

SLOVAK REPUBLIC

**Report to facilitate
determination of the
assigned amount for the
second commitment
period of the Kyoto
Protocol**



Slovak Hydrometeorological Institute
Ministry of Environment of the Slovak Republic
Bratislava, June 15, 2016

SUMMARY

This report constitutes the report to facilitate the calculation of the Slovak Republic's assigned amount pursuant to Article 3, paragraphs 7bis, 8 and 8bis of the Kyoto Protocol for the second commitment period and to demonstrate the capacity of the Slovak Republic to account for its emissions and assigned amount in accordance with the decision 2/CMP.8 under the Kyoto Protocol.

The Slovak Republic as a part of the European Union is a Party to the UNFCCC and the Kyoto Protocol. The Kyoto Protocol, under Article 4, provides the option for Parties to fulfil their commitments under Article 3 jointly. The Slovak Republic as a part of the European Union agreed to a quantified emission reduction commitment that limits our average annual emissions of greenhouse gases during the second commitment period to 80% of the sum of their base year emissions, which is reflected in the Doha Amendment.

Article 4 of the Kyoto Protocol requires Parties that agree to fulfil their commitments under Article 3 of the Kyoto Protocol jointly to set out in that agreement the respective emission level allocated to each of the Parties. Council Decision (EU) 2015/1339 of July 13, 2015 on the conclusion, on behalf of the European Union, of the Doha Amendment to the Kyoto Protocol to the UNFCCC and the joint fulfilment of commitments thereunder sets out the terms of the joint fulfilment agreement as well as the respective emission levels of each Party to that agreement¹. The emission levels define the Member States' and Iceland's assigned amounts for the second commitment period. These emission levels have been determined on the basis of the existing Union legislation for the period 2013 – 2020 under the climate and energy package.²

The joint assigned amount for the Slovak Republic for the second commitment period of the Kyoto Protocol is equal to the percentage inscribed for the Union in Annex B of the Doha Amendment (80%) of our base year emissions multiplied by eight. The joint assigned amount resulting from this calculation is 202 268 939 tonnes of CO₂ eq.

¹ OJ L 207/1, 4.8.2015, p. 1

² Legislation adopted on 23 April 2009: Directive 2009/29/EC of the European Parliament and of the Council amending Directive 2003/87/EC so as to improve and extend the greenhouse gas emission allowance trading scheme of the Community and Decision No 406/2009/EC of the European Parliament and of the Council of 23 April 2009 on the effort of Member States to reduce their greenhouse gas emissions to meet the Community's greenhouse gas emission reduction commitments up to 2020, OJ L 140, 5.6. 2009.

PART I: INTRODUCTION

This report is the report for the Slovak Republic to facilitate the calculation of the assigned amount pursuant to Article 3, paragraphs 7bis, 8 and 8bis of the Kyoto Protocol for the second commitment period and to demonstrate our capacity to account for GHG emissions and assigned amount in accordance with decisions 2/CMP.8 under the Kyoto Protocol period.

This report presents the items of information specified in paragraphs 1(a) to 1(m) of Annex I to decision 2/CMP.8 (*Implications of the implementation of decisions 2/CMP.7 to 5/CMP.7 on the previous decisions on methodological issues related to the Kyoto Protocol, including those relating to Articles 5, 7 and 8 of the Kyoto Protocol*).

The complete inventories of anthropogenic emissions by sources and removals by sinks of greenhouse gases (GHG) not controlled by the Montreal Protocol for the Slovak Republic are included in the inventory submission which is submitted in conjunction with this report to the UNFCCC.

The Kyoto Protocol, under Article 4, provides the option for Parties to fulfil their commitments under Article 3, paragraph 1 jointly, acting in the framework of and together with a regional economic integration organisation. The Kyoto Protocol was ratified by the Slovak Republic on 31 May 2002. At this ratification, the Slovak Republic declared that would fulfil their respective commitments under Article 3(1) of the Protocol.

By 1st May 2004, Slovakia acceded to the European Union. In addition, and be part of the joint fulfilment agreement under Article 4 of the European Union and its Member States.³ All of the Member States as well as Iceland have quantified emission limitation and reduction commitments inscribed in the third column of Annex B as contained in annex I to the Doha amendment of the Kyoto Protocol for the second commitment period.

According to Annex I of decision 2/CMP.8 (*Implications of the implementation of decisions 2/CMP.7 to 5/CMP.7 on the previous decisions on methodological issues related to the Kyoto Protocol, including those relating to Articles 5, 7 and 8 of the Kyoto Protocol*) the report to facilitate the calculation of the assigned amount shall include the following information.

