

The 8th Workshop on GHG Inventories in Asia
Capacity building for measurability, reportability and verifiability

National GHG Inventories and the way forward

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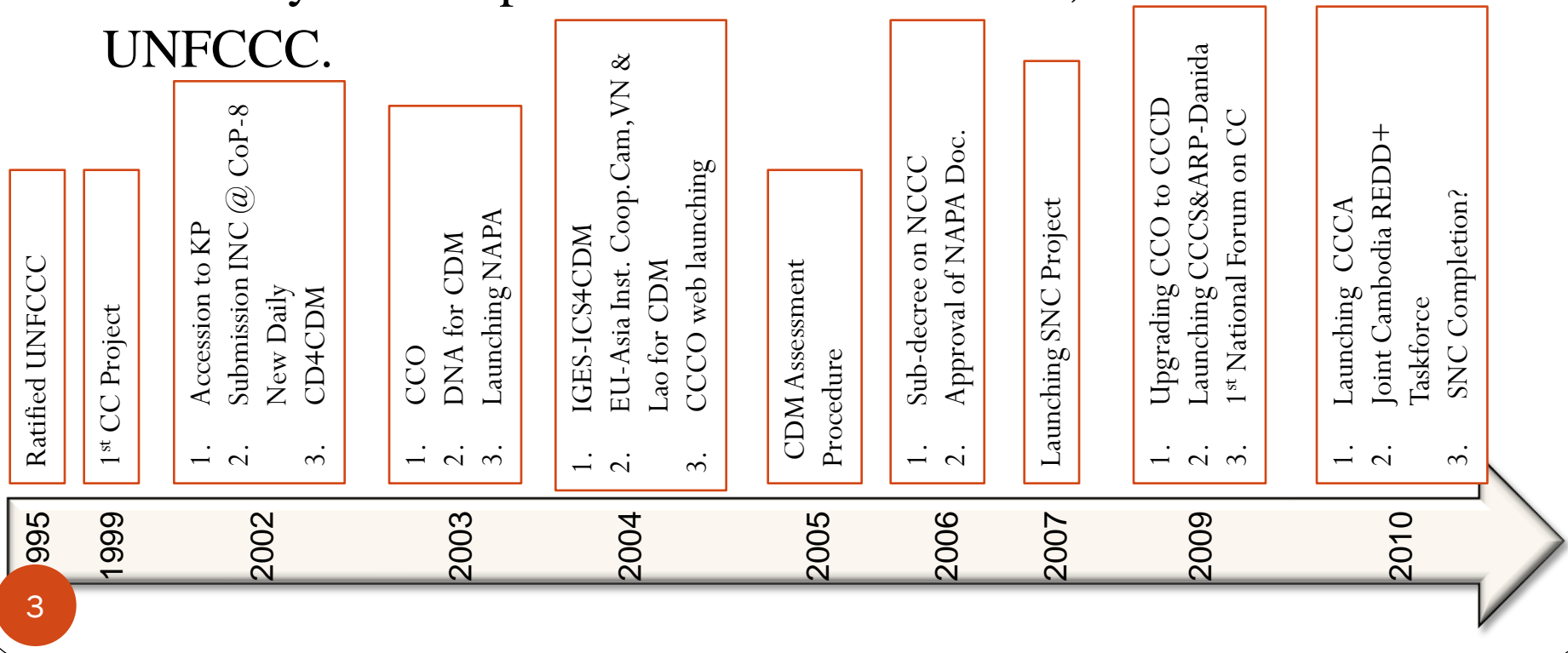
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Outline

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3. National GHG Inventory Process
4. National GHG Inventory Methodology for SNC
5. Comparing GHG Inventory 1994 and 2000
6. A New GHG Inventory Software Program
7. Major GHG Inventory Problem/Issues
8. Recommendation/Suggestions

