

MRV under UNFCCC:

UN-REDD PROGRAMME

The United Nations Collaborative Programme
on Reducing Emissions from Deforestation
and Forest Degradation in Developing Countries



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Outline

1. The MRV function/requirement under UNFCCC
2. The IPCC Guidelines
3. The National System

1. MRV under UNFCCC

ARTICLE 4: COMMITMENTS

1. All Parties, taking into account their common but differentiated responsibilities and their specific national and regional development priorities, objectives and circumstances, shall:

(a) Develop, periodically update, publish and make available to the Conference of the Parties, in accordance with Article 12, **national inventories of anthropogenic emissions by sources and removals by sinks** of all greenhouse gases not controlled by the Montreal Protocol, using comparable methodologies to be agreed upon by the Conference of the Parties;

2. REDD-plus: Décision 4/CP.15

FCCC/CP/2009/11/Add.1
Page 11

Decision 4/CP.15

Methodological guidance for activities relating to reducing emissions from deforestation and forest degradation and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries

Article 1

*Requests developing country Parties, on the basis of work conducted on the methodological issues set out in decision 2/CP.13, paragraphs 7 and 11, to take the following guidance into account for activities relating to decision 2/CP.13, and without prejudging any further relevant decisions of the Conference of the Parties, in particular those relating to **measurement and reporting**:*

2. REDD-plus: Decision 4/CP.15

- Article 1 (c):

*To use the most recent Intergovernmental Panel on Climate Change guidance and guidelines, **as adopted or encouraged** by the Conference of the Parties, as appropriate, as a basis for estimating anthropogenic forest-related greenhouse gas emissions by sources and removals by sinks, forest carbon stocks and forest area changes;*

For the moment this article requires even not Annex I Parties to use the IPCC 2003 LULUCF Guidance

2. REDD+: La Decision 4/CP.15

- **Article 1 (d):**

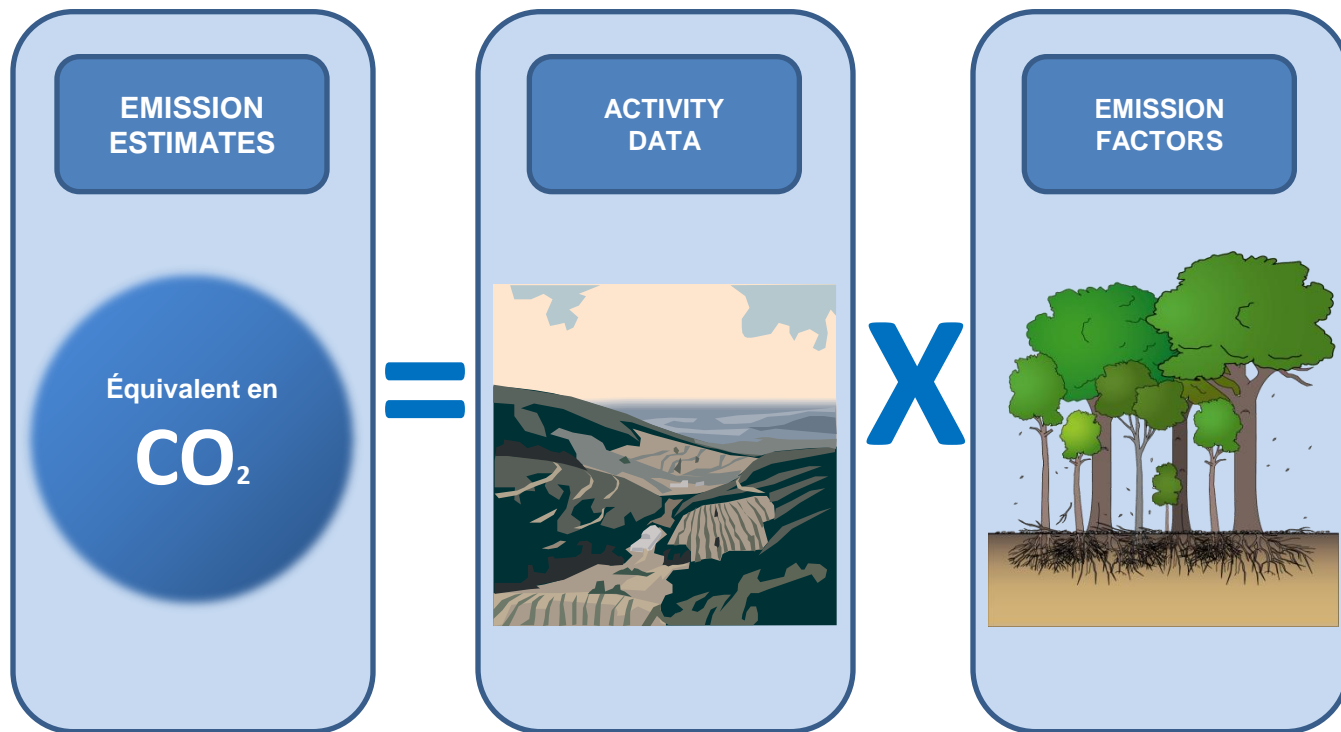
To establish, according to national circumstances and capabilities, robust and transparent national forest monitoring systems and, if appropriate, sub-national systems as part of national monitoring systems that:

