

## **Comments of Slovakia to the draft *Report of the individual review of the annual submission of Slovakia submitted in 2011***

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Dear Ms. Astrid Olsson,

First of all, we would like to thank to the UNFCCC secretariat and your expert review team (ERT) for particular attention and great effort they put into comprehensive analyses of our annual inventory submission 2011 as well as to the review of National Inventory System of Slovakia (NIS SR) and its functioning. Draft ARR report received for our comments on March 20, 2012 fully reflects ambition of the ERT to identify all possible areas for improvements.

We perceive a revision process and a review report as an independent way of assessment with the main objective to improve regularly the quality of national GHG emissions` inventory and national conditions for its preparation. In this context we would like to state our slight disappointment with the fact, that we received the draft of ARR 2011 more than 3 months later as was originally planned in the timetable presented at the beginning of the in-country review 2011 (20 March 2012 instead of 5 December 2011) and also announced by the Lead reviewer upon our request in January (by mid of February 2011). Even though during period after in-country review 2011 we were working seriously on further improvements based on findings of the ERT published in the Saturday Paper<sup>1</sup>, due to delay in delivering of the draft ARR we did not have sufficient time to consider and reflect all the relevant recommendations of the ERT in the NIR SVK 2012.

Based on our further work and analyses carried out after the in-country review 2011 and analyses of conclusions presented in the draft of ARR 2011 we are sending you our comments and some objections, particularly in the following areas:

- CO<sub>2</sub>, CH<sub>4</sub> and N<sub>2</sub>O emissions from road transportation (CRF 1A3b) – ANNEX I contains more detailed reasoning for proposed revision of your adjustment proposals.
- HFCs, PFCs and SF<sub>6</sub> emissions from consumptions of halocarbons and SF<sub>6</sub> (CRF 2.F) – ANNEX II contains more detailed reasoning for proposed revision of your adjustment proposals.

We suppose you will consider our comments and corrections in Annexes and, if appropriate, reflect them in the relevant chapters of the draft ARR 2011.

Finally, we would like to express our deep dissatisfaction with decision of the ERT to qualify all our proposals for actions to improve functioning of the NIS SR announced in the First response to the Saturday Paper from 10 October 2011 and the Second response to Saturday Paper from 19 October 2011 as inadequate. We recognize objectives and specific functions which NIS should fulfil according to the Article 5, paragraph 1 of the Kyoto Protocol and decision 19/CMP.1. Due to the fact that the NIS SR is operating in national circumstances and managed by official procedures adopted within the Ministry of the Environment, proposed measures in the Plan of Action submitted in our two responses in October were selected carefully to represent realistic steps on the way of further improvement, not just empty promises that could not be fulfilled.

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<sup>1</sup> *Potential Problems and Further Questions from ERT formulated in the course of the 2011 review of the greenhouse gas inventories of Party submitted in 2011, 27 August 2011*

## ANNEX I

### **Comments to the assessment and proposed adjustments related to CO<sub>2</sub>, CH<sub>4</sub> and N<sub>2</sub>O emissions from road transportation (CRF 1A3b) as contained in document FCCC/ARR/2011/SVK: Draft Report of the individual review of the annual submission of Slovakia submitted in 2011**

#### **Part II. Chapter B. Energy, part 4. Non-key categories, para 57-60; Chapter G. Adjustment, part 1. CO<sub>2</sub>, CH<sub>4</sub> and N<sub>2</sub>O emissions from road transportation, para 149-166**

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After thorough examination of assessment and proposed adjustments in the draft ARR 2011 relating to the CO<sub>2</sub>, CH<sub>4</sub> and N<sub>2</sub>O emissions from road transportation we understand that ERT has identified potential problems in two main areas:

1. Transparency of NIR SVK 2011 in the reporting of CH<sub>4</sub> and N<sub>2</sub>O EFs from 1A3b for all fuels, particularly in justifying the decrease in EFs compared to the 2010 submission.
2. Underestimation of EFs of CO<sub>2</sub>, CH<sub>4</sub> and N<sub>2</sub>O from gasoline, diesel oil, LPG, gaseous fuels and biomass.

Transparency:

We admit some weaknesses in the transparency of the NIR SVK 2011, therefore we respect your arguments, that in our Response to the Saturday Paper<sup>2</sup> we concentrated more on recalculations and comparison of EFs instead of on a comprehensive explanation of our methodology and emission factors used.

