

Portugal Market Report 2022

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1 GENERAL ECONOMIC TRENDS ¹

1.1 NATIONAL ACCOUNTS

In 2021, the Portuguese Gross Domestic Product (GDP) increased 4.9% in volume, the highest since 1990, after the decline of 8.4% in 2020, reflecting the adverse effects of the COVID-19 pandemic on economic activity (Statistics Portugal, 2022a).

Domestic demand presented a significant positive contribution (5.2 p.p.) to the annual rate of change of GDP, after being significantly negative in 2020 (-5.5 p.p.), with a recovery in private consumption and investment.

In 2021, private consumption increased by 4.5% in real terms (-7.1% decrease in 2020); and public consumption raised by 4.1% (0.4% in 2020). Investment augmented by 7.9% in real terms, recovering from the 5.7% fall in previous year. Gross Fixed Capital Formation raised up by 6.6% (-2.7% in 2020). The contribution of net external demand to GDP was less negative in 2021 (-0.3 p.p.) vis-à-vis 2020 (-2.9 p.p.).

In 2021, the Portuguese public debt (Statistics Portugal, 2022a) attained 127.4% of GDP (133.6%, in 2021). The net borrowing of the General Government sector was 2.8% of GDP (5.8% in 2020). This positive trajectory was the result of an expenditure increase (+3%) that was more than compensated by the increase in revenue (+10%).

1.2 TRADE AND PRICES

In 2021 (Statistics Portugal, 2022b), exports of goods, in nominal terms, increased by 18.3% compared to the previous year, amounting to €63,580 million. The evolution, contrary to that seen in 2020 (-10.3%), reflects the increases in Intra-EU (+18.5%) and Extra-EU exports (+17.8%). Spain, France, and Germany remained the main clients of national exports of goods, concentrating 50.9% of the total (+0.1 p.p. compared to 2020).

Imports of goods increased by 21.4% compared to the previous year, amounting to €82,740 million. This evolution, contrary to that seen in 2020 (-14.8%), reflects both the increases in Intra-EU (+19.7%) and Extra-EU (+26.4%) countries. Spain, Germany, and France remained the main suppliers of goods, accounting for 51.9% of imports (-1.3 p.p. compared to 2020).

¹ The overview of recent developments in Portuguese Socio-economic situation was mostly based on the official statistical data (Publications & Database) of Statistics Portugal (www.ine.pt). The main references were the annual Statistical Yearbook of Portugal, the international trade and economic accounts, construction and housing publications and databases (Statistics Portugal, 2022a, 2022b, 2022c, 2022d)

In 2021, the trade deficit in goods reached €19,160 million, which represents an increase around 5 thousand million euros compared to the previous year (figure 1).

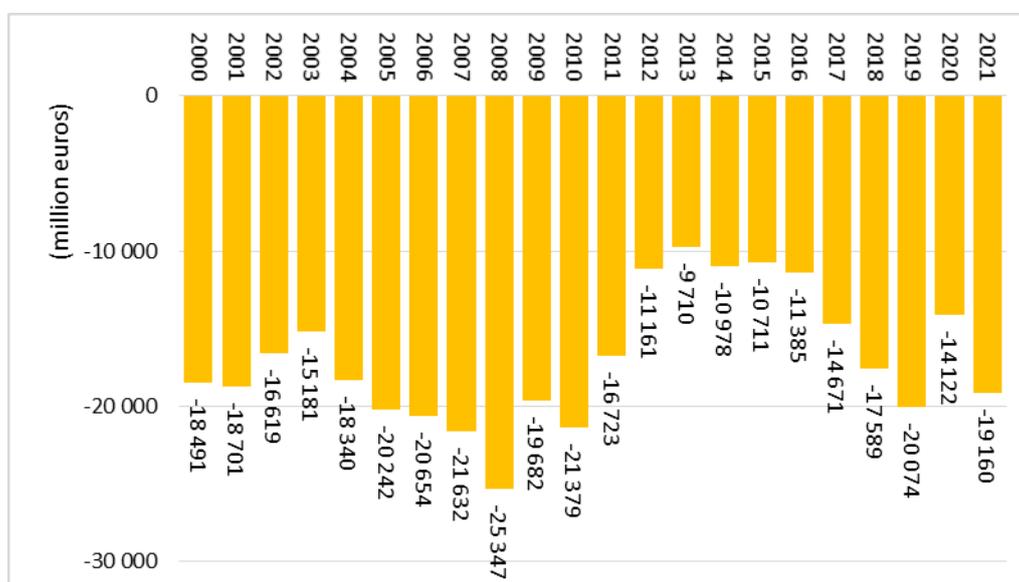


Figure 1 - National trade deficit.

In 2021, the average rate of change of the Portuguese Consumer Price Index (CPI) was 1.3% (0% in 2020) ((Statistics Portugal, 2022a). Furthermore, the producer price index of agricultural products recorded an annual rate of change of 5.6% in 2021 (0.4% in 2020).The agricultural crop and animal output prices increased respectively, by 8.0% (+2.2% in 2020) and by 2.0% (-2.3% in 2020). The annual rate of change in goods and services currently consumed in agriculture stood at 14.2% (-0.4% in 2020), while goods and services contributing to agricultural investment increased by 3.2% (1.5% in 2020).

1.3 ENVIRONMENT AND ENERGY

Portugal is energetically dependent on the outside, importing a large share of its primary energy consumption (63%, in 2020). Renewable energy sources contributed 34% to the gross final energy consumption (Statistics Portugal, 2022a).

In 2020, greenhouse gas emissions without LULUCF (Land Use, Land-Use Change, and Forestry), including indirect CO₂ emissions, were estimated at 57.6 MTCO₂ eq., corresponding to a decrease of 9.5% in total emissions between 2019 and 2020.

