



United Nations Climate Change  
Global Climate Action



# Introduction to the Sectoral **A**ctivity data for **G**reenhouse gas **E**missions calculations (**SAGE**) –

## ***A New Activity Data Platform for GHG MRV systems***

### *Part 1*

*Dr. Olia Glade, Director for MRV Systems,  
Greenhouse Gas Management Institute*



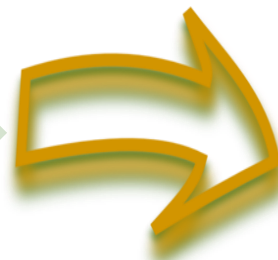
# From the ETF requirements to the SAGE Activity data platform

Accurate and complete recording of AD and associated parameters to enable IPCC calculations according to the 2006 IPCC GLs

Record the metadata: the data source, time reference, type of data (modeled or surveyed?)

Match 2006 IPCC → map to ETF (UNFCCC) categorization

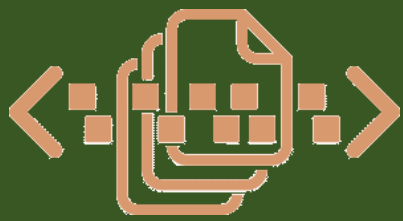
Flexible approach to aggregation levels to enable entering disaggregated data



## Sectoral Activity Data for GHG Emissions (SAGE)

SAGE provides a first-of-its-kind, user-friendly interface for gathering and processing national activity data and outputs providing indispensable supporting documentation for GHG inventories, projections, and mitigation impact quantification. Covered IPCC sectors:

**ENERGY IPPU AGRICULTURE WASTE**



Recording metadata



Creates time series AD collections for data repository & calculations



Implemented 2006 IPCC methodology



Data analysis



Time series calculations



Data Gaps search & filling



United Nations Climate Change

Compatible with UNFCCC/ETF & IPCC categorization



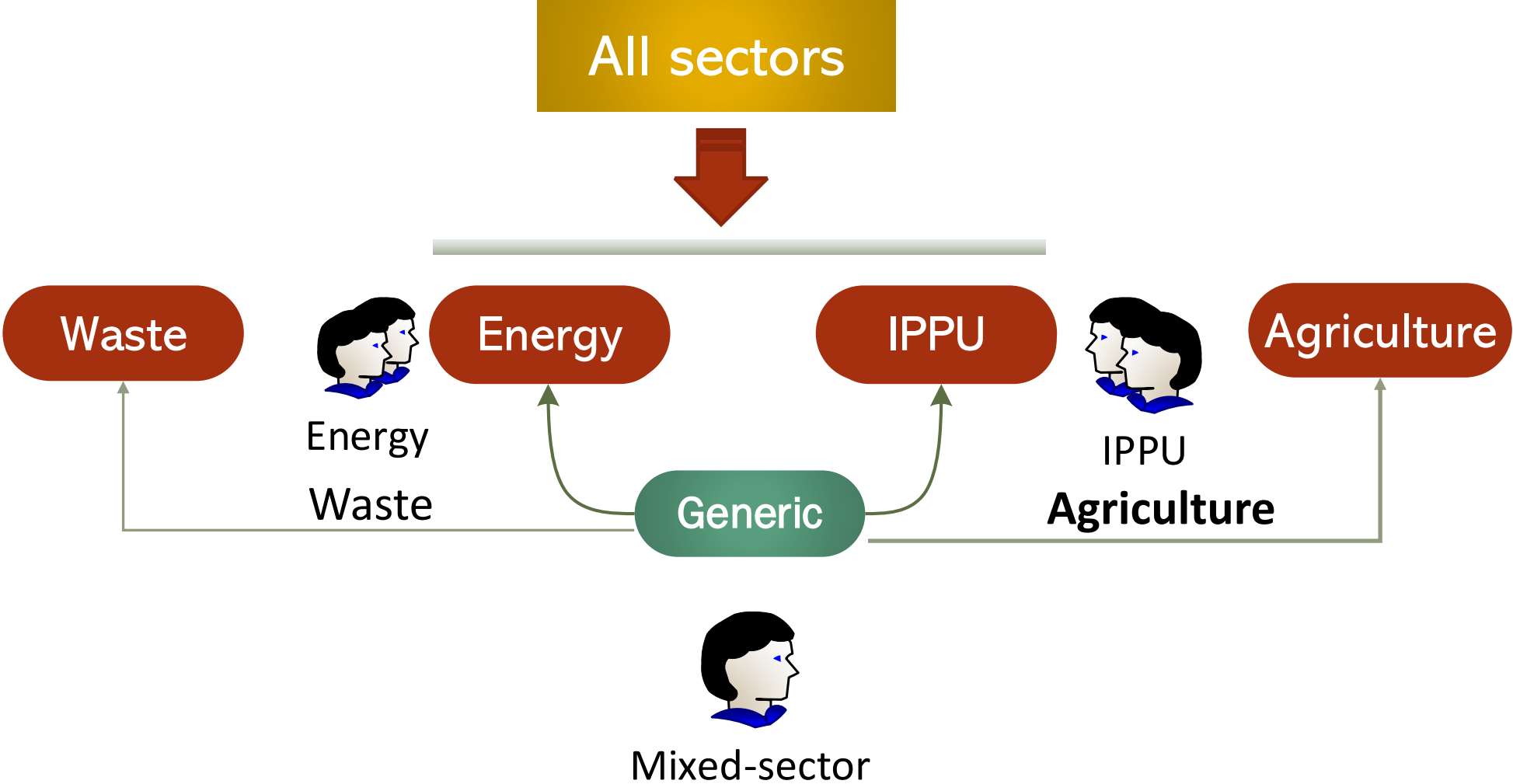
Excel Import/Export Option

Facility of import and export data via Excel files

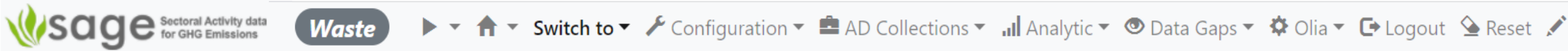
SAGE: Users, Interface, Action!



# SAGE: Users



# SAGE: Basic Interface structure



*Global navigation links for a quick switch between components (visible in each screen)*

*Navigation links for the currently selected functional component*

## Sectors

- 1. Energy
- 2. IPPU
- 3. Agriculture
- 4. Waste

## Open

- Administration
- Configuration - Basic
- Configuration - Agriculture sector
- AD Collections
- Analytic
- Data Gaps

