



Switzerland's information necessary for clarity, transparency and understanding in accordance with decision 1/CP.21 of its updated and enhanced first nationally determined contribution (NDC) under the Paris Agreement (2021–2030)

Update of 13 November 2024

1 Overview: Switzerland's first nationally determined contribution

Switzerland is pleased to update its information necessary for clarity, transparency and understanding of its updated and enhanced first nationally determined contribution (NDC) under the Paris Agreement covering the years 2021 to 2030, in accordance with Article 4 of the Paris Agreement and decisions 1/CP.21 and 4/CMA.1.

According to Decision 1/CP.21, paragraphs 24 and 25, Parties have the obligation to submit to the secretariat their NDCs at least 9 to 12 months in advance of the relevant session of the Conference of the Parties serving as the meeting of the Parties to the Paris Agreement with a view to facilitating the clarity, transparency and understanding of these contributions, and Parties whose intended NDC contains a time frame up to 2030 are requested to communicate or update by 2020 these contributions and to do so every five years thereafter. Switzerland had accordingly communicated and updated its first NDC on 19 February 2020. On 17 December 2021, Switzerland submitted a revised version of the information necessary for clarity, transparency and understanding of its updated and enhanced first NDC, following the rejection of the third CO₂ Act by the Swiss population in a referendum, and the decisions taken as a result by the Swiss Federal Council and the Swiss Parliament. In March 2024, the Swiss Parliament approved a new version of the third CO₂ Act, entering into force on 1 January 2025. With this revision, sectoral targets for the period 2025–2030 and policies and measures to reach these targets have been adopted. Moreover, the Climate and Innovation Act details the long-term perspective of Switzerland's climate policy.

Switzerland herewith submits a revised version of the information necessary for clarity, transparency and understanding of its updated and enhanced first NDC which reflects the latest amendments in domestic legislation.

Switzerland's updated and enhanced first NDC is in line with latest findings by the IPCC¹ to reduce global CO₂ emissions by about 45 per cent from 2010 levels by 2030 and to achieve net zero greenhouse gas emissions by 2050 in order to limit warming to 1.5 degrees Celsius. For improved mutual understanding and comparability of the contribution, Switzerland hereby provides the information necessary for clarity, transparency and understanding of its first NDC according to the guidance in relation to the mitigation section of 1/CP.21 adopted at COP-24 in Katowice (4/CMA.1).

Switzerland's first NDC comprises a mitigation target only. Comprehensive information on adaptation strategies, planning, measures and implementation are found in Switzerland's first adaptation communication under the Paris Agreement (2020)² and in Switzerland's 8th National Communication (2022).³

¹ IPCC, 2018: Global warming of 1.5 degrees Celsius: <https://www.ipcc.ch/sr15/>

² Switzerland's adaptation communication has been submitted to the UNFCCC in December 2020: <https://unfccc.int/topics/adaptation-and-resilience/workstreams/adaptation-communications>

³ <https://www.bafu.admin.ch/nc-br>



Switzerland's first NDC

Switzerland is committed to follow the recommendations of science in order to limit warming to 1.5 degrees Celsius. In view of its climate target of net zero greenhouse gas emissions by 2050, Switzerland's first NDC is to reduce its net greenhouse gas emissions by at least 50 per cent by 2030 compared with 1990 levels, corresponding to an average reduction of net greenhouse gas emissions by at least 35 per cent over the period 2021–2030. By 2025, a reduction of net greenhouse gas emissions by at least 35 per cent compared with 1990 levels is anticipated. Internationally transferred mitigation outcomes (ITMOs) from cooperation under Article 6 of the Paris Agreement will partly be used. The methodological approaches underlying Switzerland's first NDC are included in this communication.

Long-term: Based on the Climate and Innovation Act, which was adopted by the Swiss population in a referendum on 18 June 2023, Switzerland aims to reduce its greenhouse gas emissions to net zero by 2050. This target lays the foundations for Switzerland's 2050 climate strategy, which was transmitted to the UNFCCC Secretariat on 28 January 2021.

