



# International Emissions Reporting

"The best" or "Good Enough"?

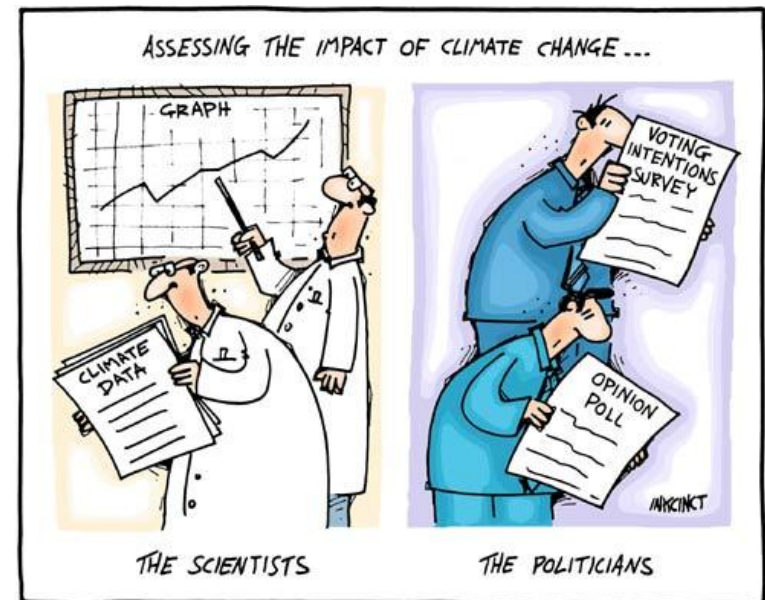
Tinus Pulles





## Outline

- › Emissions Reporting
  - › Science applied in policy processes
  - › Reporting Requirements
  - › Quality of data
- › IPCC and UNFCCC
- › The UNFCCC review process
  - › Adjustments
  - › Why it works





# Policy making and Science in Climate Change

## IPCC

- › Independent scientists
- › Support the policy making process
- › Heavily peer reviewed reports



## UNFCCC

- › All parties to the convention
- › Annual meeting: COP 15
- › Kyoto Protocol
- › Targets for “Annex I” parties
- › Annual meeting COP/MOP 5





## Policy making and Science in Climate Change

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**NGOs**



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## International emissions reporting requirements


- › UNFCCC: climate change (Climate Change Convention)
  - › Countries agreed to stabilise greenhouse gas emissions
  - › Countries agreed to show compliance (transparency, reporting)
- › UNECE LRTAP: acidification, eutrofication, ozone depletion, photochemical oxidants, precursors, heavy metals, persistent organic pollutants
- › UNECE Aarhus Convention: “Community Right to Know”
  - › EPER / E-PRTR (facilities level)
  - › E-PRTR Diffuse sources
- › Emissions trading
  - › Completely different perspective

**National  
Inventories**

**“In my  
backyard”**



## Perspectives on data Quality

	Perspective	Quality high if
<b>Scientist</b>	<i>Scientific debate:</i> search for weaknesses and errors; falsification	... predictions that are confirmed 
<b>Policy maker</b>	<i>Political debate:</i> search for consensus and agreement; compromise	... everybody involved agrees 
<b>Lawyer</b>	<i>Judicial debate:</i> search for proof or doubt; persuasion	... convinces a judge or jury 



# Emission Inventory Guidance

IPCC 2006  
Guidelines

	Procedural Guidance	Technical Guidance
Climate Change	UNFCCC Guidelines for Reporting and Review	IPCC Guidelines (1996 + GPG)
Air Pollutants	LRTAP Emission Reporting Guidelines	Guidebook

