**Energy Statistics Compilers Manual (ESCM)**

**Chapter 2. Legal Framework and Institutional Arrangements**

**A. Introduction**

The effective management of energy resources has become an increasingly important responsibility of countries around the world. Energy production, transformation, distribution and consumption have all been linked to high priority and high profile issues relating to the economy, society and the environment. Therefore, it is crucial to have good quality, timely and relevant energy data to support the essential planning, monitoring and decision-making for the sustainable development of this sector.

There are different approaches that can be taken by countries to establish and maintain a sound national statistics system for energy. These approaches must be developed to fit within the local context and circumstances. However, regardless of the approach adopted, the national statistics system must be built upon a strong foundation that incorporates the existence of a clear legal framework as well as effective institutional arrangements. This chapter will present the key features of each. A number of country examples are also provided to illustrate how a legal framework and institutional arrangements have been implemented for their energy statistics programs.

**B. Legal Framework**

According to the International Recommendations for Energy Statistics (IRES) endorsed by the United Nations Statistical Commission in 2011, the existence of a strong legal framework is one of the most important prerequisites for establishing a sound national statistical system in general and a national system of energy statistics in particular.

A legal framework is a set of laws, rules or regulations that specify the rights and responsibilities of an organization to collect, compile, manage and disseminate data in a particular sector or area, such as energy. This could come in the form of a Statistics Act or Law that establishes a National Statistics Office, a State Statistical Committee or other organization with a mandate and legal authority.

The mandate and legal authority of the statistical organization would typically include a clear statement of its roles and responsibilities surrounding the collection, compilation, management and dissemination of the data. These can include: the authority to collect data through the use of a census, surveys or by accessing administrative data sources; the authority to compel response from respondents (i.e. mandatory reporting); collaborating with other organizations on the collection, development and dissemination of data in order to reduce duplication of effort and minimize respondent burden; promoting the use of common definitions and standards in order to support data coherence and comparability; ensuring the security of the collected data; and directing that the statistics being collected must be disseminated while at the same time protecting the privacy of respondents and the confidentiality of individually identifiable information.

The organization (or system) for the collection of statistics in countries can be set up in different ways. In general, there are two different approaches that can be adopted – a centralized or decentralized approach. Either can be adapted to meet the country’s circumstances and needs, and each can work effectively, as long as there are a strong legal foundation and effective institutional arrangements in place.

A ***centralized statistical approach*** is one where a central or national organization has been given the mandate and responsibility for all or most of the official data collection activities for the country. There can be advantages for a country to take the centralized approach. Some examples include:

* Economies of scale: A central agency responsible for a broad range of activities may be able to find savings through the efficient use of infrastructure. For example, there may be a critical mass of data collection work that could allow for a permanent collection infrastructure to be set up and maintained. There also could be opportunities to avoid duplication of effort or to reduce respondent burden.
* Centres of expertise: Similarly, a centralized organization managing a broad range of surveys may be able to attract and develop expertise on disciplines such as questionnaire design, collection methodology, data analysis, systems, etc. This might not be feasible, for example, in decentralized operations that may be smaller (e.g. an energy survey unit located in an energy policy department).
* Centrally managed tools: An organization that is focused on statistics could allow for the development and maintenance of useful tools, standards and applications that might not be feasible in smaller, more specialized organizations (e.g. business register).
* Promoting links between subject areas: It may be easier to encourage and implement collaboration between related subject areas (e.g. energy and environment) if they are located within the same centralized agency. For example, harmonizing concepts and definitions, conducting data validation and analysis).
* Coordinated data dissemination: A centralized statistical agency may be well-placed to serve as an official one-stop location for users to get data on a variety of subject areas. At the same time, it can ensure that all statistics are disseminated or available to all users at the same time.
* Perceptions of data quality: Where data collection activities are separated from policy areas, data users may perceive a greater likelihood of impartiality, data integrity, higher professional standards and adherence to established principles of statistical methods.

On the other hand, a ***decentralized statistical approach*** can also be an effective strategy for energy data collection, analysis and dissemination. A decentralized system is one where the statistical responsibilities are co-located with the policy or operational areas (e.g. energy departments). Depending upon the country, there can be advantages to this approach. Some examples include:

* Subject matter expertise: The energy domain can be a very complex subject matter. Centralized statistical agencies may lack the degree of subject matter knowledge and expertise to be able to determine information needs and the best methods for collecting the relevant information. Decentralized approaches may allow for closer collaboration with data users and energy experts to ensure the right data are collected to meet their needs. This may also facilitate the collaboration with respondents from within the energy sector (i.e. being able to discuss the subject matter with knowledge).
* Practical considerations: Some countries may not have the capacity to establish centralized statistical agencies. It may be more practical or feasible to set up collection activities co-located with other energy operations where resources could be allocated and re-allocated, as required.
* Greater links to the administrative data sources: Decentralized statistical systems may allow for closer links and understanding of administrative data sources – i.e. the availability, opportunities and limitations.

