

CONFERENCE OF EUROPEAN STATISTICIANS

Meeting on climate change related statistics for producers and users

Geneva, 19-20 November 2012

Session 2

**INTERVIEWS – ANALYSING USER NEEDS
FOR CLIMATE CHANGE RELATED STATISTICS**

**Note prepared by the National Institute of Statistic and Geography (INEGI)
for the Task Force on Climate Change Related Statistics**

I. INTRODUCTION

1. The Task Force on Climate Change related Statistics carried out interviews of several organizations that use climate information in their work. The purpose was to seek views on existing data gaps and on the most pressing user needs are in order to consider ways in which national statistical offices (NSOs) could improve their existing statistics for climate analysis.
2. The main questions used in the interviews are listed below:
 - i. What use, if any, does your organisation currently make of statistics from national statistical offices in your activities related to climate change reporting and/or analysis?
 - ii. What challenges are faced in the use of these statistics?
 - iii. What statistics would be useful to you that are not currently available from national statistical offices or from any other sources? Of these, which are the highest priority?
 - iv. Aside from improving availability of relevant statistics, how could national statistical offices more effectively support your activities related to climate change reporting and/or analysis?
3. The Task Force members interviewed 11 people from the following institutions: Finnish Environment Institute (SYKE), an independent researcher working for the IPCC reviews, World Meteorological Organization, World Health Organization, Fondazione Eni Enrico Mattei, Facoltà di Scienze Statistiche Università di Bologna, Directorate General Climate Action of the European Commission, United Nations Framework Convention on Climate Change (UNFCCC), the Carbon Brief, WWF and Intergovernmental Panel on Climate Change (IPCC). The individual interview reports are presented in Annex 1.

II. MAIN POINTS EXPRESSED IN THE INTERVIEWS

1. What use, if any, does your organisation (you) currently make of statistics from national statistical offices in your activities related to climate change reporting and/or analysis?

4. Data from NSOs are mainly used for measuring impacts of climate change and adaption strategies, and they are used specifically for GHG emissions classified by economic sector. Examples of types of data needed include:

- i. Economic statistics including output by economic activity, imports, exports are needed done both at national and regional levels.
- ii. The health sector makes extensive use of national and local health data, basically on factors that influence the geographic range and incidence of climate on health. There are several other agencies than NSOs producing health data.
- iii. Socio-economic statistics linked are needed broadly together with climate information for conducting climate impact assessment.
- iv. Policy making depends on the detail and frequency of geo-referenced annual land use and land management data by farm level.
- v. Energy statistics are needed for energy use in particular, since it is the basis for the preparation of a large part of GHG inventories.

2. What challenges are faced in the use of these statistics?

5. The availability of and access to disaggregated data continues to be a challenge. As far as emissions by economic activity are concerned, the current breakdown of available data is not as detailed as would be needed.

6. In general, data availability is a particular problem for climate analysis. Particularly, data would be needed for local areas and long term data sets.

7. Lack of statistical quality and coherence causes problems for research, especially for analyzing climate change that requires bringing different kinds of data together.

8. A common challenge faced by countries in the preparation of their inventories is the need to have a large amount of data collected, processed and made available timely and in the right form.

9. Time series that include breaks due to methodological changes are published without specific warnings. This causes additional work in tracing the causes and explaining the factors behind the breaks. Inter-annual comparability of time series is sometimes poor.

3. What statistics would be useful to you (or others) that are not currently available from national statistical offices or from any other sources? Of these, which are the highest priority?

10. Various data gaps exist as climate analysis requires often quite specialized data for certain economic branches or geographic regions. The examples mentioned include:

- i. Economic information that could be explicitly connected to policies and measures.

- ii. Statistics on vulnerability and exposure to climate extremes. This includes statistics on population, infrastructure and activities that are exposed to weather and climate extreme events at national and district levels.
- iii. More disaggregated information, higher level of detail both with regard to economic sectors and geographic breakdown and finer scale of demographic and socioeconomic data are essential for research.
- iv. Socio-economic data linked to climate change should be collected on a regular and systematic manner.
- v. Geo-referenced annual parcel level data on land use and management as well as soil carbon parameters would be needed.
- vi. We need more information on adaptation and measures of changes to the natural system.

