Energy Statistics *Newsletter*

United Nations Statistics Division (UNSD)

Number 9/10
October 2013

Energy Statistics in the State of Palestine

Mr. Abdallah Azzam
Energy Statistician, Palestinian Central Bureau of Statistics (PCBS)

The State of Palestine, through the Palestinian Central Bureau of Statistics (PCBS), has implemented the International Recommendations for Energy Statistics (IRES) and published "Energy Balances of Palestine 2010" according to IRES about ten months after the adoption of IRES by the UN Statistical Commission in February 2011. A lot of work has been carried out in PCBS to strengthen energy statistics and align it with international statistical standards. This article describes the development of energy statistics in the State of Palestine and the experience of PCBS.

After the adoption of IRES, PCBS made a 30 page summary in Arabic of IRES, and as recommended by the President of PCBS, Mrs. Ola Awad, this summary was presented in PCBS to senior management, showing the importance of these recommendations.

About the PCBS

PCBS is the central statistical office in the State of Palestine. Its main functions are: to provide truthful and impartial official statistics on demographic, social, economic, environmental and energy issues to serve the Palestinian citizenry; to enlighten the public with information provided through the mass media, and cooperate with universities and research centres; and to serve the instrumental needs of businesses and their organizations for statistical information on states and trends.

There is a strong legal basis in the State of Palestine for the collection and compilation of all areas of statistics, defined by the General Statistics Law, No. (4) for year 2000, Article (17) which states, among others:

- All individual information and data submitted to the Bureau for statistical purposes shall be treated as confidential and shall not be divulged, in whole or in part, to any individual or to a public or private body, or used for any purpose other than for preparing statistical tables.
- The Bureau shall endeavour to issue official statistical publications in aggregate tables, which do not disclose individual data, in conformity with the confidentiality of statistical data.

Energy situation in the State of Palestine

The State of Palestine has very little production of energy. There is some production of biomass, solar heat and private generation of electricity and some other renewable energy (wind, solar photo voltaic, geothermal); however most of the energy consumed is imported from other countries. About 90 percent of electricity consumed is imported from Israel, Egypt and Jordan. In the State of Palestine there is only one electricity generation plant which is located in the Gaza Strip and supplies only 5% of the total electricity consumed, and there is some private generation of electricity in industry and some communities. Also, all oil products are imported through Israeli companies. The main energy types used in Palestinian households are electricity, gas and biomass. In addition, solar water heaters are used in around 67% of households.

Energy statistics in the State of Palestine

Availability of reliable statistics on energy consumption is a key requirement in planning and development processes. Most countries pay special attention to energy statistics due to the important role of energy in reflecting the situation of the infrastructure.

In 1996 PCBS established an energy statistics program in order to develop a national plan for energy statistics and to provide data about energy. The Energy Statistics program has the responsibility of creating and updating data on the statistical indicators in the State of Palestine, and the main statistical outputs are:

1. Energy Balances (2001-2011)

PCBS started working on energy balances in 2004; the energy balance was completed at that time for the years 2001-2003, and since then energy balances have been published annually.

From the beginning of its work on energy balances PCBS has followed UNSD recommendations and produces balances in a format very similar to that of the Energy Balances and Electricity Profiles publication. In 2011 after the adoption of IRES by the UN statistical commission, PCBS prepared the balance of 2010, following these recommendations as closely as possible.

PCBS uses two types of units, namely, (a) physical units and (b) Terajoule as a common unit when publishing its energy balances. Since no country-specific conversion factors are available in the State of Palestine, PCBS has used the conversion factors provided in IRES.

