ICAT Initiative for Climate Action Transparency

ghg management institute

GHGs and GHG Inventory - Introduction

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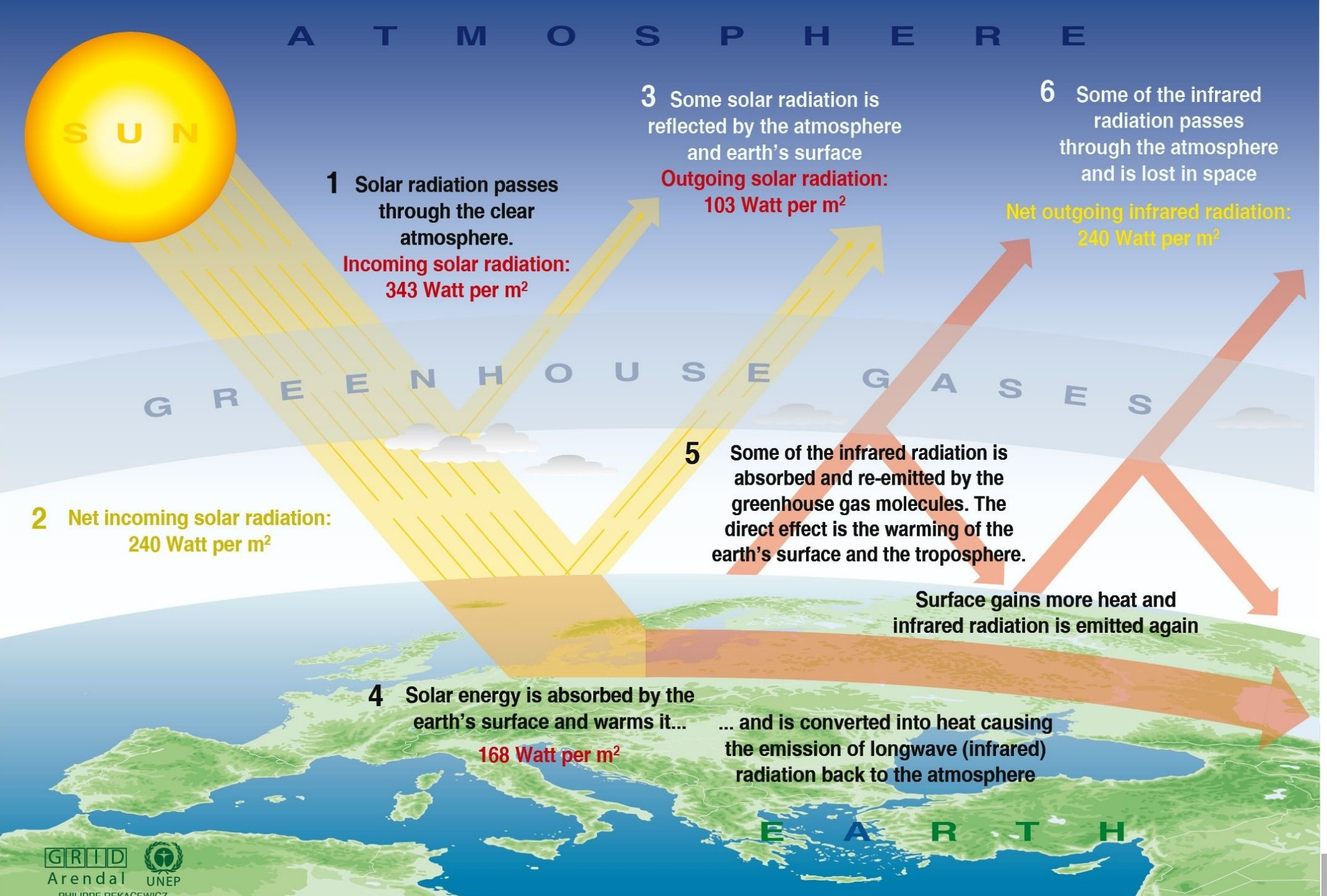
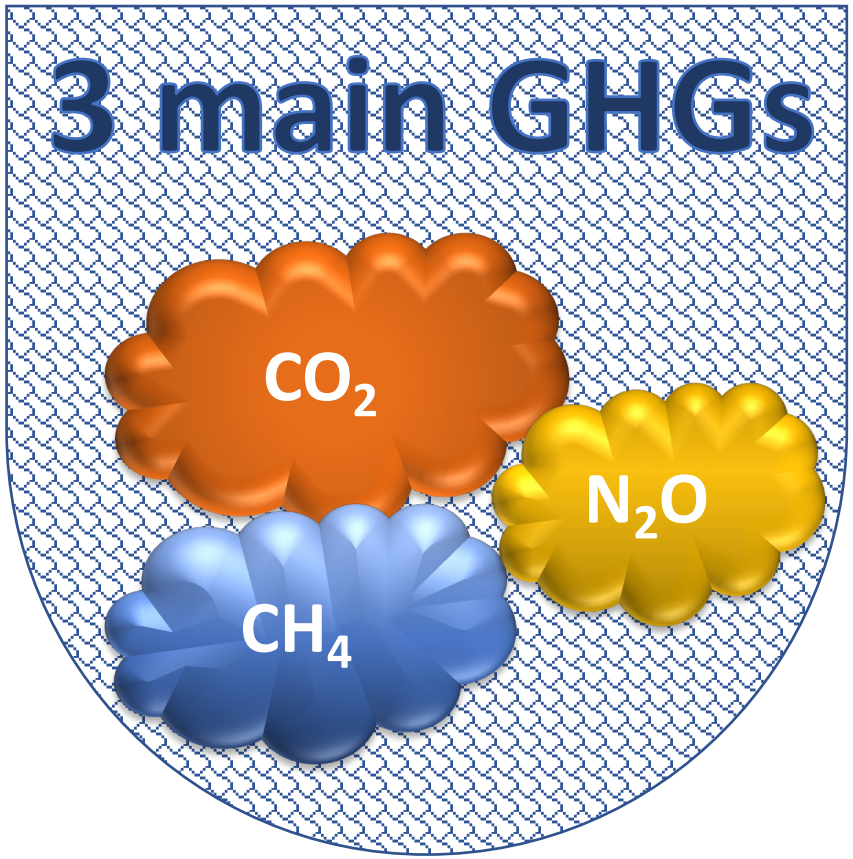
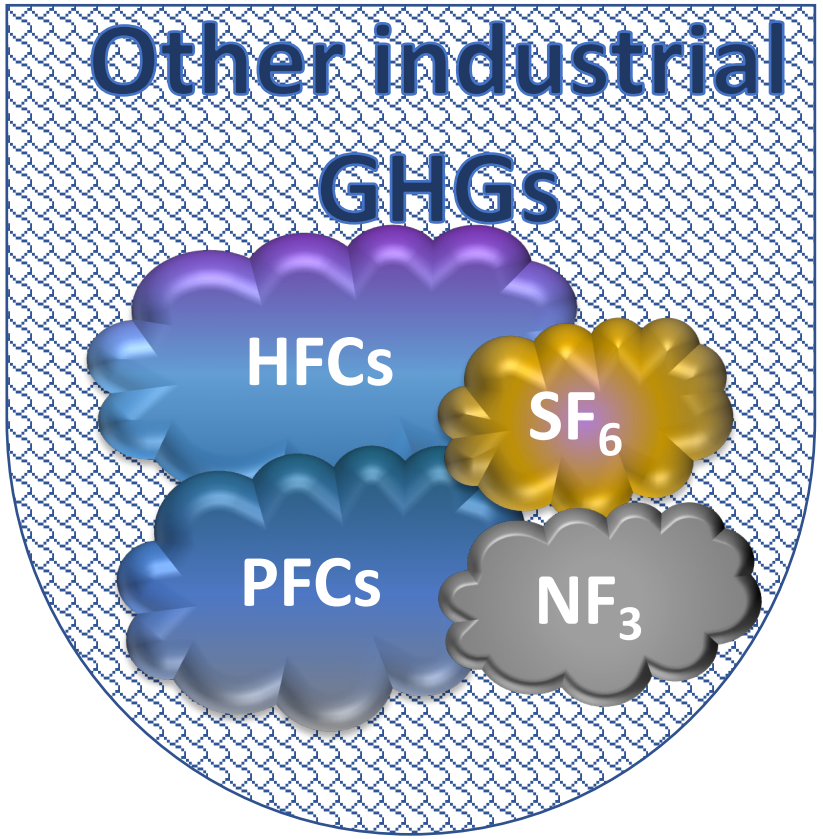
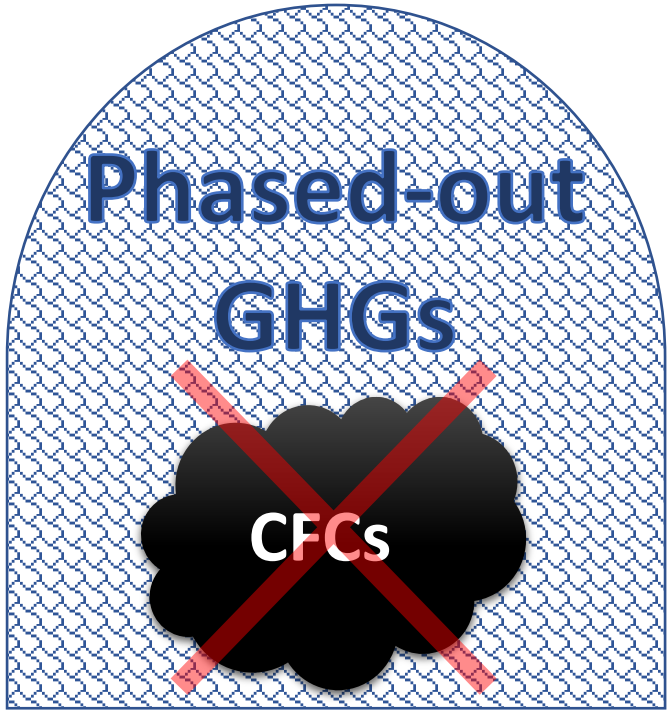
Contents