The efforts of industrial enterprises to promote environmental performance standards in their production processes resulted in an investment of €112 million (-33.3% than in 2019).Expenditure totalled €321 million and income stood at €158 million (€192 million less than in 2019).

1.4 DEMOGRAPHY

As of 31 December 2021, the resident population in Portugal was estimated to be of 10,352,042 persons, 19,578 less than in 2020 (10,371,620). This resulted in a crude rate of increase of -0.19% (Statistics Portugal, 2022a).

The population decrease resulted from the growth in net migration (25,642 people) which, however, did not counterbalance the negative natural balance, which declined in 2021 to -45,220 (-38,828 in 2020). Thus, in 2021, there was a positive crude rate of net migration of 0.25% and, for the thirteenth consecutive year, a negative crude rate of natural increase of 0.44%.

1.5 LABOUR

In 2021, the active population in Portugal amounted to 5,151.1 thousand people, corresponding to an activity rate of the working-age population (16 to 89 years) of 59.2%, 1.4 percentage points (p.p.) higher than in the previous year. The active population with at least upper secondary education in the total population aged 25 to 64 was 23 p.p. higher than in 2011 (from 31% to 54%).

The employed population was estimated at 4,812.4 thousand people, having increased by 128.6 thousand people (2.7%) in comparison to 2020, resuming the upward trend halted in 2020. In 2021, employees accounted for 84.5% of the total employed population and 83.1% of those had permanent contracts (Statistics Portugal 2022a; Pordata 2022, 2020).

In 2020 the average monthly (gross) earnings of employees in Portugal were €1,250.8. This figure was 40.9 euros (3.4%) higher than in the previous year (Statistics Portugal 2022a; Pordata 2022).

1.6 CONSTRUCTION

The main indicators available for 2021 (Statistics Portugal, 2022c) show the resilience of the construction sector in an economic context conditioned by the COVID-19 pandemic. If in 2020 some indicators had registered negative variations (-3.7% in buildings and -3.9% in licensed dwellings) or slight growth (+1.3% and +0.9%, respectively, in buildings and dwellings graduates in new construction for family housing), in 2021 there were significant growths in all these indicators, both in relation to 2020 (+8.2%, +8.7%, +12.6% and +11.0%) and compared to 2019 (+4.3%, +4.4%, +14.1% and +12.0%, in the same order).

2 POLICY MEASURES IMPACTING FOREST MANAGEMENT AND FOREST PRODUCTS TRADE²

2.1 CLIMATE CHANGE AND ENERGY

The Portuguese framework for climate and energy policy (APA, 2022) is aligned with the European Commission strategic package to tackle in different areas the Paris Agreement global challenge.

The European Union targets are set in the «2020 climate and energy package» and «2030 climate and energy framework», being detailed within the 2050 long-term strategy and enshrined in the European Climate Law. They advocate the progressive reduction in greenhouse gas emission up to 2050.

The European Green Deal also envisage to tackle climate and environmental-related challenges setting the policy initiatives with the overarching aim of making Europe climate neutral in 2050.

Those instruments are being or have been transposed to the Portuguese legal system, underlining for the direct or indirect application/impact on forest sector:

- Climate Basis Law (Law 98/2021, entered into force on 1 February 2022), setting out the guidelines for the national climate policy;
- The Roadmap for Carbon Neutrality 2050 (Government Order 107/2019), establishing the vision and pathways to achieve carbon neutrality by 2050;
- The National Roadmap for adaptation 2100, a project aiming to evaluate de vulnerability of the Portuguese Territory to climate changes in the XXI century
- National Strategy for Climate Change Adaptation, (approved by the Government Order 56/2016 and extended until 31 December 2025 by the Government Order n.º 53/2020), establishing objectives and the model for the implementation adaptation solutions in different sectors, comprising forestry, biodiversity and energy, to the effects of climate change;
- The National Integrated Energy and Climate Plan 2030 (Government Order n.º 53/2020), climate and energy keystone policy instrument towards a carbon neutral future, for 2021-2030 decade, ;
- The Climate Change Adaptation Action Program (Government Order 130/2019), complements and systematizes the work carried out in the context of the

² Based on references disseminated by the National Authorities empowered within the policies of forests, environment, economy and energy, mainly: the Portuguese Agency for Environment (apambiente.pt), endorsed on Climate Change themes; the Directorate-General of Economic Activities (<https://www.dgae.gov.pt/>) with attributions on circular economy (<https://eco.nomia.pt/>); the Directorate-General of Energy and Geology (<http://www.dgeg.gov.pt/>), with competence on energy policies; the Institute for Nature Conservation and Forests (<https://www.icnf.pt/>), the National Authority for Nature Conservation and Biodiversity and the National Authority for Forests.

National Strategy for Climate Change Adaptation, foreseeing implementing adaptation measures (its second objective).

2.1.1 CLIMATE BASIS LAW

Portuguese Climate Basis Law recognizes the climate emergence situation, setting within the objectives of climate policy, namely:

- To promote the use of energy from renewable sources and their integration into the national energy framework system;
- To promote the circular economy, improving energy and resource efficiency;
- To develop and reinforce current sinks and other carbon sequestration services, strengthening national resilience and capacity to adapt to climate change;
- To foster prosperity, green growth and social justice, fighting inequalities and generate more wealth and employment;
- To protect and promote the regeneration of biodiversity, ecosystems and services;
- To stimulate sustainable financing and promote information on climate risks.

The climate policy governance is endorsed under:

- The Council of Climate Action, a specialized body, whose function is to elaborate studies, evaluations and opinions on climate action and related legislation;
- The Municipalities mandatory obligation to prepare and approve municipal climate action plans, which are to be incorporated, at regional level, under a regional climate action plan.