2 Information necessary for clarity, transparency and understanding of nationally determined contributions

2.1 Quantifiable information on the reference point (including, as appropriate, a base year)

<p>a) Reference year(s), base year(s), reference period(s) or other starting point(s);</p>	<p>Base year: 1990</p>
<p>b) Quantifiable information on the reference indicators, their values in the reference year(s), base year(s), reference period(s) or other starting point(s), and, as applicable, in the target year;</p>	<p>Emissions in the base year comprise net emissions and removals from all sectors (including LULUCF) and indirect CO₂. A provisional value for base year emissions, subject to change due to recalculations of the greenhouse gas inventory, is 52.1 Mt CO₂eq (based on the National Inventory Report from April 2024). The value for the final accounting will be defined in the first inventory submission covering data up to 2030.</p> <p>Net emissions and removals from LULUCF will be reported and accounted for on a land-based approach.</p>
<p>c) For strategies, plans and actions referred to in article 4, paragraph 6, of the Paris Agreement, or policies and measures as components of nationally determined contributions where paragraph 1(b) above is not applicable, Parties to provide other relevant information;</p>	<p>Not applicable.</p>
<p>d) Target relative to the reference indicator, expressed numerically, for example in percentage or amount of reduction;</p>	<p>Emission reduction of at least minus 50 per cent by 2030 compared with 1990 levels, implemented as an emission budget covering 2021–2030, which is equivalent to an average reduction of net greenhouse gas emissions of at least 35 per cent over the period 2021–2030.</p>
<p>e) Information on sources of data used in quantifying the reference point(s);</p>	<p>National greenhouse gas inventory.</p>
<p>f) Information on the circumstances under which the Party may update the values of the reference indicators.</p>	<p>Values of the reference indicator as provided in the national greenhouse gas inventory are subject to recalculations, in accordance with decision 18/CMA.1. Any recalculations are transparently reported in the national inventory document.</p>

2.2 Time frames and/or periods for implementation:

a) Time frame and/or period for implementation, including start and end date, consistent with any further relevant decision adopted by the Conference of the Parties serving as the meeting of the Parties to the Paris Agreement (CMA);	1.1.2021–31.12.2030
b) Whether it is a single-year or multi-year target, as applicable.	Switzerland expresses its first NDC both as single-year (2030) and multi-year target (2021–2030). The single-year target is implemented using an emission budget over the period 2021–2030.

2.3 Scope and coverage

a) General description of the target;	Absolute economy-wide emission reduction target compared with a base year.
b) Sectors, gases, categories and pools covered by the nationally determined contribution, including, as applicable, consistent with Intergovernmental Panel on Climate Change (IPCC) guidelines;	<p>Gases covered: CO₂ (including indirect CO₂); CH₄; N₂O; HFCs; PFCs; SF₆; NF₃</p> <p>Sectors covered (as reported in the national inventory report): energy; industrial processes and product use; agriculture; land-use, land-use change and forestry; waste; other.</p> <p>While Switzerland supports the inclusion of international aviation and navigation on the basis of existing and future internationally agreed rules applicable to all Parties, Switzerland's first NDC does not include emissions from international aviation and navigation. In particular, Switzerland's emission reduction targets up to 2030 do not include emissions from international aviation, a part of which are already covered by the Swiss emission trading scheme (ETS) as well as by the Carbon Offsetting and Reduction Scheme CORSIA of the International Civil Aviation Organisation ICAO. However, Switzerland's long-term emissions reduction targets do include emissions from international aviation and navigation.</p>
c) How the Party has taken into consideration paragraph 31(c) and (d) of decision 1/CP.21;	Switzerland includes all categories of anthropogenic emissions by sources or removals by sinks in its first NDC, as reported in its national greenhouse gas inventory.
d) Mitigation co-benefits resulting from Parties' adaptation actions and/or economic diversification plans, including description of specific projects, measures and initiatives of Parties' adaptation actions and/or economic diversification plans.	Not applicable.

2.4 Planning processes

a) Information on the planning processes that the Party undertook to prepare its nationally determined contribution and, if available, on the Party's implementation plans, including, as appropriate:

(i) Domestic institutional arrangements, public participation and engagement with local communities and indigenous peoples, in a gender-responsive manner;

The emission reduction target of at least minus 50 per cent by 2030 has been approved by the Swiss Parliament in 2016. Comprehensive consultation proceedings for both the second CO₂ Act and the ratification of the Paris Agreement including the 2030 target had preceded the parliamentary debate, allowing stakeholders in Switzerland to comment on the target and the implementation plan. The ratification of the Paris Agreement passed the parliamentary process in 2017, after the deadline for a facultative referendum expired. After parliamentary debate, both chambers adopted the third CO₂ Act on 25 September 2020. However, the third CO₂ Act was subject to a facultative referendum in June 2021 and was rejected by the Swiss population, following months of public debate. Immediately following the referendum, in December 2021, Parliament has adopted a prolongation of the second CO₂ Act with an annual emission reduction target of 1.5 per cent per year compared to 1990 levels for the period 2021 to 2024. In March 2024, Parliament approved a new version of the third CO₂ Act, entering into force on 1 January 2025. This revision sets the targets for 2030 for national total as well as sectoral emissions and provides for policies and measures to reach these targets. The ordinance implementing the third CO₂ Act underwent public consultation from July to October 2024.

Following the Fukushima nuclear accident in 2011, the Swiss Government and Parliament decided to gradually phase out nuclear energy, i.e. new plants were banned while existing plants were allowed to continue operating as long as deemed safe. The Energy Strategy 2050, along with implementing legislation, guides the way to replace the share of nuclear energy by renewable energy sources. On 9 June 2024, a majority of Swiss voters endorsed the Act on a Secure Electricity Supply from Renewable Energy Sources, which foresees to increase annual generation from new renewable sources other than hydropower to 35,000 GWh (from 4,186 GWh in 2019) and annual hydropower production to 37,900 GWh by 2035 (from 36,137 GWh in 2019). Efficiency policies aim at stabilizing electricity demand.