*What, when, how?  
Commitment!*

*How to do what you  
committed yourself to do?*



## Verification and Validation

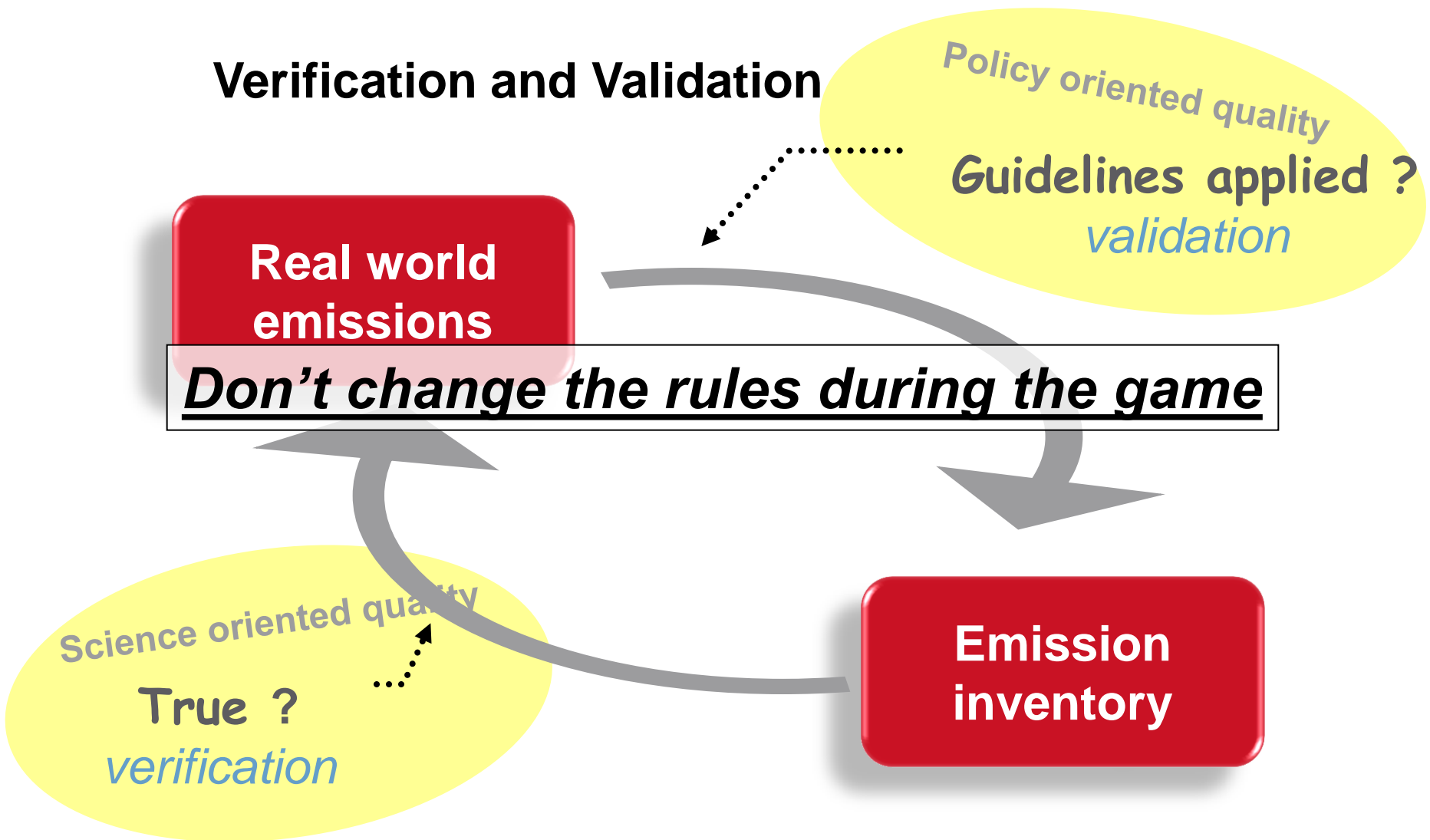
**Real world  
emissions**

**Don't change the rules during the game**

*Policy oriented quality*  
**Guidelines applied ?**  
*validation*

*Science oriented quality*  
**True ?**  
*verification*

**Emission  
inventory**





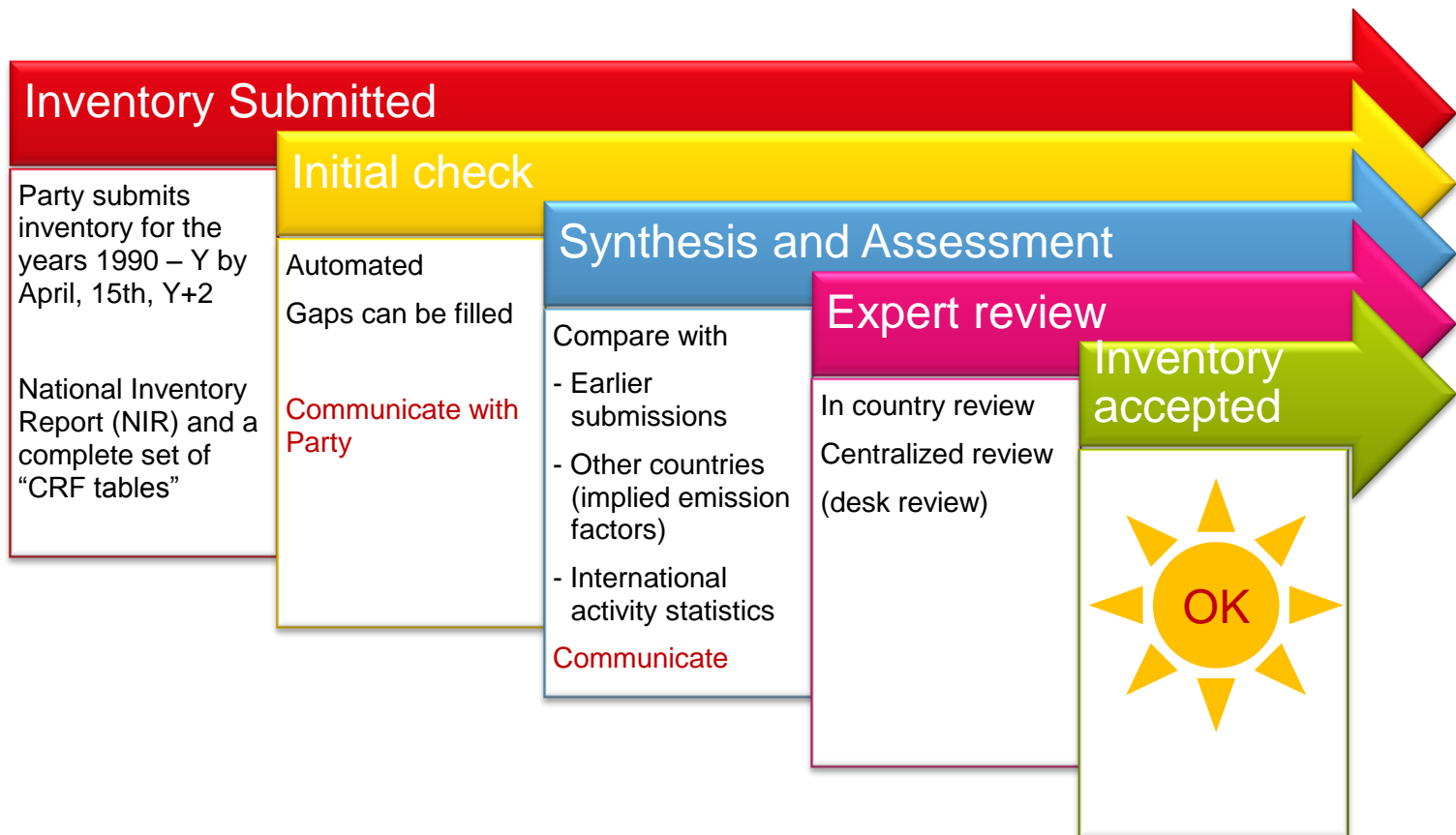


## Policy: the UNFCCC review process





# Policy: the UNFCCC review process





## Good Practice: “Tiers”

<b>Tier 1:</b>	a method using readily available statistical data on the intensity of processes (“activity rates”) and default emission factors. These emission factors assume a linear relation between the intensity of the process and the resulting emissions. The Tier 1 default emission factors also assume an average or typical process description. This method is the Simplest Method, has the highest level of uncertainty and should not be used to estimate emissions from <i>key categories</i> (see below for definition).
<b>Tier 2:</b> More complex Method	is similar to Tier 1 but uses more specific emission factors developed on the basis of knowledge of the types of processes and specific process conditions that apply in the country for which the inventory is being developed. Tier 2 methods are more complex, will reduce the level of uncertainty and are considered adequate for estimating emissions for Key Categories..
<b>Tier 3:</b>	is any method that goes beyond the above methods. These might include the use of more detailed activity information, specific abatement strategies or other relevant technical information. Tier 3 methods should aim to reduce the level of uncertainty compared to tier 2. Where resources are limited, the development of tier 3 methods for non key categories is not encouraged over the development of tier 2 methods for key categories.



