

Voluntary Report – Voluntary - Public Distribution

Date: July 13, 2022

Report Number: E42022-0049

Report Name: EU Wood Pellet Annual

Country: European Union

Post: The Hague

Report Category: Biofuels, Wood Products

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Report Highlights:

In 2021, EU wood pellet consumption hit a new record of 23.1 million metric tons (MMT) mainly due to increased residential use in Germany and co-firing of wood pellets with coal in the Netherlands. In 2022, EU demand is expected to further grow to 24.3 MMT, based on expansion of the residential markets, mainly in Germany and France, boosted by support programs for the installation of biomass boilers and the high price of fossil fuels. EU demand for pellets has significantly outpaced domestic production for the past ten years, and it has resulted in increased imports from mainly Russia, the United States, Belarus, and Ukraine. Following Russia's invasion of Ukraine, the wood pellet imports from Russia were banned by the EU beginning in April 2022. The broader biofuels market reporting is contained in the separate FAS GAIN report: EU Biofuels Annual 2022.

I. Summary

Policy and Programs

In 2018, the European Union (EU) adopted the [Renewable Energy Directive II \(REDII\)](#). Most of the provisions of the REDII entered into force on January 1, 2021, and EU Member States (MS) were required to transpose the REDII into national legislation by June 30, 2021. It set a new overall renewable energy target of 32 percent by 2030. With the REDII, the EU expanded the sustainability criteria to cover forestry biomass. The European Commission (EC) is still working on secondary legislation to implement the new rules. In 2019, the EC presented its [Communication on the European Green Deal](#) which aims to make the EU carbon neutral by 2050. As part of the Green Deal, the EC proposed a revision of the REDII and a new regulation on deforestation-free supply chain requirements that could affect the wood pellets market.

EU Wood Pellet Market Developments

Consuming 23.1 million metric tons (MMT) of pellets in 2021, the EU is the world's largest wood pellet market. In 2021, EU consumption increased mainly due to increased residential use in Germany and co-firing of wood pellets with coal in the Netherlands. In 2022, EU demand is expected to further expand to 24.3 MMT, driven by expansion of the residential markets mainly in Germany and France. In France this is mostly a result of the high prices of fossil fuels. In Germany, the market benefits from government programs that indirectly support wood pellet consumption for newly erected buildings and retrofitting heating systems with biomass boilers in existing buildings. Industrial demand for pellets is forecast to increase only slightly in 2022, as the Netherlands (the main market) has nearly reached the targeted level set by the Dutch government. A potential large market for industrial use is Germany, but the country currently does not support the use of wood for biopower. EU demand for pellets has significantly outpaced domestic production for the past ten years. This has resulted in increased imports from mainly Russia, the United States, Belarus, and Ukraine. In 2021, EU wood pellet imports totaled 5.4 MMT, with a value of \$924 million. With Russia's invasion of Ukraine, the wood pellet imports from Russia, Belarus, and Ukraine are significantly affected. On the longer term, third country trade could also be affected by the implementation of sustainability requirements by the EC and individual EU Member State governments.