Long term: Switzerland plans its climate policy in 10-year-steps, continuously strengthening its emission reduction targets. In August 2019, and in response to the findings of the IPCC special report on 1.5 degrees Celsius, the Swiss Government communicated that Switzerland aims to reduce its greenhouse gas emissions to net zero by 2050. In doing so, Switzerland contributes to the internationally agreed target of limiting global warming to a maximum of 1.5 degrees Celsius when compared with the pre-industrial era. In November 2019, a popular initiative (the so-called 'Glacier Initiative') was submitted calling for a constitutional article to stipulate the net zero target and a ban of fossil fuels as of 2050. Parliament adopted a counter-proposal to the 'Glacier Initiative', the Climate and Innovation Act, which passed the referendum on 18 June 2023. The Climate

	<p>and Innovation Act sets sectoral targets for 2040 and 2050 and paves the way to net zero in 2050.</p> <p>For further information on domestic institutional arrangements, see Switzerland's National Communications (NC) and Biennial Transparency Reports (BTR) published under https://www.bafu.admin.ch/nc-btr.</p>
(ii) Contextual matters, including, inter alia, as appropriate:	
(a) National circumstances, such as geography, climate, economy, sustainable development and poverty eradication;	Information on national circumstances can be found in Switzerland's National Communications (NC) and Biennial Transparency Reports (BTR).
(b) Best practices and experience related to the preparation of the nationally determined contribution;	See 4a)
(c) Other contextual aspirations and priorities acknowledged when joining the Paris Agreement;	<p>Switzerland recognizes the need for an effective and progressive response to the urgent threat of climate change, in line with the best available scientific knowledge. Switzerland fully subscribes to the view that Parties should, when taking action to address climate change, respect, promote, and consider their respective human rights obligations, including due consideration for gender equality and gender sensitive policies, intergenerational equity, and the needs of particularly vulnerable groups. Switzerland is further committed to upholding environmental integrity, including the integrity of ecosystems and the protection of biodiversity.</p> <p>In addition, Switzerland is aware of the importance of the removal of fossil fuel subsidies, due to their major impact on greenhouse gas emissions. At the national level, Switzerland is actively reviewing its remaining fossil fuel subsidies. At the international level, Switzerland is engaged in the Friends of Fossil Fuel Subsidies Reform who promote the removal of fossil fuel subsidies, in particular in G20-countries, as well as other initiatives.</p>
b) Specific information applicable to Parties, including regional economic integration organizations and their member States, that have reached an agreement to act jointly under Article 4, paragraph 2, of the Paris Agreement, including the Parties that agreed to act jointly and the terms of the agreement, in accordance with Article 4, paragraphs 16–18, of the Paris Agreement;	Not applicable.
c) How the Party's preparation of its nationally determined contribution has been informed by the outcomes of the global stocktake, in accordance with Article 4, paragraph 9, of the Paris Agreement;	At the time of the preparation of its first NDC, the first global stocktake had not taken place yet. As per decision 1/CP.24, paragraph 37, Switzerland considered the outcome of the 2018 Talanoa Dialogue, including the IPCC report on 1.5 degrees Celsius that was commissioned in this regard. In this context, Switzerland came to the conclusion that its first NDC by 2030 is in line with recommendations of the IPCC to reduce emissions by

	<p>about 45 per cent compared with 2010 levels by 2030, given Switzerland's per capita emissions are below global average. On the other hand, and in line with the IPCC report on 1.5 degrees Celsius, the indicative target for 2050 communicated in 2015 has been revised and raised to net zero greenhouse gas emissions.</p> <p>As an outcome of the first global stocktake in 2023, Parties recognized the Paris Agreement temperature goals and underscored that the impacts of climate change will be much lower at the temperature increase of 1.5 degrees Celsius compared with two degrees Celsius and resolved to pursue efforts to limit the temperature increase to 1.5 degrees Celsius. They also recognized that limiting global warming to 1.5 degrees Celsius with no or limited overshoot requires deep, rapid and sustained reductions in global greenhouse gas emissions of 43 per cent by 2030 and 60 per cent by 2035 relative to the 2019 level and reaching net zero carbon dioxide emissions by 2050. Switzerland's first NDC, which aims for at least minus 50 per cent by 2030 compared to 1990 (equivalent to a reduction of approximately 43 per cent compared to the 2019 level), supports this global objective.</p> <p>More information on how Switzerland's action has been informed by the global stocktake can be found in Switzerland's second NDC.</p>
<p>d) Each Party with a nationally determined contribution under Article 4 of the Paris Agreement that consists of adaptation action and/or economic diversification plans resulting in mitigation co-benefits consistent with Article 4, paragraph 7, of the Paris Agreement to submit information on:</p>	
<p>(i) How the economic and social consequences of response measures have been considered in developing the nationally determined contribution;</p>	<p>Not applicable.</p>
<p>(ii) Specific projects, measures and activities to be implemented to contribute to mitigation co-benefits, including information on adaptation plans that also yield mitigation co-benefits, which may cover, but are not limited to, key sectors, such as energy, resources, water resources, coastal resources, human settlements and urban planning, agriculture and forestry; and economic diversification actions, which may cover, but are not limited to, sectors such as manufacturing and industry, energy and mining, transport and communication, construction, tourism, real estate, agriculture and fisheries.</p>	<p>Not applicable.</p>

