

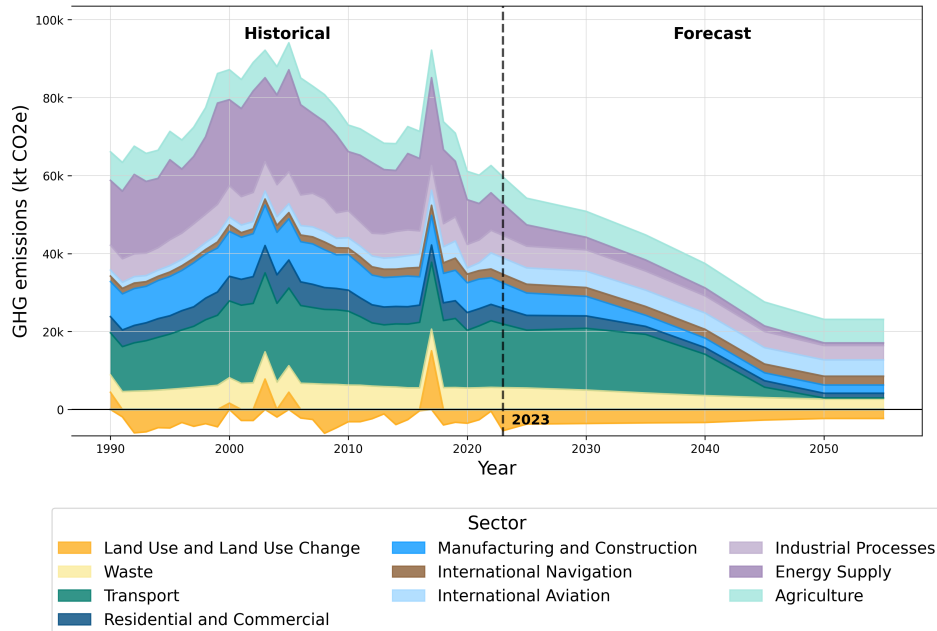


National system for policies and measures and greenhouse gas projections of Portugal

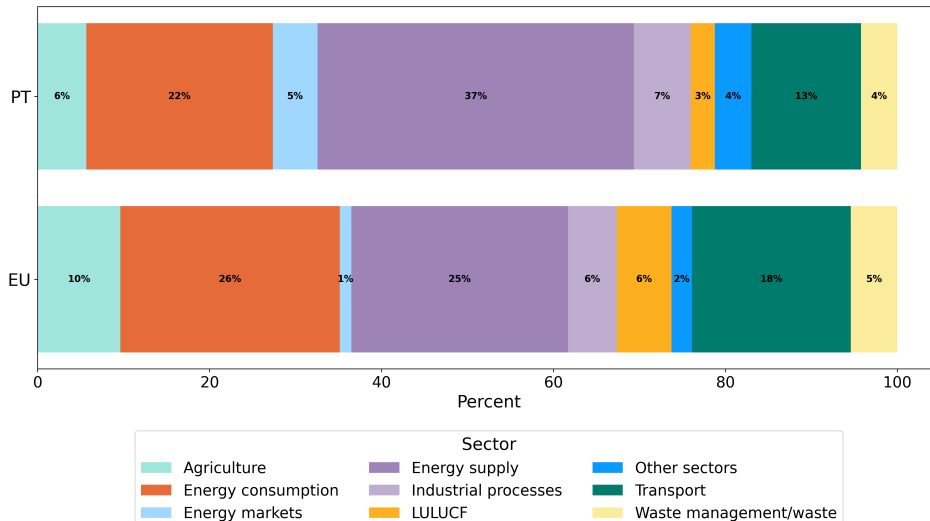
Information reported in 2025

A robust and complete national system ensures the delivery of good-quality information on the projections of anthropogenic greenhouse gas emissions by sources and removals by sinks, as well as policies and measures in place to implement National Climate and Energy Plans. The two figures provide an overview of the information submitted by Portugal in 2025, enabled by the national system, as laid out below.