The sectoral climate policy encompasses the promotion of State policies envisaging the production of electricity from renewable sources.

The use of residual forest biomass for energy is to be articulated with the instruments of rural fires prevention and land management, namely with the system of Rural Fire Integrated Management and with the Regional Forest Management Plans;

Moreover, the subordinating principles of the energetic national policies covers, namely:

- The development of criteria to grant green certificates to attest the renewable electricity and gases sources;
- The certification of origin of residual forest biomass;
- The inspection on a regular basis of the biomass categories being used on electric production;

- The ban on the utilization of quality standard wood, biomass from dedicated energy crops and residual biomass from far away/distant origins on the production of energy from biomass;

2.1.2 ROADMAP FOR CARBON NEUTRALITY 2050

Portugal has committed internationally to reduce its greenhouse gas emissions so that the balance between emissions and removals from the atmosphere, namely through the use of forests, will be zero by 2050. The goal of a net zero carbon footprint has been labelled "carbon neutrality".

The main objective of the Roadmap for Carbon Neutrality 2050 is to identify and analyse the implications associated with technically feasible, economically viable and socially accepted alternative trajectories.

The roadmap will embark on alternative, low-carbon development paths until 2050 in four areas of intervention linked to those sectors mainly responsible for greenhouse gas emissions and carbon sequestration: energy; transport and mobility; waste; agriculture forest and land use. These will be based on three multifaceted aspects: socioeconomic scenarios; circular economy; societal participation.

The Roadmap consider and systematise the work done under the National Strategy for Adaptation to Climate Change, endorsing within its actions lines to tackle impacts and vulnerabilities the: prevention of rural wildfires; implementation of practices of soil conservation and fertility; increase the resilience of ecosystems, species and habitat's to the effects of climate change; prevent the installation and expansion of invasive species, diseases transmitted by vectors, agricultural and forest pests and diseases. The financing instruments mobilized to implement the actions and measures of the roadmap are laid down on it.

2.1.3 THE NATIONAL ROADMAP FOR ADAPTATION 2100

The National Roadmap for Adaptation 2100 will set guidelines on adaptation to climate change for territorial and sectoral planning.

The preparation of the National Roadmap for Adaptation 2100 started in 2020 and is expected to end in 2023. The work underlying the preparation of the Roadmap aims to assess Portugal's vulnerability to climate change, as well as estimate the costs of economic sectors in adapting to the expected impacts of climate change by 2100.

2.1.4 NATIONAL STRATEGY FOR CLIMATE CHANGE ADAPTATION 2020

The National Strategy for Climate Change Adaptation 2020, now extended until 31 Dec 2025, sets goals and the model for the implementation of solutions for the adaptation of different sectors to the effects of climate change: agriculture, biodiversity, economy, energy and energy security, forests, human health, security of people and goods, transport, communications and coastal zones.

For this purpose, the Strategy aims to improve the level of knowledge about climate change and promote the integration of adaptation to climate change in sectoral policies and territorial planning instruments. Also intends to help central, regional and local administration and policy makers to find the means and tools to implement adaptation solutions based on technical-scientific knowledge and good practices.

This Strategy includes six thematic areas that cut across all sectors, including forestry: research and innovation, financing and implementation, international cooperation, communication and dissemination, adaptation in spatial planning and adaptation in water resources management.

2.1.5 NATIONAL INTEGRATED ENERGY AND CLIMATE PLAN 2030

The National Integrated Energy and Climate Plan 2030 integrates on its 2030 targets the reduction of greenhouse gases within -45% to -55% and the use of renewable sources to 47%.

The Plan recognise the role of forests and forest biomasses toward the measures of action to decarbonize economy, promote sustainable agriculture and enhance carbon sequestration, advocating the:

- Augmentation of the natural capacity of forest as carbon sinks;
- Promote more effective forest management with the reduce of burned area;
- Enhance the role of bioeconomy through the intensification of active afforestation, promotion of more efficient forestry practices and upgrading ecosystem services;
- Promotion of circular use of materials, including wood and non-wood forest productions and derived products, and the cascading use of energy, enabling the transition for circular economy;
- Progress with green taxation;
- Promotion of R&D projects that support the transition to a low carbon economy.

The Plan covers also actions to reinforce and promote renewable sources and reduce the country dependency on energy, endorsing within its measures the acceleration of the contribution of small renewable production in market mechanisms by promoting their aggregation and enhance the purchase and use of decentralized heat and cold production systems from renewable energy sources.

2.1.6 CLIMATE CHANGE ADAPTATION ACTION PROGRAM

The Climate Change Adaptation Action Program complements and systematizes the work carried out in the context of the previews National Strategy for Adaptation to Climate Change. The Program elects eight lines of action with direct intervention in the

territory and infrastructures, complemented by a transversal line. These lines aim to address the main impacts and vulnerabilities identified for Portugal.

The Program lines of action and correspondent measures encompass:

- Rural fire prevention (e.g. economic valorisation of biomass; creation of discontinuity buffers and plots; reconfiguration of infrastructures and support systems);
- Conservation and improvement of soil fertility (e.g. erosion control; water retention; soil composition and structure);
- Diseases, pests and invasive species (e.g. enhancement of genetic material; disease control and invasive alien species; surveillance; information and communication);
- Capacity building, awareness raising and adaptation tools (e.g. monitoring and decision making; capacity building and planning; communication).

The operationalization of the Program is ensured through two parallel approaches to promote adaptation actions: one in the short term (by 2020); and one in the medium term (by 2030). These approaches embody guidelines to mobilize financial resources. Additionally, at medium term, policies and political instruments are also defined and, the Plan, promotes the implementation of structural actions to reduce the vulnerability of the territory and economy to climate change impacts.

