

Experiences from in-country review of GHG inventories in 2016

Refresher seminar for experienced GHG expert reviewers

14th meeting of greenhouse gas inventory lead reviewers 8 – 9 March 2017

Yannis Sempos



Presentation focuses on ...

- ✓ Showing good review practices and positive experiences
- ✓ How challenges and / or difficulties have been addressed during the review process
- ✓ Experiences cover all steps of the review process, as well as some specific sectoral issues



Quick quiz: who were the LRs?



Quick quiz: who were the LR?



Experience from two ICR – two fantastic teams

ERT 1 (Switzerland)

- ✓ Laura (Generalist and LR)
- ✓ Yannis (Energy and LR)
- ✓ Jacek (IPPU)
- ✓ Anna (Agriculture)
- ✓ Zoltan (Lulucf)
- ✓ Sirintornthep (Waste)

RO

- ✓ Roman and Nalin

ERT 2 (France)

- ✓ Generalist and LR: Yannis
- ✓ Energy: Geta
- ✓ IPPU and LR: Stanford
- ✓ Agric: Daniel
- ✓ Lulucf: Sandro
- ✓ Waste: Mayra

RO

- ✓ Roman and Dirk



Challenges of this review year

- ✓ The first review of submissions with the application of 2006 IPCC GLs and new UNFCCC reporting GLs (for Switzerland and France)
- ✓ New UNFCCC review GLs
- ✓ Review of two submissions in conjunction (2015 and 2016)
- ✓ The review of the initial report under the KP (one-off)
- ✓ First time review using the new KP-LULUCF rules (2/CMP.7, 2/CMP.8, 6/CMP.9 and the 2013 KP Supplement)
- ✓ Review report templates using a revised approach (tabular format)
- ✓ New and updated review tools (iVTR, Locator)
- ✓



On the other hand...

- ✓ Very experienced and skillful ERTs (almost all LRs, some authors of the 2006 IPCC GLs).
- ✓ The co-LRs were very experienced LRs.
- ✓ Great support from the secretariat ROs.
- ✓ The two countries have excellent inventory teams, with sound knowledge of the review process; their inventory team formed by LRs or experts with experience in UNFCCC GHG inventory reviews.

Positive experiences:

- ✓ **Availability of experienced experts to participate in ICRs**
- ✓ **The high percentage of experienced experts in an ERT can guarantee the success of a review and facilitate the integration of new experts**
- ✓ **The reviews are highly facilitated when the inventory teams of Parties under review contain LRs or experts that participate in UNFCCC GHG inventory reviews**



Given the high experience of the ERTs, the main role of LR was to act as “project manager” (with the support of the RO):

- ✓ Encourage ERT to start as early as possible the review process (study the material, be familiar with the report templates, prepare preliminary questions, etc).
- ✓ Monitor the progress of the review process to ensure that ERT members meet the deadlines (meetings, drafts and inputs, etc)
- ✓ Ensure that the reviewers have all of the necessary information provided by the secretariat prior to the review
- ✓ Encourage and guide ERT to use iVTR and other on-line tools.
- ✓ In case of functionality problems with on-line tools to make a decision for alternatives in a timely manner to meet deadlines.
- ✓ Ensure that the ERT takes into consideration issues raised in previous review reports
- ✓ Coordinate the submission of queries of the ERT to the Party under review
- ✓ Provide technical advice to the members of the ERT, as needed
- ✓ Be the interlocutor with the Party to transmit the ERT’s position
- ✓ And generally, ensure that the review follows the review guidelines



Preparation for the review

- ✓ Teams were established in June (both reviews scheduled for September).
- ✓ Kick-off email sent by Secretariat about one month before the review.
- ✓ Plenty of time for experts to be prepared.
- ✓ First thing to do for LRs:
 - Communication between LRs to discuss and decide on each one's role, about the communication with the team, monitoring, coordination of Q&A, etc
 - to know who is who in the team i.e. experience of experts (Google or through Secretariat)
- ✓ ICR → roles for experts were clearly defined (each expert is assigned to one sector)
- ✓ Main duty of the ERT before the review week: study of the material (homework) and preparation of preliminary questions by ERT



Definition of good homework before the review week – early preparation

- ✓ “Experience shows that it is never too early to start the review process, and the earlier we start the easier things will be in the country” **Stanford**
- ✓ Good homework before the review week means:
 - all material that is available before the review week has been studied as thoroughly as possible (NIR, CRFs, previous review reports, assessment report, SAI), all available tools have been used (locator, comparison tool, etc) and all questions that arise from the study of these materials have been included in the preliminary questions
 - preliminary questions have been sent to the Party, **at least 2 weeks before the review week**, and cover all findings identified
 - ZOD of RT and/or ARR will be ready before the review week
 - even if we are sure about a finding that it will be an issue (recommendation / encouragement) in the ARR, we have asked / informed the Party during the Q&A face.
- ✓ If we perform a good “homework” then during the review week only follow up to preliminary questions need to be raised and new questions that arise from Party’s presentation.