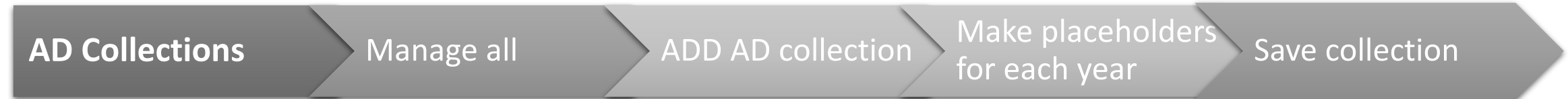
*Functional components in SAGE*

## Adjusting menu options to national circumstances

# SAGE: sequence of actions



## Create activity data collection



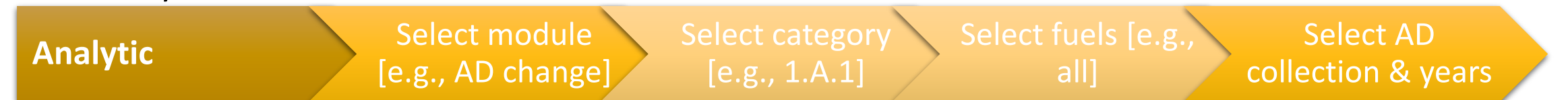
## Enter existing activity data



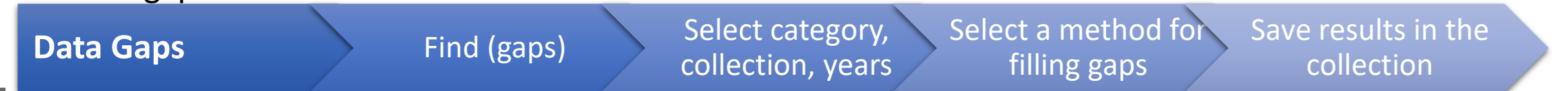
## Approval process



## Data analysis



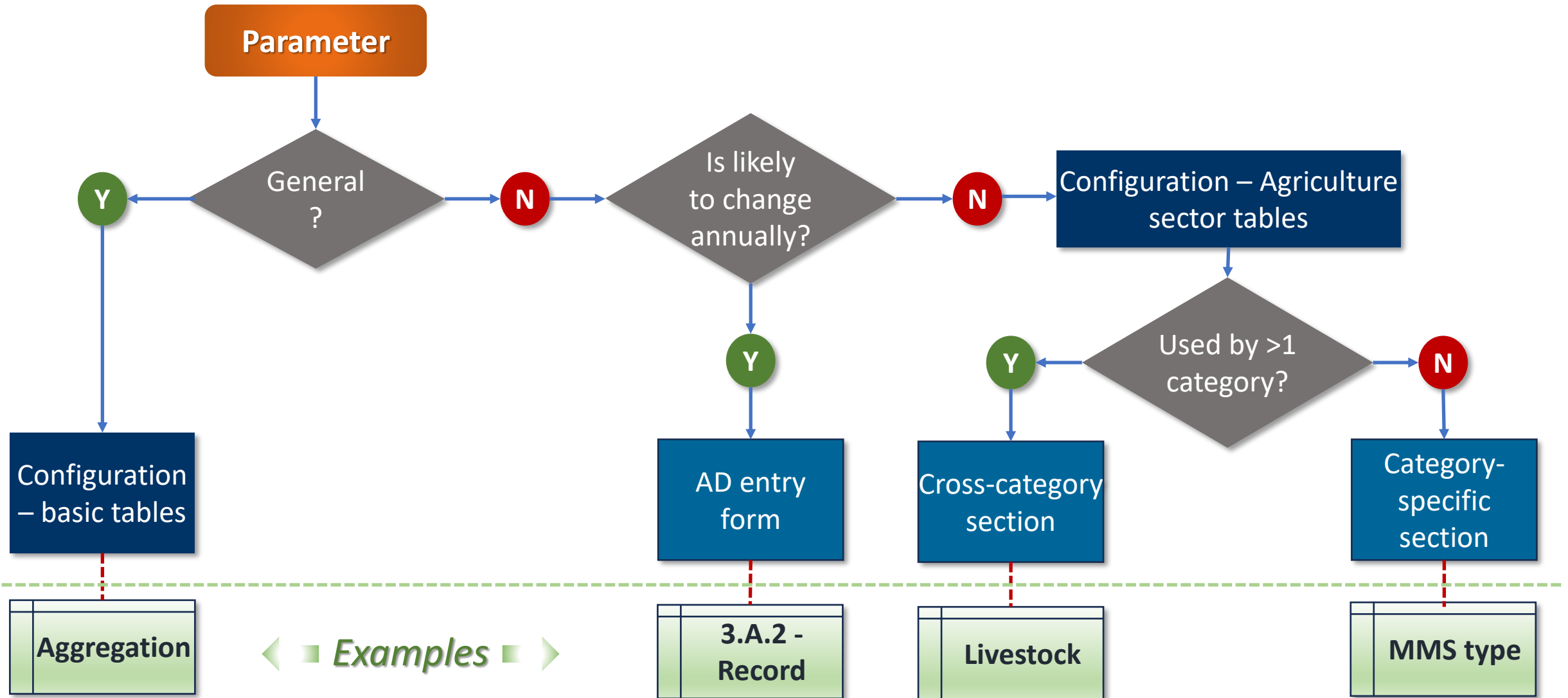
## Fill data gaps



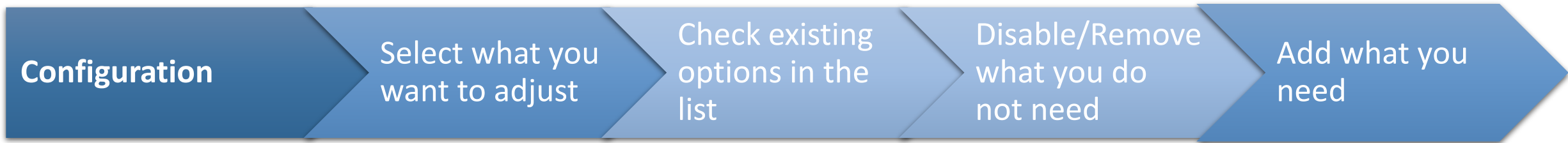
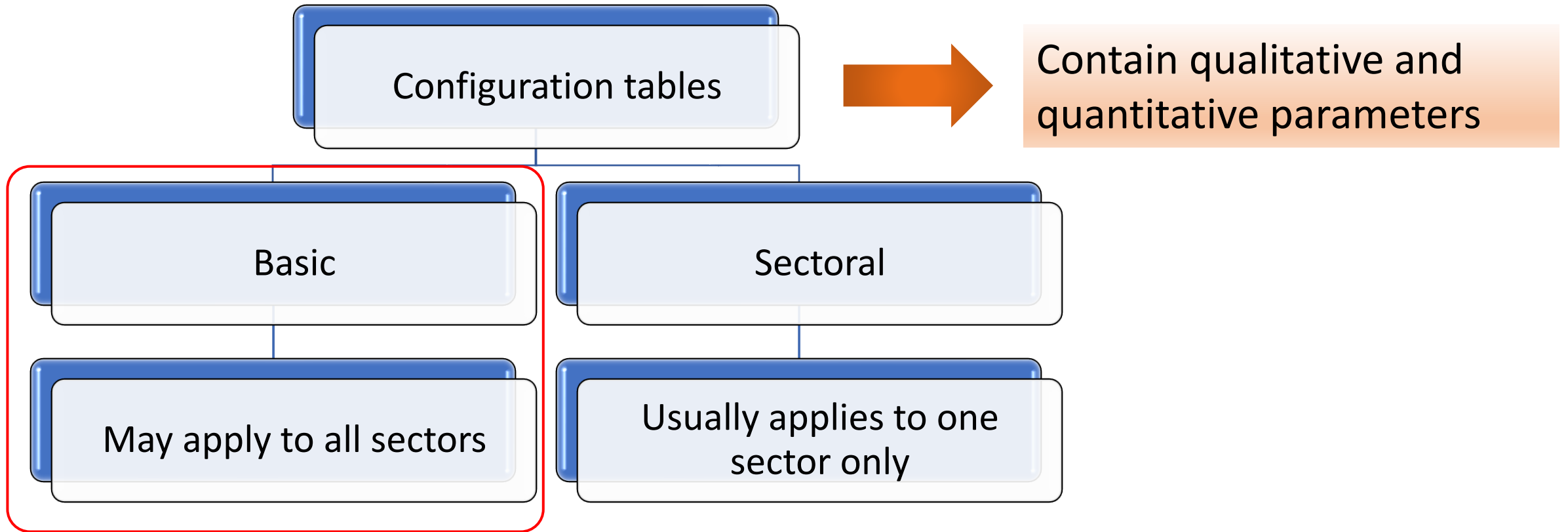
SAGE: setting it up –  
CONFIGURATION TABLES



# Configuration tables or AD entry?



# Setting configuration tables



# Configuration – Basic: how to get there



The screenshot shows the Sage GHG Emissions software interface. At the top, the navigation bar includes the Sage logo, 'Sectoral Activity data for GHG Emissions', a 'Energy' button, and several menu items: 'Switch to', 'Configuration', 'AD Collections', 'Analytic', and 'Data Gaps'. An orange arrow points to the 'Configuration' menu item. A dropdown menu is open under 'Configuration', showing two options: 'Configuration - Basic' (highlighted with a red box) and 'Configuration - Energy sector'. Below the navigation bar, the 'Sectors' list on the left has '1. Energy' selected. The 'Open' sidebar on the right contains a list of menu items: 'Administration', 'Configuration - Basic' (highlighted in grey), 'Configuration - Energy sector', 'AD Collections', 'Analytic', and 'Data Gaps'. An orange arrow points to the 'Configuration - Basic' item in the sidebar, and a tooltip 'Edit application configuration' is visible next to it.

# SAGE: Basic configuration tables - examples

## Configuration

+ Dashboard

+ General

+ Aggregations

+ Countries

+ Country details





+ Data sources

+ Units

## Aggregations - List

List Add Export Import Changes Info

show 30 records, starting from # 1 (total 17) Search Clear ><

	id	name	level ↑	description	sector 1	sector 2	sector 3	sector 4	sector 5	
	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>						
	1	National	1	Data represents complete country figure	✓	✓	✓	✓	✓	
	2	Regional	2		✓	✓	✓	✓	✓	✗
	9	State	2	A special case of regional. State of a country (e.g., California)	✓	✓	✓	✓	✓	✗
	10	Province	2	A special case of regional. Province of a country (e.g., Alberta in ...)	✓	✓	✓	✓	✓	✗

## Configuration

+ Dashboard

+ General

+ Aggregations

+ Countries

+ Country details

+ Data sources

+ Units

## Units - List

List Add Export Import Changes Info

> >> show 30 records, starting from # 1 (total 99) Search Clear >< Disable selected Enable selected

<input type="checkbox"/>	id	name ↑	symbol	description	base	base multiply	type	basic	status
<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	Any ▾		Any ▾
<input type="checkbox"/>	93	barrel (=US bbl)	B	volume	cubic metre	0.158987	volume	✓	enabled
<input type="checkbox"/>	88	barrel of oil equivalent (boe)	BOE	energy	joule	6118000000	energy	✓	enabled
<input type="checkbox"/>	119	billion cubic meters	10E9 m3	volume	cubic metre	1000000000	volume	✓	enabled
<input type="checkbox"/>	135	billion square meters	Gm2		square metre	1000000000	area	✓	enabled
<input type="checkbox"/>	124	blue barrel (=B)	bbl	volume	cubic metre	0.158987	volume	✓	enabled

# Configuration – basic: adding an item

Configuration

Basic

ADD

Enter the item in the form

Click “ADD”



Sectoral Activity data  
for GHG Emissions

Energy



Switch to



Configuration



AD Collections



Ar

Configuration

+ Dashboard

+ General

+ Aggregations

+ Countries

+ **Country details**

+ Data sources

+ Units

Country details - List

List

Add

Export

Import

Changes

Info



show

30

records, starting from #

1

(total 73)

Search

Clear



Delete selected

<input type="checkbox"/>	id	year ↓	aggregation	population	source
<input type="checkbox"/>					
<input type="checkbox"/>	86	2022	National	929,766	National S
<input type="checkbox"/>	34	2021	National	877,459	National S
<input type="checkbox"/>	33	2020	National	872,399	National S
<input type="checkbox"/>	32	2019	National	868,627	National S
<input type="checkbox"/>	31	2018	National	866,453	National S

# Adding an item: steps

sage Sectoral Activity data for GHG Emissions

Energy

Configuration

Country details - Add

List Add Export Import Changes Info

Year:

Aggregation: Any

Country population : (empty)

GDP : (empty)

Add Cancel

Country details - Add

List Add Export Import Changes Info

Year:

Aggregation: Any

Country population : (empty)

Value:

Units: number

Type: survey

Value origin: NA

Source: Select

Date issued: dd----yyyy

Reference and comments:

Details:

- Issued by :
- Last edited by :
  - User : ()
  - Date :

GDP : (empty)

Add Cancel

- Do this for all groups of fields (Country population, GDP)
- Pre-entered “Any” means that this entry can apply to ALL years, if you wish.
- You can always override “Any”, if needed, and enter a specific value instead

# Editing items: how to get there



**sage** Sectoral Activity data for GHG Emissions **Energy** Switch to Configuration AD Collections Analytic Data Ga

**Configuration**






- Dashboard
- General
- Aggregations
- Countries
- Country details**
- Data sources
- Units

### Country details - List

List Add Export Import Changes Info

> >> show 30 records, starting from # 1 (total 73) Search Clear <<

Delete selected

	id	year ↓	aggregation	population	source	gdp, \$	source	
<input type="checkbox"/>								
<input type="checkbox"/> 	86	2022	National	929,766	National Statistics Office	4,980,000,000	National Statistics Office	✗
<input type="checkbox"/> 	34	2021	National	877,459	National Statistics Office	3,914,472,684	National Statistics Office	✗
<input type="checkbox"/> 	33	2020	National	872,399	National Statistics Office	3,771,168,286	National Statistics Office	✗
<input type="checkbox"/> 	32	2019	National	868,627	National Statistics Office	3,756,891,967	National Statistics Office	✗
<input type="checkbox"/> 	31	2018	National	866,453	National Statistics Office	3,617,808,676	National Statistics Office	✗

The pencil at the beginning of the line ALWAYS means “Edit me!”