- (i) Use a combination of remote sensing and ground-based forest carbon inventory approaches for estimating, as appropriate, anthropogenic forest-related greenhouse gas emissions by sources and removals by sinks, forest carbon stocks and forest area changes;
- (ii) Provide estimates that are transparent, consistent, as far as possible accurate, and that reduce uncertainties, taking into account national capabilities and capacities;
- (iii) Are transparent and their results are available and suitable for review as agreed by the Conference of the Parties;

2. The IPCC Guidelines

The IPCC basic equation

to estimate GHG emissions from land use related activities is:

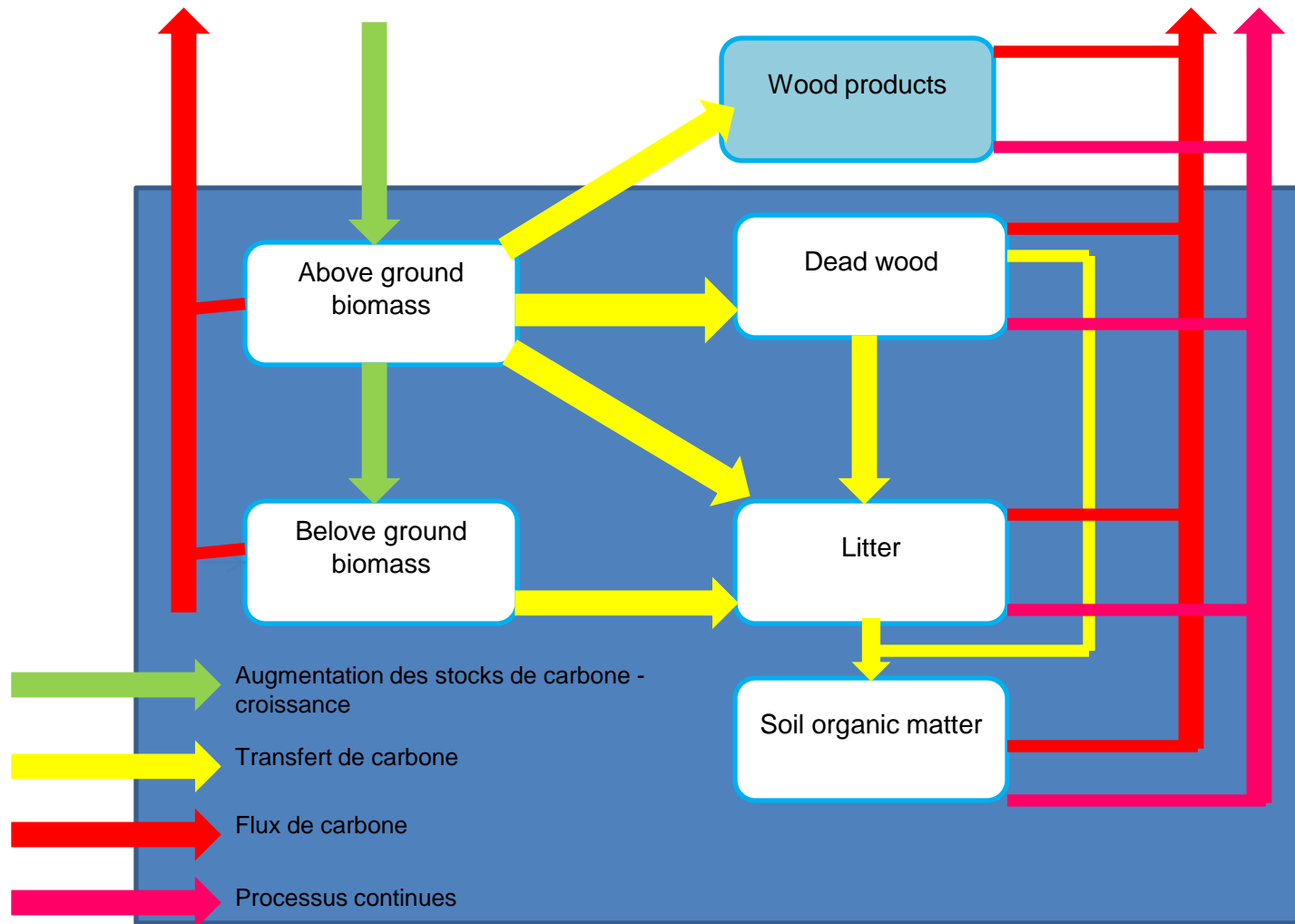


A monitoring system under UNFCCC will have to provide data on forest area and forest area changes and also on carbon stock and carbon stock changes

2. The reporting principles

- **Transparency** means that the assumptions and methodologies used for a GHGs inventory should be clearly explained to facilitate replication and assessment of the inventory by users of the reported information.
- **Accuracy** is the degree of closeness of a measured or calculated quantity to its actual (true) value
 - practicability
 - for some pools demonstration may be enough if that pool is not a source (Marrakesh Agreements)
- **Consistency** means that an inventory should be internally consistent in all its elements with inventories of other years. An inventory is consistent if the same methodologies are used for the base and all subsequent years and if consistent data sets are used to estimate emissions or removals from sources or sinks
- **Completeness** means that an inventory covers all sources and sinks, as well as all gases, in existing relevant source/sink categories.
