UN Conference on Climate Change and Official Statistics

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"Why we need better statistics for climate change policies"

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Introductory remarks …

Ladies and gentlemen,

The Bali conference on climate change last December started a process towards a future global agreement on the arrangements for mitigation and potentially for adaptation in the coming years. Everyone I am sure is hoping that it will be successfully completed in 2009 in Copenhagen and that it will not only bring governments closer together on what needs to be done in the future, but also create an clear link to actions that need to be taken by citizens around the world.

The Intergovernmental Panel on Climate Change (IPCC) has shown that global greenhouse gas emission reductions of about 50 % by the middle of the century are needed to limit the global temperature increase to a maximum of 2 °C (which is the EU target). However the IPCC also showed that even with an ambitious global mitigation programme there will still be substantial climate change impacts that we will have to adapt to.

Thanks to the Kyoto Protocol's emission reduction commitments, the information needs for mitigation policies are relatively well understood. Monitoring the effectiveness of current and new policies for key emitting sectors, such as the energy and transport sectors, is addressed by a well established annual collection and reporting process of data on greenhouse gas emissions according to agreed international IPCC guidelines. But, as I will discuss later, new challenges and improvements lie ahead.

With respect to adaptation, data needs are far less clear: policy targets are much more difficult to define and less well established and measures have only recently started to be implemented, often also for other reasons than adaptation. In Europe, many of today's adaptation activities are focussed on flood management and defence, with measures relating to drought and water scarcity now under development. Climate change adaptation is also insufficiently embedded in the development of the policy arenas that will be most affected, such as biodiversity and nature protection, agriculture and forestry, energy, tourism, health, navigation and infrastructural developments. There is a great and pressing need for new data and for improvement of currently available data, in particular establishing benchmarks for the effectiveness of different adaptation strategies and calculating the costs of inaction and action. I will come back to this point later.

Greenhouse gas emission data: more timely and more spatial detail needed

Countries have for many years collected and provided data on past greenhouse gas emissions and also on projections to the UN Framework Convention on Climate Change. These data apply within the national boundaries of the countries, although emission data

from the rapidly increasing international aviation and maritime sectors are also included as memo items.

The emission estimates build on statistics for the main emitting sectors, in particular energy production and use, industry, transport, agriculture, land use and forestry. These underlying statistical data are provided by statistical institutes. Given the important economic implications it is very important that the data are delivered in a timely fashion and with high quality to inventory compilers. This is especially relevant for energy statistics, since this sector is responsible for 80% of the emissions in many countries. In the EU recently, an Energy Statistics Regulation has been adopted which hopefully will result in faster availability of more complete energy data. Statistical institutes thus have an important role, together with GHG inventory compilers, in the National Inventory Systems that are in place in all countries that ratified the Kyoto Protocol.

EEA monitors progress in reducing total greenhouse gas emissions based on information provided by our 32 member countries. There is a specific focus on EU15 due to their “target sharing” under the Kyoto protocol – namely a reduction of -8% by 2008-2012 from 1990 levels.

Our next inventory report, including preliminary data for the year 2006 will be published later this month. Final data will be published in June. This highlights an important issue: even with enhanced efforts on timeliness of all underlying statistics, annual emission data can only be published about 1.5 years after the year in question. This means that we will not know until 2014 if we have met our Kyoto commitments in the period 2008-12.

This is not good enough, especially given the high profile currently enjoyed by climate change. Policymakers obviously need more timely data. So the EEA –together with the member countries - has started a project to estimate data for the preceding year after about 6 months, to be reported for the first time in 2009. Hopefully, national statistical institutes will work closely together with inventory compilers to prepare such preliminary Year-1 estimates.

Let me add that many cities and regions in Europe are starting to set their own GHG emission targets on a more voluntary basis. There is therefore an increasing need for more spatially detailed emission data, e.g. by city or by region. These are not yet available and will require efforts by statistical institutes to have the underlying data available at the right level of spatial detail. This work can fit well with increasing attention to urban statistics in general.