II. EU Biomass Policy

EU Policy Response to the War in Ukraine

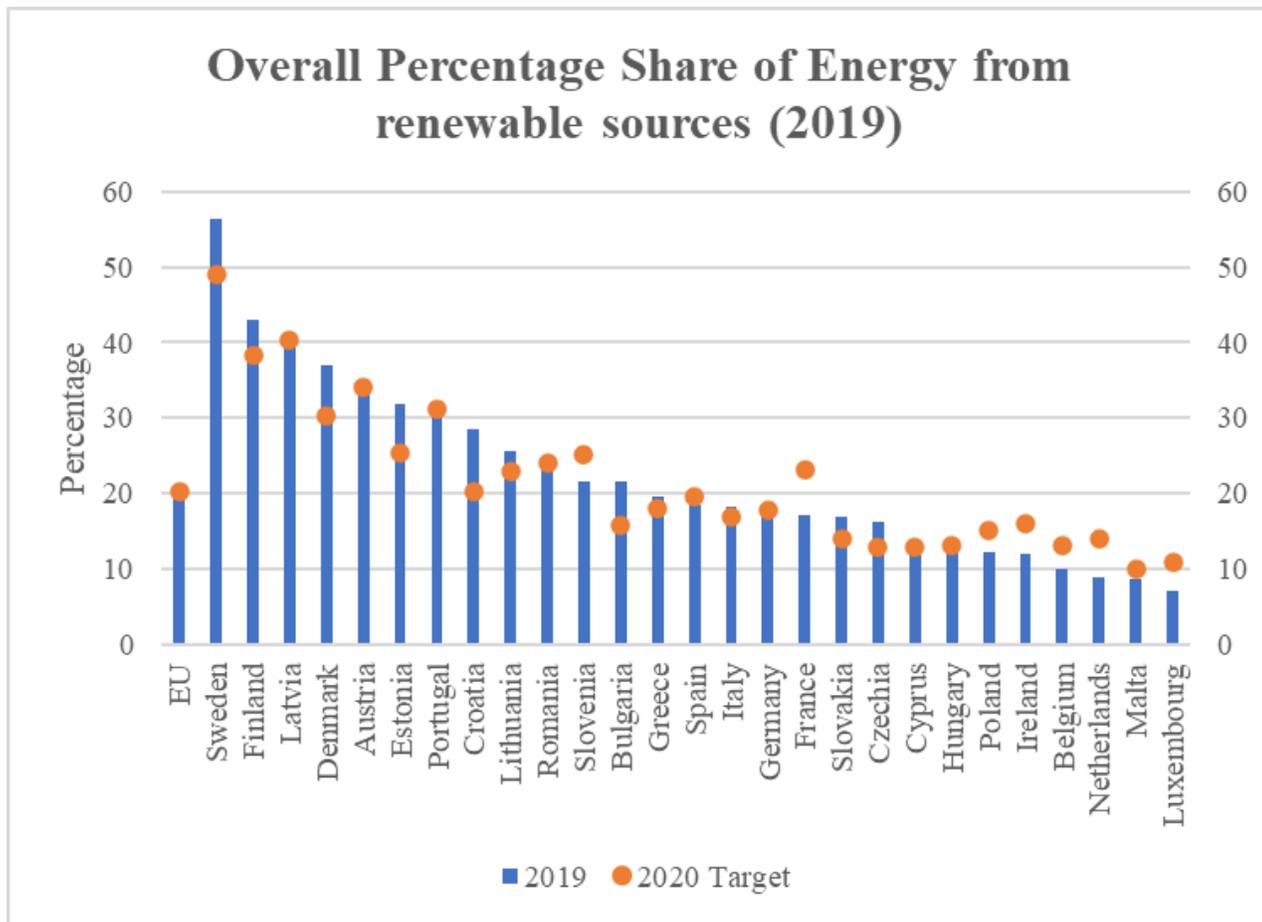
On April 8, 2022, EU agreed on a fifth package of restrictive measures against Russia. As part of this package, the EU adopted import bans through [Council Regulation \(EU\) 2022/576 of 8 April 2022 amending Regulation \(EU\) No 833/2014](#). This Regulation states that "It shall be prohibited to purchase, import, or transfer, directly or indirectly, goods which generate significant revenues for Russia thereby enabling its actions destabilizing the situation in Ukraine, as listed in Annex XXI into the Union if they originate in Russia or are exported from Russia." This includes wood pellets, which means that wood pellets from Russia are now banned from entering the EU market.

The EU's Renewable Energy Directive (RED)

The [EU Energy and Climate Change Package \(CCP\)](#) ran from 2010 to 2020. The [RED](#), which was part of the CCP package, entered into force on June 25, 2009, and expired on December 31, 2020. The CCP required the EU to achieve a binding target whereby 20 percent of its overall energy use would be powered from renewable sources by 2020. For more information about the RED, please see the [Biofuels Annual Report of 2020](#).

The Renewable Energy Directive II (the REDII)

The RED was repealed on July 1, 2021. The EU adopted the new RED for the period 2021-2030 (the REDII) in 2018. Most of the provisions of [Directive 2018/2001](#) entered into force on January 1, 2021. The EU Member States (MS) were required to transpose the REDII by June 30, 2021, into national legislation. This work is largely unaccomplished.



Source: Eurostat and European Commission.

Uptake of Renewables in the EU

In October 2021, the European Commission (EC) published a report on [the State of the Energy Union 2021](#). The share of renewable energy sources in the overall EU energy mix is expected to have reached at least 22 percent, ahead of the 20 percent target set by the RED. The latest available data for the year

2019 indicates that the EU, and the majority of MS, were on track to achieve the targets (taking in account a multiplying factor is used for specific renewable energy categories).