- **Comparability** means that estimates of emissions and removals reported by Parties in the GHGs inventories should be comparable among them

2. Emission factors: the Carbon pools



2. Activity data

IPCC indication: Countries should characterize and account for all relevant land areas in a country consistently and as transparently as possible. Data should reflect the historical trends in land-use area.

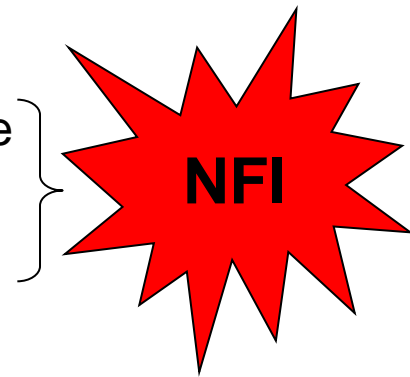
IPCC 2003 LULUCF Guidance suggests three Approaches*:



Approach 1: Basic land-use data

Approach 2: Survey of land use and land-use change

Approach 3: Geographically explicit land use data



In almost all the developing countries there are no NFIs that could be use to assess historical trends in land-use area, the only way to represent land in a consistently and transparently approach with a time frame of 20 years backward is the use of satellite remote sensing data which allows to follow the Approach 3. Thus NFI will not be directly used to assess activity data.

Activity data reporting requirements:

Initial / Final	FL Wet evergreen	FL Moist evergreen	FL Moist semi-deciduous	FL South-east subtype	FL North-west subtype	FL North-west subtype	FL Dry semi-deciduous	Agricultural land	Savanna	Shrub Ticket	Settlements	Wetlands	Other land	Unclassified	Final Area
FL Wet evergreen	51														51
FL Moist evergreen		42													42
FL Moist semi-deciduous			60												60
FL South-east subtype				52											52
FL North-west subtype					12										12
FL North-west subtype						2									2
FL Dry semi-deciduous							25		2						27
Agricultural land	5	2					3	1							13
Savanna			1				3		20						25
Shrub Ticket					1					12					13
Settlements						1		10			25				26
Wetland															
Other land															
Unclassified															
Initial Area	56	44	61	52	13	8									
Net change (Δ = T0-T1)	-5	-2	-1	0	-1	-6									

