Is Czechia on track to greenhouse gas emission reduction 2030 target? Climate and energy indicators behind the recent decrease in the greenhouse gas emissions in Czechia

Na cestě k cílům roku 2030: klimatické a energetické ukazatele stojící za nedávným poklesem emisí skleníkových plynů v České republice

Risto Saarikivi
Český hydrometeorologický ústav
Na Šabatce 2050/17
143 06 Praha 4-Komořany
ristojuhana.saarikivi@hmi.cz

Cílem České republiky je dosáhnout do roku 2030 snížení emisí skleníkových plynů v souladu se závazky balíčku Fit for 55 a do roku 2050 směřovat k dosažení klimatické neutrality (MOE 2024). Trend emisí skleníkových plynů byl v posledních pěti letech 2019–2024 prudce klesající a v roce 2023 poprvé emise skleníkových plynů klesly pod Mt 100 CO_2 ekv. (CHMI 2025). Hlavními faktory prudkého poklesu čistých emisí skleníkových plynů v letech 2019–2024 byly vývoj spotřeby paliv v odvětví energetiky (EEA 2025c) a návrat odvětví LULUCF k roli propadu emisí v roce 2023 namísto role zdroje (EEA 2025a). Podle nejnovějších předběžných údajů Evropské agentury pro životní prostředí (EEA) se předpokládá, že Česká republika splní svůj cíl snížení emisí skleníkových plynů (GHG) pro roční emisní příděly (AEA) v roce 2024 (EC 2025a).

Socioekonomické a energetické ukazatele odhalují důvody poklesu emisí skleníkových plynů; jedná se především o pokles celkové spotřeby primární energie (PEC) a při bližším pohledu na rozčleněné údaje je patrné, že spotřeba pevných fosilních paliv v rámci PEC klesá, zatímco spotřeba obnovitelných zdrojů energie v rámci PEC roste. Na rozdíl od zmíněných úspěchů však podíl obnovitelných zdrojů energie v dopravě klesl a spotřeba kapalných paliv v rámci PEC v letech 2019 až 2024 vzrostla. Aby Česká republika splnila své cíle v oblasti snižování emisí do roku 2030, je třeba pokračovat v postupném odklonu od uhlí, jak je plánováno v Národním energetickém a klimatickém plánu (MIT, MOE 2024), ale je také nutné snížit závislost na ropě, jinak Česká republika riskuje, že nesplní cíl pro rok 2030 (EEA 2025c).

KLÍČOVÁ SLOVA: Česká republika – EU AEAs – cíle klimatické – politika klimatická – emise skleníkových plynů – Národní klimatický a energetický plán – paliva fosilních – oteplování globální – ukazatele klimatické

KEYWORDS: the Czech Republic – EU AEAs – climate targets – climate policy – greenhouse gas emissions – National Climate and Energy Plan – fossil fuel – global warming – climate indicators

1. Introduction

The European Climate Law creates a greenhouse gas (GHG) emissions reduction obligation to the Czech Republic. The Czech Republic has also ratified the Paris Agreement, which aims to keep global warming within 1.5°C by reducing GHG emissions. These international obligations are reflected in the National Energy and Climate Plan (NECP), which includes detailed policies to reduce GHG emissions in accordance with binding EU targets (MIT, MOE 2024). Climate actions are needed; 2024 was the first year to exceed 1.5°C above pre-industrial levels and was the warmest year globally (Copernicus 2025).

The European Climate Law was at that time, in December 2024 under revision as regards the new EU 2040 climate target. At the time of this research, the 2021 Climate Law version is still in force, and the relevant 2030 target part is still the same; a binding EU target of a net domestic reduction in greenhouse gas emissions by at least 55% (compared to 1990 levels) by 2030, and reaching net zero emissions by 2050 (EU 2021). Annex I of Regulation (EU) 2023/857 sets a new AEAs 2030 target for the Czech Republic to be –26% compared to the base year 2005 (EU 2023c). The scope of this paper is to evaluate progress towards the two targets:

- –55% reduction of the net domestic GHG emissions by 2030, base year being 1990
- –26% reduction of the AEAs by 2030, base year being 2005

