

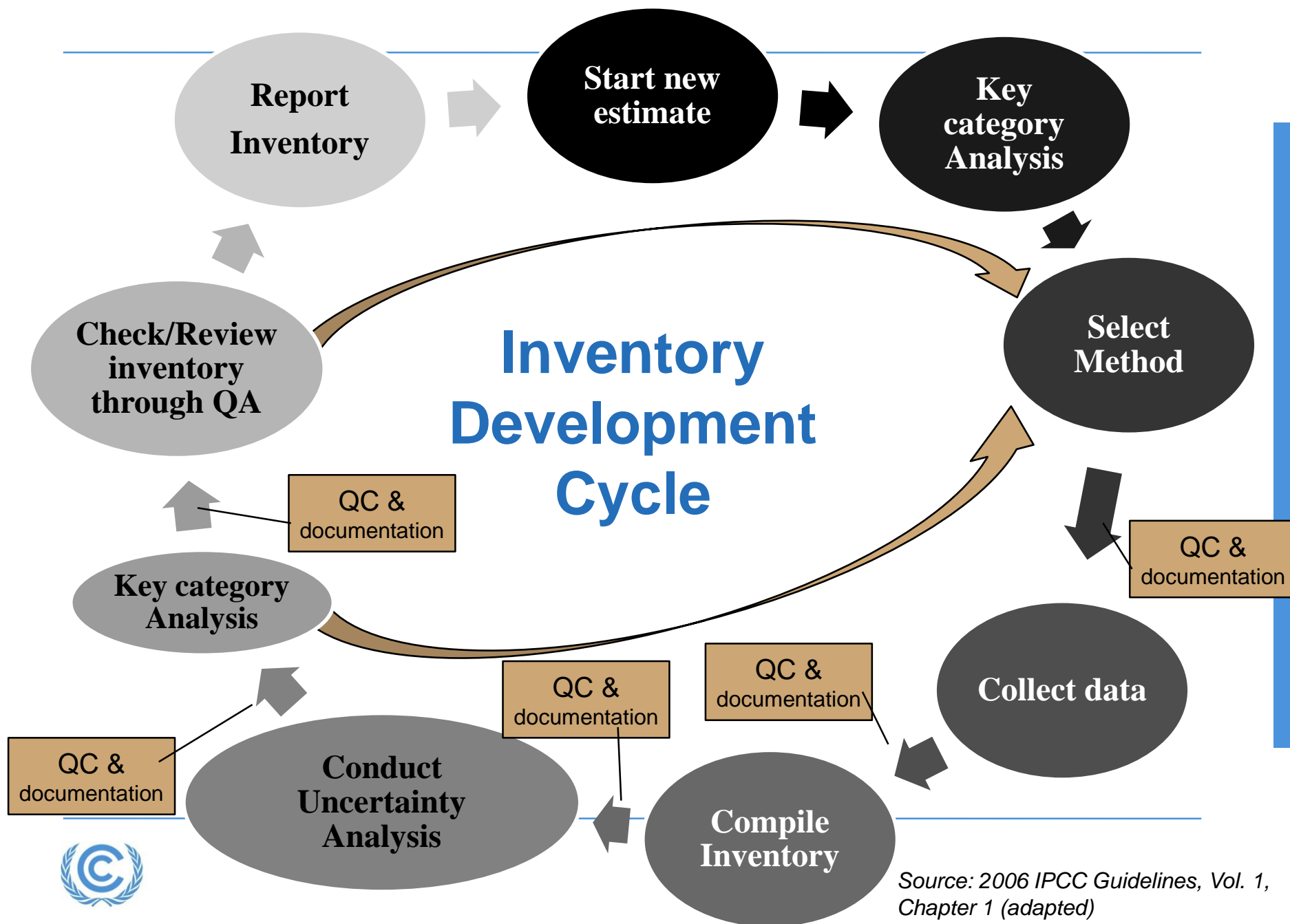
Reporting GHG inventory tables and the use of the CRF Reporter

