 show a further decrease to 7.0 and 6.7 billion Euros, respectively. Preliminary data for 2014 describe a value of net exports of 6.5 billion Euros.

The following **figures 3 and 4** show the German trade balance of wood and wood based products of different product groups in the time period 2011 to 2014 in million $m^3(r)$ and in 1,000 million Euros.

¹⁷ further information: www.nachhaltigesbauen.de ; www.dgnb.de

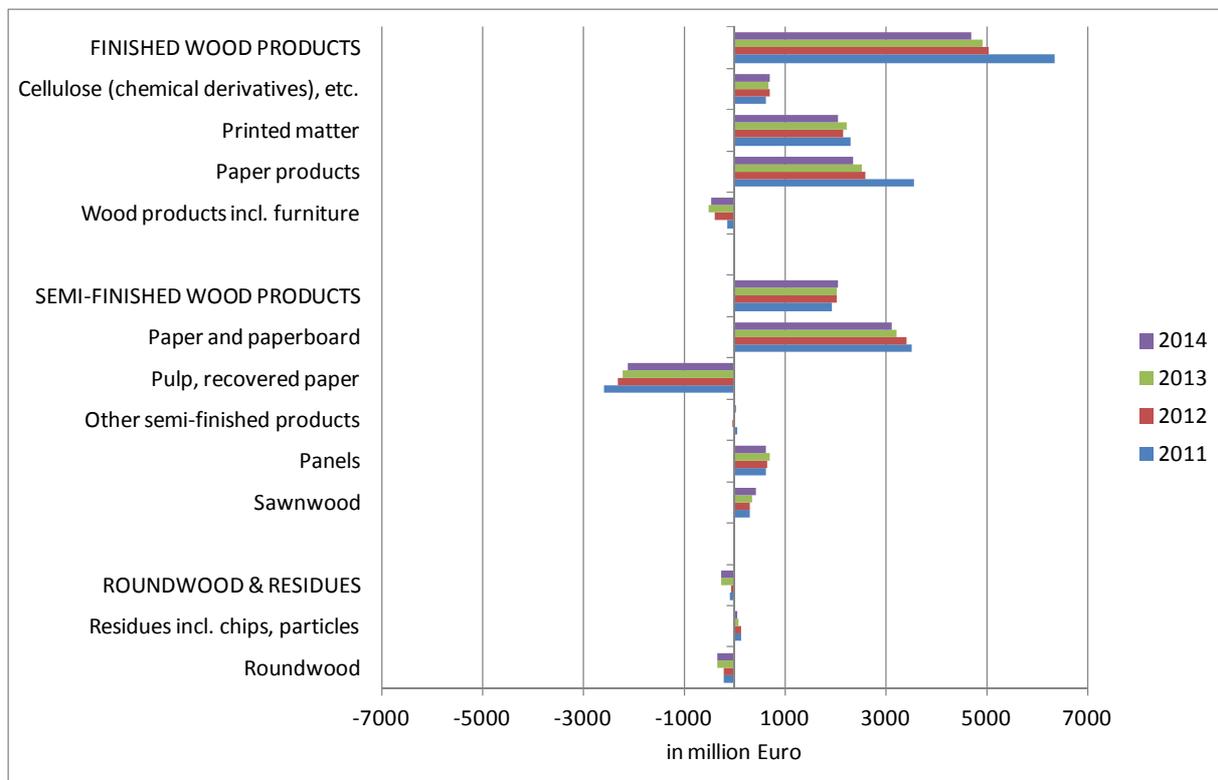
Figure 3: Trade balance of product groups of wood and wood based products 2011 to 2014 (in 1,000 m³ r)



Data source: Statistisches Bundesamt, calculated by Thünen Institute. 2014: Preliminary data.

The main product group of roundwood and residues shows net imports in the period considered. Within this main group the products had significantly different trade balances until 2013. While roundwood showed net imports, residues had an export surplus. Since 2013 also residues have a net import in quantity, while monetary values still show net exports. Trade with semi-finished wood products is nearly balanced in the years 2011 to 2013 (measured in roundwood equivalent m³ r). However, preliminary data in 2014 indicates a net increase. In monetary values semi-finished wood products achieved a constant annual export surplus of about two billion Euros in the period. Within this main product group, pulp and recovered paper show significant net imports, while the export surplus is mainly based on sawnwood, panels and paper and paperboard.

Figure 4: Trade balance of product groups of wood and wood based products 2011 to 2014 (in million Euros)



Data source: Statistisches Bundesamt, calculated by Thünen Institute. 2014: Preliminary data.

