How to improve the bonds between Official statistics and Climate change ?

Olav Ljones

Deputy director general

Statistics Norway

Climate change and official statistics. Process and status- a non complete list.

- The Oslo Conference in April 2008
- UNSC 2009. Programme review
- UNSC 2010 UNCEEA work-program.
- UNSC 2010 The Idea of Ad Hoc meeting
- UNECE- An international survey
- IEA several relevant activities
- Eurostat – publication: Using official statistics to calculate greenhouse gas emissions. A statistical guide, 2010 Edition.

The role of official statistics in climate change still unclear

How to cooperate?
   - who should cooperate ? – how to organise within official statistics (Close to a yellow card warning – this debate should not last too long and slow down the process)
   - what parts to cooperate on?

Why should official statistics have a role in work with the climate change challenge?

- After Copenhagen meeting December 2009, a call for MRV-processes in work with climate change arose.

- MRV: measurable, reportable and verifiable

- IPCC quality measure: TACCC

- TACCC: transparency, accuracy, consistency, comparability and completeness.

  In quantification of GHG emissions, the best available data sources in relation to TACCC is claimed to be used → not necessarily official statistics
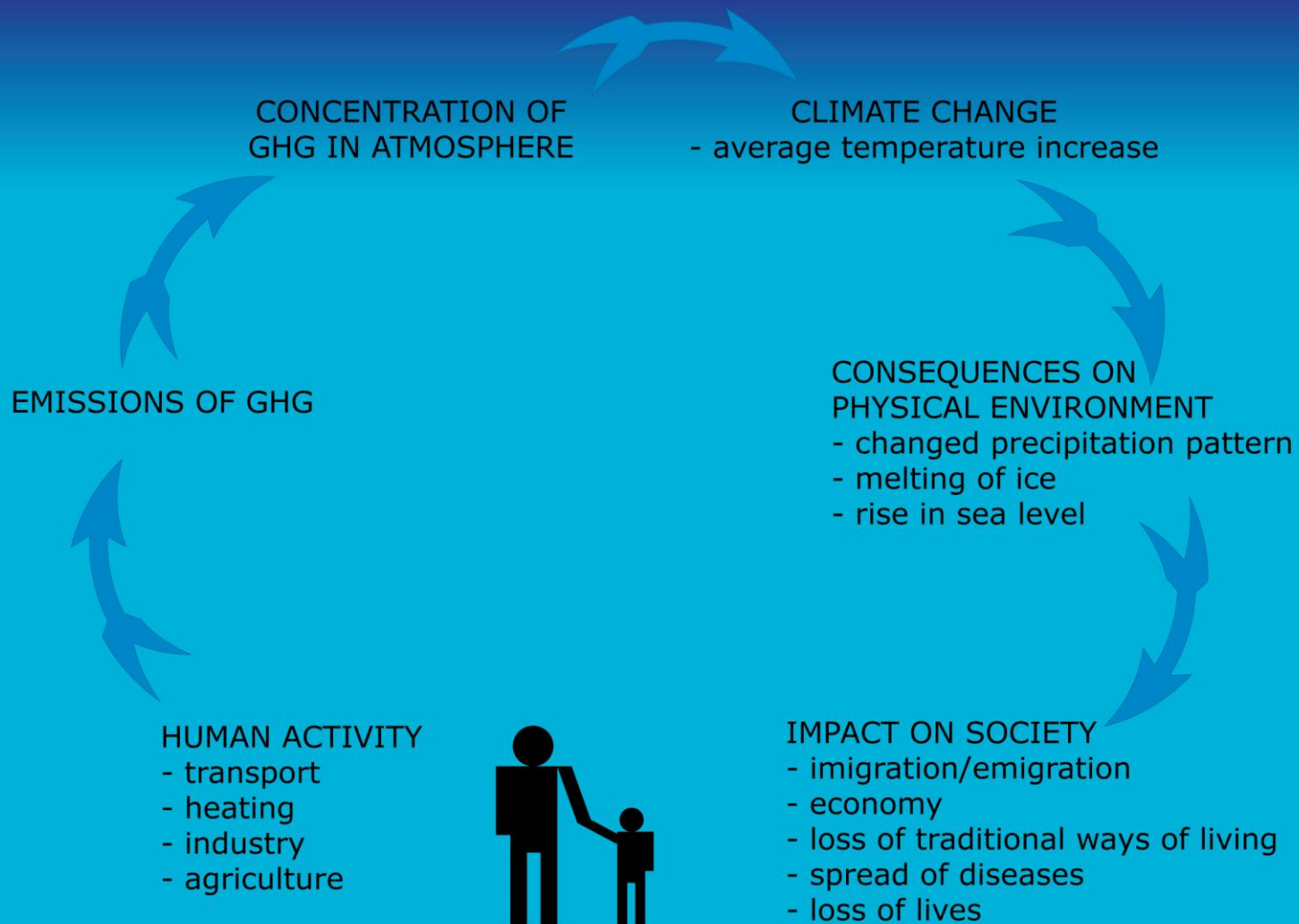
- Both MRV and TACCC common features with Official Statistics
  → **why not stronger ties between GHG emission calculations and Official statistics?**