A T M O S P H E R E
S U N
1 Solar radiation passes through the clear atmosphere.
Incoming solar radiation: 343 Watt per m²
3 Some solar radiation is reflected by the atmosphere and earth's surface
Outgoing solar radiation: 103 Watt per m²
6 Some of the infrared radiation passes through the atmosphere and is lost in space
Net outgoing infrared radiation: 240 Watt per m²
G R E E N H O U S E G A S E S
2 Net incoming solar radiation: 240 Watt per m²
5 Some of the infrared radiation is absorbed and re-emitted by the greenhouse gas molecules. The direct effect is the warming of the earth's surface and the troposphere.
Surface gains more heat and infrared radiation is emitted again
4 Solar energy is absorbed by the earth's surface and warms it...
168 Watt per m²
... and is converted into heat causing the emission of longwave (infrared) radiation back to the atmosphere
E A R T H
GRID Arendal
UNEP

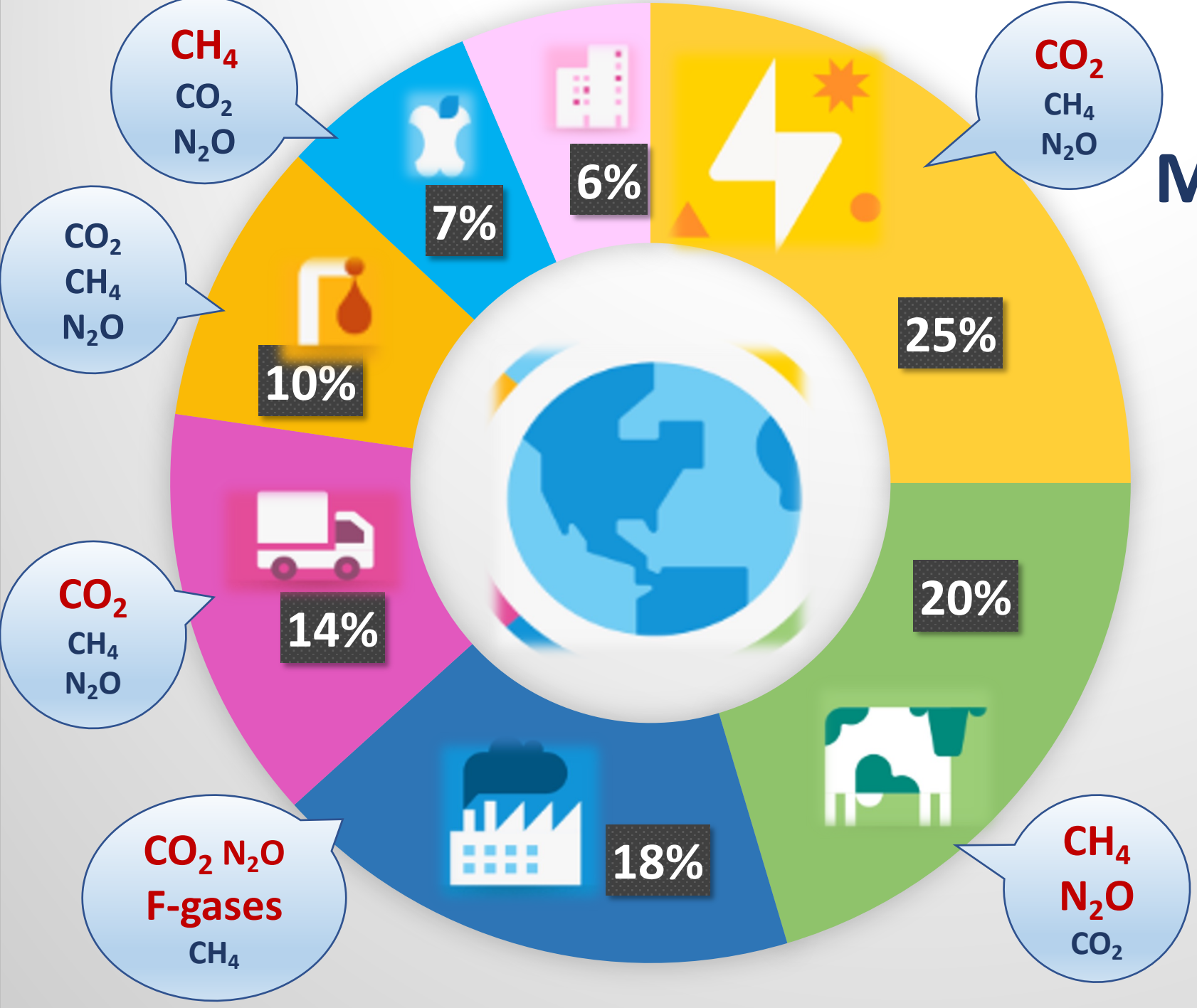
Greenhouse Gases (GHGs)







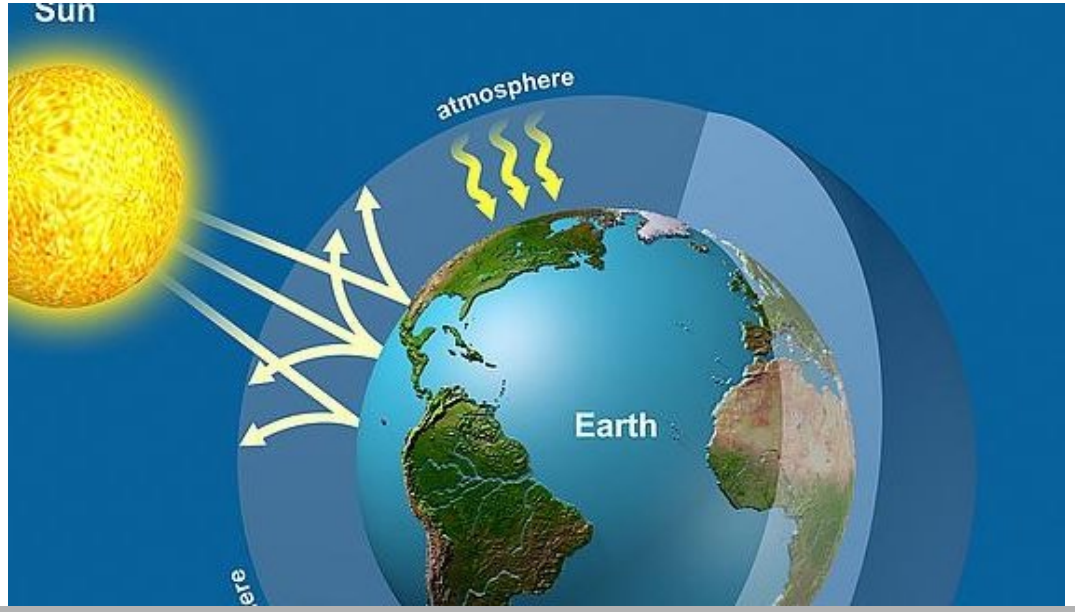
Major GHG sources



- Electricity & heat
- Agriculture & land
- Industry
- Transportation
- Other energy
- Food waste
- Buildings

What is a national GHG inventory?

