

Challenges with revision of the UN manuals on Energy statistics – proposal for the disposition of the new manual

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Introduction/background

Mandate for the Oslo Group and the main principles for the new manual(s)

Improvement of Official Energy Statistics is the main task of the Oslo Group on Energy statistics. The mandate for the Oslo Group states that the Group is to address issues related to energy statistics and contribute to improving international standards and methods for Official Energy Statistics by pooling expertise in the energy community. The Group are to undertake the following actions; (a) identify users' needs; (b) define scope of Official Energy Statistics; (c) identify and collect best practices; (d) review and contribute to the updating of UNSD handbooks and manuals on energy statistics (e) identify gaps in coverage and to develop methodology to cover gaps; (f) adopt a link or develop bridges to international standard concepts and classifications in economic/environmental statistics to facilitate the integration and interface of energy statistics with other statistical systems; and (g) recommend a core set of tables as minimum requirement at national and international level to satisfy major user needs.

The mandate must be interpreted to give guidelines, not only for the work in the Oslo Group, but also for the contents of the revised manual/handbook. The proposals in this paper are based on this foundation.

When designing a system for Official Energy Statistics it is important to have a full scope. By this we mean building a complete system of energy statistics that covers both production and consumption of energy. This means that we should identify a system for the supply and use of energy that takes care of the important user needs. However, we cannot have tailor made statistics for all user needs. The coordination challenge is to combine user needs and optimize a multipurpose system of energy statistics.

Number of manuals?

The existing UN manual on energy statistics is divided into three different manuals;

- Concepts and Methods in Energy Statistics, with Special Reference to Energy Accounts and Balances – A technical Report (UNSD)(1982),
- Energy Statistics: Definitions, Units of Measure and Conversion Factors (UNSD)(1987) and
- Energy Statistics – A Manual for Developing Countries (UNSD)(1991).

These three manuals deal with three central elements in production of Official Energy Statistics, but they do not cover all aspects. Most importantly, they do not cover the principles of official statistics, and the question on how to make sure that Official Energy Statistics is being produced. There is also no link between the three manuals.

Seeing how these three manuals treat different aspects of production of energy statistics, it is important to see the three manuals, and their themes, in connection to one another. Maybe it

would be best if they were jointed together and made accessible as one united system for energy statistics. Combined with the principles of official statistics and best practices this will give a clear recommendation for production of Official Energy Statistics. If the single country is using this new manual, it will help increase quality and comparability both nationally and internationally.

We believe it to be important to work towards a goal where the revision ends up in a manual/handbook covering all the central elements. The elements that must be included are:

- Official statistics
- User needs
- Primary energy statistics
- Energy Balances/Accounts
- Definitions
- Best practices

Based on the idea of seeing all these elements in connection to one another, we would like to propose to merge all these elements into one manual/handbook that includes all aspects, including best practices.

Accessibility – User friendliness

The old manuals are only available in print and electronically in .pdf format. They are also quite “compact” in their form and not particularly easily accessible. It is an important challenge in the revision of the manual to make sure that the manual, and particularly the contents of the manual, are easily accessible. If we do not achieve this goal, we have done a lot of work for nothing.

The “Energy Statistics Manual” developed by IEA, Eurostat and OECD has gone a long way on the road towards user friendliness. The manual is built up so that users easily can find the information they are seeking. Compared to the old UN manuals the “Energy Statistics Manual” is much easier accessible.

However, it might be possible to go even further. A new manual must be adapted to the new technology also on distribution of information. We would suggest that the new manual is made available electronically, as well as in print. With an electronic solution we can produce and present the manual with different layers of information. We can have a top level of main principle on the different issues. If a user is interested in more information, he/she can “click” his/her way down into more and more detail. In this way we can disseminate the contents of the manual without everybody having to read all the details that might be interesting only for the few, in specific cases. We are not saying that this detailed information is not important, but it might cause the most important principles to “drown” in detailed information.

It is also important in an electronic solution to have easy searchability. It must be easy to find the information you are looking for. Let us present a draft example of a possible way to build the manual on a specific topic;

Headline

Main principles

Complementary text

Detailed additional information

When designing the new manual, both in print and electronically, it is important that we keep focusing on having a low user threshold, but with access to more detailed and complex elements on single issues. An electronic solution also gives the opportunity to have best practices on the different layers of the manual.

Boundaries for the manual – borderline to other projects

The relation and cooperation between the Oslo Group on energy statistics and other projects and groups working on issues where energy statistics is a factor will be discussed in other parts of the second meeting of the Oslo Group (India February 2007). In this paper we will only focus on the boundaries for the manual and where the borderline to other projects could go.

