

6. Developing new statistics

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NSOs should consider development of new statistics based on a review of the key data needs of climate change policy makers and analysts in their country. When considering the production of new statistics, it is important to recall the key competencies of NSOs and take into consideration the traditional boundaries of their work; for instance, NSOs do not usually compile forecasts or make judgements about cause-effect relationships. The key data gaps to consider include, among others:

- Improve data for analysing drivers of climate change
- Develop statistics on the use of economic instruments
- Develop statistics to address climate change adaptation
- Consider how to contribute to the on-going efforts to monitor biodiversity and ecosystems

Good Practices

Name of the case	Country	Brief description	Results	Difficulties	Further information
Indicators of Climate Change Impacts in California	California Environmental Protection Agency	Decision makers in California monitor changes by using a set of impact indicators on climate change: <ul style="list-style-type: none"> • human-induced drivers of climate change; • changes to California's climate; • impacts of climate change on physical and biological systems in the state 	The indicators convey scientific information on environmental conditions in California. They help the state track, evaluate and report on the climate change issues. The indicators help portray the interrelationships between climate and other physical and biological elements of the environment.	The indicators are a collective effort and rely on monitoring and research activities carried out by state and federal agencies, universities and research institutions, and include a lot of biophysical data not collected by NSOs.	PDF
Development of provincial & territorial Physical Flow Accounts for GHG emissions	Canada	Physical Flow Accounts were estimated for the provincial level via supply-use tables, allowing to map disaggregated differences and monitor provincial obligations	Estimates for CO2 and GHG emissions were calculated for each province and several years with sector-wise disaggregation	Certain source and administrative data are only available at national-level, making collaboration between data-providers important to fill gaps. Confidentiality-issues arise with survey-respondents potentially not willing to give information that could entail negative consequences or as they fear data breaches	PT
National set of climate change indicators	China	The National Bureau of Statistics of China collaborated with the inventory agency to develop a system of 36 indicators to measure climate change and its impacts	The indicator system includes five domains: 1) climate change and its impacts; 2) adaptation; 3) greenhouse gas emissions; 4) funding and 5) standard setting and management	The office has been reviewing the set of indicators against the scope of climate change-related statistics as presented in the CES Recommendations	PDF
Combining survey and administrative data to develop statistics for monitoring climate change	Ireland	- Description of role of the Environment Division in the Central Statistics Office Ireland has developed through co-operation with national agencies for environment protection and sustainable energy - CSO has worked with the national agencies to combine administrative data from the agencies with CSO survey data	- There are high quality administrative data in environment-related agencies - Statistical offices may have legal authority under a Statistics Act to obtain access to confidential administrative microdata and to match it with business registers and survey data - If all data sources are used then overall quality should be improved, Better NACE representativeness, and reduced respondent burden	- Environment Divisions in Statistical offices are typically understaffed as it is a relatively new domain	PT
Production of statistical data on climate change	Kyrgyz Republic	Describes the experience of producing statistical climate data in Kyrgyz Republic	Main annual statistical publications include environmental section + Special publications on environment: - Environment in the Kyrgyz Republic (every 4-5 years) - Environmental condition in the area of Issyk-Kul lake (annually) - Protection & rational use of natural resources (annually) + Jointly with State agency on environment NSC produces: - KR is a party of the UN Framework Convention on Climate Change since 2003 and it is already produced First and Second National Communications. Today is preparing for the Third National Communication - National Report on Environment, 2011 (in accord to agreed 36 Environmental indicators)	- No unified national system of monitoring - Almost no necessary monitoring in such areas as: hazardous wastes, heavy metals, morphological registration of wastes - No complex and sectoral electronic database on environment (results of environment monitoring do not used for decision making, development of policy etc.) - No emission survey, cadaster of waste water - No smooth communication between agencies because of imperfection in national laws and required unified methodological approaches under data generation. - No consistent information databases	PT