Legislation for targets:
- The European Union Climate Law for the GHG emissions (EU 2021)
- Annex I Regulation (EU) 2023/857 for the AEAs (EU 2023c)

https://doi.org/10.59984/mz.2026.01.02

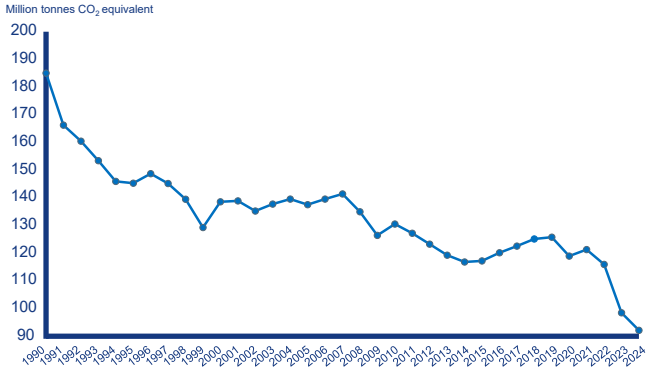


Fig. 1. Czech Republic net GHG emissions Mt CO_2 eq. 1990–2024.
Obr. 1 Čisté emise skleníkových plynů v České republice v Mt CO_2 ekv. v letech 1990–2024.

- Article 4 of Regulation (EU) 2018/842 for the Effort Sharing Regulation (EU 2018)

In 2023, the net emissions decreased below Mt 100 CO_2 eq. in the Czech Republic, and as Figure 1 shows, the emissions have been decreasing from 2019 onward, excluding the COVID-year bounce-back in 2021. The decrease has been steep from 2019 to 2024 (EEA 2025a).

By studying the Czech Republic's GHG emission trends and finding reasons for its behaviour, this study evaluates whether the Czech Republic is on track to achieve the 2030 emissions targets, how the Czech Republic is succeeding and where the possible risk of not meeting the targets lies. For information related to projections, climate policies and targets up to 2050, please see the Biannual Transparency Report of the Czech Republic (MOE 2024).

2. Method and data collection

Quantitative evaluation methodology applied here is based on performance indicators; "Performance indicators compare actual conditions with a specific set of reference conditions. They measure the 'distance(s)' between the current environmental situation and the desired situation (target): 'distance to target' assessment." (EEA 1999). The paper has comparisons to base year 1990, when evaluating progress to the net GHG –55% by 2030 target, but the 2005 base year is also applied as it is the official base year in the EEA Energy Efficiency indicators and in the renewable energy indicators. The year 2019 is selected because the goal is to explain also the most recent changes in the GHG emission trend 2019–2024.

Performance indicators are used for providing information to policy makers and supporting policy development and priority setting (EEA 1999). The results will be applied in the National GHG Inventory Report of the Czech Republic and also in the next BTR to explain the recent significant GHG emission trend changes. The paper is designed to support the Czech Republic's communications with the Technical Expert Review (TER) team in the next UNFCCC review in March 2026.

The World Bank Handbook on Impact Evaluation describes the use of ex ante analysis and ex post analysis. An exante impact evaluation attempts to measure the intended impacts of future programs and policies, and ex post evaluations, in contrast, measure actual impacts accrued. An ex post impact exercise is easier to carry out if the researchers have an exante design of impact evaluation. Mixed use of ex post and ex ante analysis is common (WB 2009). In this case, ex post analysis has been applied by using energy and climate indicators from the EEA to track progress towards the 2030 targets. Official Czech Republic projections to 2030 have been assessed by the EU to be on target and are not disputed in this paper. Instead, the focus is on looking for evidence ex post, which supports the assumption that the Czech Republic is on target, and on whether disaggregated data in indicators and in the GHG sectors reveal possible weaknesses and uncertainties for reaching the 2030 targets.

Data sources for indicators:
- GHG emissions in kt CO_2 eq. (EEA 2025a)
- Annual Emission Allocations (AEAs) in Mt CO_2 eq. (EC 2025b)
- RES, PEC and FEC in ktoe (EEA 2025b,c)
- Fossil fuel subsidies in % of GDP (EEA 2025d)
- Historical and projections of GDP in annual percentage change, inflation rate and unemployment rate (IMF 2025)

Examined data sources are used as indicators in the article. Indicators provide insight into the reasons why GHG emissions change and whether a specific objective is being met. From now on in the article, indicators are referred to only by their data source name.

The main data source is the GHG database of the European Environment Agency (EEA) for the main kt CO_2 eq. trend. Time series up to 2023 are official t-2 values. The year 2024, t-1, is the latest available preliminary data. Preliminary data are available for the main GHG values, renewable energy share (RES) values, primary energy consumption (PEC) and final energy consumption (FEC) values. Preliminary t-1 datasets for GHG, RES, PEC and FEC were produced by CHMI Risto Saarikivi for the European Topic Centre (ETC), and the EEA in October 2025.

