IPCC Task Force on National Greenhouse Gas Inventories (TFI)

IPCC Open Symposium in Kobe, Japan (28 January 2016)
Science and policy to cope with climate change and the importance of GHG inventory to assess mitigation progress

Kiyoto Tanabe (Co-chair, IPCC TFI)
Background (1)

WG1

GHGs are generated and released by human activities

Increased GHGs in the atmosphere enhance the radiative forcing of the climate system

Climate changes on a global scale – global averaged surface temperature rises, sea level rises, global precipitation pattern changes, ...

How much GHGs from what sources?

WG2

Social and economic systems are affected by climate change – economic loss caused by floods and droughts, increased incidence of death and serious illness, ...

Need for Adaptation

WG3

Need for Mitigation
1988  The IPCC was established.
1990  The IPCC issued its First Assessment Report.
      The Second WCC called for the creation of a global treaty.
1991  The INC on a convention on climate change started negotiations.
The IPCC/OECD/IEA Inventory Programme was launched.
1992  The UN Framework Convention on Climate Change (UNFCCC) was adopted.
1994  The IPCC Guidelines for National GHG Inventories were developed.
1995  The UNFCCC COP1 in Berlin decided to use the IPCC Guidelines.
1997  UNFCCC COP3 was held in Kyoto, and the Kyoto Protocol was adopted.

1998  The IPCC decided to establish TFI.

- The need for continuous improvement of GHG emission estimation methodologies was recognized.
- Because of emission reduction commitments set in the Kyoto Protocol, the importance of national GHG inventories increased.
- Japan offered to host the TFI TSU with financial contribution.

1999  The TFI TSU was established at IGES in Japan. TFI went into operation.
TFI-TSU established in Japan

Technical Support Units for WGs/TF (TSUs) in 1999

TFI TSU (Japan)

WG1 TSU (UK)

WG3 TSU (The Netherlands)

IPCC Secretariat (in Switzerland)

WG2 TSU (USA)
Objectives of TFI

➢ To develop and refine an internationally-agreed methodology and software for the calculation and reporting of national GHG emissions and removals; and

➢ To encourage the widespread use of this methodology by countries participating in the IPCC and by Parties to the UNFCCC.

✔ The TFI is responsible for assessing and developing inventory methods and practices which are scientifically sound and relevant to all countries, noting particularly the lack of information in developing countries.
IPCC Guidelines

- Provides internationally-agreed methodologies to estimate GHG emissions/removals
- Calculates anthropogenic emissions/removals
- Calculates, in principle, all emissions/removals of GHGs within national territory and offshore areas over which the country has jurisdiction

**Sources and Sinks covered**
- Energy
- Industrial Processes
- Solvent and Other Product Use
- Agriculture, Forestry and Other Land Use
- Waste

**Gases covered**
- \( \text{CO}_2 \), \( \text{CH}_4 \), \( \text{N}_2\text{O} \),
- HFCs, PFCs, \( \text{SF}_6 \),
- \( \text{NO}_x \), \( \text{CO} \),
- NMVOC, \( \text{SO}_2 \)
Production of IPCC Guidelines

In the case of 2006 IPCC Guidelines

In 2003.11
- Governments, organizations nominated experts
- TFB selected Authors
- Lead Authors Meetings
  - Authors prepared 1st – order DRAFT
  - Expert Review
  - Lead Authors Meeting
    - Authors prepared 2nd – order DRAFT
    - Expert and Government Review

2004.04
- IPCC approved outline

2005.07
- Lead Authors Meeting

2005.09 – 2005.11
- Authors prepared FINAL DRAFT
- Lead Authors Meeting
- Expert and Government Review

2005.12
- 2005.09 – 2005.11
- 2006.03 – 2006.04
- Final distribution and Government consideration

2006.04
- IPCC accepted/adopted the Guidelines

2006.03 – 2006.04
- 2005.09 – 2005.11
- 2005.02 – 2005.04
- 2005.02
- 2004.05 – 2005.01
- 2004.04

Work of over 250 authors over 2 years!!

IPCC accepted/adopted the Guidelines 2006.04
The Parties to the UNFCCC are required to use the IPCC Guidelines for preparation of GHG inventories.

**UNFCCC**
- 1992 UNFCCC was adopted.
- 1994 UNFCCC entered into force.
- 1995 COP1 (Berlin)
  - Decided that the IPCC Guidelines should be used by Parties.
- 1996 COP2 (Geneva)
  - Decided again that the IPCC Guidelines should be used by Parties.
- 1997 COP3 (Kyoto)
  - Reaffirmed that Parties should use the Revised 1996 IPCC Guidelines.

