



Wood pellet production and export of Vietnam

Current dynamics and market trends

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Key findings

- Korea and Japan are the two largest wood pellet import markets of Vietnam. The volume of wood pellets exported from Vietnam to these two countries accounts for over 95% of the total volume of wood pellets exported from Vietnam to all markets.
- The source of raw materials for the production of pellets exported to Korea and Japan is different. Wood pellets exported to Korea are mainly made from the by-products of the wood processing industry such as sawdust, shavings, and wood chips. Enterprises exporting pellets to Korea are mainly located in the Southeast region, where furniture factories are concentrated. Pellets exported to Japan have to be made from domestic plantation timber with FSC certificate. This material is only available where there are large regions of plantation forests, especially from the Central region to the North of Vietnam.
- From the second quarter of 2022, the export market for wooden furniture has declined. The by-products of the wood processing industry used for producing wood pellets have also decreased. This creates a shortage in raw materials for pellets exported to Korea.
- The energy crisis caused by the Russian-Ukraine conflict has caused the demand and price of pellets in the world market to increase sharply. This has led to a wave of investment in wood pellet production not only in Vietnam but also in other countries. This wave has increased the competition between wood pellet enterprises in Vietnam and between Vietnamese enterprises and enterprises in other countries such as Malaysia, Thailand and Indonesia in the future.
- At the beginning of 2023, the Korean market experienced very strong fluctuations. The price of pellets exported to Korea from Vietnam fell below 90 USD/ton (FOB) in April, which was below the production cost of many enterprises. Many, especially small-scale businesses, had to stop operating. Import volume also dropped sharply.
- In the first 5 months of 2023 (5M/2023), the volume of pellets exported from Vietnam to Korea was 0.65 million tons, equivalent to 96.1 million USD in value, dropping by 41% in volume and 45% in value compared to the same period of 2022.
- The Japanese market is highly stable in terms of both quantity and price. In the first 5 months of 2023, the amount of pellets Vietnam exported to Japan reached 0.87 million

tons, with a value of 151 million USD. The export volume decreased by 5.7% while the export value increased by 19.7% compared to the same period of 2022.

- It is forecasted that in the final months of 2023, Vietnam's production and export of wood pellets will not have much change. Specifically, (a) The volume and price of exports to Korea will increase, following the current momentum, but will not increase dramatically; (b) The volume and price of exports to Japan are stable; (c) Competition for raw materials to produce pellets for exporting to Korea will continue to increase because the export market for wood products has not shown any signs of recovery.

Background

Vietnam has now become the second largest wood pellet producer in the world, only after the United States. Most of the pellets produced in Vietnam are exported, with over 95% of the export volume going to Korea and Japan as input materials for power generation. A small amount is consumed domestically in Vietnam as fuel for boilers, kilns, etc. From 2013 to 2022, the volume and value of Vietnam's pellet export increased by 28 and 34 times respectively. According to the General Department of Customs, in 2022, Vietnam exported 4.9 million tons with a turnover of 0.79 billion USD. In the first five months of 2023 (5M/2023), the export volume reached 1.57 million tons while export value reached about 256.5 million USD. Exports are currently on the rise.

The world's demand for pellets will increase by about 250% in the next decade, reaching 36 million tons from 14 million tons in 2017. In recent years, demand has increased mainly in European countries, Japan and Korea¹. However, Vietnam's pellet industry has the opportunity to expand the market when consumption demand in Vietnam begins to show signs of rapid growth because the Government is making efforts to fulfill its commitments to reduce greenhouse gas emissions and use clean energy, including pellets to replace coal in energy production. The Power Masterplan VIII, which was approved by the Government on May 15, prioritizes the development of renewable energy sources, including biomass power to replace high-emission coal power. Therefore, the demand for wood pellets in the domestic market may expand very quickly in the future.