# Editing an item: steps

- Make changes
- Click “SAVE”

- Steps for editing records are THE SAME everywhere in SAGE

**sage** Sectoral Activity data for GHG Emissions **Energy** Switch to Configuration AD Collections

**Configuration**

- + Dashboard
- + General
- + Aggregations
- + Countries
- + **Country details**
- + Data sources
- + Units

**Country details - Record #86**

List Add Export Import Changes Info Record #86

Year: 2022

Aggregation: National

Country population : 929,766.00 number : data import > survey

Value: 929766

Units: number

Type: survey

Value origin: data import

Source: National Statistics Office

Date issued: 01-Jan-2023


Reference and comments: NSO website

Details:

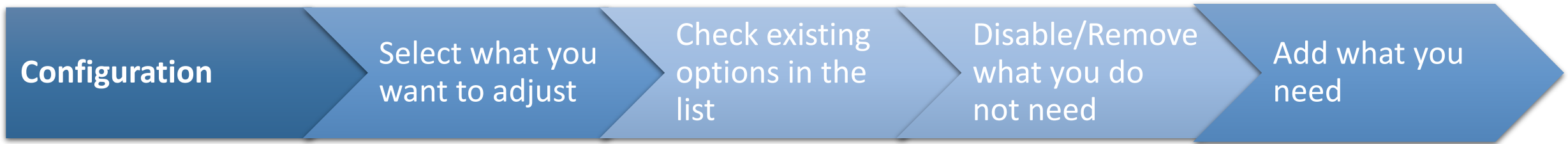
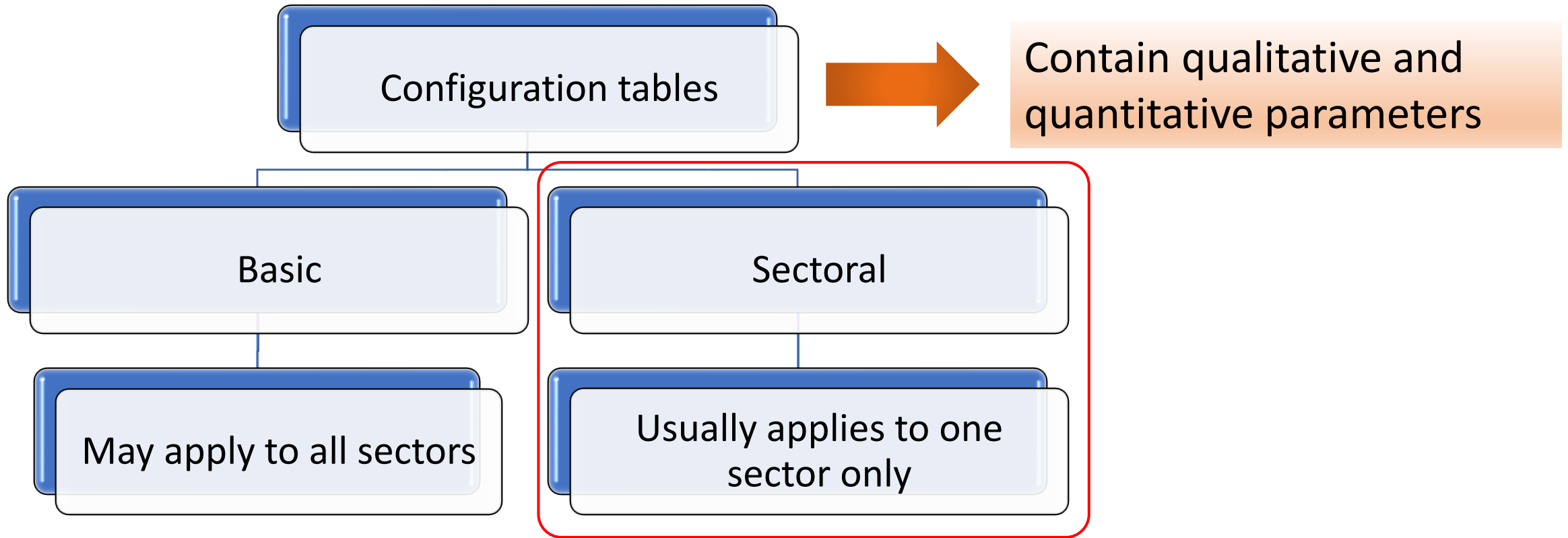
- Issued by :
- Last edited by :
  - User : Olia Admin (UNFCCC Data Collection Agency)
  - Date : 2024-10-13 04:08:23