Benefits of “good homework”

- ✓ Ensure that the review week will be productive
- ✓ Full exploitation of the opportunity of enhanced communication when the team is together and close to the Party
- ✓ Have time for the study of additional material that will be available during the review week
- ✓ Be fair and constructive to the Party under review (early identification of issues)
- ✓ Avoid working overtime during review week and being stressed
- ✓ Have fun and visit a foreign city

Positive experience:

- ✓ **The preliminary questions of most sectors were sent two weeks before the review week and got replies before the review week**
- ✓ **The preliminary questions of the remaining sectors were sent at least 1 week before the review.**
- ✓ **We used a tool “list of provisional potential problems”, the 1st version of which was prepared during homework phase!**



Review Tools: List of provisional potential problems

- ✓ Applicable for KP reviews - unofficial document (only for ERT's use)
- ✓ Just a simple copy paste from RT/Q&A part (no additional working load).
- ✓ A document that is continually edited and updated (dynamic document)
- ✓ It contains any issues that have to be solved within this review cycle, or in other words may lead to a "Saturday paper". Examples of these issues of 2016 review are:
 - underestimation of emissions of years 2013 and 2014 or completeness issues;
 - overestimation of emissions of the base year's emissions;
 - overestimation of removals of years 2013 and 2014 and / or underestimation of removals for base year if KP LULUCF annual accounting was elected (KP LULUCF activities with a base year); issues related to KP LULUCF (mainly initial report) that have to be solved during this review cycle.
- ✓ By this way, everybody in the ERT is easily informed of the issues that "need special attention" before and during the review, without the need to search the RT of other sectors (it saves time)
- ✓ This list was the basis of discussion of ERT's daily meetings.
- ✓ Facilitates the preparation and agreement about the SP issues



Review Tools: List of provisional potential problems

CHE list of provisional potential issues+LD1 - Excel (Product Activation Failed)

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| | A | B | C | D | E | F | G | H | I |
|----|-----|--------|----------|---------------------------|-------------------|--------------------|---|---|---|
| 1 | | | | | | | | | |
| 2 | a/a | Sector | Category | Issue / Question to Party | Response by Party | Rational of Status | | | |
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Sheet1

READY

12:32 PM 3/3/2017



Review Tools: iVTR / RITS

- ✓ iVTR is a powerful tool that:
 - facilitates the review process and decreases the working load;
 - facilitates the exchange and archiving of the questions and answers with the Party
 - assists the LRs and ROs in review progress, monitoring and tracking what has been asked, what has been answered, etc
 - enhance collaboration between experts of different sectors
 - ✓ But as usual with new web-based applications, there is an initial phase when you may encounter issues (“childhood disease” period) or resistances to a change
 - ✓ Main problems encountered:
 - Access problems (quickly resolved)
 - iVTR response time
 - ✓ Both ERTs managed to use the iVTR after improvements in response time (correction of bugs, increase resources of SQL server)
 - Exception: Only for the first ICR and in order to respect the deadline for preliminary questions and save the time of experts, a spreadsheet file was used, same format as RT (need of a single copy paste to transfer Q&A to RT).
-



Suggestions

- ✓ It should be ensured that the response time will be sufficient for next reviews (prerequisite for the proper use of new webtools)
- ✓ A new export function of Q&A module of iVTR will be very useful: to export questions and answers in XLS format.

Benefits:

- save time (less copy paste),
- facilitate the integration of Q&A to RITS/RT
- enable experts to work offline (e.g. during long flights)

- ✓ A new import function seems to be useful and facilitate the use of RITS: excel file similar to RT that can be imported to RITS.