2.5 Assumptions and methodological approaches, including those for estimating and accounting for anthropogenic greenhouse gas emissions and, as appropriate, removals

<p>a) Assumptions and methodological approaches used for accounting for anthropogenic greenhouse gas emissions and removals corresponding to the Party's nationally determined contribution, consistent with decision 1/CP.21, paragraph 31, and accounting guidance adopted by the CMA;</p>	<p>The accounting approach is based on the national greenhouse gas inventory. By doing so, scope, coverage, data sources, assumptions, methodologies, and metrics are fully consistent between Switzerland's first NDC and the greenhouse gas inventory. The methodologies used ensure transparency, accuracy, completeness, consistency and comparability as far as can be achieved and avoid any double-counting of emissions and removals, consistent with decisions 4/CMA.1 and 18/CMA.1.</p>
<p>b) Assumptions and methodological approaches used for accounting for the implementation of policies and measures or strategies in the nationally determined contribution;</p>	<p>Not applicable.</p>
<p>c) If applicable, information on how the Party will take into account existing methods and guidance under the Convention to account for anthropogenic emissions and removals, in accordance with Article 4, paragraph 14, of the Paris Agreement, as appropriate;</p>	<p>The national greenhouse gas inventory is relying on metrics and guidance agreed upon by the CMA and methodologies and good practice guidance from the IPCC in order to provide a sound quantitative framework for accounting of anthropogenic emissions and removals.</p> <p>In order to foster environmental integrity and to reduce uncertainty due to assumptions regarding extrapolated management practices and other parameters influencing the calculation of reference levels, Switzerland decided to use net accounting of emissions and removals in the LULUCF sector from 2021 onwards. This update of the accounting methodology compared to the methodology used under the Kyoto Protocol is also going to be reflected in the national legislation (CO₂ ordinance).</p>
<p>d) IPCC methodologies and metrics used for estimating anthropogenic greenhouse gas emissions and removals;</p>	<p>Methodologies:</p> <ul style="list-style-type: none"> (i) 2006 IPCC Guidelines, 2019 Refinement to the 2006 IPCC Guidelines, or any subsequent version or refinement of the IPCC Guidelines agreed upon by the CMA, as per decisions 4/CMA.1, paragraph 12.(a) and 18/CMA.1, paragraph 20; (ii) 2013 Revised Supplementary Methods and Good Practice Guidance Arising from the Kyoto Protocol (IPCC 2014 KP Supplement) by the IPCC; (iii) 2013 Supplement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories: Wetlands (IPCC 2014 Wetlands Supplement). <p>Metrics: 100-yr GWP values from the 5th IPCC assessment report, or from a subsequent IPCC assessment report as agreed upon by the CMA, as per decision 18/CMA.1 paragraph 37.</p>
<p>e) Sector-, category- or activity-specific assumptions, methodologies and approaches consistent with IPCC guidance, as appropriate, including, as applicable:</p>	

(i) Approach to addressing emissions and subsequent removals from natural disturbances on managed lands;	No provisions for natural disturbances will be applied.
(ii) Approach used to account for emissions and removals from harvested wood products;	Harvested wood products are accounted for using a production approach (only wood from domestic harvest), consistent with the 2013 Revised Supplementary Methods and Good Practice Guidance Arising from the Kyoto Protocol (IPCC 2014 KP Supplement).
(iii) Approach used to address the effects of age-class structure in forests;	Not applicable.
f) Other assumptions and methodological approaches used for understanding the nationally determined contribution and, if applicable, estimating corresponding emissions and removals, including:	
(i) How the reference indicators, baseline(s) and/or reference level(s), including, where applicable, sector-, category- or activity-specific reference levels, are constructed, including, for example, key parameters, assumptions, definitions, methodologies, data sources and models used;	The reference indicator corresponds to net emissions and removals from all sectors (including LULUCF, see 2.5c)) and indirect CO ₂ as reported in the greenhouse gas inventory.
(ii) For Parties with nationally determined contributions that contain non-greenhouse-gas components, information on assumptions and methodological approaches used in relation to those components, as applicable;	Not applicable.
(iii) For climate forcers included in nationally determined contributions not covered by IPCC guidelines, information on how the climate forcers are estimated;	Not applicable.
(iv) Further technical information, as necessary;	Not applicable.
g) The intention to use voluntary cooperation under Article 6 of the Paris Agreement, if applicable.	<p>Switzerland will realize its first NDC mainly domestically and will partly use internationally transferred mitigation outcomes (ITMOs) from cooperation under Article 6. Switzerland will implement the guidance on cooperative approaches referred to in Article 6, paragraph 2 of the Paris Agreement, adopted at COP26, as well as further guidance to be adopted on Article 6, to apply robust rules that avoid any form of double counting, ensure environmental integrity and promote sustainable development, including the protection of human rights, and not to use pre-2020 units towards the achievement of its first NDC.</p> <p>Switzerland already signed bilateral agreements with various countries (see www.bafu.admin.ch/bilateral-climate-agreements), creating the necessary frameworks for cooperative approaches under Article 6.2 of the Paris Agreement. The agreements govern the transfers of mitigation outcomes and their use. ITMOs may also be used for other international mitigation purposes, such as e.g. voluntary climate targets by private or sub-state actors. In this case, they would not be counted towards Switzerland's NDC.</p>

