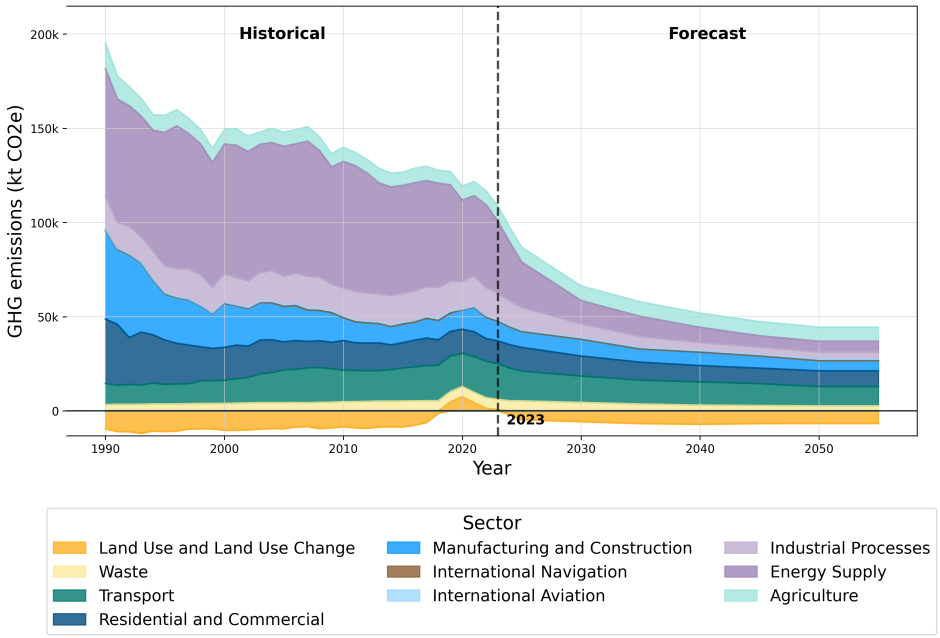
# National system for policies and measures and greenhouse gas projections of Czechia

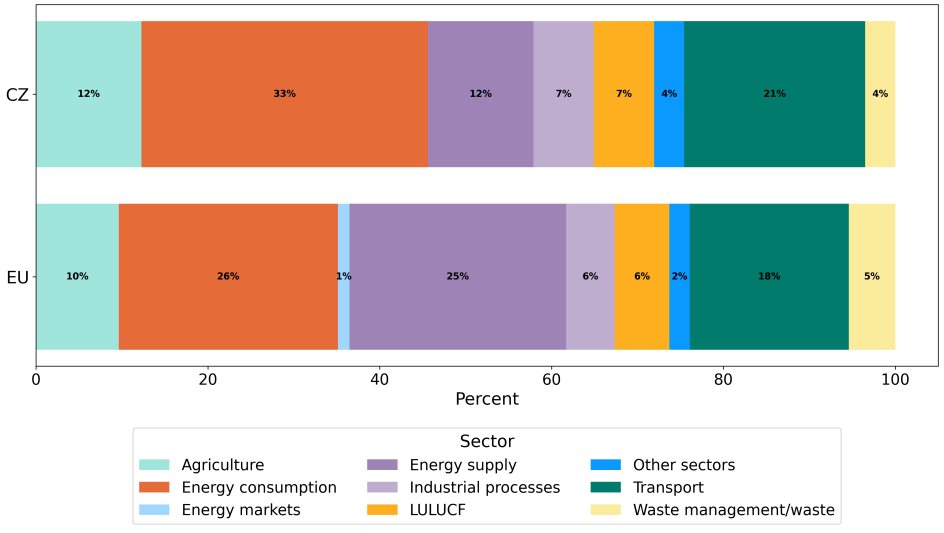
## Information reported in 2025

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 Czechia in 2025, enabled by the national system, as laid out below.

*Historical and projected greenhouse gas emission in Czechia by sector in 2025.*




*Reported climate and energy Policies and Measures by affected sector in Czechia.*



## Institutional and procedural robustness

### *Institutional arrangements*

The projections and policies and measures (PaMs) in sectors Energy, Industrial Processes and Product Use (IPPU) and Waste are prepared by the Czech Hydrometeorological Institute, with an exception for Energy categories 1A1, 1A4 prepared by Charles University Environment Centre (CUEC) and with an exception for the Transport sector prepared by MOTRAN Research, s.r.o. For the Agriculture and Land Use, Land-Use Change and Forestry (LULUCF) sectors the projections are delivered by Institute for Forest Ecosystem Reserch (IFER) with support of Crop Research Institute, s.r.o. and PaMs are prepared by the Czech Hydrometeorological Institute in cooperation with Ministry of the Environment.