Energy Balance of Palestine in Terajoul, 2011

Flows	Energy Products										Total
	Wood and Coal	Olive Cake	LPG	Oils and Lubricants	Bitumen	Diesel	Kerosene	Gasoline	Electricity	Solar Energy	
1.1 Primary production	5,353.22	626.89	.	.	.	.	.	.	.	5,182.48	**11,162.59**
1.2 Imports	284.31	.	5,799.45	413.82	708.73	20,168.18	57.44	5,944.49	16,638.07	.	**50,014.49**
1.3 Exports	-162.19	.	.	-4.14	.	.	.	.	.	.	**-166.33**
1.4 Stock change	.	.	.	.	.	.	.	.	.	.	**.**
1. Total energy supply	**5,475.34**	**626.89**	**5,799.45**	**409.68**	**708.73**	**20,168.18**	**57.44**	**5,944.49**	**16,638.07**	**5,182.48**	**61,010.75**
2.Transformations	**.**	**.**	**.**	**.**	**.**	**-5,199.65**	**.**	**-87.59**	**2,049.60**	**.**	**-3,237.64**
2.1Electricity plants	.	.	.	.	.	-5,199.65	.	-87.59	2,049.60	.	**-3,237.64**
3.Consumption for non-energy purposes	.	57.70	.	200.84	708.73	.	.	.	.	.	**967.27**
4.Losses	.	.	.	.	.	55.48	-236.28	46.35	4,649.97	699.63	**5,451.43**
5.Statistical differences	69.81	0.00	-1,873.09	208.84	.	5,661.29	293.72	1,564.76	1,416.50	1,891.61	**8,703.44**
6. Final consumption	**5,405.53**	**569.19**	**7,672.54**	**.**	**.**	**9,251.76**	**13.13**	**4,245.79**	**12,621.20**	**2,591.24**	**42,650.97**
6.1 By industry	**13.14**	**.**	**271.03**	**.**	**.**	**415.59**	**.**	**25.14**	**1,076.04**	**.**	**1,814.07**
6.2 By transport	**.**	**.**	**.**	**.**	**.**	**8,604.23**	**.**	**4,220.42**	**.**	**.**	**12,824.65**
6.2.1 Road	.	.	.	.	.	8,604.23	.	4,220.42	.	.	**12,824.65**
6.3 By household and other sectors	**5,392.39**	**569.19**	**7,401.51**	**.**	**.**	**231.94**	**280.59**	**0.23**	**11,545.16**	**2,591.24**	**28,012.25**
6.3.1 Households	5,385.95	569.19	7,236.57	.	.	222.89	272.54	.	7,841.88	2,591.24	**24,120.26**
6.3.2 Agriculture	.	.	0.38	.	.	9.05	.	0.23	18.36	.	**28.02**
6.3.3 Commerce & public services	6.44	.	164.56	.	.	.	8.05	.	3,684.92	.	**3,863.97**

2. Energy Annual Reports and Tables (1996-2011)

These annual tables aim to present statistics on the main indicators related to energy, such as:

- Monthly imported energy by type of energy
- Quantity of electricity purchases by source and month
- Quantity of energy purchases by economic activity and type of energy
- Average energy prices by type of energy.

3. Household Energy Survey Reports

These reports include the following main indicators:

- Energy consumption (electricity, petroleum products and renewable energy types) by households
- Expenditures on different types of energy by households
- Energy uses by households by end use
- Availability of different energy consuming facilities within households.

Data sources

There are two main sources for the collection of energy data:

1. Administrative Records, such as from the General Petroleum Corporation and the Energy and Natural Resources Authority.

2. Field Surveys implemented by PCBS, such as the household energy survey (the only specialized energy survey), economics survey series, household consumption and expenditure survey.

Dissemination

The PCBS Dissemination Policy is standard for all statistical outputs including energy statistics. The results of the quarterly household energy survey and the annual energy balance and tables are released within the periods set by IRES, i.e. three months and 12 months respectively.

The dissemination of energy data largely occurs in the following ways:

- Energy data are published in tables on the PCBS website (http://www.pcbs.gov.ps)
- Documentation for all surveys conducted by PCBS are published using the Accelerated Data Program (ADP)
- Press releases are published periodically in various media.