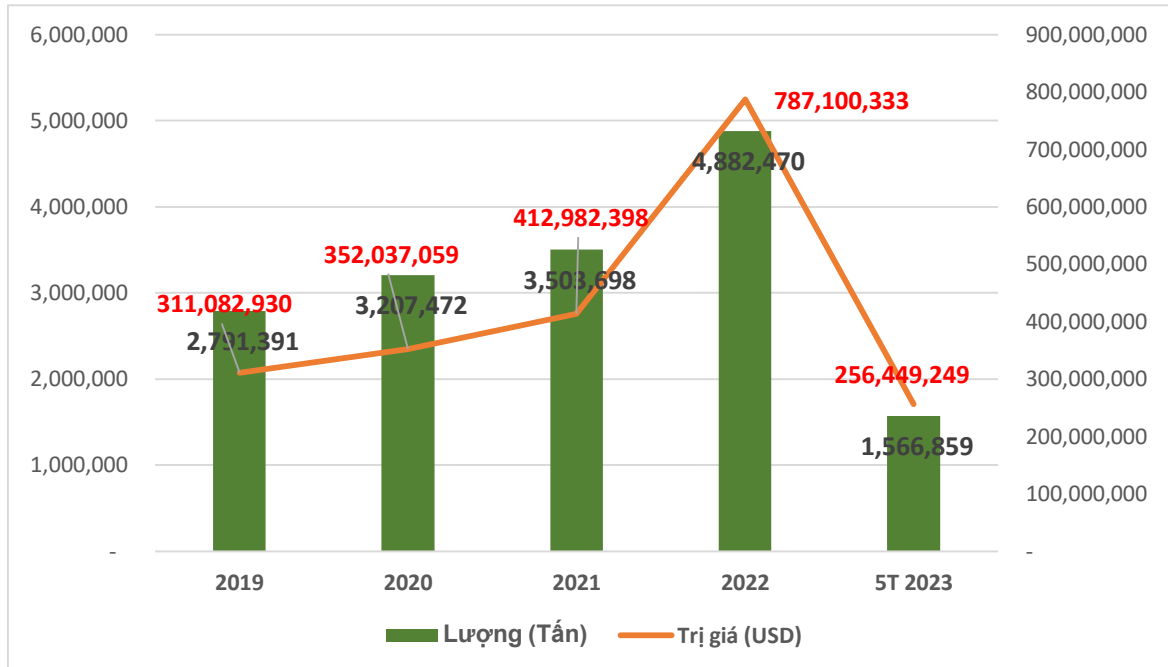
This bulletin provides recent updates on the Vietnam's wood pellet exports, focusing on market changes in the first five months of 2023. The statistics on export volume and value are compiled by the Research group of Forest Trends and timber associations based on the trade data of the General Department of Vietnam Customs. Qualitative information on recent export market dynamics and market trends in the near future is collected from discussions with leaders of the wood pellet sub-association and information from other trusted sources. Opinions in the bulletin are of the authors.

¹Forest Trends Newsletter: Production and export of tablets in Vietnam Status and some aspects to be concerned about July 2021

Vietnam's wood pellet export by the end of 5M/2023

Figure 1 shows the volume and value of pellets exported from Vietnam from 2019 to the end of 5M/2023. In 2022, exports increased sharply when the export volume reached nearly 4.9 million tons and the export value reached 0.79 billion USD.

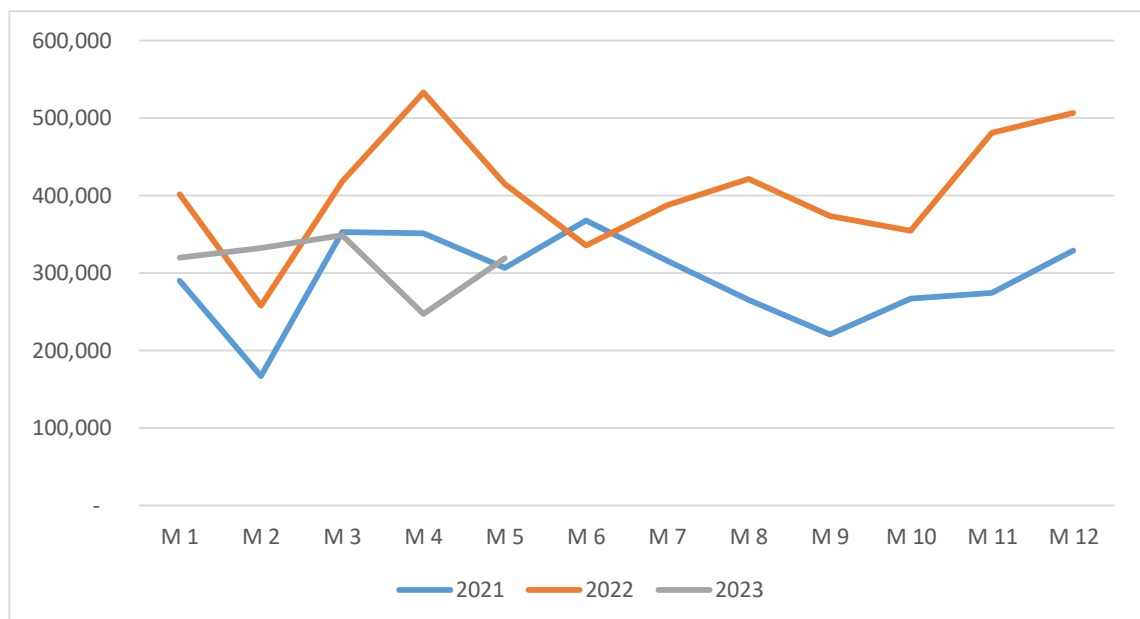
Figure 1. Export volume and value of wood pellets of Vietnam in the period of 2019 – 5M/2023