4. Aside from improving availability of relevant statistics, how could national statistical offices more effectively support your activities related to climate change reporting and/or analysis?

- 11. The respondents called for closer cooperation between the institutes involved in producing and using climate information. The channels of communication should be strengthened. Research organizations and statistical offices should cooperate in development of new climate related statistics that would be produced regularly. The relationships between national and sub-national environmental agencies and statistical offices should be strengthened in order to favour more intensive use of environmental data. This includes closer cooperation with the organizations compiling national GHG inventories.
- 12. As climate change is a crosscutting topic, interconnectivity between data systems would be beneficial for research. Statistical offices should increase efforts to develop interoperability of systems and inter-linkage of climate information.
- 13. Climate adaptation and mitigation requires up-to-date estimates and timely information supply.
- 14. Statistical offices should investigate data needs and ensure availability of relevant statistical data. Data users do not even know always what data would be available. This information should be made more easily accessible. Statistical offices need to develop new working mechanisms and be more active in exchanging climate and socio-economic data.

III. CONCLUSIONS

- 15. The respondents seemed to be keen to see something happen in improving data needed for climate analysis, and were pleased to hear about the initiative of heads of national statistical offices to consider what could be done. The interviewees use statistics from national statistical offices (NSOs) mainly for producing greenhouse gas emission (GHG) inventories, evaluating vulnerability, as well as for assessing impacts of climate change on economic and social variables.
- 16. One of the main challenges in the use of these statistics seems to be the availability of disaggregated data and access to microdata for a more in-depth analysis. Climate analysis requires high quality data which is available in a timely fashion for long periods of time.

17. As to what statistics would be useful that are not currently available, an area that is repeatedly mentioned includes statistics on vulnerability and exposure to climate extremes; information on population, infrastructure and activities that are exposed to weather and climate extreme events by economic sectors and with at a detailed geographic breakdown. Economic information that can be explicitly connected to policy needs and measures is needed. Several other specialized data needs are also mentioned referring to the need for better microdata access or improved level of detail in published data. Development of interoperability of systems will be essential in responding to the data needs.

18. The respondents often mention that national statistical offices could more effectively support activities related to climate change reporting by establishing closer communication and cooperation with other involved organizations, such as research, environment ministries and institutes and inventory compilers. In general, all these organizations should work together for improved statistical literacy of climate information, i.e. to support better readability of climate change related statistics.

ANNEX 1

A. Finnish Environment Institute (SYKE)

What use, if any, does your organisation (you) currently make of statistics from national statistical offices in your activities related to climate change reporting and/or analysis?

1. SYKE participates in the Finnish greenhouse gas inventory coordinated and lead by Statistics Finland. This system works well and is an example of an area where close co-operation is needed between expert institutes and statistical offices. By and large this co-operation works well, but see point 2 below.
2. My personal interest is in developing the monitoring and evaluation of policies and measures (in the field of climate change mitigation as well as adaptation). Here the statistical offices are a key source for ex-post evaluations, but these are still partly in their infancy. Information that can be derived directly from the GHG inventory are straight forward to use, but serious analysis of policies and measures also needs information on activities and details in order to understand what transformation occur or are in the making as the result of the policies and measures.

What challenges are faced in the use of these statistics?

3. One major challenge is the availability of and access to disaggregated data. The Finnish statistical office has interpreted the Act on statistics in a way which is not always helpful and sometimes counterproductive. Analyses of processes, also from the point of view of improving the quality of the statistical information itself, requires access to disaggregated data, but the current interpretation of the Act on statistics has been that it is both expensive and difficult to get such access, meaning that most researcher only use the aggregate information available in statistical tables. By developing procedures for "anonymising" the data and providing easier access to disaggregated data evaluations could progress and at the same time provide feedback to improve the quality of the statistics themselves. For example, to understand progress in mitigation it would be of interest to explore the top and low percentiles of emissions in relation to policy measures. The averages inevitably respond only slowly to changes. Access to detailed data may also partly provide a way of dealing with attribution problems which are notoriously difficult in the area of climate change (both mitigation and adaptation)

What statistics would be useful to you (or others) that are not currently available from national statistical offices or from any other sources? Of these, which are the highest priority?