Benefits:

- Tackle resistance to change (change = use of new online tools)
- enable experts to work offline



Review Tools: Locator

- ✓ Main problems encountered:
 - response time
 - time series mode was not working (?)
 - no sure that all parameters reported in CRFs are included in new locator (?)
 - graphical interface was not included
 - no off-line version

- ✓ **Positive experience**
 - Option for exporting data in excel format
 - Due to the absence of the time-series mode of Locator, the ERTs were provided with the "**data entry grids**" which are easily exported from the CRF Reporter. This is a bulk export of the data introduced by the Party in the CRF Reporter in a single file:
 - ❖ This file contains all information reported in CRFs in time-series format per category / subcategory.
 - ❖ It is more convenient for ERTs to use this file instead of handling 24 CRF tables (one for each year for 2016 submission).



Data entry grids

GRC_2017_1_Inventory_10022017_092241 - Excel (Product Activation Failed)

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| | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q |
|----|---|----------------------|---------|------------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|-----|
| 1 | Greece 2017 | GRC_2017_1_Inventory | | Fri Feb 10 09:22:42 CET 2017 | | | | | | | | | | | | | |
| 2 | [5. Waste][5.A Solid Waste Disposal][5.A.1 Managed Waste Disposal Sites][5.A.1.a Anaerobic] | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | |
| 4 | [5. Waste][5.A Solid Waste Dispo: Unit | | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | |
| 5 | Annual waste at the SWDS | kt | 1020.70 | 1053.55 | 1087.36 | 1118.99 | 1206.19 | 1264.97 | 1321.02 | 1409.28 | 1541.25 | 1713.34 | 1855.14 | 2008.34 | 2067.82 | 2125.61 | 240 |
| 6 | MCF | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| 7 | DOC | % | 23.36 | 23.50 | 23.54 | 23.53 | 23.60 | 23.71 | 23.87 | 24.19 | 24.32 | 24.48 | 24.72 | 24.46 | 24.75 | 25.11 | |
| 8 | Method | | | | | | | | | | | | | | | | |
| 9 | CO2 | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | |
| 10 | CH4 | | T2 | T2 | T2 | T2 | T2 | T2 | T2 | T2 | T2 | T2 | T2 | T2 | T2 | T2 | |
| 11 | Emission factor information | | | | | | | | | | | | | | | | |
| 12 | CO2 | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | |
| 13 | CH4 | | CS,D | CS,D | CS,D | CS,D | CS,D | CS,D | CS,D | CS,D | CS,D | CS,D | CS,D | CS,D | CS,D | CS,D | |
| 14 | Emissions | | | | | | | | | | | | | | | | |
| 15 | CO2 | | kt | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | |
| 16 | CH4 | | | | | | | | | | | | | | | | |
| 17 | Emissions | kt | 3.20 | 6.35 | 9.47 | 12.54 | 15.74 | 19.00 | 22.28 | 25.74 | 29.36 | 33.21 | 37.85 | 21.01 | 25.73 | 33.54 | |
| 18 | Amount of CH4 flared | kt | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | |
| 19 | Amount of CH4 for energy re | kt | NO | NO | NO | NO | NO | NO | NO | NO | 0.08 | 0.32 | NO | 23.77 | 23.61 | 20.04 | |
| 20 | Implied emission factor | | | | | | | | | | | | | | | | |
| 21 | CO2 | | t/t | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | |
| 22 | CH4 | | t/t | 0.00 | 0.01 | 0.01 | 0.01 | 0.01 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.01 | 0.01 | 0.02 | |
| 23 | Documentation box | | | | | | | | | | | | | | | | |

5. 5.A 5.A.1 5.A.1.a 5.A.1.b 5.A.2 5.A.3 5.B 5.B.1 5.B.1.a 5.B.1.b 5.B.2 ...

READY

6:59 PM 2/26/2017



Review Tools: Review Transcript (RT)

✓ RT is a very useful tool :

- facilitates organization of the review work, asking questions, raising issues
- serves as a repository of raw information that the report is based (initial assessment, previous recommendations, Q&A)
- facilitates and guide report preparation
- has a standard format and thus can be inserted in databases

✓ RITS will be the successor of RT:

- promising tool
- it has all the above advantages
- offers more monitoring features for LR/ ROs (e.g. sorting of findings based on criteria),
- enhance cooperation between experts,
- Import / export function from/to XLS seems to be a good suggestion



Review Tools: templates of ARR and IRR

- ✓ ARR and IRR templates are excellent and both ERTs really welcome them:
 - easy tabular format and checklists
 - easy compilation of the new ARR template with filled RT/RITS: “copy & paste” work
 - instructions of templates were very helpful
 - the checklist contained in the IRR report facilitated the review of initial report and drafting of the report

Positive experience

- ✓ the “List of Provisional Main Findings” (which is not an official report, but a note to the Party), include the provisional Table 3 and Table 5 of the ARR (ZOD or FOD, whichever is ready on Saturday)→no additional work load for ERTs

Suggestion

- ✓ In general, language changes in describing issues and recommendations between RT/RITS / presentation / ARR / list of provisional findings should be avoided (to save time).
- ✓ Do we need the “List of Provisional Main Findings” (which is not an official report, but a note to the Party) in ICRs? Or the Fridays’ presentations are enough?