The REDII Sustainability Criteria

To qualify for counting towards the REDII targets, biomass consumed in the EU must comply with strict sustainability criteria provided in Article 29 of the REDII. The country in which forest biomass was harvested must have laws applicable in the area of harvest as well as monitoring and enforcement systems in place. Forestry biomass will also need to follow land-use, land-use change and forestry (LULUCF) criteria - notably with regard to the existence of management systems to ensure that carbon stock and sink levels in the forest are maintained or strengthened over the long term. Sustainability will be assessed at the country level or at sourcing area level. On March 31, 2021, the EC published a [draft implementing regulation](#) establishing operational guidance on the necessary evidence for demonstrating compliance with the sustainability criteria for forest biomass from Article 29 of REDII. The final text of the regulation is still pending.

The sustainability criteria apply to plants with a total rated thermal input above 20 megawatts (MW) for installations producing power, heating, cooling, or fuels from solid biomass fuels and to plants with total rated thermal input capacity equal to or exceeding 2 MW for installations using gaseous biomass fuels.

Compliance with Sustainability and GHG Emission Saving Criteria - Voluntary schemes

Voluntary schemes and national certification schemes of EU MS help to ensure that biomass is sustainably produced by verifying that they comply with the EU sustainability criteria.

Following the entry into force of the REDII, voluntary schemes recognized under RED must adjust the certification approaches to meet the new requirements. More information about the recognition process for the voluntary schemes can be found on the EC [website](#). The updated assessment protocol has also been made [public](#).

Additional National Sustainability Requirements

Recognition by the EC is not a pre-requisite for certification. EU countries may accept evidence from voluntary schemes or national certifications schemes not recognized by the EC if the competent authorities in those countries are confident about the quality of the certification services provided by these schemes. The REDII allows MS to establish additional sustainability criteria for biomass fuels. Before December 31, 2026, the EC will assess the impact of such additional criteria on the internal market, accompanied, if necessary, by a proposal to ensure harmonization at EU-level (for more information see the Wood Pellet Market Developments section).

The European Green Deal

EU Climate Law

On December 11, 2019, the EC presented its [Communication on the European Green Deal](#). On July 9, 2021, Regulation 2021/1119, also known as the [EU Climate Law](#), was published in the EU's Official Journal. The Climate Law enshrines a legally binding target of net zero greenhouse gas emissions by 2050. EU Institutions and MS are bound to take the necessary measures at the EU and national level to meet the target. The Climate Law includes measures to keep track of progress and adjust EU's actions accordingly. The text also includes a reduction of net greenhouse gas (GHG) emissions by at least 55

percent compared to 1990 levels by 2030. The law also includes a process for setting a 2040 climate target.

The Fit for 55 Package

To achieve the European Green Deal objective of climate neutrality by 2050 and a 55 percent reduction of net GHG emissions compared to 1990 levels by 2030, the EC released its [‘Fit for 55’ legislative package](#). As part of this package, the EC proposes to amend the RED. The [proposal](#) foresees updating the 2030 targets with a new overall renewable energy target of 40 percent. The proposal also seeks to amend Article 29 of the 2018 RED that outlines the sustainability and GHG emissions saving criteria for biofuels, bioliquids and biomass fuels. The EC wants to include wood pellets in the scope of Article 29 (3) and (4) of REDII that bans the use of feedstock coming from primary forest, highly biodiverse forest, highly biodiverse grassland, wetlands, and continuously forested area. The proposal adds a reference to the biomass cascading principle and requires MS to ensure that support schemes promoting bioenergy are designed in accordance with the biomass cascading principle¹. The EC also proposes to widen the scope of the sustainability criteria to more installations producing electricity, heating, and cooling. The EC proposes applying the criteria to all installations with a total rated thermal input equal to or exceeding 5 MW in the case of solid biomass fuels and equal to or exceeding 2 MW for heating and cooling. The revision of the RED is going through the EU legislative process and can still be amended.