The challenge is how we can avoid duplication of work and tedious coordination processes. In the principles we stated that our aim is to develop a good system for energy statistics. In this respect, the manual will aim to cover all aspects of production of Official Energy Statistics, and will not focus on how these statistics are used in statistics under other standards and manuals. This means that we, in order to prevent duplications, will focus on energy statistics and not on how it is being used in National Accounts, Emission to air statistics, National wealth statistics, sustainable development statistics etc. We have to consider these users from the aspect of user needs, but not how the users use Official Energy Statistics in their processes.

It is important that the degree of duplication of manuals is limited. If there are made competing manuals from different projects, groups, organisations etc. on the same subject, we run the risk that it can cause confusion and actually bring us further away from the aim of international comparability.

Proposal for the disposition of the new manual

1. Official statistics

The element of official statistics is essential in a new manual. It is important that energy statistics is further developed as Official Statistics in accordance with the quality claims. In order for Energy Balances to have good quality, primary statistics must be of good quality. It is important that the manual grasps all the quality aspects related to Official Statistics, in order to secure national and international production of Official Energy Statistics.

The status for Official Energy Statistics will be revealed through a survey. The survey, developed by UNSD and Statistics Norway, will be distributed to statistics producers around the world by UNSD this spring. In the survey questionnaire we seek to reveal the status for Official Statistics and to identify the problems and challenges for securing Official Energy Statistics. The result from the survey will be important in forming the new manual.

The chapter on official statistics will be based on the UN principles for official statistics, and will contain links/proposals to how energy statistics can be produced in order to fulfil these requirements. The chapter will also include examples of best practices.

2. User needs

In order for the manual to give the reader an overview of the complexity of energy statistics, we believe it to be important to clarify the user needs. The user needs will indirectly explain the need for data on production, transport, end use, user group distribution etc.

Earlier in this paper we stated that the aim for this manual is not to consider how energy data is used. However, it is important to develop a system that, in the best respect possible, addresses the needs of the user. In the main principle we said: “We cannot have tailor made statistics for all user needs. The coordination challenge is to combine user needs and optimize a multipurpose system of energy statistics.”

In order to face these challenges we have to consider who our main users are, and what requirements they have. The main users as we see it will be National Accounts and Emission Statistics. However, also other important users have to be considered, such as users interested in energy markets, Economic Statistics for non-energy sectors, households as energy users, Environmental Statistics, National Wealth, Sustainable Development Indicators, international organisations, governments etc.

In most systems for Official Statistics, the National Accounts play a crucial role. National Accounts give the full picture of the economic situation and trends, covering all production sectors, including energy, and all uses of goods and services. The primary business statistics have to be collected to meet the demands of the National Accounts. This means i.a. full coverage and no double counting.

In most aspects there will be an overlap between claims for energy data from National Accounts and Environmental Statistics. There are however some important differences in the requirements. While National Accounts covers a country’s economic activity, it is important to notify that emissions calculations focus on activity in a country’s territory. The characteristics (chemical composition, for example the sulphur content) of the fuel can be important for the estimation of the emissions. In the National Accounts it will perhaps not be relevant to include flaring (burning of natural gas) at drilling platforms – while this will be relevant for Emission Statistics. These differences are important to identify. Concerns of both systems should be covered, but with the lowest possible response burden.

The distinction between renewable and non-renewable energy sources is relevant for environmental statistics. This concept seems to be in the core of Resource Accounts and statistics, and it is hence important in the production of future Energy Balances to make it possible to make this distinction in energy statistics. However, the reserves of non-renewable energy sources (like coal and other fossil fuels such as oil and natural gas) are of interest for some purposes such as Natural Resources Asset calculations. The reserves are not, however, crucial either for Environmental or Economic/National Accounts purposes. On this background we would not recommend that reserves should be included in the portfolio of official statistics.

Another important feature is that we need data for energy as input (intermediate consumption, raw materials etc).

Data on user needs will be collected partly from other statistical standards, the survey on Official Statistics, and from presentations given in the first meetings of the Oslo Group.

3. Primary energy statistics

When designing a system for Official Energy Statistics it is important to have a full scope. By this we mean building a complete system of energy statistics that covers both production and consumption of energy. In order to build a good system and good Energy Balances and Energy Accounts one needs good primary energy statistics.

In order to fulfil this principle we need good coverage on data for production, consumption on user groups, transport etc. Data also has to be available in energy terms and physical terms in order to meet all user needs, both known and unknown. In the principles for this manual we stated that “we cannot have tailor made statistics for all user needs. The coordination challenge is to combine user needs and optimize a multipurpose system of energy statistics”. Good coverage on primary statistics is essential in order to develop such a multipurpose system.