2.2 DESERTIFICATION

The National Action Program to Combat Desertification (PANCD), approved in 2014 (Government order n.º 78/2014, of 24 of December), follows international agreements in the framework of the United Nations Convention to Combat Desertification (UNCCD). The first strategic objective of the PANCD concerning soil and water conservation is a consequence of UNCCD commitments. The map of susceptibility to desertification for mainland Portugal was drawn under the framework of this Program.

2.3 CIRCULAR ECONOMY AND CASCADING USE OF BIOMASS

Portugal is one of the EU member states that has come up with a Circular Economy strategy, roadmap and action plan, in line with the goals of the European Commission.

The ambition set out for Portugal 2050 was designed to leverage and spur development of work within the Action Plan for the Circular Economy (APCE), Government Order n.º 190-A 2017, which advocates on its elements (ECO.NOMIA, 2022):

- A carbon neutral economy that is efficient and productive in its use of resources encompassed by neutral GHG emissions and effective use of materials, with the significant fall in their extraction, importing and in final waste generated, attaining better management and value extraction from the resources in circulation;

- Knowledge as impulse, enhancing solutions in products, services, business models, consumption/use and behaviour with lower emissions and resource intensity, integrated into business models that spur job creation, efficient and effective use of mobilized resources, and their lasting economic value;
- Inclusive and resilient economic prosperity through economic development impacting all sectors of society and the resilience against price and risk volatility and gradually decoupled from negative environmental and social impacts;
- A flourishing, responsible, dynamic and inclusive society.

The plan considers three levels of actions:

- Macro, structural in scope, produces transversal and systemic effects which enable society to appropriate the principles of the circular economy;
- Meso, or sectoral, covering actions or initiatives defined and accepted by all players in the value chain of sectors relevant to raising productivity and the efficient use of resources, seizing the economic, social and environmental benefits;
- Micro, regional or local, related to actions or initiatives defined and accepted by all regional and/or local government, economic and social actors which incorporate a local economic aspect and which emphasise this in the approach to social challenges.

The different levels of actions are inter-related and reinforce each other positively, creating feedbacks that evolve the context iteratively and allow knowledge, policies, projects and results to be consolidated, spurring the actors involved.

The plan is based on the understanding and experience common to four areas of governance (science, technology and high education; economy; **environment, agriculture, forestry and rural development**), comprising the “inter-ministerial group” which drafted the APCE. This involved a survey of current performance, known measures, an analysis of the European action plan, and benchmarking against other circular economy plans, from which actions were proposed with their respective guidelines.

The example of Portuguese forest sector is reiterated by the long term practices under the principals of circular economy and cascading use, covering resources efficiency and reutilization of by-products and residues.

2.4 SUSTAINABLE BIOECONOMY

Portugal is one of the EU member states that has come up with an Action Plan for Sustainable Bioeconomy – Horizon 2025 (Government Order 183/2021).

In line with EU policies, namely the 2018 EU bioeconomy strategy update, the European Green Deal and with the Development Goals of the United Nations 2030 Agenda, the Plan recognizes the central role of sustainable and circular bioeconomy as an efficient option to promote, deepen and facilitate the green transition.

It is assumed present challenges requires jointly actions in diversified and transformative strategic areas, entailing commitments and measures to promote sustainable production and new business models, research and innovation and priority access to financing.

The Plan cover five key intervention axis:

- Enhance sustainable production and the intelligent use of bio base regional resources;
- Promote research, development & Innovation, strengthening scientific capabilities and the national technological excellence;
- Develop sustainable circular bioindustries, innovating value chains and processes;
- At society level, promote knowledge and skills capabilities through education and training; and
- Monitoring Bioeconomy to assess developments, understanding the limits of ecosystems and promote certification

The Plan also cover the measures under the Portuguese Recovery and Resilience Plan (RRP) within the promotion of sustainable bioeconomy, endorsing public and private investments on textiles, clothing, footwear and the actions for natural resins valuing.

The bioeconomy potential of primary bio resources, resulting from well establish forestry chains, agriculture, fishing and aquaculture activities, is underlined and linked with the other sectors of economy, envisaging the promotion of new synergies. The plan vision is focused on processing and adding value to bio raw materials, accounting with the involvement of traditional sectors on establishing new productive chains.

2.4.1 FORESTRY AND FOREST BASED CHAINS

The Action Plan for Sustainable Bioeconomy – Horizon 2025 emphasizes the forestry key role as a contributor to bioeconomy.

Besides the forest territorial representation on Portuguese territory (36%), the bio resources based on forests, to be further processed, are integrated under a plethora of activities, comprising, timber for construction, wood furniture, textiles, clothing and footwear, bioplastics, paper, chemicals (as derived from resins), cork stoppers, bioenergy, etc..

On the bioeconomy perspective, the whole Portuguese forest sector has long demonstrative examples on the application of good practices:

- Resin, presently, natural resins are being valued as a bioproduct, potentiating larger applications on the market;
- Biocharcoal, its application to improve soil fertility is being considered as option instead of chemical fertilizers;

- Wood residues and post-consumer timber have been used largely, following the circular economy principles, as raw by materials on wood panels and furniture industries.

The development of forest based bioeconomy faces several structural challenges, summarizing the large prevail of smallholding and absent forest owners, associated with the high risks linked to forest investments.