- *It is a complete account of emissions and removals of anthropogenic greenhouse gases resulting from economic activities within a national territory over a given period of time (annual estimates)*
- *It includes a set of data tables (or a database) and a report describing:*
  - *How emissions are estimated*
  - *What the results are*
  - *Interpretation of the results*
  - *Emissions trends over time*
  - *Explanations and commentary*

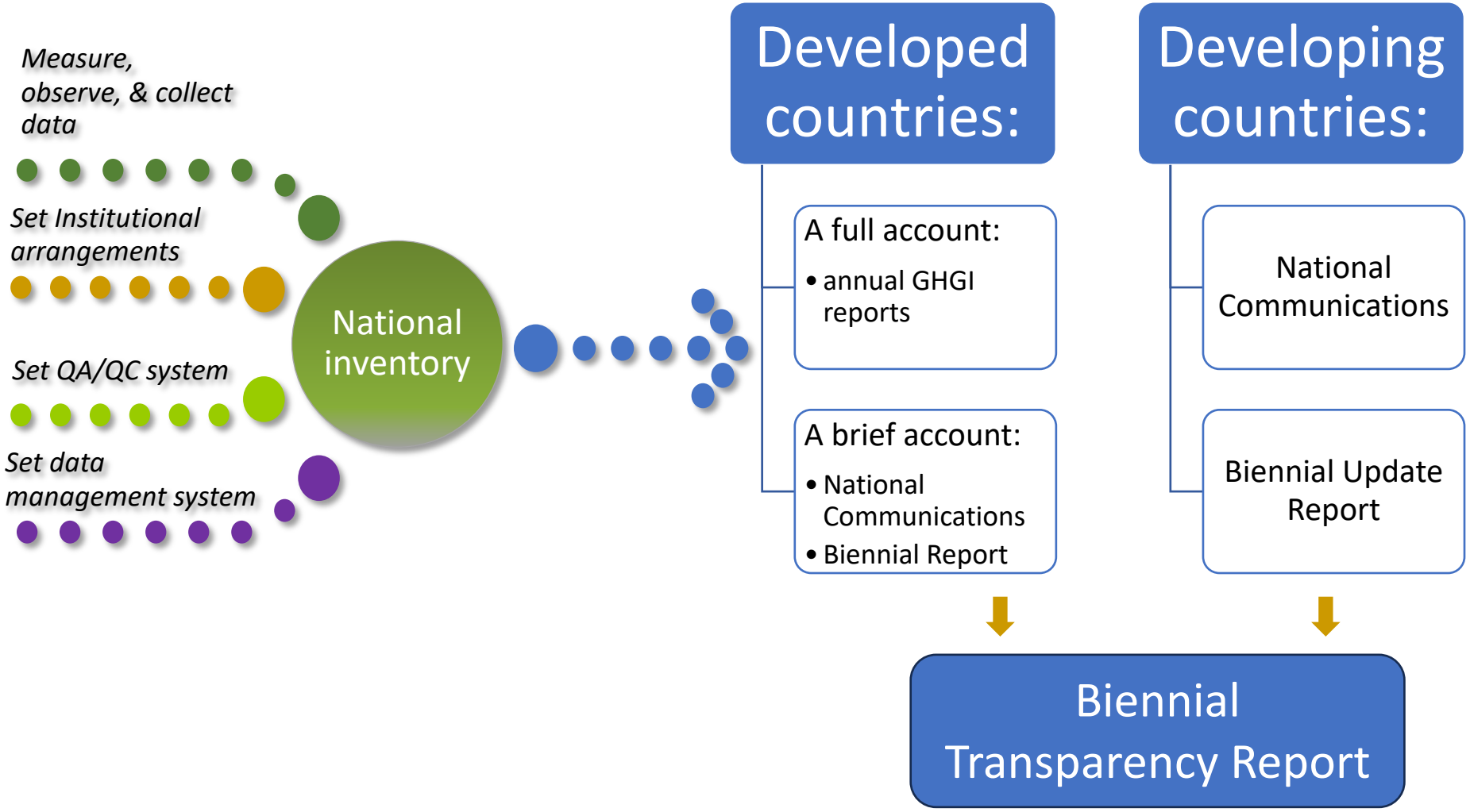


- *It presents the main tool to connect mitigation with Policy, and establish emission reduction targets*
- *It helps us understand climate change scenarios, build emission projections, and envision what the future patterns might be like*

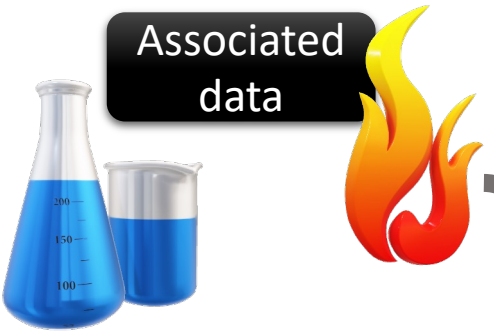
Inventory structure: economic sectors covered in estimations

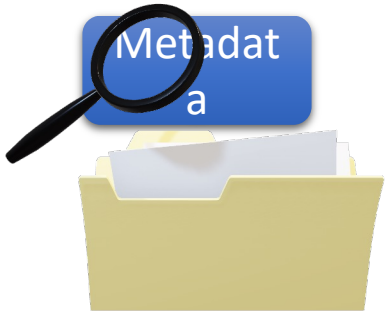
Energy	Combustion and fugitive emissions from the production, storage, and use of fuels	CO_2, CH_4, N_2O	Source
IPPU	GHG emissions from chemical reactions during industrial processes or product use	CO_2, CH_4, N_2O, F-gases	Source
Waste	GHG emissions associated with waste management, disposal, and decomposition	CO_2, CH_4, N_2O	Source
Agriculture	Emissions from livestock and management of agricultural soils	CO_2, CH_4, N_2O	Source
LULUCF	GHG emissions from land use, land-use change, and forestry	CO_2, CH_4, N_2O	Source or Sink