Greenhouse gas emission data: need for transparency

Recently NAMEA (national accounting matrices including environmental accounts) estimates have emerged combining GHG emission inventory data with national economic accounts. NAMEA measures emissions caused by a country's residents and businesses also within other countries and discounts emissions caused by foreign visitors and businesses to the country. NAMEA results in different national total emissions than UNFCCC GHG inventories. This can cause confusion for policymakers and the public since the differences are difficult to explain. NAMEA figures are sometimes presented as being 'more accurate', thus bringing the credibility of the UNFCCC inventory system into question. This is problematic because the inventory system is closely linked to the current allocation of responsibility for reducing GHG emissions under the

Kyoto Protocol which is to individual countries. Until 2012 the inventory system is not expected to be changed. NAMEA can be a useful tool to understand GHG emissions from production and consumption in society both inside the country and also outside, but much care should be taken in presenting and interpreting NAMEA GHG emission estimates.

EU Emission Trading Scheme (ETS) is changing data needs

The EU ETS covers about 40% of total EU GHG emissions. It covers all major emitters of CO2 from industry (such as power and heat generation and steel production). The annual emission data from 2005 onwards are available for all major individual installations in the EU (about 11.000 installations), through the Community Independent Transaction Log. EEA last week provided selected EU ETS emission data sets on its web site together with an analytical tool to analyse the data.

Policymakers are increasingly using ETS data and will do so even more in the near future to analyse trends and progress towards the new 2008-2012 caps for the trading sector of each EU Member State. Currently proposals for a revised and more harmonised EU ETS for the period after 2012 are being discussed. The trading sector will have an overall EU reduction target with allocation of allowances to installations in a more harmonised way. It is expected that the revised EU ETS will be adopted soon and will require further transparent and detailed reporting and monitoring.

Collection and quality checking of EU ETS data is done by the competent authorities, linked to the permitting process, with verification done by independent verifiers. The market is setting the

price for carbon, giving an indication of the costs of measures to reduce emissions.

Although statistical institutes are not directly involved they can play a role for example in providing additional economic sectoral data to help analyse cost-effective measures.

Need for data on Kyoto mechanism projects

Countries can of course also use Kyoto mechanisms to reach their Kyoto targets for 2008-2012. The number of CDM (Clean Development Mechanism) projects with developing countries has increased enormously the past few years. CDM projects are approved by the UNFCCC CDM Executive Board. Various organisations maintain data on CDM projects, including the UNFCCC secretariat. In 2009 information on Kyoto credits will be available in countries' Kyoto registries which will be reported to the UNFCCC. This is crucial information to determine to what extent countries are on track to their targets, and we will include this in our analyses.

So far statistical institutes have not really been involved, but they should explore the needs and possibilities for a future involvement, even though the sums of money involved may not at this stage be significant in terms of overall European economy.

Vulnerability and adaptation data needs

Climate change affects biodiversity and nature protection, water resources and quality, agriculture and forestry, energy, tourism, health, navigation and infrastructural developments. To assess such impacts, data is needed on the current climate and on projected climate change for the next decades up to 100 years. Regional

climate downscaling at detailed spatial levels, e.g. even below 50x50 km, is becoming available but still has large uncertainties. Temperature can be better projected than precipitation. Projections for frequency and intensity of extreme weather events are particularly uncertain. Projections of the hydrological cycle are needed as well, to better address droughts.

Vulnerability assessments combine projected climate change with changes in natural and socio-economic systems and have been performed for many countries across the world, including the EU, but also for developing countries as part of National Adaptation Plans of Actions (NAPAs).

Within the UNFCCC, the Nairobi work programme is being implemented to help countries improve their understanding of climate change impacts and vulnerability in order to increase their ability to make informed decisions on how to adapt successfully.

There are also ongoing discussions about new additional adaptation funding mechanisms beyond the currently agreed funds (like the Adaptation Fund to be financed with a share of proceeds from CDM projects) to support developing countries meet the increasing needs to act. These activities will need to be underpinned by a mixture of models and statistics, to enable countries get the most benefit out of such new funding.

Along the same lines, the European Commission's own Green Paper on adaptation, published in 2007, identified the need within the EU for enhancing the knowledge base, but also identified possibilities for early action is some policy areas. For example the EU Water Framework Directive is well-suited to address climate change adaptation through its step-wise and cyclical approach, but its

success in this area will depend on the extent to which a longer-term perspective is included in the river basin management plans. Other key environmental policies in which integration of climate change adaptation is important are the Marine Strategy Directive and the Directive on Assessment and Management of Floods.