Historical and projected greenhouse gas emission in Portugal by sector in 2025.



Reported climate and energy Policies and Measures by affected sector in Portugal.



Institutional and procedural robustness

Institutional arrangements

The Commission for Climate Action was created by Council of Ministers Resolution no. 56/2015 to monitor climate policy and sectoral policies with an impact on national air and climate change objectives. This committee is chaired by the member of the government responsible for the environment and includes the government departments for energy, land use planning, finance, agriculture, the sea, the economy and innovation, transport, health, tourism, civil protection, regional development, local administration, foreign affairs and cooperation, education and science and representatives of the regional governments of the Azores and Madeira.

It is also responsible for promoting the articulation and integration of climate change policies, sectoral policies and monitoring the implementation of relevant sectoral measures, programs and relevant sectoral measures, programs and actions that may be adopted, namely through the National System of Policies and Measures and Projections (SPeM), also created in 2015 (Resolution of the Council of Ministers no. 45/2016). The Climate Action Commission thus aims to ensure political guidance for climate policies, both mitigation and adaptation (ENAAC and its respective governance structure, with particular emphasis on the Coordination Group represented by various public administration entities).

The National System of Policies and Measures and Projections (SPeM) aims to enhance the involvement and strengthen the accountability of sectors in the integration of the climate dimension into sectoral policies, hereby contributing to the preparation of reports of policies and measures and projections.

In this sense, several focal points have been designated, for the different sectors:

- Directorate General for Energy and Geology
- Agency for Competitiveness and Innovation
- Directorate General of Territory
- Foundation for Science and Technology
- Institute for Housing and Urban Rehabilitation
- Institute for Nature Conservation and Forests
- Institute of Mobility and Transport
- Planning, Policy and General Administration Office
- Public Administration Shared Services Entity

In this context, the preparation of these reports follows a structured timeline, including the development of long-term socioeconomic scenarios, sectoral consultations through SPeM focal points, guidance and validation by the Commission for Climate Action, and public consultations aligned with the NECP 2030 and RNC 2050 review cycles. This process also includes the organization of technical sessions and public consultations, ensuring participatory input.

It is important to note that when the cycles of NECP and RNC2050 revisions are not aligned with the reporting requirements under the Governance Regulation, a simplified approach is adopted for reporting. In these instances, the process is streamlined and focuses on targeted engagement with the SPeM focal points. These entities provide structured updates on the progress of each policy and measure under their remit. Although the process is less resource-intensive, it remains robust and ensures consistency with previous assessments by leveraging established monitoring mechanisms, institutional responsibilities, and sectoral accountability already embedded in the SPeM framework.

In addition to the Commission for Climate Action as well as the SPeM, it is also important to mention the creation of the Council for Climate Action (CAC) by the national Climate Law (Article 12), a specialized body that should collaborate with the Assembly of the Republic and the

Government in the preparation of studies, assessments and opinions on climate action and related legislation.

Procedural and administrative arrangements and timescales

The preparation of the Reports on policies and measures and projections are based on the results derived from the 2050 Carbon Neutrality Roadmap (RNC2050) and the 2030 National Energy and Climate Plan (NECP 2030), prepared respectively in 2019 and 2020, and the latter recently updated in 2024. These planning instruments guide both the long-term modeling of GHG emissions and the tracking of policy progress.

The methodologies and models used was already adopted in previous projections exercises, demonstrating that methodologies are well known, also the specific database, mainly for the energy sector, for Portugal is fed in regularly (TIMES_PT model).

For agriculture, forestry and other land use, waste and wastewater and fluorinated gases, Excel spreadsheets based on inventory methodologies, are used so that all categories and different gases are covered, ensuring that the methodology used to estimate GHG emissions are those contained in the National Inventory Report.