The GHG preliminary values were submitted by the European Union (EU) Member States (MSs) via Reportnet3 and its dataflow 1 450 to the EEA GHG database. Saarikivi is the steward of dataflow 1 450. The accuracy of preliminary t-1 data was last year 0.2% for the EU and 2.4% for the Czech Republic 2.4% after clearing the effect of the Member State (MS) recalculations (ETC 2025). As t-2 values are not yet available for the year 2024, the accuracy of the preliminary values cannot be stated, but as the methodology of collecting the data and circumstances have stayed the same, previous year's deviation is the best indicator of accuracy for the 2024 EEA preliminary values in this paper.

The t-1 RES, PEC and FEC dataflows are built on official Eurostat t-2 datasets (Eurostat 2025). Drivers for the preliminary t-1 values come from Eurostat, Eurobserver and directly from the MSs themselves during the EEA consultations with the MSs. The RES is built on the Renewable Energy Directive II (EU 2025a) SHARES template (Eurostat 2025). PEC and FEC apply the latest Energy Efficiency Directive (EED) methodology (EU 2023b). The EED may cause differences as most of the MSs have not yet produced their values using the latest EED methodology and Eurostat has only totals available. Hence, any other published PEC and FEC values for the Czech Republic, if not the latest EEA EED values, will differ from the values applied in this paper.

The preliminary Annual Emission Allocations (AEAs) of the EU for the Czech Republic (EC 2025a) are presented here for the purpose of evaluating whether the Czech Republic is on

track to its –26% reduction target against the 2005 base year. The Effort Sharing Regulation (ESR) emissions are calculated by subtracting the Emissions Trading System (ETS) emissions, domestic aviation CO_2 emissions and emissions from non-compliant biofuels from the total GHG emissions with indirect CO_2 emissions, but without LULUCF (ETC 2025). The 2024 AEAs value is based on the approximated GHG inventory for the EU and its ESR data created by Saarikivi for the ETC and the EEA (EEA 2025a). It is important to highlight that these are preliminary values. T-2 data for 2024 were not yet available at the time of preparing the article. Further, the compliance assessment of the AEAs will be carried out in 2027 based on the year 2025 t-2 Effort Sharing Regulation (ESR) emission data.

Additional datasets that have been used in evaluation are the gross domestic product (GDP), inflation rate and unemployment rate from the International Monetary Fund (IMF). Export of electricity values and data about the fossil fuel subsidies are from the EEA. Export and import of electricity are important indicators to evaluate why the kt CO_2 eq. trend is decreasing. The other indicators above are studied to evaluate whether they can be assumed to be not affecting the trend in the future as they remain fairly constant, and what part of the GHG emission reductions they might have contributed to in the recent past.

The oddity of the COVID year has been controlled for by examining the latest five-year time period 2019–2024 in the kt CO_2 eq. trend, which means the odd COVID year and its bounce-back effect are within the time series and do not affect comparison. The full 1990–2024 time series for the Czech Republic is also presented to have the latest five-year period in bigger picture. As we are halfway to 2030, a five-year period is appropriate for evaluating what to expect for the years towards the target year 2030, if we keep climate actions as they are.

3. Results and evaluation

The European Union Climate Law sets a –55% reduction target for 2030 (EU 2021). Due to the recent steep decrease in GHG emissions from 2019 to 2024, the Czech Republic has reduced net emissions from 1990 level by –50.4% (EEA 2025a). The reduction was only –32.0% in 2019 compared to 1990. In 2030, absolute net emissions should be 83 Mt CO_2 eq. to meet the –55% reduction. Does a reduction of total net –9.1 Mt CO_2 eq. emissions or a constant –1.5 Mt CO_2 eq. a year until 2030 seem realistic? Based on recent historical performance, the last six years' total net emissions have decreased annually by –5.5 Mt CO_2 eq. and the last five years even more by –6.7 Mt CO_2 eq. Considering the current steep progress, the more moderate –1.5 Mt CO_2 eq., annual target pathway seems realistic and attainable. The recent year's progress in total net emissions indicates that the Czech Republic is on track to meet the –55% reduction target by 2030.

