

Importance of National Greenhouse Gas Inventories in the Context of the UNFCCC

ISAP 2015

Science and International Cooperation on Climate
Change: Role and Challenges of National
Greenhouse Gas Inventories

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Science and the negotiations

IPCC	UNFCCC
1 st Assessment Report 1990	UNFCCC agreed 1992
2 nd Assessment Report 1996	Kyoto Protocol negotiated 1997
1996 IPCC GHG Inventory Guidelines	
3 rd Assessment Report 2001	Marrakesh Accords 2001
Good Practice GHG Inventory Guidance 2000 and 2003	Kyoto Protocol Entry into Force 2005
2006 IPCC GHG Inventory Guidelines	Ready for new treaty
4 th Assessment Report 2007	Copenhagen Accord 2009
2013 guidance for new KP rules and Wetlands	Ready for new treaty
5 th Assessment Report 2014	

Despite less scientific evidence than there is now, in 1994 the Parties recognized that there was a problem and created the Climate Change Convention under the precautionary principle (to act in the interests of human safety even in the face of scientific uncertainty)... with the ultimate objective of ...

Article 2 – Objective

- Article 2: *The ultimate objective... is to achieve...**stabilization of greenhouse gas concentrations in the atmosphere** at a level that would prevent dangerous anthropogenic interference_... Such a level should be achieved within a time frame ... to allow ecosystems to adapt naturally...ensure that food production is not threatened and to enable economic development to proceed in a sustainable manner.*

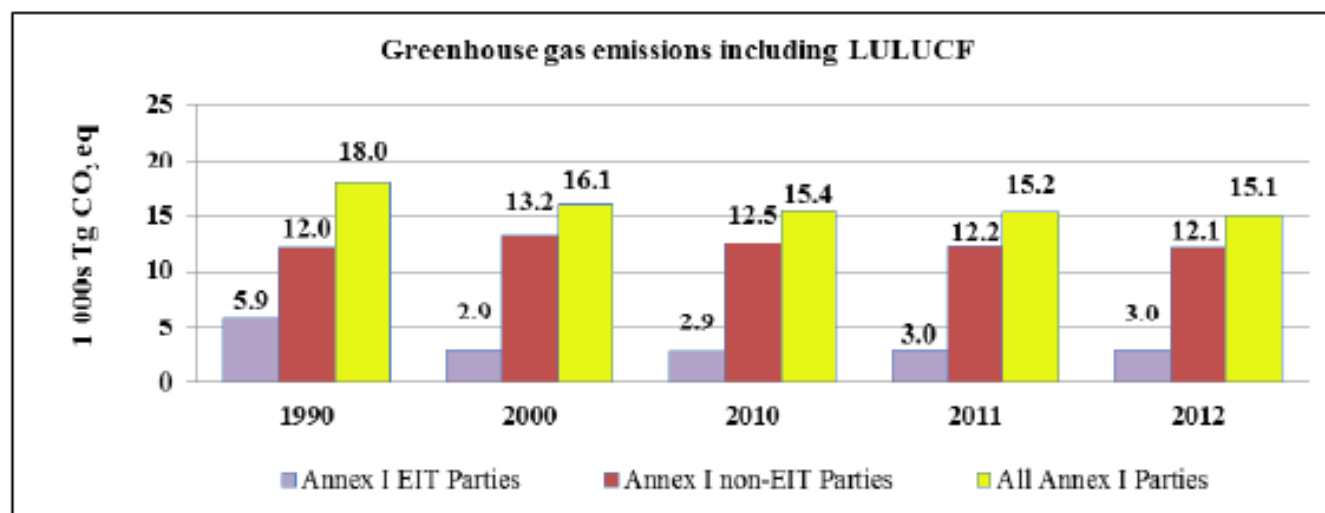
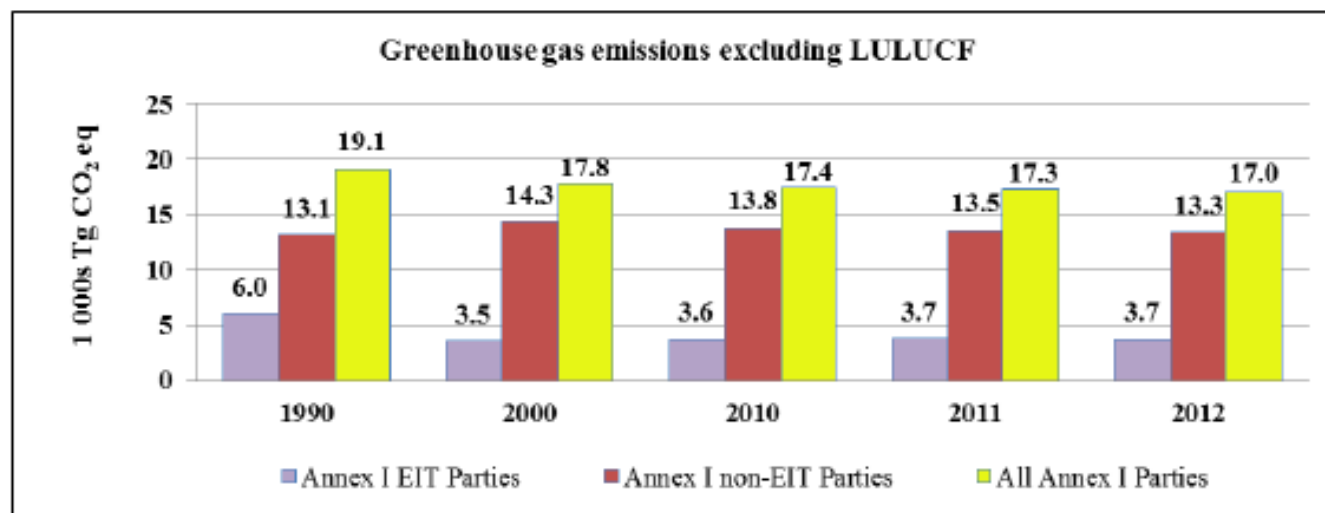
How do Parties know if the ultimate objective of the Climate Change Convention is being achieved?