Information session

SBSTA 51

Madrid, Spain, 3 December 2019





Types of CRF tables

- *Summary tables*
(emissions (one year), emission trends (years of the time-series))
- *Other cross-sectoral tables*
(Indirect Emissions, Key Categories, Recalculations)
- *Sectoral tables*
 - Sectoral Report Tables (Emissions/removals)
 - Sectoral Background Data Tables
(Activity Data, Implied emissions factors, Emissions/removals, Additional information)
 - Other
(e.g. reference approach for energy, Land transition matrix)



The diagram illustrates the structure of the Sectoral Emissions Reporting System (SERS) for the energy sector. It shows a hierarchy of tables:

- Sectoral Background Tables:** These are the source tables for each sector (A, B, and C). They contain detailed data for various energy categories.
- Sectoral Report Tables:** These tables aggregate data from the background tables for each sector. They are used to generate the summary tables.
- Summary Tables:** These tables provide a high-level overview of emissions trends. They are categorized into:
 - Summary Tables (emission trends):** These tables show emissions trends for each sector (A, B, and C) across multiple years (Year N, Year N+1, Year N+2, Year N+3).
 - Other Cross-Sectoral Tables:** These tables provide additional information, such as energy consumption and emissions, for each sector.

The diagram also shows the flow of data from the background tables to the report tables, and from the report tables to the summary tables. Arrows indicate the direction of data flow.

The diagram illustrates the structure of the Sectoral Energy Efficiency Reporting System (SEERS) data tables. It shows a hierarchy of tables:

- Sectoral Background Tables:** These are the source tables for each sector (Sector A, Sector B, Sector C). They contain detailed data on energy efficiency measures.
- Sectoral Report Tables:** These tables aggregate data from the background tables for each sector. For example, "Sector A - Category" is a report table for Sector A.
- Summary Tables (emission trends):** These tables provide a high-level overview of energy efficiency trends across all sectors. They are organized by year (Year N, Year N+1, Year N+2, Year N+3).
- Other Cross-Sectoral Tables:** These tables provide additional data and analysis across sectors, such as "Summary Tables (emission trends)" and "Other Cross-Sectoral Tables".

Arrows indicate the flow of data from the background tables to the report tables, and from the report tables to the summary and cross-sectoral tables.

The diagram illustrates the structure of the Sectoral Energy Efficiency Reporting System (SEERS) data. It shows a hierarchy of tables:

- Sectoral Background Tables:** These are the source data, organized by sector (Sector A, Sector B, Sector C). Each sector has multiple background tables.
- Sectoral Report Tables:** These tables aggregate data from the background tables. For example, Sector A has a "Sector A - Category" report table. Sectors B and C also have report tables.
- Summary Tables (emission trends):** These tables provide a high-level overview of emission trends over time (Year N, Year N+1, Year N+2, Year N+3). They are derived from the Sectoral Report Tables.
- Other Cross-Sectoral Tables:** These tables provide additional cross-sectoral data, derived from the Sectoral Report Tables.

The diagram uses arrows to show the flow of data from the background tables to the report tables, and then to the summary and cross-sectoral tables. The summary tables are presented as a series of stacked tables, one for each year (Year N, Year N+1, Year N+2, Year N+3).

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The diagram illustrates the structure of the Sectoral Background Tables (SBTs) and their relationship to Sectoral Report Tables (SRTs) and Summary Tables.

Sectoral Background Tables (SBTs): These are organized by sector (A, B, and C). Each sector has multiple background tables, with one table specifically labeled "Sector A - Category".

Sectoral Report Tables (SRTs): These tables receive data from the SBTs. Arrows indicate the flow of data from the SBTs into the SRTs.

Summary Tables: These tables receive data from the SRTs. A large arrow points from the SRTs to the Summary Tables. The Summary Tables are organized by year (Year N, Year N+1, Year N+2, Year N+3) and include a section for "Summary Tables (emission trends)".

