

## SWITZERLAND

### Clarifying the quantified economy-wide emission reduction target of Switzerland contained in document FCCC/SB/2011/INF.1/Rev.1: information using a common template

#### AWG-LCA 15

#### General Comments

Switzerland welcomes the continuation of the process of clarifying the developed country Parties' quantified economy-wide emission reduction targets contained in document FCCC/SB/2011/INF.1/Rev.1, with the objective of understanding the assumptions and conditions related to individual targets, as well as the continuation of the process to further the understanding of the diversity of mitigation actions of developing country Parties as communicated and contained in FCCC/AWGLCA/2011/INF.1, the underlying assumptions and any support needed for the implementation of these actions.

Clarification of the information contained in the two referred documents is necessary to understand the efforts that will be undertaken by Parties to mitigate greenhouse gas emissions, to identify the current gap in mitigation ambition, to foster an increase in the level of ambition, as well as to inform about the assumptions and approaches that Parties have taken in their pledges under the Convention.

Switzerland welcomes the structured manner of work in 2012 on these matters and identified *key questions* in paragraphs 5 and 34 of decision 2/CP.17. Switzerland further welcomes the common template prepared by the secretariat to facilitate the submission of information. It has been used as a basis for this submission and has been found helpful. Drawing on this experience and given the diversity of pledges under the Convention, a possible further template facilitating the continuation of the processes to understand the pledges under the Convention may be envisaged, including precise but rather open questions.

In this context, this submission responds to paragraph 5 of decision 2/CP.17. Information underlying the quantified economy-wide emission reduction target of Switzerland contained in document FCCC/SB/2011/INF.1/Rev.1 is provided, using the common template prepared by the secretariat. The information contained in this submission is based on best current assumptions and estimations, and it does not form part of the information contained in document FCCC/SB/2011/INF.1/Rev.1. It does also not prejudge the information on the QELRO of Switzerland for the second commitment period under the Kyoto Protocol as invited in paragraph 5 of decision 1/CMP.7.

|                                  |             |
|----------------------------------|-------------|
| <b>Party</b>                     | Switzerland |
| <b><i>Date of Submission</i></b> | 17.04.2012  |

### Assumptions and Conditions Related to Target

|                            |   |
|----------------------------|---|
| Base Year                  | <input checked="" type="checkbox"/> 1990 <input type="checkbox"/> other (specify):                    |
| % Reduction from Base Year | -20% to -30%  |
| Period for Reaching Target | <input checked="" type="checkbox"/> by 2020 <input type="checkbox"/> by Other (specify):              |
| Inventory Methodology Used | <input checked="" type="checkbox"/> IPCC 2006 Guidelines<br><input type="checkbox"/> Other (specify): |

### Coverage of Greenhouse Gases

| <i>Gases Covered</i>                                 | <i>Base Year for Each Gas (if Different)</i>                                       |
|--|--|
| <input checked="" type="checkbox"/> CO <sub>2</sub>  | <input checked="" type="checkbox"/> 1990 <input type="checkbox"/> other (specify): |
| <input checked="" type="checkbox"/> CH <sub>4</sub>  | <input checked="" type="checkbox"/> 1990 <input type="checkbox"/> other (specify): |
| <input checked="" type="checkbox"/> N <sub>2</sub> O | <input checked="" type="checkbox"/> 1990 <input type="checkbox"/> other (specify): |
| <input checked="" type="checkbox"/> HFCs             | <input checked="" type="checkbox"/> 1990 <input type="checkbox"/> other (specify): |
| <input checked="" type="checkbox"/> PFCs             | <input checked="" type="checkbox"/> 1990 <input type="checkbox"/> other (specify): |
| <input checked="" type="checkbox"/> SF <sub>6</sub>  | <input checked="" type="checkbox"/> 1990 <input type="checkbox"/> other (specify): |
| <input checked="" type="checkbox"/> NF <sub>3</sub>  | <input checked="" type="checkbox"/> 1990 <input type="checkbox"/> other (specify): |
| <input type="checkbox"/> Other (specify):            | <input type="checkbox"/> 1990 <input type="checkbox"/> other (specify):            |