Annex I to Decision 2/CMP.8:

- (a) Complete inventories of anthropogenic emissions by sources and removals by sinks of greenhouse gases (GHGs) not controlled by the Montreal Protocol, recalculated in accordance with decision 4/CMP.7 for all years from 1990, or another approved base year or period under Article 3, paragraph 5, of the Kyoto Protocol, to the most recent year available, and prepared in accordance with Article 5, paragraph 2, of the Kyoto Protocol, and any relevant decisions of the Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol (CMP) and the Conference of the Parties (COP). If the report is submitted at the same time as the submission of the Party's annual GHG inventories, only one inventory submission should be provided and both reports should be submitted in conjunction;
- (b) The identification of its selected base year for hydrofluorocarbons, perfluorocarbons and sulphur hexafluoride in accordance with Article 3, paragraph 8, of the Kyoto Protocol, if the Party included in Annex I did not have a quantified emission limitation and reduction target in the first commitment period, and the identification of its selected base year for nitrogen trifluoride in accordance with Article 3, paragraph 8bis, of the Kyoto Protocol, for all Parties included in Annex I with a quantified emission limitation and reduction target for the second commitment period;

³ This total group of 28 Member States is referred to as EU-28 in this report.

- (c) The agreement under Article 4 of the Kyoto Protocol for the second commitment period, where the Party has reached such an agreement to fulfil its commitments under Article 3 of the Kyoto Protocol jointly with other Parties;
- (d) The calculation of its assigned amount pursuant to Article 3, paragraphs 7bis, 8 and 8bis, of the Kyoto Protocol, on the basis of its inventory referred to in paragraph 1(a) above, which is due by 15 April 2015;
- (e) The calculation of its commitment period reserve in accordance with decision 11/CMP.1 or any subsequent revision thereof related to the calculation of the commitment period reserve;
- (f) The identification of its selection of single minimum values for tree crown cover, land area and tree height for use in accounting for its activities under Article 3, paragraphs 3 and 4, of the Kyoto Protocol, if the Party included in Annex I did not select a definition of forest for the first commitment period, together with a justification of the consistency of those values with the information that has been historically reported to the Food and Agriculture Organization of the United Nations or other international bodies, and in the case of difference, an explanation of why and how such values were chosen, in accordance with decisions 16/CMP.1 and 2/CMP.7. If the Party included in Annex I selected its forest definition for the first commitment period, the definition for the second commitment period shall be the same;
- (g) The identification of its election of activities under Article 3, paragraph 4, of the Kyoto Protocol for inclusion in its accounting for the second commitment period, in addition to those activities under Article 3, paragraph 4, of the Kyoto Protocol that were elected in the first commitment period, together with information on how its national system under Article 5, paragraph 1, of the Kyoto Protocol will identify land areas associated with all additional elected activities and how the Party ensures that land that was accounted for under activities under Article 3, paragraphs 3 and 4, of the Kyoto Protocol in the first commitment period continues to be accounted for in subsequent commitment periods, in accordance with decisions 16/CMP.1 and 2/CMP.7;
- (h) The identification of whether, for each activity under Article 3, paragraphs 3 and 4, of the Kyoto Protocol, it intends to account annually or for the entire commitment period;
- (i) The forest management reference level as inscribed in the appendix to the annex to decision 2/CMP.7, any technical corrections as contained in the inventory report for the first year of the second commitment period and references to those sections in the national inventory report where such information is reported consistent with the requirements of decision 2/CMP.7, annex, paragraph 14;1
- (j) Information on how emissions from harvested wood products originating from forests prior to the start of the second commitment period have been calculated in the reference level in accordance with decision 2/CMP.7, annex, paragraph 16;
- (k) An indication of whether it intends to apply the provisions to exclude emissions from natural disturbances for the accounting for afforestation and reforestation under Article 3, paragraph 3, of the Kyoto Protocol and/or forest management under Article 3, paragraph 4, of the Kyoto Protocol during the second commitment period in accordance with decision 2/CMP.7, annex, paragraph 33, and any relevant supplementary methodological guidance developed by the Intergovernmental Panel on Climate Change and adopted by the CMP and the COP, including:
 - (i) Country-specific information on the background level of emissions associated with annual natural disturbances that have been included in its forest management reference level;

- (ii) Information on how the background level(s) for afforestation and reforestation under Article 3, paragraph 3, of the Kyoto Protocol and/or forest management under Article 3, paragraph 4, of the Kyoto Protocol have been estimated, and information on how it avoids the expectation of net credits or net debits during the commitment period, including information on how a margin is established, if a margin is needed;
- (l) A description of its national system in accordance with Article 5, paragraph 1, of the Kyoto Protocol, reported in accordance with the “Guidelines for the preparation of the information required under Article 7 of the Kyoto Protocol”, if the Party included in Annex I did not have a quantified emission limitation and reduction target in the first commitment period;
- (m) A description of its national registry, reported in accordance with the “Guidelines for the preparation of the information required under Article 7 of the Kyoto Protocol”, if the Party included in Annex I did not have a quantified emission limitation and reduction target in the first commitment period.

Part II and Part III 3 of this report, present the items of information specified above in two parts: Part II addressing items a) to e) and Part III addressing items f) to m).

