United Nations FCCC/IDR.8/LVA–FCCC/TRR.5/LVA

Framework Convention on Climate Change

Distr.: General
11 July 2023

English only

# Report on the technical review of the eighth national communication and the technical review of the fifth biennial report of Latvia

Parties included in Annex I to the Convention were requested by decision 6/CP.25 to submit their eighth national communication to the secretariat by no later than 31 December 2022. According to decision 15/CMP.1, Parties included in Annex I to the Convention that are also Parties to the Kyoto Protocol are required to include in their national communications supplementary information under Article 7, paragraph 2, of the Kyoto Protocol. This report presents the results of the technical review of the eighth national communication and relevant supplementary information under the Kyoto Protocol of Latvia, conducted by an expert review team in accordance with the "Guidelines for the technical review of information reported under the Convention related to greenhouse gas inventories, biennial reports and national communications by Parties included in Annex I to the Convention" and the "Guidelines for review under Article 8 of the Kyoto Protocol".

Developed country Parties were requested by decision 6/CP.25 to submit their fifth biennial report to the secretariat by no later than 31 December 2022. This report presents the results of the technical review of the fifth biennial report of Latvia, conducted by an expert review team in accordance with the "Guidelines for the technical review of information reported under the Convention related to greenhouse gas inventories, biennial reports and national communications by Parties included in Annex I to the Convention".

The review of these submissions took place in Bonn from 27 to 31 March 2023.

# Contents

# Abbreviations and acronyms

| | |
|---|---|
| AAU | assigned amount unit |
| AEA | annual emission allocation |
| Annex II Party | Party included in Annex II to the Convention |
| AR | Assessment Report of the Intergovernmental Panel on Climate Change |
| BR | biennial report |
| $CH_4$ | methane |
| $CO_2$ | carbon dioxide |
| $CO_2$ eq | carbon dioxide equivalent |
| CoM | Cabinet of Ministers of Latvia |
| COVID-19 | coronavirus disease 2019 |
| CTF | common tabular format |
| ERT | expert review team |
| ESD | European Union effort-sharing decision |
| ESR | European Union effort-sharing regulation |
| EU | European Union |
| EU ETS | European Union Emissions Trading System |
| GDP | gross domestic product |
| GHG | greenhouse gas |
| GWP | global warming potential |
| HFC | hydrofluorocarbon |
| ICAO | International Civil Aviation Organization |
| IMO | International Maritime Organization |
| IPCC | Intergovernmental Panel on Climate Change |
| IPPU | industrial processes and product use |
| LULUCF | land use, land-use change and forestry |
| MEPRD | Ministry of Environmental Protection and Regional Development of Latvia |
| $N_2O$ | nitrous oxide |
| NA | not applicable |
| NC | national communication |
| NE | not estimated |
| $NF_3$ | nitrogen trifluoride |
| NIR | national inventory report |
| NO | not occurring |
| non-Annex I Party | Party not included in Annex I to the Convention |
| PaMs | policies and measures |
| PFC | perfluorocarbon |
| $SF_6$ | sulfur hexafluoride |
| UNFCCC reporting guidelines on BRs | “UNFCCC biennial reporting guidelines for developed country Parties” |
| UNFCCC reporting guidelines on NCs | “Guidelines for the preparation of national communications by Parties included in Annex I to the Convention, Part II: UNFCCC reporting guidelines on national communications” |
| WAM | ‘with additional measures’ |
| WEM | ‘with measures’ |
| WOM | ‘without measures’ |

# I. Introduction and summary

## A. Introduction

1. This is a report on the centralized technical review of the NC8 and BR5 of Latvia. The review was organized by the secretariat in accordance with the "Guidelines for the technical review of information reported under the Convention related to greenhouse gas inventories, biennial reports and national communications by Parties included in Annex I to the Convention", particularly "Part IV: UNFCCC guidelines for the technical review of biennial reports from Parties included in Annex I to the Convention" and "Part V: UNFCCC guidelines for the technical review of national communications from Parties included in Annex I to the Convention" (annex to decision 13/CP.20), and the "Guidelines for review under Article 8 of the Kyoto Protocol" (annex to decision 22/CMP.1 and annex I to decision 4/CMP.1).

2. In accordance with decision 13/CP.20, a draft version of this report was transmitted to the Government of Latvia, which provided comments that were considered and incorporated with revisions into this final version of the report.

3. The review was conducted together with the review of one other Party included in Annex I to the Convention from 27 to 31 March 2023 in Bonn by the following team of nominated experts from the UNFCCC roster of experts: Irina Atamuradova (Turkmenistan), Bernadett Benkó (Hungary), Chama Bowa (Zambia), Nonhlanhla Fungura (Zimbabwe), Marco Orsini (Belgium), Duška Šaša (Croatia), Rania Seif (Egypt), Dominic Sheldon (EU),[1] Ngoc Tran Thi Bich (Viet Nam), Olivia Tuchten (South Africa), Martijn Verdonk (Kingdom of the Netherlands) and Rasha Yousif (Sudan). Irina Atamuradova, Marco Orsini and Duška Šaša were the lead reviewers. The review was coordinated by Sohel Pasha and Davor Vesligaj (secretariat).

## B. Summary

4. The ERT conducted a technical review of the information reported in the NC8 of Latvia in accordance with the UNFCCC reporting guidelines on NCs,[2] the reporting guidelines for supplementary information, in particular the supplementary information required under Article 7, paragraph 2, and on the minimization of adverse impacts under Article 3, paragraph 14, of the Kyoto Protocol[3] and of the information reported in the BR5 of Latvia in accordance with the UNFCCC reporting guidelines on BRs.[4]

### 1. Timeliness

5. The NC8 was submitted on 28 December 2022, before the deadline of 31 December 2022 mandated by decision 6/CP.25. The NC8 was resubmitted on 12 April 2023 to address issues raised during the review. The resubmission includes changes to information on national circumstances, the GHG inventory, PaMs, projections, vulnerability assessment, climate change impacts and adaptation measures, and research and systematic observation and supplementary information related to the Kyoto Protocol. Detailed information on improvements related to the resubmission is provided in paragraph 11 below. Unless otherwise specified, the information and values from the latest submission are used in this report.

6. The BR5 was submitted on 28 December 2022, before the deadline of 31 December 2022 mandated by decision 6/CP.25. The CTF tables were also submitted on 28 December

[1] Dominic Sheldon's participation in the centralized review was funded by the EU under the research project Support to the Development of Monitoring, Reporting and Verification Modalities, Procedures and Guidelines under the UNFCCC and to the Participation by the EU in UNFCCC Technical Reviews.

[2] Decision 6/CP.25, annex.

[3] Decision 15/CMP.1, annex, and decision 3/CMP.11, annex III.

[4] Decision 2/CP.17, annex.

2023. The CTF tables and BR5 were resubmitted on 12 April 2023 to address issues raised during the review. The resubmission includes changes to information on the GHG inventory, mitigation actions and their effects, and the quantified economy-wide emission reduction target in the BR5 and to CTF tables 2(b), 2(c), 2(e)II, 2(f), 3 and 4(II). Detailed information on improvements related to the resubmission is provided in paragraph 11 below. Unless otherwise specified, the information and values from the latest submission are used in this report.

## 2. Completeness, transparency of reporting and adherence to the reporting guidelines

7. Issues and gaps identified by the ERT related to the information reported by Latvia in its NC8 are presented in tables 1–2. The information reported, including the supplementary information under the Kyoto Protocol, mostly adheres to the UNFCCC reporting guidelines on NCs.

8. Latvia made improvements to the reporting in its NC8 compared with that in its NC7, including by addressing many recommendations and encouragements from the previous review report. The ERT noted that the Party has improved:

(a) The transparency of the information reported on national circumstances relevant to GHG emissions and removals by providing information on how national circumstances and changes thereto affect GHG emissions and removals over time;

(b) The transparency and completeness of the information reported on PaMs by reporting on the PaMs that are innovative and/or effectively replicable by other Parties; the actions taken to identify and periodically update its own policies and practices that encourage activities that lead to greater levels of anthropogenic GHG emissions than would otherwise occur; PaMs by gas; institutional arrangements for monitoring GHG mitigation policy; how individual PaMs interact with or complement other PaMs at the national level; the non-GHG mitigation benefits of PaMs; and its approach to minimizing the adverse social, environmental and economic impacts of its response measures on developing countries;

(c) The transparency of the information reported on projections and the total effects of PaMs by aligning the starting year of WEM and WAM projections with the latest available year of the GHG inventory;

(d) The completeness of the information reported on projections and the total effects of PaMs by providing projections of the indirect GHGs carbon monoxide, nitrogen oxides and non-methane volatile organic compounds, as well as sulfur oxides; emission projections related to fuel sold to ships and aircraft engaged in international transport; a description of the approaches used to estimate the total effect of PaMs; information on how the synergies of PaMs are considered in the estimation of the total effect of PaMs; a description of the models and/or approaches used for the ‘business as usual’ scenario; a detailed description of the assumptions that explain the differences compared with its previous NC; and a description of the factors that affect the trends in the energy sector under the WEM and WAM scenarios, such as the broader use of biofuels and electricity from renewable energy sources and energy efficiency improvements in the residential, commercial and industry sectors;

(e) The completeness of the information reported on research and systematic observation by reporting information on action taken to support capacity-building relating to systematic observation in developing countries and by reporting on barriers to the free and open international exchange of data and information;

(f) The completeness of the supplementary information related to the Kyoto Protocol by reporting on provisions to make information on legislative arrangements and enforcement and administrative procedures, established pursuant to the implementation of the Kyoto Protocol, publicly accessible; national legislative arrangements and administrative procedures that seek to ensure that the implementation of activities under Article 3, paragraph 3, forest management under Article 3, paragraph 4, and any elected activities under Article 3, paragraph 4, of the Kyoto Protocol also contributes to the conservation of biodiversity and the sustainable use of natural resources; the national registry administrator (name and contact

information); and steps taken to promote and/or implement any decisions by ICAO and IMO to limit or reduce GHG emissions from aviation and marine bunker fuels.

Table 1
**Assessment of completeness and transparency of mandatory information reported by Latvia in its eighth national communication**

| *Section of NC* | *Completeness* | *Transparency* | *Reference to description of recommendations* |
|---|---|---|---|
| Executive summary | Complete | Transparent | – |
| National circumstances relevant to GHG emissions and removals | Complete | Transparent | – |
| GHG inventory | Complete | Transparent | – |
| PaMs | Complete | Mostly transparent | Issue 1 in table I.1 |
| Projections and the total effect of PaMs | Complete | Mostly transparent | Issue 2 in table I.2 |
| Vulnerability assessment, climate change impacts and adaptation measures | Mostly complete | Transparent | Issue 1 in table I.3 |
| Financial resources and transfer of technology[a] | NA | NA | NA |
| Research and systematic observation | Complete | Transparent | – |
| Education, training and public awareness | Complete | Transparent | – |

*Note*: A list of recommendations pertaining to the completeness and transparency issues identified in this table is included in annex I. The assessment of completeness and transparency by the ERT in this table is based only on the "shall" reporting requirements.

[a] Latvia is not an Annex II Party and is therefore not obliged to adopt measures and fulfil obligations defined in Article 4, paras. 3–5, of the Convention.

Table 2
**Assessment of completeness and transparency of mandatory supplementary information under the Kyoto Protocol reported by Latvia in its eighth national communication**

| *Supplementary information under the Kyoto Protocol* | *Completeness* | *Transparency* | *Reference to description of finding(s)* |
|---|---|---|---|
| National system | Complete | Transparent | – |
| National registry | Complete | Transparent | – |
| Supplementarity relating to the mechanisms pursuant to Articles 6, 12 and 17 | Complete | Transparent | – |
| PaMs in accordance with Article 2 | Complete | Transparent | – |
| Domestic and regional programmes and/or arrangements and procedures | Complete | Transparent | – |
| Information under Article 10[a] | NA | NA | – |
| Financial resources[b] | NA | NA | – |
| Minimization of adverse impacts in accordance with Article 3, paragraph 14 | Complete | Transparent | – |

*Note*: A list of findings pertaining to the completeness and transparency issues identified in this table is included in annex I. The assessment of completeness and transparency by the ERT in this table is based only on the "shall" reporting requirements.

[a] The assessment refers to information provided by the Party on the provisions contained in Article 4, paras. 3, 5 and 7, of the Convention, as reported under Article 10 of the Kyoto Protocol, which is relevant to Annex II Parties only. An assessment of the information on the other provisions of Article 10 of the Kyoto Protocol is provided under the relevant substantive headings under the Convention, for example research and systematic observation.

[b] Latvia is not an Annex II Party and is therefore not obliged to provide information on financial resources under Article 11 of the Kyoto Protocol, including on "new and additional" resources.

9. Issues and gaps identified by the ERT related to the information reported by Latvia in its BR5 are presented in table 3. The information reported mostly adheres to the UNFCCC reporting guidelines on BRs.

10. Latvia made improvements to the reporting in its BR5 compared with that in its BR4 by addressing many recommendations and encouragements from the previous review report. The ERT noted that the Party has improved:

(a) The transparency of the information reported on progress in achievement of quantified economy-wide emission reduction targets and relevant information by indicating which mitigation measures have not been included in CTF table 3;

(b) The completeness of the information reported on progress in achievement of quantified economy-wide emission reduction targets and relevant information by reporting the quantity of units used from market-based mechanisms under the Convention and from other market-based mechanisms in CTF table 4(b); information on the assessment of the economic and social consequences of its response measures; and progress in establishing national rules for taking local action against domestic non-compliance with emission reduction targets;

(c) The completeness of the information reported on projections by reporting on sensitivity analyses; using the latest year for which inventory data are available as the starting year for projections; providing information on key underlying assumptions and values of variables for the entire time series in CTF table 5; and presenting information on factors and activities driving emission trends in each sector in tabular format for 1990 onward.