4. The most difficult piece is economic information that could be explicitly connected to policies and measures. This is difficult because of attribution problems and allocation problems - although it may be possible to track some aspects of costs related to climate change mitigation and adaptation it is difficult to relate this to particular measures/policies. As few measures are adopted and implemented solely for mitigation and adaptation it is also difficult to assign a meaningful share of the costs.
5. All in all this means that the statistical information should be provided in such a way and format that detailed analyses can be carried out. This falls back to point 2 above, it is hard to make meaningful analyses without access to disaggregated information. Such information cannot obviously be provided routinely in standard statistical tables. Instead this requires closer co-operation between research organizations and statistical offices.

6. The evaluations of policies and measures could also be supported through the creation of (national) systems for monitoring of policies and measures and their outputs and outcomes. Primitive versions of such systems exist in the form of data bases at various international organizations (for example International Energy Agency and European Environment Agency), but the quality of the information is highly variable and there is a lack of rigorous concepts and standards that stats offices may be able to provide. The system of collecting the information is also partly haphazard based on reporting formats that lead to ad hoc collections.

Aside from improving availability of relevant statistics, how could national statistical offices more effectively support your activities related to climate change reporting and/or analysis?

7. See response to question 3: The most important step would be an even closer co-operation between research organizations and statistical offices. As noted above, joint exploration of disaggregate data is likely to provide new insights also in difficult areas such as the economics of climate change mitigation and adaptation, and would contribute to overall quality control and quality management of data. It would mean increased efforts to develop interoperability of systems.

B. Fondazione Eni Enrico Mattei

What use, if any, does your organisation currently make of statistics from national statistical offices in your activities related to climate change reporting and/or analysis?

8. My work at Fondazione Eni Enrico Mattei (FEEM) is mainly on impacts of climate change and adaption strategies. In this context we make a large use of statistics from national statistical offices, specifically GHGs emissions classified by economic sector and economic statistics including output by economic activity, import, export. We work both at national level and regional level (Nuts 2). Our analysis is based on a model calibrated with data for one given year and forecasts are used as input for the remaining years; the source of forecasts is generally not national statistical offices but most often IPCC and countries' national communications.

What challenges are faced in the use of these statistics?

9. As far as emissions by economic activity are concerned, the breakdown of available data is not as detailed as we would like in order to use it as input for our model; some sectors which are important for the analysis of impacts are not singled out in the statistical sources. Moreover, Nuts 2 level data are rarely available.

10. As far as economic data are concerned we face a severe inconsistency problem when using trade statistics, for example imports and exports of bio-fuels do not match.

11. Moreover, when performing multi-country analysis with world-wide models lack of information for developing countries is a constraint.

What statistics would be useful to you that are not currently available from national statistical offices or from any other sources? Of these, which are the highest priority?

12. Rather than additional statistics we would like the existing statistics to be produced at a higher level of detail both with regard to economic sectors and geographic breakdown.

Aside from improving availability of relevant statistics, how could national statistical offices more effectively support your activities related to climate change reporting and/or analysis?

13. The most important contribution would be to have an improvement in international comparability. We are aware that Eurostat is constantly pursuing that objective and hope that efforts in that direction would carry on. An improvement would be to work towards full international comparability also outside Europe.

C. Facoltà di Scienze Statistiche Università di Bologna

What use, if any, does your organisation currently make of statistics from national statistical offices in your activities related to climate change reporting and/or analysis?

14. I work in academy: the application field of my research group is environmental statistics. Our most common orientation in the past has been modelling direct measurements of climate and weather, with focus on modelling local and global measures related to pollution. A basic issue is therefore the spatial scale. The most recent activity has been on waste data.

What challenges are faced in the use of these statistics?

15. The main challenge is how identifying and having access to data related to climate change among the entire publication activity of the national agency. A problem is the territorial coverage of information, its quality and harmonization; another is how communicating the uncertainty and variability related to those data. Another important point is how using data originally collected for purposes that are different from the original purpose, i.e. how achieving the equivalent of monitoring when data are collected with a different aim. A further point is how to optimize sampling.