The energy sector, with its transition away from fossil fuel consumption as seen in Figure 3 (EEA 2025c), and the recovery of the LULUCF sector (Figure 2) back to being an emission sink in 2023, instead of being a source due to the bark beetle calamity, have been the main factors behind the steep decrease of the net GHG emissions (EEA 2025a). The LULUCF sector sink recovered an impressive 10 326 kt CO_2 eq. from 2019 to 2024. LULUCF as a source peaked in 2020 with 7 460 kt CO_2 eq. due to severe droughts and warm weather conditions. Climate change has contributed to the deteriorating conditions for trees to withstand pests (CHMI 2025). Maintaining and tapping into the potential of the forest sink is one of the keys for the Czech Republic to reach the 2030 targets. The LULUCF sink was at its largest in 1993, almost –12 Mt CO_2 eq., and in 2005 it was still almost –12 Mt CO_2 eq. Currently the sink has recovered to –5.6 Mt CO_2 eq. (EEA 2025a). The recovery of the sink is a strong sign that the Czech Republic may reach its 2030 GHG emission targets. The EU has separate MS targets for the LULUCF sink, which were allocated before the bark beetle calamity in the Czech Republic, but this is out of scope of the article.

The IPPU sector has shown an impressive –28% drop in emissions since 2019, while emissions from Agriculture have increased by 13% and those from Waste by 1% (EEA 2025a). The closing of energy-intensive steel factories has contributed to the decrease in emissions in the IPPU sector (CHMI 2025).

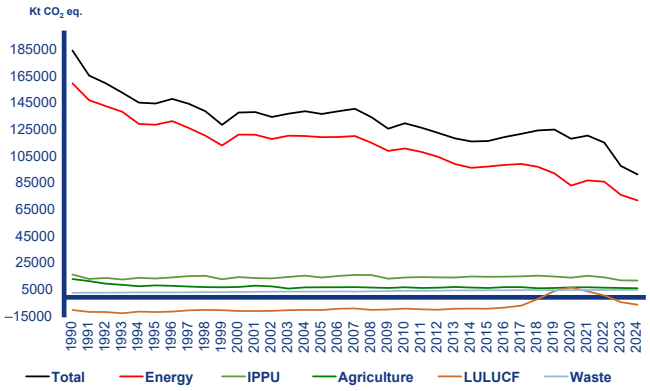


Fig. 2. Czech Republic GHG emissions by sectors 1990–2024.
Obr. 2 Emise skleníkových plynů v České republice podle odvětví v letech 1990–2024.

The GHG emissions reduction potential is clearly in the Energy sector. By observing sector trends in Figure 2, the Energy sector has been the main source of emissions, but also the main contributor to the emission reductions from 2005 to 2024, when emissions were reduced in the Energy sector by –39.5%. Hence, the focus of the article is more on the indicators that affect the Energy sector.

The EEA energy efficiency indicators time series is available from 2005 onwards (EEA 2025c). The PEC fossil total and PEC

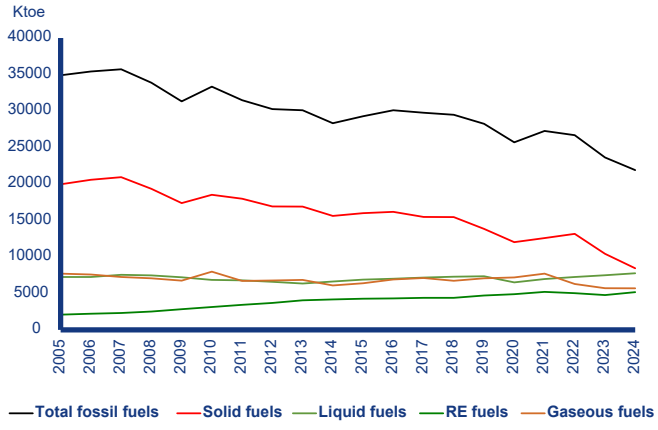


Fig. 3. Primary energy consumption 2005–2024.
Obr. 3 Spotřeba primární energie v letech 2005–2024.

fossil solid fuels trends in Figure 3 match the total and Energy sector trend shapes in Figure 2. PEC is decreasing by –19.5%, while PEC RE is increasing by more than twice as much, at 248.1% and PEC fossil total is instead decreasing by –37.2% (EEA 2025c).