GDP : 4,980,000,000.00 \$ : data import > survey

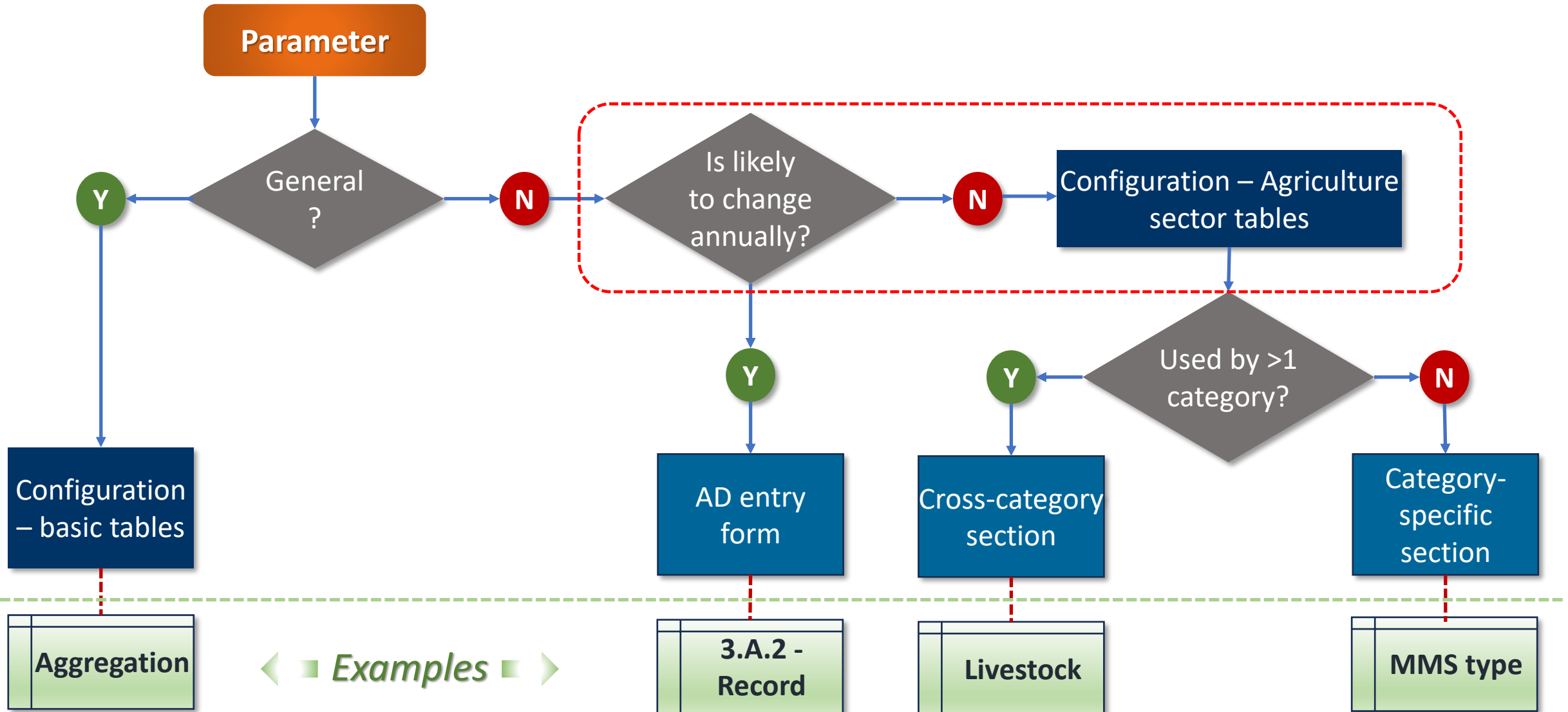
Save Delete Copy Cancel



# Setting configuration tables: sectoral tables



# A reminder: different frequencies of update

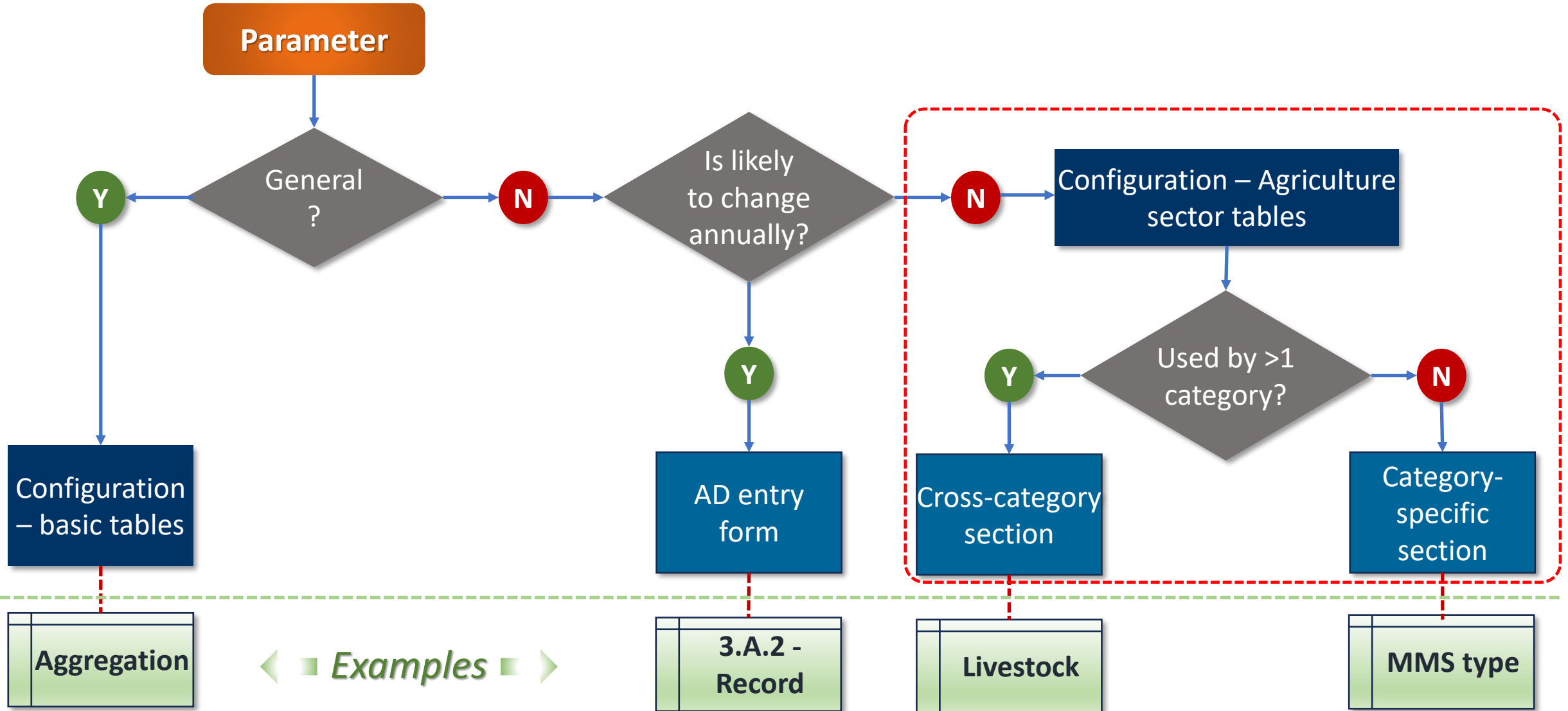


# Configuration – Sector-specific: how to get there

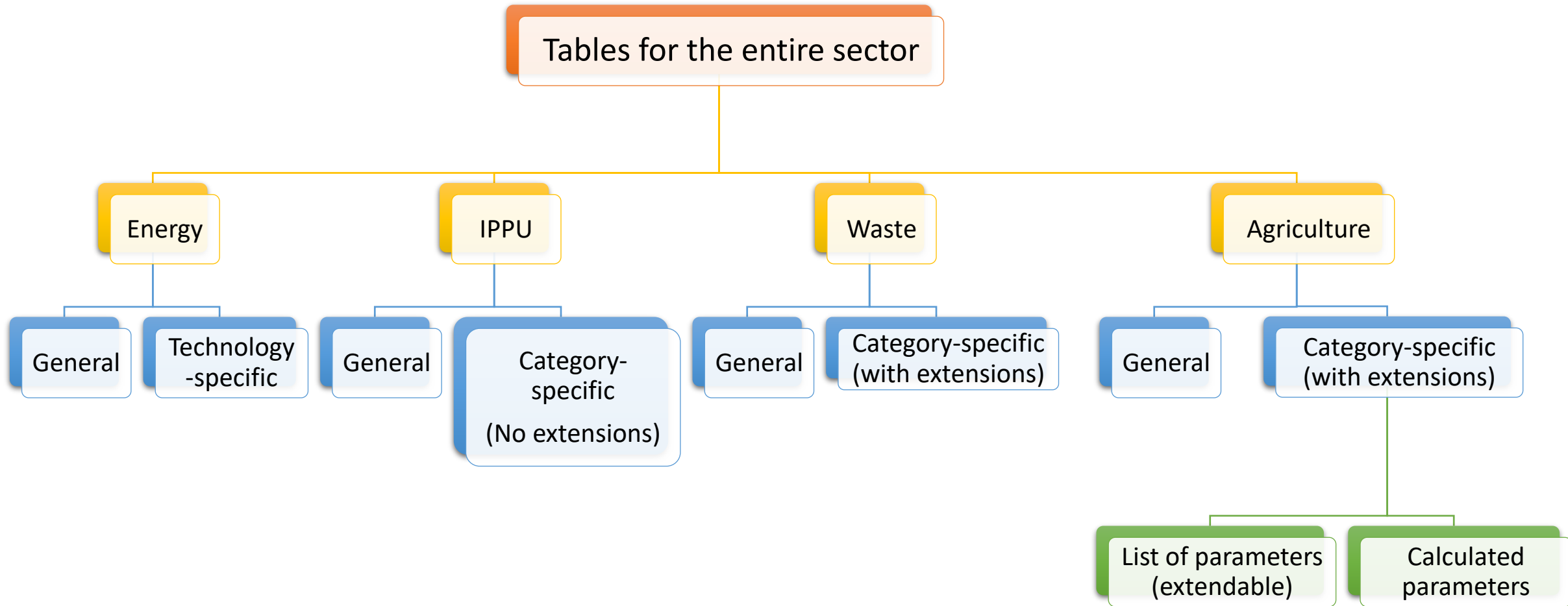
The screenshot shows the SAGE web application interface. At the top left is the 'sage' logo with the text 'Sectoral Activity data for GHG Emissions' and a 'Energy' button. The top right navigation bar includes a 'Switch to' dropdown, a 'Configuration' dropdown, and 'AD Collections'. Below the navigation bar, the main content area is divided into two columns: 'Sectors' and 'Open'. The 'Sectors' column contains four green buttons: '1. Energy' (selected with a blue circle), '2. IPPU', '3. Agriculture', and '4. Waste'. The 'Open' column contains a list of menu items: 'Administration', 'Configuration - Basic', 'Configuration - Energy sector' (highlighted in grey), 'AD Collections', 'Analytic', and 'Data Gaps'. A red box highlights the 'Configuration - Energy sector' item in the top right dropdown menu. An orange arrow points from the top of the page down to the 'Configuration' dropdown. Another orange arrow points from the right towards the 'Configuration - Energy sector' menu item. A tooltip 'Work on application configuration' is visible near the 'Configuration - Energy sector' menu item.

The method of adding and editing records is EXACTLY the same as for the basic configuration tables (and for the entire SAGE)

# Challenge: a parameter can be used by one or more categories



# Sector-specific configuration: different sectors



## Energy

- + Airports
- + Aircrafts-civil
- + Aircrafts-military
- + Categories
- + Fuels
- + Locomotives
- + Technologies - 1A
- + Technologies - 1A3C
- + Off road machinery
- + Vessels

## IPPU

- + Categories
- + Category gases
- + 2.A.2 Lime type
- + 2.A.3 Glass type
- + 2.A.5 Product
- + 2.B.1 Production
- + 2.B.8 Petrochemical
- + 2.B.10 Product
- + 2.E.5 Product
- + 2.F Gas bank data
- + 2.G.4 Product
- + 2.H.3 Product

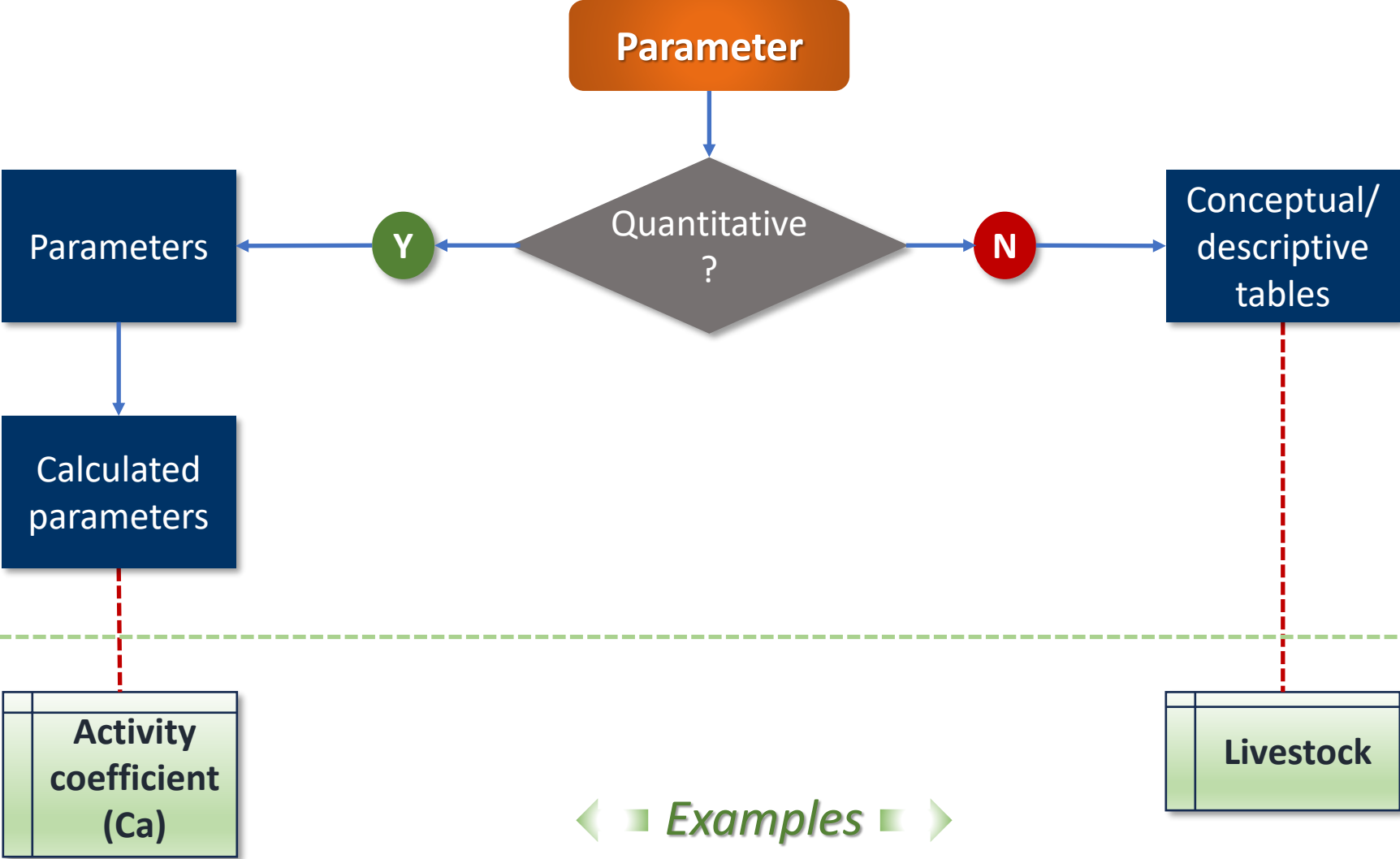
## Waste

- + Categories
- + Waste site types
- + Waste sites
- + Generic params
- + Waste composition
- 4.A parameters
  - + Generic
  - + DOC
  - + MCF
  - + Methane generation rate
  - + Waste per site type
- + 4.B parameters
- + 4.C parameters
- + 4.D parameters
- + 4.E parameters

## AG

- + Categories
- + Livestock
- + Land use
- + Region
- + Climate zones
- 3.A parameters
  - + Feeding class
  - + MMS types
  - + MCF for MMS
- + Parameter types
- + Calculation parameters
- + 3.C.1 parameters
- + 3.C.2 parameters
- + 3.C.4 parameters
- + 3.C.5 parameters
- + 3.C.6 parameters
- + 3.C.7 parameters
- + 3.C.12 Aquaculture

# Separating entries for quantitative and qualitative parameters



# Using the Structural approach

## Configuration

Dashboard

Categories

Livestock

Land use

Region

Climate zones

3.A parameters

Feeding class

MMS types

MCF for MMS

Parameter types

Calculation parameters

Changes

Info

Configuration - Basic

Configuration - Agriculture sector

No additional info provided for these pages.