Review Tools: Plan of the review week (“to do” list and monitoring tool)

| Deadline | To do | Additional Information |
|------------------|---|--|
| Monday | <ul style="list-style-type: none"> ✓ Each reviewer to discuss her/his main findings with the Party’s experts during the presentations on Monday | |
| Tuesday | <ul style="list-style-type: none"> ✓ Finalizing findings into RT or ARR and discussion between experts ✓ Ensure IRR(s) are complete (LRs, generalists and LULUCF experts) | Strive to: Send last questions to Party (follow up possible) and complete IRR |
| Wednesday | <ul style="list-style-type: none"> ✓ Send last essential follow-up questions to Party (related to SP) ✓ Each expert finalize RT/RITS by discussing it with the ERT ✓ LRs/generalist/LULUCF to submit final IRR to RO so ERT can focus rest of the week on finalizing findings/ ARRs ✓ Draft Saturday paper(s) | <p>Strive to: Finalize RT, start working on SP, if applicable.</p> <p>Send only essential follow-up questions (SP related)</p> |
| Thursday | <ul style="list-style-type: none"> ✓ Each expert finalizes its sector in the ARR (generalist excluded). Sectoral ARRs ‘frozen’ (except generalist) ✓ Each reviewer finalize her/his presentation main findings (to be presented to Party on Friday) | Strive to: Send draft of SP for UNFCCC review |
| Friday | <ul style="list-style-type: none"> ✓ Morning: Rehearse presentations with entire ERT ✓ Afternoon: ERT presents main findings to Party | |
| Saturday | <p>Your success and the quality of the following months depends on receiving final versions of:>> ARR 2016 (including if each finding is also applicable to 2015)>> IRR (generalist and lulucf experts)>> Saturday paper (if applicable)</p> | Ensure all materials are left in VTR before closing |

Review Tools: Plan of the review week – testing a new approach

- ✓ In the ICR of France, we tested a new approach:
 - We started each of the parallel sectoral sessions, on Monday, with a session called “Preliminary discussions about ERT's early findings/questions“. Sectoral presentations by the Party were scheduled to start on Tuesday
 - **Aim:** to discuss main finding as early as possible facilitates the review and ensure the timely clarification of these issues



| Date/Time | Subject | Attendance |
|------------------------------|---|--------------------------------------|
| Monday, 19 September | | |
| 9:00-9:30 | Welcome address by host country | ERT and host country representatives |
| 9:30-10:00 | Introduction by UNFCCC and ERT - role and general issues of the 2016 annual reviews | |
| 10:00-11:30 | Introduction by host country on cross-cutting issues, such as institutional arrangements, national system, emission trends, key categories, overview of recalculations, uncertainty, QA/QC procedures | |
| 11:30-13:00 | Introduction by host country on other KP related cross-cutting issues : overview of lulucf KP, minimisation of adverse impacts, national registry, CPR, SEF, assign amount | |
| 13:00-14:00 | Lunch | |
| 14:00-15:00 | Change of location | ERT and host country |
| | Parallel session A | |
| 15:00-17:00 | Preliminary discussions about ERT's early findings/questions (energy, IPPU, waste) | ERT and host country experts |
| | Parallel session B | |
| 15:00-17:00 | Preliminary discussions about ERT's early findings/questions (agriculture, lulucf, kp-lulucf) | ERT and host country experts |
| 17:00-19:00 | Review team meeting | ERT only |
| Tuesday, 20 September | | |
| | Parallel session A | |
| 9:00-11:30 | Energy, including fugitive emissions - presentations and discussion | ERT and host country experts |
| 11:30-13:00 | Industrial processes - presentation and discussion (except F gases) | ERT and host country experts |
| | Parallel session B | |
| 9:00-11:00 | Agriculture - presentation and discussion | ERT and host country experts |
| 11:00-13:00 | LULUCF, including KP-LULUCF - presentation and discussion | ERT and host country experts |
| 13:00-14:00 | Lunch | |
| | Parallel session A | |
| 14:00-15:30 | Industrial processes - fluorinated gases presentations and discussion - | ERT and host country experts |
| 15:30-16:30 | Waste | ERT and host country experts |
| | Parallel session B | |
| 14:00-16:30 | AFOLU - discussion (continued) | ERT and host country experts |
| 16:30-19:00 | Review team meeting | ERT only |