Inputs are collected from all the relevant ministries and other institutions as further described in the following sections.

The Czech Hydrometeorological Institute is responsible for compiling the projections and policies and measures, archiving and overall QA/QC procedures.

The Ministry of Environment oversees the whole process and coordinates the final approval of the reporting submission. It is also involved in the QA/QC procedures.

### *Procedural and administrative arrangements and timescales*

To assure the timeliness, the contractors and experts from all sectors (Energy, IPPU, Transport, Agriculture, LULUCF, Waste) are contacted by the end of May of the year before the Reporting of projections and policies and measures. Contracts containing all requirements according to EU legislation are prepared and signed by contractors and by the Czech Hydrometeorological Institute. The Czech Hydrometeorological Institute and the Ministry of Environment are in contact with the EC and the European Environmental Agency (EEA) and provide contractors with all necessary information and documents including recommended harmonised parameter values.

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Projections for all sectors have to be finished in November of the year before the submission and in December the projections for individual sectors are compiled by the Czech Hydrometeorological Institute. During January and February of the reporting year projection data and the text part of the reporting are checked by the Ministry of Environment. The reporting is then submitted to other ministries and agencies for written comments (e.g. Ministry of Agriculture, Ministry of Industry and Trade, Ministry of Transport, etc.) in order to control the quality, accuracy and completeness. Any inconsistencies and recommendations are considered by the compilation team and eventually reflected in the final reporting.
The Czech Hydrometeorological Institute and the Ministry of Environment upload the reporting to Reportnet and communicate with the EC and the EEA in case there are any ambiguities or inaccuracies.

QA/QC conducted by the EEA is discussed with the Czech Hydrometeorological Institute and the Ministry of Environment which forward potential problems to responsible contractors and respective Ministries.

Transparency is assured by archiving of used (input) data and methodologies by the Czech Hydrometeorological Institute. Methodologies and Modalities of projection calculations and calculations of the effects and costs of PaMs are also described in the text part of the report.

Accuracy of projection data and of values regarding PaMs is checked by the Czech Hydrometeorological Institute and by the respective ministries on the basis of historical trends and input data.

The Czech Hydrometeorological Institute performs consistency checks with the inventory of the base year for projections.

Comparability regarding the source/sink categories split according to the IPCC Guidelines and the ETS/ESD split according to the ETS data provided by the Ministry of Environment are also verified by the Czech Hydrometeorological Institute. The Czech Hydrometeorological Institute inspects completeness of all sources and sinks required for projections and for all gases included in the IPCC Guidelines.

Finally, the previous GHG projections and PaMs reports by the Czech Republic have been scrutinized in detail during the UNFCCC review and assessment process for the National Communications and Biennial Reports by the UNFCCC Secretariat Expert Review Team (ERT). All recommendations made by the ERT in respect of projections and PaMs sections of the abovementioned reports have been fully taken into account by the Czech Republic.

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

The same procedure is utilised as for other reporting obligations under the Governance Regulation. The national system for policies and measures and projections was consulted and approved via the Departmental Coordination Group of the Ministry of Environment, including the relevant stakeholders.

### *Description of the information collection process*

Data for evaluation and updating of PaMs are collected from projects and programs supported by various institutions and ministries (e.g. The State Environmental Fund, Ministry of Environment, Ministry of Industry and Trade, Ministry of Agriculture, etc.). Various annual reports often provide information regarding costs and energy savings achieved by different programmes and subsidy schemes. Nevertheless, further calculations are needed to evaluate the effect of emission savings in detail. The representatives of relevant ministries and institutions are also asked to provide updates on PaMs via the Interministerial Working Group on Climate Change Issues.

There are plans to further formalize the involvement of the above-mentioned ministries and agree on more specific arrangements and obligations relating to provision of data and information on sector specific policies and measures, including quantification of their mitigation effect. Cooperation needs to be strengthened with some ministries and we expect to provide an update on the National System in this regard by the next year.

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

The base year for projections is the latest year for which there is available information on macroeconomic development, on energy and emission balances and on the national GHG emission inventory. Policies and measures which have been adopted until June of the year preceding the reporting of projections are considered as existing measures. Measures expected to be approved later are considered as additional.
Main sources for assumptions are the statistics provided by the Czech Statistical Office (CzSO) and statistics and estimates provided by the Ministry of Industry and Trade, based on collected data regarding future plans of energy and industrial companies, such as constructions of new sources or shutdowns, technical details, life expectancy, investment and operating costs.