On this context, the Action Plan for Sustainable Bioeconomy – Horizon 2025 lines up on the measures to promote bioeconomy based on forest the structuring of primary activities through the :

- Promotion of active sustainable forest management;
- Scale up the unity of management areas (ex: from Integrated areas of Landscape Management to Forest Management Unities & land tenure reform);

Strengthening research, development & Innovation, envisaging the sustainability of raw materials supply and along the value chains, is too considered of outmost relevance to promote bioeconomy based on forests.

2.5 FORESTS POLICY

The Portuguese forest sector is subordinated to the instruments of political administration provided in the 1976 Portuguese Constitution and endorsed by the Forest Policy Act of 1996, as well as other specific legislation.

The European commitments for forest policies are incorporated in the Portuguese National Strategy for Forests (NSF), which was approved in 2006 and updated in 2015, by the Government Order n.º 6-B/2015.

The NSF assumes the maximization of the total economic value of forest as its main purpose, and it's organized in the following strategic objectives: minimization of fire risks and biotic agents; specialization of the territory; enhancement of productivity through sustainable forest management; internationalization and increase in products value; to enhance efficiency in general and to improve the sector's competitiveness.

The NSF aims and targets are articulated within seven Regional Forest Plans (PROF).

The PROF are national sectorial policy instruments, embodied under the scope of the Portuguese territorial planning legal system. At regional scale, they encompass the strategic framework, guidelines and specific norms regarding the use, occupation and forest management.

2.6 FOREST MANAGEMENT

The Forest Intervention Zones (ZIF) created by Decree-Law n.º 127/2005 (altered by Decree-Law n.º 15/2009, with Declarations of rectification n.º 10/2009, Decree-Law n.º 2/2011, n.º 27/2014 and n.º 67/2017) endorse the association of forest owners and/or forest producers for a common management, enabling the cooperative management

of forest lands and mitigating their splitting up. This legal instrument permits the combination of forest properties to create larger management unities. The ZIF main objectives are: to promote sustainable management in forest spaces; to coordinate, in a planned way, the protection of forest and natural spaces; to reduce ignition and fire propagation conditions; to recover these spaces.

The Forest Management Plan (FMP) legislation (Decree-Law n.º 16/2009, in its present redaction) establish mandatory FMP on public and community forests, on private properties, above a size defined regionally under each PROF, and on the “forest intervention zones” (ZIF). In the Mainland, about 4,336 FMP are approved, which cover 1.996 million hectares, corresponding to 62% of the total forest area. Eucalyptus stands have a FMP coverage rate above the national average.

The small forest holdings, below the size of mandatory FMP and not integrated by a ZIF zone, are still subject to the minimum standards endorsed by each PROF. These standards entail:

- Preventive forestry standards;
- General forestry standards;
- Forestry models adopted within each PROF following the homogeneous division of the region in sub-regions.

2.7 HARVEST AND CUTTING LEGAL REGIME

The Decree-Law n.º 31/2020, 10 of June, establishes the mandatory declaration of cuts, extraordinary cuts, thinning or uprooting of forest trees to be commercialized or auto-consumed by industry, as well as the traceability of the wood for primary transformation. The declaration is to be made in digital format in the specific electronic Cutting Information System (SiCorte) located at the Institute for Nature Conservation and Forests (ICNF, I.P.), the National Forest Authority website.

The premature cutting of *Eucalyptus* and *Pinus* species in areas superior to two hectares requires the previews authorization by the National Forest Authority (Decree-Law n.º 173/88). In Eucalyptus the criteria defined by law to consider the felling as premature entail the stands with at least 75% of trees with less than 12 centimeters, of diameter, or 37.5 centimeters, of perimeter, at chest height.

2.8 AFFORESTATION

The legal regime of afforestation and reforestation actions is regulated by Decree-Law n.º. 32/2020, of 1 of July, the third amendment to Decree-Law 96/2013, of 19 of July. This legal regime establishes the essential technical standards to be considered in the scope of afforestation and reforestation project design, and the minimum qualifications required for project design and subscription.

2.9 TIMBER AND TIMBER PRODUCTS MARKETS

The Timber Regulation (Reg. EU 995/2010) to combat trade in illegally harvested timber was adopted in October 2010 by the EU. This regulation counters the trade in illegally harvested timber and timber products through key obligations:

- It prohibits the placing on the EU market of illegally harvested timber and products derived from such timber;
- It requires traders who place timber products on the EU market for the first time to exercise ‘due diligence’.

The legislation to apply the timber regulation on Portugal establishes as mandatory the register of all the operators with activity in the country. The register is made electronically through a system named «RIO system». The link to the digital platform of «RIO system» is located at the website of ICNF, I.P., the competent authority for the application of the Regulation, and is accessible since the 26 of July, 2013. The main indicators are also available in the same website (<https://www.icnf.pt/florestas/fileirasflorestais/operadordemadeiraederivados>).

It was considered that the register of the operators was a good instrument to verify the application in Portugal of the obligations laid down by the timber regulation. The register was considered essential to identify the operators working in Portugal, enabling to plan the monitoring actions to verify the application of the “due diligence”.

2.10 FOREST BIOMASS FOR ENERGY

The production and use of forest biomass for energy is regulated by the Decree-Law n.º 5/2011 (changed by Decree-Law n.º 179/2012, Decree-Law n.º, 166/2015 and Decree-Law n.º 48/2019). Within its terms, in order to benefit the incentive established by the legislation, the promoters of forest biomass power plants are, namely, obliged to:

- Organize and maintain a system of data records that allows the identification of the type and characteristics of the biomass consumed at the plant;
- Present an action plan for 10 years developed in close articulation with forest producer and local authorities, aiming the sustainability of the supply of biomass on the long-run.