Table 3
**Summary of completeness and transparency of mandatory information reported by Latvia in its fifth biennial report**

| *Section of BR* | *Completeness* | *Transparency* | *Reference to description of finding(s)* |
|---|---|---|---|
| GHG emissions and removals | Complete | Transparent | – |
| Quantified economy-wide emission reduction target and related assumptions, conditions and methodologies | Complete | Transparent | – |
| Progress in achievement of targets | Complete | Mostly transparent | Issue 1 in table II.1 |
| Provision of support to developing country Parties[a] | NA | NA | NA |

*Note*: A list of findings pertaining to the completeness and transparency issues identified in this table is included in annex II. The assessment of completeness and transparency by the ERT in this table is based only on the "shall" reporting requirements.

[a] Latvia is not an Annex II Party and is therefore not obliged to adopt measures and fulfil obligations defined in Article 4, paras. 3–5, of the Convention.

11. The NC8, BR5 and CTF table resubmissions made during the review improved:

(a) The information reported on national circumstances relevant to GHG emissions and removals by including information on GHG emissions per capita and describing how national circumstances affect GHG emissions and removals in the agriculture sector;

(b) The GHG inventory information reported by improving the description of recalculations and improvements made to the inventory for 1990–2020 in the NIR of the 2022 annual submission and adding a reference to it in the NC8, as well as by adding custom footnotes in CTF tables 3 and 4(II);

(c) The information reported on PaMs by clarifying the reason for reporting PaMs for international transport separately instead of reporting them under the transport sector in the NC8, reporting the non-GHG benefits of mitigation actions, and providing information on the interaction of individual PaMs with other PaMs at the national level;

(d) The information reported on projections and the total effects of PaMs by clarifying the reason for not providing a sensitivity analysis for the IPPU sector; providing

information on improvements and corrections planned for the next annual submission; and adding in table 5.2 of the NC8 actual and projected GHG emissions per sector under the WEM scenario (in kt $CO_2$ eq) and in table 5.3 actual and projected GHG emissions per sector under the WAM scenario (in kt $CO_2$ eq), as well as, in both tables, rows for $NF_3$ and PFCs, which are reported as "NO" for all years;

(e) The information reported on vulnerability assessment, climate change impacts and adaptation measures by updating the information on the variables influencing the expected impacts of climate change, and previous and future changes in climate variables (according to the Representative Concentration Pathway 4.5 and 8.5 scenarios);

(f) The information reported on research and systematic observation by adding a chapter to the NC8 that contains a description of participation in domestic and international activities, such as those of the IPCC, the World Climate Research Programme, Future Earth and the Global Climate Observing System;

(g) The supplementary information related to the Kyoto Protocol reported by providing contact information of the national entity with overall responsibility for the national registry.

# II. Technical review of the information reported in the eighth national communication and fifth biennial report

## A. National circumstances relevant to greenhouse gas emissions and removals

### 1. Technical assessment of the reported information

12. The NC8 contains key data on legislation, population trends, geography and land use, climate and climate change, economic developments, energy, transport, the buildings sector, industry, trade, the services sector, agriculture, forestry, resource efficiency and wastewater. Between 2017 and 2020, Latvia's population decreased by 2.1 per cent and GDP increased by 4.3 per cent, while GHG emissions per GDP unit and GHG emissions per capita decreased by 5.5 and 0.5 per cent respectively. Latvia had the third lowest GHG emissions per capita in the EU in 2020. The COVID-19 pandemic had a significant impact on both economic development and GHG emissions: GDP decreased by 2.2 per cent between 2019 and 2020, and emissions in the transport sector also decreased, by 6.7 per cent, during the same period. Latvia reported that MEPRD is developing a national climate law that will establish a national framework for climate policy under which the development of policy instruments and the monitoring and review of their progress in achieving climate targets will be enabled.

13. Latvia's NC8 provides a detailed analysis of the relationship between national circumstances and GHG emissions and removals over time. The Party highlighted a decrease in the use of public transport and the slow replacement of passenger cars by new and more fuel-efficient cars as contributing factors to the increasing trend of GHG emissions in the transport sector. In contrast, Latvia has renovated existing residential buildings to increase energy efficiency and strengthened the thermal regulatory requirements for exterior walls of new buildings; together, these measures have reduced specific energy consumption for heating by an average of 2.4 per cent per year over a 20-year period. With an increase in the sheep and poultry populations, farming is now one of the main economic activities in rural areas, and agriculture is the second biggest sector in terms of contribution to national GHG emissions. Latvia is among the most densely forested countries in Europe; more than half of the country's land area is forest. Latvia's dependence on importing primary energy sources has decreased, from 63.0 per cent of primary energy sources being imported in 2015 to 45.5 per cent in 2020. In addition, the share of renewable energy sources in the supply of primary energy sources has grown from 37.1 per cent in 2015 to 42.1 per cent in 2020.

### 2. Assessment of adherence to the reporting guidelines

14. The ERT assessed the information reported in the NC8 of Latvia and recognized that the reporting is complete and transparent, and thus adheres to the UNFCCC reporting guidelines on NCs. There were no issues raised during the review relating to the topics discussed in this chapter of the review report.

## B. Greenhouse gas inventory information[5]

### 1. Technical assessment of the reported information

15. Latvia reported information in its BR5 and NC8 on its historical GHG emissions and inventory arrangements. Total GHG emissions[6] excluding emissions and removals from LULUCF decreased by 59.6 per cent between 1990 and 2020, whereas total GHG emissions including net emissions or removals from LULUCF decreased by 18.4 per cent over the same period. Emissions peaked in 1990 and decreased thereafter. The changes in total emissions were driven mainly by factors such as economic trends, changes in the energy mix, and increased use of energy and water due to long periods of warm weather. Within the reporting period, the main influence on the energy sector was the COVID-19 pandemic, which resulted in a 6.7 per cent decrease in emissions from the transport sector compared with the 2019 level owing to fewer road and railway journeys being made. The LULUCF sector became a net emitter in 2020, mostly owing to the ageing of forests and the conversion of forest land to settlements, cropland and grassland, which resulted in a decrease in $CO_2$ removals by living biomass in forests. Latvia is working on additional measures to move towards net removals. A report on the LULUCF sector's progress towards climate neutrality is being prepared by the line ministry for the CoM to consider further incorporation of the climate-neutrality target in the sectoral strategies, and financial support and research programmes.

16. Table 4 illustrates the emission trends by sector and by gas for Latvia. The emissions reported in the 2022 annual submission are the same as those reported in CTF table 1.

Table 4
**Greenhouse gas emissions by sector and by gas for Latvia for 1990–2020**

| | *GHG emissions (kt $CO_2$ eq)* | | | | | *Change (%)* | | *Share (%)* | |
|---|---|---|---|---|---|---|---|---|---|
| | *1990* | *2000* | *2010* | *2019* | *2020* | *1990–2020* | *2019–2020* | *1990* | *2020* |
| *Sector* | | | | | | | | | |
| 1. Energy | 19 534.79 | 7 422.63 | 8 524.27 | 7 470.85 | 6 793.45 | –65.2 | –9.1 | 75.4 | 64.9 |
| A1. Energy industries | 6 317.71 | 2 502.07 | 2 273.92 | 1 824.57 | 1 368.15 | –78.3 | –25.0 | 24.4 | 13.1 |
| A2. Manufacturing industries and construction | 3 970.69 | 1 177.03 | 1 108.80 | 676.31 | 660.34 | –83.4 | –2.4 | 15.4 | 6.3 |
| A3. Transport | 3 040.40 | 2 213.69 | 3 278.25 | 3 331.18 | 3 108.60 | 2.2 | –6.7 | 11.8 | 29.8 |
| A4. and A5. Other | 5 917.99 | 1 354.42 | 1 755.42 | 1 528.16 | 1 542.72 | –73.9 | 1.0 | 22.9 | 14.8 |
| B. Fugitive emissions from fuels | 247.59 | 150.64 | 91.61 | 97.97 | 100.54 | –59.4 | 2.6 | 1.0 | 1.0 |
| C. $CO_2$ transport and storage | NO | NO | NO | NO | NO | NA | NA | NA | NA |
| 2. IPPU | 655.98 | 286.55 | 749.44 | 891.77 | 868.15 | 32.3 | 2.6 | 2.5 | 8.3 |
| 3. Agriculture | 4 985.80 | 1 678.46 | 1 878.76 | 2 201.39 | 2 250.88 | –54.9 | 2.2 | 19.3 | 21.5 |
| 4. LULUCF | –12 300.85 | –11 754.19 | –1 879.51 | –2 405.88 | 646.57 | 105.3 | 126.9 | NA | NA |
| 5. Waste | 732.09 | 696.91 | 665.73 | 552.29 | 547.25 | –25.2 | –0.9 | 2.8 | 5.2 |
| 6. Other[a] | NO | NO | NO | NO | NO | NA | NA | NA | NA |

[5] GHG emission data in this section are based on Latvia's 2022 annual submission, version 1. All emission data in subsequent chapters are based on Latvia's BR5 CTF tables unless otherwise noted.

[6] In this report, the term "total GHG emissions" refers to the aggregated national GHG emissions expressed in terms of $CO_2$ eq excluding LULUCF and including indirect $CO_2$ emissions, unless otherwise specified.

| | *GHG emissions (kt $CO_2$ eq)* | | | | | *Change (%)* | | *Share (%)* | |
|---|---|---|---|---|---|---|---|---|---|
| | *1990* | *2000* | *2010* | *2019* | *2020* | *1990–2020* | *2019–2020* | *1990* | *2020* |
| *Gas*[b] | | | | | | | | | |
| $CO_2$ | 19 701.81 | 7 106.25 | 8 570.36 | 7 661.35 | 7 007.21 | –64.4 | –8.5 | 76.0 | 67.0 |
| $CH_4$ | 3 623.78 | 1 885.83 | 1 805.89 | 1 743.03 | 1 718.06 | –52.6 | –1.4 | 14.0 | 16.4 |
| $N_2O$ | 2 583.07 | 1 026.99 | 1 220.54 | 1 443.00 | 1 473.61 | –43.0 | 2.1 | 10.0 | 14.1 |
| HFCs | NO, NA | 64.60 | 214.05 | 255.11 | 248.91 | NA | –2.4 | NA | 2.4 |
| PFCs | NO, NA | NO, NA | NO, NA | NO, NA | NO, NA | NA | NA | NA | NA |
| $SF_6$ | NO, NA | 0.88 | 7.35 | 13.82 | 11.94 | NA | –13.6 | NA | 0.1 |
| $NF_3$ | NO, NA | NO, NA | NO, NA | NO, NA | NO, NA | NA | NA | NA | NA |
| **Total GHG emissions excluding LULUCF** | **25 868.25** | **10 059.78** | **11 801.93** | **11 103.63** | **10 446.63** | **–59.6** | **–5.9** | **100.0** | **100.0** |
| **Total GHG emissions including LULUCF** | **13 567.40** | **–1 694.41** | **9 922.42** | **8 697.75** | **11 093.20** | **–18.2** | **27.5** | **NA** | **NA** |
| **Total GHG emissions excluding LULUCF, including indirect $CO_2$** | **25 908.66** | **10 084.56** | **11 818.20** | **11 116.30** | **10 459.72** | **–59.6** | **–5.9** | **NA** | **NA** |
| **Total GHG emissions including LULUCF, including indirect $CO_2$** | **13 607.81** | **–1 669.63** | **9 938.69** | **8 710.42** | **11 106.30** | **–18.4** | **27.5** | **NA** | **NA** |

*Source*: GHG emission data: Latvia's 2022 annual submission, version 1.
[a] Emissions and removals reported under the sector other (sector 6) are not included in total GHG emissions.
[b] Emissions by gas without LULUCF and including indirect $CO_2$.

17. In brief, Latvia's national inventory arrangements were established in accordance with the guidelines for a national system under Article 5, paragraph 1, of the Kyoto Protocol and the annex to decision 19/CMP.1 to ensure the transparency, consistency, comparability, completeness and accuracy of the inventory. The guiding national regulation, CoM regulation 737, has been amended by CoM regulation 490 since the BR4 (on 6 July 2021) to improve the preparation of projections by improving the system for long-term modelling. On 25 October 2022, CoM regulation 737 was replaced by CoM regulation 675, but without changes regarding the arrangements for the GHG inventory. MEPRD is designated as the single national entity with overall responsibility for the Latvian GHG inventory and coordinates the monitoring and reporting of GHG emission data; it has a designated contact point. The other principle organizations involved in the preparation of the GHG inventory are the Latvian Environment, Geology and Meteorology Centre, the Latvian State Forest Research Institute "Silava", the Institute of Physical Energetics and the Latvia University of Life Sciences and Technologies. The main data supplier for the GHG inventory is the Central Statistical Bureau. All institutions involved in the inventory process are responsible for implementing a quality control procedure. The NIR is checked and approved by the Central Statistical Bureau, the Ministry of Agriculture and the Ministry of Transport.

## 2. Assessment of adherence to the reporting guidelines

18. The ERT assessed the information reported in the NC8 and BR5 of Latvia and recognized that the reporting is complete and transparent, and thus adheres to the UNFCCC reporting guidelines on NCs and the UNFCCC reporting guidelines on BRs. No issues relating to the topics discussed in this chapter of the review report were raised during the review.

## 3. National system for the estimation of anthropogenic emissions by sources and removals by sinks

### (a) Technical assessment of the reported information

19. Latvia provided in the NC8 a description of how its national system for the estimation of anthropogenic emissions by sources and removals by sinks of all GHGs not controlled by the Montreal Protocol is performing the general and specific functions defined in the annex

to decision 19/CMP.1 in conjunction with decisions 3/CMP.11 and 4/CMP.11. The description includes all of the elements mandated by paragraph 30 of the annex to decision 15/CMP.1. The NC8 also contains a reference to the description of the national system provided in the NIR of the 2022 annual submission. The ERT took note of the review of the changes to the national system reflected in the report on the individual review of the 2022 annual submission of Latvia.

#### (b) Assessment of adherence to the reporting guidelines

20. The ERT assessed the information reported in the NC8 of Latvia and recognized that the reporting is complete and transparent, and thus adheres to the reporting guidelines for supplementary information. No issues relating to the topics discussed in this chapter of the review report were raised during the review.