In order to monitor and report on the impacts of cross-sectoral policies and measures on climate change and energy transition, work is being performed together with the sectors in the scope of the NECP progress report.

To ensure the quality of reporting across both PaMs and projections, the following principles are upheld:

- **Timeliness:** The reporting is aligned with the cycles of the NECP and RNC2050. In cases where these are not synchronized with the Governance Regulation reporting timeline, a more targeted approach is adopted. This involves streamlined reporting based on updates from SPeM focal points, ensuring timely and relevant submissions.
- **Accuracy:** For projections, accuracy is ensured through the application of robust, sector-specific modeling tools and methodologies. For PaMs, it is achieved by collecting verified implementation data directly from designated entities, supported by evidence-based progress tracking.
- **Consistency:** Reporting methodologies are harmonized, ensuring coherence with the National Inventory System (SNIERPA) and alignment with international and EU guidelines.
- **Completeness:** All relevant sectors and gases are included in the projections, while the PaMs reporting encompasses a wide set of policies across all major areas, facilitated by the full engagement of SPeM entities.
- **Transparency:** Transparency is promoted through the participatory nature of the process, including stakeholder and public consultations, regional assemblies, and interinstitutional dialogue. Additionally, the use of the Reportnet 3.0 platform ensures accessibility and external validation of the submitted data.

These procedures collectively ensure the robustness, credibility, and reliability of national reporting, both in regular planning cycles and in streamlined reporting years.

Procedures for the official consideration and approval of the Member States national system

The political commitment placed on the transition to a competitive, resilient, low-carbon and circular economy, in a context of full integration with the economic growth objectives, led to the creation in 2015, of the Interministerial Commission on Air, Climate Change and the Circular Economy, in the meanwhile renamed Commission for Climate Action.

The Commission is chaired by member of the Government responsible for the environment and

climate action and is integrated by the government departments of energy, spatial planning, finance, agriculture, sea, economy and innovation, transport, health, tourism, civil protection, regional development, local administration, foreign affairs and cooperation, education and science and by representatives of the regional governments of Azores and Madeira.

The Commission for Climate Action, created through the Resolution of the Council of Ministers n.º 56/2015, of 30th July, provides policy guidance on climate change and air quality issues. It is also responsible for promoting the articulation and integration of climate change policies, sectorial policies and monitor the implementation of programs and relevant sectorial measures, programs and actions that may be adopted, especially through the national system for policies and measures and projections (SPeM).

Description of the information collection process

The starting point for the development of GHG emission trajectories, was the development of coherent socioeconomic scenarios, based on common narratives of possible evolutions of the Portuguese society until 2050, based on the evolution of macroeconomic parameters and demographic trends.

Following the recent revision of the NECP 2030 and considering all developments that have occurred since its publication in 2019, the GHG projections have also been revised accordingly. This revision process has been performed in tandem with the RNC 2050 revision, ensuring that short-term trajectories with the long-term perspective towards carbon neutrality. Important to stress that this process as not yet been concluded for the medium-to-long term, beyond 2030, as the review process of the RNC 2050 is still underway.

The narratives and the respective macroeconomic and demographic variables presented have been updated, considering the latest data available in terms of GDP and resident population, and in view of the relevant changes stemming from the effects of the COVID-19 pandemic and the economic crisis that has occurred. The GDP projections used follow the best information available at the time, namely the (provisional) GDP value of 2021 according to data from the National Statistical Institute (INE) and projections of the state budget for 2022 and 2023.

In addition to the participation of all the SPeM entities, including the different government areas, the information collection process included technical sessions with agents from the different sectors to present the results of the modelling for updating the NECP. A regional tour of Participatory Assemblies was also promoted, with the participation of the government areas of energy and climate and regional development, and the co-coordinating bodies for the revision of the NECP 2030.