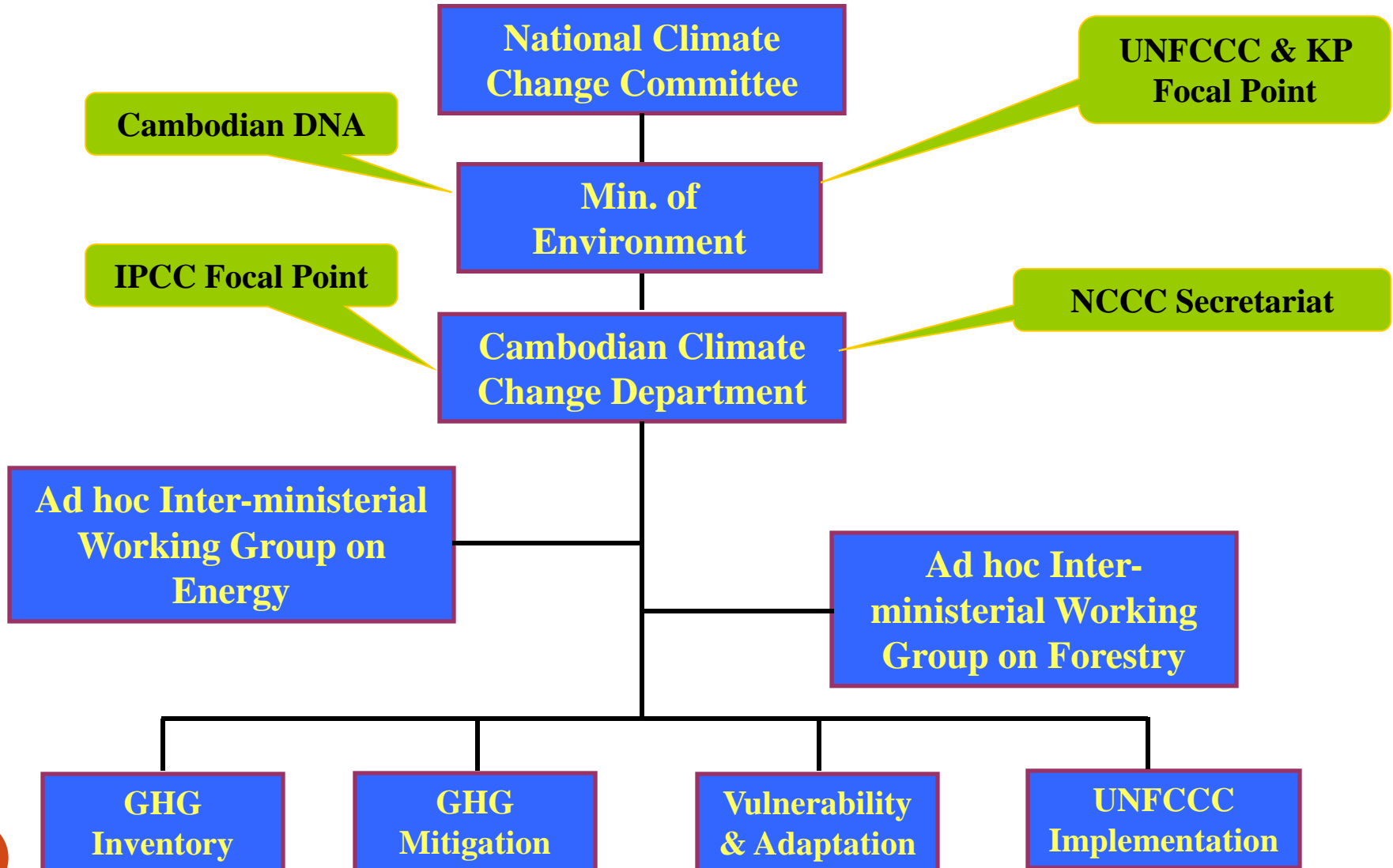
1. Background

- Cambodia ratified the UN Framework Convention on Climate Change on 13 December 1995. As party to the UNFCCC and with reference to article 12, Cambodia has committed to prepare its National Communication (NC), where National GHG Inventory is an important element of the NC, to the COP of UNFCCC.