### 4. National registry

#### (a) Technical assessment of the reported information

21. In its NC8 Latvia provided information on how its national registry performs the functions in accordance with the annex to decision 13/CMP.1 in conjunction with decision 3/CMP.11 and the annex to decision 5/CMP.1 and complies with the requirements of the technical standards for data exchange between registry systems. The ERT took note of the review of the changes to the national registry reflected in the report on the individual review of the 2022 annual submission of Latvia.

#### (b) Assessment of adherence to the reporting guidelines

22. The ERT assessed the information reported in the NC8 of Latvia and recognized that the reporting is complete and transparent, and thus adheres to the reporting guidelines for supplementary information. No issues relating to the topics discussed in this chapter of the review report were raised during the review.

## C. Quantified economy-wide emission reduction target and related assumptions, conditions and methodologies

### 1. Technical assessment of the reported information

23. Latvia reported information on its economy-wide emission reduction target in its BR5. For Latvia the Convention entered into force on 23 March 1995. Under the Convention Latvia committed to contributing to the achievement of the joint EU economy-wide emission reduction target of 20 per cent below the 1990 level by 2020.

24. The target for the EU and its member States is formalized in the EU 2020 climate and energy package. The legislative package regulates emissions of $CO_2$, $CH_4$, $N_2O$, HFCs, PFCs and $SF_6$ using GWP values from the AR4 to aggregate the GHG emissions of the EU until 2020. Emissions and removals from the LULUCF sector are not included in the quantified economy-wide emission reduction target under the Convention.

25. The EU-wide targets are primarily implemented through the EU ETS and ESD. The EU ETS covers mainly point emissions sources in the energy, industry and aviation sectors. An EU-wide emission cap was put in place for 2013–2020 for the EU ETS with the goal of reducing emissions by 21 per cent below the 2005 level by 2020. For 2030, a reduction target of 62 per cent below the 2005 level has been set for emissions covered by the EU ETS. The ESD became operational in 2013 and covers sectors outside the EU ETS, including transport (excluding aviation and international maritime transport), residential and commercial buildings, agriculture, small industry and waste. The ESD is regulated through targets for each member State that add up to a reduction at the EU level of 10 per cent below the 2005 level by 2020. The ESR, the successor to the ESD, was adopted in 2018 and amended in 2023 with the target of reducing emissions covered under the ESR by 40 per cent below the 2005 level by 2030.

26. The EU generally allows its member States to use units from the Kyoto Protocol mechanisms for compliance purposes, subject to a number of restrictions in terms of origin and type of project and up to an established limit. Operators and airline operators can use such units to fulfil their requirements under the EU ETS, and member States can use such units for their national ESD targets, within specific limitations.

27. The European Commission set out its vision for a climate-neutral EU in November 2018, and in December 2019 presented the European Green Deal as a road map with actions for making the EU economy sustainable. The European Council endorsed in December 2019 the objective of making the EU climate-neutral by 2050. As part of the European Green Deal, the 2050 climate-neutrality target was made binding in the first European Climate Law, adopted in 2021. It also increased the ambition of the 2030 emission reduction target to at least 55 per cent below the 1990 level. Member States will set out any increased ambition in the update of their national energy and climate plan.

28. Latvia has a national target of limiting its emission growth to 17 per cent above the 2005 level by 2020 for the ESD sectors. This target has been translated into binding quantified AEAs for 2013–2020. Latvia's AEAs change following a linear path from 9,260.06 kt $CO_2$ eq in 2013 to 9,991.83 kt $CO_2$ eq in 2020.[7] Under the ESR, Latvia has a national target of reducing emissions from covered sectors to 6 per cent below the 2005 level by 2030.

29. In addition to its ESD target, Latvia committed to achieving a domestic target of a 65 per cent reduction in emissions below the 1990 level by 2030, as set out in its national energy and climate plan. This target is more ambitious than the joint nationally determined contribution target of the EU, which aims for a 55 per cent reduction by 2030 compared with the 1990 level. Latvia also reported on its longer-term target of reaching domestic climate neutrality by 2050. This target is set out in the Strategy of Latvia for the Achievement of Climate Neutrality by 2050.

30. The EU Fit for 55 package includes an amendment to the national ESR targets: Latvia's domestic ESR target has been revised from a 6 per cent (set in 2018) to a 17 per cent (set in 2023) reduction in GHG emissions compared with the 2005 level by 2030. The amendment was adopted by the Council of the EU on 27 March 2023, after the submission of Latvia's NC8 and BR5, and will enter into force after being published in the Official Journal of the EU.

### 2. Assessment of adherence to the reporting guidelines

31. The ERT assessed the information reported in the BR5 of Latvia and recognized that the reporting is complete and transparent, and thus adheres to the UNFCCC reporting guidelines on BRs. No issues relating to the topics discussed in this chapter of the review report were raised during the review.

## D. Information on policies and measures

### 1. Technical assessment of the reported information

32. Latvia provided in its NC8 and BR5 information on its PaMs[8] implemented, adopted and planned to fulfil its commitments under the Convention. Latvia's set of PaMs is similar to that previously reported, with a few exceptions. During the review, the Party clarified that the NC8 contains only PaMs that have an impact on the GHG emission projections from 2019 (the year after the base year) onward. The effects of PaMs marked as "implemented" in the NC7 – such as the investment support programmes for district heating systems and for increasing energy efficiency in apartment, public and industrial buildings from the 2007–2013 EU programming period – are accounted for in the 2018 base-year projection and as

[7] According to the EU transaction log.

[8] The UNFCCC reporting guidelines on BRs use the term "mitigation actions", whereas the UNFCCC reporting guidelines on NCs use the term "policies and measures". The terms are used interchangeably in this report to refer to the relevant information in either the NC or BR.

such, they are not included in the NC8. This situation is also applicable to the waste sector PaMs included in the NC7.

33. Latvia reported on its policy context and legal and institutional arrangements in place for implementing its commitments and monitoring and evaluating the effectiveness of its PaMs. Latvia indicated that there have been no changes to its institutional, legal, administrative and procedural arrangements used for domestic compliance, monitoring, reporting, archiving of information and evaluation of progress towards its target. MEPRD, with the cooperation of other ministries, is responsible for submitting an annual report to CoM to enable it to assess progress in fulfilling GHG emission reduction and $CO_2$ removal commitments. MEPRD is also responsible for the elaboration of proposals for any additional measures needed to fulfil those commitments (consistent with established sectoral policy planning documents, such as the Latvian Energy Long-Term Strategy 2030, Competitive Energy for Society for the energy sector and the Transport Development Strategy 2021–2027 for the transport sector) and for the identification of any conditions needed to meet the 2030 commitments under the Convention and as part of the EU (including for the sectors covered by the ESR), including delegation of authority to different levels of government, as necessary.

34. Latvia's assessment of the economic and social consequences of its response measures is based on an impact assessment of all proposals passing through the legislative process. This impact assessment of proposals is based on an integrated approach that analyses both the benefits and the costs and addresses all the significant economic, social and environmental impacts of new response measures and related legislative initiatives. The impacts addressed include increased costs for businesses in the short term, while they adjust to the removal of fossil fuel subsidies and tax breaks; higher energy prices for consumers; and fewer jobs in a particular sector. Latvia reported that its actions to identify and review its own policies and practices that encourage activities that lead to greater levels of emissions are based on a strategic environmental impact assessment, which was included in the legislative process in order to identify any risk that a new policy could lead to an increase in GHG emissions and thus jeopardize the achievement of GHG emission reduction targets.

35. In its reporting on PaMs, Latvia provided the estimated emission reduction impacts for most of its PaMs. The only sector for which no estimated reduction impacts were estimated is the agriculture sector. Where estimated impacts were not provided, the Party explained in its NC8 the reasons for not providing estimates, such as the complexity of interactions between measures and the consequent difficulty of determining an impact as being specific to an individual policy or measure. Furthermore, in estimating the mitigation impacts of some educational and behavioural measures, Latvia reported its difficulty in quantifying precisely changes in behaviour and emissions arising from those measures. Latvia estimated the impacts of some of its PaMs in groups. The Party explained in the NC8 that impacts were estimated for groups of PaMs in some cases in order to avoid double counting and overestimation. This approach was applied for particular measures whose grouping is logical, for example public information measures and economic measures.

36. The Party described its general methodology for estimating the impacts of its PaMs, which is based on two different approaches: a bottom-up estimation for individual (or grouped) PaMs and a top-down estimation for PaMs in the energy and transport sectors using a partial equilibrium model of the energy system (the MARKAL-Latvia model).

37. The key overarching related cross-sectoral policy in the EU is the 2020 climate and energy package, adopted in 2009, which includes the revised EU ETS and the ESD. The package is supplemented by renewable energy and energy efficiency legislation and legislative proposals on the 2020 targets for $CO_2$ emissions from cars and vans, the carbon capture and storage directive, and the general programmes for environmental conservation, namely the 7$^{th}$ Environment Action Programme and the clean air policy package. The 2021 European Climate Law, which forms part of the European Green Deal, made climate neutrality by 2050 legally binding and raised the EU-wide 2030 emission reduction target to at least 55 per cent compared with the 1990 level. In 2023, the European Parliament adopted a series of legislative proposals, collectively referred to as Fit for 55, intended to help achieve the new 2030 target. These new regulations strengthened both the ESR and EU ETS 2030 targets, extended the EU ETS to include maritime shipping in 2024 and established the Social Climate Fund to address equitability of mitigation impacts. The regulations also created the

EU ETS 2 to cover at the point of distribution most fuel used in sectors not covered by the EU ETS, beginning in 2027.

38. The 2021–2030 EU-wide policies are operationalized through the national energy and climate plans of EU member States, which should set out national objectives for each of the five dimensions of the Energy Union, namely energy security; the internal energy market; energy efficiency; decarbonization; and research, innovation and competitiveness. The national energy and climate plan is periodically updated to reflect changes to EU policy, such as the implementation of the European Green Deal. Through its national energy and climate plan, Latvia emphasizes resource efficiency, self-sufficiency and diversity, and aims to significantly reduce the use of fossil and unsustainable resources; shift to accessible, sustainable, renewable and innovative resources; and encourage research and innovation in energy sector sustainability and climate change mitigation. Latvia's national energy and climate plan has the targets of a 65 per cent reduction in GHG emissions from the 1990 level by 2030; a 50 per cent share of renewable energy in final energy consumption; and shares of 7 per cent renewable energy and 3.5 per cent advanced biofuels and biogas in transport. The plan aims for cumulative energy savings of 1.76 million tonnes of oil equivalent from 2021 to 2030. Latvia reported that the objectives, financial information (e.g. a review of actual spending) and implementation measures related to its national energy and climate plan will be included in the MEPRD annual report to CoM in order to assess progress in fulfilling commitments relating to GHG emissions.

39. Latvia introduced national-level policies to achieve its targets under the ESD, the ESR and domestic emission reduction targets. The key overarching policy reported is the Strategy of Latvia for the Achievement of Climate Neutrality by 2050. Two other key policies reported are the Sustainable Development Strategy of Latvia until 2030 and the National Development Plan for 2021–2027. This Plan sets the priorities, areas of action, objectives and indicators for the measures and actions needed to achieve Latvia's GHG emission reduction targets. The mitigation effects of the preferential feed-in tariffs for renewable electricity and electricity produced in combined heat and power plants are the most significant of the implemented measures. Other policies that have delivered significant emission reductions are the biofuel mix obligation, the energy management system in the commercial sector and the investment support programme for district heating systems.

40. Latvia highlighted the domestic mitigation actions that are under development, such as the investment support programme for energy efficiency in apartment, public and industrial buildings (2021–2027 EU programming period), the promotion of biomethane production and its use in the transport sector, the implementation of actions under the waste management plan 2021–2028, and several actions in the agriculture and LULUCF sectors. Among the mitigation actions that provide a foundation for significant additional action are the PaMs in the LULUCF sector, which promote a range of approaches to mitigate GHG emissions. The most important of these PaMs in terms of projected emission reductions are those that support the pre-commercial thinning of forests, the use of green fallow (cover cropping) before planting winter crops and the restoration of former peat extraction sites. Table 5 provides a summary of the reported information on the PaMs of Latvia.

Table 5
**Summary of information on policies and measures reported by Latvia**

| *Sector* | *Key PaMs* | *Estimated mitigation impact in 2025 (kt $CO_2$ eq)* | *Estimated mitigation impact in 2030 (kt $CO_2$ eq)* |
|---|---|---|---|
| Policy framework and cross-sectoral measures | Sustainable Development Strategy of Latvia until 2030 | NA | NE |
| | Energy taxation | NE | NE |
| | EU ETS | NE | NE |
| Energy | | | |
| Energy efficiency | Energy management system in the commercial sector | 62.00 | 56.00 |

| *Sector* | *Key PaMs* | *Estimated mitigation impact in 2025 (kt $CO_2$ eq)* | *Estimated mitigation impact in 2030 (kt $CO_2$ eq)* |
|---|---|---|---|
| | Investment support programme for energy efficiency in apartment, public and industrial buildings: 2021–2027 EU programming period | 33.10 | 38.10 |
| Energy supply and renewable energy | Preferential feed-in tariffs for renewable electricity and electricity produced in combined heat and power plants | 230.00 | 192.91 |
| | Investment support programme for district heating systems: 2014–2020 EU programming period | 76.00 | 76.00 |
| Transport | Biofuel mix obligation | 136.00 | 137.00 |
| | Promotion of biomethane production and its use in the transport sector | NA | 74 |
| IPPU | Reduction in emissions of fluorinated gases | NE | NE |
| Agriculture | Increase of land area under organic farming | NE | NE |
| LULUCF | Production of legumes: support of the use of legumes as green manure and fodder in crop rotation | 66.00 | 66.00 |
| | Afforestation | 48.00 | 48.00 |
| | Pre-commercial thinning of forests | NA | 884.00 |
| | Use of green fallow (cover cropping) before planting winter crops | NA | 783.00 |
| | Restoration of former peat extraction sites | NA | 485.00 |
| Waste | Waste management plan 2021–2028: Increase in biological waste preparation for treatment | NE | 52.00 |

*Note*: The estimated mitigation impacts are estimates of emissions of $CO_2$ eq avoided in a given year as a result of the implementation of mitigation actions.

