

# Dutch experiences on UNFCCC reporting

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## **Topics**

- Development of the GHG inventory and improvements over time as part of the MRV system
- The BR production process and its continued improvements
- Quantifying the Policies and Measures; data availability and consistency of PaMs for GHG reduction and energy efficiency
- Experiences with the Common Tabular Format (CTF)
- Experiences on the Multilateral Assessment process
- Potential changes for BR reporting in the new Paris Agreement world



# Highlights

- 2007: Initial review & approval of National System under KP
- 2015: Start of the National inventory arrangement under the UNFCCC (Convention; 24/CP.19)
- 2013: Establish, operate and seek to continuously improve national inventory systems, in accordance with UNFCCC requirements on national systems, (EU MMR article 5,1)
- 2015: national system for reporting on policies and measures and for reporting on projections (EU MMR article 13,1a)



# Netherlands Enterprise Agency, RVO.nl

- Single National Entity for The Netherlands since 2006
  - Submissions to the UNFCCC
  - National contact for all UNFCCC reviews
  - Responsible for **maintain** the National System and the National inventory arrangement
- KP reporting in NIR other than GHG emissions
- Responsible National system for reporting on policies and measures and for reporting on projections
- Coordinating all EU climate change related reporting and submitting to the EU reporting system
- Coordinating National Communications and Biennial Reports

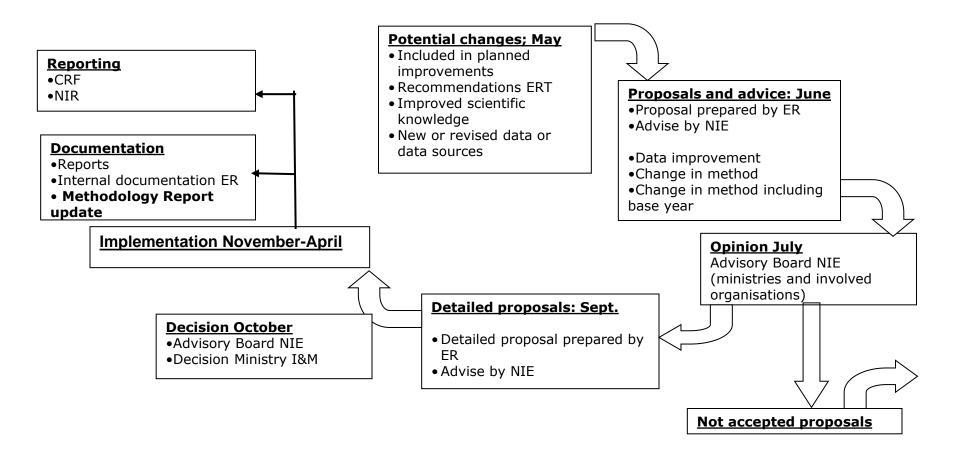


# Decision in 2006 on the National System

- Single National Entity
  - Option A: incorporate in the existing structure of the Emissions Registration (ER)
  - Option B: a separate organisation
- Why a separate organisation?
  - Ensure high level of QA/QC for GHG emissions
  - Consistent checks on the UNFCCC+KP reporting rules
  - Improvement program to get the inventory on the requested level
  - Documentation of the methods for key sources
  - Counter-balance the scientific improvements in the emission registration



## Update of methods and data collection





## The BR production process

- A separate report, also in years of NC submission
- Combination of work when NC is prepared
  - First drafting the NC
  - Selection of text from NC
  - Separate work on the progress toward the target
  - Separate work on the tables (CTF)
- BR2 update of information presented in the BR1
  - · Implementation of recommendations review BR1
- BR3
  - Selection of text from NC7
  - Update of the progress toward the target in BR2
  - Implementation of recommendations review BR2



## The BR improvements

- BR2: no longer information related to progress under the Kyoto protocol, as this was confusing
- BR2: more work by implementing organisations and less by Ministries
- BR3: change of information source for PaMs and projections
  - based on the annual energy outlook (October)
  - 'outdated' information due to due date (December)
- Continued simple approval process, as only already known information is reported



