

**Voluntary Report** – Voluntary - Public Distribution

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**Report Name:** Spanish Wood Pellet Market Outlook 2023

**Country:** Spain

**Post:** Madrid

**Report Category:** Biofuels, Wood Pellets, Wood Products

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**Report Highlights:**

Spain is a net exporter of wood pellets. The country's pellet production hit a new record in 2022, amounting to 768,000 Metric Tons (MT). Likewise, wood pellet consumption also increased, mainly due to higher residential use and improved competitiveness against alternative energy sources, in addition to biomass tax reductions, stoves, and boiler installation incentives in place. This ultimately reduced the country's overall exportable supply, although wood pellets exports to neighboring markets, like France, expanded significantly in 2022, totaling nearly 200,000 MT.

**Disclaimer:** This report on the biomass sector situation in Spain contains 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.

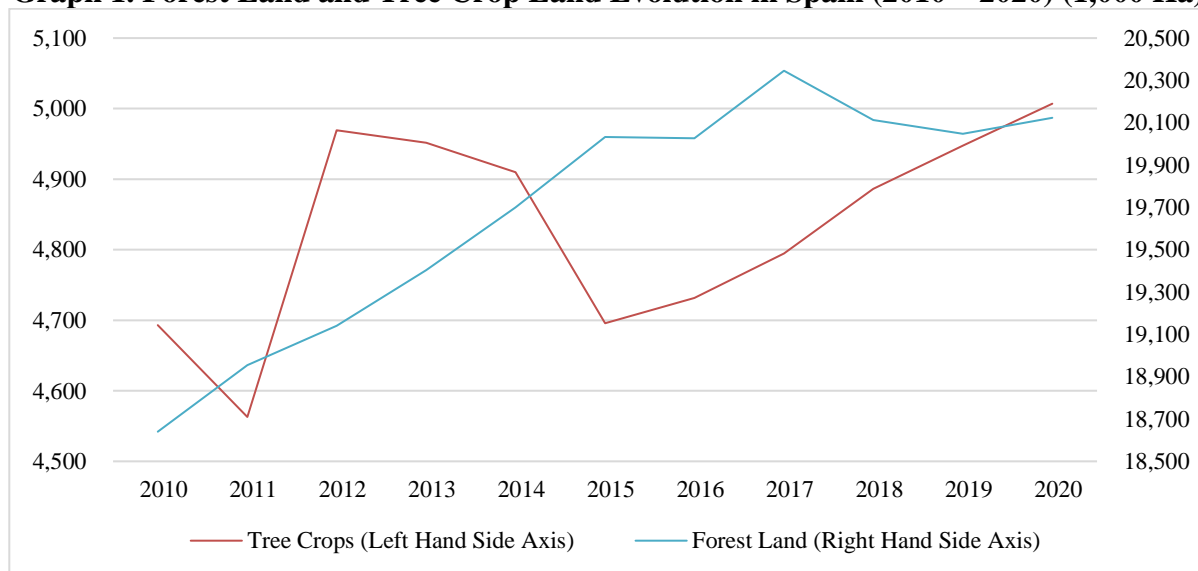
## Introduction

Spain is among the top ten European Union (EU) Member State producers of wood pellets. However, the country ranks far below in terms of consumption. To date, wood pellet production in Spain is directed at local markets, with the remainder being exported to other EU export markets, mainly for domestic heating purposes. The country’s imports come down to strategic exchanges with neighboring EU Member States, namely Portugal.

Given the amount of forest land and tree crops, which account respectively for nearly 40 and 10 percent of the country’s territory, Spain holds an enormous growth potential for energy production out of solid biomass. The country boasts 19 million hectares of forest land. In addition to the residual biomass extracted from forests, other facilities use agro-food industry waste and crop residues as a feedstock (olive kernels, tree nut shells). The remains from pruning tree crops can be potentially used as solid biomass. The solid residues from olive trees devoted for olive oil production, such as olive pits and dried cake, is increasingly used for renewable heating purposes. Tree crops in Spain are in a period of expansion and currently cover just over 5 million hectares, half of which correspond to olive tree groves.

Pellet production continues to rise and is increasingly used domestically as a renewable energy source. Main sources of biomass used for energy purposes are the forestry and agricultural and related food processing sectors. At present most of the energy produced from solid biomass comes from the forestry sector. Beyond biomass energy production, proper maintenance of Spanish forests can contribute to climate change adaptation and mitigate the incidence and extent of forest fires.