41. Latvia reported the estimated effects of its planned PaMs in the LULUCF sector. The sum of the estimated effects of these PaMs in 2030 (3,353 kt $CO_2$ eq) and 2040 (6,407 kt $CO_2$ eq) is different from the difference in estimated effects between the WEM and WAM scenarios for LULUCF for 2030 (866 kt $CO_2$ eq) and 2040 (782 kt $CO_2$ eq). Latvia reported the estimated effects of its planned PaMs in the LULUCF sector, acknowledging their high degree of uncertainty and thus the necessity for further refining the methods used for estimating the effects.

### 2. Assessment of adherence to the reporting guidelines

42. The ERT assessed the information reported in the NC8 and BR5 of Latvia and identified an issue relating to transparency and thus adherence to the UNFCCC reporting guidelines on NCs and the UNFCCC reporting guidelines on BRs. The finding is described in tables I.1 and II.1.

### 3. Domestic and regional programmes and legislative arrangements and procedures related to the Kyoto Protocol

#### (a) Technical assessment of the reported information

43. In its NC8 Latvia reported that the implementation of the Kyoto Protocol is underpinned by the National Development Plan 2014–2020, which ensures the sustainable use of the energy resources required by the national economy. Other important programmes are the National Reform Programme of Latvia for the Implementation of the Europe 2020 Strategy, the Environmental Policy Strategy 2014–2020 and the Long-term Strategy for Building Renovation (2020). The overall responsibility for climate change policymaking lies with MEPRD, and a number of other ministries and national institutions are involved in policy implementation, including the Ministry of Agriculture, Ministry of Economics, Ministry of Education and Science, Ministry of Finance, Ministry of Transport and institutions supporting the work of relevant ministries.

44. For the second commitment period of the Kyoto Protocol, from 2013 to 2020, Latvia committed to contributing to the joint EU effort to reduce GHG emissions by 20 per cent below the base-year level (see paras. 25–27 above).

45. The Party has arrangements and enforcement procedures to meet its commitments under the Kyoto Protocol, including procedures for addressing non-compliance. These include a report on progress in achieving commitments regarding GHG emission reductions and $CO_2$ removals, which MEPRD prepares – in cooperation with the Ministry of Agriculture, Ministry of Economics, Ministry of Transport and other ministries – and submits to CoM by 31 December each year. In the event that progress towards any target is deemed insufficient by CoM, it decides on the actions to be taken.

46. Latvia has provisions in place to make information on legislative arrangements and administrative procedures related to compliance and enforcement publicly accessible, such as by making regulations available online on the portal of the legal acts of Latvia known as the Unified Portal for the Development and Harmonisation of Draft Legislation, or the TAP Portal. The Portal is operated by the State Chancellery of Latvia. The Party reported that information on activities under Article 3, paragraphs 3–4, of the Kyoto Protocol is publicly available on the website of the Latvian Environment, Geology and Meteorology Centre.

47. Latvia has national legislative arrangements and administrative procedures in place that seek to ensure that the implementation of activities under Article 3, paragraph 3, and any elected activities under Article 3, paragraph 4, of the Kyoto Protocol also contributes to the conservation of biodiversity and the sustainable use of natural resources. These arrangements and procedures are included in sectoral legislation, including the Law on Forests, which ensures the fair and sustainable use of forests while protecting the rights of all stakeholders; the Natural Resources Tax Law, which promotes the economically efficient use of natural resources; and the Environmental Protection Law, which ensures the conservation of the environment and the sustainable use of natural resources.

### (b) Assessment of adherence to the reporting guidelines

48. The ERT assessed the information reported in the NC8 of Latvia and recognized that the reporting is complete and transparent, and thus adheres to the reporting guidelines for supplementary information. No issues relating to the topics discussed in this chapter of the review report were raised during the review.

## 4. Policies and measures in accordance with Article 2 and minimization of adverse impacts in accordance with Article 3, paragraph 14, of the Kyoto Protocol

### (a) Technical assessment of the reported information

49. In the NC8 Latvia reported information on how it strives to implement PaMs under Article 2 of the Kyoto Protocol in such a way as to minimize adverse effects, including the adverse effects of climate change and effects on international trade and social, environmental and economic impacts on other Parties, especially developing country Parties. As part of its strategic environmental impact assessment process for new legislation, Latvia takes into account up-to-date knowledge on and understanding of the possible impacts of PaMs based on the available scientific evidence. Sustainability criteria are added to relevant PaMs in order to minimize adverse environmental effects, such as, for example, the PaMs related to biofuel and biomass production, both of which include provisions to ensure that production is sustainable.

50. The NC8 includes information on how Latvia promotes and implements the decisions of ICAO and IMO to limit emissions from aviation and marine bunker fuels. Latvia has participated in the work of IMO and effectively implements and applies its adopted conventions. It has also implemented the EU regulation on the monitoring, reporting and verification of $CO_2$ emissions from maritime transport moving to and from ports in the EU, which applies to ships of more than 5,000 gross tonnage and which entered into force in January 2019. Latvia has also participated actively in the work of ICAO to limit emissions from international aviation; for example, it voluntarily participates in the Carbon Offsetting

and Reduction Scheme for International Aviation. As a member State of the EU, Latvia is implementing the EU ETS for aviation.

51. Further information on how Latvia strives to implement its commitments under Article 3, paragraph 14, of the Kyoto Protocol in such a way as to minimize adverse social, environmental and economic impacts on developing country Parties was reported in the 2022 annual submission. Latvia reported on the progressive reduction or phase-out of market imperfections, fiscal incentives, tax and duty exemptions, and subsidies in all GHG-emitting sectors, taking into account the need for energy price reforms to reflect market prices and externalities. The Party reported information on what it prioritized in implementing its commitments under Article 3, paragraph 14, including removing subsidies associated with the use of environmentally unsound and unsafe technologies, especially regarding coal use in electricity production and combined heat and power production.

### (b) Assessment of adherence to the reporting guidelines

52. The ERT assessed the information reported in the NC8 of Latvia and recognized that the reporting is complete and transparent, and thus adheres to the reporting guidelines for supplementary information. No issues relating to the topics discussed in this chapter of the review report were raised during the review.

## E. Estimates of emission reductions and removals and the use of units from market-based mechanisms and land use, land-use change and forestry and progress in achieving the quantified economy-wide emission reduction target

### 1. Technical assessment of the reported information

53. Latvia reported in its BR5 that it did not use units from market-based mechanisms under the Kyoto Protocol and other market-based mechanisms under the Convention to meet its commitment under the ESD. It reported in CTF tables 4 and 4(b) that it did not use any units from market-based mechanisms in 2019 or 2020. Given that the contribution of LULUCF activities is not included in the joint EU target under the Convention, reporting thereon is not applicable to Latvia. Table 6 illustrates Latvia's ESD emissions and use of units from market-based mechanisms for achieving its ESD target.

Table 6
**Summary of information on emissions covered by the European Union effort-sharing decision annual emission allocation and use of units from market-based mechanisms by Latvia**
(kt $CO_2$ eq)

| *Year* | *ESD emissions* | *AEA* | *Use of units from market-based mechanisms* | *AEAs transferred to (–) or from (+) other Parties* | *Annual AEA surplus/deficit* | *Cumulative AEA surplus/deficit* |
|---|---|---|---|---|---|---|
| 2013 | 8 776.86 | 9 260.06 | NA | NA | 483.20 | 483.20 |
| 2014 | 9 017.60 | 9 351.24 | NA | NA | 333.64 | 816.84 |
| 2015 | 9 005.12 | 9 442.42 | NA | NA | 437.30 | 1 254.14 |
| 2016 | 9 107.44 | 9 533.59 | NA | NA | 426.15 | 1 680.29 |
| 2017 | 9 243.09 | 9 729.36 | NA | NA | 486.27 | 2 166.56 |
| 2018 | 9 126.90 | 9 816.85 | NA | NA | 689.95 | 2 856.51 |
| 2019 | 8 650.11 | 9 904.34 | NA | NA | 1 254.23 | 4 110.74 |
| 2020 | 8 436.25 | 9 991.83 | NA | NA | 1 555.58 | 5 666.32 |

*Sources*: Latvia's BR5 and BR5 CTF table 4(b) and EU transaction log (AEAs).
*Note*: For a given year, a positive number (surplus) indicates that annual or cumulative ESD emissions were lower than the corresponding AEA or cumulative AEAs, while a negative number (deficit) indicates that annual or cumulative ESD emissions were higher than the corresponding AEA or cumulative AEAs.

### 2. Assessment of adherence to the reporting guidelines

54. The ERT assessed the information reported in the BR5 of Latvia and recognized that the reporting is complete and transparent, and thus adheres to the UNFCCC reporting guidelines on BRs. No issues relating to the topics discussed in this chapter of the review report were raised during the review.

### 3. Assessment of achievement of the quantified economy-wide emission reduction target

55. In assessing Latvia's contribution towards achievement of the 2020 joint EU target on the basis of the information reported in its BR5, the ERT noted that, under the EU 2020 climate and energy package, Latvia committed to limiting its emission growth under the ESD to 17 per cent above the 2005 level by 2020 (see para. 28 above). This target has been translated into binding quantified AEAs for 2013–2020. In 2020 Latvia's ESD emissions were 18.4 per cent (1,555.58 kt $CO_2$ eq) below the AEA. Latvia has a cumulative surplus of 5,666.32 kt $CO_2$ eq with respect to its AEAs between 2013 and 2020. The ERT noted that the Party did not make use of units from market-based mechanisms in 2020.

56. The ERT noted that the BR5 of the EU reports that the total GHG emissions excluding LULUCF of the EU and including the use of units from market-based mechanisms do not exceed the emission level corresponding to the target in 2020, and thus that the EU has achieved its joint target. See the report on the review of the BR5 of the EU for further details. Therefore, the ERT concluded that, on the basis of the information reported in the BR5, Latvia has met its 2020 commitment under the Convention through its contribution to achieving the joint EU target.

57. The ERT noted that the Party's ESD emissions in 2020 do not exceed its AEA for 2020.

## F. Projections

### 1. Projections overview, methodology and results

#### (a) Technical assessment of the reported information

58. Latvia reported in its BR5 and NC8 updated projections for 2030–2040 relative to actual inventory data for 2020 under the WEM scenario. The WEM scenario reported by Latvia includes PaMs implemented and adopted by the Latvian Parliament up until 2020.

59. In addition to the WEM scenario, Latvia reported the WAM scenario. The WAM scenario includes measures that are set out in principle in high-level strategic development documents but their implementation has not been elaborated in detail and legal regulations relating to them have not yet been adopted, although they are expected to be adopted and implemented from a specific future year onward. Latvia provided a definition of its scenarios, explaining that its WEM scenario includes policies such as continuing the running of the EU ETS and promoting investment in renewable energy and in buildings' energy efficiency, while its WAM scenario includes improving public transport infrastructure, prohibiting the use of certain fluorinated gases and halting the disposal of biodegradable waste in landfills. The definitions indicate that the scenarios were prepared in accordance with the UNFCCC reporting guidelines on BRs.

60. The projections are presented on a sectoral basis, using the same sectoral categories as those used in the reporting on mitigation actions, and on a gas-by-gas basis for $CO_2$, $CH_4$, $N_2O$, HFCs, PFCs and $SF_6$ (treating PFCs and HFCs collectively in each case) as well as $NF_3$ for 2030–2040. The Party reported emissions of PFCs and $NF_3$ as "NO" as in CTF table 6(c). The projections are also provided in an aggregated format for each sector and for a Party total using GWP values from the AR4. Latvia reported on factors and activities affecting emissions for each sector.

### (b) Methodology, assumptions and changes since the previous submission

61. The methodology used for the preparation of the projections is identical to that used for the preparation of the emission projections for the NC7. Latvia provided information on changes since the submission of its NC7 in the assumptions, methodologies, models and approaches used for the projection scenarios. The methodology and models used for estimating emission projections were described at the sectoral level. Latvia used several models for estimating projections: MARKAL-Latvia for the energy and transport sectors, an Excel-based accounting model for fluorinated gases, and an IPCC model and Excel-based estimation of data for the waste, agriculture and LULUCF sectors. The use of models was complemented by exogenous data and the estimates of emissions from the GHG inventory.

62. To prepare its projections, Latvia relied on key underlying assumptions relating to population, total primary energy consumption, household energy consumption and GDP sourced from the long-term macroeconomic projections developed by the Ministry of Economics. The assumptions reported in CTF table 5 and used in preparing the projection scenarios are that the population of Latvia will continue to decrease by 8.9 per cent over 2020–2040 and that annual GDP will increase by 2.4 per cent on average over the same time frame. The assumptions were updated on the basis of the most recent economic developments known at the time of the preparation of the projections.

63. Sensitivity analyses were conducted for a number of important assumptions, such as population trends and economic development indicators. Four sensitivity analyses of impacts on GHG emission projections were carried out: for the energy and waste sectors, different GDP and population assumptions; for the agriculture sector, different projection approaches for milk yield under a given set of assumptions; and for the LULUCF sector, the implementation of proposed changes in forest management regulations that affect the threshold values for the diameters of trees that are appropriate for regenerative felling for forest regeneration purposes.