What is the level at which stabilization should be achieved to avoid dangerous anthropogenic interference with the climate system?

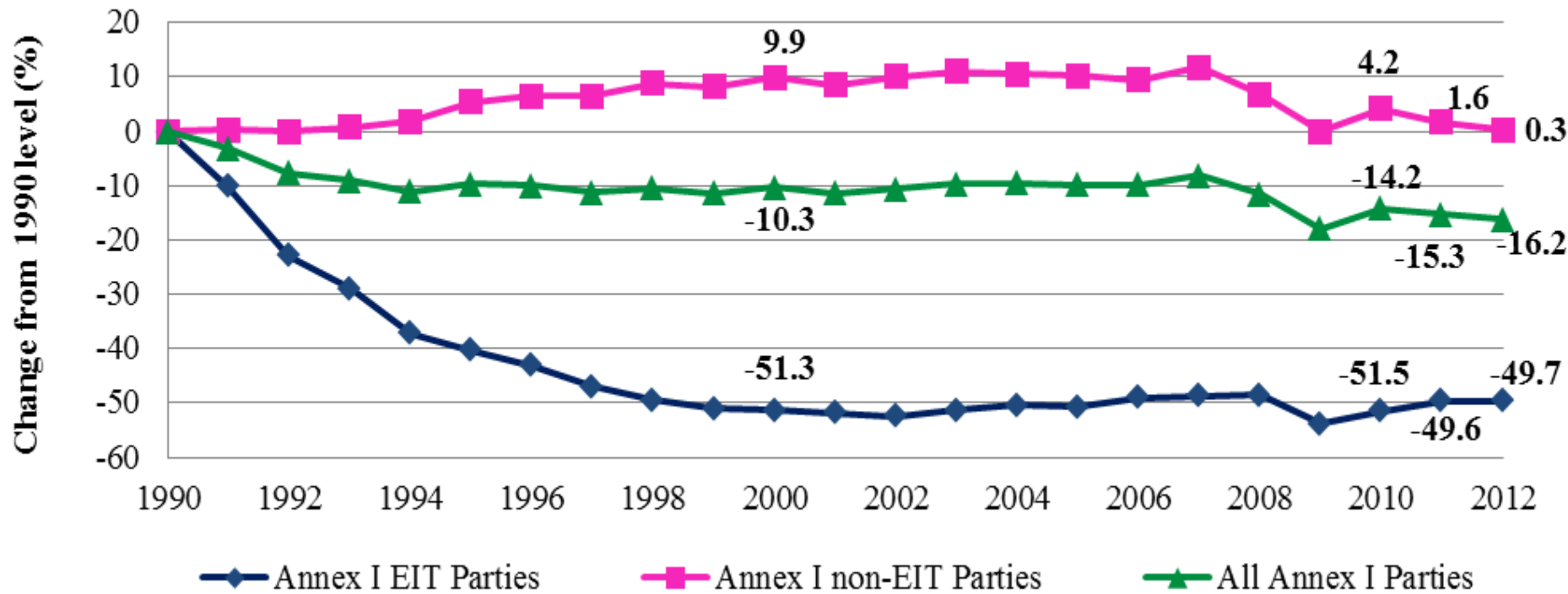
Article 4 - Commitments

- All Parties, taking into account their common but differentiated responsibilities and their specific national and regional development priorities, objectives and circumstances, shall:
 - Develop, periodically update, publish and make available to the Conference of the Parties ...
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.