## Experiences with the Common Tabular Format (CTF)

- CTF 1
  - A number of bugs
  - Lot of typing working (import not really working)
- CTF 2
  - Imports from CTF 1 and from CRF (inventory tables)
  - Some small bugs
- General:
  - Financial information tables not consistent NC and BR
  - Distributed filling option of tables not used in CTF 1 and 2, for CTF 3 under discussion



### Experiences on the Multilateral Assessment process

Written questions coming in late

Presentation during SBI increased political importance of the reporting

From developing countries too much questions just from Brasil and China in MA1, in MA2 more questions from other developing countries

Not feeding in the next BR, but this is not necessary from the questions

Room organisation not always optimal for the process

Risk of becoming a less important session (repetitions and also ICA sessions)



## Potential changes for BR reporting

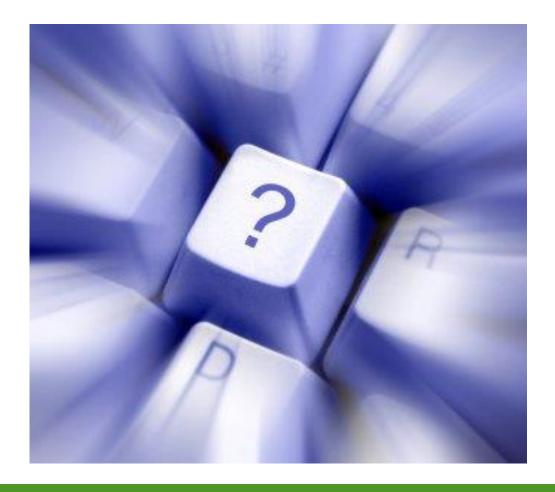
- Annex on the 2030 target with all technical explanations
- A paper version or some electronic version
- More an elaboration of the information provided in the tables then a lot of text
- Improvements over time for completeness?



## Appendix sheets on Emission Registration

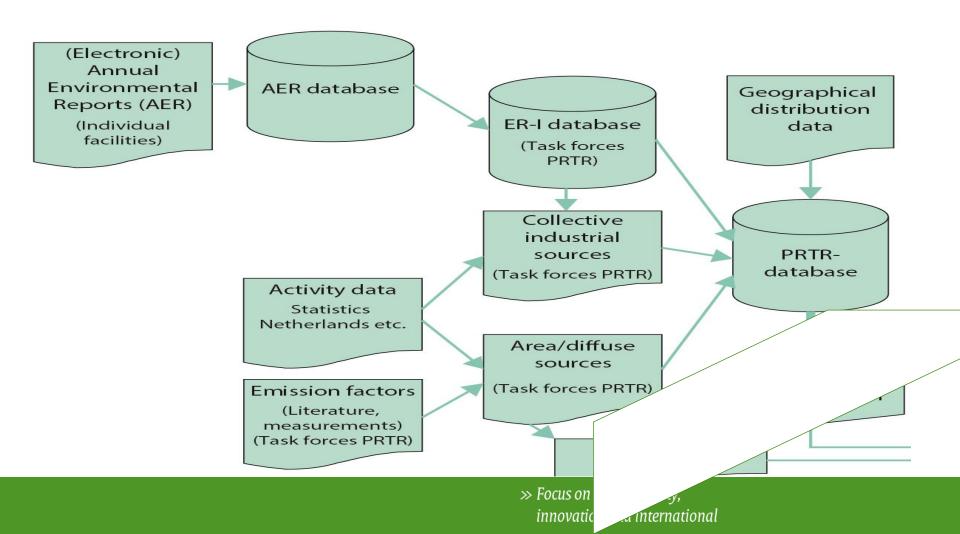


# Questions & Discussion





## Emissions Registration (ER)





## Organising the work within the ER

- General management
- <u>Taskforce on Energy, Industry and Waste Management (ENINA)</u>
   Covers the emissions to air from the sectors Industry, Energy Production, Refineries and Waste Management
- <u>Taskforce on Transportation</u>
   Covers the emissions to soil, water and air from the transportation sector (aviation, shipping, rail and road transport)
- <u>Taskforce on Agriculture</u>
   Covers the calculation of emissions from agriculture and LULUCF to soil, water and air
- <u>Taskforce on Water MEWAT</u>
   This Taskforce calculates the emissions from all sectors to water
- <u>Taskforce on Consumers and other sources of emissions WESP</u>
   Covers emissions caused by consumers, trade and services.