Source: Data of the General Department of Vietnam Customs, calculated by the Research group of timber associations and Forest Trends

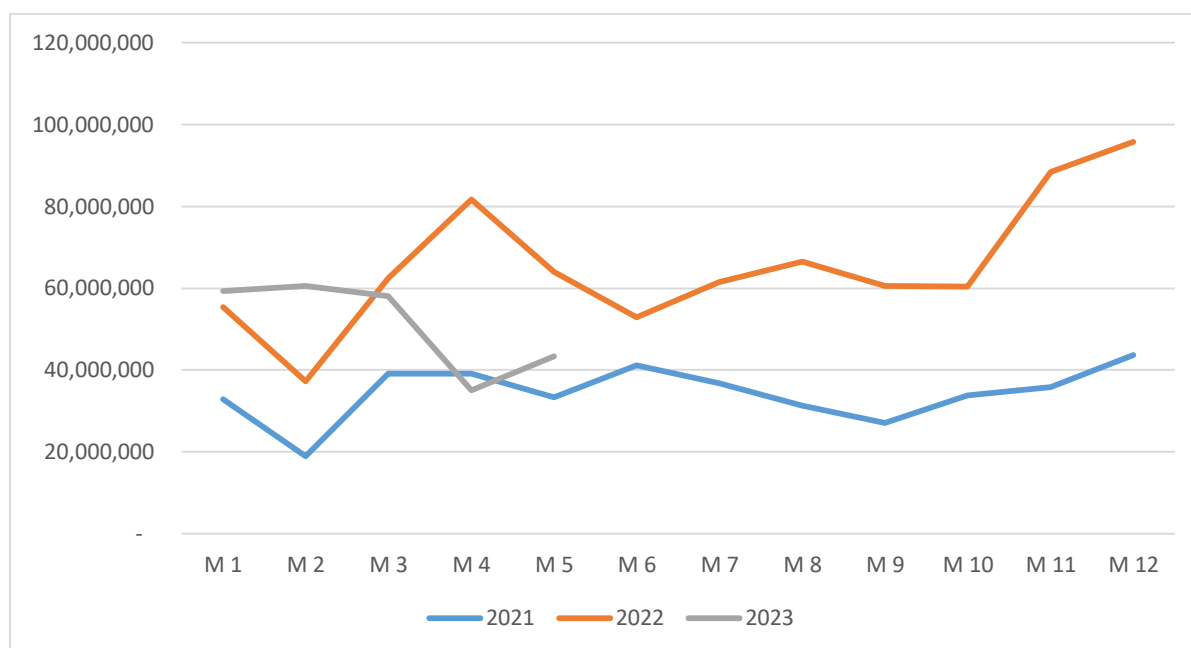
The monthly volume and value of Vietnam's pellet export from 2021 to the end of 5M/2023 are shown in Figures 2 and 3.