Table 1 focuses on explaining the most recent GHG emission trend change from 2019 to 2024 as seen in Figure 2, when emissions were reduced by 26.7% in the Energy sector (EEA 2025a). PEC solid, liquid and gaseous are fossil fuels in Table 1. PEC total decreases by –13.9%, while PEC RE is increasing by 10.0% and PEC fossil total is instead decreasing by –22.5%, which implies an economic transition away from fossils to renewables. The PEC gaseous –19.3% drop is affected by the Russian war in Ukraine and the war's effect on fuel prices in the European market (ETC 2025). PEC liquid is the only fossil fuel to increase, by 5.6%. The same can be observed in Table 2 for final energy consumption trends from 2019 to 2024 (EEA 2025c). FEC transport fossil increases by 3% and RE decreases by –1.5%, which is contrary to any other fuel consumption trend. Despite the increasing FEC in the transportation sector, a decrease of –10.4% in FEC industry and –16.7% in FEC other, while total FEC is decreasing by –9.3%, shows that economy-wide, the Czech Republic is consuming fewer fossils and the energy efficiency trend is steadily increasing.

Table 1. Trend change from 2019 to 2024 for primary energy consumption.
Tab. 1 Změna trendu ve spotřebě primární energie v letech 2019 až 2024.

Fuel	PEC total	PEC fossil	PEC solid	PEC liquid	PEC gaseous	PEC RE
% Δ	–13.9	–22.5	–39.0	5.6	–19.3	10.0

Table 2. Trend change from 2019 to 2024 for final energy consumption by sector.
Tab. 2 Změna trendu ve spotřebě finální energie podle odvětví v letech 2019 až 2024.

Fuel	FEC total	FEC transport fossil	FEC transport RE	FEC industry	FEC other
% Δ	–9.3	3.0	–1.5	–10.4	–16.7

Renewable energy share % changes from 2019 to 2024 tell the same story as the PEC and FEC values. RES total increases by 4.4%. RES heating and cooling increases by 7.4%, RES electricity by 3.9%, but RES transportation is instead decreasing by –1.8% (EEA 2025b).

Table 3 provides insights into why PEC solid fuel has decreased. The demand for electricity produced by solid fossil fuels has decreased in the European electricity market. Electricity exports have decreased by –8.8% during 2019–2024 (EEA 2025b). Not only has the domestic consumption of energy decreased, but also decreasing demand for Czech energy exports has contributed to the recent GHG emission decrease.

Table 3. Electricity exports 2019–2024.
Tab. 3 Vývoz elektřiny v letech 2019–2024.

Ktoe	2019	2020	2021	2022	2023	2024	% Δ
Exports	24 123	23 521	26 228	30 255	22 648	22 009	–8.8

Table 4 looks more closely into the annual GHG emission trend change in the last six years. Three data points stood out: –5.4% in 2020, +2.0% in 2021 and –15.1% in 2023. The first one is explained by COVID and the second one as the bounce-back effect from the extraordinary COVID year. Comparing Table 5 values to Table 4 explains the 2023 GHG emission reduction outlier. The GDP growth dropped from 2.8% in 2022 to a stagnating level of 0% in 2023, while in 2024 GDP recovered again to a steadier, although modest, growth level of 1.2% (IMF 2025). In 2023, both GDP and GHG emissions decreased more than in other years. The inflation rate was also high in 2022 (15.1%) and 2023 (10.7%) but fell back to normal levels in 2024 (2.4%). Although the GHG emissions and GDP trends have decoupled in the Czech Republic, the GDP reduction in 2023 has clearly amplified the decreasing GHG emissions trend even further.

Another factor that could possibly disturb energy consumption and hence the development of GHG emissions is fossil fuel subsidies. According to the EEA data, the Czech Republic fossil fuel subsidies as a % of GDP have stayed below the EU average from 2015 to 2024, have remained fairly constant and only experienced a slight increase in 2022 due to the energy crisis. Instead, the average increase in the EU was unfortunately high in 2022, rising from 0.37% to 0.81%, while in the Czech Republic the increase was only from 0.18% to 0.25%, and subsequently returned to close to previous levels at 0.20% (EEA 2025d). Reducing the amount of remaining fossil fuel subsidies would bolster the increase of energy efficiency and RES trends and further speed up the transition towards a carbon-neutral economy.

Table 4. Annual net GHG trend change percentage 2019–2024.
Tab. 4 Procentuální změna ročního trendu čistých emisí skleníkových plynů v letech 2019–2024.

