

Session 4: Data Compilation Issues

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IRES - Chapter 7. Data Sources and Data Compilation Strategies

- Overview of main types of **data sources**
- Key elements of **data collection strategies/ data compilation methods** for energy statistics
- Guidance on the **compilation of metadata**
- Importance and principles of **effective institutional arrangements**

Details on methodology of estimation, imputation and seasonal adjustments are to be deferred to ESCM

Sources of Energy Statistics

UN manual (F56, 1991)

Three main categories of energy data sources:

- Energy supply industries
 - Program for maintaining and developing the data obtained regularly from the industry
- Other industries and organizations producing energy
 - Separate program to cover those industrial or other organizations that are engaged in supplying energy as a secondary activity
- Energy consumers
 - Program for less frequent surveys in order to;
 - ◆ Fill any remaining gaps on commercial fuel
 - ◆ Provide baseline information relating to biomass fuel

Compilation of metadata

Metadata

- Descriptive information that characterizes a set of quantitative and/or qualitative measurements (content, quality, condition, and other characteristics of data.)
 - enables users to evaluate comparability and consistency in statistics
 - increases user confidence in information and analysis
 - Promotes reuse and understanding of data
- The IMF standard **Dissemination Standards Bulletin Board** used by EUROSTAT to present Energy Statistics.
- Is this a good starting point?

Frequency of data collection

UN manual (F56, 1991)

First target: **Comprehensive annual data**

Second target: Increased frequency on important energy areas, but not on the expense of the quality of annual data

Underlying principle:

Balancing available resources, availability of data and importance of the energy information

Preparatory work for collection of energy statistics

UN Manual (F56, 1991)

- Produce a flow chart for each energy product
- Establish the most appropriate sources of data to represent each identified flow
 - Establish if it is practicable to collect regular and accurate data from them
 - If a source cannot provide data of acceptable quality, investigate alternative sources
- Find ways of obtaining estimates for flows where data are not available, possibly by use of ad hoc survey
- Find consistent treatment of
 - Non-energy use
 - Self-generation
 - Quality/energy content
- Prepare a programme of data collection that reflects the relative priorities for different forms of data

Data collection strategies

Oslo Group on Energy Statistics

- National Energy Statistics Collection Do's and Don'ts: Lesson Learned by Tara Billingsley, USA
- Requirements, methodologies and data collection strategies on energy statistics by Mr. Carlos Roberto López-Pérez, Director of Natural Resources and Environmental Statistics, National Institute of Statistics, Geography and Informatics
- Data collection issues and procedures by Mr. P. K. Ray, Additional Director General, Central Statistical Organization

Infrastructure for Collection Energy Statistics

UN manual (F56, 1991)

Recommend to have **one central body** responsible for data collection

Alternatives suggested:

- Central Statistical Office
- Statistical office within one of the fuel ministries
- Ministry with overall control over energy planning and monitoring
- National Energy Institute outside government

Infrastructure for Survey Data Collection

UN manual (F56, 1991)

A survey

- require expertise on sample design, interviewing techniques and analysis procedure
- usually cover information requirements of several ministries

Alternatives suggested

- National Statistical Office
- Academic Energy Institute
- Other Academic Body

Institutional arrangements

Oslo Group on Energy Statistics

Presentations on the topic from Oslo Group meetings:

- Centralized systems for producing official energy statistics by Bjørn Bleskestad, Statistics Norway
- Joint data collection system for energy statistics in government departments in Canada by Bob Pagnutti, Canada
- Energy Statistics in Germany: Characteristics and Challenges by Katja Gerling, Germany
- Official Statistics in Sweden and the project eNyckeln by Anders Jönsson, Swedish Energy Agency
- The challenge of reform - energy statistics in Australia by Kai Wallenius, Australian Bureau of Statistics
- Official Statistics from a non-National Statistical Institute angle by Iain MacLeay, UK Department of Trade and Industry
- Join all forces: the successful cooperation between data providers, statistics compilers, and statistics users in Austria by Mr. Wolfgang Bittermann, Head of Energy Statistics, Statistics Austria
- Official energy statistics in the Russian Federation. Country case with description of system of producing energy statistics, its challenges and advantages by Igor Uliyanov, Russia

Highlights of points

- The responsible institution must be trusted by all stakeholders (Statistics Canada)
- A de-centralized system dilutes responsibility and no one represents the interests of energy statistics politically (Statistics Germany)
- Essential to have a system that protects Confidential Business Information (Statistics Canada)
- Limit response burden – industry should only need to report once (Statistics Canada)
- A centralized system pose a challenge to keep up to date on energy markets (Statistics Norway)
- A centralized system ensures easier access to energy statistics for users (Statistics Norway)

We see that many ways lead to Rome....

- Project eNyckeln – Sweden has developed a central database where all energy data collectors in decentralized system upload and download energy statistics
- Australia is reforming energy data collection from a decentralized system to establishing a single data collection and reporting agency
- UK Official Energy Statistics is well established at the Department of Trade and Industry (DTI), where they benefit from the advantages of the close connection between the Official Energy Statistics and policy
- With good coordination and cooperation Austria experience success with their decentralized system of energy data collection
- Mexico has established mechanisms of coordination between information producers units and INEGI as secretary of norms in order to improve, increase and spread the use of statistics and indicators, by adopting technical committees and working groups

Conclusions from the third meeting of the Oslo Group

- Many national solutions can be used. The main point is that the quality principles for the production of official statistics are followed for energy statistics;
- Encouraged transparency in principles and legal foundation for coordinating official energy statistics in a decentralized system.
- Agreed in this connection that the quality dimensions should be clearly articulated and promoted in the revised international recommendations

Some final points...

- Chapter 7 should also include a separate subchapter covering **legal framework**
- Need to review possible standards for **compilation of metadata**
- **IRES** main focus should be on quality principles in data collection
- **ESCM** can be used to discuss different institutional arrangements, their advantages and disadvantages