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AUSTRIA'S EXPERIENCES AND PERSPECTIVES ON THE PREPARATION OF GHG INVENTORY

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© Veronika Schätz Dimbock

Experience in compiling and reporting national GHG inventories, including the challenges and solutions found in preparing and reporting national GHG inventories

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OVERVIEW – CHALLENGES AND SOLUTIONS

- Many different players and stakeholders with very different backgrounds (and different interests: politicians, companies, technical experts, associations,..)
- Results have to be best guess without bias
- Data availability
- High requirements regarding quality
- Huge amount of data
- Very stringent timeline
- High requirements regarding transparency
- Need for continous improvement (e.g. more detailed data, time series consistency)

EXAMPLES – CHALLENGES AND SOLUTIONS (I)

Data availability / data quality

- Data exchange is based on legal arrangements or long-term contracts
- In Austria activity data are provided by more than 20 different data suppliers (National statistics agency, companies, associations, national studies, …)
- Greatest data supplier (data associated with ⅔ of the national total ghg emissions) is the independent national statistics agency
- Audits of data suppliers: assessment of quality, completeness of data and transparency of data collection

EXAMPLES – CHALLENGES AND SOLUTIONS (II)

Huge amount of data

- Data processing electronically (i.e. calculations, storage, etc.)
- Quality management system (QMS) in line with the requirements for quality assurance (QA) and quality control (QC) that are mandatory according to the IPCC and UNFCCC guidelines

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EXAMPLES – CHALLENGES AND SOLUTIONS

Due to the stringent timeline and the amount of working packages a professional project management (incl. milestones) is needed.

Task	Description	Deadline
Kick-Off	Meeting of inventory team (sector experts, deputies, project-/quality- and data managers of the inventory); definition of a working plan	End of Summer
Activity data collection	Collection of activity data, including contracting out studies.	November 15
Inventory preparation	Estimation of emissions for all sources, including collection of background data.	December 15
Compilation of national inventory	Updating the data base and conversion to the CRF reporter	December 23
Quality checks	Tier 1 and Tier 2 QA/QC activities	December
Compilation of report (Short-NIR)	Compilation of a inventory report 'Short NIR' and submission to the EC (MMR Monitoring Mechanism Regulation No 525/2013)	January 15
Preparation of NIR	Compilation of the National Inventory Report	January–March
EU Submission NIR	Submission ot the National Inventory Report to the EC (MMR)	March 15
UNFCCC Submission NIR	Submission ot the National Inventory Report to the UNFCCC	April 15

EXAMPLES – CHALLENGES AND SOLUTIONS

- Transparency and traceability (data archiving)
  - All parts of inventory compilation are described in standard operating procedures (‚SOPs‘)
  - Documentation of all steps of inventory preparation
  - All files (input data, all calculations, CRF tables, etc.) are stored with unique version numbers
  - At the end of inventory preparation, all files are set read-only to prevent unintentional loss or modifications
- Need for continuous improvement → knowledge exchange and training
  - Participation in international working groups (EU Climate Change Committee etc.), conferences, meetings and reviews
  - Good cooperation with other international institutions and countries (exchange of knowledge)
  - Carrying out capacity building projects (e.g. UNDP, GIZ, FAO, bilateral cooperations, climate financing, EU projects)

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Use of the 2006 IPCC Guidelines and guidance, as well as the use (or views on the use) of IPCC software and reporting tables, including the use of national methodologies for specific sectors or relevant for the future reporting under the Paris Agreement framework