Prevention, attention and disaster measurement	Mexico	Describes the experience of Mexico in providing accessible and good quality geospatial to foresee disasters or ensure rapid response when they happen	<ul style="list-style-type: none"> - Geospatial information becomes a critical asset for actions that mitigate disaster effects - NSO has put into operation a collaborative site for disaster response, where different sub-national units can exchange information to perform their functions more efficiently - Site includes current events, historic events, census data at the block level, hydrographic network, road network and satellite imagery - As disasters can occur at any moment, site gives permanent access to some basic or framework data sets 		P DF
Climate change indicators for Nordic countries	Nordic countries	Already in 1999, a cooperation group of the energy and environmental sectors in the Nordic countries prepared an inventory of potential climate change indicators using existing data.	<ul style="list-style-type: none"> - The Nordic countries reviewed possible relevant statistics for driving force, pressure, state and response indicators that are mainly available from national statistical systems. 	<ul style="list-style-type: none"> - Since 1999, environmental statistics have improved notably and a new inventory would probably result in a longer list of available statistical data. They may still provide some good ideas for those developing indicators. 	P DF
Production of quarterly emissions estimates	The Netherlands	Experience publishing CO2 emissions on a quarterly basis (faster data, awareness creation, more possibilities for analysis, interest of businesses)	<ul style="list-style-type: none"> - CO2 emissions can be constructed and published on quarterly basis 45 days after the end of the quarter - Quality of the data is good 	<ul style="list-style-type: none"> - Differences with IPCC Emissions: Good communication necessary - Large influence of weather: correction temperature necessary - Seasonal correction 	P PT Word E x a m p l e p r e s s r e l e a s e
Developing new statistics for climate analysis	The Netherlands	Experience in producing: <ul style="list-style-type: none"> - Quarterly CO2 emissions - CO2 emission permits - Mitigation expenditure - Carbon footprint 	<ul style="list-style-type: none"> - Multi-regional input-output models (MRIOs) are produced for global questions while a Single-country National Accounts Consistent (SNAC) footprint is more relevant for national policy makers 	<ul style="list-style-type: none"> Need for IO and SEEA data Need for enhanced cooperation Between statistical offices Between MRIO producers Statistical and academic community 	P PT
Climate change adaptation; data needs	The Netherlands and municipality of Zwolle	There is a growing need for statistical data on climate change adaptation activities. Two Bachelor students completed a data needs inventory as part of their graduation work at Windesheim Honours College, supervised by Statistics Netherlands and the municipality of Zwolle. One of the students focused on the agricultural sector. The other one on water and spatial management.	Monitoring is key in data-needs concerning climate change adaptation in the agricultural sector for all covered effects in this research. Data-generating authorities should collaborate more effectively and efficiently. Microdata are becoming more important.	Climate change adaptation activities differ enormously at sector and regional level. Due to their diversity most statistical offices struggle to develop a statistical framework for this area. The data needs inventories, as described in the graduation reports, can be seen as a first step in developing climate change adaptation statistics.	R e s e a r c h r e p o r t 1 A d v i s o r y r e p o r t 1 R e s e a r c h r e p o r t 2 A d v i s o r y r e p o r t 2

Quarterly emissions to air by industry	Sweden	Statistics Sweden produced quarterly data on emissions to air by industry. Quarterly data is based on quarterly and monthly energy statistics, as well as the quarterly national accounts data and the data from the yearly SEEA emission accounts. Quarterly statistics increase the general knowledge about the underlying factors for the emissions.	Quarterly emission-data is retrievable online. The data attracted a lot of interest from analysts, researchers, journalists.		P PT
Disaster database and products	Turkey	Describes the experience of Turkey in compiling events dating back as 1926 into an electronic library that allows recurrence analysis of extreme events	<p>Compilation of meteorological data, hazard records and paper reports, news reports, and flood and hail reports into a coded database of meteorological disasters allowed the development of some products:</p> <ul style="list-style-type: none"> ▪ Early Warning System for Forest Fires ▪ Urban Flood Forecast and Early Warning ▪ Snow Avalanche Forecast and Early Warning ▪ Color-Coded Warning System based on weather forecast 		P DF