The main product group of finished products basically shows net exports in volume and in value. The only exceptions are wood products including furniture which have an import surplus in the period 2011 to 2014. Paper products, printed matter and chemical derivatives show net exports in both quantity and value.

4.4 Sawnwood (softwood/hardwood)

In 2014, about 17,339 people were employed in the German sawmilling industry (-3.0 % against 2013). The total turnover amounted to 5.6 billion euros (change from previous year: +1.6 %). With an export quota of 27.7 %, the export turnover amounted to 1.6 billion euros. Compared with 2013, the entire export turnover increased by 5.3 % (companies with 20 and more employed persons) ¹⁸.

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

With about 20.8 million m³, the domestic production of sawn softwood (sawnwood coniferous) increased by 1.6 % in 2014 compared with 2013. The apparent consumption of coniferous sawnwood remained at a level of 18.2 million m³ (-0.1 % compared with 2013). German exports of sawn softwood amounted to 6.6 million m³ and the imports to 4.1 million m³ in 2014. The annual apparent consumption of sawn hardwood amounted to 0.8 million m³ which shows a decrease of 8.6 % compared to 2013. The domestic production decreased about 2.3 % and is still at a level of 1.0 million m³ of sawn hardwood.

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

In 2014, the German panel industry employed approximately 13,377 people (+1.3 % against 2013) and recorded a total turnover of 4.9 billion euros. Compared with 2013, the total turnover increased by 6.3 %. About 33.7 % of the turnover depended on foreign trade (1.6 billion euro). Compared with 2013, the entire export turnover increased by 11.8 % (companies with 20 and more employees) ¹⁹. The annual production of the German panel industry amounted to 6.8 million m³ of particle boards (including OSB) and to 5.2 million m³ of fiberboards. The apparent consumption of particle boards (including OSB) was estimated to be 7.3 million m³ (+3.4 % compared with 2013) and of fibreboards to be 3.1 million m³ (-1.7 % compared with 2013).

4.6 Pulp and paper

In 2014, approximately 37,784 people were employed in the German pulp and paper industry (+0.04 % compared with 2013) at about 177 production sites (-1.1 % against 2013). The total turnover amounted to 16.2 billion euro (change from previous year: +0.7 %). With an export quota of 54.1 %, the export turnover amounted to 8.8 billion euro. Compared with 2013, the entire export turnover increased by 1.3 % (companies with 20 and more employed persons) ²⁰. The annual production of paper and paperboard amounted to 22.5 million tons (+0.6 % against 2013) ²¹, comprising 3,000 different varieties of paper. The apparent consumption of graphic papers, papers and boards for packaging, sanitary and household papers and other

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

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

²¹ VDP (2015): Paper 2015: Annual Report. Tab. N8; N16, N18

papers and board in total was calculated to be 20.3 million tons (+2.0 % compared with 2012). Wood consumption by German pulp and paper mills was estimated to be 10.0 million m³ in 2014, which is a minus of 3.1 % compared with 2013 ²¹.

4.7 Pellet industry

German producers of wood pellets basically benefited from growing demand for renewable energy generation in recent years, but were also suffering from a relatively mild winter. Producing 0.3 million tons in 2005 (of which domestic consumption was about 0.2 million tons) it was possible to increase production to 2.1 million tons in 2014 (however, a slight minus of 5.9 % compared to 2013). About 0.6 million tons have been exported in 2014. Consumption remains on a lower level than production: 1.8 million tons in 2014, a minus of 10.5 % compared with 2013. So far main raw material sources for pellet production are wood residues originating from softwood sawmills. In future, additional sources may become important (e.g. residues from forests, fast growing species, hardwood species).

4.7 Value added wood products (including furniture)

The German woodworking and furniture industry (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 ²²) employed approximately 146,003 people in 2014 (-1.0 % compared with 2013). 49,698 of these were employed in the woodworking industry, 96,305 in the furniture industry. The total turnover amounted to 26.1 billion euro, an increase of 1.9 % compared with 2013. The increase is somehow equally distributed between both industries (1.4 % in the woodworking industry and 2.1 % in the furniture industry.. The turnover of the furniture industry is significantly higher (17.3 billion euro in 2014) than the turnover of the woodworking industry (8.8 billion euro). With an export quota of 24.5 %, the export turnover amounted to 6.4 billion euro in 2014. The export quota of the furniture industry is considerably higher than the export quota of the woodworking industry (29.5 % compared to 14.5 %). The export quota of the woodworking industry shows a decrease compared with 2013 (-3.1 %) while the export quota of the furniture industry increased by 5.1 %.