Land use changes
Deforestation



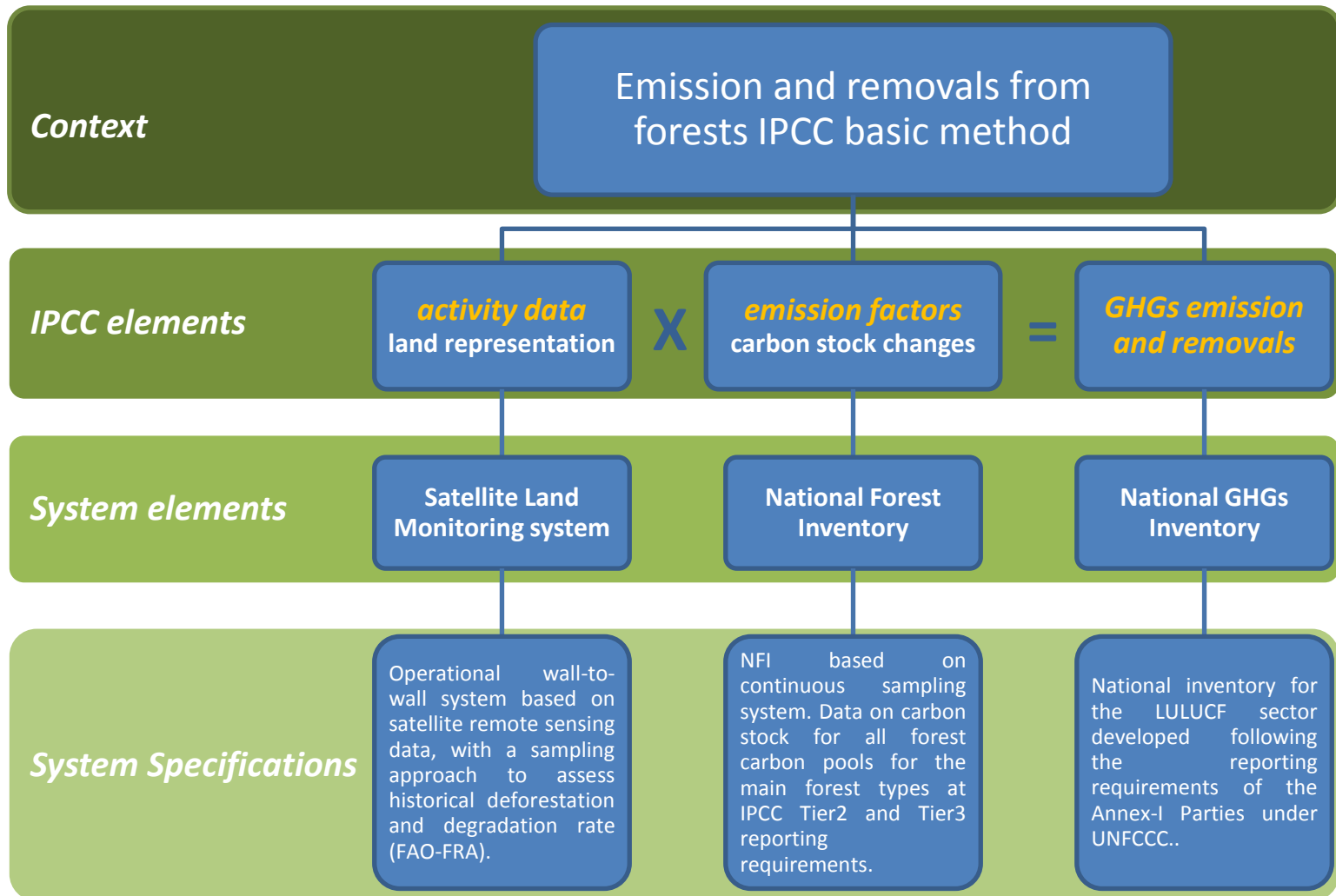
Initial / Final	Plantation area	Hill sanctuaries	Swamp sanctuaries	Provenance protection area	Special biological protection	Fire buffer zones	Shelterbelts	Cultural sites	Research area	Non Timber Forest Product	Timber production	Convalescence	Conversion forest	Final Area
Plantation area	5													5
Hill sanctuaries		2												2
Swamp sanctuaries			1											1
Provenance protection area				2										2
Special biological protection					5									5
Fire buffer zones						2								2
Shelterbelts,							4							4
Cultural sites								4						4
Research area	1					1			2					4
Non Timber Forest Product					2					2			2	6
Timber production											4			4
Convalescence												3		3
Conversion forest													9	9
Initial area	6	2	1	2	7	3	4	4	2	2	4	3	11	51
Net change (Δ = T0-T1)	-1	0	0	0	-2	-1	0	0	0	2	4	0	0	-2