The legal regime of forest biomass for energy new centrals is endorsed by the Decree-Law n.º 120/2019 (which republishes Decree -Law n.º 64/2017). This regime bound the definition of new biomass power centrals, entailing the installation for the production of electrical and thermal energy, with production in cogeneration or trigeneration, which uses biomass as fuel, and may incorporate a maximum percentage of 5% of fossil fuel as auxiliary and starter fuel. Other requirement is the installation of new biomass plants within the proximity to critical fire risk zones.

3 MARKET DRIVERS

3.1 GENERAL OVERVIEW

The Portuguese forest sector has long been export oriented. Forest products exports have been among the country’s main exports, accounting in the current millennium for 10% of the total exports, while the sector is only responsible for 4% of the imports (figure 2). After 2012 the exports surpass the imports in more than 2.5 thousand million euros (table 1), making it one of the most international markets dependent sector of the Portuguese economy (Statistics Portugal, 2022b).

Portugal is a price-taker in international markets. The fact that a large share of forest production is exported and that Portugal is primarily a price taker makes it very vulnerable to market developments elsewhere (Rego *et al*, 2014).

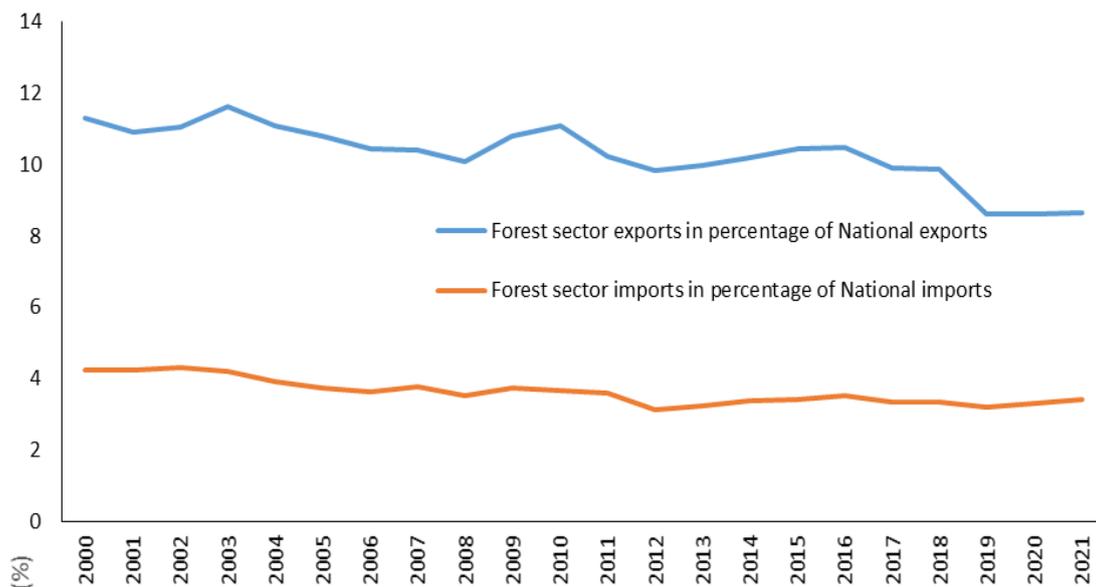


Figure 2 – Forest sector exports & imports in the context of the Portuguese international trade.

Table 1 - National and forest sector commercial balance.

Year	Commercial balance (million €)		Coverage rate of exports over imports (%)	
	Forest sector	National	Forest sector	National
2000	1127	-18 491	158	60
2001	1059	-18 701	153	60
2002	1194	-16 619	161	63
2003	1525	-15 181	182	66
2004	1487	-18 340	177	63
2005	1450	-20 242	176	61
2006	1685	-20 654	183	63
2007	1714	-21 632	175	64
2008	1664	-25 347	174	61
2009	1496	-19 682	178	62
2010	1983	-21 379	192	64
2011	2224	-16 723	204	72
2012	2676	-11 161	251	80
2013	2861	-9 710	254	83
2014	2904	-10 978	246	81
2015	3112	-10 711	250	82
2016	3081	-11 385	243	81
2017	3120	-14 671	234	79
2018	3180	-17 589	226	77
2019	2585	-20 074	201	75
2020	2363	-14 388	205	79
2021	2670	-19 527	194	77

3.2 CERTIFICATION SCHEMES

The export orientation of Portuguese forest sector is the dominant factor on the option for certification schemes. Presently two systems are followed:

- The Programme for the Endorsement of Forest Certification (PEFC) with 318 thousand hectares of certified area, 3,426 forest producers and managers, 224 Chain of Custody certificates related to 607 enterprises (PEFC Portugal, 2022).
- The Forest Stewardship Council (FSC) with 543,924 thousand hectares of certified area, corresponding to 35 certificates of forest management, more than 3,350 forest owners and 522 Chain of Custody certificates (FSC Portugal, 2022).

4 DEVELOPMENTS IN FOREST PRODUCT MARKETS

4.1 WOOD AND TIMBER BASED PRODUCT MARKETS

The overview of timber production in current millennium as shown by the forestry accounts (table 3) done by Statistics Portugal (2022d) under the national economic accounts, indicates that the production, in value, of coniferous timber for industrial uses has been decreasing, observing the average annual variation of -2%, between 2000 and 2020, and -7% between 2019 and 2022. Even so, in the current decade (2010 to 2020) the positive change of 2% between 2019 and 2020 should be noted. The non-coniferous roundwood shows a positive shift (2%) though, the variation from 2019 to 2020 was also negative (-5%).

The comparison in cubic meters unities of volume of 2021 vis-à-vis 2000 (Faostat, 2022), as reported under the Joint Forest Sector Questionnaires (JFSQ), in the production of coniferous timber for industrial uses follows the reduction shift of -1% on average; whilst the non-coniferous timber has been rising on average 3%. In the present decade (between 2010 and 2021) both these types augmented, though the average increase in non-coniferous was higher, with 4.2% on average, whereas in coniferous was 0.3%.