When writing about primary statistics, it’s not enough to focus on “full scope”. We also have to think through the elements of response burden, and how technological opportunities and statistical challenges have changed. In the energy sector there have been many changes in the last 20-30 years. Some of these changes might influence on the way we produce our statistics, and others may not. It is important to think through how for instance the liberalization of the energy market has influenced the way we produce primary statistics on electricity. Do we have other, better sources for data now than 20 years ago? Does new technology or new legislation give us the possibility to gather data in a way that will lower response burden? How do we handle the challenge on bio fuel in energy statistics? Do we have new ways of treating/estimating the production and use of bio fuel today? How do we handle new technology? It is also important to make sure to cover all central energy sources, such as oil, gas, coal, coke, bio, waste, sun, hydro, nuclear etc.

The chapter must focus on best practices as much as possible. It is easier to learn from concrete examples than from pure theoretical text.

4. Energy Balances and Energy Accounts

The old UN manual “Concepts and methods in energy statistics, with special reference to Energy Accounts and Balances” is a good manual on a detailed level. However, it needs revision and it needs to be made more easily accessible and user friendly. The work done in production of this manual was very thorough, but there has happened quite a lot since 1982.

The manual has to be revised very carefully in order to secure that no major changes has happened in the energy market on the energy sources handled in the old manual. This will of course partly be done when dealing with primary energy statistics, but one also have to consider how these changes are to be handled in the total energy statistics system. It is also important to incorporate new energy sources, and to evaluate the need for changes in the way some of the calculations are done. For instance the new liberalized energy markets may have changed the foundation for the Energy Balance/Energy Accounts way of treating electricity.

One of the main challenges related to Energy Balances and Energy Accounts is to be able to see them better as one total system of Energy Statistics. By this we do not mean that one either should make Balances or Accounts, but that there is a need to develop bridge tables, or

a minimum set of tables that handles user needs from the perspective of both Energy Balances and Energy Accounts.

There are two main challenges related to such an integration between two systems. The first challenge is the question of national boundary. In Energy Balances one collects data from the national territory, and in Energy Accounts one uses national economic activity in accordance with the principles of National Accounts. The second question is how to handle transport.

It is important to make sure that such an integrated table, or developed bridge tables, does not come in conflict with other international standards, such as standards for National Accounts and emission to air.

The chapter must include examples of best practices.

5. Recommendation for a core set of tables

In chapter 5 the recommendation from the challenge of developing a core set of tables will be presented. This is presented separately to secure easy access to these conclusions.

The development of such a core set of tables is rooted in the mandate for the Oslo Group. In the mandate it says: *“to recommend a core set of tables as minimum requirement at national and international level to satisfy major user needs”*. The mandate focuses on the user needs and a good total system for energy statistics. The aim is to develop a standard set of tables to secure dissemination of the “multipurpose system” of Official Energy Statistics. In order to achieve this it is important to combine the presentation of figures in the Energy Balances and the Energy Accounts.

6. Definitions, Units of measure and Conversion factors

On the element of Definitions and Conversion factors the International Energy Agency (IEA) has done a good and thorough job the latest years. It is important internationally to have only one set of Definitions. If the Oslo Group repeated this process, we run the risk of creating unnecessary confusion. If IEA and the InterSecretariat Group could take responsibility for this part of the manual, we would secure that we do not go against already existing standards for Definitions and Conversion factors.

How do we do it?

The next question is how to carry through the revision of the manuals. The old manuals have been written by a consultant hired by the UN. How this person, on each manual, has discussed problematic and controversial issues with other statistics producers is unknown to us.

However, this time the mandate for the Oslo Group gives foundation for the work. In the mandate it says: *“To review and contribute to the updating of UNSD handbooks and manuals on energy statistics”*. It does not state if the manual are to be revised by the Oslo Group, but it is implied that the Oslo Group is to be the forum for discussion during the process of updating the handbooks/manuals.

The question is then how to organise the work in an effective way. Here are three alternative ways of organising the work:

a) As mentioned earlier, a consultant wrote each of the existing manuals. We do not believe that hiring a consultant will be a good alternative now.

b) An alternative can be to establish subgroups to do the writing job on the different chapters/elements. This will require a lot of resources. Either one needs many persons to man the groups, or the same people will sit in all the groups. In any case there will be a huge challenge in coordination between the groups. Experience with other “manual” projects has shown that this kind of coordination is very difficult.

c) A third option, and the secretariats recommendation, is to establish a team of writers with one editor. This will provide good coordination between the writers, and will enable close contact between all participants in the process. The question is however – who can and will participate? It is important to have a team from different countries in order to cover different aspects. This group of writer will also have to be able to engage other persons to write specific elements according to their expertise. Statistics Norway is, as secretariat, prepared to be part of this team, but we cannot do this job alone!