## Involved organisations in the ER

## Taskforce on Energy, Industry and Waste Management

- RIVM,
- TNO,
- Statistics Netherlands (CBS),
- Waste Management Department
- Deltares
- Fugro-Ecoplan

#### <u>Taskforce on Transportation</u>

- Netherlands Environmental Assessment Agency (PBL)
- Statistics Netherlands (CBS)
- Rijkswaterstaat,
- Deltares
- TNO

#### Taskforce on Agriculture

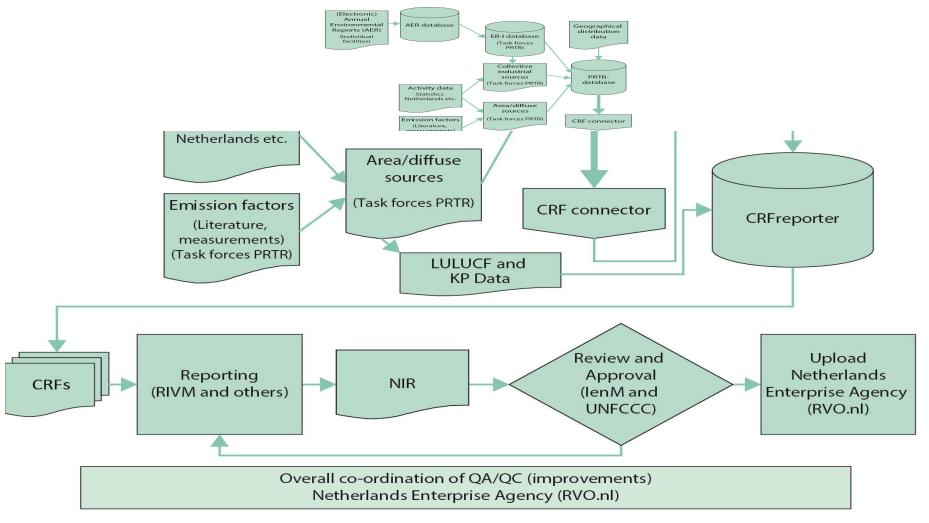
- RIVM,
- the Netherlands Environmental Assessment Agency (PBL),
- LEI,
- Alterra,
- Statistics Netherlands (CBS)
- Deltares

# Taskforce on Consumers and other sources of emissions WESP

- RIVM,
- TNO
- Statistics Netherlands (CBS)

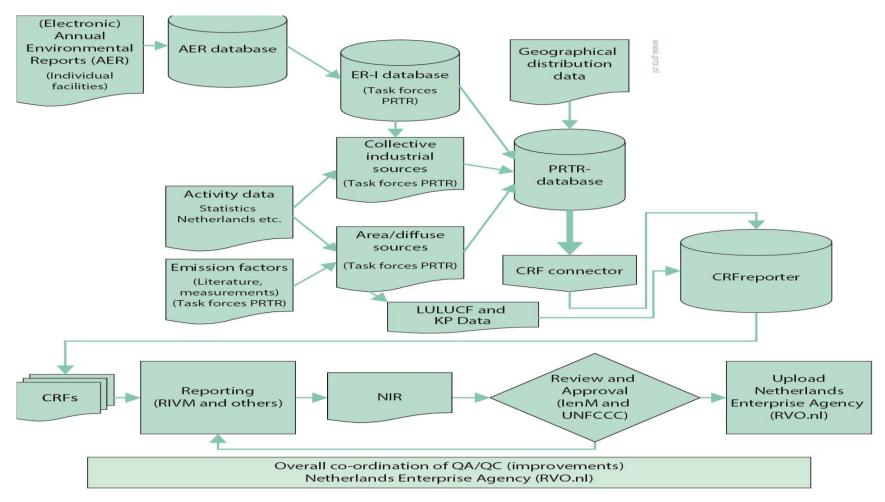


## Emissions Registration (ER) + GHG reporting





# National System: Overview of the primary process for GHG emissions and removals





# Additional KP reporting

Part II Supplementary Information required under Article 7, Paragraph 1

#### 11 KP-LULUCF

- 12 Information on accounting of Kyoto units
- 13 Information on changes in the National System
- 14 Information on changes in the National Registry 15 Information on minimisation of adverse impacts in accordance with Article 3, paragraph 14