2.6 How the Party considers that its nationally determined contribution is fair and ambitious in the light of its national circumstances

a) How the Party considers that its nationally determined contribution is fair and ambitious in the light of its national circumstances;

b) Fairness considerations, including reflecting on equity;

It is important to Switzerland that the global community shares the required efforts to combat global climate change in a fair and equitable manner. The same rules must apply to all Parties, while the effort to reduce greenhouse gas emissions must be differentiated according to a Party's responsibility and capacity.

Switzerland's commitment to reduce greenhouse gas emissions by at least 50 per cent by 2030 relative to 1990 levels puts Switzerland on an emission development pathway in line with the recommendations by science to keep average global temperature increase to 1.5 degrees Celsius.

Switzerland's emission reductions by 2030 will mainly be achieved domestically, thereby further strengthening Switzerland's transition to a low carbon economy. Given the low greenhouse gas intensity of Switzerland today, its first NDC represents a high level of ambition.

Switzerland pursues its emission reduction efforts, giving due consideration for fairness and equity. Fairness considerations include various aspects. No single aspect on its own can accurately reflect fairness. The evolving nature of a country's circumstances should also be reflected in fairness considerations.

Switzerland's understanding of a fair share includes in particular consideration of the aspects below:

- Responsibility is reflected in a country's past, current and future greenhouse gas emissions. Total emissions as well as per capita emissions are to be considered. Today, Switzerland emits around 0.1 per cent of world's emissions and per capita emissions are below world's average. Through climate policies implemented domestically, Switzerland's total share in global emissions as well as per capita emissions continue to decrease despite a substantial growth in gross value added in industry (1990–2022: +106 per cent) and population (1990–2022: +31 per cent). Switzerland has a low level of historic emissions, contributing less than 0.12 per cent of cumulative global emissions from 1990 to 2021 (according to WRI's climate watch data, see <https://www.climatewatchdata.org/ghg-emissions>).
- Capacity to contribute to solving the climate problem is closely related to the ability to invest in appropriate mitigation measures, such as carbon-efficient technologies. Hence, one aspect of capacity is to take into account GDP per capita in fairness considerations.
- Another core aspect in considering a fair contribution of a country are cost-efficient mitigation potential and abatement costs. Abatement costs vary strongly across countries. It is also to note that marginal abatement costs increase if a country has

	<p>undertaken ambitious mitigation actions in the past. In fairness considerations, it is important to consider past efforts and early movers.</p> <ul style="list-style-type: none"> • In Switzerland, GDP per capita is high, signifying high ability to invest. At the same time, abatement costs are also high due to the limited availability of short-term cost-efficient mitigation potential: Switzerland's energy production is nearly carbon free and there is little heavy industry. Territorial emission reduction potential mostly remains in the buildings and transport sectors. This remaining potential has long transformation periods. <p>Based on equity considerations outlined above, Switzerland is committed to strongly reduce greenhouse gas emissions in line with emission reduction pathways that keep the increase in global average temperature to 1.5 degrees Celsius. Switzerland stays committed to continue the fight against climate change at the forefront of international action.</p> <p>In the interest of timely climate action and as an addition to domestic actions, Switzerland intends to use Article 6 activities, contributing to the overall emission reduction target of at least minus 50 per cent by 2030 compared with 1990 levels.</p>
<p>c) How the Party has addressed Article 4, paragraph 3, of the Paris Agreement;</p>	<p>Article 4, paragraph 3 of the Paris Agreement provides that each Party's NDC will present a progression beyond the Party's then current NDC and reflect its highest possible ambition. Switzerland's first NDC reflects a progression of effort compared with its communication submitted in October 2017. Given the clean energy mix in Switzerland, mitigation opportunities remaining are at high costs. Switzerland follows an overall emission reduction target of at least minus 50 per cent by 2030 compared with 1990 levels, partially using emission reductions abroad. Considerable efforts are needed to reach the target. In this regard, Switzerland has continuously increased the rate of the CO₂ levy on heating and processes fuels, reaching a rate of 120 Swiss francs per tonne of CO₂ (about 136 US dollars per tonne of CO₂) since 2022.</p> <p>In addition to domestic efforts, and in the interest of timely climate action, Article 6 activities will be used to complement domestic actions, contributing to the overall emission reduction target of at least minus 50 per cent by 2030 compared with 1990 levels.</p> <p>Furthermore, the first NDC also reflects the targets of the Climate and Innovation act to aim for net zero greenhouse gas emissions by 2050 as approved by the Swiss population in a referendum in June 2023. In doing so, Switzerland strengthens its efforts in reducing greenhouse gas emissions in order to contribute to the internationally agreed objective of limiting global warming to 1.5 degrees Celsius when compared with the pre-industrial era. In the interest of continuous progression, the updated first NDC reduces inherent uncertainty related to the calculation and use of reference levels and increases</p>