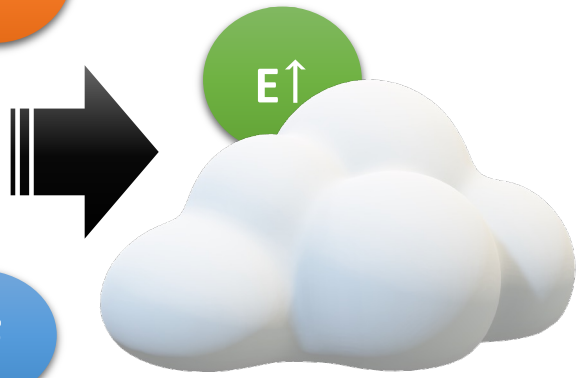
Current GHG inventory reporting

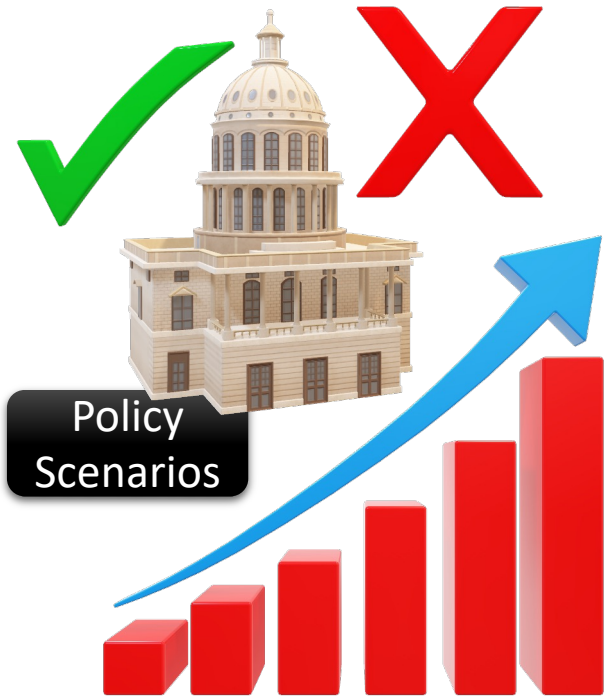


What Do We Mean When We Say "GHG Data"?