In 2021, wildfires incidence in Portugal maintain the declining trend registered between 2018 and 2019, following the 2017 extreme impact of their severity. This year was registered a total burnt area of 541,491 hectares: comprising 501,668 hectares in forest space (330,172 hectares in forest stands and 171,496 hectares in scrublands); and 39,822 hectares in agriculture areas. In 2021, from 1 of January to 15 of October, the total burnt area was much smaller (27,118 hectares), with 24,262 hectares in forest space (8,118 hectares in forest stands and 16,144 hectares in scrublands); 2,856 hectares in agriculture (ICNF, 2021).

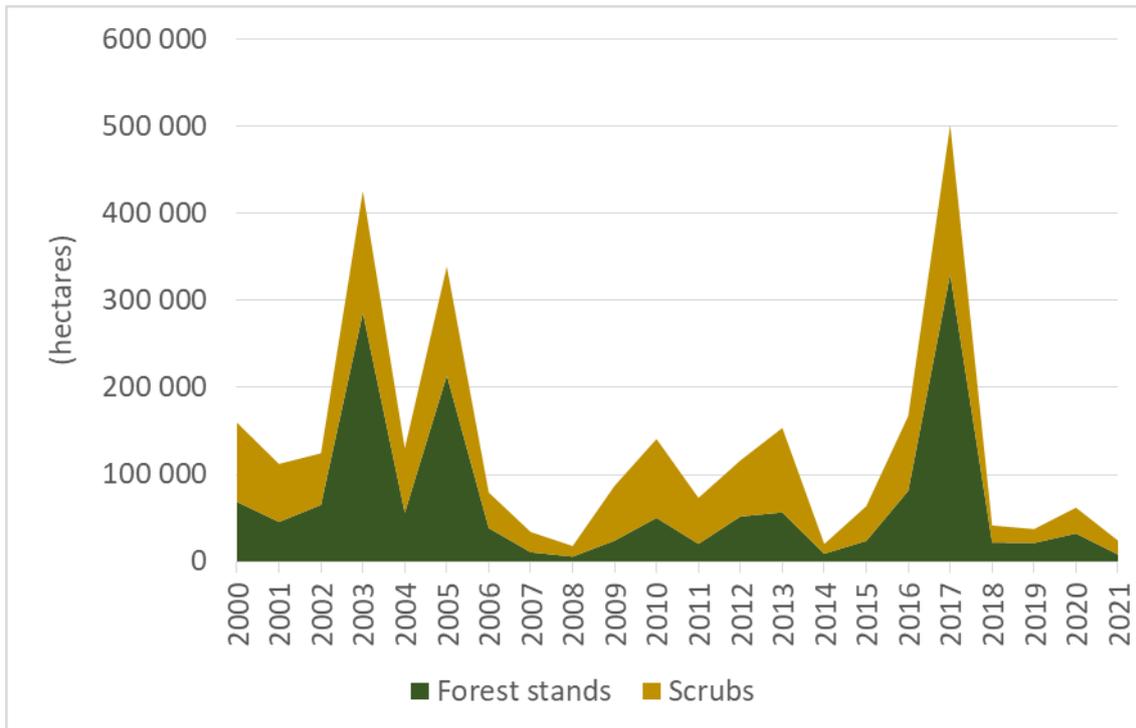


Figure 3 – Burnt areas in forest space, comprising forest stands and scrublands.

The quality of burnt wood is depreciated or even unappropriated for industrial uses. Thought, a part of the burnt wood can be used by wood base chains. On the short term, this evidence changes the patterns of the markets.

Table 2 – Forest production structure between 2000 and 2020.

	2000	2010	2019	2020	2019/2020	rate of change (%)				
						10 ⁶ euros				
						annual	annual average	total	annual average	total
Forestry and logging output at basic prices	1 538	1 105	1 322	1 228	-7	-1	-20	1	11	
Forestry goods at basic prices	1 190	791	858	792	-8	-2	-33	0,01	0,1	
Timber	Coniferous timber for industrial uses	270	122	151	140	-7	-2	-48	2	15
	Sawlogs and veneer logs - coniferous	220	99	130	121	-7	-2	-45	2	22
	Pulp wood (round & split) - coniferous	42	17	15	14	-5	-3	-66	-2	-15
	Other wood - coniferous	9	6	6	5	-10	-2	-40	-1	-7
	Non-coniferous timber for industrial uses	200	263	298	282	-5	2	41	1	7
	Sawlogs and veneer logs -non-coniferous	3	5	6	6	-2	3	68	1	14
	Pulp wood (round & split) - non-coniferous	194	256	291	275	-5	2	42	1	7
	Other wood - non-coniferous	3	2	2	1	-10	-3	-51	-2	-18
Biomass for energy	88	47	55	55	1	-2	-37	2	19	
Growing stock	112	135	66	60	-8	-2	-46	-6	-55	
Other products	Cork	491	205	259	226	-13	-3	-54	1	11
	Nursery forest plants	8	4	5	4	-13	-2	-46	-0,4	-4
	Other forestry products	21	16	25	24	-5	1	12	5	48
Secondary non forest activities	64	59	86	82	-5	1	28	4	38	
Net added value	1 130	685	775	702	-9	-2	-38	0	2	

4.2 ESTIMATES FOR 2022 AND PROSPECTS FOR 2023

The estimates for 2022 and prospects for 2023 (annex) foresees the steady recovery trend into a “business as usual scenario” as no substantial changes on capacity are foreseen on the short term.