PART II: ANNEX I TO DECISION 2/CMP.8 a) – e)

a) Inventories of anthropogenic emissions by sources and removals by sinks of greenhouse gases not controlled by the Montreal Protocol

The complete inventory of anthropogenic emissions by sources and removals by sinks of greenhouse gases not controlled by the Montreal Protocol for all years from the base year to the year 2014 for the Slovak Republic is submitted as a separate document in conjunction with this report in accordance with paragraph 1(a) of annex I to decision 2/CMP.8. The greenhouse gas inventory is reported based on the UNFCCC reporting guidelines on annual greenhouse gas inventories, the guidelines for the preparation of information required under Article 7 of the Kyoto Protocol (Decision 15/CMP.1 and Appendix III of document FCCC/SBSTA/2015/L.13) and the guidance for reporting information on activities under Article 3(3) and (4), of the Kyoto Protocol (Decision 6/CMP.9).

Geographical coverage of the Slovak Republic

MEMBER STATE	GEOGRAPHICAL COVERAGE
Slovakia	Slovakia

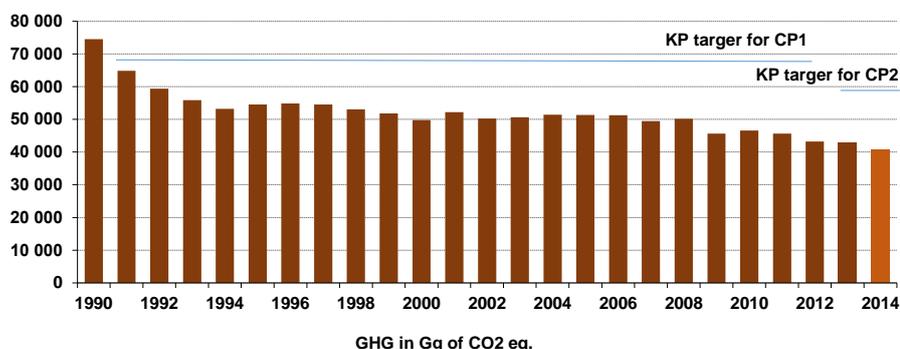
Greenhouse gas inventory for 1990 – 2014

The total national emissions of GHGs in the inventory year 2014 were estimated to be 40 657.60 Gg of CO₂ eq. excluding LULUCF sector and the net GHG emissions were 34 535.85 Gg of CO₂ eq. including LULUCF sector. In accordance with the generally expected decreasing trend, the aggregated emissions of GHGs in year 2014 decreased compared to the year 2013 by 5% excluding LULUCF. A significant decrease was recorded compared to the base year 1990 - by 45.5% excluding LULUCF. By including LULUCF sector to the net aggregated emissions in 2014 emissions decreased by more than 200 Gg of CO₂ eq. compared to previous year 2013, it means 1% decrease (**Figure 1, Table 1 - Table 3**).

The emissions without LULUCF in 2014 are approximately on the lowest level during time series, what was expected also in the last available GHG emission projections and it is evidence of the successful implementation of the policies and measures and their effect on the improvement in energy intensity and industrial production efficiency. During the whole following period 1991 – 2014, the total greenhouse gas emissions in the Slovak Republic did not exceed the level of 1990.

The major share of the aggregated emissions excluding LULUCF in 2014 belongs to the CO₂ emissions which comprise about 82% in total. The share of CH₄ emissions is about 11%, N₂O emissions about 6% and F-gases emissions about 1% on total. The share of gases and sectors are almost comparable with the 1990 base year structure.

Figure 1: GHG emissions of the Slovak Republic for the period 1990 – 2014 (excl. LULUCF)



CP1 = First Commitment Period, CP2 = Second Commitment Period

Aggregated GHG emissions without LULUCF; emissions are determined as of 15.06.2016

Table 1: Summary of the GHG emissions in 2014 according to the gases and sectors

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	2014					
	CO ₂ equivalent (Gg)					
	CO ₂	CH ₄	N ₂ O	HFCs	PFCs	SF ₆
1. Energy	25 175.03	1 678.83	175.28	NO	NO	NO
2. Industrial Processes	8 132.67	1.71	225.26	546.02	11.15	14.17
3. Agriculture	73.57	1 236.23	1 802.10	NO	NO	NO
4. LULUCF	-6 166.40	17.15	27.50	NO	NO	NO
5. Waste	6.16	1 446.51	132.91	NO	NO	NO
<i>KP LULUCF</i>	<i>-4 952.59</i>	<i>0.69</i>	<i>0.04</i>	<i>NO</i>	<i>NO</i>	<i>NO</i>
<i>Memo Items - International Transport</i>	<i>135.54</i>	<i>0.07</i>	<i>3.06</i>	<i>NO</i>	<i>NO</i>	<i>NO</i>
Total (including LULUCF)	27 221.03	4 380.44	2 363.05	546.02	11.15	14.17
Total (excluding LULUCF)	33 387.43	4 363.29	2 335.55	546.02	11.15	14.17