### Global Warming Potential Values (GWP)

|  |
|--|
| <input checked="" type="checkbox"/> As Contained in Decision xx/CP.17 <sup>1</sup> <input type="checkbox"/> other (specify): |
|--|

### Coverage of Sectors

<sup>1</sup> Revision of the UNFCCC reporting guidelines on annual inventories for Parties included in Annex I to the Convention

- |  |  |
|--|--|
| <input checked="" type="checkbox"/> Energy                               | <input checked="" type="checkbox"/> Land use, land-use change and forestry |
| <input checked="" type="checkbox"/> Industrial Processes and Product use | <input checked="" type="checkbox"/> Waste                                  |
| <input checked="" type="checkbox"/> Agriculture                          | <input type="checkbox"/> Other (specify):                                  |

**Emission values and anticipated use of emissions/removals from Land use, land-use change and forestry and carbon credits from market-based mechanisms to clarify the target** (in kt CO<sub>2</sub> equivalent)

**For the -20% target by 2020 compared to 1990:**

|   |   |        |
|---|---|--------|
| A | Emissions excluding LULUCF in base year (GHG submission 2012, will be updated yearly) | 53,057 |
| B | Emissions/removals from LULUCF included in base year <sup>2</sup>                     | - *    |

|   |  |        |
|---|--|--------|
| C | Emissions in base year used for calculation of target (subject to recalculation) | 52,710 |
| D | Emissions excluding LULUCF in target year  | 42,168 |
| E | Anticipated emissions/removals from LULUCF included in target year <sup>3</sup>  | - **   |
| F | Anticipated use of carbon credits from market-based mechanisms <sup>3</sup>      | - ***  |
| G | Anticipated carry-over of carbon credits <sup>4</sup>                            | - **** |

\* Regarding LULUCF, Switzerland uses the same rules as under the Kyoto Protocol for calculating the emissions/removals in the base year. Therefore, "B" is irrelevant for the pledge of Switzerland.

\*\* Not estimated yet for Switzerland's pledge under the Convention. Switzerland has also not decided yet whether it will account for additional activities under Art. 3.4 of the Kyoto Protocol in the second commitment period. Under a calculation of the elected activities under Art. 3.4 of the Kyoto Protocol during the first commitment period and applying the accounting approach of the forest management reference level, then estimated emissions or removals from forest management in Switzerland will be zero.

\*\*\* Switzerland will use carbon credits generated from the flexible mechanisms under the Kyoto Protocol (CERs, ERUs) and from the new market-based mechanism under the Convention to reduce its emissions over the period. The exact amount of carbon credits is not estimated yet. The Swiss CO<sub>2</sub> Law for the 2013-20 period defines Switzerland's -20% target as domestic, however carbon credits for emission reductions achieved abroad will play a role in the case of fossil fuel power plants, the emissions trading scheme (ETS), companies exempted from the CO<sub>2</sub> levy that are not involved in the ETS, as well as in the sanction mechanism. Furthermore, Switzerland may use additional carbon credits generated under the Kyoto Protocol in the assumed case of a starting point by QELRO 2010.

<sup>2</sup> Include emissions as positive values and removals as negative values

<sup>3</sup> Include as positive values

\*\*\*\* Switzerland does not support the use of AAUs outside of the Kyoto system. A limited amount of its own carry-over of AAUs may be used by Switzerland under the Kyoto Protocol.