**Country Practice: Canada**

The legal framework for the collection of data in Canada is established by the “Statistics Act.” This legislation created Statistics Canada as the country’s official statistical agency with a mandate to collect, compile, analyze and publish statistical information, and to conduct censuses of population and agriculture. To achieve this, the agency can compel businesses and individuals to respond to surveys, and has been given broad access to all records (i.e. administrative data) held by government. At the same time, Statistics Canada is directed to collaborate with other government departments (at the federal, provincial and territorial levels) on data collection, development and dissemination, in order to promote an integrated system of national statistics. Throughout the conduct of this work, the agency must avoid duplication of collection, minimize the burden being placed on respondents, and guarantee the confidentiality of individually identifiable information.

Statistics Canada serves as the focal point of a centralized statistical system in Canada, operating as a separate department within the national government. It sets its own workplan and priorities, manages its own budget and gets advice from a National Statistics Council and a series of subject-matter advisory committees. As a dedicated and centralized statistical organization, it is able to serve as a centre of professional expertise on surveys and methodology, to implement standards, to promote data coherence across subject areas, and to support cross-cutting statistical analysis.

The energy statistics program operates within Statistics Canada. It gathers data through surveys and from administrative data sources from across the country. As the responsibility for the management of natural resources in Canada is decentralized, there are many stakeholders active in the management of this sector. As such, the energy statistics program must collaborate with many departments, regulatory bodies and other organizations across the country on the collection, analysis and dissemination of energy data.

**Country practice: United Kingdom**

The “UK Statistics of Trade Act” (1948) and the “UK Statistics and Registration Service Act” (2007) provide the legal foundation for the collection of statistics. The UK has a decentralized system, but with a Statistics Authority that oversees the main overarching statistical legislation. The UK’s national statistics office coordinates the national statistics system, but ministerial departments generally have responsibility for the legal framework used to collect and publish statistical information. As such, energy statistics are collected and produced by the UK’s Department of Energy and Climate Change (DECC).

There are formal institutional arrangements in place to promote collaboration on energy statistics in the UK. The DECC and the Statistics Authority work together to ensure access to statistics and adherence to the code of practice.

**Country Practice: Mexico**

In Mexico, the “Law of the National System of Statistical and Geographical Information” established a centralized, national statistical agency. This agency has technical and management autonomy as well as legal status. While the Law does not specifically provide a legal mandate for elaborating and disseminating energy data and indicators, there are internal regulations of the Ministry of Energy that refer to the national energy balance.

There are institutional arrangements in place to promote collaboration between stakeholders on the collection and dissemination of energy statistics. The Ministry of Energy participates in two national subsystems of information – geography and environment, and economic.

There are a variety of bodies and commissions at the central and state levels in Mexico that are active in the energy sector. There are institutional arrangements in place to engage these users and stakeholders in the discussion of energy statistics. This is done through consultations, working groups on specific activities and a Specialized Technical Committee on Information for the Energy Sector.

**Country Practice: Sweden**

The legal framework for the collection of data in Sweden was established by the “Statistics Act” in 1756. This has been supplemented by a statistical act and statistical ordinance, passed in 2001, that covers the collection and dissemination of official statistics.

Sweden has a decentralized statistical system. The act and ordinance provide for the designation of statistical authorities that are responsible for the collection of data for particular subjects. In Sweden, there are 27 statistical authorities responsible for the collection of official statistics, including the Swedish Energy Agency (SEA) which has been designated as the statistical authority for energy data. The act and ordinance specify that these statistical authorities have the mandate to decide the nature and extent of the data to be collected, that they should be objective and independent of the Swedish government, and that all official statistics should be made available to the public and users. They also have the responsibility to determine how these data should be collected (i.e. by subcontracting collection activities to Statistics Sweden or to a private sub-contractor, in accordance with scientific methods and professional standards).

In terms of institutional arrangements, Sweden has a number of processes in place. Statistics Sweden coordinates the work of the 25 statistical authorities through a Council of official statistics which meets twice per year to discuss issues and make decisions. This Council also provides guidelines on conducting surveys, publishing official statistics, standardizing definitions and ensuring quality.

In the decentralized system, the SEA falls under the authority of the Ministry of Enterprises, Energy and Communication. To provide advice and guidance on official energy statistics, there is a user council consisting of statistical authorities, industry associations and energy researchers, which meets four times per year. That group discusses data needs, gaps and issues.

**C. Institutional Arrangements**

Institutional arrangements refer to those processes or mechanisms that are put in place to support the collaboration between organizations to manage or improve the functioning of the national statistics program. In most countries, there are a variety of organizations involved in the collection, compilation, management and dissemination of energy statistics. There may be valuable opportunities to work together on a variety of fronts. These can be both formal and informal processes. The nature and extent of those collaborative arrangements will differ from country-to-country. The challenge is to identify those opportunities and to put in place processes to promote and support those efforts.