Predictions of the number of inhabitants are based on information from CzSO. The scenarios of trends in the GDP used in projections are based on predictions provided by EGÚ Brno, a. s., for the Electricity Market Operator (OTE).

The prices of fuels on the global market and carbon prices are taken from the EC(recommended harmonised parameter values). The prices of domestic energy sources are based on the costs of their acquisition and are also affected by the competitive energy sources. Energy production projection data and energy consumption development in various sectors are in compliance with the NECP.

The bottom-up MESSAGE (Model for Energy Supply Strategy Alternatives and their General Environmental Impacts) model was previously used for the projections of CO2, CH4 a N2O emissions from categories under Energy sector (except of the category 1.A.3 Transport). One of the key inputs are the data for individual EU ETS installations provided by the Ministry of Environment. Currently the Czech Republic is in the process of migration to the TIMES model which was used for preparation of projections in 1A1 and 1A4. Further development is planned for next submission by cooperation between CHMI and CUEC.

The standard EU COPERT model is used for projections in 1.A.3 Transport. The overall transport performance forecast and the division of transport work are based on the Transport Sector Strategy (Ministry of transport, 2019).

The projections of GHG emissions in IPPU are based on data and methodology used for inventory emission estimates reported in National Inventory Report (NIR). The projections are implemented directly to the calculation sheets used for inventory emission estimates to NIR. Most of the activity data for individual subcategories is based on the forecasts by the Ministry of Industry and Trade. Emission factors (EFs) used for projections are derived as an average of EFs for selected period or EFs are calculated by forecasting methods. Where default EFs are used for inventory emission estimates in NIR, the same approach applied for projections (mainly for Tier 1 methodology and F-gases inventory emission estimates).

The projections of GHG emissions in Agriculture are based on trends in the activity data used in the emission inventory calculation. The most important sources of data are: animal population (particularly cattle and swine population), amount of fertilizers applied to agricultural soils, and annual harvest and production. The development of animal numbers is taken from the Ministry of Agriculture.

The emission estimates in the LULUCF sector are to a large degree determined by development of land areas categorized by their use. Therefore, the LULUCF emission estimates and their projections must primarily methodologically solve the issue of land areas. The actual development of six major IPCC land use categories as reported in the Czech latest emission inventory is used. The projections are based are on the observed trends and anticipation of gradually less intensive land use changes until 2030.

The specific attention is given to forest land, which always represents one of the key emission categories in the Czech emission GHG inventory. While the previous projections from 2019 used EFISCEN - the European Forest Information Scenario Model, the projections from 2021 and current projections used the Carbon Budget Model (CBM-CFS3). To use this model in the Czech national circumstances, the European Archive Database as prepared by the JRC was modified to include locally applicable biomass allometry functions for beech, pine, spruce and oak.

A Waste sector projection contains four source categories - emissions from landfills, emissions from wastewater handling and emissions from waste incineration and emissions from biological treatment of waste. For all the four sectors tier 1 methodology for the particular source sectors is applied. Emissions, activity data and parameters up to current reporting year are from the common reporting format (CRF) and VISOH ("Veřejné informace o produkci a nakládání s odpady").

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

The national GHG projections and inventory are used for tracking of progress towards achieving the national GHG targets and contributing to the achievement of the EU's nationally determined contribution. These projections are also used in the process of evaluation of specific policies, such as the currently ongoing evaluation of the Climate Protection Policy of the Czech Republic. The policies are always designed to fulfil the relevant EU and international targets and we are currently working on new policy scenarios for achieving the new EU targets for 2030 and 2050. However, there are no specific institutional administrative and procedural arrangements governing the abovementioned processes.

## Formality

### *Legal arrangements*

There is no specific legal framework for reporting on projections and PaMs in the Czech Republic. The Governance Regulation is directly applicable.

## Alignment with other reporting frameworks

### *GHG inventory reporting*

The same department of the Czech Hydrometeorological Institute is responsible for compiling of the GHG inventories and projections and PaMs submissions. With some exceptions the same external contractors for specific sectors are also involved in the preparation of GHG inventories and projections and PaMs for the respective sectors. The arrangements for checking and approval procedure by the Ministry of Environment are also very similar and coordinated by the same Ministry department. This ensures full consistency and alignment with the National Inventory System.