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



TF1
UNECE TIMBER FORECAST QUESTIONNAIRE
Roundwood

Country: Germany	Date:
Name of Official responsible for reply:	
Official Address (in full):	
Telephone:	
E-mail:	

Note: Complete only if data for 2013 have been revised.

Product Code	Product	Unit	Historical data		Revised 2014	Estimate 2015	Forecast 2016
			2013	2014			
1.2.1.C	SAWLOGS AND VENEER LOGS, CONIFEROUS						
	Removals	1000 m ³	23.784	24.917		26.600	27.100
	Imports	1000 m ³	4.000 #	4.500 #		4.300	4.500
	Exports	1000 m ³	1.100 #	1.400 #		1.400	1.300
	Apparent consumption	1000 m ³	26.684	28.017		29.500	30.300
1.2.1.NC	SAWLOGS AND VENEER LOGS, NON-CONIFEROUS						
	Removals	1000 m ³	3.057	3.197		2.542	2.593
	Imports	1000 m ³	150 #	200 #		200	200
	Exports	1000 m ³	800 #	900 #		900	900
	Apparent consumption	1000 m ³	2.407	2.497		1.842	1.893
1.2.1.NC.T	of which, tropical logs						
	Imports	1000 m ³	15 #	16 #		16	16
	Exports	1000 m ³	2 #	2 #		2	2
	Net Trade	1000 m ³	13	14		14	14
1.2.2.C	PULPWOOD (ROUND AND SPLIT), CONIFEROUS						
	Removals	1000 m ³	8.663	8.509		8.700	9.000
	Imports	1000 m ³	2.000 #	2.500 #		2.600	2.700
	Exports	1000 m ³	800 #	800 #		800	700
	Apparent consumption	1000 m ³	9.863	10.209		10.500	11.000
1.2.2.NC	PULPWOOD (ROUND AND SPLIT), NON-CONIFEROUS						
	Removals	1000 m ³	3.633	3.757		2.450	2.462
	Imports	1000 m ³	300 #	200 #		200	200
	Exports	1000 m ³	250 #	300 #		300	300
	Apparent consumption	1000 m ³	3.683	3.657		2.350	2.362
3	WOOD CHIPS, PARTICLES AND RESIDUES						
	Domestic supply	1000 m ³	13.483 C	13.636 C		13.677	13.743
	Imports	1000 m ³	3.382 C	3.757 C		3.750	3.800
	Exports	1000 m ³	2.710 C	2.974 C		2.950	3.000
	Apparent consumption	1000 m ³	14.156	14.419		14.477	14.543
1.2.3.C	OTHER INDUSTRIAL ROUNDWOOD, CONIFEROUS						
	Removals	1000 m ³	1.560	1.543		1.500	1.450
1.2.3.NC	OTHER INDUSTRIAL ROUNDWOOD, NON-CONIFEROUS						
	Removals	1000 m ³	1.355	1.320		1.300	1.250
1.1.C	WOOD FUEL, CONIFEROUS						
	Removals	1000 m ³	4.886	5.159		5.200	5.200
1.1.NC	WOOD FUEL, NON-CONIFEROUS						
	Removals	1000 m ³	6.270	5.955		6.000	6.100

Please return (preferably by e-mail) to Timber Section no later than 2 October 2015.

By e-mail to stats.timber@unece.org. By fax to +41 22 917 0041

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.



TF2
UNECE 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 2013 have been revised.