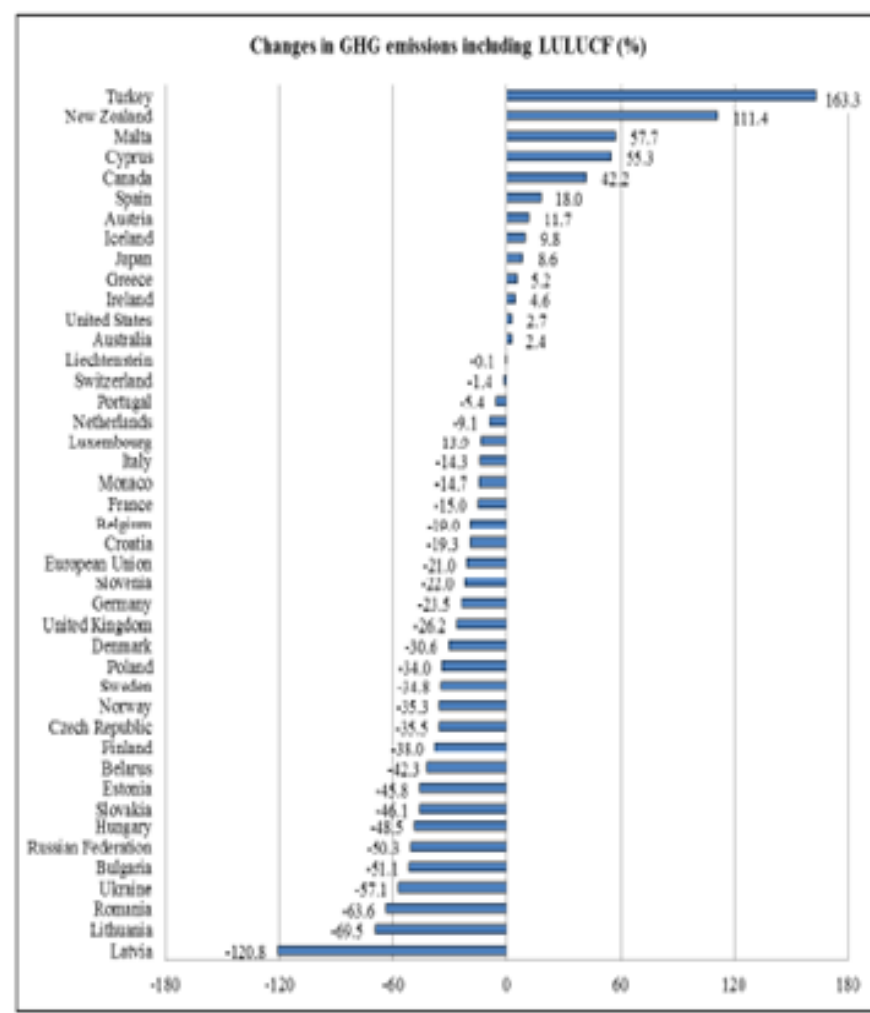
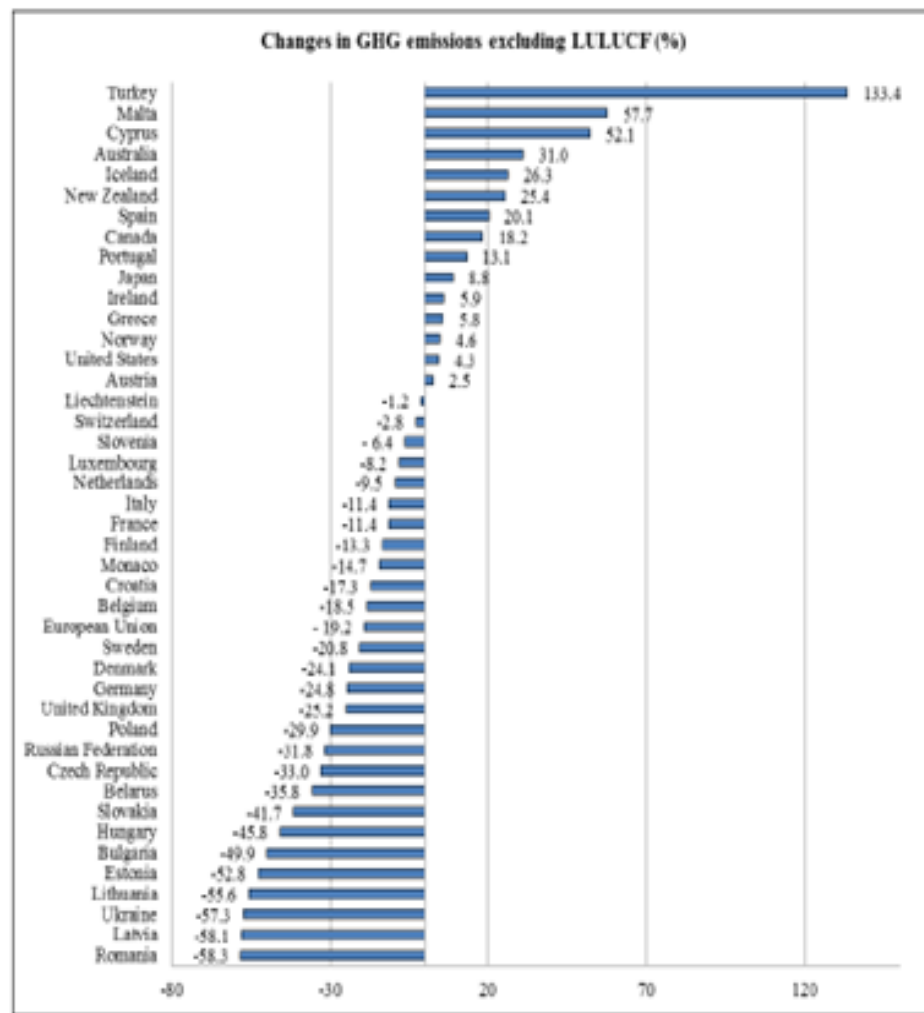
Greenhouse gas emissions of Annex I Parties, 1990, 2000, 2010, 2011 and 2012