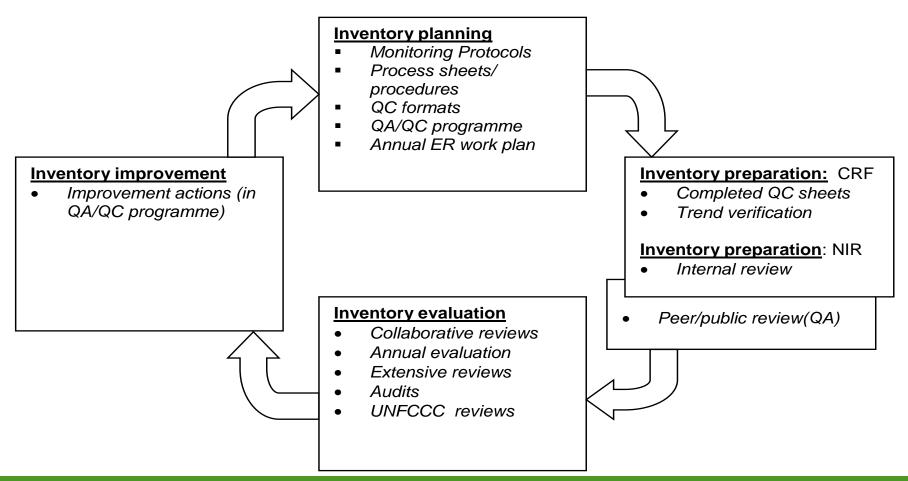
SEF tables



## Appendix sheets on QA/QC



# Overview of QA/QC cycle





# QA/QC programme (1)

- Overall objective:
  - annual inventories sufficient quality to meet requirements under UNFCCC and EU:
  - transparency, consistency, comparability, completeness and accuracy (TCCCA)
- RVO.nl is the responsible organisation
- Implementation
  - By RVO.nl
  - Within the Emission Registration



# QAQC programme (2)

- QC activities
  - General QC procedures (ER)
  - Annual uncertainty analysis (ER)
- QA activities
  - Peer review (contracted experts)
  - Audit (RVO.nl)
  - Data consistency report (ER, RVO.nl, Nea, CBS)
- Archiving, documentation and facilitating reviews
  - Archiving of information on inventory, results QA/QC etc (ER)
- Evaluation and improvement (RVO.nl and ER)
  - Evaluation of inventory process
  - Evaluation of QAQC programme



# Monitoring protocols up to 2014

- Key documents of National System; legal basis and annual publication in the Government Gazette
- Standard content of (40) protocols
  - Description of methods
  - Emission factors
  - Activity data
  - Description of the working process
  - QA/QC
  - Uncertainties