Forest land that remains forest land

Degradation
Conservation

Sustainable management of forests
Enhancement of forest carbon stocks

2. The FAO MRV approach



3. National System

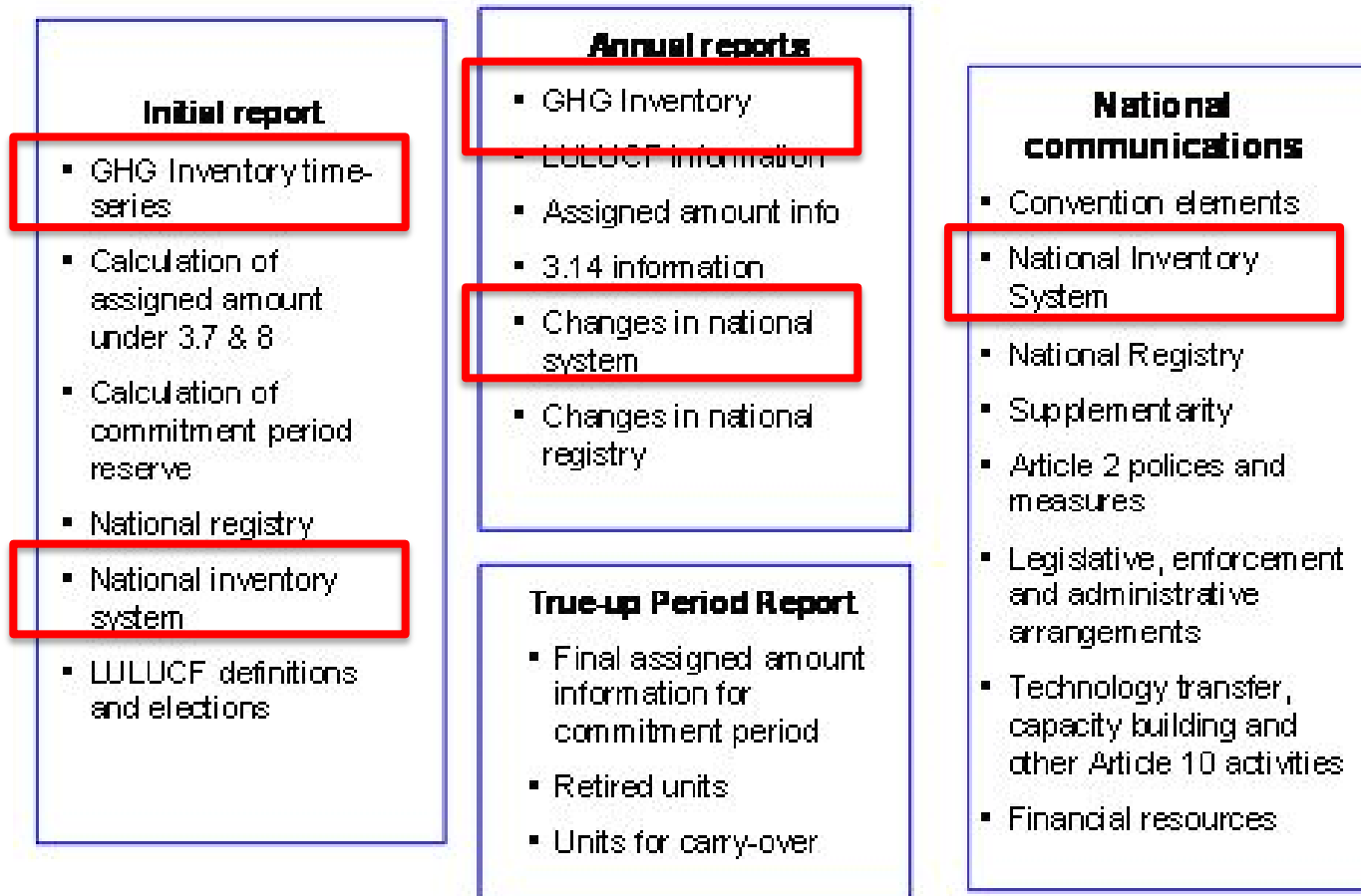
KYOTO PROTOCOL TO THE UNITED NATIONS FRAMEWORK CONVENTION ON CLIMATE CHANGE

Article 5

1. Each Party included in Annex I shall have in place, no later than one year prior to the start of the first commitment period, a national system for the estimation of anthropogenic emissions by sources and removals by sinks of all greenhouse gases not controlled by the Montreal Protocol. Guidelines for such national systems, which shall incorporate the methodologies specified in paragraph 2 below, shall be decided upon by the Conference of the Parties serving as the meeting of the Parties to this Protocol at its first session.