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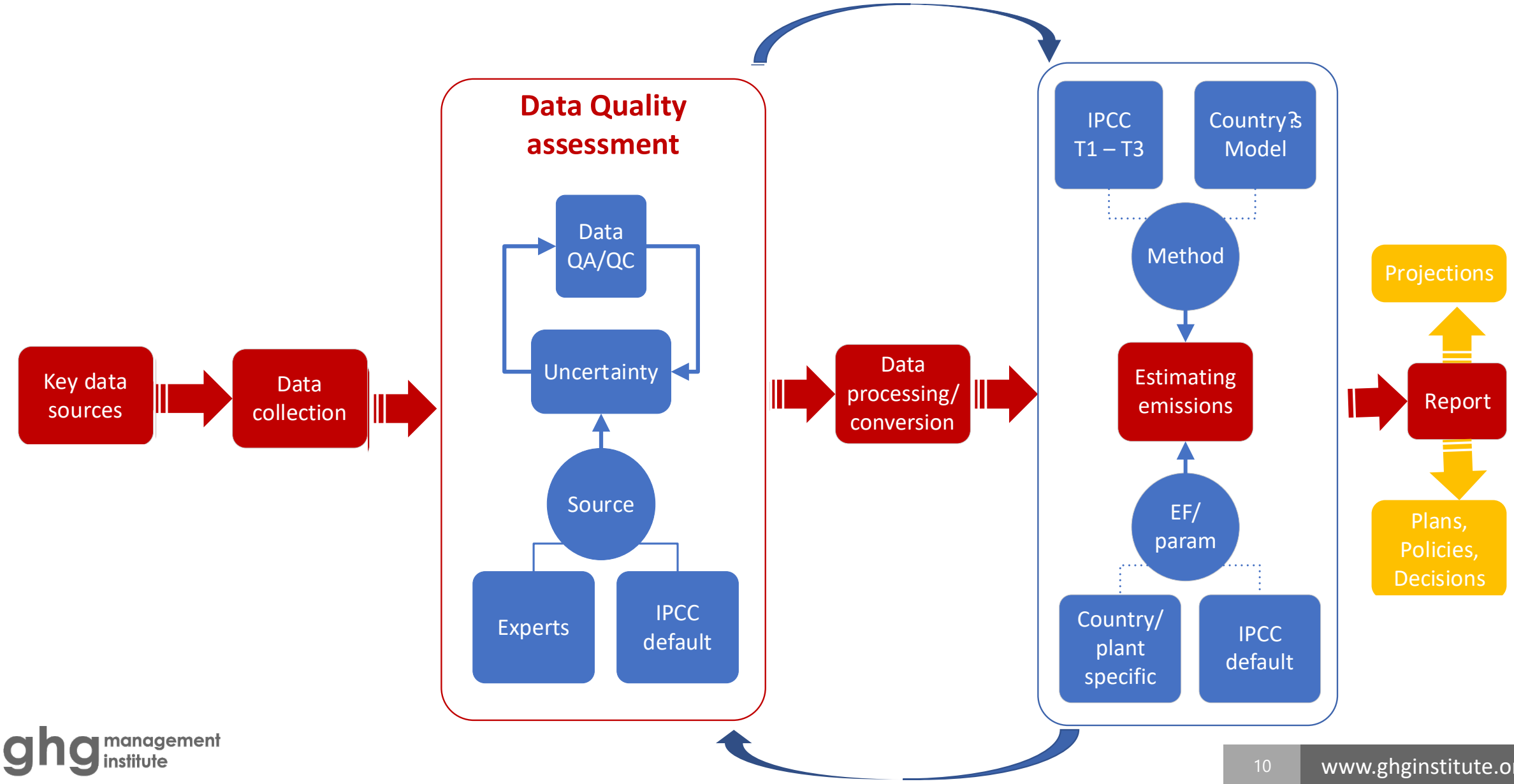
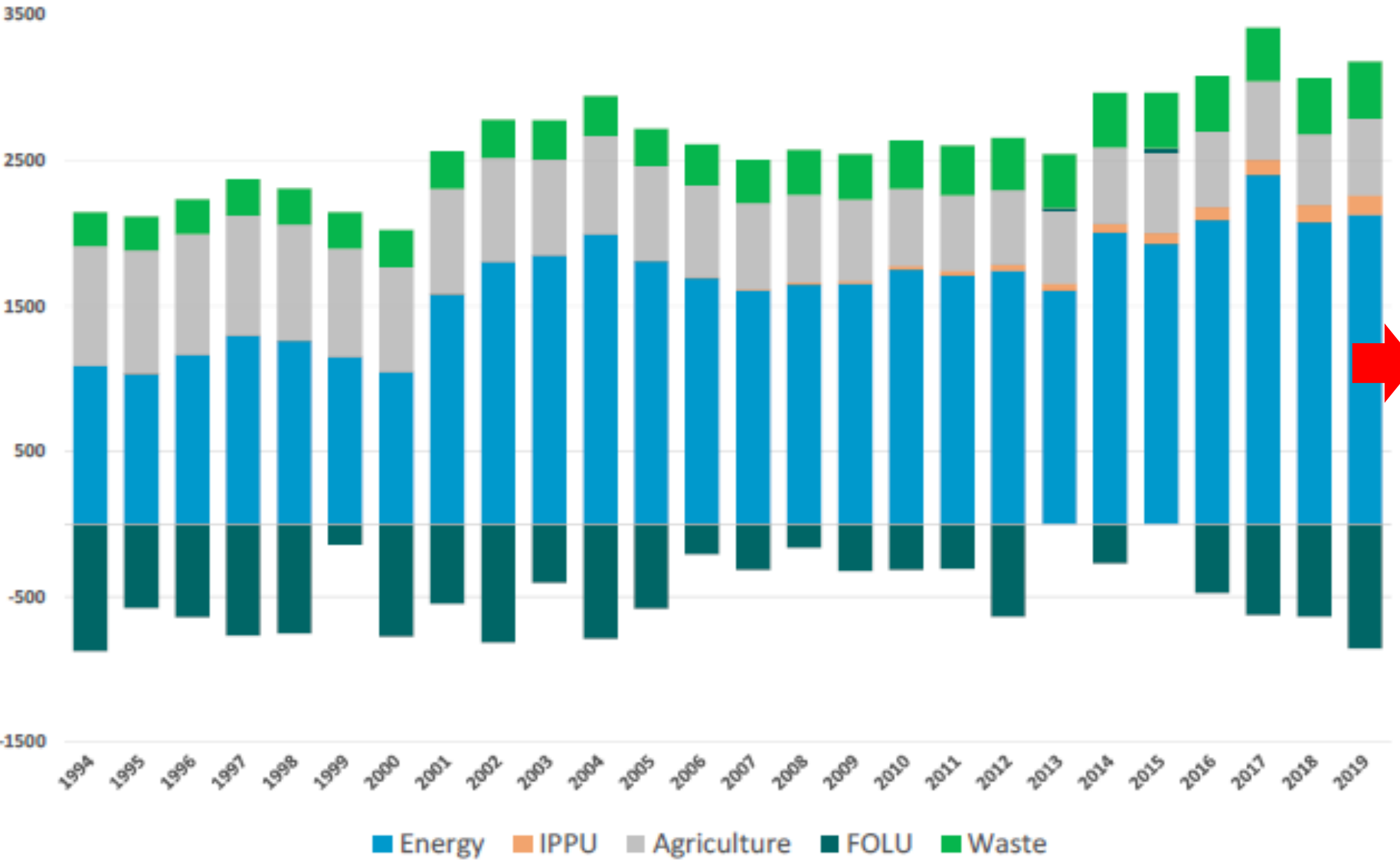
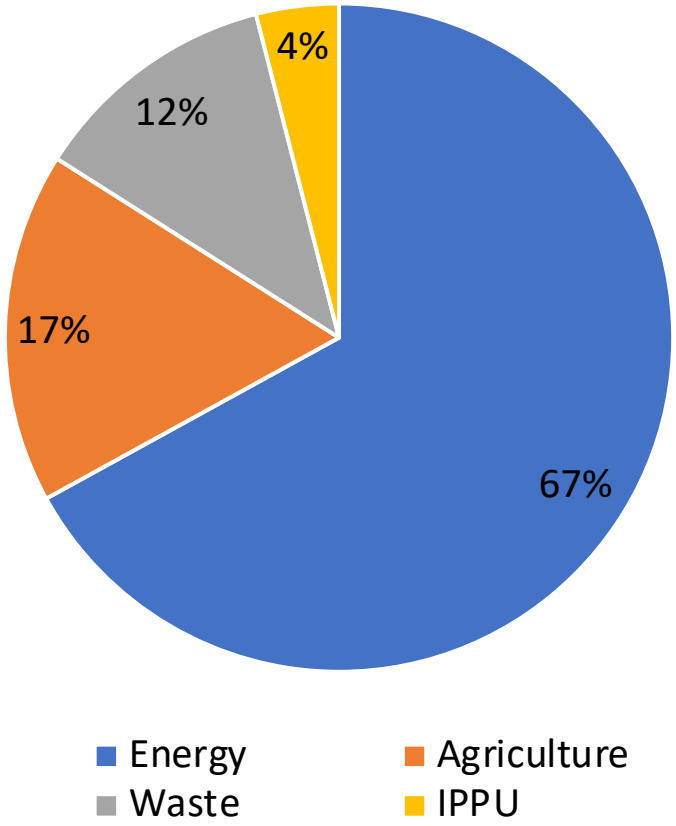
GHG data story