Greenhouse gas emissions including LULUCF



Changes in total aggregate emissions of individual Annex I Parties, 1990–2012



National greenhouse gas inventory data for the period 1990–2012. Note by the secretariat: FCCC/SBI/2014/20

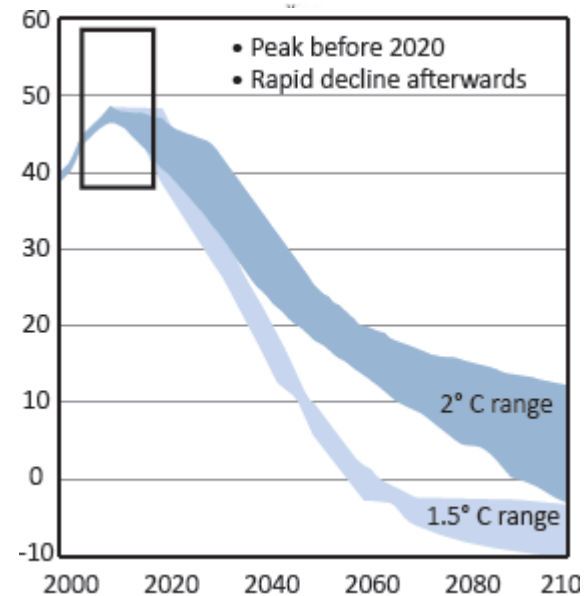
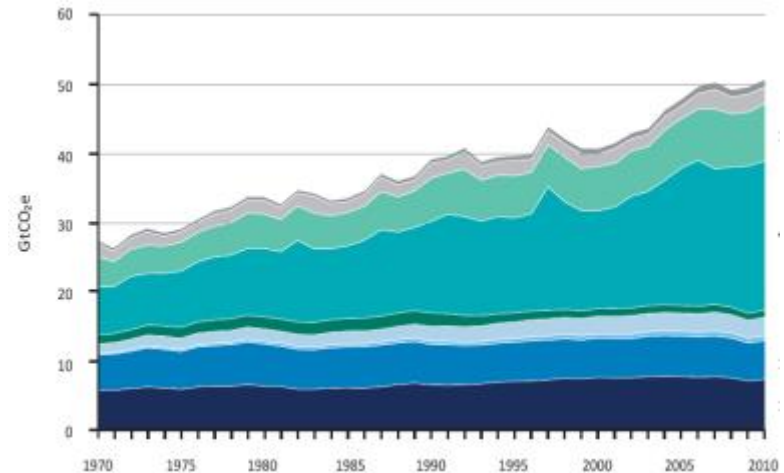
- Total aggregate GHG emissions ***excluding*** emissions and removals from land use, land-use change and forestry (LULUCF) for all Annex I Parties ***decreased by 10.6 per cent***.
- Total GHG emissions and removals ***including*** LULUCF ***decreased by 16.2 per cent***.
- For Annex I Parties with economies in transition, GHG emissions ***excluding and including*** LULUCF ***decreased by 38.1 per cent*** and ***49.7 per cent***, respectively.
- For Annex I Parties that do not have economies in transition, GHG emissions ***excluding and including*** LULUCF ***increased by 1.9 per cent*** and ***0.3 per cent***, respectively.