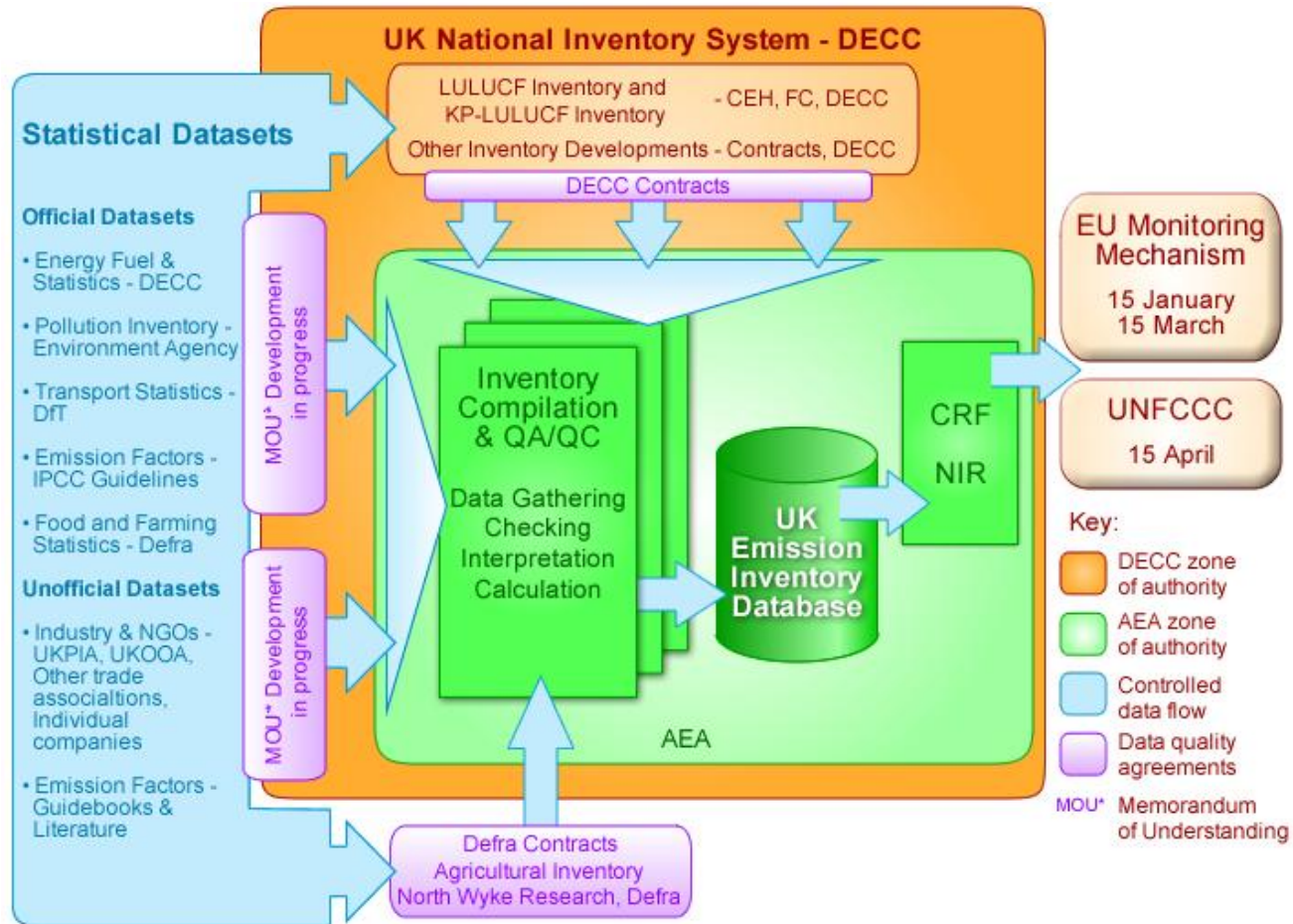
3. National System

Reporting requirements for Annex I Parties under UNFCCC



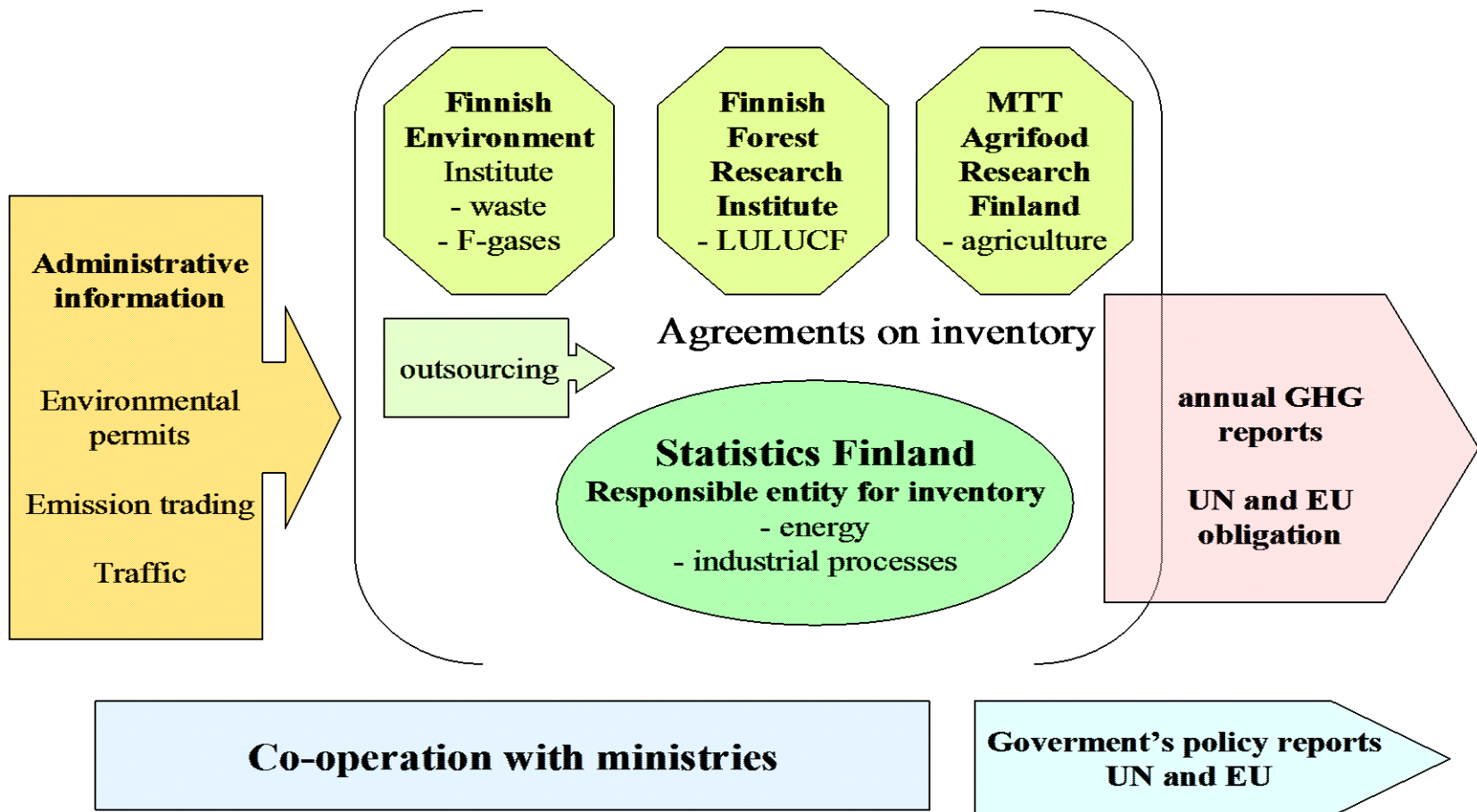