Figure 2. Monthly pellet export of Vietnam from 2021 to 5M/2023 (Unit: tons)



Source: Data of the General Department of Vietnam Customs, calculated by the Research group of timber associations and Forest Trends

Figure 3. Vietnam's monthly wood pellet exports from 2021 to 5M/2023 (Unit: USD)



Source: Data of the General Department of Vietnam Customs, calculated by the Research group of timber associations and Forest Trends

Export market

Korea and Japan are the two largest markets importing wood pellet of Vietnam. Export volume and value of this item to Korea and Japan accounted for 97% of total export volume and value from Vietnam from all markets in 2022 (Table 1).

Table 1. Export volume and value of Vietnam's pellets by market, 2022 – 5M/2023

Market	Unit	2019	2020	2021	2022	5M/2023
Korea	Ton	1,923,725	1,981,416	1,962,910	2,264,725	652,273
	USD	192,780,086	193,457,090	212,045,543	377,136,572	96,114,147
Japan	Ton	856,171	1,216,777	1,534,926	2,495,123	871,356
	USD	116,643,997	157,569,776	200,113,784	384,296,452	151,059,458
Other markets	Ton	11,495	9,279	5,862	122,622	43,229
	USD	1,658,847	1,010,193	823,071	25,667,310	9,275,644
Total	Ton	2,791,391	3,207,472	3,503,698	4,882,470	1,566,859
	USD	311,082,930	352,037,059	412,982,398	787,100,333	256,449,249

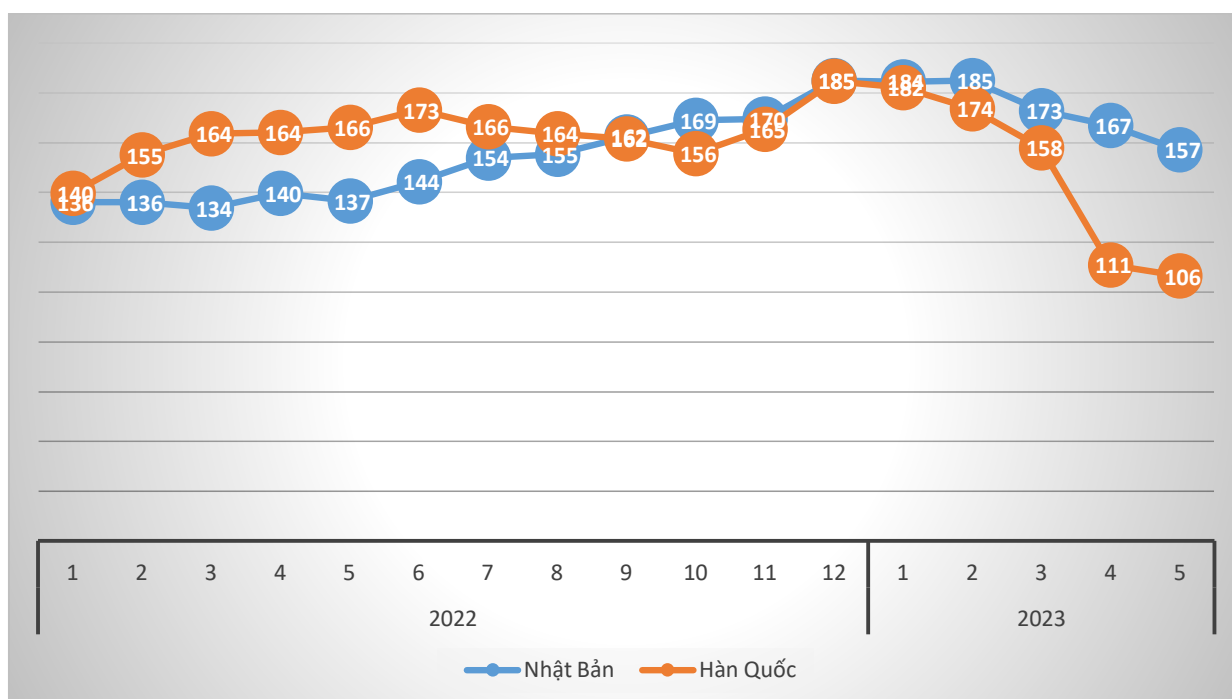
Source: Data of the General Department of Vietnam Customs, calculated by the Research group of timber associations and Forest Trends

Export price of wood pellets

The conflict between Russia and Ukraine pushed the price of pellets in the world market up sharply. The price of Vietnam's pellet exported to Korea and Japan in the first months of 2022 fluctuated around 140 USD / ton (FOB Vietnam). The price then increased sharply, reaching

180-190 USD/ton in the last months of 2022 and early 2023. The price then fell deeply, especially in the Korean market. According to some exporters, the export price in this market in June 2023 was only about 110 USD/ton while the export price in Japan was 145 - 165 USD/ton. Figure 4 shows the export prices in these two markets in 2022 and the first 5 months of 2023.