Conclusions

Enormous progress has been made in energy statistics in the State of Palestine through PCBS in recent years. The adoption of internationally agreed statistical standards and the encouragement of PCBS with strong political will have fostered this fast development. The State of Palestine is now proud of having set up an energy statistics program that compiles energy statistics and balances on an annual basis, cooperates closely with data providers as well as data users, responds to users' needs, and provides data regularly to international organisations such as UNSD, the Euro-Mediterranean statistical cooperation program (MEDSTAT) and The United Nations Economic and Social Commission for Western Asia (ESCWA). PCBS will continue its work on the improvement of its energy statistics.

Energy Statistics and Balances in Western Asia

Ms. Wafa Aboul Hosn
Chief, Economic Statistics, ESCWA

The energy sector is critical to the economic development of the Arab region, where it contributes up to 60 percent of GDP of many oil exporting countries. In 2012, the ESCWA[1] region represented about 45 percent of the world total oil resources, 26 percent of the world total oil production, and six percent of world total oil consumption. For natural gas, it represented 26 percent of the world's resources, 12 percent of total production, and four percent of total consumption.

The regional project for strengthening statistical capacity for the ESCWA countries in energy statistics and balances was launched in September 2011 to upgrade the capacity of national offices in the Arab region on compiling statistics on supply and use for all sectors and all energy sources, as well as to harmonize definitions and classifications and produce annual energy balances. The project focused on:

1) technical assistance tailored to the needs of the countries;

2) capacity building through expert groups, development of methodological documents, and national and regional workshops that are relevant to countries of the region; and

3) enhancing the regional and international coordination and networking with the main partners: The United Nations Statistics Division (UNSD), The International Energy Agency (IEA), The International Energy Forum (IEF) and the Euro-Mediterranean statistical cooperation program (Medstat III).

As a result of this project, the following results have been achieved:

- An expert group meeting on "Energy Statistics and Balances," was conducted in April 2012 at the UN House in Beirut, in cooperation with UNSD, MEDSTAT, the IEA, national statistical offices and ministries of energy and electricity, together with regional organizations, mainly the Organization of Arab Petroleum Exporting Countries (OAPEC) and the Regional Centre for Renewable Energy and Energy Efficiency (RCREEE). The meeting concluded with recommendations to member countries to strengthen energy statistics within statistical offices and to improve coordination among concerned national institutions to disseminate energy statistics and balances according to international standards. Regional and international organizations were invited to reduce the burden of energy questionnaires and to provide training to countries on energy data compilation and dissemination (http://www.escwa.un.org/information/meetingdetails.asp?referenceNum=1810E.)

- Two national workshops were conducted in 2013 in coordination with the IEA and UNSD: a Training Workshop on Energy Statistics and Energy Balance for GCC Countries, Abu Dhabi, UAE 17 to 21 February 2013 (http://www.escwa.un.org/information/meetingdetails.asp?referenceNum=2018E) and a National Training Workshop on Energy Statistics and Energy Balance, Khartoum, Sudan 9 to 13 June 2013 (http://www.escwa.un.org/information/meetingdetails.asp?referenceNum=3177E).

- A Training Workshop on Environment and Energy Statistics for Arab Countries was conducted in Amman, Jordan in cooperation with UNSD and the Arab Institute for Training and Research in Statistics (AITRS) from 8 to 12 September 2013 (http://unstats.un.org/unsd/energy/meetings/Jordan2013.)

- Study visits were offered to participants from Sudan and Yemen at the IEF to train on monthly oil data compilation and reporting, and to participants from Iraq at the IEA to train on energy statistics and balances.

- Needs assessments have been undertaken for three member countries: Qatar, United Arab Emirates and Egypt to assess the energy data availability and data flows within countries and provide recommendations on institutional coordination and data compilation. The reports are published on the project's website.