Table 2: Summary of the GHG emissions in 1990 – 2013 according to the gases

GREENHOUSE GAS EMISSIONS	Base year 1990	1991	1992	1993	1994	1995	1996	1997
	CO ₂ equivalent (Gg)							
CO ₂ emissions excluding net CO ₂ from LULUCF	61 837.57	53 447.44	48 979.13	46 467.55	43 638.49	44 679.54	44 978.91	45 040.27
CO ₂ emissions including net CO ₂ from LULUCF	52 759.22	43 641.28	38 469.50	35 944.17	33 809.29	35 330.85	35 673.38	35 854.89
CH ₄ emissions excluding CH ₄ from LULUCF	7 121.28	6 887.86	6 553.88	6 155.27	5 988.54	6 132.91	6 049.61	5 749.46
CH ₄ emissions including CH ₄ from LULUCF	7 128.72	6 893.79	6 559.89	6 162.99	5 993.92	6 139.01	6 056.54	5 756.58
N ₂ O emissions excluding N ₂ O from LULUCF	5 230.27	4 204.95	3 555.68	3 025.25	3 382.96	3 583.74	3 731.07	3 636.40
N ₂ O emissions including N ₂ O from LULUCF	5 309.93	4 278.89	3 627.96	3 096.85	3 449.93	3 642.19	3 786.24	3 686.83
HFCs	NO	NO	NO	NO	0.20	10.49	22.23	32.39
PFCs	314.86	309.73	288.24	180.32	153.23	132.65	40.72	40.16
SF ₆	0.06	0.04	0.04	0.09	17.62	10.15	11.16	11.47
Total (excluding LULUCF)	74 504.05	64 850.01	59 376.96	55 828.48	53 181.03	54 549.48	54 833.71	54 510.15
Total (including LULUCF)	65 512.79	55 123.72	48 945.63	45 384.42	43 424.19	45 265.35	45 590.28	45 382.32

GREENHOUSE GAS EMISSIONS	1998	1999	2000	2001	2002	2003	2004	2005
	CO ₂ equivalent (Gg)							
CO ₂ emissions excluding net CO ₂ from LULUCF	44 016.99	43 181.31	41 155.01	43 468.09	41 593.53	42 060.55	42 576.96	42 581.02
CO ₂ emissions including net CO ₂ from LULUCF	33 785.38	33 116.73	31 384.78	34 556.41	32 090.64	32 800.93	33 619.22	36 931.35
CH ₄ emissions excluding CH ₄ from LULUCF	5 708.47	5 657.97	5 422.74	5 358.11	5 237.54	5 138.51	5 183.93	5 184.37
CH ₄ emissions including CH ₄ from LULUCF	5 715.48	5 671.66	5 433.63	5 367.13	5 247.52	5 151.49	5 194.65	5 199.83
N ₂ O emissions excluding N ₂ O from LULUCF	3 280.48	2 860.26	3 108.03	3 243.20	3 215.28	3 250.65	3 376.96	3 309.17
N ₂ O emissions including N ₂ O from LULUCF	3 327.03	2 909.01	3 148.47	3 278.67	3 244.04	3 280.17	3 405.05	3 338.43
HFCs	42.62	61.63	84.73	112.83	146.23	175.02	208.94	240.67
PFCs	29.10	16.27	14.91	16.02	17.18	26.45	23.63	24.16
SF ₆	12.65	12.64	13.04	13.33	14.78	15.06	15.43	16.38
Total (excluding LULUCF)	53 090.30	51 790.09	49 798.47	52 211.58	50 224.55	50 666.24	51 385.86	51 355.78
Total (including LULUCF)	42 912.25	41 787.94	40 079.56	43 344.39	40 760.39	41 449.11	42 466.92	45 750.83

GREENHOUSE GAS EMISSIONS	2006	2007	2008	2009	2010	2011	2012	2013
	CO ₂ equivalent (Gg)							
CO ₂ emissions excluding net CO ₂ from LULUCF	42 320.48	40 725.30	41 236.32	37 433.43	38 385.94	37 880.85	35 867.90	35 395.15
CO ₂ emissions including net CO ₂ from LULUCF	33 945.80	32 622.00	34 251.36	30 567.15	32 333.79	31 432.34	28 210.75	27 293.26
CH ₄ emissions excluding CH ₄ from LULUCF	5 028.69	4 894.01	5 120.16	4 668.55	4 707.52	4 788.51	4 408.50	4 555.87
CH ₄ emissions including CH ₄ from LULUCF	5 040.88	4 907.71	5 133.79	4 682.94	4 722.45	4 803.40	4 420.74	4 564.89
N ₂ O emissions excluding N ₂ O from LULUCF	3 582.20	3 479.13	3 348.00	3 034.93	2 875.35	2 431.98	2 383.81	2 335.80
N ₂ O emissions including N ₂ O from LULUCF	3 608.11	3 505.10	3 373.21	3 060.06	2 899.95	2 456.53	2 407.04	2 357.38
HFCs	282.67	325.44	386.23	441.63	529.68	521.86	530.05	535.19
PFCs	42.47	29.42	42.76	21.00	25.01	20.11	25.66	9.81
SF ₆	16.71	17.39	18.85	19.51	19.62	20.80	21.24	22.30
Total (excluding LULUCF)	51 273.23	49 470.70	50 152.32	45 619.05	46 543.13	45 664.11	43 237.16	42 854.13
Total (including LULUCF)	42 936.64	41 407.07	43 206.20	38 792.29	40 530.51	39 255.04	35 615.49	34 782.84