The information collection process for PaMs, including there progress of implementation, also follows structured and participatory channels. It involves collaboration with SPeM entities, and public and institutional consultations. Technical sessions are conducted to present modeling outcomes, and public consultations gather contributions on both the general direction and specific content of the NECP 2030, including PaMs.

Description of the process for selecting assumptions, methodologies and models for making projections of anthropogenic greenhouse gas emissions

For the development of projections, a sector-specific and methodologically separate approach was adopted for each of the four main sectors, since there is no single model that makes it possible to project emissions for all sectors and gases in an integrated manner. Therefore, a combination of advanced modeling tools and expert-driven methods was used, tailored to each sector:

- Energy system: GHG emissions were estimated based on the TIMES_PT optimisation model which

includes, in an integrated manner, the entire Portuguese energy system starting from energy generation, transport and distribution through to consumption in the end-use sectors such as industry (including industrial processes), transport, residential, services and agriculture (only energy use) in their multiple uses (heating, cooling, lighting, electrical equipment, passenger and freight mobility, among others). It is based on linear optimization aiming to minimize the total cost of satisfying energy service demand over the 2000–2050 period. Key inputs include demand forecasts for energy services, technical and economic characteristics of technologies, availability of national resources, and policy and regulatory constraints. The model was selected for its ability to explore long-term least-cost pathways, ensure internal consistency across sub-sectors, and assess policy impacts and technological choices. Its use aligns with previous projection exercises (e.g., NECP 2030 and RNC 2050) and supports transparency and comparability.

- Agriculture, forests and other land uses: agriculture GHG emissions were estimated based on CAP Strategic Plans measures implementation. For the forest sector modelling was based on different evolution scenarios of forest fires, deforestation, new foresting implementation and other policies and measures. This sector includes animal emissions and manure management systems, fertiliser use, rural fires, and the emissions or sequestration of different land uses.

- Waste and wastewater: GHG emissions were estimated based on projections of the volume of municipal waste and domestic wastewater generated each year, considering the resident population, and the impact of the policies already adopted. This sector includes emissions from the disposal and treatment of urban and industrial solid waste and wastewater.

- Fluorinated gases: GHG emissions were estimated based on the new F-gas Regulation, Regulation (EU) 2024/573, what foresee the phasing out of some of these gases over coming decades, with, for example, a more significant reduction in emissions from commercial and industrial refrigeration in 2030 (in the WAM scenario). This sector includes emissions from the use of fluorinated gases in refrigeration and air conditioning equipment, fire protection systems and electrical switches.

Estimated GHG emissions for each sector were subsequently aggregated to calculate national total emissions.

All projections share a common macroeconomic and demographic scenario framework, including GDP and population forecasts updated to reflect recent crises such as COVID-19 and geopolitical developments. This ensures that assumptions across models are harmonized, improving consistency and comparability of results.

The selection of methodologies and assumptions reflects a balance between sectoral detail, policy relevance, and methodological robustness, drawing on past national modeling exercises and aligning with current regulatory requirements at the EU and international levels.

Institutional administrative and procedural arrangements for domestic implementation of EU's NDC

At European level and aligned with the objective of the EU climate neutrality commitment to be achieved up to 2050, the EU has set an ambitious 2030 55% GHG emissions reduction target (European Climate Law) that has been reflected in the updated EU NDC and backed by the FIT for 55 package aiming to align the EU legislation with this new objective. Under this revision, Portugal is now committed to the two main targets for 2030, namely the 28,7% GHG emissions reduction target for the non-ETS sectors, compared to 2005 levels (set by the Effort Sharing Regulation) or the LULUCF target (set by the LULUCF Regulation). In the context of the former and to comply with the new target for 2030 under the non-ETS sectors, the Annual Emission Allocations (AEA) have been revised by the Commission Implementing Decision (EU) 2023/1319 of June 28, 2023, resulting in a more ambitious emission reduction trajectory, which Portugal has been complying with.