Figure 4. Pellet export prices in Korea and Japan, 2022 – 5M/2023 (Unit: USD/ton)



Source: Data of the General Department of Vietnam Customs, calculated by the Research group of timber associations and Forest Trends

Enterprises exporting wood pellets

The number of wood pellet enterprises participating in the market is increasing. According to statistics of the General Department of Customs, the number of enterprises exporting wood pellets in Vietnam has increased from 123 enterprises in 2020 to 152 enterprises in 2022 (Table 2).

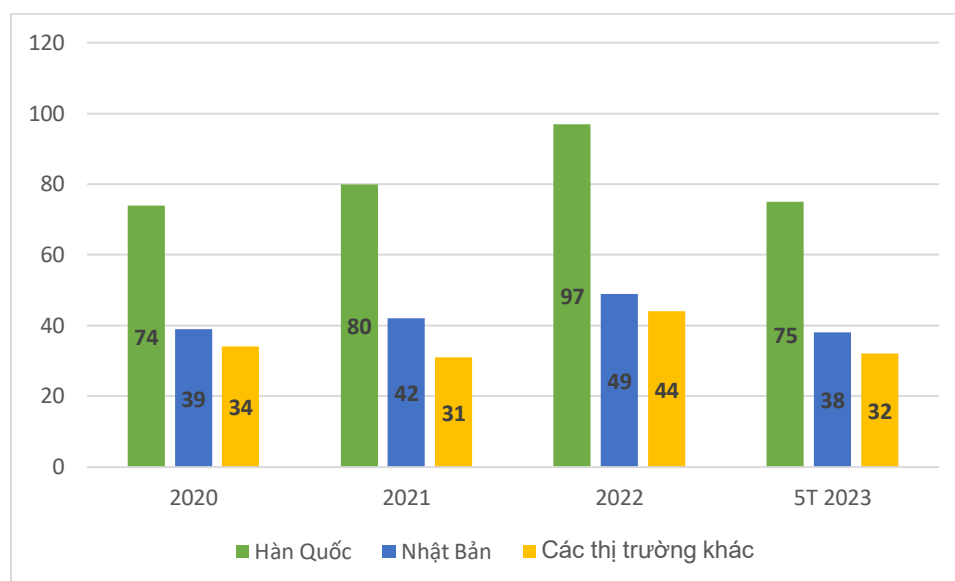
Table 2. Number of enterprises exporting wood pellets in Vietnam from 2020-5M/2023

Year	Number of exporting enterprises
2020	123
2021	125
2022	152
5M/2023	119

Source: Data of the General Department of Vietnam Customs, calculated by the Research group of timber associations and Forest Trends

The number of enterprises involved in exporting to Korea is much larger than the number of enterprises exporting to Japan (Figure 5). One of the reasons for this might be it is easier to access the Korean market than the Japanese market.

Figure 5. Number of enterprises exporting wood pellets to Japan and Korea, 2020 - 5M/2023



Source: Data of the General Department of Vietnam Customs, calculated by the Research group of timber associations and Forest Trends

Dynamics and trends of exports to Korea and Japan

Korean market

Insights from a number of exporters showed that by the end of the first 6 months of 2023, the amount of Vietnamese wood pellets exported to Korea reached about 0.8 million tons. It is expected that by the end of 2023, Vietnam's export volume to this market will reach about 1-1.5 million tons.