What statistics would be useful to you that are not currently available from national statistical offices or from any other sources? Of these, which are the highest priority?

16. Our main expectation is the availability of land use data related to the Municipal Territorial Bases constructed for the 2011 Italian census. Our national statistical agency made great efforts to construct good territorial bases that ought to be more strongly emphasised. An important related issue is coastal erosion. Also fundamental is the socio-economical use of fresh water.

Aside from improving availability of relevant statistics, how could national statistical offices more effectively support your activities related to climate change reporting and/or analysis?

17. National statistical offices ought to strengthen their relationships with national and sub-national environmental agencies in order to favour more intensive use of environmental data. Their joint effort ought to be towards producing data even more suitable to assess the measurement of climate related changes and the evaluation of policies. National statistical agencies ought to be ready to harmonize different reporting styles from different countries.

D. Climate researcher working for IPCC

What use, if any, does your organisation (you) currently make of statistics from national statistical offices in your activities related to climate change reporting and/or analysis?

18. The health sector makes extensive use of national and local health data, as well as data on socioeconomic, demographic, built environment, etc. Basically, the health sector is

looking for data on the wide range of factors that influence the geographic range and incidence of climate-sensitive health outcomes.

What challenges are faced in the use of these statistics?

19. The challenges are not really with the use, but with data availability. Particularly, data for local areas and long-term datasets.

What statistics would be useful to you (or others) that are not currently available from national statistical offices or from any other sources? Of these, which are the highest priority?

20. Finer scale demographic and socioeconomic would be very helpful to support analyses at sub-national scales.

Aside from improving availability of relevant statistics, how could national statistical offices more effectively support your activities related to climate change reporting and/or analysis?

21. Having just reviewed a large number of pre-proposals for research on climate change and health in low income countries, many low-income countries don't have sufficient expertise in data analysis, so providing support would be helpful. It also would be helpful to know what data are available – researchers often don't know what data are being collected.

E. European Commission, DG Climate Action

What use, if any, does your organisation currently make of statistics from national statistical offices in your activities related to climate change reporting and/or analysis?

22. We as such do not use statistics in our everyday work, but our policy making depend heavily on the detail and frequency of geo-referenced annual farm level land use/land management data, consistent with IPCC guidelines for UNFCCC reporting. DG CLIMA policy making depends in its foundation on analytical processes and tools, which themselves rely on high quality statistical input. The processes and tools employed cover a broad range of 'real world empirics', reflecting the broad outreach into economy, environment and society of climate policy. Not rarely, use of statistics would be needed, but no statistics are available at the relevant policy making level, hampering desirable policy developments (example: geo-referenced land use information, including localisation of afforested, deforested, reforested, abandoned land area, etc).

What challenges are faced in the use of these statistics?

23. Access to data, inability to track land use changes (within a consistent/stable land use frame covering the overall territory) and to link land uses with soil data (which needs to be collected/maintained/distributed), the low time frequency of soil carbon data. At times lack of statistical quality and quality coherence, statistical harmonisation of individual country data. Forgone potential to use national/regional/local administrative data for statistical purposes, lack of connectivity/inter-institution/administration IT data network and data flows. Lack of agreement on harmonised data collection tools, collection programmes. Mismatch between policy questions to tackle and quality statistics available (example: livestock sector developments are very important for GHG concentration in the atmosphere/climate change/climate policy (this data is also important for resource efficiency assessments in land/feed use, food security), but budget and resource constraints in statistical offices result in cut down of meat and livestock sector data availability). Confidentiality provisions and other constraints restricting access to information. User-friendliness of information distribution systems. Data collection, validation, database maintenance and data distribution needs to

have a reliable, sustainable long-term orientation, and therefore usually there needs to be a legal basis of reference which is sometimes not the case (data collection on the basis of 'gentlemen's agreement' is not sufficient). Language barriers in cases preventing direct access to data published by stats offices in MS. Incompleteness of data as a problem.

Methodological changes causing breaks in time series (difficulty to trace evidence and explaining factors of breaks in time series without specific warning, indication which is often not given), no inter-annual comparability of time series. Sometimes only availability of index data, no availability of absolute data.