### (c) Results of projections

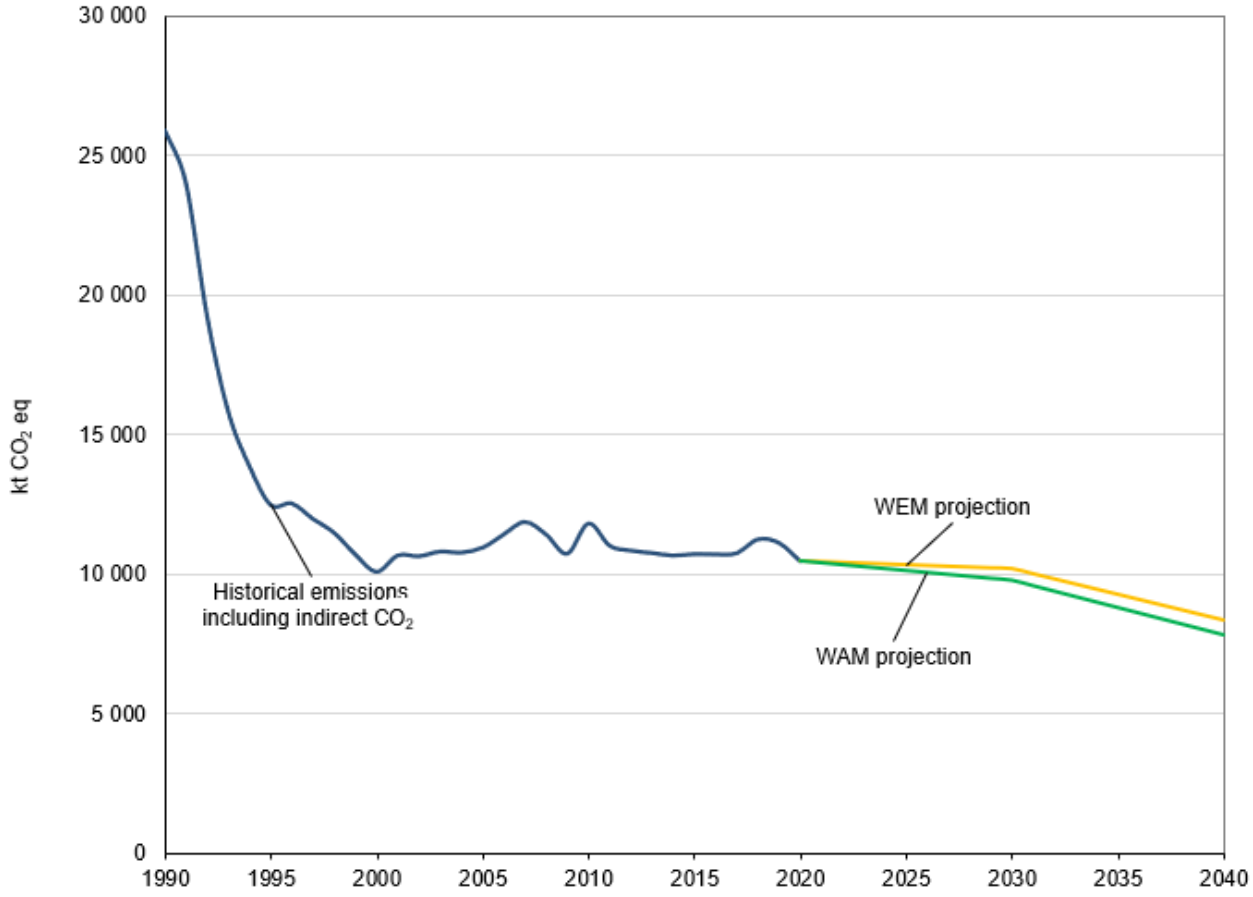
64. The projected emission levels under different scenarios and information on the quantified economy-wide emission reduction target are presented in table 7 and figure 1.

Table 7
**Summary of greenhouse gas emission projections for Latvia**

| | *GHG emissions (kt $CO_2$ eq/year)* | *Change in relation to 1990 level (%)* | *Change in relation to 2020 level (%)* |
|---|---|---|---|
| Inventory data 1990 | 25 868.25 | NA | NA |
| Inventory data 2020 | 10 059.78 | –61.1 | NA |
| WEM projections for 2030 | 10 174.34 | –60.7 | 1.1 |
| WAM projections for 2030 | 9 752.25 | –62.3 | –3.1 |
| WEM projections for 2040 | 8 360.99 | –67.7 | –16.9 |
| WAM projections for 2040 | 7 800.38 | –69.8 | –22.5 |

*Source*: Latvia's BR5 and BR5 CTF table 6.
*Note*: The projections are of GHG emissions excluding LULUCF and including indirect $CO_2$.

Figure 1
**Greenhouse gas emission projections reported by Latvia**

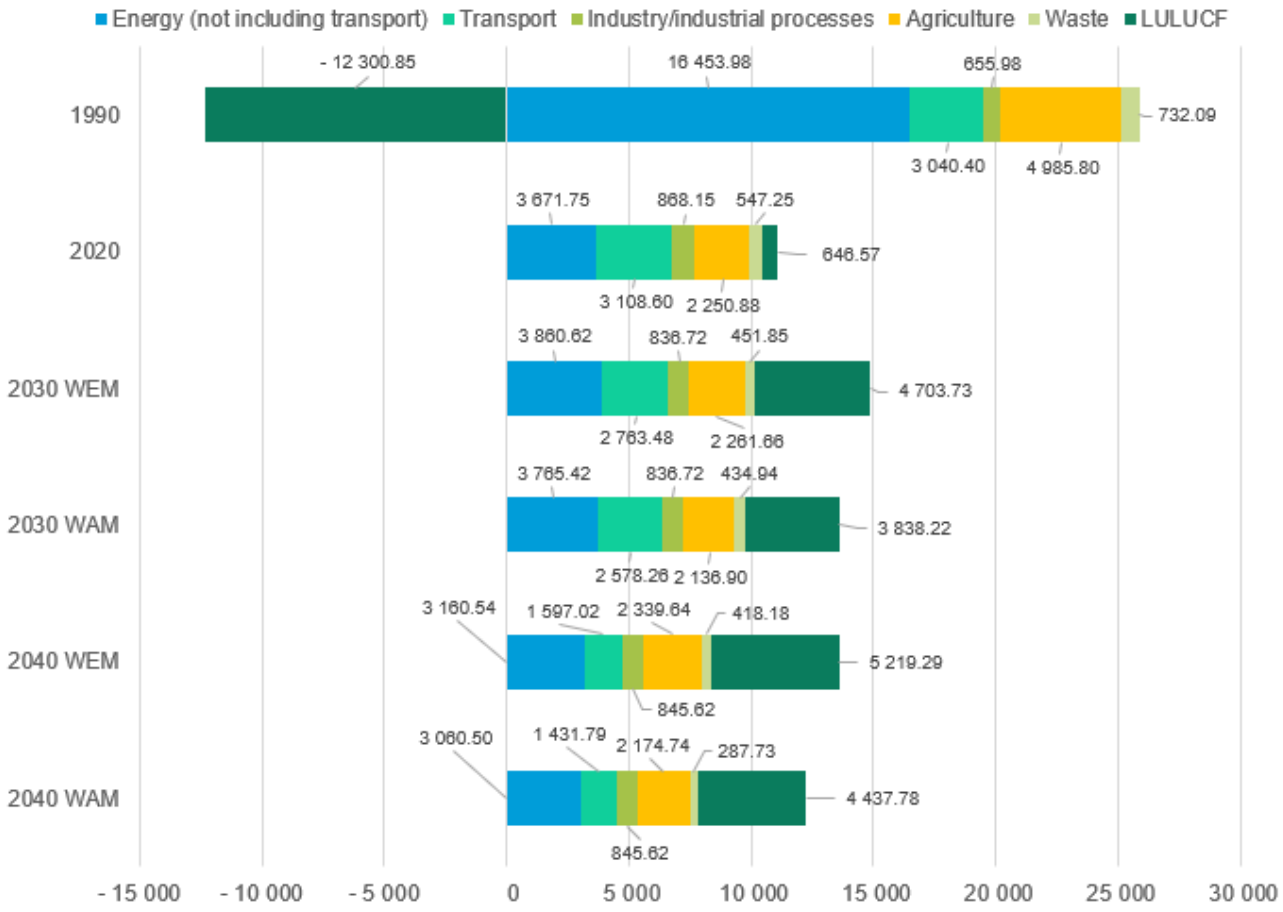



*Source*: Latvia's BR5 and BR5 CTF tables 1 and 6 (total GHG emissions excluding LULUCF and including indirect $CO_2$).

65. Latvia's total GHG emissions excluding LULUCF and including indirect $CO_2$ are projected under the WEM scenario to decrease by 60.7 and 67.7 per cent respectively below the 1990 level in 2030 and 2040. When including LULUCF, total GHG emissions including indirect $CO_2$ are projected under the WEM scenario to increase by 9.7 and decrease by 38.6 per cent respectively above the 1990 level in 2030 and below the 1990 level in 2040. Under the WAM scenario, emissions in 2030 and 2040 are projected to be lower than those in 1990 by 62.3 and 69.9 per cent respectively (excluding LULUCF and including indirect $CO_2$).

66. Latvia presented the WEM and WAM scenarios by sector for 2030 and 2040, as summarized in figure 2 and table 8.

Figure 2
**Greenhouse gas emission projections for Latvia presented by sector**
(kt $CO_2$ eq)




*Source*: Latvia's BR5 CTF table 6.

Table 8
**Summary of greenhouse gas emission projections for Latvia presented by sector**

| | *GHG emissions and removals (kt $CO_2$ eq)* | | | | | *Change (%)* | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | *2030* | | *2040* | | *1990–2030* | | *1990–2040* | |
| *Sector* | *1990* | *WEM* | *WAM* | *WEM* | *WAM* | *WEM* | *WAM* | *WEM* | *WAM* |
| Energy (not including transport) | 16 453.98 | 3 860.62 | 3 765.42 | 3 160.54 | 3 060.50 | –76.5 | –77.1 | –80.8 | –81.4 |
| Transport | 3 040.40 | 2 763.48 | 2 578.26 | 1 597.02 | 1 431.79 | –9.1 | –15.2 | –47.5 | –52.9 |
| Industry/industrial processes | 655.98 | 836.72 | 836.72 | 845.62 | 845.62 | 27.6 | 27.6 | 28.9 | 28.9 |
| Agriculture | 4 985.80 | 2 261.66 | 2 136.90 | 2 339.64 | 2 174.74 | –54.6 | –57.1 | –53.1 | –56.4 |
| LULUCF | –12 300.85 | 4 703.73 | 3 838.22 | 5 219.29 | 4 437.78 | 138.2 | 131.2 | 142.4 | 136.1 |
| Waste | 732.09 | 451.85 | 434.94 | 418.18 | 287.73 | –38.3 | –40.6 | –42.9 | –60.7 |
| Other (indirect $CO_2$) | 40.41 | 11.84 | 11.06 | 9.4 | 8.82 | –70.7 | –72.6 | –76.7 | –78.2 |
| **Total GHG emissions excluding LULUCF and including indirect $CO_2$** | **25 908.66** | **10 186.17** | **9 763.30** | **8 370.40** | **7 809.20** | **–60.7** | **–62.3** | **–67.7** | **–69.9** |

*Source*: Latvia's BR5 CTF table 6.

67. According to the projections reported for 2030 under the WEM scenario, the most significant absolute emission reductions are expected to occur in the energy sector (including transport), amounting to projected reductions of 66 per cent between 1990 and 2030. The pattern of projected emissions reported for 2040 under the same scenario slightly changes owing to lower demand for heat due to warmer winter. As most emissions in the IPPU sector come from the mineral industry (cement production), the growth of the construction sector and increased cement production are the main drivers of the increasing trend in projected GHG emissions for this sector. The primary drivers of the reduction in $CO_2$ removals in the LULUCF sector include a large amount of GHG emissions from organic soils in cropland and grassland, emissions from peat production for horticulture, the ageing of forests (leading to decreased growth and increased mortality and harvest rates) and deforestation due to revived economic activity in rural areas.

68. Latvia presented the WEM and WAM scenarios by gas for 2030 and 2040, as summarized in table 9.

Table 9
**Summary of greenhouse gas emission projections for Latvia presented by gas**

| | *GHG emissions and removals (kt $CO_2$ eq)* | | | | | *Change (%)* | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | *2030* | | *2040* | | *1990–2030* | | *1990–2040* | |
| *Gas*[a] | *1990* | *WEM* | *WAM* | *WEM* | *WAM* | *WEM* | *WAM* | *WEM* | *WAM* |
| $CO_2$ | 19 661.40 | 6 940.77 | 6 677.59 | 5 196.95 | 4 950.72 | –73.6 | –74.8 | –73.6 | –74.8 |
| $CH_4$ | 3 623.78 | 1 639.28 | 1 613.10 | 1 552.70 | 1 399.52 | –57.2 | –61.4 | –57.2 | –61.4 |
| $N_2O$ | 2 583.07 | 1 421.28 | 1 288.55 | 1 474.66 | 1 313.46 | –42.9 | –49.2 | –42.9 | –49.2 |
| HFCs | NO, NA | 162.65 | 162.65 | 126.32 | 126.32 | NA | NA | NA | NA |
| PFCs | NO, NA | NO, NA | NO, NA | NO, NA | NO, NA | NA | NA | NA | NA |
| $SF_6$ | NO, NA | 10.36 | 10.36 | 10.36 | 10.36 | NA | NA | NA | NA |
| $NF_3$ | NO, NA | NO, NA | NO, NA | NO, NA | NO, NA | NA | NA | NA | NA |
| **Total GHG emissions without LULUCF** | **25 868.25** | **10 174.34** | **9 752.25** | **8 360.99** | **7 800.38** | **–60.7** | **–62.3** | **–67.7** | **–69.8** |

*Source*: Latvia's BR5 CTF table 6.
[a] Latvia included indirect $CO_2$ emissions in its projections.

69. Latvia reported in the NC8 projected emissions for 2030 under the WEM scenario that are 16.6 per cent lower than those reported in its NC7 and BR4. The projections in the NC8 are lower for all sectors except for the IPPU sector, for which GHG emissions in 2030 were projected to be higher by 2.5 per cent than in the NC7. The smallest difference is in the energy (excluding transport) sector, for which GHG emissions in 2030 were projected to be only 5 per cent lower than in the NC7. In other sectors, emissions were projected to be lower by 15–33 per cent for 2030 in the NC8 compared with those in the NC7 for the WEM scenario. There are several reasons for these differences in GHG emission projections. First, these projections incorporate recalculations of actual emissions reported in the national GHG inventory that change historical emission trends. Second, these projections include assumptions about the socioeconomic indicators used in GHG emission calculations, such as population size, GDP and primary energy consumption. Third, during the period between the NC7 and the NC8 various GHG emission reduction measures were implemented that reduced the actual emissions in 2020, the impact of which will be felt up until 2030.