Deforestation-Free Supply Chain Initiative

In November 2021, as part of the European Green Deal, the EC published a proposal for legislation aimed at preventing products causing deforestation or forest degradation from entering the EU market. The proposal targets commodities identified by the EC as the main drivers of agricultural expansion leading to deforestation, including wood products such as wood pellets. The proposal would impose mandatory due diligence rules for companies wanting to place these commodities on the EU market. The proposed legislation also introduces a benchmarking system to assess countries and their level of risk of deforestation and forest degradation driven by the commodities in the scope of the regulation. The risk level assigned to each country through the benchmarking system (low, standard, or high) will determine the level of scrutiny applied to the relevant products it exports to the EU. For more information about the proposal, please see GAIN Report [EU Commission Proposes Rules to Curb Deforestation Linked to Agricultural Production](#).

If adopted, this legislative proposal will impact wood product imports into the EU and potentially global trade flows because EU importers will have to purchase products that comply with the new EU requirements. The proposal is currently going through the EU legislative process and can still be amended.

The EU Taxonomy for Sustainable Activities

In June 2020, in order to meet the EU’s climate targets for 2030 and reach the objectives of the European Green Deal, the EC adopted the [Taxonomy Regulation](#). This Regulation establishes the framework for an EU taxonomy for sustainable activities by setting out four overarching conditions that an economic activity has to meet in order to qualify as ‘environmentally sustainable’. The Taxonomy Regulation aims to act as a screening mechanism to define sustainable activities to steer private investment to activities the EC deems sustainable. It creates three different categories: sustainable

¹ The cascading principle aims to achieve resource efficiency of biomass use through prioritizing biomass material use to energy use wherever possible, increasing thus the amount of biomass available within the system.

activities, transitional activities, and enabling activities. The taxonomy includes bioenergy activities, and the EC classifies crop-based biofuels and forestry biomass as sustainable activities. More information can be found in GAIN Report: [Commission Adopts Taxonomy for Green Investments](#).

Brexit

The agreement on the withdrawal of the United Kingdom (UK) from the European Union (EU) entered into force on February 1, 2020. This agreement provided for a transition period, which ended on December 31, 2020. During the transition period, EU law was applicable to and in the UK. On December 24, 2020, the EU and UK negotiators reached [an agreement](#) that sets out the rules on the new partnership between the EU and UK which started to apply from January 1, 2021. More information: https://ec.europa.eu/info/relations-united-kingdom/new-normal/consequences-brexit_en. The UK was the largest industrial market for pellets in Europe. Please see GAIN reporting from FAS London on the specifics of the UK wood pellet market, as this now is a separate report from the EU report.

III. EU Wood Pellet Market Developments

EU Production, Supply and Demand Table

In the European Union (EU), nearly 60 percent of the renewable energy consumed is generated by bioenergy. Of this, approximately 70 percent is contributed by solid biomass (source: Bioenergy Europe based on Eurostat statistics). The biomass is sourced from the agricultural and related food processing sector and the forestry sector. Wood chips and pellets are increasingly used as input for renewable heat and power production. Because wood pellets are generally traded over longer distances than chips, this report is restricted to the wood pellet market.

Calendar Year	2014	2015	2016	2017	2018	2019	2020	2021 ^e	2022 ^f
Beginning Stocks	304	569	762	1,078	957	1,128	1,067	1,317	1,107
Production	13,892	14,641	14,178	14,957	15,772	18,668	19,209	19,700	20,200
Imports	2,966	2,556	2,523	3,012	3,906	4,192	4,681	5,428	6,000
Exports	1,013	1,517	944	900	994	1,193	1,170	2,210	2,250
Consumption	15,580	15,487	15,441	17,190	18,513	21,728	22,469	23,128	24,300
Ending Stocks	569	762	1,078	957	1,128	1,067	1,317	1,107	757
Production Capacity									
Number of Plants	NA	NA	630	700	710	NA	NA	NA	NA
Nameplate Capacity	18,220	20,220	21,640	22,570	23,090	23,710	24,700	25,450	25,800
Capacity Use (%)	76.2	72.4	65.5	66.3	68.3	78.7	77.8	77.4	78.3

Sources: Eurostat, Bioenergy Europe, Trade Data Monitor, and FAS Post Estimates. e=estimate f=forecast.

NA=not available. Note: historic EU27 statistics don't fully match historic statistics of the EU28 and the United Kingdom based on the switch of source from EU MS statistics to Eurostat data.

The EU is the world’s largest wood pellet market and consumed 23.1 million metric tons (MMT) of pellets in 2021. Based on European Commission’s (EC) mandates and EU Member States (MS) incentives, demand is expected to further expand to 24.3 MMT in 2022. Future consumption will significantly depend on a range of market factors, such as weather conditions and the price level of coal, heating oil, and natural gas, and on the longer term, EU MS incentives and conditions to support the use of wood pellets as a renewable energy source.