The main reason behind was that by submitting new emission estimates for CO<sub>2</sub>, CH<sub>4</sub> and N<sub>2</sub>O for all fuels (in order to secure a consistency we changed COPERT IV version 7.0 to COPERT IV version 8.1) we tried to solve the request for ensuring time series consistency since 1990 identified by the previous ERT in the ARR/2010/SVK and also addressed in paragraph 34 of current draft of ARR 2011. Background information on our approach were included in our Response to the Saturday Paper<sup>1</sup>.

Underestimation of emissions:

We do not fully share your views on some issues and reasoning for proposed adjustments related to emissions from road transportation, and particularly some of the links made to potential underestimations. The main question to decide is not whether our N<sub>2</sub>O and CH<sub>4</sub> EFs are correct, but whether the ERT can generally conclude underestimation of emissions due to the change to new COPERT versions. As we can read from paragraph 159, the ERT does not apply adjustments to CH<sub>4</sub> emissions from gasoline and diesel oil and to CO<sub>2</sub> emissions from LPG and gaseous fuels because the adjusted estimates for 2008 and 2009 are lower than the original estimates we submitted (as referred to in paragraph 17 of the Good Practice Guidance for Adjustments (20/CMP.1)). In our view this is a clear indication that we are not underestimating emissions for these emission sources.

The adjustments you propose in these non-key categories are initiated because of alleged lack of transparency. In fact our EFs are not very different from many other Annex I Parties (as we presented in the response to the Saturday Paper<sup>1</sup>) and in some cases, like CO<sub>2</sub> from diesel oil, our EF is even higher than the IPCC default. So, we do not fully agree with you that we have underestimated

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<sup>2</sup> *The Responses to the Potential Problems and Further Questions from the ERT formulated in the course of the 2011 review of the greenhouse gas inventories of Party submitted in 2011, October 10, 2011*

emissions. The problem of Slovakia should be qualified as the lack of transparency without explicit link to underestimations - at least for some gases/fuels. Perhaps the NIR SVK 2011 is not as transparent as it should be but we cannot understand your rationale for arguing that you cannot assess whether our EFs are underestimated when e.g. our EF for CO<sub>2</sub> from diesel is already higher than the IPCC default. Lack of transparency can indeed trigger adjustments but we would expect more robust reasoning to argue potential underestimation of our emissions in CRF 1A3b.

In addition, the ERT is proposing adjustments based on IPCC tier 1 method while we estimate emissions using tier 3 method, which is more accurate.

We have also reservations regarding the method used by the ERT to estimate N<sub>2</sub>O and CH<sub>4</sub> biomass emissions, and N<sub>2</sub>O LPG emissions (where there are no EFs in the 1996 IPCC Guidelines). The Good Practice Guidance for Adjustments (20/CMP.1) requires that the ERT demonstrates the appropriateness of the cluster (paragraph 37). The ERT should also assign the Party to the cluster of countries to which it would most likely belong according to its national circumstances. We are therefore asking the ERT for a reason to use the Table 5 in the draft ARR. Just removing BG (extreme values, not similar national circumstances) from this table would reduce the EFs from 2.4, 12.7 and 3.4 for LPG N<sub>2</sub>O, biomass CH<sub>4</sub> and biomass N<sub>2</sub>O, respectively, to 2.6, 4.9 and 2.2. The later EFs are quite similar to the ones we submitted.

Reference to relevant N<sub>2</sub>O changes in the COPERT 4 methodology version 8.1:

METHODOLOGY: N<sub>2</sub>O hot and cold emission factors parameters for Euro 5 and Euro 6 LPG passenger cars are set equal to Euro 5 and Euro 6 gasoline ones. This is estimated to slightly increase N<sub>2</sub>O in some EU's member states where LPG vehicles are widespread.

Reference: [http://www.emisia.com/download\\_file.html?file=COPERT4\\_v8\\_1.pdf](http://www.emisia.com/download_file.html?file=COPERT4_v8_1.pdf)

## ANNEX II

### Comments to the assessment and proposed adjustments related to HFCs, PFCs and SF<sub>6</sub> emissions from consumptions of halocarbons and SF<sub>6</sub> (CRF 2.F) as contained in document FCCC/ARR/2011/SVK: Draft Report of the individual review of the annual submission of Slovakia submitted in 2011

**Part II. Chapter C. Industrial processes and solvent and other product use, part 2. HFCs, PFCs and SF<sub>6</sub> emissions from consumptions of halocarbons and SF<sub>6</sub>, para 69-70**  
**Chapter G. Adjustments, part 2. HFCs, PFCs and SF<sub>6</sub> emissions from consumptions of halocarbons and SF<sub>6</sub>, para 167- 192;**

After another round of reviewing and subsequent confirmation of input data for these categories by our experts as well as a thorough review of proposed adjustments in the draft ARR 2011 related to HFCs, PFCs and SF<sub>6</sub> emissions from consumptions of halocarbons and SF<sub>6</sub> (CRF 2.F) we still would like to submit for your consideration following corrections of values presented in Table 11 (page 63, draft ARR 2011). Details and reasoning for proposed corrections are given in table below.