Some of the areas where institutional collaboration can result in benefits are:

* Data collection and sharing: Rather than different organizations each collecting their own survey data, data-sharing agreements could be negotiated to have one organization do the collection, then share the data with the other. This could save resources while reducing the burden on respondents.
* Use of administrative data sources: Similarly, if an organization (e.g. regulatory body) is already collecting energy data for their own purposes, the statistical agency could tap into that source as a valuable alternative to survey collection. This could reduce costs and burden on respondents. However, there are challenges with the use of administrative data for statistical purposes. These are discussed later in the ESCM.
* Harmonization of concepts: Organizations could collaborate to standardize concepts and definitions. These types of efforts are critical for improving data quality, coherence and utility. This could also be valuable in reducing the likelihood of conflicting or inconsistent data sets being released by different agencies.
* Data validation and analysis: Each organization involved in an aspect of the energy sector (e.g. regulatory, statistical, management) develops their own particular subject matter knowledge and industry expertise. There may be opportunities to collaborate on the sharing of this knowledge and expertise for the purposes of validating or explaining the data, or for conducting other analysis.
* Priority setting: Institutional arrangements can be set up to bring stakeholders (e.g. data collectors, data users) together on a regular or periodic basis to discuss new and emerging data needs, to establish priorities, to identify new opportunities for collaboration, etc. This could help to inform decisions, for example, about the allocation of resources to priority initiatives.

Institutional arrangements can be established formally or informally. Formal arrangements may be specified in legislation, for example, where a statistical agency is granted access to all government information holdings for statistical applications. That allows the agency to work with other departments to establish the ongoing partnership (e.g. gaining access to data, determining the format and frequency). An example of an informal arrangement would be the creation of an advisory committee to share ideas and expertise.

**D. Fundamental Principles of Official Statistics**

Both the legal framework and institutional arrangements should conform with the fundamental principles of official statistics. These were endorsed by the United Nations General Assembly on January 29, 2014.

[**Principle 1**](http://icn-rci.statcan.ca/04/04_196_01-eng.htm) - Official statistics provide an indispensable element in the information system of a democratic society, serving the Government, the economy and the public with data about the economic, demographic, social and environmental situation. To this end, official statistics that meet the test of practical utility are to be compiled and made available on an impartial basis by official statistical agencies to honour citizens' entitlement to public information.  
  
[**Principle 2**](http://icn-rci.statcan.ca/04/04_196_02-eng.htm) - To retain trust in official statistics, the statistical agencies need to decide according to strictly professional considerations, including scientific principles and professional ethics, on the methods and procedures for the collection, processing, storage and presentation of statistical data.  
[**Principle 3**](http://icn-rci.statcan.ca/04/04_196_03-eng.htm) - To facilitate a correct interpretation of the data, the statistical agencies are to present information according to scientific standards on the sources, methods and procedures of the statistics.  
  
[**Principle 4**](http://icn-rci.statcan.ca/04/04_196_04-eng.htm) - The statistical agencies are entitled to comment on erroneous interpretation and misuse of statistics.   
  
[**Principle 5**](http://icn-rci.statcan.ca/04/04_196_05-eng.htm) - Data for statistical purposes may be drawn from all types of sources, be they statistical surveys or administrative records. Statistical agencies are to choose the source with regard to quality, timeliness, costs and the burden on respondents.   
  
[**Principle 6**](http://icn-rci.statcan.ca/04/04_196_06-eng.htm) - Individual data collected by statistical agencies for statistical compilation, whether they refer to natural or legal persons, are to be strictly confidential and used exclusively for statistical purposes.   
  
[**Principle 7**](http://icn-rci.statcan.ca/04/04_196_07-eng.htm) - The laws, regulations and measures under which the statistical systems operate are to be made public.   
  
[**Principle 8**](http://icn-rci.statcan.ca/04/04_196_08-eng.htm) - Coordination among statistical agencies within countries is essential to achieve consistency and efficiency in the statistical system.   
  
[**Principle 9**](http://icn-rci.statcan.ca/04/04_196_09-eng.htm) - The use by statistical agencies in each country of international concepts, classifications and methods promotes the consistency and efficiency of statistical systems at all official levels.   
  
[**Principle 10**](http://icn-rci.statcan.ca/04/04_196_10-eng.htm) - Bilateral and multilateral cooperation in statistics contributes to the improvement of systems of official statistics in all countries.

**Conclusion**

Countries may adopt the model for the collection and dissemination of energy statistics that best suits their needs and circumstances. Different approaches can be successful and appropriate, depending on the country’s circumstances and needs. However, any approach should incorporate a strong legal framework and effective institutional arrangements, and should adhere to the Fundamental Principles of Official Statistics.

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