	environmental integrity by accounting for net emissions and removals in the LULUCF sector.
d) How the Party has addressed Article 4, paragraph 4, of the Paris Agreement;	Article 4, paragraph 4 of the Paris Agreement provides for developed countries, such as Switzerland, to continue taking the lead by undertaking economy-wide emission reduction targets. Switzerland has a long history of concrete climate policy measures and a CO ₂ Act since 2000. The country had absolute economy-wide emission reduction targets both under the first and second commitment period of the Kyoto Protocol and will continue to formulate absolute economy-wide targets.
e) How the Party has addressed Article 4, paragraph 6, of the Paris Agreement.	Not applicable.

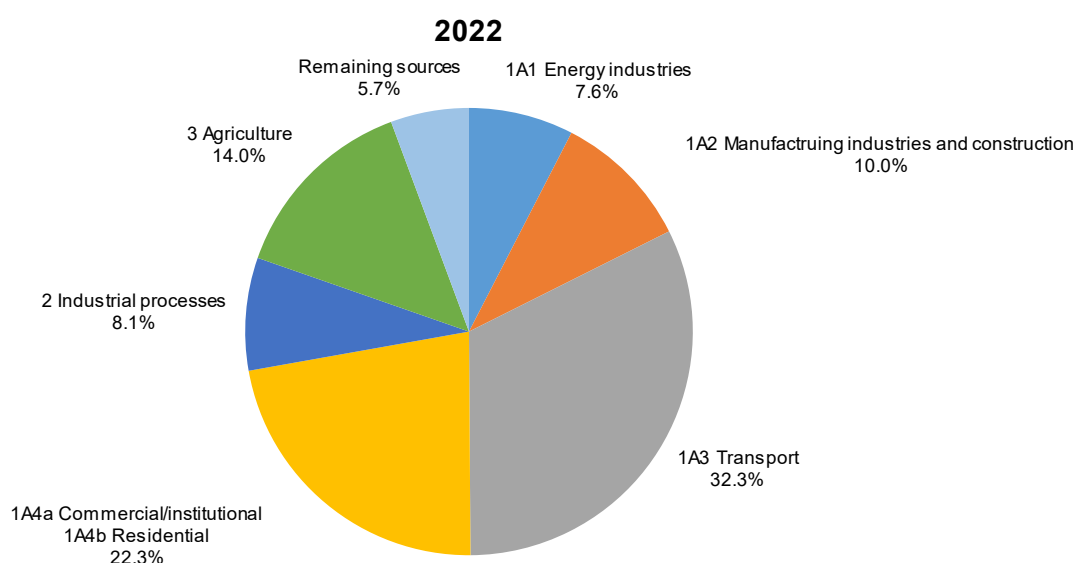
2.7 How the nationally determined contribution contributes towards achieving the objective of the Convention as set out in its Article 2

a) How the nationally determined contribution contributes towards achieving the objective of the Convention as set out in its Article 2;	The Paris Agreement has been adopted in the context of the UNFCCC and specifies its provisions. Thus any actions and measures taken in view of Article 2.1a and 4.1 of the Paris Agreement serve the objective of the Convention.
b) How the nationally determined contribution contributes towards Article 2, paragraph 1(a), and Article 4, paragraph 1, of the Paris Agreement.	Switzerland's commitment to reduce net emissions by at least 50 per cent by 2030 relative to 1990 levels puts Switzerland on an emission development pathway that corresponds with the latest recommendations of the IPCC special report on 1.5 degrees Celsius to reduce global CO ₂ emissions by about 45 per cent from 2010 levels by 2030. The formulated commitment by 2030 is further consistent with the longer term aim of the Swiss Government to reduce greenhouse gas emissions to net zero by 2050. In order to reach net zero emissions, technologies that permanently remove greenhouse gases from the atmosphere and store them are to be used in the future to some extent. It is to note that Switzerland's per capita emissions were already at world average levels in 2006.

3 Information on Switzerland

Today, Switzerland's share in global greenhouse gas emissions is around 0.1 per cent. In 2022, total greenhouse gas emissions of Switzerland (including LULUCF and indirect CO₂) equated 42.1 million tCO₂eq. This corresponds to emissions of 4.8 tCO₂eq per capita, which is below world's average. The largest shares of greenhouse gas emissions arise from transport (1A3) and from buildings (energy use in the commercial/institutional sector (1A4a) and in the residential sector (1A4b)). Agriculture (3) and industrial activities (energy use in the manufacturing industries and construction sector (1A2) as well as emissions from industrial processes (2)) also contribute substantial shares to Switzerland's total greenhouse gas emissions, while energy industries (1A1) are less emissions-intensive when compared with many other countries. The remaining sources (energy use in the agriculture/forestry/fishing sector (1A4c) and other (military) (1A5), fugitive emissions from fuels (1B), LULUCF (4), waste (5), other (fire damages) (6), and emissions of indirect CO₂) overall are of lower importance (see Figure 1).