Interpretation – Cancun, 2011

- 2011 Cancun Agreements, para 4: *Further recognises that deep cuts in global greenhouse gas emissions are required according to science, and as documented in the Fourth Assessment Report of the [IPCC], with a view to reducing global greenhouse gas emissions ... to hold the increase in global average temperature below 2 °C ... and that Parties should take urgent action to meet this long-term goal, consistent with science and on the basis of equity; also recognizes the need to consider ... strengthening the long-term global goal on the basis of the best available scientific knowledge, including in relation to a global average temperature rise of 1.5 °C*

Prospects

- Global emissions rising at 1.2% pa; slower than GDP (3.2%) but still rising
- For 66% chance of $\Delta T < 2C$ need to peak before 2020, then fall to about 40% of the present value
- Existing pledges for emissions reductions by 2020 less than half the requirement to close the gap
- Technically feasible but no chance of success without greater ambition via a new treaty with effective action from all countries



Source: UNEP Emissions Gap Report 2013

Bali Action Plan: Decision 1/CP.13 FCCC/CP/2007/6/Add.1

- The Bali Action Plan is a comprehensive process aimed at enabling the full, effective and sustained implementation of the Convention through long-term cooperative action, now, up to and beyond 2012.
- The Bali Action Plan has five main categories:
 - shared vision
 - ***mitigation***
 - adaptation
 - technology and
 - financing.