What statistics would be useful to you that are not currently available from national statistical offices or from any other sources? Of these, which are the highest priority?

24. Geo-referenced annual parcel level data on land use/management and soil carbon parameters. Data on resource availability, quality (like local soil fertility, carbon content, degradation, etc), location (natural, other resources), ownership allocation, resource management mandate allocation/structure/concentration, material/resource/product flows within provisioning networks, along supply chains/networks from global to local level, structural links within economy/society, production factor availability/quality/maintenance or erosion/relative remuneration/migration between economic sectors, welfare/health statistics related to socioeconomically differentiated household types, financial flow information in terms of linking origins and directions, remunerations of finance to assess economic financial stability, competitiveness, investment capacity, profitability, public budget information in terms of revenue origin/expenditure destination, statistics on public share in economic sector/business activities, statistics on results of public controls (example: on compliance of economic actors with legislation/regulation), 'unconventional statistics' covering 'beyond GDP', 'smartness', 'inclusiveness' (or opposite) issues etc.

Aside from improving availability of relevant statistics, how could national statistical offices more effectively support your activities related to climate change reporting and/or analysis?

25. Involve themselves with MS GHG inventories on LULUCF more directly. See some hints already above. Plus: Provision of decomposed background info complementing the aggregate info made available, draft and distribute thematic publications based on the statistics collected, also establishing the link to relevant policies, regularly inform about 'technological and other progress in statistics' (guarantee consultation/alert in terms of methodological changes coming up), ensure availability of expert statisticians for feedback/questions/methodological/data interpretation guidance.

F. UN Framework Convention on Climate Change (UNFCCC)

What use, if any, does your organisation currently make of statistics from national statistical offices in your activities related to climate change reporting and/or analysis?

26. The UNFCCC secretariat does not use national statistics directly. However, national statistics, for energy use in particular, is the basis for the preparation of a large part of national greenhouse gas (GHG) inventories which are regularly prepared and submitted to the UNFCCC secretariat by all Parties to the Convention (annually by Annex I, or developed, Parties and periodically by non-Annex I, or developing, Parties). Also, national statistical data are normally reviewed by the international expert review teams (ERTs) which review annually, under relevant UNFCCC procedures, GHG inventories from Annex I Parties.

What challenges are faced in the use of these statistics?

27. The usual challenges faced by countries in the preparation of their GHG inventories are the following:
- i. Need to have a large amount of data collected, processed and made available timely and in the right form (for both Annex I and non-Annex I Parties);
 - ii. Need to sustain national statistical activities on a long-term basis (especially in non-Annex I Parties);
 - iii. Need to understand and apply relevant (and complex) methodologies for the transformation of the original statistical data into a set of structured GHG data.

What statistics would be useful to you that are not currently available from national statistical offices or from any other sources? Of these, which are the highest priority?

28. The question is not relevant to the UNFCCC secretariat. Generally, Annex I Parties do not have serious problems of data availability whereas non-Annex I Parties often face such problems, in particular because of the lack of funding and insufficient national capacity in statistics.

Aside from improving availability of relevant statistics, how could national statistical offices more effectively support your activities related to climate change reporting and/or analysis?

29. Within the UNFCCC context, the main issue is to ensure that relevant statistical data are available and that there are working channels of communication between the organizations storing and processing statistical data and the organizations preparing national GHG inventories. Such procedures, which are part of the so-called "national systems for inventory preparation", can differ much from country to country, but they should be in place and operate in a sustainable manner; otherwise, the quality of GHG data can quickly deteriorate.

G. World Meteorological Organization

What use, if any, does your organisation (you) currently make of statistics from national statistical offices in your activities related to climate change reporting and/or analysis?

30. WMO deals most with the data and statistics (climatology) related to weather and climate which are handled by the National Meteorological and Hydrological Services and other regional and global climate related institutions
31. There is no systematic and direct use of statistics from national statistical offices at WMO secretariat level. However, Global and Regional Specialized centres are entrusted by WMO to collect national data and produce summary reports (e.g. 30 year "normals", decadal/10 year average). Most likely at national level Climate studies need socio-economic related statistics for conducting climate impact assessment.