Consumption

While the EU accounts for 45 percent of world production, EU demand represents 55 percent of the global market. Residential (below 50 kW) and small-to-medium scale commercial (more than 50 kW) use of pellets represents approximately 70 percent of EU pellet consumption, leaving 30 percent for large scale industrial use of pellets, with a capacity of generally more than 5 MW, according to Bioenergy Europe. The major users of wood pellets in the EU are Italy, the Netherlands, Germany, Denmark, France, Sweden, Belgium, and Austria (in declining order of importance).

The COVID-19 crisis had a limited effect on total EU pellet consumption in 2020 and 2021. The EU MS lockdown measures have predominantly restricted transport activities resulting in a reduction in liquid biofuel use. Solid biomass applied for heat and power has been less affected, save for a shift from office to residential use. However, lower than anticipated industrial use led to increased stocks in 2020. Since the autumn of 2021, rising prices of fossil fuels (such as diesel oil and natural gas) boosted the demand for wood pellets. With Russia’s invasion of Ukraine, fossil fuel prices increased to even higher levels. Now the availability of pellets has been restricted as a large share is generally imported from both Russia and Ukraine (for more information see the trade section of this report).

Table 2. EU27 Main Pellet Consumers (1,000 MT)

Calendar Year	2015	2016	2017	2018	2019	2020^e	2021^e
Italy	3,300	3,200	3,400	3,300	3,400	3,400	3,400
Netherlands	120	190	360	610	1,240	2,560	2,900
Germany	1,760	2,000	2,085	2,195	2,190	2,240	2,900
Denmark	2,500	2,570	3,160	3,075	3,000	2,800	2,750
France	908	1,207	1,335	1,430	1,800	1,900	2,100
Sweden	1,650	1,605	1,530	1,785	1,730	1,500	1,600
Belgium	1,600	1,340	1,375	1,490	1,550	1,500	1,200
Austria	850	895	960	950	930	1,015	1,190
Total	15,487	15,441	17,190	18,513	21,728	22,469	23,128

Source: Bioenergy Europe and Member State sector organisations, e = estimate EU FAS Posts

Residential Use of Pellets

Residential use for heating, between 25 and 30 percent of the total pellet market, fluctuates annually, but is a relatively stable market compared to industrial heat and power generation. Demand depends on the winter temperatures and fossil fuel prices. Medium-sized users of pellets (by industries or public buildings such as hospitals and swimming pools) are generally less dependent on weather conditions. The MS with a large residential market for wood pellets are Italy, Germany, France, Austria, Sweden,

and Spain. Most are also important producers of wood pellets, except for Italy, which is the largest European market for household use of pellets and a major importer.

Buoyed by the high heating oil and natural gas prices, residential use of pellets is forecast to further increase in 2022. This forecast is demonstrated by the increased sales of pellet stoves (mainly in Spain, France, and Italy) and pellet boilers (mainly in Germany, France, and Austria). The increased domestic demand is anticipated to outpace the expansion of domestic production in several traditional pellet producing countries such as France, Austria, and Finland, and in countries of which the pellet sector just recently took off, such as in the Czech Republic and Bulgaria.

Sales of pellet stoves and boilers are supported by the phasing out of incentives for fossil fuels in the heating sector and subsidizing renewable alternatives, according to Bioenergy Europe. Incentives for residential bioenergy are provided in Sweden, Germany, Austria, France, Spain, the Czech Republic, Poland, and Bulgaria. Germany supports the use of wood for heat generation and German law mandates that all buildings erected after 2009 have to use a certain share (depending on the form of energy used) of renewable energy to satisfy their heating/cooling requirements. Wood pellets are one of the options. Since January 2020, the replacement of existing heating systems with certain wood pellet ovens is subsidized in Germany. Generally, 35 percent of the replacement costs can be refunded. When replacing a heating system that uses fossil fuels, such as diesel oil, this percentage increases to 45 percent.