Year Δ	2019	2020	2021	2022	2023	2024
%	+0.5	–5.4	+2.0	–4.4	–15.1	–6.4

Table 5. Trend change of socioeconomic indicators 2019–2024.
Tab. 5 Vývoj socioekonomických ukazatelů v letech 2019–2024.

%	2019	2020	2021	2022	2023	2024
GDP	3.6	–5.3	3.8	2.8	0	1.2
Inflation	2.8	3.2	3.8	15.1	10.7	2.4
Unemployment	2	2.5	2.7	2.2	2.6	2.6

If the IMF estimates in Table 6 remain accurate, then socioeconomic factors – GDP, inflation and unemployment will not play a sudden significant role in the development of the GHG emission trend up to 2030 (IMF 2025).

The European Commission (EC) provides an assessment of AEAs annually to inform MSs whether they have a surplus or deficit of AEAs. Based on the AEAs communicated to the Ministry of Environment (MoE) by the EC in September 2025, the Czech Republic is on target (EC 2025b) and is predicted to have a 0.2 Mt surplus of AEAs in 2024, which can also be seen by comparing the ESR and AEAs 2024 preliminary (p) values in Tables 7 and 8 (EC 2025b).

Table 6. Trend change of projected socioeconomic indicators 2025–2030.
Tab. 6 Změna trendu předpokládaných socioekonomických ukazatelů v letech 2025–2030.

%	2025	2026	2027	2028	2029	2030
GDP	2.3	2	2	2	2	2
Inflation	2.5	2.3	2.3	2.2	2	2
Unemployment	2.5	2.4	2.4	2.4	2.4	2.4

Table 7. Change in Czech Republic ETS and ESR emissions 2023–2024.
Tab. 7 Vývoj emisí v rámci systému obchodování s emisemi (ETS) a emisí v rámci sdíleného úsilí (ESR, emise ze sektorů mimo ETS) v České republice v letech 2023–2024.

Year	2023 GHG emissions			2024 GHG emissions, p			Change 2023–2024, p		
Emissions	Total	ETS	ESR	Total	ETS	ESR	Total	ETS	ESR
Mt CO_2 eq.	102.5	46.7	55.8	98.1	40.6	57.5	−4.3%	−13.1%	+3.1%

Commission Implementing Decision (EU) 2020/2176 sets 2005 as the baseline for the 2030 targets (EU 2020) and Annex I Regulation (EU) 2023/857 sets a new AEAs 2030 target for the Czech Republic, which is −26% compared to the base year 2005 (EU 2023c). The Czech Republic has official projections that meet the AEAs targets. The EC preliminary assessment also estimated no emission gap for ESR sectors without flexibilities for the Czech Republic but instead predicted a cumulative surplus of AEAs from all the years from 2021 to 2030 (EC 2025c). In 2024 Czech Republic was in a good position to continue the reduction of GHG emissions compared to some of the EU MSs; 10 MSs are not in AEAs compliance in 2024 (EC 2025a) and 12 MSs are estimated to have a cumulative emission gap without flexibilities in 2030; Austria, Belgium, Cyprus, Germany, Estonia, Croatia, Ireland, Italy, Malta and Sweden (EC 2025c). On the other hand, the reduction of ESR emissions from 2005 to 2024 has been only −11.2% for the Czech Republic, while in Table 8, AEAs are estimated to decrease more quickly by −16.6% from 2024 to 2030 (EC 2025c).

Table 8. Annual Emission Allocations 2026–2030 Czech Republic.
Tab. 8 Roční emisní kvóty na období 2026–2030 pro Českou republiku.

AEAs	2005	2024, p	2026	2027	2028	2029	2030
Mt	65.0	57.7	54.0	52.5	51.0	49.6	48.1
Δ	–	–	−3.7	−1.5	−1.5	−1.4	−1.5

4. Conclusion

The historical analysis of the net domestic GHG emissions provides evidence that the Czech Republic is on track to meet the EU GHG emission reduction target of −55% compared to 1990 by 2030. The transition away from fossil fuel consumption to renewable energy has been one of the main reasons behind the decrease in GHG emissions, with evidence provided by the disaggregated sectoral and fuel-type data analysis based on the latest available EEA preliminary data (EEA 2025b,c). Changes in the European electricity market have also accelerated the GHG emissions decrease, as the demand for the Czech Republic's electricity exports has decreased (EEA 2025b).