What challenges are faced in the use of these statistics?

32. There are various sources of data. We don't know yet what is the data scope of the national statistical offices and what is their mission in collecting and managing the data and providing statistics.

33. Another challenge, if that for most applied studies, it is not just enough to use statistics: there is often a need to deal with less aggregated data and even with the raw measurements themselves.

What statistics would be useful to you (or others) that are not currently available from national statistical offices or from any other sources? Of these, which is the highest priority?

34. Socio-economic data collected on regular and systematic manner will be increasingly required as the Global Framework for Climate Services (GFCS) evolves into operational phase in the next few years. It would be good that national statistical offices would be able to produce, using standard methodologies and analysis, some critical information for WMO and that are related to climate risks. Example:

- i. Statistics and analysis which are updated on yearly basis and providing indication on vulnerability and exposure to climate extremes: (Population, infrastructure, activities that are exposed to weather and climate extreme events at national and district levels. This Statistics and Analysis would help NMHS better target there services)
- ii. Statistics and analysis on the use of climate information by sector of activities similar to the statistics which provide degree of access to water, sanitation, food, information technology....could be also developed.

Aside from improving availability of relevant statistics, how could national statistical offices more effectively support your activities related to climate change reporting and/or analysis?

35. There is a need that statistical offices develop working mechanisms with NMHSs at national level and collaborate more on exchanging climate and socio-economic data. A common understanding of the requirements to each other is essential: Statistical offices will need climate data and NMHSs will need socio-economic data.

H. World Health Organization

What use, if any, does your organisation (you) currently make of statistics from national statistical offices in your activities related to climate change reporting and/or analysis?

36. As far as WHO is concerned national statistical offices (NSOs) are not directly involved in the climate change stats or related analyses.

What challenges are faced in the use of these statistics?

37. Since these stats are quite specialized, they are hence produced by specialized agencies. In the analysis phase, specialized agencies analyzing these data do them independently of NSOs and provide results directly to the users. The information is scattered across organizations.

What statistics would be useful to you (or others) that are not currently available from national statistical offices or from any other sources? Of these, which are the highest priority?

38. There are many statistics that WHO needs when analyzing these data but to our knowledge none of these is available from NSOs as the primary source. This is the case for time dynamics of population density (combination of actual population density, combined with satellite imagery showing movements of settlements etc.), actual use of water points, yields of water points, vibrio surveillance correlated with use of safe water as a function of

changing climate/variability etc. Some of these data are available from earth observation groups, but not from NSOs.

Aside from improving availability of relevant statistics, how could national statistical offices more effectively support your activities related to climate change reporting and/or analysis?

39. This should be covered by the WHO presentation at the 19-20 November meeting on climate change related statistics for producers and users. So, after that you will be able to refer to that presentation for more information.

I. Intergovernmental Panel on Climate Change (IPCC)

What use, if any, does your organisation currently make of statistics from national statistical offices in your activities related to climate change reporting and/or analysis?

40. IPCC role is to produce methods for the GHG emissions estimating, from all sources. They set out the methodology, but don't do the work. Don't really use statistics as such, but would generally tend to use socio-economic statistics.

What challenges are faced in the use of these statistics?

41. Not really clear on what the challenges would be?

What statistics would be useful to you that are not currently available from national statistical offices or from any other sources? Of these, which are the highest priority? What are the gaps?

42. Most countries have reasonable energy statistics, and most supply data to the International Energy Agency (IEA). Recurring problem is due to differences between data published by countries and what the IEA get. Similar problem exists with data going to Food and Agriculture Organization (FAO) on agriculture and related topics.

Are there gaps in the system?

43. One problem area is land-use areas of forest although some countries do have reasonable data, some countries do this well. Guidelines do exist, and there are initiatives on-going. It is certainly something people are thinking about

Another example is fluorinated gases

44. Imports and exports data don't make it clear what is included in the goods. The whole area of data on fluorinated gases (F-gases) is an issue, i.e. what is included in what is being reported.

Aside from improving availability of relevant statistics, how could national statistical offices more effectively support your activities related to climate change reporting and/or analysis? Do you think that NSOs should get more included in climate data more generally?