Countries with a relatively underdeveloped wood pellet market include Hungary and Greece. Biomass has a dominant share of renewables in Hungary, accounting for about 80 percent of the total renewable energy consumption. Regarding the country's renewable energy production, mostly firewood and other solid biomass such as wood industry waste, municipal waste, and agricultural byproducts (corn and sunflower husk and stem, oilseed cake, etc.) are used as feedstock. The Greek wood pellet market is small (approximately 40,000 MT). Specifically, according to a Ministerial Degree of 1993, a very large part of the Greek population could not choose biomass as their energy source for space heating. This restriction ended in 2011 to boost the biomass consumption throughout the country, but the market remains small compared to other MS in the Balkan region.

Industrial Use of Pellets

In markets such as the Netherlands, Denmark, and Belgium, residential use is relatively small and the demand for wood pellets is dominated by large scale power plants. These countries opted to fulfill their obligations for renewable energy use using biomass for the generation of electricity. In case of pellet demand, they largely depend on imports as they lack sufficient domestic production. A potential large market for foreign suppliers is Germany, but the country currently does not support the use of wood or wood pellets for electricity generation. The inclusion of wood pellets in the support program for energy transition away from coal is being discussed but has not been finalized.

With Brexit, the largest industrial market for pellets in Europe (the United Kingdom) left the EU. Now the Netherlands is the primary EU market. In 2021, the Netherlands imported a record 2.83 MMT of wood pellets with a value of \$517 million. The United States is the top supplier to the Netherlands, with a volume of 1.2 MMT, and a value of nearly \$223 million. With this value, the Netherlands is also the second largest destination for U.S. wood pellets, after the United Kingdom and surpassing Belgium and Denmark. Most of the wood pellets are used by Dutch power plants and co-fired with coal. All the

imported wood pellets which are used for renewable energy generation funded by the Dutch government are subject to stringent sustainability requirements.

On April 22, 2022, the Dutch government laid out their policy for the application of biomass to the Dutch Parliament. The government will support the application of biomass for high value applications, uses which have no renewable alternative, and applications by which carbon is stored. The Dutch Cabinet confirmed it will phase out its support for the applications for low value purposes (i.e., biopower and low temperature heat) and will advocate for stricter sustainability criteria at the EU level. Dutch pellet imports are estimated to stagnate around 3 MMT in 2022. For more information, see the GAIN Report - [Dutch Government Lays Out New Biomass Policy](#), published on April 29, 2022.

The second largest industrial pellet market is Denmark. On May 19, 2020, the EC approved a [€550 million state aid scheme](#) to support the production of electricity by Danish biomass installations. The scheme will be in place until December 31, 2029. The goal of the program is to phase out coal and generate 55 percent of electricity from renewable energy by 2030. Most of the Danish large-scale combined heat and power (CHP) plants have now converted from fossil fuels to woody biomass. Based on the approved funding, the consumption of woody biomass for heat and power is guaranteed and expected to remain unchanged by the [Danish Energy Agency](#) (DEA). A large portion of the pellets consumed in Denmark are imported. During the past five years, the share of U.S. wood pellets of total Danish pellet imports (about \$500 million) ranged from six to twenty percent. The majority of Danish pellet imports are sourced from the Baltic Region, such as Estonia, Latvia, and Lithuania. This year, a higher share of the Baltic wood pellet production is forecast to remain in the Baltics due to an increased domestic demand as a result of the EU ban on Russian gas.

To further reduce carbon dioxide (CO₂) emissions, or even make them negative, Denmark is examining the option to capture and store the CO₂ output of the bioenergy installations, also known as bioenergy carbon capture and storage (BECCS). The Danish Council on Climate Change - a climate advisory board to the government - has [estimated](#) the reduction potential for CCS technology on Danish biomass CHP plants to be between 1.0 and 2.45 MMT of CO₂ per year towards 2030. The Danish Economic Council - an independent advisory body - [estimated](#) that the negative emissions through BECCS account for about one-third of the total Danish reduction target for 2030.

Another important industrial pellet market is Belgium, though their industrial pellet consumption is forecast to fall. From 2012 to 2020, Belgian pellet use was estimated at about 1.5 MMT per year. Because the main bioenergy plant in Wallonia only uses recycled wood and stopped the use of pellets from fresh wood, the annual use declined to roughly 1.2 MMT in 2021.

Production

Compared to production plants in Southeastern United States that are export oriented, wood pellets plants in the EU are predominantly small or medium-sized. Most of the leading pellet producing countries (see table above) have a sizeable domestic market for residential heating pellets. Recent increases in demand for pellets has supported further increase in domestic production. Since 2017, strong expansion is reported in Germany, France, and Austria. Based on current construction of pellet plants in these three countries alone, production capacity is forecast to expand 2 MMT from 2022 to 2024.