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

The overall responsibility for the preparation of the National Energy and Climate Plan (NECP) lies with the Ministry of Industry and Trade. Ministry of Environment is responsible for providing the specific chapters and data regarding national GHG projections, inventories and targets. The same projections, compiled by the Czech Hydrometeorological Institute, were used for both the NECP and reporting under the Monitoring Mechanism Regulation (MMR). The Ministry of Industry and Trade provided key assumptions for the projections, such as the expected development of energy consumption.

The arrangement will be the same for the integrated national energy and climate progress report pursuant to Art. 17 of the Governance Regulation. The progress report will include latest information from national GHG inventories and reporting on projections and PaMs, compiled by the Czech Hydrometeorological Institute.

## Accountability and transparency

### *Quality control activities*

Projections and PaMs in all sectors are first checked by the experts of a respective contractors which have sufficient knowledge about the topic. The second check is conducted by the specialist of the Czech Hydrometeorological Institute and the Ministry of Environment. Primarily the following data and information are verified:

- Compliance of activity and emission data for the projection base year with the latest GHG inventory data
- Compliance of the development of energy production and energy consumption in various sectors with the State Energy Policy
- Completeness of data and information required by the Governance Regulation
- The split of ETS/ESD emissions
- Effects and costs of PaMs, description of methods for their calculations
- Differences to previous reporting of projections and PaMs

In case of shortcomings the respective contractor is required to correct the deficiency.
The reporting is forwarded to other Ministries or agencies (e.g. Ministry of Agriculture, Ministry of Industry and Trade, Ministry of Transport, etc.) to provide questions, comments and suggestions for further improvements.

Sensitivity analysis of projections of greenhouse gas emissions from 1.A.1.a and 1.A.4. is based on two adjusted parameters. Firstly, the low and high price of the natural gas from the Recommended parameters for reporting on GHG projections in 2023 (DG Climate Action, 2022) are applied. Second, the final energy service demands in category 1.A.4 are increased or decreased by 5 %.

Sensitivity analysis for the 1.A.2, 1.A.5 and 1.B is based on the changes in input data for +/-5% in the major indicators. Those changes are resulting in changes in the final projected emissions.

The sensitivity analysis for 1.A.3 Transport was done with a help of the Monte Carlo method that relies on repeated random sampling to obtain numerical results.

Projections of GHG emissions from IPPU, Agriculture and Waste sector are based on calculation sheets used for emission estimates in NIR. If activity data of these sectors will change by ±5%, then

emissions will change by ±5%, because emission factors used for inventory emission estimates are constant during the projected period.

Sensitivity analysis in LULUCF sector is conducted by analyzing the changes effect of harvest on the total emissions. Harvest level affects emissions of the land use category 4.A Forest land, and correspondingly also 4.G HWP contribution. These are the key categories of the Czech emission inventory, determined by biomass carbon stock changes in the sub-category 4.A.1 Land remaining Forest land and the stocks of 4.G HWP. Harvest intensity reflecting the forest management and natural disturbances in the country is the factor affecting changes in forest growing stock volume, ecosystem carbon stock and GHG emission balance in the LULUCF sector.
The role of harvest quantity is demonstrated on the sensitivity analysis using smaller or larger overall harvest demand by 10 % with respect to the selected baseline (harvest as in WEM scenario) using the CBM-CSF3 model.

## Public participation

### *Stakeholder engagement*

Other relevant Ministries and agencies provide their inputs and comments through their representatives in the Interministerial Working Group on Climate Change Issues. Drafts of reporting submissions and outputs are then sent for written comments through the Departmental Coordination Group of the Ministry of Environment to the relevant stakeholders before the final submission. This Coordination group includes the abovementioned Ministries and agencies and also representatives from industry and NGOs.

## Contact information for entities with overall responsibility for National Systems

The Ministry of Environment is responsible for overall co-ordination of greenhouse gas (GHG) emissions projections, providing information on the policies and measures (PaMs) and their submission to the European Commission (EC). The Czech Hydrometeorological Institute, founded by the Ministry of Environment, is appointed by the Minister of Environment as the organization responsible for preparation of emission projections and PaMs and also the compilation of national GHG inventories. The Ministry of Environment provides the core budget for the National System for policies and measures and projections and the National Inventory System. The Czech Hydrometerorological Institute is responsible for contracting the expert organizations for developing projections and PaMs for the individual sectors and its role is further explained in the following sections.

The main contact person for National System for policies and measures and projections is:

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