## Key categories

- › A **key category** is one that is *prioritised* within the national inventory system because it is significantly important\* in a country's national emissions inventory in terms of the absolute level, the trend, or the uncertainty in emissions (as defined below).
- › It is **good practice** for each country to use key category analysis systematically and objectively as a basis for choosing methods of emission calculation. Such a process will lead to improved inventory quality, as well as greater confidence in the estimates that are developed. The approach for Key Category analysis is presented below.

\* *Largest sources contributing to 95 % of the emisisions*

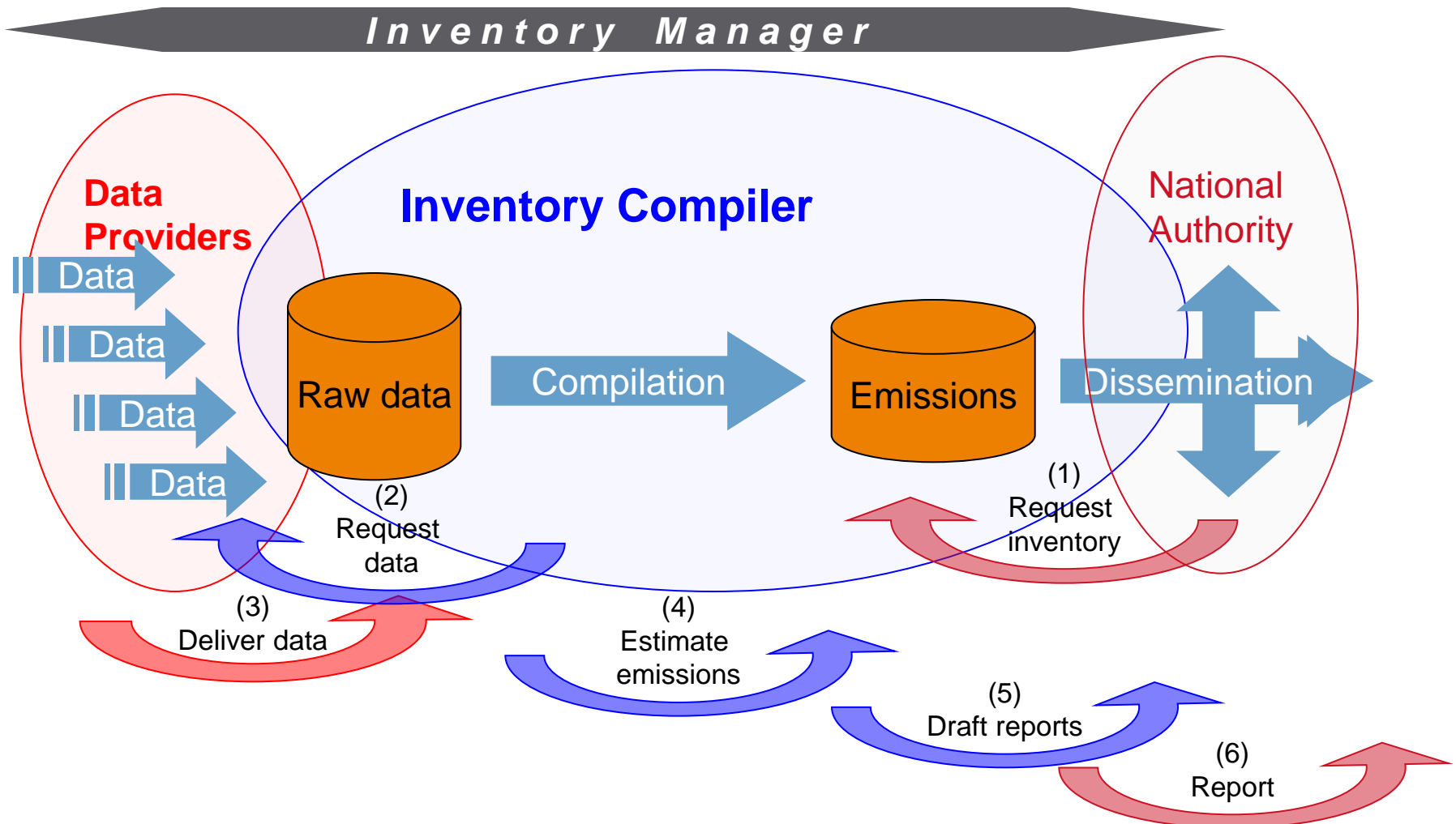


# National systems





# Reporting national inventories

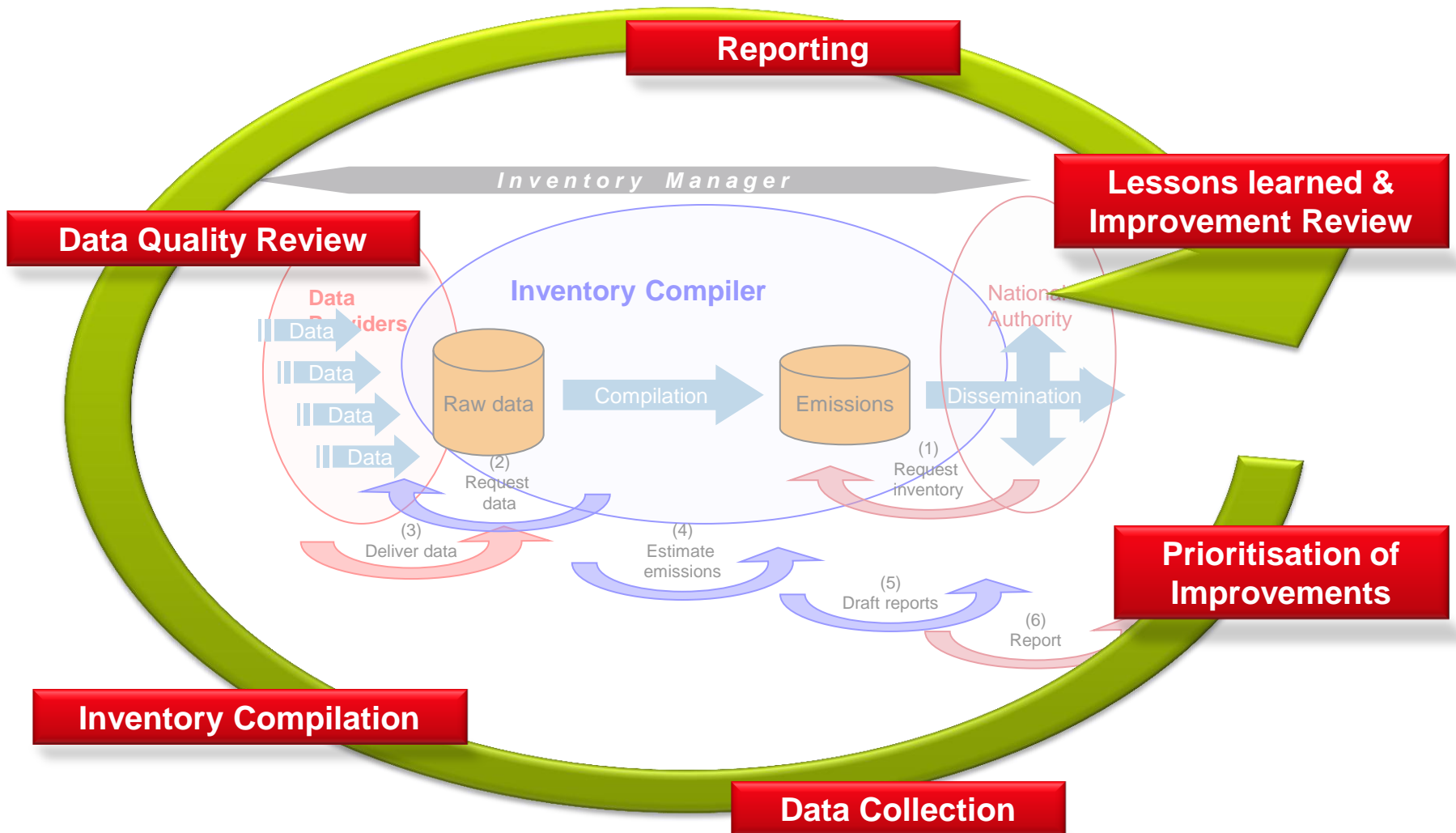






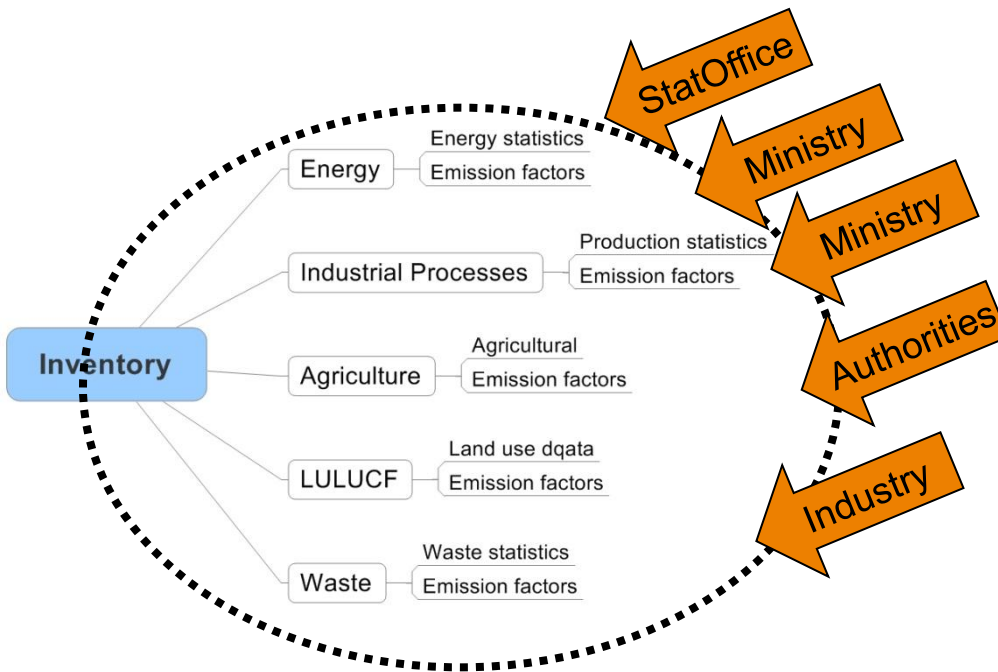
# Inventory annual cycle

from the revised Guidebook





## Inventory compilation Centralized model

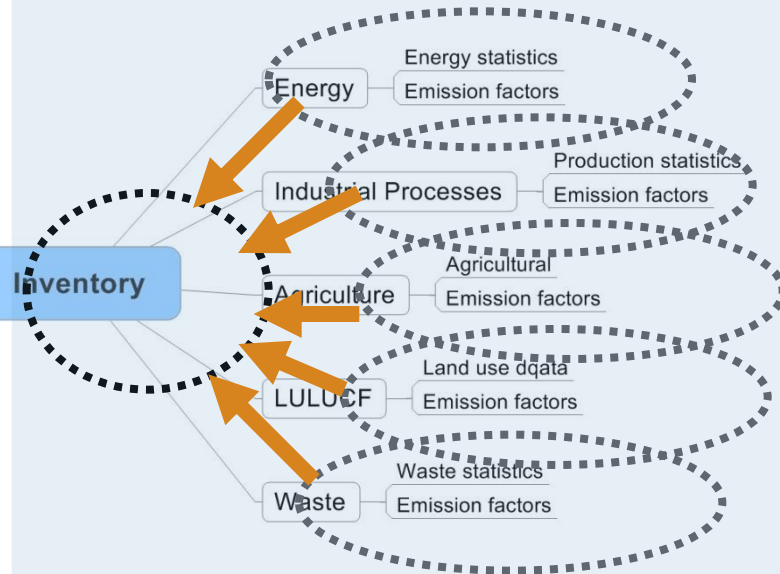


- › Statistics data flow from data owners to central Inventory Agency
- › Agency is responsible for the estimate and drafting the reports
- › Agency is responsible for QA./QC, including national review by data owners etc.
- › Agency works with a mandate or contract directly from the “designated single entity”
- › Data flows arranged by law or protocols

AT, GE UK, FR,, ...



## Inventory compilation Distributed model



Inventory management

- › Emission estimates are prepared by specialised institutions
- › Inventory Agency consolidates and drafts reports; data quality is ensured by the institutions
- › QA/QC distributed; relies on QA/QC systems in all participating institutions
- › Inventory management to steer the process
- › Inventory knowledge to be distributed

NL, US, ...



**Teşekkür Ederim**  
**Thank you**