The recent update of the NECP 2030, which has been subject to approval by the Portuguese

Parliament, in line with the new provisions and obligations laid down in the national Climate Law, was developed to ensure that the targets to which Portugal is committed in the context of the respective NDC are met.

In order to support the implementation of the NDC, Portugal has put in place a national governance architecture that includes the NECP coordination group, the SPeM and the Commission for Climate Action (CAC). These institutions ensure that both sectoral policies and overarching targets are aligned with EU and national commitments. APA and DGEG, as co-coordinators of the NECP 2030, oversee the articulation of these commitments with domestic policy implementation. Sectoral focal points designated under the SPeM structure are responsible for tracking the implementation of individual PaMs, reporting on progress, identifying barriers, and proposing adjustments as necessary. These are consolidated through APA and presented in national progress reports.

The process is supported by periodic interinstitutional consultations, the use of the Reportnet 3.0 platform, and close articulation with the national inventory system (SNIERPA), which provides methodological consistency and enables tracking of GHG effects of the implemented policies. These arrangements are designed to ensure regular, reliable and transparent follow-up of Portugal's contribution to the EU NDC, consistent with Articles 17 and 18 of the Governance Regulation.

This governance structure also supports the preparation of international reports such as the Biennial Transparency Report, ensuring alignment between EU obligations and UNFCCC transparency frameworks

Formality

Legal arrangements

The legal basis for the National System for Policies and Measures and Projections (SPeM) is provided by the Council of Ministers Resolution n.º 45/2016, of 26th August, which aims to foster the evaluation of progress in the implementation of sectoral policies and mitigation measures, enhancing the involvement and strengthening the accountability of sectors in the climate dimension in sectorial policies, ensuring:

- The management of the process of identifying and designing policies and measures, or groups of policies and measures, to limit or reduce greenhouse gas (GHG) emissions and other air pollutants by sources, or to intensify their removals by sinks, in compliance with national obligations;
- The monitoring and reporting of the implementation of policies and measures and their effects, as well as the reporting of projections in accordance with the European and international requirements and guidelines, and ensure its coherence with the national inventory of anthropogenic emissions by sources and removal by sinks of atmospheric pollutants (INERPA);
- The preparation of national projections of GHG emissions and other air pollutants by sources and their removals by sinks, as well as the expected effects of the policies and measures being implemented and to be implemented, in accordance with the European and international requirements and guidelines, in conjunction with INERPA;
- The assessment of compliance with national obligations, including sectoral targets under the climate and energy package of the European Union and the air quality targets in the horizons of 2020, 2025 and 2030, as set out in the national strategic documents of climate change policies and air quality.

The Council of Ministers Resolution, which approves the SPeM includes the institutional, legal and procedural provisions applicable to the assessment of policies and the elaboration of projections of GHG emissions.

Alignment with other reporting frameworks

GHG inventory reporting

The SPeM ensures adequate articulation with the National System of Emissions Inventory by Sources and Removal by Sinks of Air Pollutants (SNIERPA). To estimate GHG emissions the methodologies presented in the National Emissions Inventories are followed, which comply with the emissions calculation guidelines of the Intergovernmental Panel on Climate Change and relevant UNFCCC decisions for calculation of emissions and reporting emissions projections.

Article 17 of the Governance Regulation (EU) 2018/1999 (NECPR)

The National System is under revision to better integrate the monitoring of policies and measures and projections that impact on the energy transition and will enable progress in the implementation of sectoral policies and mitigation measures to be assessed. We will take advantage of existing monitoring structures at national level, adapting them to this new reality which is more integrating between energy and climate policies.

The NECP 2030 Coordination Group was created and is co-coordinated by the Portuguese Environment Agency, I. P. and the Directorate-General for Energy and Geology. This group aims to coordinate and promote the preparation and review of the NECP along the different periods, in collaboration with the entities of the National System of Policies and Measures (SPeM), in order to ensure the articulation of the national contribution to the fulfilment of the commitments established under the Energy and Climate Action Union Governance Regulation and facilitate the implementation of policy guidelines contained in the NECP 2030.