Other Cross-Sectoral Tables: These tables receive data from the SBTs and provide cross-sectoral information.

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Other Cross-Sectoral Tables: These tables receive data from the SBTs and provide cross-sectoral information.

The diagram illustrates the structure of the Sectoral Emissions Reporting System (SERS) for the Energy Sector. It shows the flow of data from Sectoral Background Tables through Sectoral Report Tables to Summary Tables and Other Cross-Sectoral Tables.

Sectoral Background Tables: These are the source tables for each sector (A, B, C). They contain detailed data on energy consumption and emissions. The diagram shows multiple tables for each sector, with one table highlighted for each sector (Sector A - Category, Sector B, Sector C).

Sectoral Report Tables: These tables are generated from the Sectoral Background Tables. They contain summarized data for each sector, including energy consumption and emissions. The diagram shows three Sectoral Report Tables, one for each sector (A, B, C).

Summary Tables (emission trends): These tables are generated from the Sectoral Report Tables. They contain summarized data for all sectors, including energy consumption and emissions. The diagram shows a large Summary Table with columns for Year N, Year N+1, Year N+2, and Year N+3.

Other Cross-Sectoral Tables: These tables are generated from the Sectoral Report Tables. They contain summarized data for all sectors, including energy consumption and emissions. The diagram shows a large table with columns for Year N, Year N+1, Year N+2, and Year N+3.

The diagram also shows a flow from the Sectoral Report Tables to the Summary Tables (emission trends) and Other Cross-Sectoral Tables. Arrows indicate the direction of data flow.

The diagram illustrates the structure of the Sectoral Energy Efficiency Reporting System (SEERS) data tables. It shows a hierarchy of tables:

- Sectoral Background Tables:** These are the source tables for each sector (Sector A, Sector B, Sector C). They contain detailed data on energy efficiency measures and their impact.
- Sectoral Report Tables:** These tables aggregate data from the background tables for each sector. They are organized by sector and category (e.g., Sector A - Category).
- Summary Tables (emission trends):** These tables provide a high-level overview of energy efficiency trends across all sectors. They are organized by year (Year N, Year N+1, Year N+2, Year N+3).
- Other Cross-Sectoral Tables:** These tables provide additional data and analysis that span across sectors, such as energy efficiency measures and their impact.

The diagram shows how data flows from the background tables to the report tables, and then to the summary and cross-sectoral tables. The summary tables are the primary output for tracking energy efficiency trends over time.

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The diagram shows that the Sectoral Background Tables feed into the Sectoral Report Tables, which in turn feed into the Summary Tables and the Other Cross-Sectoral Tables. The Summary Tables are organized by year, showing trends over time.

The diagram illustrates the structure of the Sectoral Energy Efficiency Reporting System (SEERS) data tables. It shows a hierarchy of tables:

- Sectoral Background Tables:** These are the source tables for each sector (A, B, C). They contain detailed data for various energy efficiency measures.
- Sectoral Report Tables:** These tables aggregate data from the background tables for each sector. They are organized by sector and category (e.g., Sector A - Category).
- Summary Tables (emission trends):** These tables provide a high-level overview of energy efficiency trends across all sectors. They are organized by year (Year N, Year N+1, Year N+2, Year N+3).
- Other Cross-Sectoral Tables:** These tables provide additional data and analysis across sectors, such as energy efficiency indicators and trends.

The diagram shows how data flows from the background tables to the report tables, and then to the summary and cross-sectoral tables. The summary tables are organized by year, showing trends over time.

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- Sectoral Background Tables:** These are the source tables for each sector (A, B, C). They contain detailed data on energy efficiency measures and their impact.
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The diagram shows that the Sectoral Background Tables feed into the Sectoral Report Tables, which in turn feed into the Summary Tables and the Other Cross-Sectoral Tables. The Summary Tables are organized by year, showing trends over time.

