



# Environment Statistics Production Process

Workshop on Environment Statistics for South East Asia Countries  
Hanoi, Viet Nam, 5-7 December 2011



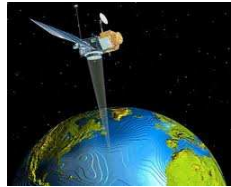
United Nations Statistics Division

Contents have been updated according to current developments in the revision process (August 2012)

# Statistical processes: from raw data to statistics

- Statistical processing is needed to transform data and microdata into statistics and indicators, as well as other type of integrated results.
- These operations follow regular statistical standards and procedures that are implemented into the environment statistics domain, in a similar manner as in demographic, social and economic statistics.
- Environment specific sources require different processes of collecting and compiling data and metadata
- Description of the statistics and indicators in metadata is important to enable comparability trough time and register possible differences with international definitions and standards
- The use of relevant and specific classifications (under development) is necessary in the domain of environment statistics.

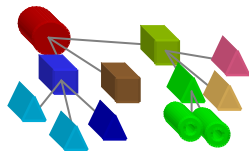
# Statistic production



	1765	1958
	368	381
	66	67
	159	165
	1	1
	58	61



Validation



Structure

Indicador	C.3	Renovabilidad de la oferta energética
Energía		
Página Metodológica		
Definición	Es la relación entre la oferta total del conjunto de fuentes de energía renovables y la oferta total de energía. Se refiere, en términos relativos, sobre el nivel de participación de las fuentes renovables en el abastecimiento interno de energía en las regiones de consumo final y en consumo interno, como los centros de transformación, de un país.	
Descripción	Se consideran fuentes renovables: hidroenergía, geotermia, biomasa, energía eólica, energía solar, energía hidráulica, energía mareomotriz, energía geotérmica, energía de las mareas y otras fuentes como la energía humana y biológica.	
Metadatos de cálculo	Fórmula: $\frac{C.3}{OTD} \times 100$ Donde: OTD = Oferta de energía integrada del país; C.3 = Oferta total de energía del país.	

Metadata (description)

Data and microdata

Release date	UNIT	Reference period
2019-01-01	1000 tonnes	2018
2018-01-01	1000 tonnes	2017
2017-01-01	1000 tonnes	2016
2016-01-01	1000 tonnes	2015
2015-01-01	1000 tonnes	2014
2014-01-01	1000 tonnes	2013
2013-01-01	1000 tonnes	2012
2012-01-01	1000 tonnes	2011
2011-01-01	1000 tonnes	2010
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17		

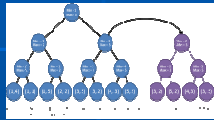


# Processing

After collection, further processing of these data and microdata sets are required:



a) Validation, interacting with sources and experts



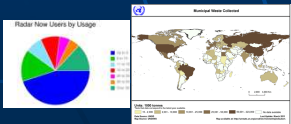
b) Structuring, to make sure that the sets of statistics are presented in an organized way using defined criteria

A screenshot of a methodological sheet for the indicator 'Accesibilidad de la red energética'. It includes a definition, a data table, and a metadata section.

c) Thorough description of each statistic series, using metadata formats such as methodological sheets

A screenshot of a data table showing energy-related statistics for various countries and years.

d) Tabulation and construction of the disseminating tables and possible maps



e) Dissemination

# Key concepts

- Data: Observations, measurements originated through a data collection process.



- Statistics: Statistics are sets of data that has been properly validated, structured and described according to statistical standards and procedures.

LINK Transaction Volumes (millions)					
Month	2007	2008	2009	2010	2011
Jan	208.00	214.00	224.90	224.00	232.90
Feb	204.50	224.00	216.40	224.20	229.90
Mar	236.10	234.00	245.20	253.90	259.79
Apr	226.30	232.00	241.06	252.20	259.70
May	237.90	251.50	255.19	262.00	262.00
Jun	233.80	235.90			
Jul	231.60	244.70			
Aug	236.00	244.21			
Sep	229.00	237.22			
Oct	239.00	250.40			
Nov	234.00	236.70			
Dec	230.00	237.20			
Total	2,746.20	2,841.83			

Statistical Information Obtained From Sample	
Mean (sec)	2.3427
Standard Deviation (sec)	0.1180
Variance (sec <sup>2</sup> )	0.0139
Assuming a Normal Distribution with 99% Confidence Interval:	
Time Between Batches (sec)	2.34 ± 0.0542
Data Shall Fall Within:	
2.286 ≤ $\bar{x}$ ≤ 2.394 seconds	

- Indicator: It is a selected, refined and meaningful statistic (or combination of statistics), that is communicated within a context for the final users.



# Data compilation/collection



The process of transforming selected data sets into statistics requires a careful integration of the following steps:

- a) Careful definition of the types of magnitudes to be captured according to the information needs (type of magnitude, scale, coverage, time and space configuration, etc.).
- b) The resulting key environment statistics need to be statistically feasible to be actually produced as statistical series within a country's statistical system
- c) Assessment of data sources and the quality of potential and current data sets is key
- a) Collection of data according to standard statistical procedures , (i.e. Using Questionnaires or Compiling data from primary sources)

# Developing indicators



To produce indicators, the procedure to be followed according to the information needs the following standard procedures:

- a) Carefully determining which indicators best serve the information demands (policy, priorities)
- b) Selecting the required statistics that are needed to calculate those indicators
- c) Processing or combining the statistics to produce the indicators
- d) Properly describing each indicator, producing metadata
- e) Constructing the dissemination formats using graphs and possible maps
- f) Dissemination

Starting from statistics, a careful selection process takes place to produce indicators, sometimes requiring the use and combination with additional statistics such as demographic, economic and social.

Environmental indicators can be produced either from statistics databases or compendia, and also using the information contained in available tables of the SEEA in the countries.