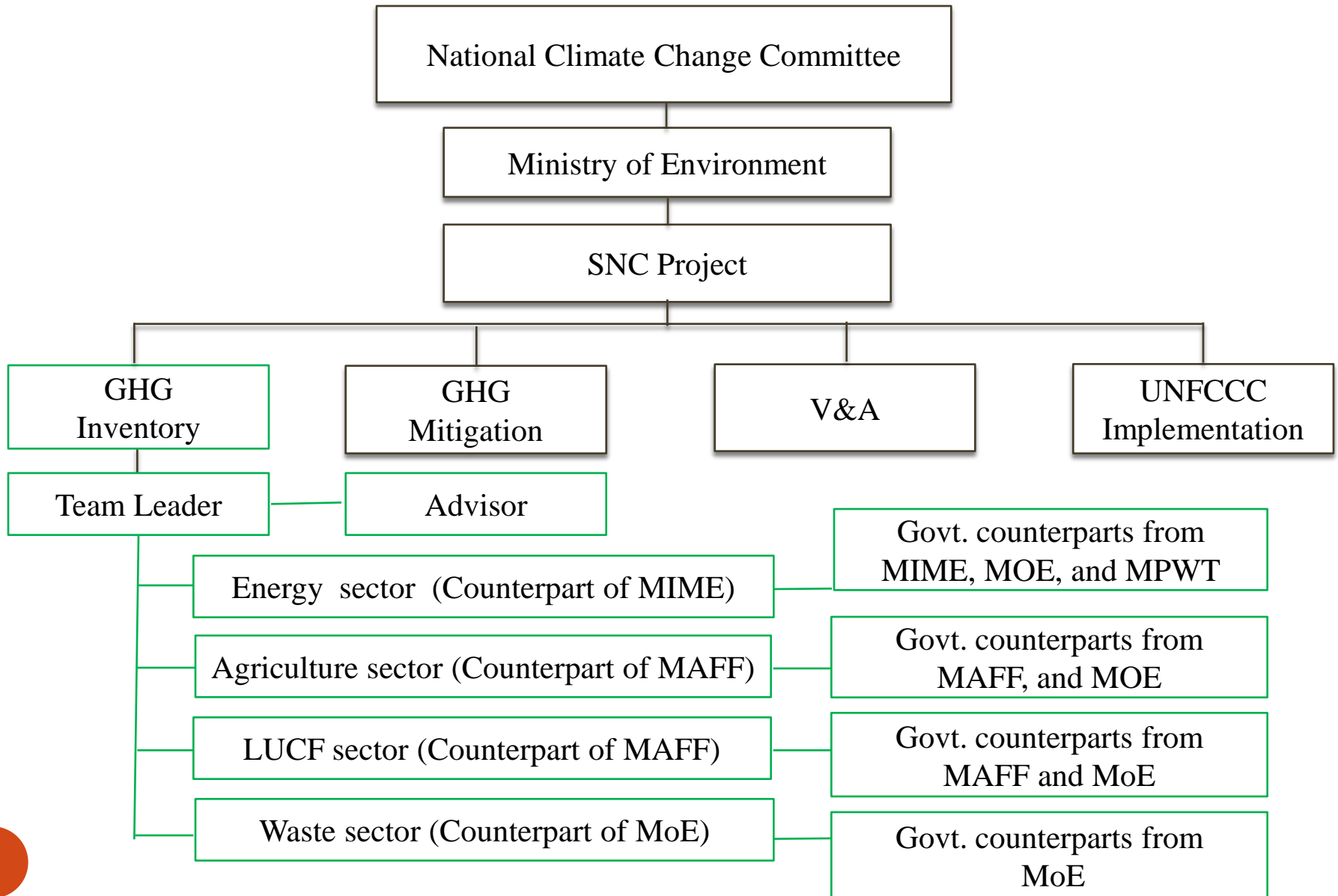
2. National Level Actors

2.1 Climate Change Institutional Framework

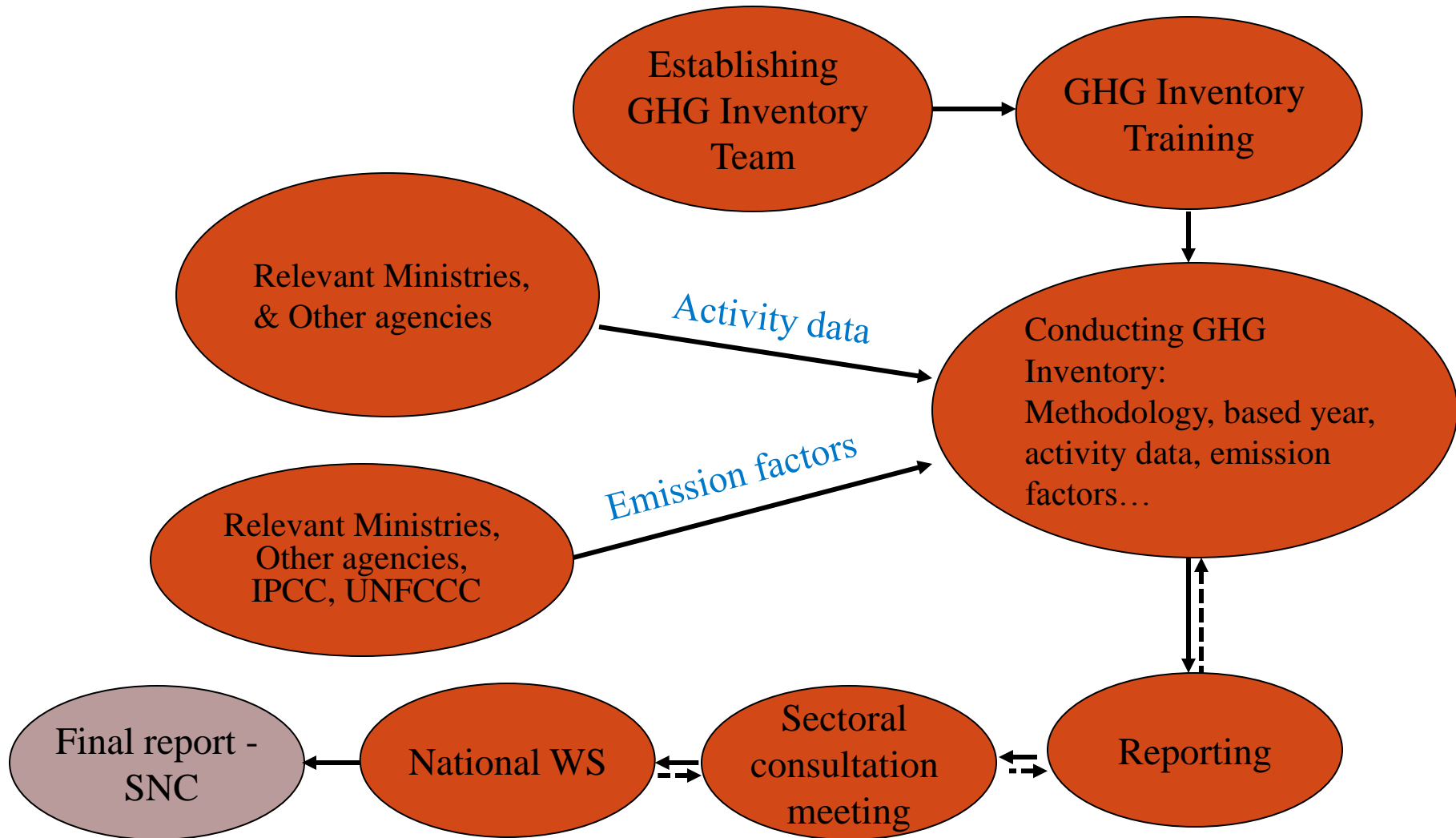


2. National Level Actors

2.2 GHG Inventory Framework



3. Process of National GHG Inventory



3. Process of National GHG Inventory (Con't)

- ❑ The first three Greenhouse Gases are the most common GHG among others: CO₂, CH₄, N₂O, PFCs, HFCs, SF₆, and other indirect greenhouse gases such as SO₂, NO_x, CO and NMVOC.