**IPCC**
- 1991 IPCC/OECD/IEA Inventory Programme was launched.
- 1994 1995 IPCC Guidelines were produced.
- 1996 Revised 1996 IPCC Guidelines were produced.
<table>
<thead>
<tr>
<th>UNFCCC</th>
<th>IPCC-TFI</th>
</tr>
</thead>
<tbody>
<tr>
<td>1998   SBSTA8 (Bonn)</td>
<td>1999 Started work on GPG2000</td>
</tr>
<tr>
<td>Encouraged the IPCC to prepare a report on good practice.</td>
<td>2000 Produced GPG2000</td>
</tr>
<tr>
<td>2000   SBSTA12 (Bonn)</td>
<td>2002 Started work on GPG-LULUCF</td>
</tr>
<tr>
<td>Decided that Annex I Parties shall use GPG2000.</td>
<td>2003 Produced GPG-LULUCF</td>
</tr>
<tr>
<td>2001   COP7 (Marrakesh)</td>
<td>2004 Started work on 2006 IPCC Guidelines</td>
</tr>
<tr>
<td>Invited the IPCC to prepare a report on good practice for LULUCF.</td>
<td></td>
</tr>
<tr>
<td>2002   SBSTA17 (New Delhi)</td>
<td></td>
</tr>
<tr>
<td>Invited the IPCC to revise the Revised 1996 IPCC Guidelines by early 2006.</td>
<td></td>
</tr>
<tr>
<td>2003   COP9 (Milan)</td>
<td></td>
</tr>
<tr>
<td>Decided that Annex I Parties shall use GPG-LULUCF.</td>
<td></td>
</tr>
<tr>
<td>2005   COP/MOP1 (Monteral)</td>
<td></td>
</tr>
<tr>
<td>Decided that Annex I Parties shall use 1996 Guidelines and GPGs under KP.</td>
<td></td>
</tr>
</tbody>
</table>
### UNFCCC and IPCC TFI (3)

<table>
<thead>
<tr>
<th>UNFCCC</th>
<th>IPCC-TFI</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td>Produced the 2006 IPCC Guidelines.</td>
</tr>
<tr>
<td>SBSTA24 (Bonn)</td>
<td></td>
</tr>
<tr>
<td>Welcomed the timely work of the IPCC in preparing the 2006 IPCC Guidelines</td>
<td></td>
</tr>
<tr>
<td>2009</td>
<td></td>
</tr>
<tr>
<td>SBSTA30 (Bonn)</td>
<td>Started work on the Wetlands Supplement</td>
</tr>
<tr>
<td>decided the use of 2006 IPCC Guidelines from 2015 submission by Annex I Parties</td>
<td></td>
</tr>
<tr>
<td>2010</td>
<td></td>
</tr>
<tr>
<td>SBSTA31 (Cancun)</td>
<td>Started work on the KP Supplement</td>
</tr>
<tr>
<td>invited the IPCC to undertake further methodological work on wetlands to fill in the gaps in the 2006 IPCC Guidelines</td>
<td></td>
</tr>
<tr>
<td>2011</td>
<td></td>
</tr>
<tr>
<td>COP/MOP7 (Durban)</td>
<td>Completed the Wetlands and KP Supplements</td>
</tr>
<tr>
<td>invited the IPCC to review and update supplementary methodologies for estimating GHG emissions/removals from KP LULUCF activities during the 2nd commitment period</td>
<td></td>
</tr>
<tr>
<td>2013</td>
<td></td>
</tr>
<tr>
<td>SBSTA39 (Warsaw)</td>
<td></td>
</tr>
</tbody>
</table>

- The UNFCCC welcomed the timely work of the IPCC in preparing the 2006 IPCC Guidelines at SBSTA24 (Bonn).
- The UNFCCC decided the use of 2006 IPCC Guidelines from 2015 submission by Annex I Parties at SBSTA30 (Bonn).
- The UNFCCC invited the IPCC to undertake further methodological work on wetlands to fill in the gaps in the 2006 IPCC Guidelines at SBSTA31 (Cancun).
- The UNFCCC invited the IPCC to review and update supplementary methodologies for estimating GHG emissions/removals from KP LULUCF activities during the 2nd commitment period at COP/MOP7 (Durban).
- The IPCC-TFI started work on the Wetlands Supplement in 2011.
- The IPCC-TFI started work on the KP Supplement in 2012.
- The IPCC-TFI completed the Wetlands and KP Supplements in 2013.
Currently, Non Annex I Parties use these under the UNFCCC.

Non-Annex I Parties are encouraged to use GPGs.

1995 IPCC Guidelines

Revised 1996 IPCC Guidelines

GPG2000 (non-LULUCF)

GPG2003 (LULUCF)

Annex I Parties must use from 2015

2006 IPCC Guidelines

Actually, 2006 Guidelines are being used by more and more Non-Annex I Parties.