*Table A: Comments to the Table 11, page 63 from the Draft 2011 ARR*

Category	Average value from Table 11 of Draft 2011 ARR in GgCO <sub>2</sub> per capita *10 <sup>-6</sup>	Reported value in the NIR SVK 2011	New SVK proposal	Comments
<b>Solvents</b>	0,34 emissions per capita based on CZ inventory	"NO"	"NO"	Suggested value derived from CZ is not relevant to SVK. There is no import of F-Solvents to SVK. SVK uses solvents L113, S316 which are not obliged to be included in the inventory.
<b>Aerosols</b>	2,37	0,654	1,36	Number of containers is correct and was verified again via report of ŠÚKL <sup>1</sup> . Original charge of container was set on the base of expert estimation. After recalculation of basic charge we suggest to accept average value = 1,36 obtained after excluding extreme values from CZ and PL
<b>PFC extinguishing media</b>	0,51	"NO"	"NO"	We suggest to keep status NO. Import of PFC extinguishing media is not reported in SVK.
<b>SF<sub>6</sub> extinguishing media</b>	0,16	"NO"	"NO"	We suggest to keep status NO. SVK reports SF <sub>6</sub> as insulation gas. In Table 11 only RO reports SF <sub>6</sub> as extinguishing media and this should not be the base for representative cluster of countries.
<b>Blowing agents</b>	3,64	0,049	0,44	Suggested average value in Table 11 is not relevant for SVK. After review of national circumstances we suggest to use average from values reported by CZ and HU = 0,44. Extreme values from PL and EE should be taken out from average. In SVK production of foams changed from blowing agent R141b directly to cyclopentan and in 2002 to HFC 245fa and HFC365mfc. Import to building industry was based on values of big importers (BASF) and estimation of part imported by small companies. We suppose that consumption in SVK was the lowest, comparably to value from CZ.

<sup>1</sup> ŠÚKL – State Institute for Drug Control (štátny ústav kontroly liečiv)

In the light of updated information on sources and values of EF, we propose to correct your adjustments on pages 79-80 of the draft ARR 2011, paragraph 234,( j) – (n) for year 2008 and paragraph 236, (j)-(n), for year 2009 using new values from Table B.

Table B: Comparison of recalculations for 2008 and 2009

	2008 ERT GgCO <sub>2</sub> /year	2008 SVK suggest GgCO <sub>2</sub> /year	2009 ERT GgCO <sub>2</sub> /year	2009 SVK suggest GgCO <sub>2</sub> /year
2.F.5 Solvents	2,229	NO	2,231	NO
2.F.4 Aerosols	15,546	6,591	15,563	7,072
2.F.3 PFC Extinguishing Media	3,344	NO	3,348	NO
2.F.3 SF <sub>6</sub> Extinguishing Media	1,019	NO	1,020	NO
2.F.2 Foam Blowing	23,854	2,019	23,881	2,039

Further explanations of applied methodology and results of recalculations and implications on national GHG emission inventory for given CRF categories are described below.

### Source category description – Foam Blowing (CRF 2.F.2)

Emissions for this category were estimated based on the latest available data and information and are reported for the first time in the NIR SVK 2012 submission. Emissions are released from hard (CRF 2.F.2.1) and soft foams (2.F.2.2) categories. The following gases have occurred since 1999: HFC134a, HFC245fa for hard foam and HFC365mfc for soft foam (Tables C and D). The product life factor is 0.5% for all gases in this category.

Based on the recommendations of the ERT during the in-country review 2011, additional review of national circumstances was performed. Average value 0.435 Gg of CO<sub>2</sub> per capita x 10<sup>-6</sup> was used based on average values from neighbouring countries. After verifying data in our country, it is supposed that consumption in Slovakia is very low and production of foams has changed from blowing agent R141b directly to cyclopentane and in 2002 to HFC245fa and HFC365mfc. Import on behalf of construction industry was quantified from values of big importers (BASF, etc.) and estimation of remaining parts was based on imports of small companies.