Cross-category tables

Category - specific tables

The need in parameters depends on:

- Methodological tier (T1, T2 simplified, T2 detailed)
- Animal type
- Gas
- Category

# Adding a MMS to 3.A parameters

The screenshot displays the Sage software interface for adding a new MMS. The main form is titled 'Add' and contains the following fields:

- ID:** not set (new record)
- Code:** new-mms
- Name:** Unique\_MMS\_myCountry
- Description:** This is a new MMS that I did not find in the list, but my country uses it. The reference: MOA reports - 2025 mydepartment.reports/MMS.docx
- This record is basic/default:** No
- Status:** enabled

Buttons for 'Add' and 'Cancel' are visible at the bottom of the form. A dropdown menu is open, showing 'Configuration - Basic' and 'Configuration - Agriculture sector'.

On the right side, a table lists existing MMS records:

	basic	status
		Any
ed to lie...	✓	enabled
and is a...	✓	enabled
efined pi...	✓	enabled
signific...	✓	enabled
tion of ...	✓	enabled
e waste ...	✓	enabled
added ...	✓	enabled
naerobic...	✓	enabled
dung c...	✓	enabled
10 deep-bedding Cattle and Swine deep bedding This manure management system also is known as a bedded pac...	✓	enabled

Configuration

- + Dashboard
- + Categories
- + Livestock
- + Land use
- + Region
- + Climate zones
- **3.A parameters**
  - + Feeding class
  - + **MMS types**
  - + MCF for MMS
  - + Parameter types
  - + Calculation parameters

List Add Export Import Changes Info

- Configuration - Basic
- Configuration - Agriculture sector**

ID: not set (new record)

Code:

Name:

Description:

This record is basic/default:

No

Status:

Add Cancel

🔧 Configuration

- + 🏠 Dashboard
- + Categories
- + Livestock
- + Land use
- + Region
- + Climate zones
- **3.A parameters**
  - + Feeding class
- + **MMS types**
  - + MCF for MMS
  - + Parameter types
  - + Calculation parameters
- + 3.C.1 parameters

List Add Export Import Changes Info

🔧 Configuration - Basic

🔧 Configuration - Agriculture sector

ID: not set (new record)

Code:

new-mms

Name:

Unique\_MMS\_myCountry

Description:

This is a new MMS that I did not find in the list, but my country uses it.

The reference: MOA reports - 2025  
mydepartment.reports/MMS.docx

*This record is basic/default:*

No

Status:

enabled ▼

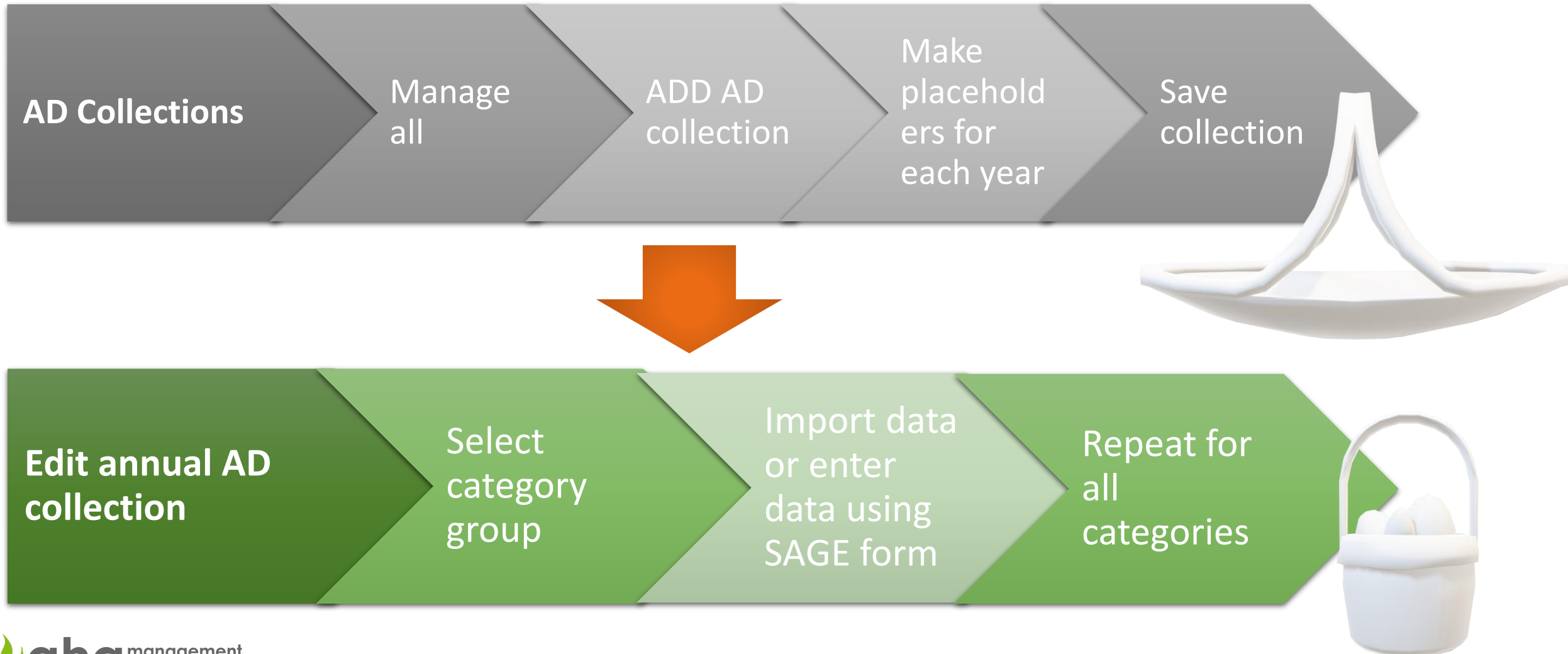
Add

Cancel

SAGE: AD – create and fill in



# AD collections: Sequence of actions



# Where to find it:

## Welcome to SAGE

### Sectors

1. Energy

2. IPPU

3. Agriculture

4. Waste

### Open

Administration

Configuration - Basic

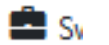
Configuration - Waste sector

AD Collections

Analytic

Data Gaps

### Re



Sw

Work with Activity Data collections



# To create a collection use “Collection → Manage All → ADD”

The screenshot shows the Sage Sectoral Activity data for GHG Emissions interface. The 'Waste' collection is selected. The 'Add' button is highlighted with an orange arrow. A dropdown menu is open, showing 'Manage all' as the selected option. The table below shows a list of AD collections with columns for id, Time-series AD collection, year, description, and state.

<input type="checkbox"/>	id ↓	Time-series AD collection	year	description	drafts	ready	begin date	closing date	state	s
<input type="checkbox"/>										
<input type="checkbox"/>	38	Fiji_test_2020-2024	2024	I've been here	0	0	2024-10-15	2024-10-19	draft	e
<input type="checkbox"/>	37	Fiji_test_2020-2024	2023	I've been here	0	0	2024-10-15	2024-10-19	draft	e
<input type="checkbox"/>	36	Fiji_test_2020-2024	2022	I've been here	0	0	2024-10-15	2024-10-19	draft	e
<input type="checkbox"/>	35	Fiji_test_2020-2024	2021	I've been here	0	0	2024-10-15	2024-10-19	draft	e
<input type="checkbox"/>	34	Fiji_test_2020-2024	2020	I've been here	0	0	2024-10-15	2024-10-19	draft	e
<input type="checkbox"/>	33	Fiji_Waste_2015-2022	2022	test	0	0	2024-10-13	2025-10-13	draft	e
<input type="checkbox"/>	32	Fiji_Waste_2015-2022	2021	test	0	0	2024-10-13	2025-10-13	draft	e

AD Collections

- + Dashboard
- + Explore
- + Compare
- + Enter AD (36)
- + **Manage all**
- + Draft (36)
- + Review (0)
- + Approve (0)
- + Publish (0)

Manage all - Add

List Add Delete History Info

Time-series AD collection code:

Add multiple:

Year:

Copy AD records:

AD collection approach:

Sectoral

Name:

Description:

Open for editing from:

dd----yyyy

To:

dd----yyyy

Status:

enabled

State: draft

Add Cancel

- AD Collections
- + Dashboard
- + Explore
- + Compare
- + Enter AD (36)
- + **Manage all**
- + Draft (36)
- + Review (0)
- + Approve (0)
- + Publish (0)

Manage all - A

List Add Delete History Info

Time-series AD collection code:

MyCollection\_Waste\_1990-2023

Add multiple:

Years range:

1990-2024

Copy AD records:

AD collection approach:

Sectoral

Name:

MyCollection\_Waste\_1990-2023

Description:

Test collection for the show

Open for editing from:

09-Sep-2025

To:

09-Sep-2026

Status:

enabled

State: draft

- Dashboard
- Explore
- Compare
- Enter AD (36)
- Manage all**
- Draft (36)
- Review (0)
- Approve (0)
- Publish (0)