- ❑ The Cambodia's Initial National Communication (INC) was prepared from 1999-2001 and subsequently submitted to the COP-8 of the UNFCCC in 2002.
- ❑ SNC is going to finish in late 2010.

4. National GHG Inventory Methodology

- UNFCCC Software has been used. The **software** package consists of the following files:
 - **START.XLS**
 - OVERVIEW.XLS
 - MODULE1.XLS (Energy)
 - MODULE2.XLS (Industrial Processes)
 - MODULE4.XLS (Agriculture)
 - MODULE5.XLS (LULUCF)
 - MODULE6.XLS (Waste)
- In general, this software uses **Tier 1** methodologies for estimating GHG emissions and removals for all source categories described in the *Revised 1996 IPCC Guidelines*.

5. Comparing GHG Inv. 1994 and 2000

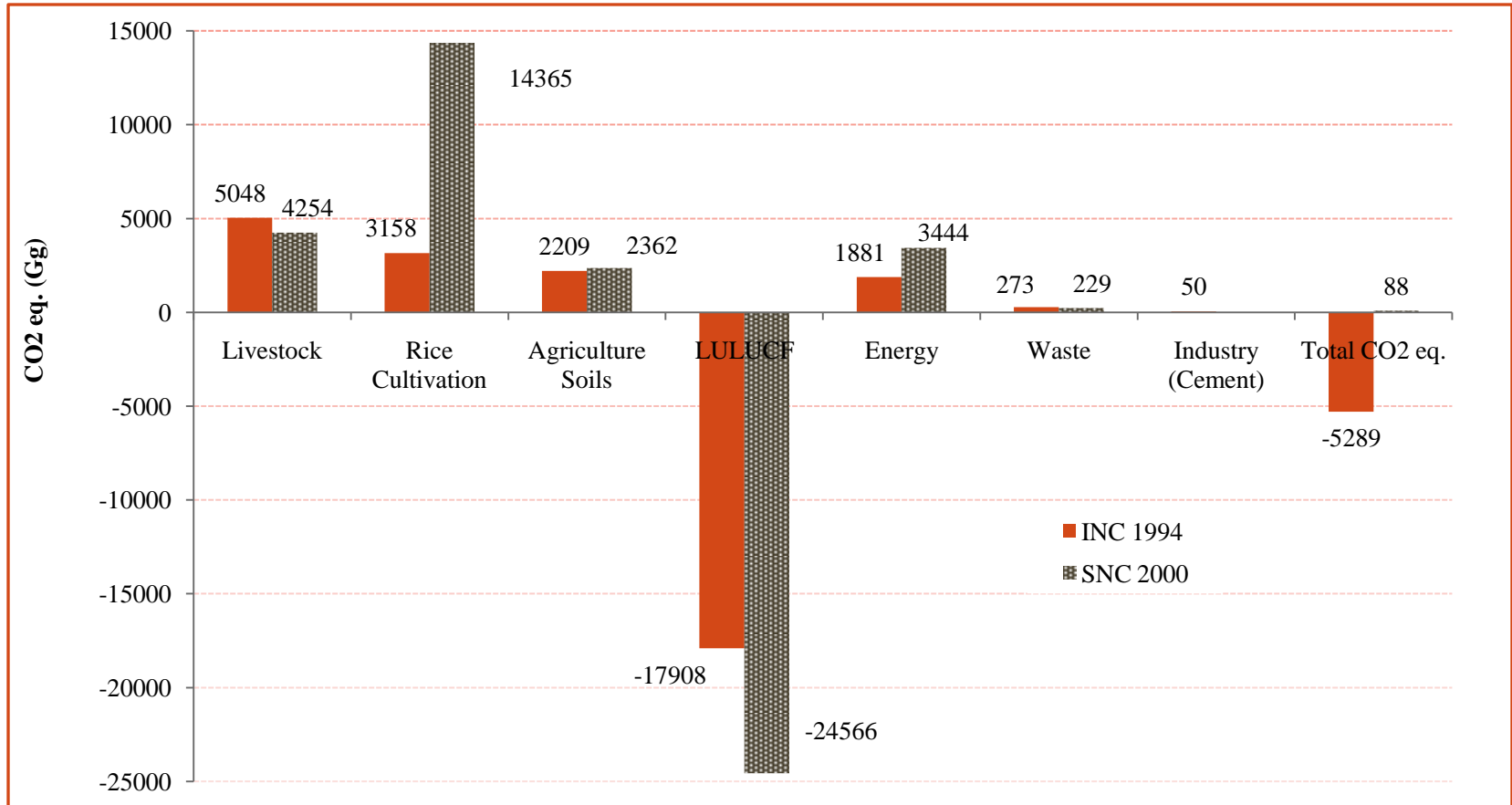
Greenhouse Gas by Source and Sink	Total CO ₂ eq (Gg)	
	GHG Inventory 1994*	GHG Inventory 2000**
Energy	1,881	3,444
Agriculture	10,560	21,112
Land Use Change & Forestry	-17,907	-24,565
Waste	273	229
Industrial Process (Cement)	50	-
TOTAL NAT'L CO₂-eq.	-5,142	220