Climate change, an attempt to describe the structure of the challenge and need for statistics

1. Changes in climate/temperature (metheorology).

2. a) Changes in GHG in the atmosphere,

   b) Quantifying the GHG-emissions (anthropogenic - man made and eventually others?)
   (IPCC and UNFCCC responsible. Statistics is an input.)

3. Impact and adaptation to climate change / Use of policy instruments to reduce GHG-emissions
   (Official statistics is deeply involved)

Statistics is relevant for both 1, 2 and 3.

My question is : Should 2 b, be given more concern. Is time ready for action and co- operation between UNFCCC/IPCC and Off stat ?

CONCENTRATION OF
GHG IN ATMOSPHERE

CLIMATE CHANGE
- average temperature increase

EMISSIONS OF GHG

CONSEQUENCES ON
PHYSICAL ENVIRONMENT
- changed precipitation pattern
- melting of ice
- rise in sea level

HUMAN ACTIVITY
- transport
- heating
- industry
- agriculture

IMPACT ON SOCIETY
- imigration/emigration
- economy
- loss of traditional ways of living
- spread of diseases
- loss of lives

Quantifying the GHG-emissions

- Concentration of GHG in the atmosphere
  $\rightarrow$ how much is due to man-made activities?
  $\rightarrow$ what is "in" and "out" when quantifying man-made GHG-emission quantified?

The basic equation

- Emission (i) = activity(i) x emission factor (i). Unit used when aggregating GHG to totals
- Total emission E (tot) is sum over all i
- The structure of vector i does not follow standards and procedures consistent with official statistics.
- For official staistcis and SEEA E(tot) should be distributed among economic units/industries/sector following standard classifications vektor j.
- The differences between vector i and j creates extra work etc
- Data collection strategy – cover all units and avoid double reporting

The description of the emission model

- Most relevant for Norway is to use UNFCCC as the basic reference.
  Guidelines fra UNFCCC: "Updated UNFCCC reporting guidelines on annual inventories following incorporation of the provisions of decision 14/CP.11", http://unfccc.int/resource/docs/2006/sbsta/eng/09.pdf. The format, obligations etc.

- The UNFCC however refers to methods from IPCC
  Guidelines from IPCC, used by UNFCCC-guidelines:
  → "Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories", http://www.ipcc-nggip.iges.or.jp/public/gl/invs1.html. Methods and "allocation of different source/sink categories".

  → "Good Practice Guidance and Uncertainty Management in National Greenhouse Gas Inventories", http://www.ipcc-nggip.iges.or.jp/public/gp/english/. Quality, consistency, transparency, completeness and more improved methods for sepcific areas

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  → "Good Practice Guidance for Land Use,Land-Use Change and Forestry", http://www.ipcc-nggip.iges.or.jp/public/gpglulucf/gpglulucf.html. Revised methods for this area..

The GHG emission calculations

- Are they too complex

- CO2 – could a more aggregate procedure be followed. Do we need to split on activities ?

- Qualiity work – we have to combine methods from official statistics and IPCC/UNFCCC

Official statistics is used in the quantifications of the GHG-emissions?

- Much of the input-data in the emissions-calculations are subject to the recommendations of official statistics:
  - energy (and transport) statistics, agricultural statistics
  and waste statistics

- Official statistics still not always used as input data
  - why is it not always seen as the "best available data source"?
  - compilers of GHG-emissions not access to official statistics?
  - compilers of GHG-emissions not access to the details – the building stones - of the official statistics
  - official statistics does not cover the information needed for the quantification of GHG-emissions

- If the current official statistics is not seen as suitable for use as input data for the GHG-emissions – what to change? Or is other statistics than the existing official statistics needed?

- With the increased understanding of the climate challenge, more and more basic environmental statistics is developed following the basic principles of official statistics

- Using official statistics make it easier for the compilers of GHG-emissions to influence the scope, coverage and details of the input-data they need.

- Using official statistics will:
  - harmonise the use of classifications of industries/activities and products/sources of input data
  - harmonise the use of definitions and scope/coverage of input data
  - improve the basis for comparing emission data with other statistical areas

  Today the terminology of the emission calculations does not follow the classifications in use in the official statistics.