### Expected Emission Reductions in kt CO<sub>2</sub> equivalent

|   |
|---|
| Relative to Base Year :   |
| <i>should be estimated as</i> -10,542 kt CO <sub>2</sub> equivalent |

### Emission values and anticipated use of emissions/removals from Land use, land-use change and forestry and carbon credits from market-based mechanisms to clarify the target (in kt CO<sub>2</sub> equivalent)

#### For a -30% target by 2020 compared to 1990:

|   |   |        |
|---|---|--------|
| A | Emissions excluding LULUCF in base year (GHG submission 2012, will be updated yearly) | 53,057 |
| B | Emissions/removals from LULUCF included in base year <sup>4</sup>                     | - *    |

|   |  |        |
|---|--|--------|
| C | Emissions in base year used for calculation of target (subject to recalculation) | 52,710 |
| D | Emissions excluding LULUCF in target year  | 40,850 |
| E | Anticipated emissions/removals from LULUCF included in target year <sup>3</sup>  | - **   |
| F | Anticipated use of carbon credits from market-based mechanisms <sup>5</sup>      | - ***  |
| G | Anticipated carry-over of carbon credits <sup>4</sup>                            | - **** |

\* Regarding LULUCF, Switzerland uses the same rules as under the Kyoto Protocol for calculating the emissions/removals in the base year. Therefore, "B" is irrelevant for the pledge of Switzerland.

\*\* Not estimated yet for Switzerland's pledge under the Convention. Switzerland has also not decided yet whether it will account for additional activities under Art. 3.4 of the Kyoto Protocol in the second commitment period. Under a calculation of the elected activities under Art. 3.4 of the Kyoto Protocol during the first commitment period and applying the accounting approach of the forest management reference level, then estimated emissions or removals from forest management in Switzerland will be zero.

\*\*\* Switzerland will use carbon credits generated from the flexible mechanisms under the Kyoto Protocol (CERs, ERUs) and from the new market-based mechanism under the Convention to reduce its emissions over the period. The exact amount of carbon credits is not estimated yet. In addition to the carbon credits that will be used for achieving the -20% target

<sup>4</sup> Include emissions as positive values and removals as negative values

<sup>5</sup> Include as positive values

and in the assumed case of a starting point by QELRO 2010 (see above), carbon credits will also be used by Switzerland for maximum three fourth of the additional emission reductions beyond the -20% target by 2020 compared to 1990, as planned in the Swiss CO<sub>2</sub> Law for the 2013-20 period.

\*\*\*\* Switzerland does not support the use of AAUs outside of the Kyoto system. A limited amount of its own carry-over of AAUs may be used by Switzerland under the Kyoto Protocol.

### Expected Emission Reductions in kt CO<sub>2</sub> equivalent

Relative to Base Year :

*should be estimated as* -15,813 kt CO<sub>2</sub> equivalent (including use of carbon credits)

### Role of Land Use, Land-Use Change and Forestry

Comprehensive land-based \*

Activity based

- Afforestation/Reforestation
- Deforestation
- Forest management
- Cropland management
- Grazing land management
- Wetland drainage and rewetting
- Revegetation
- Other (specify):

\* Switzerland uses the rules of the Kyoto Protocol for its pledge under the Convention. Reporting of LULUCF under the Convention is made on a comprehensive land-based approach, as mentioned in the Good Practice Guidelines for LULUCF. In the first commitment period of the Kyoto Protocol, Switzerland is accounting for Afforestation and Deforestation under Art. 3.3 of the Kyoto Protocol and Forest Management Art. 3.4 of the Kyoto Protocol. Switzerland has not decided yet whether it will account for additional activities under Art. 3.4 of the Kyoto Protocol in the second commitment period.

### Carbon Credits from Market-Based Mechanisms

#### Mechanism Used

Clean Development Mechanism

Carry-over \*

Joint Implementation

REDD

International Emission Trading \*\*  
(ie under Article 17 of the Kyoto Protocol)

Other, (specify): The new market-based mechanism under the Convention will be used.

\* A limited amount of its own carry-over of AAUs may be used by Switzerland under the Kyoto Protocol.

\*\* Switzerland does not support the use of AAUs outside of the Kyoto system. Under the Kyoto Protocol, Switzerland does not plan to buy AAUs but does not exclude the use of AAUs from other countries through the linking of its emission trading scheme (ETS) with other schemes.