45. In general, probably NSOs do not need to get more involved in climate data. Researchers and scientists know what they are doing. There are well established processes, which people understand. People who use the data generally understand it, although there are others who don't understand the data, and some who deliberately misunderstand it.

J. World Wide Fund for Nature (WWF)

What use, if any, does your organisation currently make of statistics from national statistical offices in your activities related to climate change reporting and/or analysis?

46. We appreciate the importance of good data and statistics. WWF at present trusts and assumes that quality assurance is good enough, but it is important that credible and transparent data are available.

What challenges are faced in the use of these statistics?

47. There are a number of core series needed, e.g. energy, emissions and many quarterly statistics. All are of good quality – some could be improved, but probably not much. These series are useful to those involved in the public debate. This arrangement works well in the UK, and the European Environment Agency (EEA) does this pretty well too.

48. The problem is also at the user side in finding the time to go through the statistics.

What statistics would be useful to you that are not currently available from national statistical offices or from any other sources? Of these, which are the highest priority?

49. Data gaps are not big at UK level, but international data is harder to get a hold of. For example, there is a gap on emissions for non-carbon dioxide (CO₂) gases.

50. Getting up to date estimates is often very difficult.

Aside from improving availability of relevant statistics, how could national statistical offices more effectively support your activities related to climate change reporting and/or analysis?

51. More country specific data would be great, but reporting requirements make this difficult. The big lag in data becoming available should be improved.

What about impacts data?

52. This is a bit of minefield, and it is difficult to see where the facts are. Sceptics will try to spread doubt, based on specific references. There was a time when statements were considered to be facts, but now everything is challenged. WWF does maintain a “fact bank” of things they are confident in.

53. In the UK, the Met Office Hadley Centre provides very good information, but it would be good to have everything in one place.

54. These should be a core of facts that are incontrovertible, ranging from key metrics to what can be said about attribution, and how data should be interpreted.

55. There are lots of “scenarios” about, and WWF does a lot of work on these, predicting what the future could look like – but there is a need to better understand what the baseline looks like, and to assign probabilities and explain these.

56. On climate science, we need to differentiate between trends in historic data and theories. This will reduce the opportunities to misrepresent statistics. The “Skeptical science” chart, for example, shows different views and how the same data can be used to show different things.

57. The understanding of climate models is about understanding statistics, but is really then getting into a different area. NSOs could get dragged into this in a way that may not

help, although in an ideal world it would be good if they were able to add a stamp of authority to outputs from climate models.

K. The Carbon Brief

What use, if any, does your organisation currently make of statistics from national statistical offices in your activities related to climate change reporting and/or analysis?

58. The core activity of the Carbon Brief is the representation of info about climate change and energy, e.g. the question for them is whether the figures are misleading? We are interested in statistics from all areas, such as energy statistics, inventories, and data about ice-sheets. We look at how the other media interpret think-tank reports for example.

Consider there to be 3 general areas of statistics:

1. *National, GHG inventories (emissions).*

59. There is also an on-going discussion about accounting for emissions from countries in products, and also with reference to specific policies. Inter-country comparisons are important and also, what information is available within countries, by region.

2. *Climate science “statistics”.*

60. We monitor the data online , e.g. what is global temperature? What is UK temperature? How much there is precipitation? This is a very different issue from inventories

61. In the area of climate science we have more lively debates. Varying arguments about different statistical methods are given. Sometimes the debate is not well-informed, for example, how do we deal with questions like “what confidence do you have?” or “how statistically significant is this”?

62. There is a whole industry on the climate science, e.g. on arctic sea-ice, where there are lots of sources for these statistics.

3. *Energy statistics.*

63. Deployment of technologies, e.g. how much energy do we get from wind? Is it very efficient? How to assess and use this statistical data?

These are the 3 key issues

64. These 3 key areas don’t really overlap. There is generally a low level of “statistical literacy” and there are problems in communicating the message clearly. It has been easy for people to make statements which are not backed up by evidence, e.g. on the topic of how much energy comes from wind power?

65. You can download CSV files from the National Grid, and can pull out whatever you like at either end of the spectrum to show whatever you want. Representing data in a way which would be helpful is not generally done.