Next steps

- How to take this process further:

  - need to analyse closer if the use of official statistics could be improved?
  -could GHG inventories be modified to improve consistency with official statistics?

- - analyse whether there is a need to change the existing official statistics or the accessibility (special agreements, legal bases?) to official statistics?
  - the positive effects of using official statistics as input-data in the GHG-emissions calculations has to be brought forward to the IPCC/UNFCCC
  - need to decide upon who does what
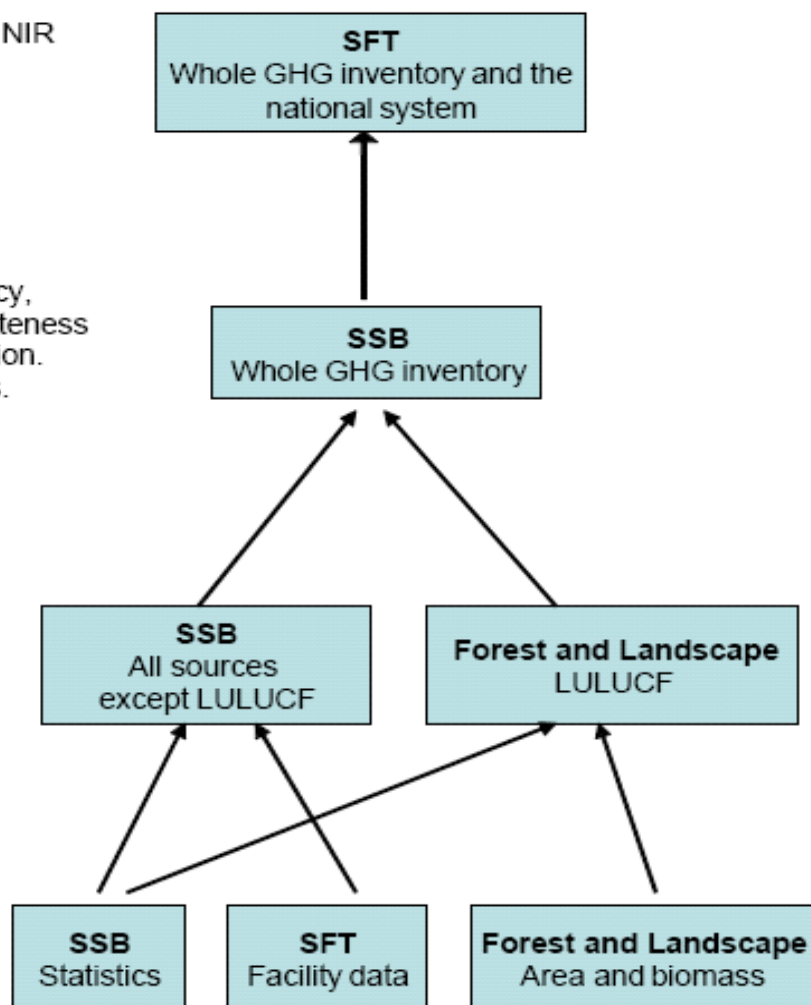
Reporting to UNFCCC, Norway Example – Institutional arrangements and cooperation

Climate cure

- The need for integrated analysis of climate policy measures, sectoral and total (macro model based)

- Reference to a Norwegian report

- English summary

- http://www.klif.no/nyheter/dokumenter/climate_cure_2020_summary_english.pdf

New challenges

- **Abatement**
  - Statistics on mitigation measures, carbon trading etc

- **Climate footprint** or indirect emissions
  - Imported food, clothing etc.
  - International air transport: Norwegian passengers
  - International sea transport: Norwegian fleet

- **Additional effects**
  - Impact of particles etc

Conclusions 1

- There are fundamental discrepancies in methods between GHG emissions and new and old official statistics. But possible to remove differences

- Units and classifications

- Recent trends as Restructuring official statistics, may increase the need for better consistence

Conclusions "

- Norwegian GHG emission estimates benefit from being Official Statistics, hence high quality *also* ensured through European Code of Practice and the UN Fundamental Principles of Official Statistics

- Great advantage for emission compilers to work in close contact with the expertise on activity data used in estimating emissions, and valuable to have easy access to other data describing the drivers and structures of society

- Future work: Find resources to meet the greatly increased demand for information and provide new statistics on for instance abatement measures

How to best organise in Official statistcis

- Coopreate with IPCC and UNFCCC

- In official statisctis several relevant activities. UNCEEA, UNECE, Eurostat OECD, IEA

- The focus in my paper is how to improve data collection and the use of official statistics . First step could be to define the scope . Call for a special meeting – ad hoc meeting ?

- For this process a need for close contact with the SEEA process, but we should not slow down the work with SEEA

Thank you!