The diagram illustrates the structure of the Sectoral Emissions Reporting System (SERS) for the 2014-2015 reporting period. It shows the flow of data from Sectoral Background Tables through Sectoral Report Tables to Summary Tables and Other Cross-Sectoral Tables.

Sectoral Background Tables: These are the primary data sources, organized by sector (A, B, C) and category. They include detailed information on emissions and energy use.

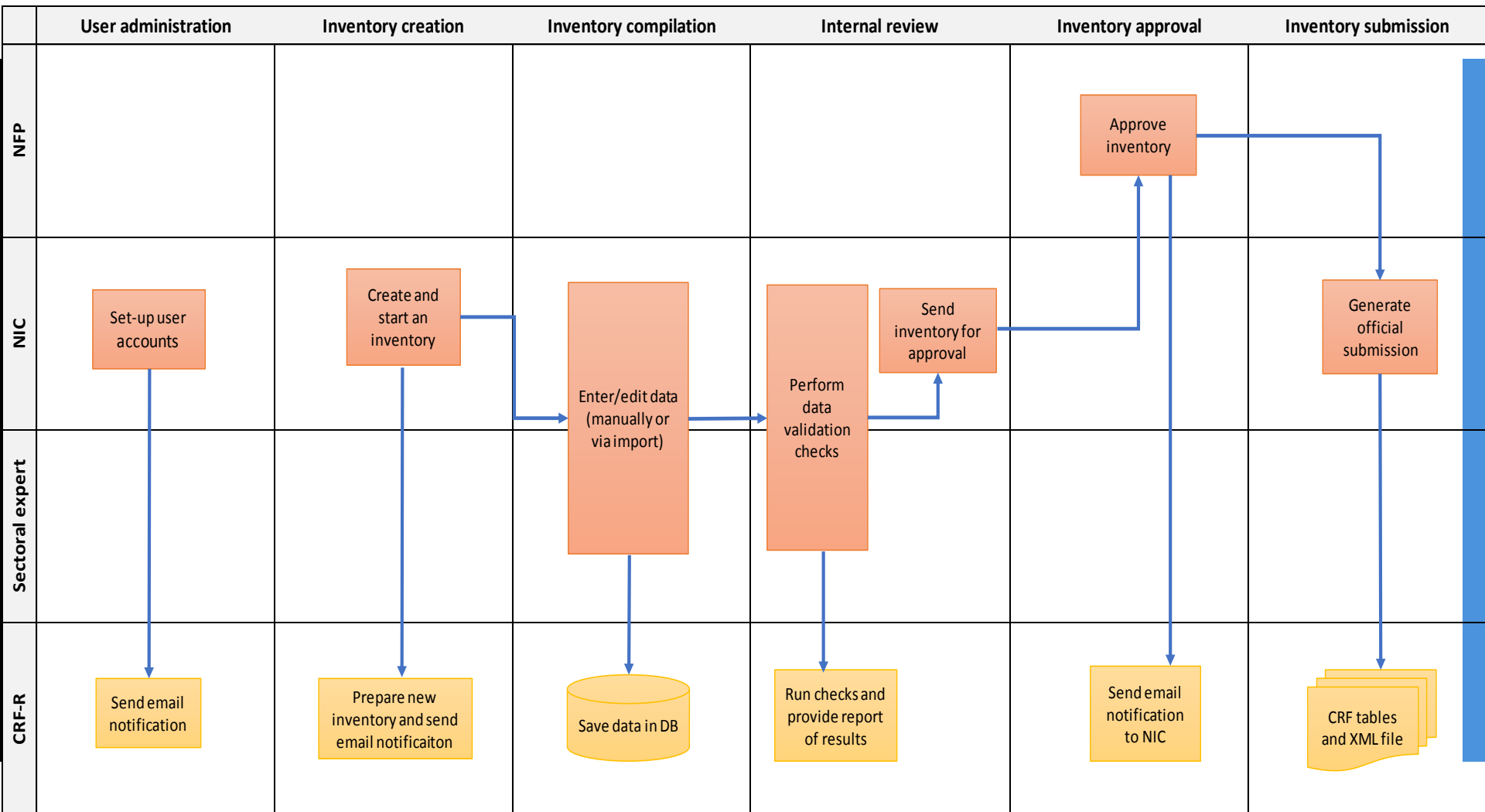
Sectoral Report Tables: These tables aggregate data from the background tables, providing a consolidated view of emissions and energy use for each sector.