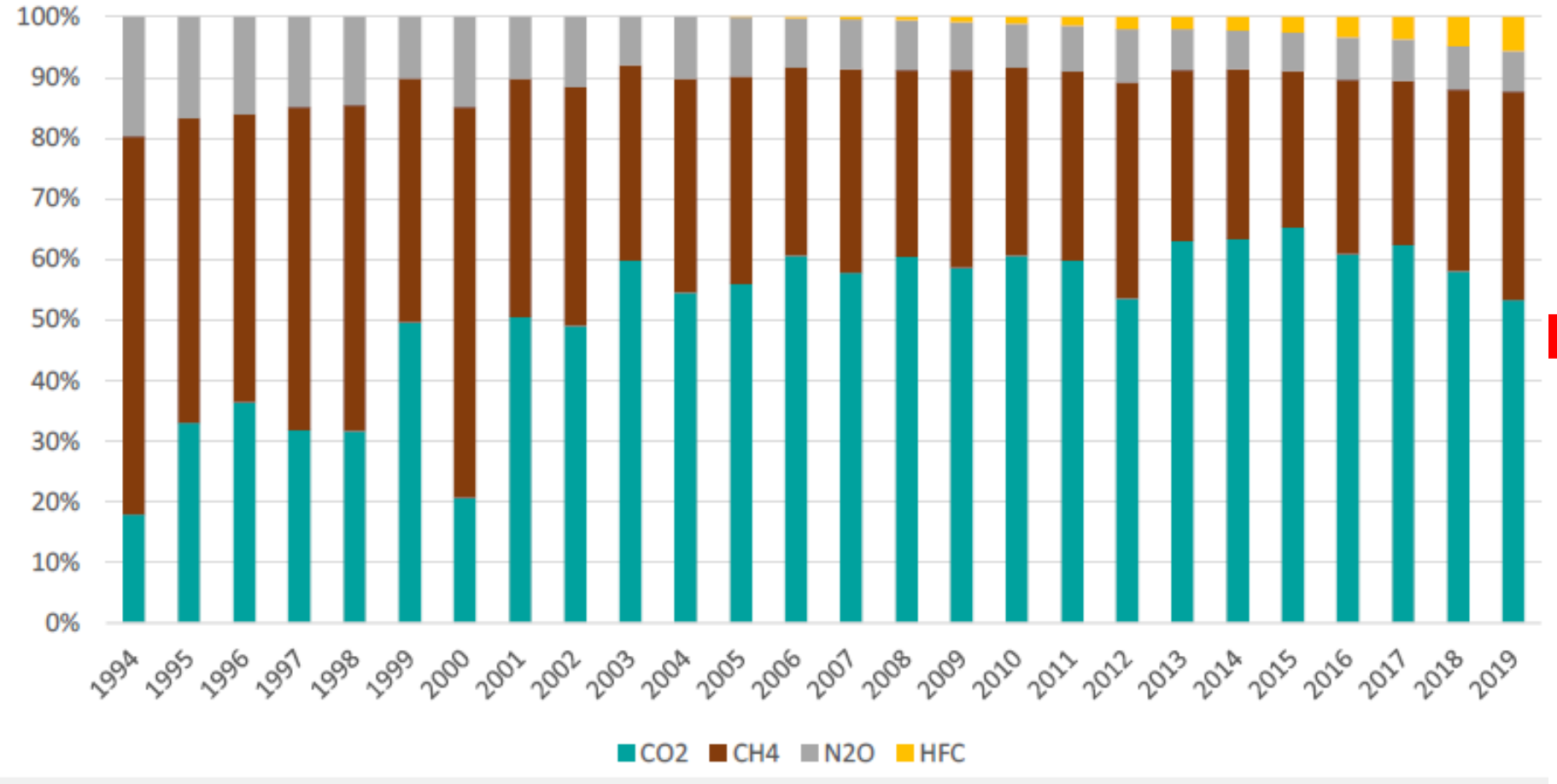


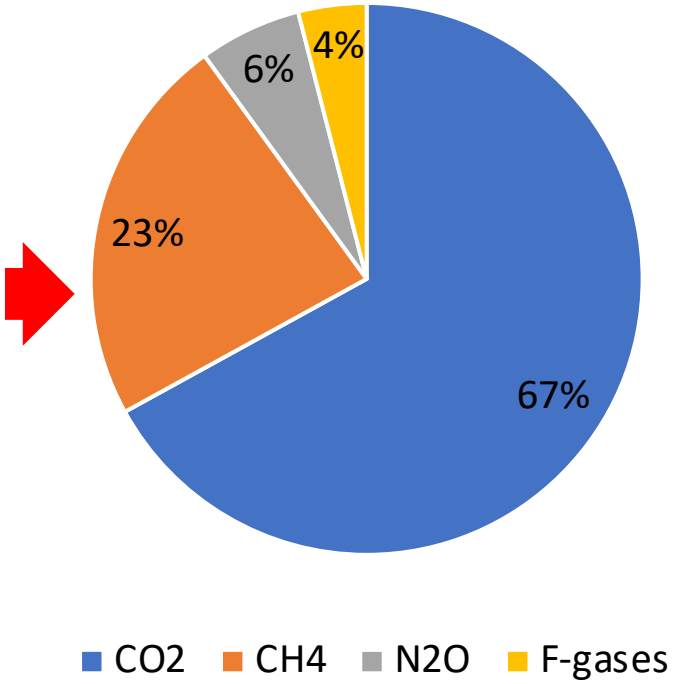
Fiji GHG inventory at a glance (1994 – 2019) – by sector