2006 IPCC GUIDELINES, IPCC SOFTWARE, CS METHODOLOGIES

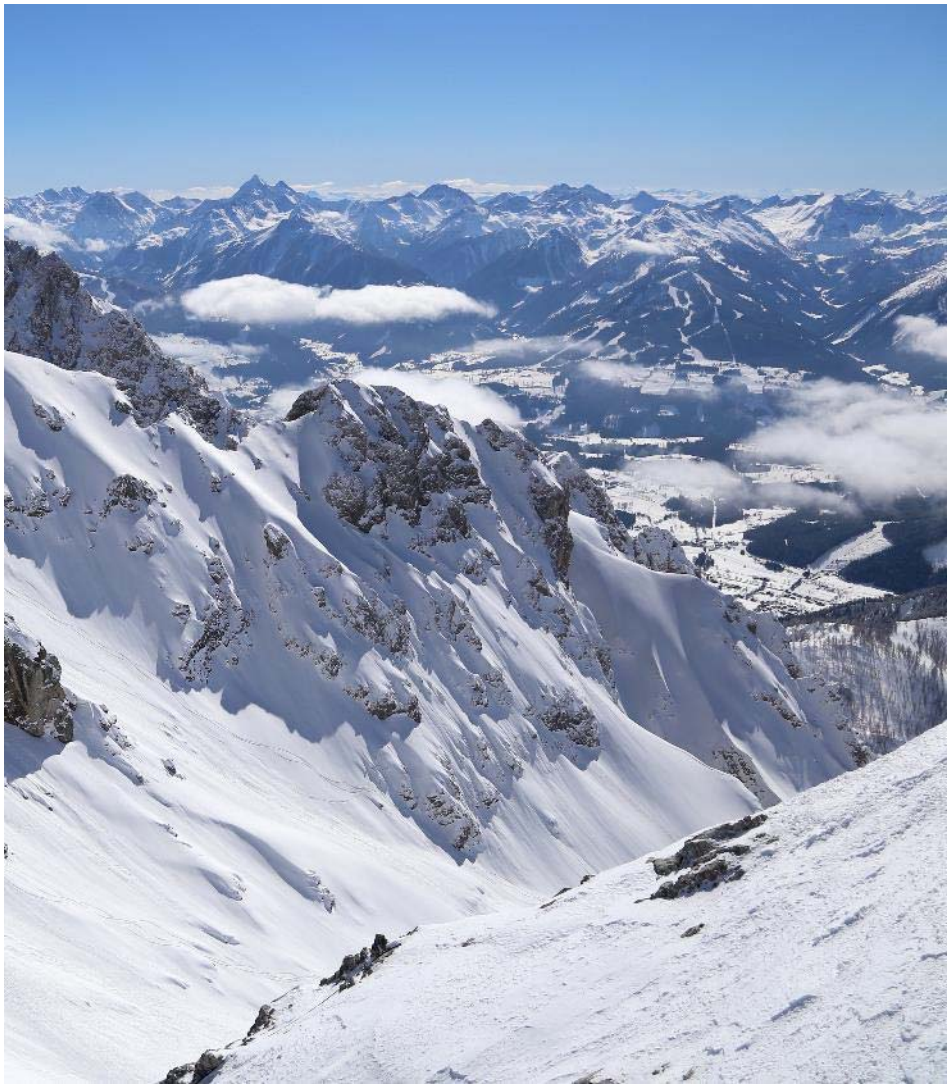
Use of 2006 IPCC Guidelines

- Austria has intensively dealt with the implementation of the IPCC 2006 GL within an internal project starting in 2013 (compilation of a “trial submission”) – first official submission based on the 2006 GL was on 15th April 2015
- IPCC default EFs and parameters in general enable estimates for cases no country specific values are available
- Tier 3 models are always very specific. However, the 2006 GL, chapter 6.12, provide a practical guidance for the use and reporting of models (e.g. checklist in chapter 6.12.7) and should be taken into account before starting with the modelling
- Reviewer experience shows that a harmonized application of Guidelines and a transparent reporting is a main issue

2006 IPCC GUIDELINES, IPCC SOFTWARE, CS METHODOLOGIES (II)

UNFCCC CRF Reporter

- The manual is complete and well described
- The web application is not very user friendly (no drag and drop, no copy/paste, …)
  → avoid manual data entry as far as possible!
- The data import using xlsx and xml files works well but the performance might become bad before the days of the submission deadlines.
- The CRF table generation works very well now.