Summary Tables (emission trends): These tables provide a high-level overview of emissions trends over time, organized by year (Year N, Year N+1, Year N+2, Year N+3).

Other Cross-Sectoral Tables: These tables provide additional information, such as energy use and emissions, for various categories across different sectors.

The diagram shows that data from the Sectoral Background Tables flows into the Sectoral Report Tables, which then feed into the Summary Tables and Other Cross-Sectoral Tables. The Summary Tables are organized by year, showing trends over time.

Workflow in the CRF Reporter



Inventory compilation

- **AD and emissions** → two ways to enter data for sectoral background data
 - a) Manual entry
 - b) Export/Import
 - Excel
 - XML

 - **Automatic calculation**
 - a) IEF (Emissions/AD)
 - b) Aggregation of emissions/removals

 - **Database** → information saved in real-time

 - **Automatically generated tables (no data entry required):**
 - a) Summary
 - b) Trend
 - c) Key Categories Analysis (KCA)
 - d) Recalculation
-



Workflow to populate CRF tables

CRF Reporter user interface

Id	[5. Waste][5.A Solid Waste Disposal][5.A.1 Managed Waste Disposal Sites][5.A.1.a Anaerobic]	Unit	1990	1991
L1	Annual waste at the SWDS	kt	46,686.590841	46,800.979704
L2	MCF		1.00	1.00
L3	DOCf	%	50.00	50.00
L4	Method			
L5	CO2		NA	NA
L6	CH4		T2	T2
L7	Emission factor information			
L8	CO2		NA	NA
L9	CH4		CS	CS
L10	Emissions			
L11	CO2	kt	NE	NE
L12	CH4			
L13	Emissions	kt	1,370.00	1,452.00
L14	Amount of CH4 flared	kt	IE	IE
L15	Amount of CH4 for energy	kt	92.00	103.00
L16	Implied emission factor			
L17	CO2	t/t	NE	NE
L18	CH4	t/t	0.0293446142	0.0351565510
L19	Documentation box			

CRF Tables

TABLE 5.A SECTORAL BACKGROUND DATA FOR WASTE

Solid waste disposal
(Sheet 1 of 1)

GREENHOUSE GAS SOURCE AND SINK CATEGORIES		ACTIVITY DATA AND OTHER RELATED INFORMATION		
		Annual waste at the SWDS (kt)	MCF	DOC _f %
1. Managed waste disposal sites		46686.59		
a. Anaerobic		46686.59	1.00	50.00
b. Semi-aerobic		NA	NA	NA
2. Unmanaged waste disposal sites		NO	NO	NO
3. Uncategorized waste disposal sites		NO	NO	NO

IMPLIED EMISSION FACTOR		EMISSIONS			
CH ₄ ⁽¹⁾	CO ₂	CH ₄			CO ₂ ⁽⁴⁾
		Emissions ⁽²⁾	Amount of CH ₄ flared	Amount of CH ₄ for energy recovery ⁽³⁾	
(t/t waste)		(kt)			
0.03	NE,NA	1370.00	IE,NA	92.00	NE,NA
0.03	NE	1370.00	IE	92.00	NE
NA	NA	NA	NA	NA	NA
NO	NO	NO	NO	NO	NO
NO	NO	NO	NO	NO	NO

Summary, trend, KCA, recalculation tables
are automatically filled in