### (d) Assessment of adherence to the reporting guidelines

70. The ERT assessed the information reported in the NC8 and BR5 of Latvia and recognized that the reporting is complete and transparent, and thus adheres to the UNFCCC reporting guidelines on NCs and the UNFCCC reporting guidelines on BRs. No issues relating to the topics discussed in this chapter of the review report were raised during the review.

### 2. Assessment of the total effect of policies and measures

#### (a) Technical assessment of the reported information

71. In its NC8 Latvia presented the estimated and expected total effect of implemented and adopted PaMs by gas (excluding LULUCF). Information is presented in terms of GHG emissions avoided or sequestered, by gas (on a $CO_2$ eq basis), in 2030 and 2040. It also presented relevant information on factors and activities for each sector for 1990–2040.

72. Latvia reported that the total estimated effect of its implemented and adopted PaMs is 940.91 kt $CO_2$ eq in 2030 and 1,300.68 kt $CO_2$ eq in 2040. According to the information reported in its NC8, PaMs implemented in the energy sector will deliver the largest emission reductions. Table 10 provides an overview of the total effect of PaMs as reported by Latvia.

Table 10
**Projected effects of Latvia's planned, implemented and adopted policies and measures in 2030 and 2040**
(kt $CO_2$ eq)

| | *2030* | | *2040* | |
|---|---|---|---|---|
| *Sector* | *Effect of implemented and adopted measures* | *Effect of planned measures* | *Effect of implemented and adopted measures* | *Effect of planned measures* |
| Energy (without transport) | 452.81 | 95.20 | 375.88 | 100.04 |
| Transport | 274.00 | 185.22 | 924.80 | 165.23 |
| Industry/industrial processes | NE | NA | NE | NA |
| Agriculture | NE | 124.76 | NE | 164.90 |
| Land-use change and forestry | 214.10 | 865.51 | NE | 781.61 |
| Waste management | NE | 16.91 | NE | 130.45 |
| **Total** | **940.91** | **1 287.6** | **1 300.68** | **1 342.23** |

*Source*: Latvia's NC8 and BR5. The ERT calculated the total effect by sector.
*Note*: The total effect of implemented and adopted PaMs is defined as the aggregate impacts of individual PaMs that are implemented and adopted; the total effect of planned PaMs is defined as the difference between the WEM and the WAM scenarios.

#### (b) Assessment of adherence to the reporting guidelines

73. The ERT assessed the information reported in the NC8 of Latvia and identified an issue related to transparency and thus adherence to the UNFCCC reporting guidelines on NCs. The finding is described in table I.2.

### 3. Supplementarity relating to the mechanisms pursuant to Articles 6, 12 and 17 of the Kyoto Protocol

#### (a) Technical assessment of the reported information

74. In the NC8 Latvia provided information on how its use of the mechanisms under Articles 6, 12 and 17 of the Kyoto Protocol is supplemental to domestic action, although it did not elaborate on supplementarity as such. The information provided relates to the use of units issued under Kyoto Protocol market-based mechanisms and the Latvian climate change financial instrument for improving energy performance in buildings and increasing the use of renewable energy. This instrument is financed by the proceeds from AAU purchase agreements made within the framework for international emissions trading under the Kyoto Protocol. The ERT noted that Latvia does not plan to use market-based mechanisms to meet its Kyoto Protocol target in either commitment period.

75. Latvia explained that in the EU supplementarity obligations under the Kyoto Protocol require that any international credit purchases by member States must be in addition to emission abatement action taken domestically. EU member State governments use flexible mechanisms in their achievement of the targets of the Kyoto Protocol. Latvia not only fulfilled its commitment under the first commitment period, but also sold AAUs between

2009 and 2013. All AAUs sold were used for greening, such as climate change mitigation or the promotion of the development of a low-carbon economy.

### (b) Assessment of adherence to the reporting guidelines

76. The ERT assessed the information reported in the NC8 of Latvia and recognized that the reporting is complete and transparent, and thus adheres to the reporting guidelines for supplementary information. No issues relating to the topics discussed in this chapter of the review report were raised during the review.

## G. Provision of financial, technological and capacity-building support to developing country Parties

77. Latvia is not an Annex II Party and is therefore not obliged to adopt measures and fulfil obligations defined in Article 4, paragraphs 3–5, of the Convention. However, Latvia provided information in its NC8 and BR5 on its provision of support to developing country Parties. The ERT commends Latvia for reporting this information and suggests that it continue to do so in future NCs. Latvia reported information on financial support for 2019 and 2020; therefore, the information provided is relevant for the reporting period. Latvia engaged in bilateral cooperation with Georgia, Kyrgyzstan and Uzbekistan in 2019. These engagements collectively mobilized funding of EUR 86,405. Owing to the COVID-19 pandemic, the allocation of funds for technology development and transfer support to developing country Parties was considered but the funds were ultimately not allocated and therefore not reported in the NC8 and BR5. Latvia plans to continue its support for developing country Parties, including through bilateral channels, in the future.

78. For 2019, Latvia reported that the total contributions through bilateral channels amounted to EUR 88,528 (USD 99,105) for capacity-building seminars in Georgia, Kyrgyzstan and the Republic of Moldova. These activities relate to forecasting GHG emissions and preparing GHG inventories, enhancing the institutional capacity of public administrations and increasing the role of civil society in rural development. For 2020, Latvia's contributions amounted to EUR 93,761 (USD 107,093) in grants for bilateral projects implemented in Ghana, the Republic of Moldova, Uzbekistan and Viet Nam. These projects were focused on building capacity in district heating companies, promoting sustainability after the COVID-19 pandemic and strengthening local organizations to protect rainforests. Latvia is also examining how to contribute to achieving the USD 100 billion per year climate finance goal by 2025 to support developing countries; options include diversifying the ways in which financial contributions are made and expanding priority regions and recipient countries.

## H. Vulnerability assessment, climate change impacts and adaptation measures

### 1. Technical assessment of the reported information

79. In its NC8 Latvia provided information on the expected impacts of climate change in the country; the adaptation policies covering regional, sectoral and cross-sectoral vulnerabilities and considerations; and an outline of the action taken to implement Article 4, paragraph 1(b) and (e), of the Convention with regard to adaptation. Latvia provided a description of climate change vulnerability and impacts on sectors most vulnerable to climate change and highlighted the adaptation response actions taken and planned at different levels of government. Civil protection and emergency management is the most vulnerable sector and a civil protection training course was improved by including climate change issues and possible actions to adapt to the adverse effects of climate change. Latvia provided a time frame for implementing its adaptation measures for 2022–2030 and reported that evaluations of progress in implementation are planned for the end of 2026 and end of 2031.

80. Addressing adaptation was given impetus with the adoption of the National Adaptation Plan in 2019, which sets out the priorities for adaptation to reduce the vulnerability of people, the economy, infrastructure, construction and the environment and

which provides direction to governmental agencies on making use of the opportunities created by climate change. In the NC8 Latvia explained that the National Adaptation Plan until 2030 has more than 80 concrete adaptation measures and the following five strategic goals to address the detrimental effects of climate change: protect human life, health and welfare, regardless of gender, age and social background, from the adverse effects of climate change; adapt the national economy to the adverse effects of climate change and seize opportunities created by climate change; plan climate-resilient infrastructure; preserve nature and the cultural and historical values of Latvia; and make decisions that are informed by science. Furthermore, the National Adaptation Plan until 2030 defines the principles for the development and implementation of Latvia's climate change adaptation policy, such as the principle of scientific justification, the principle of preventive action, the principle of cross-sectoral efficiency, the principle of integration in policy planning and decision-making, and the principle of the protection of the most vulnerable groups. Latvia described the economic impact of climate change in the form of an assessment of the ex post economic cost and reported that funds from the State budget had to be allocated to municipalities to respond to unpredicted climate change related events. Table 11 summarizes the information on vulnerability and adaptation to climate change presented in the NC8 of Latvia.

Table 11
**Summary of information on vulnerability and adaptation to climate change reported by Latvia**

| *Vulnerable area* | *Examples/comments/adaptation measures reported* |
|---|---|
| Agriculture | Vulnerability: crops freezing; crop diseases; pathogens that can be transmitted from animals to humans; soil drying out faster and prolonged heatwaves; and flooding of agricultural land due to intense rainfall causing potential average loss of 10–20 per cent of crop yield. |
| | Adaptation: planned adaptation measures include developing systems to monitor zoonotic agents and carriers of animal diseases; ensuring that farmers are informed about insurance and compensation for losses caused by extreme weather events; and conducting studies on the role of insects that have been affected by climate change in the transmission of zoonoses and exotic animal diseases. |
| Biodiversity and ecosystems | Vulnerability: contamination and eutrophication of water courses and water bodies; increase in water temperature and a longer stratification period; decrease in the volume of dissolved oxygen in the bottom layer of water bodies; and effects on ecologically sensitive species. |
| | Adaptation: planned adaptation measures include integrating adaptation measures into all relevant environmental campaigns and projects, the Habitat Management Guidelines, and legislation for the management of Specially Protected Natural Territories; carrying out studies on climate-sensitive species; removing river obstacles to enhance flow; maintaining biodiversity; and monitoring surface water bodies during warmer seasons. |
| Buildings and infrastructure | Vulnerability: increase in coastal flood damage and in flooding of cities near estuaries; damage to buildings and roads from flooding from rainfall; and wind damage to the electricity transmission and distribution network. The costs due to floods impacting the built environment are projected to be about EUR 1.5 million per year from 2040 to 2070, and up to EUR 3.2 million per year from 2070 to 2100. |
| | Adaptation: planned adaptation measures include collecting rainwater in cities to prevent structural damage; improving rainwater systems using green infrastructure for sustainable water management; designing roads, ports and berths with the consideration of changes in rainwater run-off and potential flood hazards due to climate change; 'climate proofing' sensitive electronic communication infrastructure, critical government buildings and transport systems; using construction materials and technologies that prevent heat accumulation; updating construction standards for precipitation loads; developing guidelines for improving existing building structures; and adjusting construction standards to reduce risks arising from climate change. |
| Civil protection and emergency management | Vulnerability: ice drift; flooding caused by heavy rainfall; storms and storm surges; and forest and peat fires. The current losses for civil protection and emergency management stand at approximately EUR 11 million per year, with projections estimating these losses to increase to around EUR 20 million per year by 2100. |
| | Adaptation: planned adaptation measures include implementing and improving forecasting and early warning systems; and improving the national early warning system by launching |

| *Vulnerable area* | *Examples/comments/adaptation measures reported* |
|---|---|
| | and maintaining a cell broadcast service in order to ensure that the population is promptly informed of natural disasters and, to the extent possible, of extreme weather events. |
| Fisheries | Vulnerability: increase in water temperature and flood risk in coastal fish farms. |
| | Adaptation: planned adaptation measures include identifying Latvia's freshwater fish species; reviewing the guidelines for the artificial reproduction of fish and determining how to increase the reproduction rate of freshwater species affected by climate change; informing those involved in fish farming about the possible climate risks and possibilities of adaptation in the fishery sector; and creating a list of invasive water-related species that have entered Latvia as a result of the impacts of climate change. |
| Forestry | Vulnerability: tree diseases and pests; frost damage; exploitation of forests hindered owing to a reduction of the winter freeze; storms and fire; tree damage due to freezing rain, wind and snow; and faster drying of soil threatening food security. In the last decade, direct storm damage caused approximately EUR 164 million in losses to forest owners, while damage from insects feeding on the wood of trees resulted in about EUR 36 million in losses. |
| | Adaptation: planned adaptation measures include improving the legal framework in order to promote the development of a high-quality planting stock for the creation of lower density young forest stands for the restoration of forests; creating wind-resistant forest stands; creating additional forest firefighting infrastructure in high-risk areas; promoting the use of equipment that exerts a lower pressure on soil in order to protect forest soil during winter under frost-free conditions; and ensuring the harmonization of measures provided in the new policy planning document for the forestry sector. |
| Health and well-being | Vulnerability: increased spread of infectious diseases; increased spread of chronic diseases (cardiovascular diseases, diabetes, etc.); and increased incidence of heatstroke. From 2016 to 2100, the estimated losses related to health and welfare are approximately EUR 26 million per year. |
| | Adaptation: planned adaptation measures include reviewing the legal framework with regard to the necessity of installing and maintaining air cooling systems in public spaces, health-care institutions (as a priority), social care and social rehabilitation institutions, kindergartens and train stations; increasing the installation and maintenance of air-conditioning systems in public spaces; ensuring that prevention and awareness-raising information on the impacts of climate change are provided at educational institutions and social care institutions; and training of providers of childcare services and library employees on the impacts of and adaptation to climate change. |
| Tourism | Vulnerability: flooding from rivers and lakes; change in the length and characteristics of the summer and winter tourism seasons; and Baltic Sea and Gulf of Riga flooding and erosion. By 2100, losses in the tourism sector due to flooding are expected to be EUR 29–52 million per year, with an additional loss of EUR 3.4 million due to changes in the winter tourism season, and losses due to coastal flooding and erosion are expected to be EUR 15–20 million. |
| | Adaptation: planned adaptation measures include promoting the adaptation of cultural and natural monuments of national significance against the impacts of climate change; providing information to companies involved in tourism on climate change and adaptation; and providing warnings and information on safety to visitors to coasts at potential mudslide, landslide and flooding risk locations. |

81. Latvia provided a description of adaptation activities, including the integration of climate change adaptation into the work of local authorities. There is a methodology common to the local authorities for developing sustainable energy and climate action plans. The integration of national climate change policy, including adaptation activities, into sectoral and regional policies is under way. Latvian municipalities are actively taking part in the activities of the Covenant of Mayors – Europe to develop their sustainable energy and climate change strategies. The NC8 does not include information on cooperation with developing countries on adaptation. During the review, Latvia clarified that it did not have the necessary capacity and resources to develop such cooperation during the reporting period, but it noted that it is nevertheless committed to providing financial support to non-Annex I Parties on adaptation.