Add Cancel



# Next: select category group (e.g., 4.A)

**sage** Sectoral Activity data for GHG Emissions **Waste** ▶ 🏠 Switch to 🔧 Configuration 📁 AD Collections 📊 Analytic 👁 Data Gaps ⚙ Olia 🚪 Logout 🔄 Reset

**AD Collections** Enter AD (36) - Edit existing

**Edit existing** **Add missing** **Info** 4.A 4.B 4.C 4.D 4.E

> >> show  records, starting from #  (total 294) 🔍 Search 🧼 Clear <<

	id	ipcc ↑	ext	tier	Time-series AD collection	state	year	agg.	value	val. units	val.type	submitted
	553	4.A.1		1	WASTE-TEST_2000-2005	draft	2004	National	29.62	Gg	NA	2023-04-11 00:00:00
	3	4.A.1		1	WASTE-TEST_2000-2005	draft	2000	National	1000.00	Gg	NA	2023-01-10 00:00:00
	15	4.A.1		1	WASTE-TEST_2000-2005	draft	2001	National	12.28	Gg	NA	2023-02-23 00:00:00
	9	4.A.1		1	WASTE-TEST_2000-2005	draft	2001	National	0.00	Gg	NA	2023-02-23 00:00:00
	554	4.A.1		1	WASTE-TEST_2000-2005	draft	2004	National	14.24	Gg	NA	2023-04-11 00:00:00
	37	4.A.1		1	WASTE-TEST_2000-2005	draft	2001	National	62.66	Gg	NA	2023-03-28 00:00:00
	10	4.A.1		1	WASTE-TEST_2000-2005	draft	2001	National	36.54	Gg	NA	2023-02-23 00:00:00
	555	4.A.1		1	WASTE-TEST_2000-2005	draft	2004	National	8.07	Gg	NA	2023-04-11 00:00:00
	549	4.A.1		1	WASTE-TEST_2000-2005	draft	2004	National	0.00	Gg	NA	2023-04-11 00:00:00
	11	4.A.1		1	WASTE-TEST_2000-2005	draft	2001	National	17.57	Gg	NA	2023-02-23 00:00:00
	556	4.A.1		1	WASTE-TEST_2000-2005	draft	2004	National	1.01	Gg	NA	2023-04-11 00:00:00
	5	4.A.1		1	WASTE-TEST_2000-2005	draft	2001	National	62.66	Gg	NA	2023-02-23 00:00:00
	550	4.A.1		1	WASTE-TEST_2000-2005	draft	2004	National	4.41	Gg	NA	2023-04-11 00:00:00
	12	4.A.1		1	WASTE-TEST_2000-2005	draft	2001	National	9.95	Gg	NA	2023-02-23 00:00:00
	557	4.A.1		1	WASTE-TEST_2000-2005	draft	2004	National	3.15	Gg	NA	2023-04-11 00:00:00
	6	4.A.1		1	WASTE-TEST_2000-2005	draft	2001	National	0.00	Gg	NA	2023-02-23 00:00:00

# Next: Click “ADD”

sage Sectoral Activity data for GHG Emissions

Waste

Switch to Configuration AD Collections Analytic Data Gaps Olia Logout Reset

AD Collections

4.A T1,2,3 - List

List Add Export Import Changes Info 4.A 4.B 4.C 4.D 4.E

show 30 records, starting from # 1 (total 189) Search Clear Delete selected

	id	Time-series ADC	year	ipcc 1	ext	tier	aggreg.	waste type	site type	climate	waste amount	value type	uncert.	waste, Gg	submitted	state	
<input type="checkbox"/>	2	WASTE-TES...	2000	4.A.1		1	National	Food waste		Boreal and ...	62.63 Gg	calc-popul-...	30.00 %	62.63	2023-02-23 ...	draft	✗
<input type="checkbox"/>	3	WASTE-TES...	2000	4.A.1		1	National	Garden/Par...		Boreal and ...	1,000.00 Gg	survey	30.00 %	1,000.00	2023-01-10 ...	draft	✗
<input type="checkbox"/>	5	WASTE-TES...	2001	4.A.1		1	National	Food waste	Managed p...	Boreal and ...	62.66 Gg	calc-popul-...	30.00 %	62.66	2023-02-23 ...	draft	✗
<input type="checkbox"/>	6	WASTE-TES...	2001	4.A.1		1	National	Garden/Par...	Managed p...	Boreal and ...	0.00 Gg	calc-popul-...	30.00 %	0.00	2023-02-23 ...	draft	✗
<input type="checkbox"/>	7	WASTE-TES...	2001	4.A.1		1	National	Glass	Managed p...	Boreal and ...	5.44 Gg	calc-popul-...	30.00 %	5.44	2023-02-23 ...	draft	✗
<input type="checkbox"/>	8	WASTE-TES...	2001	4.A.1		1	National	Metal	Managed p...	Boreal and ...	5.91 Gg	calc-popul-...	30.00 %	5.91	2023-02-23 ...	draft	✗
<input type="checkbox"/>	9	WASTE-TES...	2001	4.A.1		1	National	Nappies	Managed p...	Boreal and ...	0.00 Gg	calc-popul-...	30.00 %	0.00	2023-02-23 ...	draft	✗
<input type="checkbox"/>	10	WASTE-TES...	2001	4.A.1		1	National	Other Inert	Managed p...	Boreal and ...	36.54 Gg	calc-popul-...	30.00 %	36.54	2023-02-23 ...	draft	✗
<input type="checkbox"/>	11	WASTE-TES...	2001	4.A.1		1	National	Paper/card...	Managed p...	Boreal and ...	17.57 Gg	calc-popul-...	30.00 %	17.57	2023-02-23 ...	draft	✗
<input type="checkbox"/>	12	WASTE-TES...	2001	4.A.1		1	National	Plastic	Managed p...	Boreal and ...	9.95 Gg	calc-popul-...	30.00 %	9.95	2023-02-23 ...	draft	✗
<input type="checkbox"/>	13	WASTE-TES...	2001	4.A.1		1	National	Rubber/lea...	Managed p...	Boreal and ...	1.24 Gg	calc-popul-...	30.00 %	1.24	2023-02-23 ...	draft	✗
<input type="checkbox"/>	14	WASTE-TES...	2001	4.A.1		1	National	Textiles	Managed p...	Boreal and ...	3.89 Gg	calc-popul-...	30.00 %	3.89	2023-02-23 ...	draft	✗
<input type="checkbox"/>	15	WASTE-TES...	2001	4.A.1		1	National	Wood	Managed p...	Boreal and ...	12.28 Gg	calc-popul-...	30.00 %	12.28	2023-02-23 ...	draft	✗
<input type="checkbox"/>	37	WASTE-TES...	2001	4.A.1		1	National	Food waste	Managed - ...	Boreal and ...	62.66 Gg	calc-popul-...	30.00 %	62.66	2023-03-28 ...	draft	✗
<input type="checkbox"/>	549	WASTE-TES...	2004	4.A.1		1	National	Garden/Par...		Boreal and ...	0.00 Gg	calc-popul-...	30.00 %	0.00	2023-04-11 ...	draft	✗
<input type="checkbox"/>	550	WASTE-TES...	2004	4.A.1		1	National	Glass		Boreal and ...	4.41 Gg	calc-popul-...	30.00 %	4.41	2023-04-11 ...	draft	✗
<input type="checkbox"/>	551	WASTE-TES...	2004	4.A.1		1	National	Metal		Boreal and ...	4.79 Gg	calc-popul-...	30.00 %	4.79	2023-04-11 ...	draft	✗

AD Collections

- + Dashboard
- + Explore
- + Compare
- + **Enter AD (36)**
- + Manage all
- + Draft (36)
- + Review (0)
- + Approve (0)
- + Publish (0)

4.A T1,2,3 - Add

- List Add Export Import Changes Info

- 📄 4.A ▶ 4.B ▶ 4.C ▶ 4.D ▶ 4.E ▶

ID:

Annual AD collection:

Select ▼

Category:

4.A.1 > Managed Waste Disposal Site ▼

Waste site type:

Any ▼

Climate zone:

Select ▼

Aggregation:

National ▼

Statistics quality:

Unknown ▼

Tier:

T1 ▼

State:

draft ▼

Add

Cancel



SAGE: AD – Energy



# 1. Creating and entering the data in AD Collections

- 1. Energy
- 2. IPPU
- 3. Agriculture
- 4. Waste

Administration

Configuration - Basic

Conf

**sage** Sectoral Activity data for GHG Emissions **Ene**

AD Collections

Analysis

Data

AD Collections

List Add

show 50 r

<input type="checkbox"/>		id ↓
<input type="checkbox"/>		100
<input type="checkbox"/>		99
<input type="checkbox"/>		98

AD Collections

- + Dashboard
- + Explore
- + Compare
- + Annual AD (21)
- + **Manage all**
- + Draft (21)
- + Review (0)
- + Approve (0)
- + Publish (1)

List Add Delete History Info

Time-series AD collection code:

Add multiple:

Year:

Copy AD records:

AD collection approach:  
Sectoral

Name:

Description:

Open for editing from:  
dd----yyyy

To:  
dd----yyyy

Status:  
enabled





# Energy data entry: Reference approach

Create a SEPARATE collection for RA

## AD Collections

Dashboard

Explore

Compare

Enter AD (131)

Manage all

Draft (131)

Review (0)

Approve (0)

Publish (1)