But in addition more local risk based analyses aimed at improving resilience in natural and human systems are essential. This should increase resilience also to the current climate extremes.

Both vulnerability and risk based local approaches require better seasonal data, for example in agriculture and forestry accounts and in the water sector, and operational forecasts, for example from the GMES (Global Monitoring for Environment and Security) fast track services. These will require new geo-spatial statistics and indicators across scales, for example water balances at river basin level, and for ecosystem functional units and services, as well as relevant socio-economic statistics.

The recently adopted EU Inspire Directive on the provision of spatial environmental information will help provide some of the necessary data from the geophysical and natural domain.

But there is a great deal of interest in deriving more information on practical adaptation measures and costs of adaptation, including methodologies and data are needed on cost-effective measures.

Statistical offices can thus help these global, regional and local efforts by improving the required basic data and corresponding frameworks such as environmental accounting.

How ecosystem accounting can help climate change vulnerability assessments

I had the opportunity to speak at the high-level EU conference organised a few months ago on 'Beyond GDP' –those of you present there would remember that the recognition of the services that the earth's ecosystems provide to societies is now firmly enshrined in socio-economic considerations. The UN decision to update the Millennium ecosystem assessment and the G8+5 decision to call for a Stern-like report on biodiversity are two recent important political commitments that will help further progress in this direction. The impacts of and the adaptation to climate change prominently feature in this context.

Ecosystem services indeed include provisioning services such as food, water and timber; regulating services that affect climate, water, soil, waste and disease; cultural services that provide recreational and spiritual benefits. The value for people's well being of ecosystem services is accounted only when these services are incorporated into the price of products. When their market price is zero, however, as in many cases at present, for the market they simply don't exist, whatever their importance. They can be accordingly appropriated for production or simply degraded without any recording. These free ecosystem services should be measured, and computed in a more inclusive aggregate, called Inclusive Domestic Product.

The negative impacts on ecosystem services of, for example, over harvesting, deforestation, fragmentation by dams, acidification of oceans and sealing of soil, will be enhanced by climate change. They have no direct counterpart in GDP. This means that the full cost of producing and consuming domestic goods and services are

not covered in many cases by their market price. Allowances should be made for these ignored costs and added to the current production output and imports of countries, sectors and companies for computing the full cost of domestic and imported goods and services.

These two aggregates, including also impacts of climate change where feasible, can provide added-value to policy makers and supplement GDP, but not replacing or adjusting it.

The two aggregates are based on environmental accounting for ecosystems. These ecosystem accounts can be established in both physical and monetary terms. Environmental accounting is a joint activity between EEA, Eurostat and member countries in the context of the European Strategy on Environmental Accounting and the revision of the UNSEEA2003, prior to adopting an international UN standard by 2010.

There is no doubt that environmental accounts, in particular land and ecosystem accounts, will provide the necessary complement to the further modelling of climate change vulnerability and adaptation processes. It offers a coherent, multi-scale and integrated analytical framework for improving our knowledge base on their distribution, dynamics and resilience potentials over space and time, as well as on their economic relevance through established valuation and benefit transfers techniques. The EEA, together with its partners, is committed to make this happen.

Conclusions

Colleagues, let me now conclude with the following remarks:

- Climate change is the biggest challenge facing mankind at the present time
- The statistical system can support climate change mitigation policies by providing timely statistics with high quality for national GHG inventories.
- New data demands are coming from the EU emission trading scheme and from use of Kyoto mechanisms in particular the clean development mechanism.
- For climate change impacts, vulnerability and adaptation policies strategies and policies are emerging and new data with more details in time and space will be needed.
- Improvement of climate change data to inform policymakers requires a joint effort by environmental agencies and statistical institutes as well as businesses and the research community at national, European and global level.
- EEA is committed to work together with Eurostat and our member countries to strengthen the links between environment and economic statistics
- I therefore strongly welcome this initiative by the UN, Eurostat and the World Bank to bring statistical institutes together to discuss, clarify and strengthen their role in the overall framework.