**Graph 1. Forest Land and Tree Crop Land Evolution in Spain (2010 – 2020) (1,000 Ha)**



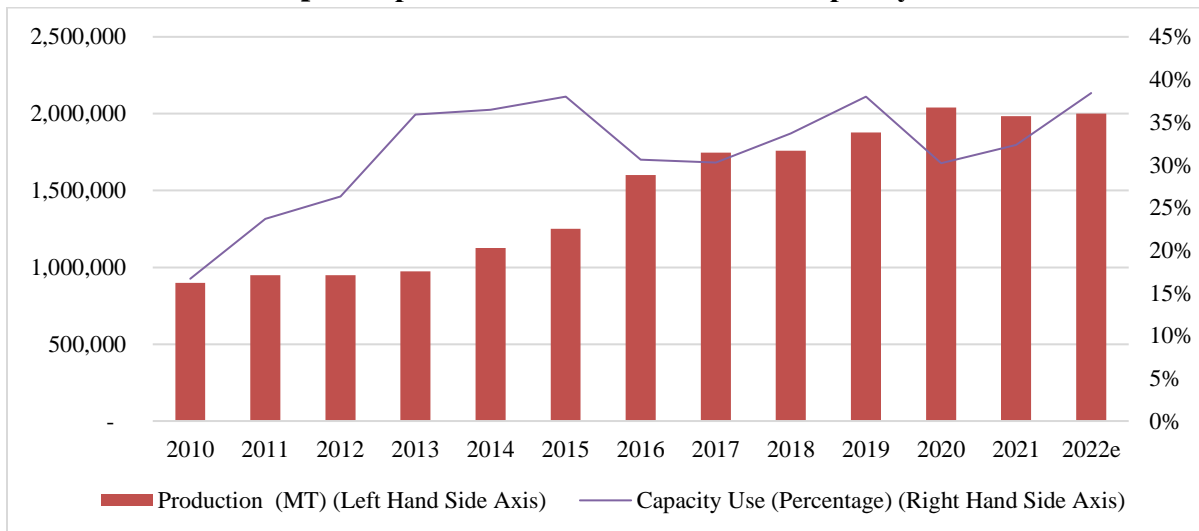
Source: FAS Madrid based on Agriculture Yearbook 2021.

## Spain's Solid Biomass Processing Industry

Wood pellet plants in Spain are predominantly small or medium-sized and oriented to domestic and neighboring Member States' residential heating pellets market. Recent increases of in-country and EU demand for pellets has encouraged further increase in domestic production.

Avebiom, the Spanish Biomass Association, maintains a [map](#) showing the inventory of producers of olive pits, wood chips, and wood pellet producers in Spain. In 2022, a total of 83 pellet plants were operational, up from the 75 that were active in 2021. Industry estimates that production capacity could add up to 2 million MT in 2022.

**Graph 2. Spain's Pellet Production and Capacity Use**



Source: FAS Madrid based on Avebiom data.

Market drivers force Spain to adhere by default to the cascading principle, which is that wood is used for higher-value purposes before it is for energy. Therefore, wood pellets are only produced from waste wood. Many pellet plants are in shared facilities with sawmills or carpenter's workshops. In addition to wood, the use of olive kernels or tree nutshells, and sunflower kernel to a lesser extent, is a popular alternative in those areas where available. In 2021, the industry association reports activity in place in 59 and 26 plants of wood chips and olive pits respectively.

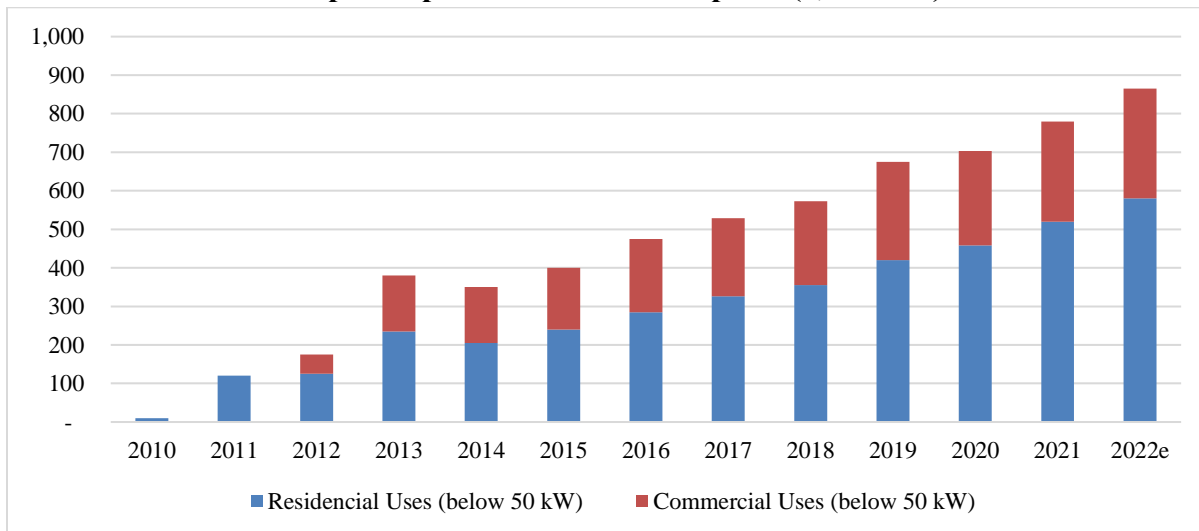
According to the latest edition of [Avebiom's annual report](#), in 2022 pellet production amounted to 2 million MT.