Bali Action Plan: Decision 1/CP.13

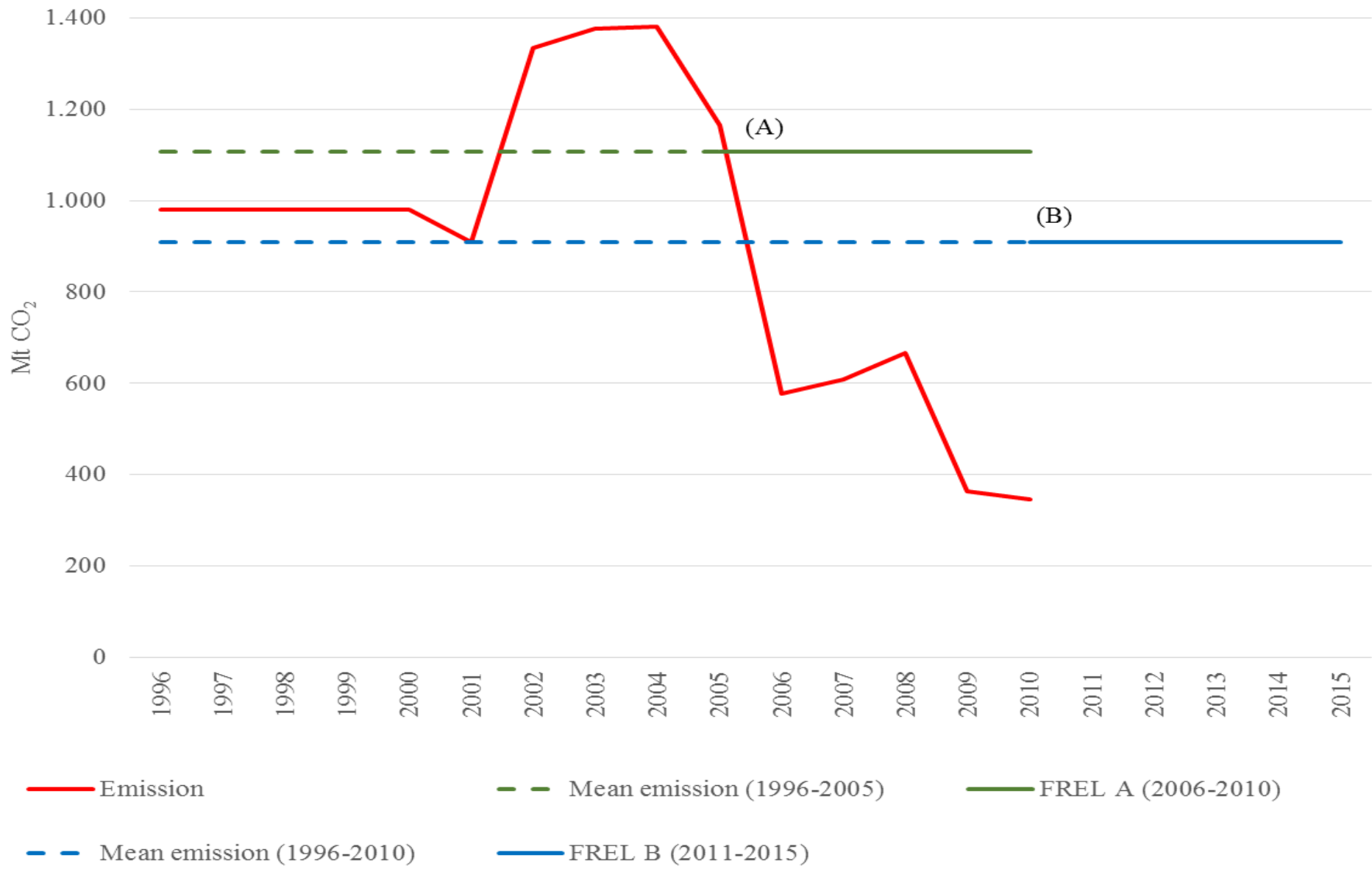
FCCC/CP/2007/6/Add.1

- ***Measurable, reportable and verifiable*** nationally appropriate mitigation ***commitments***, including quantified emission limitation and reduction objectives, by all ***developed country Parties*** ...
- ***Nationally appropriate mitigation actions*** by ***developing country Parties*** in the context of sustainable development, supported and enabled by technology, financing and capacity-building in a ***measurable, reportable and verifiable manner***.
- Policy approaches and positive incentives on issues relating to reducing emissions from deforestation and forest degradation in developing countries; and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries (***REDD+***).

Decision 4/CP.15 and Decision 12/CP.17

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

- 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.
- *Decides* that forest reference emission levels and/or forest reference levels ... shall be established taking into account decision 4/CP.15 and maintaining consistency with anthropogenic forest related greenhouse gas emissions by sources and removals by sinks ***as contained in each country's greenhouse gas inventories***.



Pictorial representation of Brazil's FREL, where (A) refers to the mean annual CO₂ emissions from the period 1996 to 2005 (1,106,027,616.63 tCO₂); (B) refers to the mean annual CO₂ emissions from the period 1996 to 2010 (907,959,466.33 tCO₂).

Overview of **measurement, reporting and verification (MRV)** for developing country Parties under the Climate Change Convention

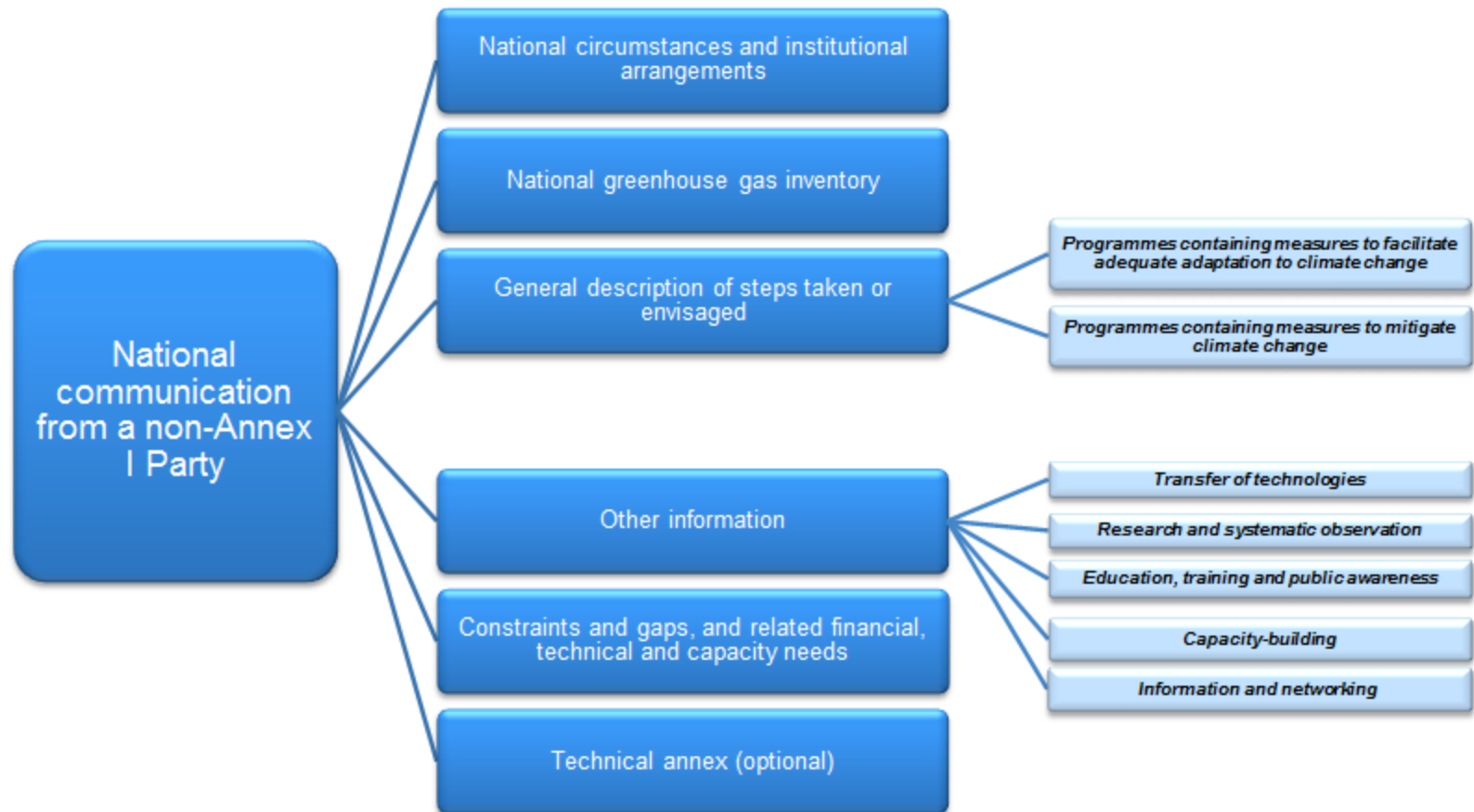
● Asia Pacific and Eastern Europe Regional Workshop on Nationally Appropriate Mitigation Actions