One of the recent success stories in the reduction of solid fossil fuel consumption is that the LULUCF sector turned back from an emission source into a sink in 2023 and continued to increase as a sink in 2024 (EEA 2025a). The strengthening of the LULUCF sector provides evidence that the Czech Republic is on track to meet the −55% target by 2030.

However, ESR emissions have decreased by only −11.2% since 2005, while the estimated 2024–2030 pathway requires a 16.6% decrease, creating an element of uncertainty regarding the expected compliance. The Transportation sector also has a slightly increasing yet alarming GHG emission trend. The Transportation sector is included in the ESR, but road transport will be included in the new ETS2 (EU 2023d), which will help with ESR target compliance.

The socioeconomic conditions to 2030 are predicted to be stable by the IMF, but a sudden economic boom or stagnation is always a possibility, as economic predictions become increasingly uncertain further into the future. If the IMF projections are accurate, then socioeconomic factors will not produce any positive or negative shocks to the development of GHG emissions (IMF 2025). On the other hand, the stagnation of GDP in 2023 explains the −15.1% GHG emission decrease in 2023, which is far more than in 2022 or 2024, when GDP annual percentage growth was modest. Despite the IMF predictions, when the next economic boom is experienced in the Czech Republic, the GHG emission trend will be affected depending on whether the economic boom is driven by a transformation to renewable energy or not. In 2019–2024, the primary energy consumption of renewable energy increased by 10%, implying that the transformation is happening and is real (EEA 2025c).

Unfortunately, the Agriculture, Waste and Transportation sectors have not been contributing towards the 2030 targets recently; instead, emissions from these sectors have been increasing from 2019 to 2024. Emission increases in the Transportation sector are due to recent increases in the primary energy consumption of liquid fossil fuels (EEA 2025c), which is also reflected in the decreasing trend in the RES transportation share (EEA 2025b). The FEC transportation indicators provide the same evidence.

The increasing of the LULUCF sink might offset emissions from the Agriculture, Waste and Transportation sectors towards achieving the −55% target, but LULUCF is not included in the ESR; hence, it will not help keep ESR emissions within the AEAs until 2030. Therefore, the conclusion is less positive: until the Transportation, Agriculture and Waste sectors start sharing the burden of GHG emission reduction, the Czech Republic may risk not reaching the 2030 emission reduction targets.

Abbreviations:

AEAs	Annual Emission Allocations
CHMI	Czech Hydrometeorological Institute
EEA	European Environment Agency
EED	Energy Efficiency Directive
ESD	Effort Sharing Decision
ESR	Effort Sharing Regulation

ETC	European Topic Centre
ETS	Emissions Trading System
FEC	Final Energy Consumption
IMF	International Monetary Fund
IPCC	Intergovernmental Panel on Climate Change
IPPU	Industrial Processes and Product Use
LULUCF	Land Use, Land-Use Change and Forestry
NIR	National Inventory Report
MIT	Ministry of Industry and Trade
MOE	Ministry of the Environment
PA	Paris Agreement
PEC	Primary Energy Consumption
RE	Renewable Energy
RES	Renewable Energy Share
UNFCCC	United Nations Framework Convention on Climate Change

Acknowledgments:

The author would like to thank Tereza Pikousová for her support in disaggregating EED totals into subsector values, and Jitka Slámová and the Czech GHG inventory team for submitting the Czech t-1 GHG inventory to Reportnet3.

References:

CHMI, 2025. National Greenhouse Gas Inventory Report 1990–2023 [online]. [accessed on 26. 07. 2025]. Available from: https://unfccc.int/documents/646487.

COPERNICUS, 2025. Press release 10. 1. 2025 [online]. [accessed on 20. 08. 2025]. Available from: https://climate.copernicus.eu/copernicus-2024-first-year-exceed-15degc-above-pre-industrial-level.

EC, 2025a. Annual Emission Allocations 2026–2030 CZ, communicated 30. 9. 2025.

EC, 2025b. Letter on progress towards 2030 climate targets for ministers; European Commission annual assessment of the ESR targets. Wopke Hoekstra, Brussels, 22. 10. 2025.

EC, 2025c. Preliminary progress assessment towards ESR target, communicated 10. 12. 2025.

EEA, 2025a. Approximated estimates for greenhouse Gas emissions, Prod-ID: DAT-205-en, 6. 11. 2025 [online]. [accessed on 07. 11. 2025]. Available from: https://www.eea.europa.eu/en/datahub/datahubitem-view/f6e68f73-b494-4f8c-8c73-8a153a53f64a.