Table 3: Summary of the GHG emissions in 1990 – 2013 according to the sectors

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	Base year (1990)	1991	1992	1993	1994	1995	1996	1997
	CO ₂ equivalent (Gg)							
1. Energy	56 572.15	50 017.08	45 788.32	41 895.31	39 244.90	39 470.07	39 629.78	39 430.71
2. Industrial Processes	9 813.65	7 601.41	7 222.10	8 238.14	8 454.10	9 377.21	9 684.90	9 718.47
4. Agriculture	6 653.54	5 765.16	4 913.35	4 246.85	4 058.07	4 281.81	4 097.46	3 931.11
5. Land Use, Land-Use Change and Forestry	-8 991.25	-9 726.29	-10 431.33	-10 444.06	-9 756.84	-9 284.13	-9 243.42	-9 127.82
6. Waste	1 464.71	1 466.36	1 453.18	1 448.19	1 423.96	1 420.39	1 421.57	1 429.86
GREENHOUSE GAS SOURCE AND SINK CATEGORIES	1998	1999	2000	2001	2002	2003	2004	2005
	CO ₂ equivalent (Gg)							
1. Energy	38 114.75	37 484.43	36 442.08	38 660.62	35 573.38	36 548.51	36 142.56	36 581.41
2. Industrial Processes	9 857.91	9 469.36	8 556.01	8 728.76	9 764.52	9 366.77	10 643.30	10 202.62
4. Agriculture	3 674.35	3 393.20	3 356.51	3 372.30	3 421.70	3 296.27	3 141.44	3 113.68
5. Land Use, Land-Use Change and Forestry	-10 178.05	-10 002.14	-9 718.90	-8 867.19	-9 464.16	-9 217.13	-8 918.93	-5 604.95
6. Waste	1 443.29	1 443.09	1 443.87	1 449.90	1 464.96	1 454.70	1 458.56	1 458.06
GREENHOUSE GAS SOURCE AND SINK CATEGORIES	2006	2007	2008	2009	2010	2011	2012	2013
	CO ₂ equivalent (Gg)							
1. Energy	35 624.25	33 955.86	34 878.87	32 001.97	32 597.94	32 094.92	29 635.00	29 474.16
2. Industrial Processes	11 059.95	10 912.91	10 780.55	9 215.85	9 519.04	9 102.71	9 019.52	8 717.92
4. Agriculture	3 082.50	3 138.61	3 029.86	2 910.56	2 927.82	2 935.30	3 018.44	3 111.60
5. Land Use, Land-Use Change and Forestry	-8 336.59	-8 063.63	-6 946.12	-6 826.76	-6 012.61	-6 409.08	-7 621.67	-8 071.29
6. Waste	1 506.53	1 463.31	1 463.04	1 490.67	1 498.33	1 531.19	1 564.20	1 550.45

Total aggregated GHGs emission, emissions are determined as of 15.06.2016, no indirect emissions are reported in the 2016 submission.

b) Identification of base years of Slovakia for the second commitment period

Base year for CO₂, N₂O and CH₄:

For carbon dioxide (CO₂), methane (CH₄) and nitrous oxide (N₂O) Slovak Republic use the year 1990 as base year with the following exceptions:

Base year for hydrofluorocarbons, perfluorocarbons, sulphur hexafluoride and the identification of its selected base year for nitrogen trifluoride in accordance with Article 3, paragraph 8 of the Kyoto Protocol and 8bis:

For hydrofluorocarbons, perfluorocarbons and sulphur hexafluoride, the choice of base year for the Slovak Republic remains as in the first commitment period the year 1990. According to Annex I of the Doha amendment to the Kyoto Protocol nitrogen trifluoride (NF₃) shall be included as a new gas in the second commitment period. The base year choices of the Slovak Republic related to NF₃ is the year 2010.

c) Agreement under Article 4 of the Kyoto Protocol for the second commitment period

The Kyoto Protocol, under Article 4, provides the option for Parties to fulfil their commitments under Article 3 jointly, acting in the framework of and together with a regional economic integration organisation. For the first commitment period, the agreement of the European Union and its Member States to fulfil their respective commitments under Article 3, paragraph 1 of the Kyoto Protocol jointly (the joint fulfilment agreement) established quantified emission limitation and reduction commitments for the Union and its Member States. For the second commitment period, upon adoption of the Doha amendment to the Kyoto Protocol, the European Union and its Member States stated that the European Union and its Member States again intend to fulfil their reduction targets under the second commitment period jointly.⁴ Moreover, the European Union and its Member States also expressed their intention to fulfil their commitments in the second commitment period of the Kyoto Protocol jointly with Iceland.

Table 4: Emission levels of the Slovak Republic set out in the terms of the joint fulfilment for the second commitment period under the Kyoto Protocol

SLOVAKIA	EMISSIONS LEVEL (TONNES OF CO ₂ eq.)
	202 268 939

d) Calculation of the assigned amount pursuant to Article 3, paragraphs 7bis, 8 and 8bis

The base year emissions of the Slovak Republic are aggregated in the same way as the annual greenhouse gas inventory of the Slovak Republic, while taking account of the appropriate base year for HFCs, PFCs, SF₆ and NF₃. **Table 5** presents the base year emissions as well as the emissions in 1990 due to deforestation in 1990 that shall be included in the base year emissions for those countries for whom land-use change and forestry constituted a net source of greenhouse gas emissions in 1990 in accordance with Article 3(7bis) of the Kyoto Protocol.