[IPCC code	Description	Gases
All	Reference approach	$CO_2$
1A1 1A2 1A4	Stationary combustion (fossil) *	$CO_2^- N_2O CH_4$
1A1b 1B1b 1B2aiv 2A4i 2B1 2B4i 2B5i 2B5vii 2B5viii 2C1vi 2D2 2Giv	Process emissions (fossil)	CO <sub>2</sub> N <sub>2</sub> O CH <sub>4</sub>
1A2f 1A4c	Mobile equipment	CO <sub>2</sub> N <sub>2</sub> O CH <sub>4</sub>
1A3a	Inland aviation	CO <sub>2</sub> N <sub>2</sub> O CH <sub>4</sub> CO <sub>2</sub> N <sub>2</sub> O CH <sub>4</sub>
1A3b	Road transport	$CO_2$
1A3b	Road transport	N <sub>2</sub> Ō CH₄
1A3c	Rail transport	$\overline{CO}_2$ $\overline{N}_2$ O $\overline{CH}_4$
1A3d	Inland navigation	$CO_2^2 N_2^2 O CH_4$
1A4c	Fisheries	CO <sub>2</sub> N <sub>2</sub> O CH <sub>4</sub>
1A5	Defence	$CO_2^2 N_2^2 O CH_4$
1B2	Oil & gas production	CO <sub>2</sub> CH <sub>4</sub>
1B2	Oil & gas distribution/transport	$CO_2$ $CH_4$
2A1 2A2 2A3 2A4ii 2A7i 2B5ix 2C1i 2C1vii 2C3 2Gi 2Gii 2Giii 2Gv 3A 3B 3C 3D	Process emissions (non-fossil)	CO <sub>2</sub> N <sub>2</sub> O CH <sub>4</sub>
2B2	Nitric acid	$N_2O$
2B5	Caprolactam	N <sub>2</sub> O PFC
2C3	Aluminium production	
2E1	HCFC-22 production	HFC
2E3	HFC by product emissions	HFC
2F1	Stationary refrigeration	HFC
2F1	Mobile refrigeration	HFC
2F2, 2F4	Hard foams, Aerosols	HFC
2F8	Soundproof windows, Electron microscopes	SF <sub>6</sub>
2F8	Semi-conductors	SF <sub>6</sub> PFC
2F8	Electrical equipment	SF <sub>6</sub>
4A	Enteric fermentation,	CH₄
4B	Manure management	N₂Ó CH₄
4B	Manure management	CH₄
4D	Agricultural soils, indirect	$N_2$ $\vec{O}$ $N_2$ $O$ $CO_2$
4D	Agricultural soils, direct	N <sub>2</sub> O
5A	Forest	
5D-5G	Soil Wasta dispasal	CO <sub>2</sub>
6A1	Waste disposal	CH <sub>4</sub>
6B	Waste water treatment	CH <sub>4</sub> N <sub>2</sub> O
6D	Large-scale composting International bunker emissions	CH <sub>4</sub> N <sub>2</sub> O
Memo item	Biomass	CO <sub>2</sub> N <sub>2</sub> O CH <sub>4</sub>
1A, (CO <sub>2</sub> memo item)	KP LULUCF	CO <sub>2</sub> CH <sub>4</sub> N <sub>2</sub> O CO <sub>2</sub> CH <sub>4</sub> N <sub>2</sub> O
5(KP-I KP-II)	NY LULUCF	$CO_2$ $C\Pi_4$ $N_2O$



# Methodology reports (2015 onwards)

- Describing methodologies and processes for estimating emissions and sinks, based on IPCC 2006 Guidelines
- Approved by NIE/RVO.nl (as a delegated task of the Ministry IenM) and the ER project leader
- Are published on the national system website (<a href="http://english.rvo.nl/nie">http://english.rvo.nl/nie</a>) and listed in annual working plans of the ER.



# Methodology reports (2015 onwards)

- More flexibility for the content
- Methodology Reports
  - Energy, Process and Waste
  - Transport
  - Agriculture
  - LULUCF
  - Energy small source
- Will improve in coming years



## Advisory board NIE

- Participants
  - Ministry of Environment (Ministry IenM)
  - Ministry of Economic Affairs (Ministry EZ)
  - Netherlands Statistics (CBS)
  - Project manager Emission Registration (RIVM)
  - Netherlands Environmental Assessment Agency (PBL)
  - Netherlands Emission Authority (Nea)

- Advise on proposed changes of methods
- Feed back from the QA/QC process and inventory reviews
- Improvement and QA/QC plan



## Lessons learned

- Keep the number of legal documents as low as possible
- Difficult for experts to estimate for proposed changes of methods to estimate:
  - Impact on uncertainty
  - Expected change in emissions
- Ex-ante description of the update of a method to use to estimate the emissions is often not implemented and in practise ex-post update of the descriptions
- Involvement of Ministries in planned changes in methods improves the decisions making process of these improvements and good preparation for expected change of historical emissions for the Ministries