### **Total Contribution from Mechanisms Used**

Switzerland will use carbon credits generated from the flexible mechanisms under the Kyoto Protocol (CERs, ERUs) and from the new market-based mechanism under the Convention to reduce its emissions over the period. The exact amount of carbon credits is not estimated yet.

The Swiss CO<sub>2</sub> Law for the 2013-20 period defines Switzerland's -20% target as domestic, however carbon credits for emission reductions achieved abroad will play a role in the case of fossil fuel power plants, the emissions trading scheme (ETS), companies exempted from the CO<sub>2</sub> levy that are not involved in the ETS, as well as in the sanction mechanism. Furthermore, Switzerland may use additional carbon credits generated under the Kyoto Protocol in the assumed case of a starting point by QELRO 2010. In addition, carbon credits will also be used by Switzerland for maximum three fourth of the additional emission reductions beyond the -20% target by 2020 compared to 1990, as planned in the Swiss CO<sub>2</sub> Law for the 2013-20 period.

### **Available information on the estimated contribution of individual mechanisms to the achievement of the target**

Switzerland will use carbon credits generated from the flexible mechanisms under the Kyoto Protocol (CERs, ERUs) and from the new market-based mechanism under the Convention to reduce its emissions over the period. The exact amount of carbon credits is not estimated yet.

The Swiss CO<sub>2</sub> Law for the 2013-20 period defines Switzerland's -20% target as domestic, however, carbon credits for emission reductions achieved abroad will play a role in the case of fossil fuel power plants, the emissions trading scheme (ETS), companies exempted from the CO<sub>2</sub> levy that are not involved in the ETS, as well as in the sanction mechanism. Furthermore, Switzerland may use additional carbon credits generated under the Kyoto Protocol in the assumed case of a starting point by QELRO 2010. In addition, carbon credits will also be used by Switzerland for maximum three fourth of the additional emission reductions beyond the -20% target by 2020 compared to 1990, as planned in the Swiss CO<sub>2</sub> Law for the 2013-20 period.

Switzerland will apply qualitative restrictions on the use carbon credits as of 2013.

Switzerland does not support the use of AAUs outside of the Kyoto system. Under the Kyoto Protocol, Switzerland does not plan to use AAUs from other countries in order to achieve its target. However, Switzerland does not exclude the use of AAUs through the linking of its emission trading scheme (ETS) with other schemes. Switzerland may use a limited amount of its own carried-over AAUs but does not plan to use AAUs that have been carried-over by other Parties, except in the case of the linking of its ETS.

Switzerland will use carbon credits generated from the new market mechanism under the Convention (may include REDD) if the quality of the mechanism is guaranteed.

### **Assumptions and Conditions Related to Ambition of the Pledge**

#### **Assumed change in emissions per capita, including change in population over the period**

##### Change in population over time:

Population in 1990: 6,750,000

Current population (2009): 7,800,000

Assumed population in 2020: 8,400,000

Assumed change in population by 2020 compared to 1990 levels: + 24 %

##### Assumed change in emissions (excluding LULUCF) per capita:

Emissions per capita in 1990: 7.9 t CO<sub>2</sub>eq

Current emissions per capita (2009): 6.7 t CO<sub>2</sub>eq

Assumed emissions per capita in 2020 (for -20% target): 5 t CO<sub>2</sub>eq

Assumed change in emissions per capita by 2020 compared to 1990 levels (for -20% target): - 36 %

Assumed emissions per capita in 2020 (for -30% target, including use of carbon credits): 4.4 t CO<sub>2</sub>eq

Assumed change in emissions per capita by 2020 compared to 1990 levels (for -30% target): - 44 %

#### **Assumed change in emissions per gross domestic product (GDP), including change in GDP over the period**

##### GDP:

GDP in 2009 (price reference 2009): 535.3 bn CHF

GDP in 2020 (price reference 2009): 619.1 bn CHF

It is assumed that the GDP of Switzerland will evolve as follows: + 16 % over 2009-2020.