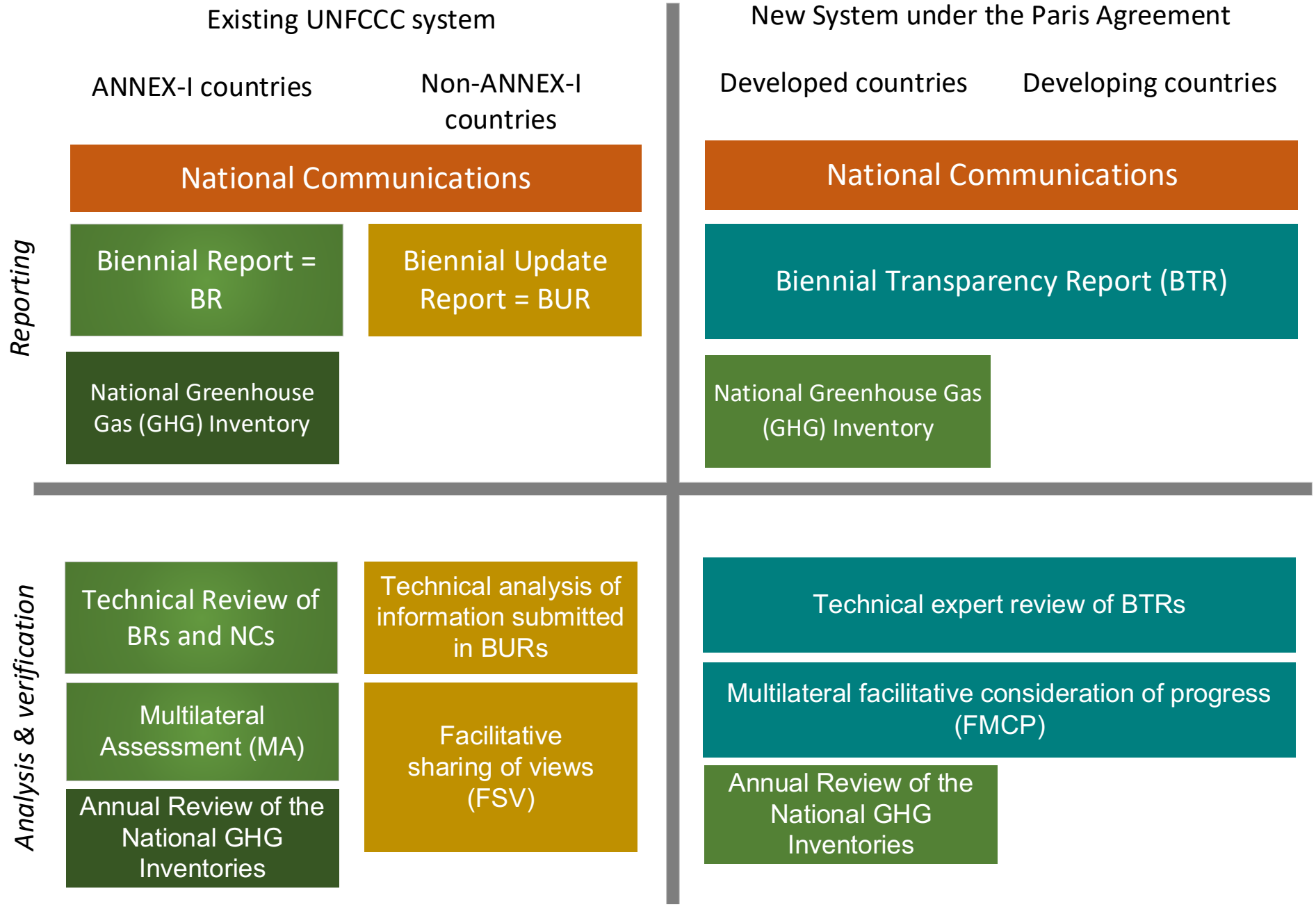
Fiji GHG inventory at a glance (1994 – 2019) – by gas





Fiji within the global climate framework

- Fiji was the first country in the world to ratify the Paris Agreement.
- Fiji also led the United Nations' ongoing climate negotiations as President of COP23 while rallying the global community to seek the full implementation of the Paris Agreement to spare the planet from the worst effects of a changing climate.
- Fiji has so far published three National Communications (NC) reports (1NC, 2NC, and 3NC), the most recent being in April 2020
- Fiji is currently in the process of preparing its First Biennial Update Report planned for publication in 2024.
- Fiji in collaboration with Gauss International produced the new inventory report covering the years 1994 – 2019 and, for the very first time, extending the coverage of emitted GHGs to include emissions of fluorinated gases.



Existing UNFCCC system
New System under the Paris Agreement
ANNEX-I countries
Non-ANNEX-I countries
Developed countries
Developing countries
National Communications
National Communications
Reporting
Biennial Report = BR
Biennial Update Report = BUR
Biennial Transparency Report (BTR)
National Greenhouse Gas (GHG) Inventory
National Greenhouse Gas (GHG) Inventory
Analysis & verification
Technical Review of BRs and NCs
Technical analysis of information submitted in BURs
Technical expert review of BTRs
Multilateral Assessment (MA)
Facilitative sharing of views (FSV)
Multilateral facilitative consideration of progress (FMCP)
Annual Review of the National GHG Inventories
Annual Review of the National GHG Inventories

GHG Inventories under the ETF: Key elements of reporting

Cross-cutting

KCA required (Flexibility)

Inventory year T-2 (Flexibility)

Time series: 1990- inventory year (Flexibility)

Quantitative and qualitative uncertainty analysis (Flexibility)

Completeness – significance threshold (Flexibility)

Quality Assurance/ Quality Control (Flexibility)

Metrics & methods

AR5

Use of 2006 IPCC Guidelines, Wetlands Supplement encouraged

Sectors & gases

Energy, IPPU, Agriculture, LULUCF and waste

CO_2, CH_4, N_2O, HFCs, PFCs, SF_6, NF_3 (Flexibility)

Indirect CO_2 encouraged

Party to indicate if natural disturbances in totals

If use IPCC method other than production approach for HWP, report also production approach

Flexibility provisions contained in MPGs for those developing country parties that need it in the light of their capacities

Thank you!
Questions?