Table C. Overview of HFCs emissions in category 2.F.2 Foam Blowing according to gases

Year	2.F.2.1 Hard Foam			2.F.2.2 Soft Foam	
	HFC134a			HFC245fa	HFC365mfc
	new products [t]	in operation [t]	Actual emissions from stock [t]	Actual emissions from stock [Gg of CO <sub>2</sub> eq.]	Actual emissions from stock [Gg of CO <sub>2</sub> eq.]
1999	41,200	41,200	0,206	NO	NO
2000	41,200	82,400	0,412	NO	NO
2001	37,500	119,900	0,600	NO	NO
2002	37,500	157,400	0,787	0,034	0,026
2003	31,200	188,600	0,943	0,068	0,052
2004	24,900	213,500	1,068	0,099	0,076
2005	18,700	232,200	1,161	0,130	0,100
2006	13,700	245,900	1,230	0,156	0,120
2007	12,500	258,400	1,292	0,176	0,136
2008	NO	258,400	1,292	0,192	0,148
2009	NO	258,400	1,292	0,203	0,156
2010	NO	258,400	1,292	0,213	0,164

Table D: Time series of total HFCs emissions in category 2.F.2 Foam Blowing

Year	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
HFCs (Gg CO <sub>2</sub> eq.)	0,268	0,536	0,779	1,083	1,346	1,563	1,739	1,874	1,992	2,019	2,039	2,057

#### **Source category description – Aerosols/Metered Dose Inhalers (CRF 2.F.4)**

Emissions for this category were estimated based on the latest available data and information and are reported for the first time in the NIR SVK 2012 submission. Emissions are produced in the category 2.F.4.1 – Metered Dose Inhalers. Since 2000 the following gases have occurred: HFC134a (since 2000) and HFC227ea (in 2010) (Tables E and F). The product life factor is 100% for all gases in this category. Estimation of emissions for this category was based on the recommendation of the ERT during the in-country review 2011. Number of containers was taken directly from the report of the ŠÚKL institute<sup>3</sup>. Original charge of a container was set on the base of expert estimation with the average value of 1.36 Gg CO<sub>2</sub> per capita x 10<sup>-6</sup>.

Table E: Overview of HFCs emissions in category 2.F.4.1 Metered Dose Inhalers according to gases

Year	2.F.4.1 Metered Dose Inhalers		
	HFC134a		HFC227ea
	in operation [t]	Actual emissions from stock [t]	Actual emissions from stock [t]
2000	3,730	3,730	NO
2001	4,100	4,100	NO
2002	4,290	4,290	NO
2003	4,470	4,470	NO
2004	4,660	4,660	NO
2005	4,850	4,850	NO
2006	5,030	5,030	NO
2007	5,030	5,030	NO
2008	5,070	5,070	NO
2009	5,440	5,440	NO
2010	4,838	4,838	0,274

Table F: Overview of total HFCs emissions in category 2.F.4 Aerosols/Metered Dose Inhalers

Year	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
HFCs (Gg CO <sub>2</sub> eq.)	4,849	5,330	5,577	5,811	6,058	6,305	6,539	6,539	6,591	7,072	7,084

#### **Source category description – Solvents (CRF 2.F.5)**

No emissions of F gases were included in this category. There is no import of F-solvents to the Slovak Republic. According to the information from industry, solvents L113, S316 are used, but these are not included in the IPCC GPG 2000.

#### **Source category description – Other applications using ODS substitutes (CRF 2.F.6)**

No emissions of F gases were included in this category.

#### **Source category description – Semiconductor manufacture (CRF 2.F.7)**

No emissions of F gases were included in this category.

#### **Source category description – Electrical equipment (CRF 2.F.8)**

Emissions originated from electrical equipment represent less than 10% of SF<sub>6</sub> emissions from 2.F category. Total actual emissions of SF<sub>6</sub> were 0.77 Gg of CO<sub>2</sub> equivalents in 2008 and total actual emissions of SF<sub>6</sub> were 0.81 Gg of CO<sub>2</sub> equivalents in 2009. The potential emissions of SF<sub>6</sub> were 0.005 Gg of CO<sub>2</sub> equivalents in 2008 and 0.004 Gg of CO<sub>2</sub> equivalents in 2009. Emissions of HFCs and PFCs are not occurring in this category.

<sup>3</sup> ŠÚKL – State Institute for Drug Control