Table 3. EU27 Main Pellet Producers (1,000 MT)

Calendar Year	2015	2016	2017	2018	2019	2020	2021^e
Germany	2,000	1,950	2,250	2,415	2,820	3,100	3,300
Latvia	1,600	1,600	1,465	1,715	2,210	2,265	2,300
Sweden	1,660	1,740	1,740	1,640	1,700	1,900	1,900
France	950	1,150	1,350	1,450	1,600	1,700	1,800
Estonia	1,080	1,210	1,440	1,340	1,600	1,630	1,700
Austria	1,000	1,070	1,225	1,345	1,440	1,540	1,610
Poland	750	800	480	410	1,105	1,070	1,100
Portugal	760	605	690	735	1,010	860	900
Lithuania	250	245	315	315	605	650	700
Spain	525	460	460	575	620	530	650
Total	14,641	14,178	14,957	15,772	18,668	19,209	19,700

Source: Eurostat (dataset Roundwood, fuelwood and other basic products), Bioenergy Europe, and Member State sector organisations, e = estimate EU FAS Posts.

While the expansion in Germany, France, and Austria is supported by increased domestic use, production in the Czech Republic, Croatia, Romania, Portugal, and the Baltics is boosted by import demand from other EU MS and the United Kingdom. In 2020, in the Czech Republic, five new pellet plants were established adding 30,000 MT to the country's total production capacity. In 2021, 526,000 MT of wood pellets were produced by the Czech pellet sector. A ten percent increase in production is expected in 2022. Croatia has the potential to employ more of their biomass resources due to large forests that occupy almost half of the land area of the country. According to the Croatian biomass producer's organization (CROBIOM), wood pellet production in Croatia was approximately 400,000 MT in 2020, from which between 80 to 90 percent was intended for export.

Portugal and Spain are also net exporters of wood pellets. In 2021, Portuguese exports reached 510,000 MT, down from the record figure of 709,000 MT achieved in 2019. The main markets are Denmark, the United Kingdom, and Spain. Post estimates the country's production at about 900,000 MT. Because the installed capacity is estimated at around 1.4 million MT of pellets, a potential exists to increase exports. The export potential of Spain is limited compared to that of Portugal. In 2021, Spain exported 104,000 MT of wood pellets on a production of about 600,000 MT. The Spanish biomass association, Avebiom estimates that production could increase to about 900,000 MT in 2022.

Wood pellet production has expanded rapidly in the Baltic Region (Latvia, Estonia, and Lithuania) over the past five years. In 2019 and 2020, exports stabilized at nearly 4.0 MMT but surged to nearly 4.7 MMT in 2021. The Baltics are producing both for the residential and industrial markets, mainly in Denmark and the United Kingdom. The price surge for firewood and wood pellets is anticipated to support production in the Baltics, but a higher share is forecast to remain in the Baltics due to an increased domestic demand as a result of the ban on Russian gas. A similar trend is reported in Poland, where pellet production is rising and are increasingly used domestically as renewable energy source.

In the EU, secondary feedstocks, such as sawdust, wood industry residues, and shavings, comprise nearly 85 percent of the raw materials used for pellet production, according to an EPC survey in 2019. With an increasing competition for sawdust resources, a broader sustainable raw material is becoming

necessary. There is increased interest in forest and agricultural residues for pellet production, but even the volume of these additional feedstocks will not be sufficient to satisfy the full demand. Overall, EU wood pellet production is not expected to be able to keep up with the increasing demand, particularly from the residential heating market.

Trade

Table 4. Main EU27 Importers of Wood Pellets (1,000 MT)

Calendar Year	Total Imports ^a		Imports from U.S.	
	2020	2021	2020	2021
Denmark	2,660	3,184	176	329
Netherlands	2,438	2,822	451	1,203
Italy	2,227	1,902	34	4
Belgium	1,326	898	573	162
France	412	659	13	154
Latvia	426	592	0	0
Austria	385	414	0	0
Germany	302	373	0	1
Poland	146	234	0	0
Total EU	-	-	1,247	1,853

Source: Trade Data Monitor (HS Code: 440131) (a) Includes EU intra-trade.