Since the Swiss GDP will increase by approx. 16% over 2009-20 while the greenhouse gas emissions will continue to decrease until 2020, Switzerland is achieving a decoupling of its economic growth from the evolution of its emissions.

**Estimated emission reductions from BAU or another baseline in kt CO<sub>2</sub> eq**

Switzerland does not use a deviation of its emissions from a BAU for presenting its pledge, but uses an absolute emission reduction compared to a reference year (1990).

**Description of any mitigation policies, legislation and institutional arrangements**

Switzerland's legislation for the 2013-20 period, which was approved by the Parliament in December 2011 and is subject to an optional referendum, sets the following instruments:

- CO<sub>2</sub> levy on thermal fuels (heating and process fuels)
- Technical prescriptions for buildings
- Building programme for the refurbishment and the use of renewable energy in buildings (by using part of the revenues of the CO<sub>2</sub> levy on thermal fuels)
- Prescription of technical standards for cars
- Emissions trading scheme (ETS) for large industries, with a possibility for linking with other ETSs
- Emission reduction targets for small and medium industries
- Full offsetting (with domestic measures and carbon credits for emission reductions achieved abroad) for emissions resulting from fossil-fuel thermal power plants
- Partial offsetting (with domestic measures and possibly carbon credits for emission reductions achieved abroad) for emissions resulting from motor fuels
- Technology fund to finance loan guarantees for supporting companies that develop or market low-GHG equipment and processes
- Additional information and educational programmes in Switzerland

Other measures that are already in place and therefore outside of the scope of the above-mentioned new legislation include:

- Energy-efficiency programme (including technical prescriptions, energy-efficiency labels)
- Voluntary agreements with some industrial sectors that are not covered by other measures
- Feed-in tariffs for the power production resulting from renewable energies
- Performance-related heavy vehicle fee (tax on heavy vehicles)
- 2050 Energy Strategy for Switzerland, aiming at phasing out nuclear power by increasing energy efficiency and the use of renewable energies

For additional information:

<http://www.bafu.admin.ch/klima/00493/06577/index.html?lang=en>

<http://www.bfe.admin.ch/energie/index.html?lang=en>

**Other relevant information, including on the potential to increase the level of ambition,**

**e.g. through enhanced implementation of domestic PaMs and full access to broad and efficient carbon markets**

The CO<sub>2</sub> legislation for the 2013-20 period allows flexibility in some of the above-mentioned instruments in order to increase the level of ambition beyond the -20% target, namely:

- an increase of the CO<sub>2</sub> levy on thermal fuels
- an increase in the revenues used in the building programme (resulting from the increased revenues of the CO<sub>2</sub> levy on thermal fuels)
- an increase in the level of partial offsetting for emissions resulting from motor fuels (with domestic measures and carbon credits for emission reductions achieved abroad)

Carbon credits will be used by Switzerland for maximum three fourth of the additional emission reductions beyond the -20% target by 2020 compared to 1990, as planned in the Swiss CO<sub>2</sub> Law for the 2013-20 period.

As planned in the new Swiss legislation, the Federal Council may increase the reduction target in accordance with international agreements. Switzerland would consider a higher reduction target up to -30% by 2020 compared to 1990 levels, under the condition that other developed countries commit themselves to comparable emission reductions and that economically more advanced developing countries contribute adequately according to their responsibilities and respective capabilities.

**Assumptions on actions by other Parties domestically and at international level**

As per its new national legislation (expected to enter into force on 01.01.2013), Switzerland will reduce its emissions at least by 20% by 2020 in comparison to the 1990 levels. This emission reduction target is unconditional.

As planned in the new Swiss legislation, the Federal Council may increase the reduction target in accordance with international agreements. Switzerland would consider a higher reduction target up to -30% by 2020 compared to 1990 levels, under the condition that other developed countries commit themselves to comparable emissions reductions and that economically more advanced developing countries contribute adequately according to their responsibilities and respective capabilities.