● 12-14 June 2015, Derag Livinghotel Kanzler, Bonn

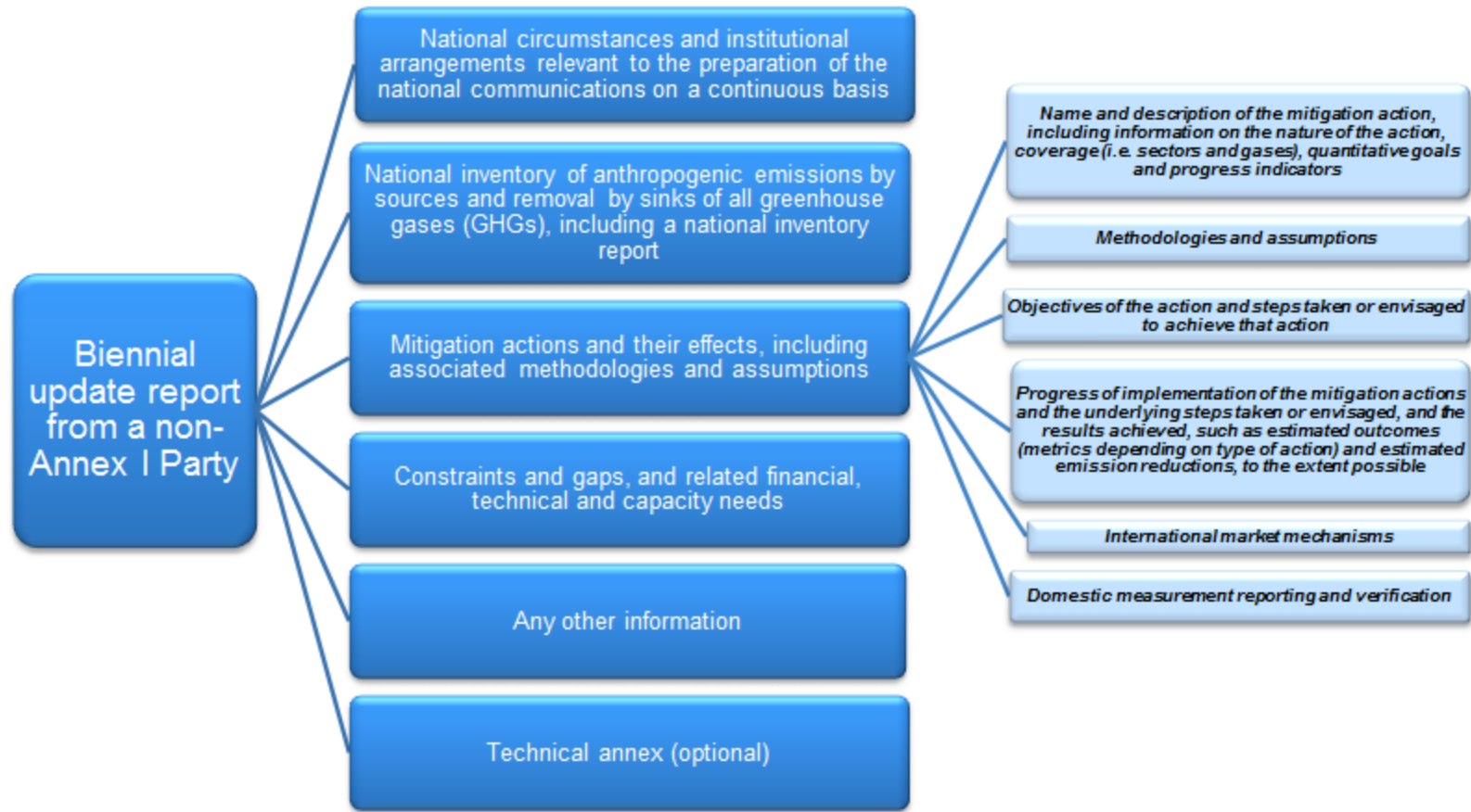


Marion Vieweg-Mersmann, Programme Officer, International Consultation and Analysis Support Unit, Non-Annex I Support Sub-programme, Mitigation, Data and Analysis Programme