## Enter AD (131) - Edit existing

Edit existing

Add missing

Info

Reference approach

1.A Fuel Combustion

1.B Fugitive emissions

show 30 records, starting from

- Reference approach List
- Add
- Export
- Import
- Changes
- Info

	id	ipcc	ext	tier	Time-series	state	year	agg.	value	val. units	val.type	approach	submitted
	975	1.A		1	GAPS_TEST_RA_National_2000-2010	ready	2008	National	494.23	TJ	NA		2022-06-21 00:00:00
	932	1.A		1	GAPS_TEST_RA_National_2000-2010	ready	2004	National	0.35	TJ	NA		2022-06-21 00:00:00
	1022	1.A		1	Zimbabwe_RA_2000-2005	draft	2005	National	12323.85	TJ	survey		2023-04-26 00:00:00
	934	1.A		1	GAPS_TEST_RA_National_2000-2010	ready	2005	National	12323.85	TJ	NA		2022-06-21 00:00:00
	1024	1.A		1	Zimbabwe_RA_2000-2005	draft	2005	National	8395.00	TJ	survey		2023-04-26 00:00:00
	987	1.A		1	Zimbabwe_RA_2000-2005	draft	2000	National	10630.51	TJ	survey		2023-04-26 00:00:00
	936	1.A		1	GAPS_TEST_RA_National_2000-2010	ready	2005	National	8395.00	TJ	NA		2022-06-21 00:00:00
	1026	1.A		1	Zimbabwe_RA_2000-2005	draft	2005	National	1493.16	TJ	survey		2023-04-26 00:00:00
	989	1.A		1	Zimbabwe_RA_2000-2005	draft	2000	National	8390.80	TJ	survey		2023-04-26 00:00:00
	938	1.A		1	GAPS_TEST_RA_National_2000-2010	ready	2005	National	1493.16	TJ	NA		2022-06-21 00:00:00
	991	1.A		1	Zimbabwe_RA_2000-2005	draft	2000	National	846.34	TJ	survey		2023-04-26 00:00:00

- + Dashboard
- + Explore
- + Compare
- + **Enter AD (131)**
- + Manage all
- + Draft (131)
- + Review (0)
- + Approve (0)
- + Publish (1)

ID: col-/rec-100000000

Annual AD collection:

Select

Category:

1.A > Fuel Combustion Activities

Aggregation:

National

Statistics quality:

Unknown

Fuel:

Select

Fuel properties [Set from default](#)

Fuel production : (empty)

Fuel export : (empty)

Fuel import : (empty)

International bunkers : (empty)

Fuel Stock change : (empty)

Uncertainty details [Set from default](#) :

Uncertainty (symmetric OR min value for range) : (empty)

Uncertainty max (max value, use for range only) : (empty)

Apparent consumption calculated

Fuel mass: 0.0000 kt

Energy: 0.0000 TJ

State:

draft

Add Update Cancel



# Next: fill the form → ADD

AD Collections

- + Dashboard
- + Explore
- + Compare
- + Enter AD (131)
- + Manage all
- + Draft (131)
- + Review (0)
- + Approve (0)
- + Publish (1)

Reference approach - Add

List Add Export Import Changes Info

Reference approach ▾ 1.A Fuel Combustion ▾ 1.B Fugitive emissions ▾

**Form entry details updated**

ID: col-90/rec-100000000

Annual AD collection:  
GAPS\_TEST\_RA\_National\_2000 ▾

Category:  
1.A > Fuel Combustion Activities ▾

Aggregation:  
National ▾

Statistics quality:  
Unknown ▾

Fuel:  
Gasoline ▾

Fuel properties ▾ [Set from default](#)

Fuel production : (empty) ▾

Fuel export : (empty) ▾

Fuel import : (empty) ▾

International bunkers : (empty) ▾

Fuel Stock change : (empty) ▾

Uncertainty details [Set from default](#) :

Uncertainty (symmetric OR min value for range) : (empty) ▾

Uncertainty max (max value, use for range only) : (empty) ▾


Apparent consumption calculated

Fuel mass: 0.0000 kt

Energy: 0.0000 TJ

State:  
draft ▾

Add Update Cancel



# Top-down approach

sage Sectoral Activity data for GHG Emissions **Energy** Switch to Configuration AD Collections

**AD Collections**

- + Dashboard
- + Explore
- + Compare
- + Enter AD (131)
- + Manage all
- + Draft (131)
- + Review (0)
- + Approve (0)
- + Publish (1)

**1.A Top-down model - List**

Reference approach **1.A Fuel Combustion** 1.B Fugitive emissions

show 30 records, starting from # 1 (total 4) Search Clear >< Delete selected

	id	Time-series AD collection	year		fuel consumption	type	aggreg.	uncert.	fuel mass, kt
<input type="checkbox"/>									
<input type="checkbox"/>	985	GAPS_TEST_2000-2010	2007						
<input type="checkbox"/>	1028	Zimbabwe_2000-2005	2000						
<input type="checkbox"/>	1040	GAPS_TEST_2000-2010	2009						
<input type="checkbox"/>	1029	Zimbabwe_2000-2005	2000						

**1.A Top-down model**

- 1.A.[1,2,4,5]
- 1.A.3.a T1
- 1.A.3.a T2
- 1.A.3.a T3
- 1.A.5.\* [1.A.3.a.i-mil] T1
- 1.A.3.b T1,2
- 1.A.3.c T1,2
- 1.A.3.d T1
- 1.A.3.e,[i,ii] T1

- AD Collections
- + Dashboard
- + Explore
- + Compare
- + **Enter AD (131)**
- + Manage all
- + Draft (131)
- + Review (0)
- + Approve (0)
- + Publish (1)

## 1.A Top-down model - Add

List Add Export Import Changes Info

Reference approach ▾ 1.A Fuel Combustion ▾ 1.B Fugitive emissions ▾

ID: col-/rec-100000000

Annual AD collection:

Select ▾

Category:

Select ▾

Aggregation:

National ▾

Statistics quality:

Unknown ▾

Fuel:

Select ▾

Fuel properties ▾ [Set from default](#)

Fuel calculation (calculate fuel consumption from RA collection) ▾

Fuel consumption : (empty) ▾

Uncertainty details [Set from default](#) :

Uncertainty (symmetric OR min value for range) : (empty) ▾

Uncertainty max (max value, use for range only) : (empty) ▾

Apparent consumption calculated

Fuel mass: 0.0000 kt

Energy: 0.0000 TJ

State:

draft ▾

Add Update Cancel



SAGE: AD – IPPU



# IPPU → AD Collections: Create AD collection

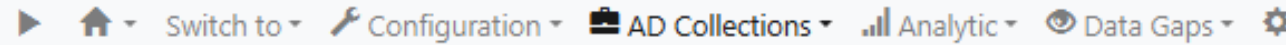
AD Collections

Manage all

ADD AD collection

Make placeholders  
for each year

Save collection



## Welcome to SAGE

### Sectors

● 1. Energy

● 2. IPPU

● 3. Agriculture

● 4. Waste

### Open

Administration

Configuration - Basic

Configuration - IPPU sector

AD Collections

Analytic

Data Gaps

Dashboard

Explore

Compare

Enter AD

Manage all

Draft

Review

Approve

Publish

Annual AD collection - manage drafts

AD Collections

Manage all - List

List Add Delete History Info

show 50 records, starting from # 1 (total 21) Search Clear >< Disable selected Enable selected

Recent work links and shortcuts

- Dashboard
- Explore
- Compare
- Enter AD (36)
- Manage all
- Draft (36)
- Review (1)
- Approve (0)
- Publish (1)

		Time-series AD collection	year	description	drafts	ready	begin date	closing date	state	status
		IPPU_TEST								Any
<input type="checkbox"/>		IPPU_TEST_2000-2020	2020	This is the AD collection for testing SAGE functionality. Prepared ...	21	1	2022-05-03	2023-12-31	draft	enabled
<input type="checkbox"/>		IPPU_TEST_2000-2020	2019	This is the AD collection for testing SAGE functionality. Prepared ...	23	0	2022-05-03	2023-12-31	draft	enabled
<input type="checkbox"/>		IPPU_TEST_2000-2020	2018	This is the AD collection for testing SAGE functionality. Prepared ...	23	0	2022-05-03	2023-12-31	draft	enabled
<input type="checkbox"/>		IPPU_TEST_2000-2020	2017	This is the AD collection for testing SAGE functionality. Prepared ...	23	0	2022-05-03	2023-12-31	draft	enabled
<input type="checkbox"/>		IPPU_TEST_2000-2020	2016	This is the AD collection for testing SAGE functionality. Prepared ...	23	0	2022-05-03	2023-12-31	draft	enabled
<input type="checkbox"/>		IPPU_TEST_2000-2020	2015	This is the AD collection for testing SAGE functionality. Prepared ...	23	0	2022-05-03	2023-12-31	draft	enabled
<input type="checkbox"/>		IPPU_TEST_2000-2020	2014	This is the AD collection for testing SAGE functionality. Prepared ...	23	0	2022-05-03	2023-12-31	draft	enabled
<input type="checkbox"/>		IPPU_TEST_2000-2020	2013	This is the AD collection for testing SAGE functionality. Prepared ...	23	0	2022-05-03	2023-12-31	draft	enabled
<input type="checkbox"/>		IPPU_TEST_2000-2020	2012	This is the AD collection for testing SAGE functionality. Prepared ...	23	0	2022-05-03	2023-12-31	draft	enabled
<input type="checkbox"/>		IPPU_TEST_2000-2020	2011	This is the AD collection for testing SAGE functionality. Prepared ...	23	0	2022-05-03	2023-12-31	draft	enabled
<input type="checkbox"/>		IPPU_TEST_2000-2020	2010	This is the AD collection for testing SAGE functionality. Prepared ...	23	0	2022-05-03	2023-12-31	draft	enabled
<input type="checkbox"/>		IPPU_TEST_2000-2020	2009	This is the AD collection for testing SAGE functionality. Prepared ...	23	0	2022-05-03	2023-12-31	draft	enabled
<input type="checkbox"/>		IPPU_TEST_2000-2020	2008	This is the AD collection for testing SAGE functionality. Prepared ...	23	0	2022-05-03	2023-12-31	draft	enabled
<input type="checkbox"/>		IPPU_TEST_2000-2020	2007	This is the AD collection for testing SAGE functionality. Prepared ...	23	0	2022-05-03	2023-12-31	draft	enabled
<input type="checkbox"/>		IPPU_TEST_2000-2020	2006	This is the AD collection for testing SAGE functionality. Prepared ...	22	0	2022-05-03	2023-12-31	draft	enabled
<input type="checkbox"/>		IPPU_TEST_2000-2020	2005	This is the AD collection for testing SAGE functionality. Prepared ...	23	0	2022-05-03	2023-12-31	draft	enabled
<input type="checkbox"/>		IPPU_TEST_2000-2020	2004	This is the AD collection for testing SAGE functionality. Prepared ...	23	0	2022-05-03	2023-12-31	draft	enabled
<input type="checkbox"/>		IPPU_TEST_2000-2020	2003	This is the AD collection for testing SAGE functionality. Prepared ...	23	0	2022-05-03	2023-12-31	draft	enabled
<input type="checkbox"/>		IPPU_TEST_2000-2020	2002	This is the AD collection for testing SAGE functionality. Prepared ...	23	0	2022-05-03	2023-12-31	draft	enabled
<input type="checkbox"/>		IPPU_TEST_2000-2020	2001	This is the AD collection for testing SAGE functionality. Prepared ...	23	0	2022-05-03	2023-12-31	draft	enabled
<input type="checkbox"/>		IPPU_TEST_2000-2020	2000	This is the AD collection for testing SAGE functionality. Prepared ...	9	21	2022-05-03	2023-12-31	draft	enabled

