

Climate MRV for Africa – Phase 2 Development of National GHG Inventory : Key Category Analysis (KCA)



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Project of the European Commission DG Climate Action

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Key categories – Identification

- Purpose of key categories:
 - Identify where most GHG emissions & removals are
 - Focus (limited) compilation resources
 - Aim to apply higher Tiers methods
 - Ensure greater QA/QC
- by **GHG volumes** (Tier 1) : Level & Trend assessment
- by **Uncertainty** (Tier 2) : Level & Trend assessment
- Qualitative criteria assessment

Key categories – Level assessment

- **Level assessment** – for a single year (*t*) (baseline & latest)

Absolute value of GHG source or sink divided by

Sum of absolute values of all GHG sources and sinks

SPREADSHEET FOR T			
A	B	C	
IPCC Category Code	IPCC Category	Greenhouse Gas	[in
Total			

Category	Color
Energy Industries	Purple
Road Transport	Dark Blue
Cement Production	Blue
CH4 from Rice Cultivation	Teal
CH4 from Enteric Fermentation	Light Green
N2O from Agricultural Soils	Green
Non-Key Categories	Light Green

G
Cumulative total of Column F

Aggregation in descending order up to 95% (Tier 1)

Key categories – Level assessment

- **Step 1** – List all inventory categories to be included

Emission Category-CO ₂	X Tonnes
Emission Category-CO ₂	Y Tonnes
Emission Category-CH ₄	Z Tonnes
Removal Category-CO ₂	A Tonnes
Emission Category-N ₂ O	B Tonnes
....Emission Category...	

Key categories – Level assessment

- **Step 2** – Sort in descending order by contribution to total

Emission Category-CO ₂	Y Tonnes	40%
Emission Category-N ₂ O	B Tonnes	25%
Emission Category-CH ₄	Z Tonnes	15%
Emission Category-CO ₂	X Tonnes	15%
Removal Category-CO ₂	A Tonnes	4%
....Emission Category...		



Key categories – Level assessment

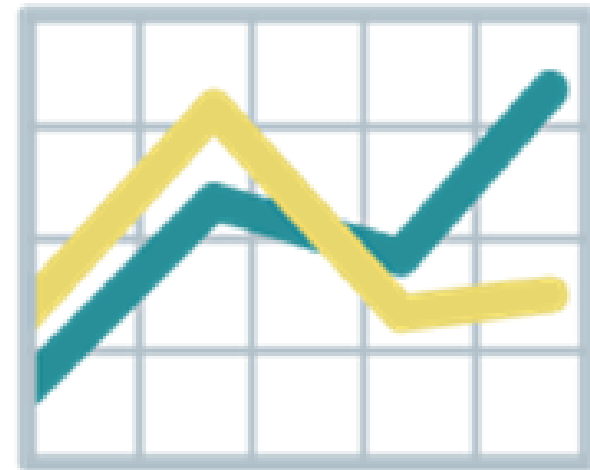
- **Step 3** – Sum cumulative contribution of sources/ sinks (absolute in descending order) until you reach 95%

Emission Category-CO ₂	Y	Tonnes	40%	} Key Categories
Emission Category-N ₂ O	B	Tonnes	25%	
Emission Category-CH ₄	Z	Tonnes	15%	
Emission Category-CO ₂	X	Tonnes	15%	
Removal Category-CO ₂	A	Tonnes	4%	→ Sum 95%
...Emission Category...				

Key categories – Trend assessment

- Complements the Level assessment
- Compares 2 inventory years to establish a trend

A	B	C	D	
IPCC Category Code	IPCC Category	Greenhouse Gas	Base Year Estimate $E_{x,0}$	Late Es
Total				



Identifies smaller categories with significantly different trends

Aggregation in descending order up to 95% (Tier 1)

Key categories – Uncertainty assessment

- **Tier 1** – Sources and sinks are sorted and ranked according to contribution to the inventory trend
- **Tier 2** – Same as Tier 1 but accounting for **uncertainty**:

Activity Data uncertainty

Emission Factor uncertainty



Key categories – Qualitative criteria

Identifying categories where:

- Mitigation actions envisaged (monitoring & reporting)
- Expected emissions growth
- Uncertainties not yet quantified, but presumed high
- Not yet included in inventory (completeness)



Key Categories Analysis – Exercise

Key Categories Analysis – Exercise

- Open the US EPA KCA Tool and complete Steps 1 & 2
- Use Egypt data file for categories and values

Step 1:

- chose '2006 Guidelines'
- tick all categories from the Egypt data file

Step 2:

- Base year: 2005 / Current year: 2016
- tick 'Gg CO2 Eq.'
- copy-paste data from Egypt data file
(NB: in chunks by Sector!)

- Go to Step 5 to start reviewing results

Thank you!

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