### 2. Assessment of adherence to the reporting guidelines

82. The ERT assessed the information reported in the NC8 of Latvia and identified an issue relating to completeness and thus adherence to the UNFCCC reporting guidelines on NCs. The finding is described in table I.3.

## I. Research and systematic observation

### 1. Technical assessment of the reported information

83. In its NC8 Latvia provided information on its general policy and funding related to research and systematic observation and relevant activities, including participation in the EU research and innovation funding programme Horizon 2020. Latvia has participated in several European and worldwide research and environmental monitoring programmes, which are important for fulfilling the commitments made in international treaties and for developing open science. Latvia is a member of the IPCC, World Meteorological Organization, European Organisation for the Exploitation of Meteorological Satellites and European Centre for Medium-Range Weather Forecasts. Latvia participated as a partner in projects under Horizon 2020 and the LIFE Programme 2014–2020 (the EU funding instrument for environment and climate action). Latvia reported that no barriers have been identified to the free and open international exchange of data.

84. Latvia has implemented international and domestic policies and programmes on climate change research, systematic observation and climate modelling that aim to advance capabilities to predict and observe the physical, chemical, biological and human components of the Earth's system over space and time. The Party reported that the main institutions participating in climate change mitigation- and adaptation-related research include Riga Technical University, the Institute of Solid State Physics of the University of Latvia, the Institute of Physical Energetics, the Institute of Numerical Modelling of the University of Latvia, and Latvia University of Life Sciences and Technologies. The Party reported updated information on research activities in the areas of mitigation, adaptation and GHG inventories. For mitigation, research activities include the joint Baltic–Nordic research programme LIFE OrgBalt, which demonstrates the climate change mitigation potential of nutrient-rich organic soils in the Baltic States and Finland; the enhancement of sustainable soil resource management in agriculture; the LIFE Peat Restore project, the aim of which is to reduce $CO_2$ emissions by restoring degraded peatlands in northern European lowlands; and a programme on the sustainable use of land resources and landscape management. For adaptation, research activities include air monitoring and climate change monitoring programmes for 2015–2020; the development of proposals for the National Adaptation Plan until 2030, including the identification of scientific data; and measures for adapting to the impacts of a changing climate and evaluating their costs. For GHG inventories, research activities include the integration of climate change policy into sectoral and regional policies and the development of a carbon monitoring system.

85. In terms of activities related to systematic observation, Latvia reported on national plans, programmes and support for ground- and space-based climate observing systems, including satellite and non-satellite climate observation. Latvia's environmental monitoring programme includes an early warning system for dangerous changes in the quality of the environment. Latvia reported on the atmospheric and climate observation system, oceanographic observation and terrestrial observation. The Latvian Environment, Geology and Meteorology Centre is responsible for preparing reports and providing information to the public, the State Government, local governments and international organizations, and maintains a GHG emissions trading registry. The Centre also executes several national initiatives on climate observation, maintains 31 meteorological observation stations across the country, manages comprehensive environmental monitoring programmes, and actively participates in international observation systems and the activities of international meteorological bodies. Since the NC7, significant developments include the modernization of 24 meteorological stations, the implementation of the new observation network management system, preparation for participation in the European Meteosat Third

Generation satellite system, and expansion of air quality monitoring in four cities and two rural areas.

86. The NC8 reflects actions taken to support international and bilateral cooperation on research activities related to capacity-building for developing countries; for example, in Uzbekistan, developing climate change scenarios at the national level, exchanging experience to ensure the monitoring of the research activities and access to information, and applying open-source technologies in public administrative processes.

### 2. Assessment of adherence to the reporting guidelines

87. The ERT assessed the information reported in the NC8 of Latvia and recognized that the reporting is complete and transparent, and thus adheres to the UNFCCC reporting guidelines on NCs. No issues relating to the topics discussed in this chapter of the review report were raised during the review.

## J. Education, training and public awareness

### 1. Technical assessment of the reported information

88. In its NC8 Latvia provided information on its actions related to education, training and public awareness at the domestic and international level. The Party provided information on the general policy on education, training and public awareness; primary, secondary and higher education; public information campaigns; training programmes; education materials; resource or information centres; and the involvement of the public and non-governmental organizations. Since the NC7, Latvia has participated in several international cooperation training activities, such as training on the implementation of measures for low-carbon development in Georgia. Latvia reported that it did not undertake formal monitoring, review and evaluation processes for assessing the implementation of Article 6 of the Convention.

89. Latvia reported in its NC8 that regulations that will facilitate the integration of environmental education into general and professional educational curricula have been drafted. Latvia, in cooperation with public authorities, the academic sector, non-governmental organizations and other organizations, promotes environmental education and education for sustainable development through the Sustainable Development Strategy of Latvia until 2030. The Environmental Policy Guidelines is a medium-term sectoral planning document that incorporates environmental education priorities in the regulatory and policy planning documents of other sectors. Education on the Environmental Protection Law is included in the mandatory component of all higher education and college study programmes. The Law provides that matters regarding environmental education and education on sustainable development shall be included in the mandatory curriculum of a course in accordance with the specific character of each subject, meaning that environmental science should be run as an interdisciplinary theme. The Education Development Guidelines for 2021–2027, approved in 2021, emphasize the usability of knowledge and skills as an outcome of education and refer to relevant EU and global initiatives such as the Organisation for Economic Co-operation and Development's National Skills Strategies project and the European Commission's European Skills Agenda 2025.

90. Latvia also reported in its NC8 updated information on training delivered, including capacity-building for municipal authorities on collecting data on climate change risks and vulnerabilities and for local authorities on integrating climate change action into their administrative practices. Training for municipal authorities on low-carbon development and innovative technologies is envisaged to take place by 2030. The integration of low-carbon development in the spatial planning of towns and cities is envisaged to be included in the training.

91. Latvia described in its NC8 action taken to raise public awareness on the environment and climate change through newspapers and magazines, radio and television programmes, campaigns and an Internet portal. The Climate Portal, run by the Latvian Environment, Geology and Meteorology Centre, provides up-to-date information for various target groups, including households, municipalities, businesses, pupils and researchers. Campaigns are

important for raising awareness on climate change and for popularizing the protection of the environment and living and consuming sustainably. Campaigns run in Latvia include those associated with European Mobility Week, Earth Day, Earth Hour, International Passive House Open Days, International Water Day, Latvia's Great Clean-up, Nature Concert Hall and My Sea, and events organized by the non-governmental organization "Footprints". In addition, Latvia reported on the involvement of the public and non-governmental organizations in climate action. The NC8 reported that more than 25,000 public organizations, associations, societies and foundations working on climate change had been registered as at February 2022. The NC8 reported that the Party has participated in several international cooperation measures on education, training and public awareness, including by organizing the international conference Environmental Science and Education in Latvia and Europe, and contributing to international portals, including the Climate Change Knowledge Portal.

### 2. Assessment of adherence to the reporting guidelines

92. The ERT assessed the information reported in the NC8 of Latvia and recognized that the reporting is complete and transparent, and thus adheres to the UNFCCC reporting guidelines on NCs. No issues relating to the topics discussed in this chapter of the review report were raised during the review.

# III. Conclusions and recommendations

93. The ERT conducted a technical review of the information reported in the NC8 of Latvia in accordance with the UNFCCC reporting guidelines on NCs. The ERT concluded that the reported information mostly adheres to the UNFCCC reporting guidelines on NCs and that the NC8 provides an overview of the national climate policy of Latvia.

94. The information provided in the NC8 includes all of the elements of the supplementary information under Article 7, paragraph 2, of the Kyoto Protocol. Latvia reported on the national system, the national registry, supplementarity relating to the mechanisms pursuant to Articles 6, 12 and 17 of the Kyoto Protocol, PaMs in accordance with Article 2 of the Kyoto Protocol, domestic and regional programmes and/or legislative arrangements and enforcement and administrative procedures, and information under Article 10 of the Kyoto Protocol. Supplementary information under Article 7, paragraph 1, of the Kyoto Protocol on the minimization of adverse impacts in accordance with Article 3, paragraph 14, of the Kyoto Protocol was provided by Latvia in its 2022 annual submission.

95. The ERT conducted a technical review of the information reported in the BR5 and BR5 CTF tables of Latvia in accordance with the UNFCCC reporting guidelines on BRs. The ERT concluded that the reported information mostly adheres to the UNFCCC reporting guidelines on BRs and that the BR5 and its CTF tables provide an overview of emissions and removals related to the Party's quantified economy-wide emission reduction target; assumptions, conditions and methodologies related to the attainment of the target; the progress of Latvia towards achieving its target; and the Party's provision of support to developing country Parties.

96. In its NC8 Latvia reported on its key national circumstances related to GHG emissions and removals, including population and GDP, as well as on the relationship between national circumstances and GHG emissions and removals over time. Between 2017 and 2020, Latvia's population decreased by 2.1 per cent and GDP increased by 4.3 per cent, while GHG emissions per GDP unit and GHG emissions per capita decreased by 5.5 and 0.5 per cent respectively.

97. Latvia's total GHG emissions excluding LULUCF and including indirect $CO_2$ were estimated to be 59.6 per cent below its 1990 level. Emissions peaked in 1990 and decreased thereafter. Economic trends, shifts in energy mix, and extended warm weather periods primarily drove changes in total emissions. Within the reporting period an additional influence on the energy sector was the COVID-19 pandemic. The LULUCF sector became a net emitter in 2020 mostly owing to the ageing of forests and the conversion of forest land to settlements, cropland and grassland.

98. As reported in the BR5, under the Convention Latvia committed to contributing to the achievement of the joint EU quantified economy-wide target of a 20 per cent reduction in emissions below the 1990 level by 2020. The target covers all sectors and $CO_2$, $CH_4$, $N_2O$, HFCs, PFCs and $SF_6$, expressed using GWP values from the AR4. Emissions and removals from the LULUCF sector are not included. Under the ESD Latvia has a target of limiting its emission growth to 17 per cent above the 2005 level by 2020.

99. The EU has a joint 2030 emission reduction target of at least 55 per cent below the 1990 level. This will be primarily implemented through the EU ETS and ESR, which have targets to reduce emissions by 2030 by 62 and 40 per cent respectively compared with the 2005 level. Latvia has longer-term targets of a 65 per cent reduction in emissions compared with the 1990 level by 2030 and domestic climate neutrality by 2050.

100. The ERT noted that the total GHG emissions of the EU excluding LULUCF do not exceed the emission level corresponding to the target in 2020, and thus that the EU has achieved its joint target. The ERT therefore concluded that Latvia has met its 2020 commitment under the Convention through its contribution to achieving the joint target of the EU. See the report on the review of the BR5 of the EU for further details. The ERT noted that the Party met its 2020 ESD target because its ESD emissions in 2020 do not exceed its AEA for 2020.

101. The GHG emission projections provided by Latvia in its NC8 and BR5 correspond to the WEM and WAM scenarios. Under the WEM scenario, emissions in 2030 are projected to be 60.7 per cent below the 1990 level and 2.7 per cent below the 2020 level. Under the WAM scenario, emissions in 2030 are projected to be 62.3 per cent below the 1990 level and 6.8 per cent below the 2020 level.

102. Latvia's main policy framework relating to energy and climate change is the Strategy of Latvia for the Achievement of Climate Neutrality by 2050. Areas of action, objectives, and indicators for measures and actions to achieve Latvia's GHG reduction targets are set out in the Sustainable Development Strategy of Latvia until 2030 and the National Development Plan for 2021–2027. The Party described the mitigation actions that it has implemented to help it achieve its 2020 and longer-term targets. Preferential feed-in tariffs for renewable electricity and an investment support programme for energy efficiency in buildings have delivered the most significant emission reductions. The programmes aimed at improving energy efficiency make use of regulations, economic instruments, information campaigns and education initiatives that together provide a complete, integrated set of instruments for reducing emissions from buildings.

103. Latvia is not an Annex II Party and is therefore not obliged to adopt measures and fulfil obligations defined in Article 4, paragraphs 3–5, of the Convention. However, it provided information in its BR5 and NC8 on its provision of support to developing country Parties. Latvia provided support to Georgia, Ghana, Kyrgyzstan, the Republic of Moldova, Uzbekistan and Viet Nam in the areas of forecasting GHG emissions and preparing inventories, enhancing the institutional capacity of public administrations, increasing the role of civil society in rural development, building capacity in district heating companies, promoting sustainability after the COVID-19 pandemic and strengthening local organizations to protect rainforests.

104. In its NC8 Latvia provided information on the expected impacts of climate change in the country; the adaptation policies covering regional, sectoral and cross-sectoral vulnerabilities and considerations; and an outline of the action taken to implement Article 4, paragraph 1(b) and (e), of the Convention with regard to adaptation. Latvia's most vulnerable sectors are agriculture, biodiversity and ecosystems, buildings and infrastructure, civil protection and emergency management, fisheries, forestry, health and well-being, and tourism. CoM adopted the National Adaptation Plan until 2030, which sets out the adaptation priorities to reduce the vulnerability of people, the economy, infrastructure, construction and the environment to the impacts of climate change and to promote the opportunities created by climate change. Latvia is cooperating at the subnational, national, regional and international level to enhance adaptation action, including by taking part in the activities of the Covenant of Mayors – Europe.

105. In its NC8 Latvia provided information on its activities relating to research and systematic observation. The Latvian Environment, Geology and Meteorology Centre is responsible for systematic observation in Latvia and in this regard collects, archives and analyses long-term observations. Latvia supports capacity-building activities relating to the development of climate change scenarios at the national level and the application of open-source technologies in public administrative processes of developing countries, in particular Uzbekistan.

106. In its NC8 Latvia provided information on its actions relating to education, training and public awareness. Latvia reported that regulations have been formulated to facilitate the integration of environmental education into general and professional educational curricula in cooperation with public authorities, the academic sector, non-governmental organizations and other organizations. The Education Development Guidelines for 2021–2027 were approved in 2021 with the overarching aim of providing quality education opportunities to all and promoting learning and the development of skills to manage societal and economic change.