3. National System

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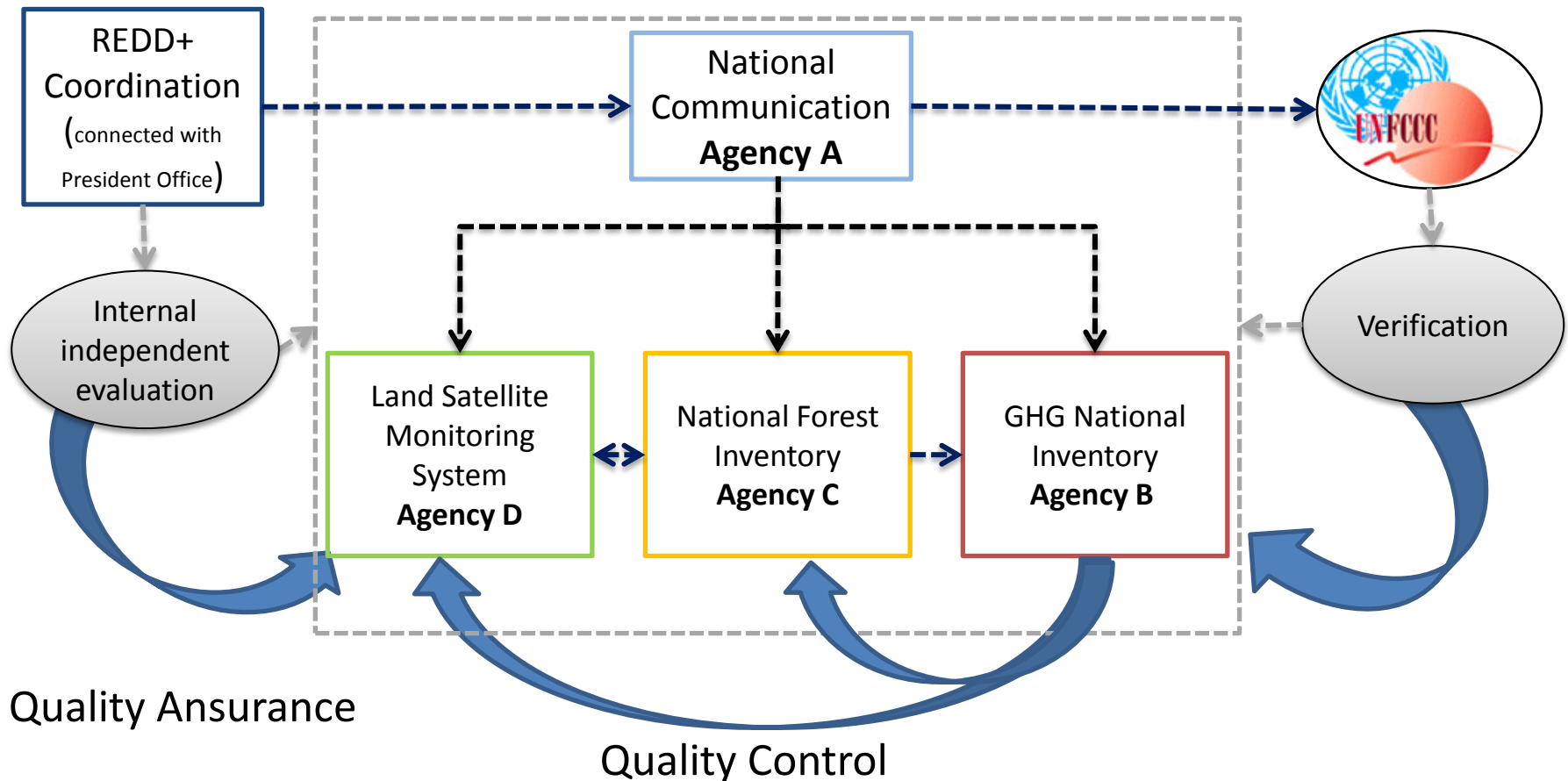
3. National System

Systeme national de la Finlande



3. National System

Potential scheme for a National Inventory System





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