## Consumption

Spain has a relatively underdeveloped wood pellet consumption market that contrasts with both its production and potential production capacity. Its wood pellet market is relatively small, as incentives for biomass consumption in Spain are relatively low compared to other EU Member States.

- **Electrical Applications:** According to data by Spain’s National Commission for Competition and Markets (CNMC), in 2022, [biomass and residues](#) contributed to less than 2 percent (4,348 GWh) of the total primary energy consumed (250,421 GWh). According to the same statistical report, there were 238 biomass-based electricity production plants in Spain last year, which consist of small plants with a combined installed capacity of 1,026 MW.
- **Heating Applications:** Wood pellets are increasingly used as input for renewable heat and power production. The evolution of wood pellet consumption for heat applications in Spain is a factor of weather conditions, prices for alternative heat energy sources, and the regulatory framework in place. In Spain, biomass is primarily intended for heating purposes. Residential heating accounts for nearly seventy percent of Spain’s wood pellet consumption. While some examples exist, the importance of district heating in Spain is relatively minor. Likewise, in-country electricity production out of biomass is rather small as noted. Avebiom projects Spain’s consumption of pellets at nearly 800,000 MT in 2022. Since fall 2021, rising energy prices aggravated by Russia’s invasion of Ukraine have favored wood pellet consumption in Spain. Despite the notable increase in pellet prices in 2022, its price competitiveness against fossil fuels has allowed for an expansion in consumption.

**Graph 3. Spain’s Pellet Consumption (1,000 MT)**



Source: FAS Madrid based on Avebiom data.

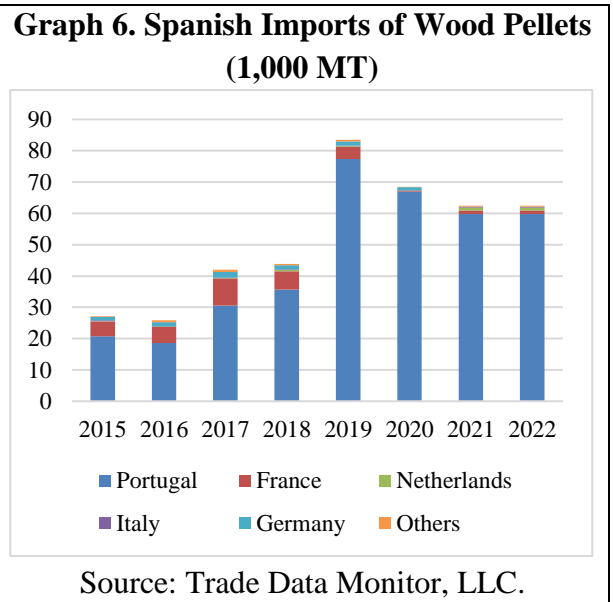
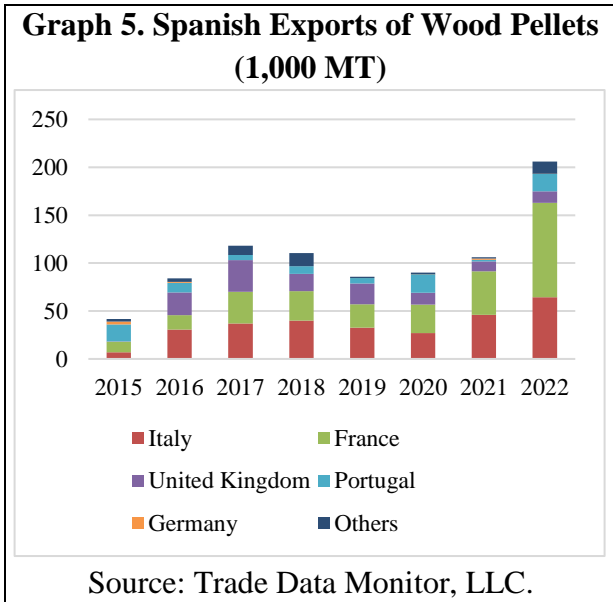
Moreover, incentives in place have boosted in-country demand. (See **Regulatory Provisions Affecting Spain’s Pellet Industry Section**)

According to Avebiom data, in 2021, 73 percent of pellets were sold in 15 Kg bags, 7 percent in 1,000 kg big-bags, and 20 percent in bulk. Spanish wood pellets were commercialized to a large extent (87 percent) under EN Plus certification.