Revision/Update by the IPCC
Support to Users of IPCC Guidelines

- **Primer for 2006 IPCC Guidelines**
  
  http://www.ipcc-nggip.iges.or.jp/support/support.html

- **FAQ (Frequently asked questions)**
  
  http://www.ipcc-nggip.iges.or.jp/faq/faq.html

- **Emission Factor Database**
  
  A electronic library of emission factors and other parameters that can be used to calculate GHG emissions/removals

  http://www.ipcc-nggip.iges.or.jp/EFDB/

- **Software for the 2006 IPCC Guidelines**
  
  The latest version can be downloaded.

  http://www.ipcc-nggip.iges.or.jp/software/index.html
Transition from AR5 to AR6 cycle

• IPCC 41st Session (Feb 2015, Nairobi, Kenya) decided:
  - The IPCC will continue to prepare every 5-7 years comprehensive Assessment Reports (AR).
  - The IPCC will continue to prepare Methodology Reports on National Greenhouse Gas Inventories.
  - The TFI will be retained with current mandate and structure.

• IPCC 42nd Session (Oct 2015, Dubrovnik, Croatia) elected new IPCC Bureau and Task Force Bureau for AR6 cycle.
TFB assists and advises the TFI Co-chairs in planning and implementing TFI activities.

The TFB consists of 14 members.

<table>
<thead>
<tr>
<th>Name</th>
<th>Country</th>
<th>Name</th>
<th>Country</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mr. Dario Gomez</td>
<td>Argentina</td>
<td>Mr. Fahmuddin Agus</td>
<td>Indonesia</td>
</tr>
<tr>
<td>Mr. Rob Sturgiss</td>
<td>Australia</td>
<td>Mr. Kiyoto Tanabe (Co-chair)</td>
<td>Japan</td>
</tr>
<tr>
<td>Mr. Sabin Guendehou</td>
<td>Benin</td>
<td>Ms. Irina Yesserkepova</td>
<td>Kazakhstan</td>
</tr>
<tr>
<td>Ms. Dominique Blain</td>
<td>Canada</td>
<td>Mr. Eduardo Calvo Buendia (Co-chair)</td>
<td>Peru</td>
</tr>
<tr>
<td>Ms. Yasna Rojas</td>
<td>Chile</td>
<td>Mr. Bundit Limmeechokchai</td>
<td>Thailand</td>
</tr>
<tr>
<td>Ms. Batouli Said Abdallah</td>
<td>Comoros</td>
<td>Ms. Fatma Betül Baygüven</td>
<td>Turkey</td>
</tr>
<tr>
<td>Ms. Riitta Pipatti</td>
<td>Finland</td>
<td>Mr. Thomas Wirth</td>
<td>USA</td>
</tr>
</tbody>
</table>
TFI TSU continues in Japan

Technical Support Units for WGs/TF (TSUs) for AR6 cycle
After the acceptance/adoption of the 2006 IPCC Guidelines, the IPCC Chairman Dr. Pachauri sent a letter to Ms. Koike, Environment Minister of Japan, on behalf of the IPCC:

- To commend on the work of the TFI
- To express deep gratitude to the Government of Japan for the generous support to the TFI
- To express hope for continued support in view of the growing demand for IPCC methodological work

In 2007, the Nobel Peace Prize was awarded to IPCC (including TFI)!

Demand of UNFCCC for TFI work is likely to continue growing.

- Essential to successful implementation of Paris Agreement!!
The Intergovernmental Panel on Climate Change (IPCC) was established by the World Meteorological Organization (WMO) and the United Nations Environment Programme (UNEP) in 1988. Its main objective was to assess scientific, technical and socio-economic information relevant to the understanding of human induced climate change, potential impacts of climate change and options for mitigation and adaptation. The IPCC has completed four assessment reports, developed methodology guidelines for national greenhouse gas inventories, special reports and technical papers. For more information on the IPCC, its activities and publications, please see the IPCC homepage.

The IPCC National Greenhouse Gas Inventories Programme (IPCC-NGGIP) had been undertaken since 1991 by the IPCC WG I in close collaboration with the Organisation for Economic Co-operation and Development (OECD) and the International Energy Agency (IEA).

[ More about IPCC-NGGIP ]

**IPCC-NGGIP Publication**

- 2006 IPCC Guidelines for National Greenhouse Gas Inventories
- Good Practice Guidance for Land Use, Land-Use Change and Forestry
- Definitions and Methodological Options to Inventory Emissions from Agriculture, Forests and Other Land Use Change
- Greenhouse Gas Emission and Mitigation in Agriculture

[ More Publications ]

---

Thank you!
For further information, please visit our website.

http://www.ipcc-nggip.iges.or.jp/