Table 5: Base year emissions of the Slovak Republic, calculated pursuant to Article 3(7bis)

SLOVAKIA	BASE YEAR EMISSIONS	NET EMISSIONS IN 1990 DUE TO DEFORESTATION WHERE LULUCF SECTOR IS A NET SOURCE OF EMISSIONS	FINAL BASE YEAR EMISSIONS, AFTER APPLICATION OF ART. 3(7BIS)
		tonnes CO ₂ equivalent	
	74 504 046	0	74 504 046

Submission to the UNFCCC (June 15, 2016)

⁴ Declaration made in footnote to Annex B of the Doha Amendment.

Pursuant to Article 3, paragraphs 7bis, 8 and 8bis of the Kyoto Protocol, the assigned amount for the second commitment period is equal to the percentage inscribed in the third column of Annex B of the Annex to the Doha amendment of the aggregate anthropogenic carbon dioxide equivalent emissions of greenhouse gases in the base year multiplied by eight, taking into account Article 3 (7bis) of the Kyoto Protocol. This calculation results in an assigned amount of 202 268 939 tonnes CO₂ eq. for the Slovak Republic (**Table 6**).

Table 6: Assigned amount calculation for the Slovak Republic

SLOVAKIA	ASSIGNED AMOUNT IN TONNES CO ₂ eq. TAKING INTO ACCOUNT ARTICLE 3 (7bis)	BASE YEAR EMISSIONS	ANNUAL ASSIGNED AMOUNT EXPRESSED AS % TO BASE YEAR EMISSIONS
	tonnes CO ₂ eq.	tonnes CO ₂ eq.	%
	202 268 939	74 504 046	33%

e) Calculation of the commitment period reserve for the Slovak Republic in accordance with decision 11/CMP.1 under the Kyoto Protocol

Parties are required by decision 11/CMP.1 and paragraph 18 of decision 1/CMP.8 to establish and maintain a commitment period reserve as part of their responsibility to manage and account for their assigned amount. The commitment period reserve equals the lower of either 90% of a Party's assigned amount pursuant to Article 3, paragraphs 7bis, 8 and 8bis or 100% of its most recently reviewed inventory, multiplied by 8. **Table 7** provides a calculation using both methods to calculate the commitment period reserve. The last column presents the commitment period reserve applicable for the second commitment period for the Slovak Republic based on the lower value resulting from the two methods.

Table 7: Commitment period reserve of Slovak Republic

SLOVAK REPUBLIC	ASSIGNED AMOUNT FOR SECOND COMMITMENT PERIOD	90% OF ASSIGNED AMOUNT	100% OF MOST RECENTLY REVIEWED INVENTORY MULTIPLIED BY 8	COMMITMENT PERIOD RESERVE
	tonnes CO ₂ eq.			
	202 268 939	182 042 045	325 109 470	182 042 045

Difference between the assigned amount for the second commitment period and the average emissions for the first three years of the preceding commitment period:

According to Article 3 (7ter) of the Doha Amendment of the Kyoto Protocol, any positive difference between the assigned amount of the second commitment period and the average annual emissions for the first three years of the preceding commitment period multiplied by eight shall be transferred to the cancellation account.

Table 8: Assigned amount for the second commitment period and average emissions for the first three years of the preceding commitment period

ASSIGNED AMOUNT FOR THE SECOND COMMITMENT PERIOD	202 268 939
AVERAGE ANNUAL EMISSIONS FOR 2008 TO 2010 MULTIPLIED BY EIGHT	379 505 316

The assigned amount for the second commitment period, is lower than average annual emissions for the period 2008 – 2010 multiplied by eight as indicated in **Table 8**. Thus, no positive difference occurs and no cancellation needs to be performed.

PART III: ANNEX I TO DECISION 2/CMP.8 f) – m)

f) Identification of the selection of single minimum values for tree crown cover, land area and tree height for use in accounting under Article 3, paragraphs 3 and 4

Slovak Republic has selected threshold values for the forest definition for reporting on the activities Afforestation, Reforestation, Deforestation and Forest Management under Article 3, paragraph 3 and 4 of the Kyoto Protocol for the required single minimum values for tree crown cover, land area and tree height. Temporarily unstocked forest's areas are included (areas of forest regeneration after harvesting). In accordance with paragraph 1(f) in Annex I of decision 2/CMP.8 the forest definitions for the second commitment period are the same as for the first commitment period.

According the forest definition and management practices realized in Slovakia, all forests are considered as managed. The selected threshold values are consistent with those values used in the reporting to the Food and Agriculture Organisation of the United Nations (the GFRA 2005, National Forest Inventory, and MCPFE criteria and indicators of sustainable forest management). The **Table 9** presents an overview on these selections.