Vietnam is the main source of wood pellets for Korea (supplying 80% of the total demand of this market). However, at present, Korea is diversifying its supply, including imports from Russia. According to some enterprises, wood pellets from Russia are of good quality and cheap. Before the Russia-Ukraine conflict broke out, Russia exported about 3 million tons of wood pellets to the world annually, mainly to the EU. However, due to the conflict, Russia is currently under sanctions from western countries and Russian pellet companies have to face with a lot of difficulties in exporting. In this context, some Russian companies had to look for alternative markets and accepted cheap export prices to penetrate the market. However, it is expected that there will not be a sudden increase in the amount of wood pellets imported from Russia into Korea in the future. Because of sanctions imposed on Russian exports, state-owned energy companies and big Korean corporations refuse to use wood pellets from this source. Currently, there are only a few small-scale, privately owned power plants in Korea that use pellet supplies from Russia. Therefore, the potential to expand the market share of Russian wood pellets in Korea is not great.

The first few months of 2023 witnessed huge price fluctuations for Vietnamese pellets exported to Korea. The lowest import and export price (FOB Vietnam) dropped to only 78 USD/ton (April 2023). This price is estimated to be below the production price. This forced some Vietnamese pellet enterprises, especially small-scale companies without financial potential, to stop producing. In order to minimize risks for manufacturing and exporting enterprises, the Wood pellets sub-association has organized a number of practical activities, including connecting with businesses in Korea to provide more information on the current situation of production. Since then, the level of export prices began to gradually increase. The

price in early July reached about 110 USD/ton. Export prices to Korea tend to increase, however, there is no information on the velocity of increase in the near future.

The demand for wood pellets in Korea is increasing again. However, the procurement method of Korean buyers has changed a lot. Instead of buying in large quantities via bidding, buyers in Korea are now dividing up the bidding batches and buying in smaller quantities (monthly) to reduce price pressure (large purchase volume, unsold inventory).).

One of the reasons that makes the import price of wood pellets from Vietnam to Korea go up is that the price of input materials to produce wood pellets in Vietnam increases. Currently, the supply from Vietnam accounts for 80% of Korea's total imports. Unlike the raw materials for making pellets exported to the Japanese market (mainly domestic plantation timber with FSC certificate), the source of raw materials for pellets exported to Korea are mainly by-products of the wood processing industry (sawdust, shavings, bits, etc.). Because the Southeastern provinces are the places where most export wood processing enterprises are concentrated, Korean export pellet companies are also concentrated in this region. Recently, the market for timber products has dropped sharply, causing a steep cut in the source of by-products from processing. When the demand for wood pellets in Korea did not decrease, the fall in the supply of input materials for wood pellet production led to competition among manufacturing companies, pushing up the price of wood pellet materials.

Japanese market

The Japanese market is much more stable than the Korean market, with long-term orders (sales contracts are usually 10 - 15 years) currently placing exporting prices from 145 to 165 USD/ton (FOB Vietnam). Besides long-term contracts, some Japanese enterprises also signs short-term contracts with some Vietnamese suppliers. The prices under short-term contracts are often lower than those of long-term contracts (currently around \$125/ton, FOB), with products of the same quality as under long-term contracts.

Until to now (in 2023) Vietnam has exported about 1 million tons of wood pellets to Japan. All pellets exported to Japan require FSC certificate. Raw materials for pellets exported to Japan are sourced from domestic plantation forests, mainly acacia trees. This source of raw materials is different from the materials used for producing wood pellets to export to Korea.

The demand for wood pellets in Japan will increase sharply in the future. Insights from some companies said that each year, Japan uses about 8 million tons of pellets, of which 40-50% are made from oil palm kernel shells, the rest (50 - 60%) are wood pellets. It is expected that by 2030, the demand for pellets in Japan will increase to 20 million tons, of which the amount of wood pellets will account for about 13-15 million tons (the rest is oil palm kernel shell). The demand for wood pellets used in Japan will expand in the future. This is a great opportunity for Vietnamese businesses, especially those with stable input materials and sustainable certifications, large-scale production plants, and good management.

Competition in the future

Vietnam's wood pellet industry will face competition from wood pellets from other countries. When the energy crisis occurred due to the conflict between Russia and Ukraine, the price of pellets in the world increased sharply. This created a wave of investment in wood pellet production in other countries (also in Vietnam). There are already some operating factories and some more coming soon. In the future, Vietnamese businesses will have to compete with these factories, especially factories in Indonesia and Malaysia.