Accessibility is an issue

66. We are really interested in the details of statistical data and how to use them in climate research. Getting data takes more time than is ideal. Often we need to get in touch directly with the producer/publisher organisation.

Data availability can be an issue

67. There is often no clear guidance on how data can be used. It is not always clear when data is simply not available.

68. Data is good for people who know how to interpret it, but is often manipulated, so good practice would be helpful.

69. The Carbon Brief is probably a useful proxy for a non-governmental organization (NGOs), as they will write about anything that is covered in the media.

70. In the past we couldn't have got hold of the required data, but a general audience can now get it, and they want it. There has been a fundamental shift in where this info sits in the debate. People are less cautious, and there is now a much more open and more informal debate.

What challenges are faced in the use of these statistics?

1. Accessibility & functionality

71. Repositories are sometimes hosted on weird websites and registration to get data can be tricky. Sometimes data are released in locked PDFs making it difficult to process and edit the data forward. It is difficult to access data in easy formats. This is an important issue for Governments to think about. With regard to inventories, some thought is at least given to presentation of data.

Points & signposts

72. Technical points, how should they be interpreted? One-page briefings about how to use data would be helpful. If data can be downloaded, we need some guidelines on where the data comes from.

2. People have a low level of "statistical literacy"

73. There is a need to try and explain to people how important results/science is i.e. how do single sets of statistics affect the overall picture? What weight should be attached to given results, statistics and research.

74. Statistics do not generally get put in context, and providers need to engage with users to check their correct understanding.

3. The debate is highly politicised

75. There is a real desire from some quarters to misrepresent figures and research. This is it difficult to mitigate against. The debate over GHG inventories is a good example. If we have a way of measuring "off-shored" emissions, there should be a debate about why we don't report these. There needs to be a debate about the methodology, and what can be gleaned from the data.

What statistics would be useful to you that are not currently available from national statistical offices or from any other sources? Of these, which are the highest priority?

76. International standardisation would be helpful for data users. Information about adaptation spending is needed. It would be good to have some sort of internet portal for easy access to internationally comparable data.

On UK energy statistics for example

77. Would be good to have a clearer pulling out of points. Spread sheets are good, but directed at people who know what they are looking at. Can they be “de-jargonised” perhaps? Could they be more user-friendly?

78. Results which are too basic don’t tend to get written down. Could there be more discussion about the simple messages? There could be lots of info which is useful, but this is not used as it is not clearly presented

On emissions statistics

79. Can we show progress by way of policies? On the UK carbon budget, are we reducing emissions against our budget? Could take a few hours to unpick. This is not generally discussed, so can get “glossed over”.

There is now a “re-calibration” of the debate

80. More focus on adaptation (spending, precipitation for example), and less about mitigation is needed. Climate statistics are becoming not just about carbon targets. Adaptation needs to be measured, together with changes to the natural system.

81. There is a lot of information available – not doubt about that. The gaps tend to be in respect of accessibility and presentation. If you know what you are looking for though, things tend to be easier.

82. Would it be possible to have statisticians helping people (e.g. journalists) to interpret data over the phone? If we don’t interpret our statistics we are effectively just dumping information into the debate. We need to involve communications specialists to help us understand journalists’ needs.

83. There needs to be two things behind statistical information being published: (1) statistical expertise and rigour and (2) communications expertise.

Aside from improving availability of relevant statistics, how could national statistical offices more effectively support your activities related to climate change reporting and/or analysis?

84. We don’t really know who does what, and aren’t really concerned about that. We just want to know who can answer their questions.

85. We want to get to an answer as easily as possible, as if using Google. Something that actually answers the question, that is relevant, up-to-date and user-friendly, and also an answer that can be trusted.

86. On the trust issue, is it necessarily the case that NSOs are the most trustworthy organisations? Interpretation is important. Sometimes definitions can change, due to political and other decisions. It is probably more important now about how you produced the figures and transparency than who/where you are.

87. Government statisticians can help with explaining and interpreting information, and are duty bound to do this, but there is definitely room for improvement.

88. Overall message is that we are really keen to see something happen in this area, and are pleased to hear about this initiative.