Table 9: Slovak Republic's selection of threshold values for the forest definition for reporting under Article 3 paragraph 3 and 4

SLOVAK REPUBLIC	MINIMUM VALUE FOR TREE CROWN COVER	MINIMUM TREE HEIGHT	MINIMUM AREA FOR FOREST LAND AREA
	20%	5 m	0.3 ha

g) Election of activities under Article 3, paragraph 4, for inclusion in the accounting for the first commitment period and second commitment period

For the second commitment period, new accounting rules apply for the accounting of emissions and removals in the LULUCF sector. The Forest management has become a mandatory activity and Cropland Management, Grazing land Management, Revegetation and Wetland drainage and rewetting can be elected as an additional activity.

Slovakia does not elect any additional activities under Article 3, paragraph 4, of the Kyoto Protocol.

Slovakia plans to use the similar methodologies and approaches for identification land areas associated with all additional elected activities. This allows the country to meet the requirements that the land that was accounted for under activities under Article 3, paragraphs 3 and 4, of the Kyoto Protocol in the first commitment period continues to be accounted for in subsequent commitment periods, in accordance with decisions 16/CMP.1 and 2/CMP.7.

The GHG inventories under Article 3(3) and Article 3(4) will be prepared for each year of the second commitment period 2013 – 2020. All inventory's information including emissions and removals will be reported annually in 2015 – 2022. The similar methodologies and approaches will be used continuously as during the first commitment period. The **Table 10** presents an overview on elections of activities under Article 3, paragraph 4 for the second commitment period of the Kyoto Protocol.

Table 10: Slovak Republic's elections of activities under Article 3(4) in the second commitment period

SLOVAKIA	CROPLAND MANAGEMENT	GRAZING LAND MANAGEMENT	REVEGETATION	WETLAND DRAINAGE AND REWETTING
	Not elected	Not elected	Not elected	Not elected

According to paragraph 13 in the annex of decision 2/CMP.7 for the second commitment period, additions to the assigned amount of a Party resulting from forest management under Article 3(4), and from forest management project activities undertaken under Article 6, shall not exceed 3.5 per cent of

the base year greenhouse gas emissions excluding land use, land-use change and forestry pursuant to Article 3(7) and (8), or any amendments thereto, times the duration of the commitment period in years. Similar to the general accounting of emissions and removals under Article 3(3) and (4), Member States and Iceland will apply this provision individually. The maximum accountable quantity resulting from forest management that can be added to the assigned amounts to Slovakia (**Table 11**).

Table 11: Maximum accountable quantity resulting from forest management under Article 3.4 in the second commitment period

SLOVAKIA	FOREST MANAGEMENT CAP FOR THE 2 ND COMMITMENT PERIOD
	20 861 133

Submission to the UNFCCC (June 15, 2016)

h) Identification of the frequency of accounting for activities under Article 3, paragraphs 3 and 4

The Slovak Republic identifies the accounting frequency for the activities under Article 3, paragraph 3 and paragraph 4. The Slovak Republic chooses to account at the end of the commitment period.

i) Forest Management Reference Levels as inscribed in the appendix to the annex to decision 2/CMP.7

Slovakia is one of the Member State of the European Union (EU) for which the Joint Research Centre (JRC) of the European Commission developed projections in collaboration with two EU modelling groups. The models, G4M (Global Forestry Model) from the International Institute for Applied Systems Analysis and EFISCEN (European Forest Information Scenario Model) from the European Forest Institute, project annual estimates of emissions and removals for forest management until 2020 for the living (above- and below-ground) biomass carbon pool. To estimate the FMRL, the emissions and removals estimated by the models for the period 2000 to 2020 were calibrated/adjusted using historical data from the country for the period 2000 – 2008. Slovakia has not selected forest management for the first commitment period of the Kyoto Protocol and, therefore, the reference level is constructed for the area defined as Forest land remaining forest land under the Convention. Historical data for 1900 – 1992 were assessed based on the averages of the earliest available five years (1993 – 1997). All models involved in the construction of the FMRL using the harvesting rate as input value use the same source of information (the FAOSTAT database).

The contribution of HWP to the reference level of Slovakia amounts to -1.415 Mt CO₂. It was calculated using the C-HWP-Model, which estimates delayed emissions based on the annual stock change of semi-finished wood products as outlined in the IPCC 2006 GL (Rüter, 2011). The estimation uses the product categories, half-lives and methodologies as suggested in para 27, page 31 of FCCC/KP/AWG/2010/CRP.4/Rev.4. The activity data (production and trade of sawnwood, wood based panels and paper and paperboard) were derived from the TIMBER database (UNECE 2011) (time series 1993 – 2009).

Slovakia's forest management reference level (FMRL) inscribed in the appendix to the annex to Decision 2/CMP.7 amounts to +358 kt CO₂ eq. per year assuming instant oxidation of HWP and -1 084 kt CO₂ eq. applying a first-order decay function for HWP.