Figure 1. Switzerland's greenhouse gas emissions in 2022 by sector. Total emissions: 42.1 million tCO₂eq.



Since 1990, Switzerland has experienced substantial economic and population growth. These two parameters influence the consumption and production of energy, traffic volumes and the number and volumes of heated buildings, which strongly impact greenhouse gas emissions in almost all sectors. Compared with 1990, by 2022, Switzerland's real gross domestic product (GDP) as a measure of economic output had risen by 68 per cent, the building space that had to be heated for households increased by 53 per cent, 54 per cent more passenger cars, motor cycles and coaches were in circulation on Swiss roads and 31 per cent more people lived in Switzerland. Greenhouse gas emissions in this period nevertheless decreased slightly: new buildings are better insulated than in the past, cars have become more fuel efficient, heating oil is increasingly replaced by natural gas and electricity (e.g. for heat pumps) and the trend away from petrol- to diesel-powered passenger cars also contributed to a reduction in CO₂ emissions. Figure 2 and Figure 3 show the respective reduction over the period 1990 to 2022 in greenhouse gas emissions per capita by 42.3 per cent and in greenhouse gas emissions per real gross domestic product by 55.0 per cent, indicating the decoupling of economic growth from greenhouse gas emissions.

Figure 2. Relative changes in Switzerland’s greenhouse gas (GHG) and CO₂ emissions from 1990 to 2022 compared to Switzerland’s population (1990=100).

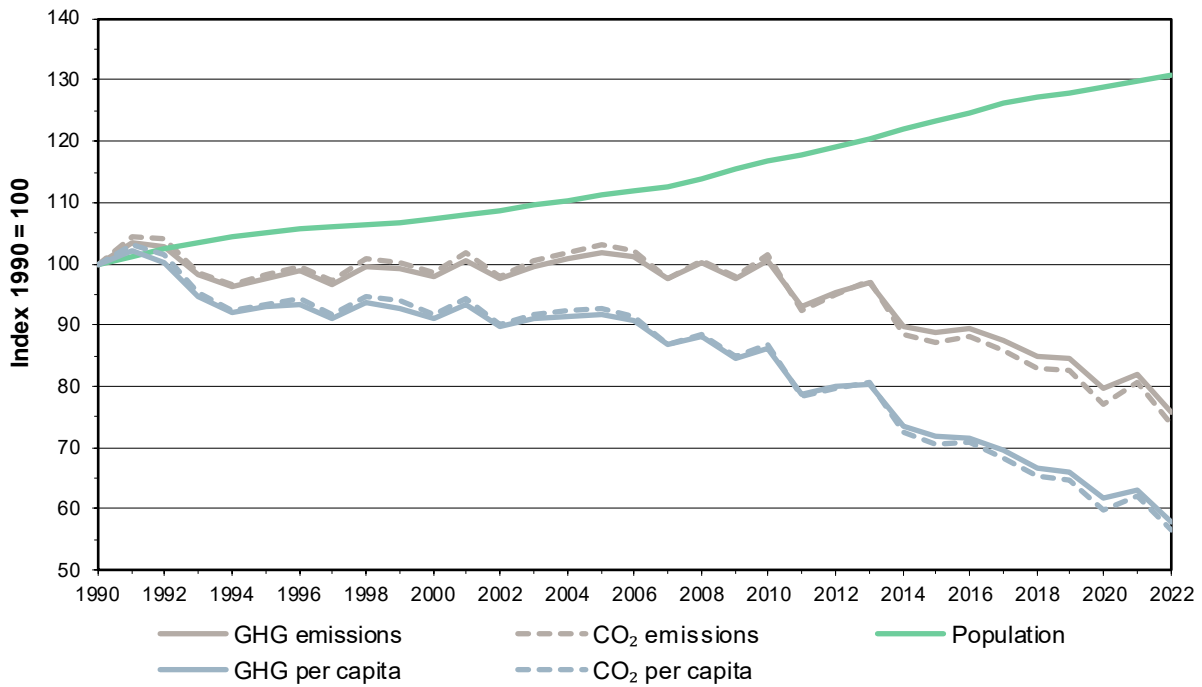
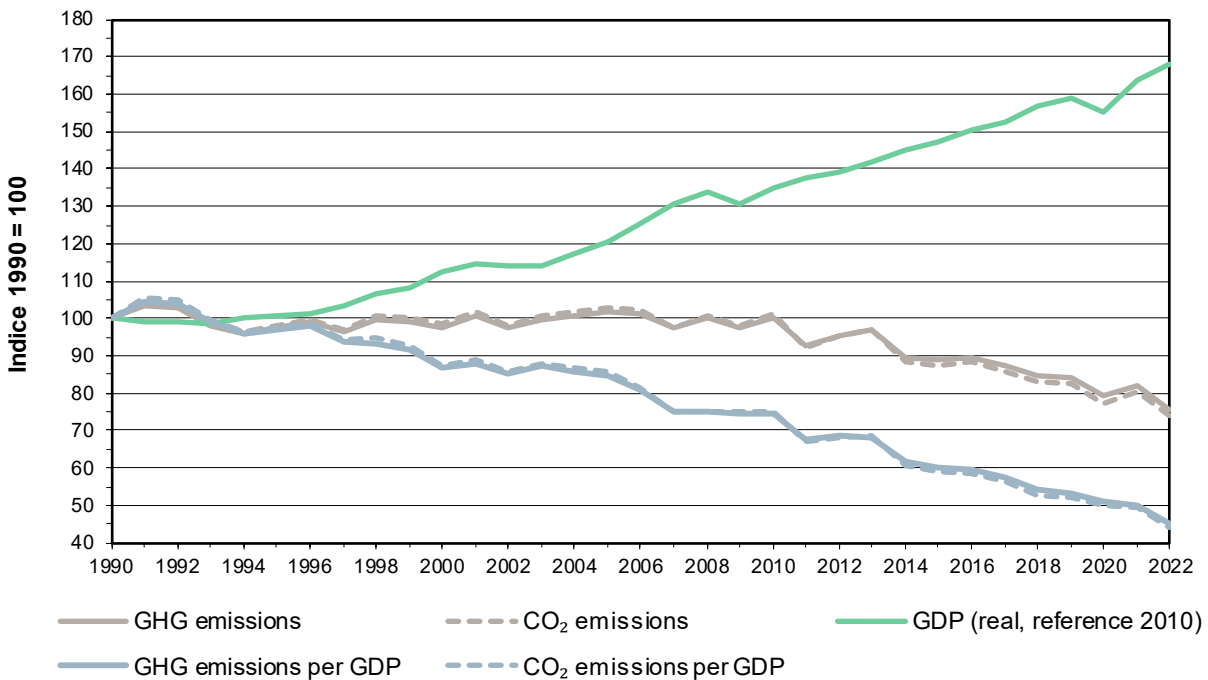