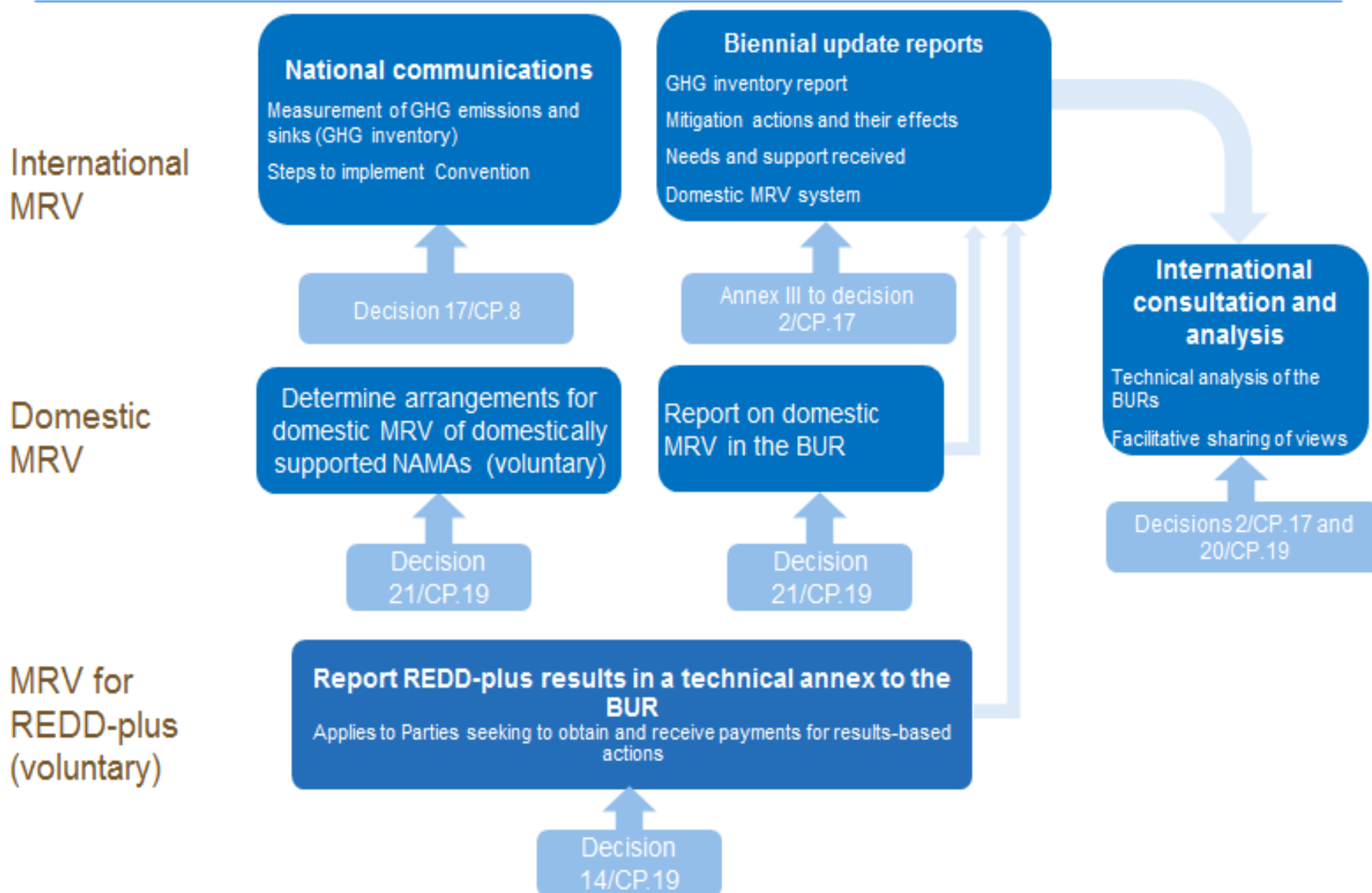
Key elements of national communications (17/CP.8)



Key elements of biennial update reports (2/CP.17, annex III)



Overview of the MRV framework



INDCs – Moving to the Future

- COP-17 – Durban Platform
 - Launch of a process to develop a protocol, another legal instrument or an agreed outcome with legal force under the Convention, applicable to all Parties, to be completed ***no later than 2015*** and to come to effect and be implemented from 2020.
- COP 19 – Warsaw
 - Parties were invited to initiate or intensify domestic preparation for their ***Intended Nationally Determined Contributions (INDCs)***.
 - Most countries start by looking at their ***GHG emissions and mitigation and adaptation options through their greenhouse gas inventories***, national communications...