Establishment of institutional arrangements for the compilation and reporting of national GHG inventories and for supporting these activities

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INSTITUTIONAL ARRANGEMENTS

- Austria has designated the Environment Agency Austria (Umweltbundesamt) as single national entity with overall responsibility for inventory preparation by law (Environmental Control Act, Federal Law Gazette 152/1998)
- Within the Environment Agency Austria a specific unit (‘Inspection Body for Emission Inventories‘ (IBE)) is entrusted with the preparation of emission inventories
  - Quality objective is all the fulfilment of all the relevant requirements of the national emission reporting: transparency, accuracy, completeness, comparability, consistency (TACCC) and timeliness

INSTITUTIONAL ARRANGEMENTS

Inventory compilation team

- There are 8 sectors defined (Energy, Transport, Fugitive Emissions, Industrial Processes, Product Use, Agriculture, LULUCF and Waste). Each sector team consists of at least two experts. They have the overall responsibility for calculation of emissions (including data collection, quality checks and documentation)
- Head of inspection body: Overall responsibility. Representing the IBE both externally and internally within the agency. Management of ressources as well as quality related issues.
- Project manager: responsible for inventory compilation
- Data manager: compiles the overall inventory (aggregation of sectoral data, data upload to UNFCCC CRF reporter, creates CRF tables, …)
- Report coordinators: responsible for report compilation (e.g. NIR)
- Quality representative: Has the responsibility for the maintenance and continual improvement of the quality management system (QMS).
- Each function is at least double staffed (aim: all team members should have the same knowledge)

INSTITUTIONAL ARRANGEMENTS

Independence

- Financial independence: the Environmental Control Act ensures that the tasks listed therein (including inventory preparation) are funded. A fixed amount of money is assigned annually to the Environment Agency Austria.
- Technical independence: no technical instructions from outside the IBE are given for the preparation of emission inventories
- IBE staff must not pursue any activity that may conflict with the independence of judgement and integrity in relation to the inspection activities and remuneration is not based on inventory results.

Thus the personal of the IBE is free from any commercial, financial and other pressures that might influence their technical judgement. The independence of the IBE – together with the conformity of its QMS - is accredited in accordance with EN ISO/IEC 17020 and the Austrian Accreditation Law (AkkG), by decree of the National Accreditation Body (‘Accreditation Austria’) since 2005. It is checked on an regular basis (at least every 20 months) and has to be renewed every five years.

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Use of other tools and/or software to facilitate the compilation and reporting of national GHG inventories, including the use of specific software (or workbook) systems.

INVENTORY TOOLS AND SOFTWARE

Inventory tools / software for calculations

- Sector experts have to provide more than 400 MS Excel spreadsheets (standard forms) to the inventory compiler.
- MS-Excel-“Database“ with VBA macros
  - Import and validation of sector spreadsheets (does not accept import in case of rule violence)
  - Data aggregation and generation of time series reports (spreadsheets) in the systematic of the CRF for sector specific emissions and also fuel specific data for CRF 1.A
  - Emission and recalculation time series on the level of CRF sub-categories for sector expert QC before submission
  - Sector experts also provide CRF background data in a specific tabular format.

INVENTORY TOOLS AND SOFTWARE

Data import into UNFCCC CRF Reporter

- The Austrian inventory team does not make use of sector expert access to the CRF Reporter software. Only two designated „data managers“ have access to the software. The data manager has to secure that all data is provided and that the CRF tables are generated properly.
- The CRF Reporter generates spreadsheets which are downloaded and overwritten with actual inventory data. The spreadsheets are then uploaded to the CRF-Reporter web application for import.
- CRF spreadsheet import works well. Error messages allow easy tracking (mostly due to invalid data types or invalid number signs)

NIR

Tools / software for compilation of NIR

- MS Word (lots of other editors possible)
- Time series recalculation tables in CRF format
- Sector specific spreadsheets for update of charts and tables.

Thank you very much

for your attention!

CONTACT & INFORMATION

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