The **Table 12** contains the forest management reference levels as inscribed in the appendix to the annex to decision 2/CMP.7

Table 12: Forest management reference levels (Mt CO₂ eq./year)

SLOVAKIA	REFERENCE LEVEL	APPLYING FIRST-ORDER DECAY FUNCTION FOR HWP
		0.358

i) Information on the calculation of emissions from harvested wood products originating from forests prior to the start of the second commitment period in the reference level in accordance with decision 2/CMP.7

Half-lives used in estimating emissions/removals for the HWP categories used:

- For the assessment, the half-lives were applied according to Table 2.8.2 in IPCC 2014: 35 years for sawnwood, 25 years for wood-based panels and 2 years for paper products.

In the first accounting period, Slovakia reported only ARD activities. Emissions from HWP originating from management of forests have been included in the accounting since FM activity became mandatory.

Emissions from the HWP pool were not accounted for in the first commitment period. Emissions from HWP in SWDS are limited due to separation of waste. Wood harvested for energy purposes is complementary component to the HWP and is considered in AGB and BGB pools.

For HWP, the production approach was applied, based on domestic harvest. FAO database on forestry production and trade was used to derive production data from 1961 to 2013. Following **Table 13** shows domestic production of sawn wood, wood based panels and paper (including paper board) as used for HWP stocks changes.

Table 13: Information on the methodology to calculate Forest Management Reference Levels and the calculations of harvested wood products originating from the first commitment period

SLOVAKIA	METHODOLOGICAL APPROACH	INCLUSION OF HWPS FROM FIRST COMMITMENT PERIOD
		JRC approach

k) Accounting for natural disturbances

According to Paragraph 33a of the Annex to the decision 2.CPM 7 Slovakia does not intend to apply the provision to exclude emissions from natural disturbances for the accounting for afforestation and reforestation under Article 3, paragraph 3, of the Kyoto Protocol and/or Forest Management under Article 3, paragraph 4, of the Kyoto Protocol during the second commitment period.

Table 14: Information on the use of the provision to exclude emissions from natural disturbances

SLOVAKIA	AFFORESTATION/ DEFORESTATION	FOREST MANAGEMENT
		No

l) Description of the national system in accordance with Article 5, paragraph 1

The Slovak Republic already provided this description in the report to calculate the assigned amount of the first commitment period and reported subsequently on the changes that occurred in the supplementary information under Article 7 of the Kyoto Protocol included in the national inventory report. More information can be found in the Slovak National Inventory Report 2016, Chapter 1.2 and Chapter 13.

m) Description of the national registry in accordance with Article 5, paragraph 1

Slovakia operates its national registry in a consolidated manner with the EU Member States who are also Parties to Kyoto Protocol plus Iceland, Liechtenstein and Norway. The consolidated platform which implements the national registries in a consolidated manner (including national registry of Slovakia) is called Consolidated System of EU registries (CSEUR). Slovak national registry was successfully connected to ITL with other EU countries in October 2008 and it has been fully functional since. More information on changes in the national registry is provided in the Slovak National Inventory Report 2016 (June, 15), Chapters 1.2, 12 and 14.

Table 15: Organization designated as registry system administrator of the Slovak Republic

NAME OF THE INSTITUTION:	ICZ Slovakia a.s.
POSTAL ADDRESS:	Soblahovská 2050, 911 01 Trenčín, Slovakia
PHONE & FAX NUMBER:	Phone: +421 32 6563 730, Fax: +421 32 6563 754
E-MAIL:	emisie@icz.sk
WEB SITE ADDRESS:	emisie.icz.sk
CONTACT PERSON:	Ing. Miroslav Hrobák
POSITION:	Emission Registry Manager
E-MAIL ADDRESS:	miroslav.hrobak@icz.sk

Units and abbreviations

t	1 tonne (metric) = 1 megagram (Mg) = 10 ⁶ g
Mg	1 megagram = 10 ⁶ g = 1 tonne (t)
Gg	1 gigagram = 10 ⁹ g = 1 kilotonne (kt)
Tg	1 teragram = 10 ¹² g = 1 megatonne (Mt)
TJ	1 terajoule
CCC	Climate Change Committee (established under Council Decision No 280/2004/EC)
CH ₄	methane
CO ₂	carbon dioxide
COP	conference of the parties
CRF	common reporting format
DG	Directorate General of the European Commission
EEA	European Environment Agency
EF	emission factor
Eionet	European environmental information and observation network
ETC/ACC	European Topic Centre on Air and Climate Change
EU	European Union
FAO	Food and Agriculture Organisation of the United Nations
GHG	greenhouse gas
GPG	good practice guidance and uncertainty management in national greenhouse gas inventories (IPCC, 2000)
GWP	global warming potential
HFCs	hydrofluorocarbons
JRC	Joint Research Centre
F-gases	fluorinated gases (HFCs, PFCs, SF ₆)
IPCC	Intergovernmental Panel on Climate Change
KP	Kyoto Protocol
LUCF	land-use change and forestry
LULUCF	land-use, land-use change and forestry
N ₂ O	nitrous oxide
NIR	national inventory report
PFCs	perfluorocarbons
QA	quality assurance
QA/QC	quality assurance/quality control
QC	quality control
QM	quality management
QMS	quality management system
MNP	National Institute of Public Health and the Environment (The Netherlands)
SF ₆	sulphur hexafluoride
SNE	Single National Entity
UNFCCC	United Nations Framework Convention on Climate Change