The large power utilities in the Netherlands, and Belgium are sourcing most of their pellets from non-EU suppliers, mainly Russia, the United States, and Canada, due to their location at seaports and limited domestic production. Port restrictions (size and depth) in Scandinavia favor supplies from the Baltic Sea, which are generally shipped using smaller vessels than those used in Atlantic trade. In Denmark, one plant is located at a deep seaport and is supplied from North America. The markets for pellets in Germany, Austria, and, to a lesser extent, France and Italy are more isolated and depend mostly on local and regional production.

Table 5. Main Suppliers of Wood Pellets to EU27 (1,000 MT)

Calendar Year	2016	2017	2018	2019	2020	2021
Russia	773	1,148	1,186	1,475	1,510	1,914
United States	774	940	1,259	1,295	1,247	1,853
Belarus	145	212	262	375	524	594
Ukraine	165	213	380	431	441	412
Canada	300	222	330	80	517	292
Brazil	33	50	77	147	174	196
Norway	11	23	39	13	42	54
Total	2,523	3,012	3,906	4,192	4,681	5,428

Source: Trade Data Monitor (HS Code 440131)

EU demand for pellets has significantly outpaced domestic production over the past ten years, resulting in increased imports from Russia, the United States, Ukraine, and Belarus. In 2021, EU wood pellet imports totaled 5.4 MMT with a value of \$924 million. U.S. exports to the EU totaled 1.85 MMT,

valued at \$287 million in 2021, with the Netherlands as the leading market. Following Russia's invasion of Ukraine, the wood pellet imports from Russia, Ukraine, and Belarus are significantly affected. On April 8, 2022, the EU agreed on a fifth package of restrictive measures against Russia. As part of this package, the EU adopted import bans through Council Regulation (EU) 2022/576, which means that wood pellets from Russia are now banned from entering the EU market. This ban has created an opportunity for transatlantic trade of wood pellets. In the long term, third country trade could also be affected by the implementation of sustainability requirements by the EC and individual EU MS governments. Major concerns relate to the documentation of a wider scope of the sustainability criteria, preventing primary woody biomass from counting towards EU renewable energy targets, and references to the cascading principle (for more information see the EU Biomass Policy chapter of this report).

National Pellet Sustainability Criteria

A key factor in being able to capture the demand in the EU market and benefit from its growth potential is the sustainability of the supply. European traders and end-users of industrial wood pellets are calling for clear, consistent, harmonized, and long-term government regulations. In the absence of EU-wide binding criteria for solid biomass, several EU MS (Belgium, Denmark, and the Netherlands) have developed their own rules in response to the growing use of imported wood pellets.

Under RED II, sustainability of biomass production is assessed at the sourcing level, and not at the forest-holding level, as originally proposed by the EC. EU MS may place additional sustainability requirements for biomass fuels. By December 31, 2026, the EC shall assess the impact that such additional criteria may have on the internal market to ensure harmonization of sustainability criteria for biomass fuels (for more information see the EU Biomass Policy chapter of this report).

Meanwhile, the industry is actively formulating its own criteria. For *residential wood pellets*, the European Pellet Council (EPC) developed sustainability criteria called ENplus, based on EN 14961-2. It includes sustainability requirements for the entire supply chain. For *industrial pellets*, the [Sustainable Biomass Partnership](#) (SBP) developed a sustainability scheme based on existing programs, such as the Forest Stewardship Council (FSC) or Program for the Endorsement of Forest Certification (PEFC). The SBP made their program compliant with the current requirements in the UK, Denmark, Belgium, and the Netherlands.

Appendix - Related Reports from FAS USEU and FAS Posts

Country	Title	Date
EU	Biofuels Annual 2022	07/22
Netherlands	Dutch Government Lays Out New Biomass Policy	04/29/22
Germany	Fuel of the Future Congress Concludes Biofuels are Indispensable for Reaching EU Climate Goals	03/02/22
Netherlands	Sustainable Marine and Aviation Fuels in Northern Europe	12/13/21
EU+UK	Biofuels Annual 2021	06/22/21
EU	EC Adopts its EU Taxonomy for Green Investments	05/14/21
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Disclaimer: This report presents the situation and outlook for biofuels in the EU. This report presents the views of the authors and does not reflect the official views of the U.S. Department of Agriculture (USDA). The data are not official USDA data. Official government statistics on biofuels are not available in many instances. This report is based on analytical assessments, not official data.

Attachments:

No Attachments.