The core changing drivers of timber and derived products production and trade are considered to be:

- The extra supply of roundwood resulting from wildfires incidence affecting national production; and
- The limitations deriving from international supply chains restrictions and rising transport costs.

In tropical timber and derived products is also assumed a “business as usual”, both on imports and exports, in spite of the restrictions on tropical wood markets related to the application of the timber regulation (Reg. EU 995/2010).

The new policy measures encompassing bioeconomy, circular economy and bio based cellulose products prospects a raising shift in end timber products demand, in particular wrapping products and recovered products, as well as forest biomass for energy.

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Table 4 - TIMBER FORECAST QUESTIONNAIRE, forest products.

 UNECE TF2 TIMBER FORECAST QUESTIONNAIRE Forest products		Country: Portugal		Date: September 2022			
		Name of Official responsible for reply: Graça Louro					
		Official Address (in full): Instituto da Conservação da Natureza e das Florestas, IP, Avenida da República, 16, 1050-191 LISBOA – PORTUGAL					
		Telephone: (+351) 213 507 900		Fax:			
		E-mail: Graca.Louro@icnf.pt					
Product Code	Product	Unit	Historical data		Revised 2021	Note: Complete only if data for 2021 have been revised.	cast 23
			2020	2021			
6.C	SAWNWOOD, CONIFEROUS						
	Production	1000 m ³	762	817		850	840
	Imports	1000 m ³	134	121		130	125
	Exports	1000 m ³	235	306		250	300
	Apparent consumption	1000 m ³	661	632		730	665
6.NC	SAWNWOOD, NON-CONIFEROUS						
	Production	1000 m ³	148	148 R		160	150
	Imports	1000 m ³	90 E	106 E		90	100
	Exports	1000 m ³	21 E	31 E		30	25
	Apparent consumption	1000 m ³	217	224		220	225
6.NC.T	of which, tropical sawnwood						
	Production	1000 m ³	15	15 R	12	10	13
	Imports	1000 m ³	63	32		40	30
	Exports	1000 m ³	10	43		20	15
	Apparent consumption	1000 m ³	68	4		30	28
7	VENEER SHEETS						
	Production	1000 m ³	25 C	25 C	21	22	23
	Imports	1000 m ³	29 C	37 C		30	30
	Exports	1000 m ³	71 C	130 C		40	50
	Apparent consumption	1000 m ³	-16	-68		12	3
7.NC.T	of which, tropical veneer sheets						
	Production	1000 m ³	0	0 R		0	0
	Imports	1000 m ³	7 E	7 E		15	20
	Exports	1000 m ³	10	17		13	15
	Apparent consumption	1000 m ³	-3	-9		2	5
8.1	PLYWOOD						
	Production	1000 m ³	91 C	91 C	126	110	100
	Imports	1000 m ³	113 C	116 C		130	120
	Exports	1000 m ³	19 C	27 C		25	20
	Apparent consumption	1000 m ³	185	180		215	200
8.1.NC.T	of which, tropical plywood						
	Production	1000 m ³	67	67 R	95	70	65
	Imports	1000 m ³	3 E	2 E		4	3
	Exports	1000 m ³	4	3		4	3
	Apparent consumption	1000 m ³	65	66		70	65
8.2	PARTICLE BOARD (including OSB)						
	Production	1000 m ³	708	743		730	720
	Imports	1000 m ³	324	347		330	340
	Exports	1000 m ³	437	607		500	600
	Apparent consumption	1000 m ³	595	482		560	460
8.2.1	of which, OSB						
	Production	1000 m ³	0	0 R		0	0
	Imports	1000 m ³	35	34		35	36
	Exports	1000 m ³	1	3		2	3
	Apparent consumption	1000 m ³	34	31		33	33
8.3	FIBREBOARD						
	Production	1000 m ³	443 C	555 C	535	550	540
	Imports	1000 m ³	324 C	336 C		335	340
	Exports	1000 m ³	371 C	404 C		375	380
	Apparent consumption	1000 m ³	396	488		510	500
8.3.1	Hardboard						
	Production	1000 m ³	12	12 R		0	0
	Imports	1000 m ³	29 E	42 E		30	40
	Exports	1000 m ³	11 E	10 E		10	10
	Apparent consumption	1000 m ³	30	44		20	30
8.3.2	MDF/HDF (Medium density/high density)						
	Production	1000 m ³	423	535		550	540
	Imports	1000 m ³	284	280		285	280
	Exports	1000 m ³	341	359		350	355
	Apparent consumption	1000 m ³	366	456		485	465
8.3.3	Other fibreboard						
	Production	1000 m ³	8	8 R		0	0
	Imports	1000 m ³	11	15		20	20
	Exports	1000 m ³	20	35		15	15
	Apparent consumption	1000 m ³	-1	-12		5	5
9	WOOD PULP						
	Production	1000 m.t.	2 683 C	2 809 C		2 750	2 800
	Imports	1000 m.t.	148 C	141 C		140	145
	Exports	1000 m.t.	1 328 C	1 290 C		1 250	1 300
	Apparent consumption	1000 m.t.	1 503	1 660		1 640	1 645
12	PAPER & PAPERBOARD						
	Production	1000 m.t.	2 115 C	2 247 C		2 200	2 240
	Imports	1000 m.t.	815 C	928 C		850	900
	Exports	1000 m.t.	1 753 C	1 931 C		1 800	1 850
	Apparent consumption	1000 m.t.	1 177	1 245		1 250	1 290
5.1	WOOD PELLETS						
	Production	1000 m.t.	859	731		860	800
	Imports	1000 m.t.	21	3		10	15
	Exports	1000 m.t.	601	510		600	550
	Apparent consumption	1000 m.t.	278	224		270	265