Review Tools: Plan of the review week – testing a new approach

- ✓ Prerequisite: good homework – preliminary questions at least 2w before the review – receive replies from Party at least 2-4 days before the review week
- ✓ Difficulty: NIR was in French, so the presentations (in English) were very valuable for non-French speaking reviewers
- ✓ Feedback from ERT, mixed views:
 - it has been a good approach; that succeeded to focus the review week on the burning issues
 - very hard to have the analysis ready for early provisional findings on Monday, when receiving replies one or two days before the review
 - It was more convenient for reviewers of other sectors to first attend the sectoral presentations and then discuss main findings
 - Why we need that session, since sectoral sessions are anyway focus on submitted questions which reflect preliminary findings?



Suggestions

- ✓ Party's sectoral presentations should focus on preliminary questions, which should reflect the early findings – preliminary questions. If this “rule” is followed, then it seems that there is no need for the “preliminary findings session”
- ✓ Check with feedback from other ICR that test this new approach
- ✓ Consult Parties that did not report NIR in English to provide detailed sectoral presentations in English (while respecting the timeline of the review plan)



Review tools: Daily wrap up meetings

- ✓ Very essential for monitoring the progress of the review
- ✓ List of potential problems was discussed and updated
- ✓ Kept as short as possible
- ✓ Focus on important issues
 - ✓ important issues of each sector
 - ✓ cross-cutting issues
 - ✓ Difficulties arising from the new UNFCCC and 2006 IPCC GLs
- ✓ Ad-hoc meetings were arranged when deemed necessary for cross sectoral issues, without the whole ERT to be present
- ✓ After wrap-up meetings there was always a suggestion for dinner (thanks Roman!!)



Other observations during the review week

- ✓ The review was separated into parallel sessions: a) E, IPPU, W and b) A and L. This saved time
- ✓ (Energy & IPPU) experts and (Agriculture and LULUCF) experts should work together because of the strong links of the sectors. Waste expert seemed to be more independent compared to the others ([third parallel session?](#))
- ✓ Two ROs → it was possible a RO to be present in each session
- ✓ The ERTs identified small mistakes in the CRF Tables (discrepancies between NIR and CRFs) which were caused by CRF Reporter. These mistakes did not affect the national totals reported in CRF Tables.
- ✓ Approach followed for the drafting of the missing 2015 review report:
 - We followed the guidance of the 2016 meeting of Lead Reviewers to “start” the review with the 2016 annual submission (Para. 9 of the conclusions of the 13th Meeting of LRs).
 - The ERTs prepared one ARR where they indicated whether each issue is related to 2015 and/or 2016 ARR.
- ✓ IRR report was prepared mainly by Generalist and LULUCF expert



Issues arising from new reporting GLs

- ✓ To include or not include in the SP categories with emissions below the significance level, for which sufficient information was provided during the review week but not reported in the NIR?
 - **Approach followed:** not included in the SP, but included in the ARR as a **Transparency** issue.
- ✓ How to treat comparability issues and more specifically issues related to allocation of emissions in a manner different than in the 2006 IPCC GLs, if the reason for the difference in allocation is properly documented in the NIR and / or sufficiently explained during the review?
 - **Question:** is allocation to a different category a comparability issue that leads to a recommendation according to para 81 of UNFCCC review GLs (“issues will be identified as a failure to follow the requirements and definitions in the UNFCCC Annex I inventory reporting guidelines”)?



Issues arising from new reporting GLs

- ✓ Indirect CO2 emissions were not included in the key category analysis and uncertainty analysis
 - **Approach followed:** a recommendation was included in the ARR to include indirect CO2 to KCA and UA
- ✓ The Party did not report or did not report consistently with the relevant CMP decisions a part of information that has to be reported in the initial report (one-off reporting).
 - **Approach followed:** the issue was included in the SP as a potential problem and it was requested to transparently report the missing information in line with the relevant CMP decisions.



Importance of good preparation: time is left over for fun and extraordinary activities



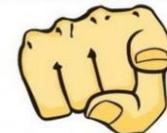
Traditional picnic on the top floor of a skyscraper



Swimming in river Aare



**WHO IS THE
MOST AWESOME
PERSON TODAY?**



Thank you!