Figure 3. Relative changes in Switzerland’s greenhouse gas (GHG) and CO₂ emissions from 1990 to 2022 compared to Switzerland’s real gross domestic product (GDP).



Switzerland has long-standing climate policies and since 2000 a specific CO₂ Act has been established. Switzerland had committed itself under the first commitment period of the Kyoto Protocol and reached its target to reduce greenhouse gas emissions to 92 percent of base year (1990) emissions over the period 2008 to 2012, including through the use of carbon credits. At the beginning of 2013, the second CO₂ Act, a revision of the first CO₂ Act, entered into force, providing the framework of the Swiss climate policy under the second commitment period of the Kyoto Protocol. Switzerland achieved the committed target – i.e. a reduction to 84.2 per cent of base year (1990) emissions over the period 2013 to 2020 – thanks to decisive domestic action and the supplemental use of credits from emission reductions through projects abroad. Recently, the existing legal framework has again been subject to revision in view of Switzerland’s

commitment under the Paris Agreement for the period from 2021 to 2030. Information on Switzerland's policies and measures which will help strengthen the implementation of its NDC can be found in Switzerland's Biennial Transparency Reports (BTR).⁴

Climate change has already left many marks in Switzerland. The environment, society, and the economy are affected. In 2023, compared to the pre-industrial average of 1871 to 1900, the average annual temperature in Switzerland has risen by about 2.8 degrees Celsius.⁵ In the Alps, the cryosphere is hard hit: glaciers have been retreating at an accelerating pace since 1980. Since 1850, glaciers have lost over 65 per cent of their volume. If the warming continues, only a fraction of the current glacier cover will be left by the end of the 21st century with large impacts on the seasonal availability of water for drinking water, agriculture and power generation. Parallel to the retreat of glaciers, the permanently frozen subsoil (permafrost) in the high mountains also continues to thaw. More frequent mountain and rock falls as well as debris slides that can endanger transport links, infrastructure and human life in the high mountains are a result of this. Already today, large investments are necessary to secure infrastructures at higher elevations. People are not only threatened by natural disasters caused by climate change, but their health is also directly affected. Daily maximum temperatures in Switzerland have risen steadily since 1960. Hotter than usual summers have already led to higher mortalities.

Switzerland remains committed to an ambitious and robust implementation of the Paris Agreement, in line with recommendations by science to hold average global temperature increase to a maximum of 1.5 degrees Celsius.

⁴ <https://www.bafu.admin.ch/nc-btr> (chapter II.D)

⁵ Estimated using a non-linear climate trend line to describe the climate evolution (Scherrer *et al.* 2024, <https://doi.org/10.1016/j.cliser.2023.100428>).