Product Code	Product	Unit	Historical data		Revised 2014	Estimate 2015	Forecast 2016
			2013	2014			
5.C	SAWNWOOD, CONIFEROUS						
	Production	1000 m ³	20.428	20.761	20.757	20.342	20.749
	Imports	1000 m ³	4.080	4.060	4.229	4.017	4.017
	Exports	1000 m ³	6.270	6.598	6.831	6.284	6.315
	Apparent consumption	1000 m ³	18.238	18.223	18.155	17.660	18.058
5.NC	SAWNWOOD, NON-CONIFEROUS						
	Production	1000 m ³	1.050	1.026	1.015	1.025	1.056
	Imports	1000 m ³	423	423	418	376	376
	Exports	1000 m ³	642	690	692	692	706
	Apparent consumption	1000 m ³	830	759	741	709	719
5.NC.T	of which, tropical sawnwood						
	Production	1000 m ³	7 N	4 N		4	4
	Imports	1000 m ³	111	93	86	85	85
	Exports	1000 m ³	44	42	42	40	40
	Apparent consumption	1000 m ³	74	55		49	49
6.1	VENEER SHEETS						
	Production	1000 m ³	104 C	98 C		100	100
	Imports	1000 m ³	86 C	79 C		75	75
	Exports	1000 m ³	57 C	54 C		50	50
	Apparent consumption	1000 m ³	132	123		125	125
6.1.NC.T	of which, tropical veneer sheets						
	Production	1000 m ³	0 N	0 R		0	0
	Imports	1000 m ³	19	17		15	15
	Exports	1000 m ³	7	6		5	5
	Apparent consumption	1000 m ³	12	12		10	10
6.2	PLYWOOD						
	Production	1000 m ³	135 C	148 C		140	140
	Imports	1000 m ³	1.338 C	1.352 C	1.338	1.320	1.320
	Exports	1000 m ³	297 C	308 C	306	300	300
	Apparent consumption	1000 m ³	1.176	1.192		1.160	1.160
6.2.NC.T	of which, tropical plywood						
	Production	1000 m ³	16	21		20	20
	Imports	1000 m ³	136	140		140	140
	Exports	1000 m ³	33	30		30	30
	Apparent consumption	1000 m ³	119	130		130	130
6.3	PARTICLE BOARD (including OSB)						
	Production	1000 m ³	6.806 N	6.760	6.808	6.480	6.500
	Imports	1000 m ³	2.502	2.705	2.654	2.575	2.550
	Exports	1000 m ³	2.264	2.185	2.171	2.165	2.200
	Apparent consumption	1000 m ³	7.045	7.281	7.291	6.890	6.850
6.3.1	of which, OSB						
	Production	1000 m ³	1.253	1.143		1.080	1.100
	Imports	1000 m ³	470	524		550	550
	Exports	1000 m ³	544	458		450	470
	Apparent consumption	1000 m ³	1.179	1.208		1.180	1.180
6.4	FIBREBOARD						
	Production	1000 m ³	5.119 C	5.213 C		5.000	5.000
	Imports	1000 m ³	1.197 C	978 C		1.020	1.000
	Exports	1000 m ³	3.149 C	3.125 C		3.300	3.150
	Apparent consumption	1000 m ³	3.167	3.066		2.720	2.850
6.4.1	Hardboard						
	Production	1000 m ³	2.284	2.274		1.800	1.800
	Imports	1000 m ³	157	150		610	600
	Exports	1000 m ³	1.343	1.331		1.800	1.750
	Apparent consumption	1000 m ³	1.098	1.094		610	650
6.4.2	MDF (Medium density)						
	Production	1000 m ³	1.454	1.503		3.200	3.200
	Imports	1000 m ³	392	406		410	400
	Exports	1000 m ³	1.311	1.373		1.500	1.400
	Apparent consumption	1000 m ³	534	536		2.110	2.200
6.4.3	Other fibreboard						
	Production	1000 m ³	1.381 N	1.435 N			
	Imports	1000 m ³	649	422			
	Exports	1000 m ³	495	421			
	Apparent consumption	1000 m ³	1.534	1.436			
7	WOOD PULP						
	Production	1000 m.t.	2.610 C	2.597 C		2.520	2.550
	Imports	1000 m.t.	4.975 C	4.751 C		4.780	4.800
	Exports	1000 m.t.	1.272 C	1.314 C		1.240	1.250
	Apparent consumption	1000 m.t.	6.313	6.034		6.060	6.100
10	PAPER & PAPERBOARD						
	Production	1000 m.t.	22.401 C	22.540 C		22.480	22.600
	Imports	1000 m.t.	10.995 C	11.419 C		11.830	11.800
	Exports	1000 m.t.	13.527 C	13.685 C		13.820	13.700
	Apparent consumption	1000 m.t.	19.869	20.274		20.490	20.700
4.1	WOOD PELLETS						
	Production	1000 m.t.	2.208 N	2.078	2.078	2.150	2.300
	Imports	1000 m.t.	547	370	395	350	400
	Exports	1000 m.t.	720	627	666	600	600
	Apparent consumption	1000 m.t.	2.034	1.821	1.807	1.900	2.100

Please return (preferably by e-mail) to Timber Section no later than 2 October 2015.

By e-mail to stats.timber@unece.org. By fax to +41 22 917 0041

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.