EEA, 2025b. Approximated estimates for the share of gross final consumption of renewable energy sources, Prod-ID: DAT-187-en, 6. 11. 2025 [online]. [accessed on 08. 11. 2025]. Available from: https://www.eea.europa.eu/en/datahub/datahubitem-view/1fd08152-1371-4274-8091-b50467738376.

EEA, 2025c. Approximated estimates for the primary and final consumption of energy, Prod-ID: DAT-186-en, 26. 11. 2025 [online]. [accessed on 27. 11. 2025]. Available from: https://www.eea.europa.eu/en/datahub/datahubitem-view/d4943227-c1c2-430d--8cb3-bebc2dd8666c.

EEA, 2025d. Europe environment 2025. Fossil fuel subsidies. 29. 9. 2025 [online]. [accessed on 16. 10. 2025]. Available from: https://www.eea.europa.eu/en/europe-environment-2025/countries/czechia/fossil-fuel-subsidies.

EEA, 1999. Environmental indicators: Typology and overview. Technical report No 25. Copenhagen [online]. [accessed on 05. 08. 2025]. Available from: https://www.eea.europa.eu/publications/TEC25/at_download/file.

ETC, 2025. Approximated greenhouse gas inventory for the European Union. Eionet Report - ETC/CM 2025/03 [online]. [accessed on 04. 11. 2025]. Available from: https://www.eionet.europa.eu/etcs/etc-cm/products/etc-cm-report-2025-03.

EU, 2018a. Article 4 of Regulation (EU) 2018/842, the Effort Sharing Regulation [online]. [accessed on 03. 11. 2025]. Available from: http://data.europa.eu/eli/reg/2018/842/2023-05-16.

EU, 2018b. Article 29(5)(c) of Regulation (EU) 2018/1999, the Governance Regulation [online]. [accessed on 05. 12. 2025]. Available from: http://data.europa.eu/eli/reg/2018/1999/2023-11-20.

EU, 2020. Commission Implementing Decision (EU) 2020/2176 [online]. [accessed on 26. 11. 2025]. Available from: eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX%3A32020D2126.

EU, 2021. Regulation (EU) 2021/1119 of the European Parliament and of the Council of 30 June 2021 establishing the framework for achieving climate neutrality and amending Regulations (EC) No 401/2009 and (EU) 2018/1999 ('European Climate Law') [online]. [accessed on 28. 08. 2025]. Available from: http://data.europa.eu/eli/reg/2021/1119/oj.

EU, 2023a. EU Renewable Energy Directive (EU/2023/2413) [online]. [accessed on 02. 11. 2025]. Available from: http://data.europa.eu/eli/dir/2023/2413/oj.

EU, 2023b. EU Energy Efficiency Directive (EU/2023/1791) [online]. [accessed on 03. 11. 2025]. Available from: http://data.europa.eu/eli/dir/2023/1791/oj.

EU, 2023c. Annex I Regulation (EU) 2023/857.

EU, 2023d. Directive (EU) 2023/959 [online]. [accessed on 17. 12. 2025]. Available from: http://data.europa.eu/eli/dir/2023/959/oj.

EUROSTAT, 2025. SHARES detailed and summary results, 2023 Eurostat [online]. [accessed on 30. 05. 2025]. Available from: https://ec.europa.eu/eurostat/web/energy/database/additional-data#Short%20assessment%20of%20renewable%20energy%20sources%20(SHARES).

IMF, 2025. Country Data by the IMF DataMapper, October 2025 [online]. [accessed on 04. 11. 2025]. Available from: https://www.imf.org/en/Countries/CZE#countrydata.

MIT, MOE, 2024. National Energy and Climate Plan [online]. [accessed on 20. 08. 2025]. Available from: https://commission.europa.eu/publications/czechia-final-updated-necp-2021-2030-submitted-2024_en.

MOE, 2024. First Biennial Transparency Report of the Czech Republic under the Paris Agreement [online]. [accessed on 10. 08. 2025]. Available from: https://unfccc.int/sites/default/files/resource/BTR%20CZE%202024.pdf.

WB, 2009. Handbook on impact evaluation: quantitative methods and practices. Washington, DC: World Bank [online]. [accessed on 19. 08. 2025]. Available from: http://documents.worldbank.org/curated/en/650951468335456749.

Reviewers (Lektoři):
Mgr. Andrea Veselá, Ph.D., Mgr. Michal Daňhelka