Disable selected Enable selected

AD Collections

- + Dashboard
- + Explore
- + Compare
- + Enter AD (36)
- + **Manage all**
- + Draft (36)
- + Review (1)
- + Approve (0)
- + Publish (1)

Manage all - Add

List Add Delete History Info

Time-series AD collection code:

Add multiple:

Year:

Copy AD records:

AD collection approach:

Sectoral

Name:

Description:

Open for editing from:

dd-----yyyy

To:

dd-----yyyy

Status:

enabled

State: draft

Add

Cancel

- AD Collections
- Dashboard
- Explore
- Compare
- Enter AD (36)
- Manage all**
- Draft (36)
- Review (1)
- Approve (0)
- Publish (1)

Manage all - Add

- List
- Add
- Delete
- History
- Info

Time-series AD collection code:  
My\_IPPU\_1990-2024

Add multiple:

Years range:  
1990-2024

Copy AD records:

AD collection approach:  
Sectoral

Name:  
My\_IPPU\_1990-2024

Description:  
Test version

Open for editing from:  
09-Sep-2025

To:  
09-Sep-2026

Status:  
enabled

State: draft

Add Cancel



# Enter annual AD

Edit annual AD collection

Select category group

Import data or enter data using SAGE form

Repeat for all categories

sage Sectoral Activity data for GHG Emissions IPPU

Switch to Configuration AD Collections Analytic Data Gaps Olia

### Enter AD (36) - Edit existing

GHG Red. 2.A 2.B 2.C 2.D 2.E 2.F 2.G 2.H

show 30 records, starting from # 1 (total 5)

	id	ipcc t	ext	tier		state	year	aggreg.	value	val. units	val.type
	89	2.A.1		1	IPPU_TEST_2000-2020	draft	2016	National	312523.63	t	NA
	80	2.A.1		1	IPPU_TEST_2000-2020	draft	2007	National	576933.43	t	NA
	86	2.A.1		1	IPPU_TEST_2000-2020	draft	2013	National	346147.02	t	NA
	69	2.A.1		1	IPPU_TEST_2000-2020	ready	2000	National	559506.00	t	NA
	91	2.A.1		1	IPPU_TEST_2000-2020	draft	2018	National	262668.21	t	NA
	92	2.A.1		1	IPPU_TEST_2000-2020	draft	2019	National	211432.26	t	NA
	682	2.A.1		1	ALISSA_2020-2025	draft	2020	National	-105000.00	t	NA
	75	2.A.1		1	IPPU_TEST_2000-2020	draft	2002	National	603052.20	t	NA
	76	2.A.1		1	IPPU_TEST_2000-2020	draft	2002	National	510011.00	t	NA

2.A.1 T1  
2.A.1 T2  
2.A.2 T1  
2.A.3 T1  
2.A.4 T1  
2.A.5 T1

# Select category group (e.g., 2.A) → ADD

**AD Collections**

- Dashboard
- Explore
- Compare
- Enter AD (36)**
- Manage all
- Draft (36)
- Review (1)
- Approve (0)
- Publish (1)

**2.A.2 T1 - List**

List Add Export Import Changes Info GHG Red. 2.A 2.B 2.C 2.D 2.E 2.F 2.G 2.H

show 30 records, starting from # 1 (total 21) Search Clear >> Delete selected

	id	Time-series ADC	year	ipcc 1	ext	tier	aggreg.	lime type	lime prod.	value type	uncert.	hydrated fract.	uncert. hydr.	CO2 captured	high calcium prop. (%)	dolomitic prop.(%)	hydraulic prop.(%)	submitted
<input type="checkbox"/>	70	IPPU_TEST_2000-2020	2000	2.A.2		1	National	Dolomitic lime L-Prod	97,846.00t	survey	2.00 %	0.10	5.00 %	0.00 t	0.00 %	100.00 %	0.00 %	2022-05-03 00
<input type="checkbox"/>	94	IPPU_TEST_2000-2020	2001	2.A.2		1	National	Dolomitic lime L-Prod	102,010.00t	survey	2.00 %	0.10	5.00 %	0.00 t	0.00 %	100.00 %	0.00 %	2022-05-03 00
<input type="checkbox"/>	95	IPPU_TEST_2000-2020	2002	2.A.2		1	National	Dolomitic lime L-Prod	118,450.00t	survey	2.00 %	0.10	5.00 %	0.00 t	0.00 %	100.00 %	0.00 %	2022-05-03 00
<input type="checkbox"/>	96	IPPU_TEST_2000-2020	2003	2.A.2		1	National	Dolomitic lime L-Prod	92,230.00t	survey	2.00 %	0.10	5.00 %	0.00 t	0.00 %	100.00 %	0.00 %	2022-05-03 00
<input type="checkbox"/>	97	IPPU_TEST_2000-2020	2004	2.A.2		1	National	Dolomitic lime L-Prod	82,830.00t	survey	2.00 %	0.10	5.00 %	0.00 t	0.00 %	100.00 %	0.00 %	2022-05-03 00
<input type="checkbox"/>	98	IPPU_TEST_2000-2020	2005	2.A.2		1	National	Dolomitic lime L-Prod	75,930.00t	survey	2.00 %	0.10	5.00 %	0.00 t	0.00 %	100.00 %	0.00 %	2022-05-03 00
<input type="checkbox"/>	99	IPPU_TEST_2000-2020	2006	2.A.2		1	National	Dolomitic lime L-Prod	81,610.00t	survey	2.00 %	0.10	5.00 %	0.00 t	0.00 %	100.00 %	0.00 %	2022-05-03 00
<input type="checkbox"/>	100	IPPU_TEST_2000-2020	2007	2.A.2		1	National	Dolomitic lime L-Prod	77,700.00t	survey	2.00 %	0.10	5.00 %	0.00 t	0.00 %	100.00 %	0.00 %	2022-05-03 00
<input type="checkbox"/>	101	IPPU_TEST_2000-2020	2008	2.A.2		1	National	Dolomitic lime L-Prod	78,160.00t	survey	2.00 %	0.10	5.00 %	0.00 t	0.00 %	100.00 %	0.00 %	2022-05-03 00
<input type="checkbox"/>	102	IPPU_TEST_2000-2020	2009	2.A.2		1	National	Dolomitic lime L-Prod	68,650.00t	survey	2.00 %	0.10	5.00 %	0.00 t	0.00 %	100.00 %	0.00 %	2022-05-03 00
<input type="checkbox"/>	103	IPPU_TEST_2000-2020	2010	2.A.2		1	National	Dolomitic lime L-Prod	65,380.00t	survey	2.00 %	0.10	5.00 %	0.00 t	0.00 %	100.00 %	0.00 %	2022-05-03 00
<input type="checkbox"/>	104	IPPU_TEST_2000-2020	2011	2.A.2		1	National	Dolomitic lime L-Prod	67,990.00t	survey	2.00 %	0.10	5.00 %	0.00 t	0.00 %	100.00 %	0.00 %	2022-05-03 00
<input type="checkbox"/>	105	IPPU_TEST_2000-2020	2012	2.A.2		1	National	Dolomitic lime L-Prod	71,990.00t	survey	2.00 %	0.10	5.00 %	0.00 t	0.00 %	100.00 %	0.00 %	2022-05-03 00
<input type="checkbox"/>	106	IPPU_TEST_2000-2020	2013	2.A.2		1	National	Dolomitic lime L-Prod	68,890.00t	survey	2.00 %	0.10	5.00 %	0.00 t	0.00 %	100.00 %	0.00 %	2022-05-03 00
<input type="checkbox"/>	107	IPPU_TEST_2000-2020	2014	2.A.2		1	National	Dolomitic lime L-Prod	74,250.00t	survey	2.00 %	0.10	5.00 %	0.00 t	0.00 %	100.00 %	0.00 %	2022-05-03 00
<input type="checkbox"/>	108	IPPU_TEST_2000-2020	2015	2.A.2		1	National	Dolomitic lime L-Prod	64,230.00t	survey	2.00 %	0.10	5.00 %	0.00 t	0.00 %	100.00 %	0.00 %	2022-05-03 00
<input type="checkbox"/>	109	IPPU_TEST_2000-2020	2016	2.A.2		1	National	Dolomitic lime L-Prod	70,350.00t	survey	2.00 %	0.10	5.00 %	0.00 t	0.00 %	100.00 %	0.00 %	2022-05-03 00
<input type="checkbox"/>	110	IPPU_TEST_2000-2020	2017	2.A.2		1	National	Dolomitic lime L-Prod	64,240.00t	survey	2.00 %	0.10	5.00 %	0.00 t	0.00 %	100.00 %	0.00 %	2022-05-03 00

- + Dashboard
- + Explore
- + Compare
- + **Enter AD (36)**
- + Manage all
- + Draft (36)
- + Review (1)
- + Approve (0)
- + Publish (1)

List Add Export Import Changes Info

GHG Red. 2.A 2.B 2.C 2.D 2.E 2.F 2.G 2.H

ID:

Annual AD collection:

Select

Category:

2.A.2 &gt; Lime production

Aggregation:

National

Statistics quality:

Unknown

Tier:

1

Lime type:

Select

Lime production : (empty)

Hydrated lime fraction : 0.00 fraction : application default &gt; NA

Amount of CO2 captured : 0.00 t : NA

Uncertainty details [Set from default](#)

Lime production uncertainty : (empty)

Uncertainty for correction for hydrated lime : (empty)

Clinker

Produced:

Proportion of high calcium lime: 0.00 %

Proportion of dolomitic lime: 0.00 %

Proportion of hydraulic lime:

State:

draft

Add

Cancel

# How to learn more about it and acquire it?

<https://ghginstitute.org/sage/>

<https://unfccc.int/process-and-meetings/transparency-and-reporting/support-for-developing-countries/ghg-support#eq-4>

# Thank you!