107. In the course of the review, the ERT formulated the following recommendations for Latvia to improve its adherence to the UNFCCC reporting guidelines on NCs in its next NC:

(a) To improve the completeness of its reporting by providing information on action taken to implement Article 4, paragraph 1(e), of the Convention regarding cooperation with developing countries (see issue 1 in table I.3);

(b) To improve the transparency of its reporting by:

(i) Ensuring consistency between the information provided in the textual part of the NC and the associated sectoral tables (see issue 1 in table I.1);

(ii) Providing the total effects of PaMs, in accordance with the WEM scenario, compared with a situation without such PaMs, by gas (see issue 2 in table I.2).

108. In the course of the review of Latvia's BR5, the ERT formulated the following recommendation relating to adherence to the UNFCCC reporting guidelines on BRs: an issue with the transparency of its reporting relating to ensuring consistency between the information provided in the textual part of the annual submission and the associated sectoral tables (see issue 1 in table II.1).

# Annex I

## Assessment of adherence to the reporting guidelines for the eighth national communication of Latvia

Tables I.1–I.5 summarize the ERT assessment of adherence to the UNFCCC reporting guidelines on NCs for Latvia's NC8.

Table I.1
**Findings on policies and measures from the review of the eighth national communication of Latvia**

| *No.* | *Reporting requirement, issue type and assessment* | *Description of the finding with recommendation or encouragement* |
|---|---|---|
| 1 | Reporting requirement specified in paragraph 14 | The ERT noted some differences in reported PaMs for all sectors between the textual description and the associated tables in the NC8; that is, some PaMs described in the text were not included in the tables. |
| | Issue type: transparency | During the review, Latvia explained that the differences in PaMs between the text and sectoral tables of the NC8 arose because some PaMs (mainly regulatory PaMs) that were not included in the GHG emission projections were not included in the tables. |
| | Assessment: recommendation | The ERT reiterates the recommendation from the previous review report for Latvia to increase the transparency of its reporting on PaMs by ensuring consistency between the information provided in the textual part of the NC and the associated sectoral tables or clearly explaining why PaMs reported in the NC are missing from the associated tables. |
| 2 | Reporting requirement specified in paragraph 21 | The Party did not report information on the cost of PaMs. |
| | Issue type: completeness | During the review, Latvia explained that reporting on the cost of PaMs is challenging owing to the evolution of the cost of implementing PaMs. |
| | Assessment: encouragement | The ERT encourages Latvia to improve the completeness of its reporting by including in its next submission information on the cost of PaMs, accompanied by a brief definition of cost. |

*Note*: Paragraph number listed under reporting requirement refers to the relevant paragraph of the UNFCCC reporting guidelines on NCs. The reporting on the requirements not included in this table is considered to be complete and transparent, and thus adheres to the UNFCCC reporting guidelines on NCs.

Table I.2
**Findings on projections including aggregate effects of policies and measures reported in the eighth national communication of Latvia**

| *No.* | *Reporting requirement, issue type and assessment* | *Description of the finding with recommendation or encouragement* |
|---|---|---|
| 1 | Reporting requirement specified in paragraph 25 | The Party did not report a WOM scenario. |
| | Issue type: completeness | During the review, the Party clarified that in order to assess the impact of implemented PaMs after 2000, the MARKAL-Latvia model was applied and GHG emissions for the "no-action scenario" (WOM scenario) were calculated and it provided the ERT with a table showing the calculated GHG emissions in the energy sector under the WOM scenario (base year 2000), in kt $CO_2$ eq. |
| | Assessment: encouragement | The ERT reiterates the encouragement from the previous review report for Latvia to report the WOM scenario for all sectors. |
| 2 | Reporting requirement specified in paragraph 37 | The Party did not provide the total effect of PaMs, in accordance with the WEM scenario, compared with a situation without such PaMs, by gas. |
| | Issue type: transparency | During the review, the Party clarified that the GHG emissions trajectory for the "no-action scenario" (WOM) was calculated and the result was compared with the WEM scenario for 2000–2030. |
| | Assessment: recommendation | The ERT recommends that Latvia provide the total effect of PaMs, in accordance with the WEM scenario, compared with a situation without such PaMs, by gas. |

*Note*: Paragraph number listed under reporting requirement refers to the relevant paragraph of the UNFCCC reporting guidelines on NCs. The reporting on the requirements not included in this table is considered to be complete and transparent, and thus adheres to the UNFCCC reporting guidelines on NCs.

Table I.3
**Findings on vulnerability assessment, climate change impacts and adaptation measures from the review of the eighth national communication of Latvia**

| *No.* | *Reporting requirement, issue type and assessment* | *Description of the finding with recommendation or encouragement* |
|---|---|---|
| 1 | Reporting requirement specified in paragraph 46<br>Issue type: completeness<br>Assessment: recommendation | The Party reported on adaptation measures at the national and regional level but the information regarding Article 4, paragraph 1(e), of the Convention on cooperation with developing countries in the context of elaborating appropriate and integrated plans for coastal zone management, water resources and agriculture, and for the protection and rehabilitation of areas, particularly in Africa, affected by drought, desertification and floods was not provided in the NC8.<br>During the review, Latvia clarified that it did not have the necessary capacity and resources to develop such cooperation during the reporting period, but it noted that it is nevertheless committed to providing financial support to non-Annex I Parties to enhance adaptation.<br>The ERT reiterates the recommendation from the previous review report for Latvia to report in its next submission an outline of the action taken to implement Article 4, paragraph 1(e), of the Convention regarding cooperation with developing countries or provide an explanation for not reporting on cooperation with developing countries with regard to activities under Article 4, paragraph 1(e). |

*Note*: Paragraph number listed under reporting requirement refers to the relevant paragraph of the UNFCCC reporting guidelines on NCs. The reporting on the requirements not included in this table is considered to be complete and transparent, and thus adheres to the UNFCCC reporting guidelines on NCs.

Table I.4
**Findings on research and systematic observation from the review of the eighth national communication of Latvia**

| *No.* | *Reporting requirement, issue type and assessment* | *Description of the finding with recommendation or encouragement* |
|---|---|---|
| 1 | Reporting requirement specified in paragraph 67<br>Issue type: completeness<br>Assessment: encouragement | The Party did not provide information in its NC8 on its provision of support to developing countries for establishing and maintaining observing systems and related data and monitoring systems.<br>During the review, Latvia clarified that it did not have the necessary capacity and resources to develop such cooperation during the reporting period, but it noted that it is nevertheless committed to providing financial support to non-Annex I Parties to establish and maintain observing systems and related data and monitoring systems.<br>The ERT encourages Latvia to improve the completeness of its reporting by including in its next submission an outline of the action taken to support developing countries in establishing and maintaining observing systems and related data and monitoring systems or providing an explanation if it is not possible to report such information. |

*Note*: Paragraph number listed under reporting requirement refers to the relevant paragraph of the UNFCCC reporting guidelines on NCs. The reporting on the requirements not included in this table is considered to be complete and transparent, and thus adheres to the UNFCCC reporting guidelines on NCs.

Table I.5
**Findings on education, training and public awareness from the review of the eighth national communication of Latvia**

| *No.* | *Reporting requirement, issue type and assessment* | *Description of the finding with recommendation or encouragement* |
|---|---|---|
| 1 | Reporting requirement specified in paragraph 68<br>Issue type: completeness<br>Assessment: encouragement | The Party reported on the different activities related to the involvement of the public and non-governmental organizations. However, the information related to the extent of public participation in the preparation or domestic review of its NCs was not provided in the NC8.<br>During the review, Latvia clarified that the NC8 was sent to relevant ministries and institutions for review and approval and was published on the website of the Latvian Environment, Geology and Meteorology Centre for comments by the public before submission. |

| No. | *Reporting requirement, issue type and assessment* | *Description of the finding with recommendation or encouragement* |
|---|---|---|
| | | The ERT encourages Latvia to improve the completeness of its NCs by providing information related to the extent of public participation in the preparation or domestic review of its NCs in the next submission. |

*Note*: Paragraph number listed under reporting requirement refers to the relevant paragraph of the UNFCCC reporting guidelines on NCs. The reporting on the requirements not included in this table is considered to be complete and transparent, and thus adheres to the UNFCCC reporting guidelines on NCs.

# Annex II

## Assessment of adherence to the reporting guidelines for the fifth biennial report of Latvia

The BR5 of Latvia is the final BR under the measurement, reporting and verification system established under the Convention.[1] Nevertheless, ERTs continue to provide recommendations and encouragements to Parties on completeness, transparency and adherence to the UNFCCC reporting guidelines on BRs. Parties may find these recommendations and encouragements relevant, as appropriate, when preparing their initial biennial transparency report under the enhanced transparency framework of the Paris Agreement. Table II.1 summarizes the ERT assessment of adherence to the UNFCCC reporting guidelines on BRs for Latvia's BR5.

Table II.1
**Findings on mitigation actions and their effects from the review of the fifth biennial report of Latvia**

| *No.* | *Reporting requirement and issue type* | *Description of the finding* |
|---|---|---|
| 1 | Reporting requirement specified in paragraph 6 | The ERT noted some differences in reported PaMs for all sectors between the textual description and the associated tables in the BR5; that is, some PaMs described in the text were not included in the tables. |
| | Issue type: transparency | During the review, Latvia explained that the differences in PaMs between the text and sectoral tables of the BR5 arose because some PaMs (mainly regulatory PaMs) that were not included in the GHG emission projections were not included in the tables. |
| | Assessment: recommendation | The ERT recommends that Latvia increase the transparency of its reporting on PaMs by ensuring consistency between the information provided in the textual part of the BR and the associated sectoral tables or clearly explaining why PaMs reported in the BR are missing from the associated tables. |

*Note*: Item listed under reporting requirement refers to the relevant paragraph of the UNFCCC reporting guidelines on BRs or to the CTF table number from the "Common tabular format for 'UNFCCC biennial reporting guidelines for developed country Parties'". The reporting on the requirements not included in this table is considered to be complete and transparent, and thus adheres to the UNFCCC reporting guidelines on BRs.

[1] The Conference of the Parties, by decision 1/CP.24, decided that the final BRs shall be those submitted to the secretariat no later than 31 December 2022 and reaffirmed that, for Parties to the Paris Agreement, following the submission of the final BR, the modalities, procedures and guidelines contained in the annex to decision 18/CMA.1 will supersede the measurement, reporting and verification system established under decision 1/CP.16, paras. 40–47 and 60–64, and decision 2/CP.17, paras. 12–62.

# Annex III

## Documents and information used during the review

### A. Reference documents

2022 GHG inventory submission of Latvia. Available at https://unfccc.int/ghg-inventories-annex-i-parties/2022.

2023 GHG inventory submission of Latvia. Available at https://unfccc.int/ghg-inventories-annex-i-parties/2023.

BR4 of Latvia. Available at https://unfccc.int/BR4.

BR5 CTF tables of Latvia. Available at https://unfccc.int/BR5.

BR5 of Latvia. Available at https://unfccc.int/BR5.

BR5 of the EU. Available at https://unfccc.int/BR5.

"Common tabular format for 'UNFCCC biennial reporting guidelines for developed country Parties'". Annex to decision 19/CP.18. Available at https://unfccc.int/resource/docs/2012/cop18/eng/08a03.pdf.

"Compilation of economy-wide emission reduction targets to be implemented by Parties included in Annex I to the Convention". FCCC/SBSTA/2014/INF.6. Available at http://unfccc.int/resource/docs/2014/sbsta/eng/inf06.pdf.

European Green Deal. European Commission document COM(2019) 640 final. Available at https://ec.europa.eu/info/files/communication-european-green-deal_en.

"Guidelines for the preparation of national communications by Parties included in Annex I to the Convention, Part II: UNFCCC reporting guidelines on national communications". FCCC/CP/2019/13/Add.1. Available at https://unfccc.int/documents/210471.

"Guidelines for the preparation of the information required under Article 7 of the Kyoto Protocol". Annex to 15/CMP.1. Available at https://unfccc.int/documents/4253.

"Guidelines for the preparation of the information required under Article 7 of the Kyoto Protocol". Annex III to decision 3/CMP.11. Available at https://unfccc.int/documents/9101.

"Guidelines for the technical review of information reported under the Convention related to greenhouse gas inventories, biennial reports and national communications by Parties included in Annex I to the Convention". Annex to decision 13/CP.20. Available at http://unfccc.int/resource/docs/2014/cop20/eng/10a03.pdf.

National energy and climate plan of Latvia. Available at https://energy.ec.europa.eu/system/files/2020-04/lv_final_necp_main_en_0.pdf.

NC8 of Latvia. Available at https://unfccc.int/NC8.

NC8 of the EU. Available at https://unfccc.int/NC8.

Report on the individual review of the annual submission of Latvia submitted in 2018. FCCC/ARR/2018/LVA. Available at https://unfccc.int/documents/194487.

Report on the technical review of the BR4 of Latvia. FCCC/TRR.4/LVA. Available at https://unfccc.int/documents/249901.

Report of the technical review of the NC7 of Latvia. FCCC/IDR.7/LVA. Available at https://unfccc.int/documents/181233.

Report on the technical review of the NC8 and the technical review of the BR5 of the EU. FCCC/IDR.8/EU–FCCC/TRR.5/EU. Available at https://unfccc.int/documents/630393.

"UNFCCC biennial reporting guidelines for developed country Parties". Annex I to decision 2/CP.17. Available at http://unfccc.int/resource/docs/2011/cop17/eng/09a01.pdf.

## B. Additional information provided by the Party

Responses to questions during the review were received from Agita Gancone (Ministry of Climate and Energy), including additional material. The following references were provided by Latvia and may not conform to UNFCCC editorial style as some have been reproduced as received:

Cabinet of Ministers regulation 675. *GHG Inventory, Projections and Adaptation to Climate Change Reporting Systems* (in Latvian). Available at https://likumi.lv/ta/id/336733-siltumnicefekta-gazu-inventarizacijassistemas-prognozu-sistemas-un-sistemas-zinosanai-par-pielagosanos-klimata-parmainam.

*Strategy of Latvia for the Achievement of Climate Neutrality by 2050*. Available at https://ec.europa.eu/clima/sites/lts/lts_lv_en.pdf.