**Trade**

Spain is a net exporter of pellets with exports largely exceeding imports. Spain’s demand for pellets has significantly outpaced domestic production expansion, resulting in a reduction of the country’s exportable supplies. The expansion of pellets demand in other EU Member States, combined with the shortage of wood pellets supply to the EU from Ukraine and Russia in the aftermath of Russia’s invasion in Ukraine and the current measures against Russia,<sup>1</sup> have triggered a steep increase in Spain’s pellet sales in EU countries.

Spain’s wood pellet import market is largely dominated by neighboring Portugal. Main markets for Spanish pellets include other European countries where residential uses prevail. Other EU Member States, led by Italy and most notably France since 2022, have seen their demand boosted by support programs for the installation of biomass boilers and the high price of fossil fuels which has increased the demand of Spanish wood pellets. Outside the EU, the United Kingdom remains Spain’s main pellet market.



<sup>1</sup> On April 8, 2022, the EU banned Russian wood pellets from entering the EU market.

## Regulatory Provisions Affecting Spain's Biomass and Pellet Industry

Based on European Commission mandates, national incentives, and positive side effects of sustainable forest management, the solid biomass market is expected to continue to expand. Spanish production and consumption of biomass and wood pellets are also driven by current and future EU and national regulations. At the EU level, the main regulations affecting the biomass industry are the two existing Renewable Energy Directives (RED I and II). RED III will likely also have implications for Spain when it is finalized.

### Renewable Energy Directives Status in Spain:

**RED I:** According to an European Commission (EC) report on [the State of the Energy Union 2021](#), considering different multiplying factors, Spain is on track to achieve its [Renewable Energy Directive \(RED I\)](#) targets.

**RED II:** In 2018, the European Union (EU) adopted the [Renewable Energy Directive II \(RED II\)](#), which set a new overall renewable energy target of 32 percent of total energy consumption by 2030 and expanded sustainability criteria to include forest and agricultural solid biomass. [RED II](#) was transposed to Spain's national law by [Royal Decree 376/2022](#). Among other aspects, this Royal Decree regulates sustainability criteria and greenhouse gas emissions from biofuels, bioliquids and biomass fuels. Most Spanish residential pellets are certified and marketed under the European Pellet Council (EPC) developed quality scheme (EN Plus). Sustainability criteria introduced by [RED II](#) are certified in Spain using [EU Commission approved-private schemes](#).

**RED III:** After the approval by the Plenary of the European Parliament on September 14, 2022, the legislative proposal for RED III entered negotiations between the Parliament, Commission, and the European Council (trilogues). On March 30, 2023, a provisional agreement was reached between the European Parliament and the Council to reinforce the EU Renewable Energy Directive. While the final text is yet to be released, additional information can be found in the [EU Commission](#) and [EU Council](#) sites.

**National Tax VAT Reduction:** As part of the package of measures to alleviate the economic impact of Russia's invasion of Ukraine, by [Royal Decree-Law 20/2022](#), Spain extended the VAT reduction from 21 percent to 5 percent for pellets,<sup>2</sup> briquettes, and wood for firewood used for heating until December 31, 2023.

**Support for Electricity Production out of Renewable Energies:** [Royal Decree 413/2014](#) and [Royal Decree 960/2020](#) define the regulatory framework for renewable electricity producers, including biomass to participate in auctions to sell their production to electricity suppliers.

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<sup>2</sup> Introduced by Royal Decree-Law 17/2022 in September for the October 1, 2022 – December 31, 2022 period.

**Recovery, Transformation and Resilience Plan:** The [Recovery, Transformation and Resilience Plan](#) sets out Spain’s roadmap for an economic reconstruction after the COVID crisis. In this context, Spain has put in place incentives for domestic heating biomass applications ([Royal Decree 477/2021](#)) and other thermal uses ([Royal Decree 1124/2021](#)).

For additional information on regulatory provision affecting Spain’s Biomass sector, please, consult [EU Wood Pellet Annual Report](#).

## **Annex I. Abbreviations and References used in this report**

AVEBIOM	Spanish Biomass Association
Bioplat	Spanish Biomass Platform
CNMC	National Commission for Competition and Markets
EU	European Union
e	Estimated
f	Forecast
FAS	Foreign Agricultural Service
Ha	Hectares
MAPA	Ministry of Agriculture, Fisheries and Food
MITECO	Ministry for Ecological Transition and Demographic Challenge
MS	EU Member State(s)
MT	Metric ton (1,000 kg)
MMT	Million Metric tons
TMT	Thousand Metric tons
CY	Calendar Year (Jan/Dec)
N/A	Not Available
PS&D	Production, Supply and Demand
HS Code:	Wood Pellets: 440131

### **Attachments:**

No Attachments.