In this context, the arrangements in place also serve to respond to the obligations under Article 17 of Regulation (EU) 2018/1999 regarding integrated national energy and climate progress reports (NECPR). The NECP 2030 Coordination Group ensures the continuous flow of information and data for both the ex-ante and ex-post dimensions of the NECP, including the tracking of policies and measures and the update of projections. Through the coordination with SPeM entities and in articulation with the national inventory system (SNIERPA), the system guarantees alignment between planning instruments, progress reports, and official submissions under the Governance Regulation. This institutional setup enables coherent, streamlined, and transparent monitoring and reporting for the purposes of the NECPR.

Accountability and transparency

Quality control activities

The policies and measures and the projections QAQC available in the Reportnet 3.0 platform were used to check the completeness and coherence of the reports.

In addition to the automated checks performed through Reportnet 3.0, a broader QA/QC framework is applied to ensure the quality of reporting. For projections, quality assurance includes the validation of modeling inputs and assumptions through cross-sectoral technical consultations, as well as internal consistency checks across model outputs and historical data.

For the reporting of policies and measures, quality control is ensured through the collection of implementation data directly from SPeM focal points, with verification steps led by APA. These include cross-checks of policy timelines, responsibilities, and effectiveness against expected milestones and sectoral strategies. The consistency of PaMs with national targets and with the content of the NECP 2030 is also reviewed. In both cases, the Commission for Climate Action (CAC) provides strategic oversight and reinforces institutional coordination, contributing to the robustness of the process.

Public participation

Stakeholder engagement

The policies and measures and projections were prepared during the elaboration of the National Energy and Climate Plan (NECP 2030) and of the 2050 Carbon Neutrality Roadmap (RNC 2050), which constitutes the Portuguese Long-Term low GHG emissions development Strategy submitted to the UNFCCC and to the European Commission. These have been recently updated and significantly improved in the context of the recent NECP 2030 update.

The process of developing these energy and climate policy instruments was supported by a broad process of sectoral involvement and mobilization of the Portuguese society. This involvement occurred during the different stages of the process:

- Meetings with the participating entities of the National System of Policies and Measures (SPeM), as well as the Coordination Group of the National Strategy for Adaptation to Climate Change (GC ENAAC) in order to raise awareness of the ongoing review and gather contributions, strengthening the review process.
- Collaboration in the NECPlatform project, taking part in various multi-level dialogues with different stakeholders, including sectoral associations and agencies, local and regional representatives.
- Meetings with the five Regional Coordination and Development Commissions (CCDR) in order to provide guidelines for drawing up these regional plans so that they can contribute to better achieving the objectives of the NECP 2030 at local level.
- Technical session with agents from the different sectors to present the results of the modelling for updating the NECP 2030, in particular the demand for energy services;
- Regional Participatory Assemblies, with the participation of the government areas of energy and climate and regional development, and the entities co-ordinating the revision of the NECP 2030.

Following the above mentioned initiatives, a public consultation was carried out based on two separate periods, the first being a prior consultation to gather contributions from society on the objectives, targets and broad lines of action of the NECP 2030 and the second on the final proposal to revise the NECP 2030, taking into account the Commission's recommendations. This process had a high participation of the public sector, private sector, associations representing sectors of the economy and civil society and which contributions were in their majority incorporated in the respective final versions (both on policies and measures and projections).

Contact information for entities with overall responsibility for National Systems

The Portuguese Environment Agency (APA, I.P.) is the entity responsible for coordinating the National System of Policies and Measures and Projections (SPeM), ensuring its implementation in Portugal.

As of 1 January 2025, following an ongoing restructuring process the competences on Climate related issues, namely SPeM, are being transferred from the Portuguese Environment Agency to a newly created Agency dedicated to Climate Action - Agency for Climate (ApC, I.P.).

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