* Used 1996 IPCC Guideline, and the spread sheet

** Used Revised 1996 IPCC Guidelines and UNFCCC Software Version 1.3.2 (2007)

- Projection of GHG emissions based on 1994 data: by 2000 Cambodia would already be a net emitter with total net emissions of approximately 6,244 Gg of CO₂-eqv, and LUCF would be the main source of GHG emissions followed by agriculture by 2020.

5. Comparing GHG Inv. 1994 and 2000



➤ GHG Inventory 2000 is a subject to be revised to make it more reliable and consistent.

6. A New GHG Inventory Software Program

The Agriculture and Land Use (ALU) National Greenhouse Gas Inventory Software Program was introduced to Cambodia GHG Inventory Team in February 2010 and have a follow up meeting July 2010 in Phnom Penh.

As result, we have finished ALU Case study with much data assumption due to data limitation.



6. A New GHG Inventory Software Program (Con't)

ALU required sophisticated data ranging from climatic data, soil data to agriculture crop management systems, which all of these lead to improvement of input data including national statistic database.

ALU, however, is interesting software program. We intend to use it for the next National GHG Inventory preparation.



7. Major GHG Inventory Problems/Issues

- Lack of sustainable national GHG inventory system including database management system within the country. The inventory was prepared on a project basis for National Communications.
- Lack of activity data. e.g., energy balance sheet in the country, livestock, water management for paddy, soil carbon, etc....)
- Lack of researches/studies related to Sector GHG inventory
- Inadequate capacity of local staffs
- Lack of financial support

8. Recommendation/suggestion

- Cooperate with the concerned government institutions/NGOs or OI to promote researches/studies for developing reliable local activity data and emission factors
- Establish data management systems for inventory for all sectors
- Need more support to build the capacity of local experts
- Use on-the-job training approach to build technical capacity of local experts
- Establish the national inventory system with the involvement of concerned government ministries
- Exchange experts within the region
- Promote cooperation with regional research organizations.

Thank You Very Much