- A manual on estimation of energy consumption in the transport sector in the Arab region was produced and serves as reference material on methodologies for data collection on energy use by the transport sector, and includes models and case studies from Morocco, Tunisia and Palestine. The manual explains survey designs for final energy consumption for the transport sector and existing models for estimating energy statistics covering both supply and demand, and highlights forecasting and planning details for the transport sector through widely used software http://css.escwa.org.lb/sd/esab/ESCWATrainingManual1.pdf.

- Equipment was purchased to help strengthen the collection, management and dissemination of energy statistics in Sudan, Yemen, Palestine and Lebanon.

[1] The United Nations Economic and Social Commission for Western Asia

- A “docubase” which includes documents related to energy and all its sectors is accessible without subscription at the project’s website.

Upcoming activities include a national workshop in Kuwait in January 2014 and training of trainers in Oman in February 2014. For further details of this project, please consult the project website here: http://www.escwa.un.org/esab/.

.

OLADE’s Energy Statistics System

Mr. Gabriel Hernández
Information and Training Coordinator, OLADE

The Latin American Energy Organization (OLADE) was created within the context of the international energy crisis of the early 1970s, when Latin American and Caribbean countries lacked energy policies and faced the need to adequately address this crisis. OLADE came into being on November 2, 1973 with the signing of the Lima Agreement, the constituent instrument of the Organization, ratified by 27 countries. OLADE’s mission is to contribute to the integration, sustainable development and energy security in the region, advising and promoting cooperation and coordination among its member countries.

Energy information management at OLADE

With the technological upgrading of the platform of OLADE's information systems that record and integrate statistical information of the energy sector of OLADE’s 27 Member Countries (with historical series since 1970), the Organization has reviewed and updated its energy information management methodology. To this end, concepts and definitions used so far in the development of energy balances have been analyzed, making a comparative analysis with the "International Recommendations for Energy Statistics” (IRES). The Organization has also started a training program on information management, with workshops held in several countries to train professionals in the development of energy balances and the calculation of greenhouse gas inventories.

Using IRES as a reference

National energy statistics and balances of OLADE's countries have been standardized for over 30 years to allow cross-country analysis. OLADE has established IRES’ recommendations as a reference for most of its definitions and concepts, as it includes activities comprehensively, and classifies new energy sources such as biofuels. As a result of the comparative analysis of the two methodologies, it was agreed with OLADE countries to include the not previously considered flows, such as international bunkers, transfers and recycled products, within the energy balances of OLADE. However, some flows remain different, such as natural gas production, which continues to include flared or vented quantities. The implementation of a new structure for the energy balances published by OLADE will take place in the new Regional Energy Information System (SIER), once the testing and stabilization processes of the software application are completed.

Capacity building

OLADE annually holds a training program consisting of several courses taught via Internet, mainly aimed at officials from ministries of energy, but also available to professionals from other institutions. Courses scheduled in 2013 covered electricity and oil markets, contracts and rates, smart grids, biogas, renewables, energy planning, use of wood energy, energy efficiency management, natural gas development in Latin America and the Caribbean, biofuels for electricity generation, energy and a diploma in social inclusion, and three executive development programs in energy planning. About 5000 participants attended these courses in 2013. Further details are available at the OLADE website at: http://www.olade.org/en/product/CAPEV/programs-virtual-courses.

As part of these training courses, OLADE offers a program on Energy Information Management which aims to train professionals in energy ministries in the collection, processing and consolidation of energy statistics. It consists of a set of courses offered through web conferencing sessions of two hours per week. The sessions address matters such as description of concepts and definitions on energy topics, measurement unit systems, energy sources, greenhouse gas emissions and energy efficiency indicators. The courses are complemented by practical activities where the participants apply the procedures taught using actual data from their countries, and share their results and experiences with other participants. About 200 people from member countries have been part of the Energy Information Management Program.

National Energy Information System: technical assistance to the countries on energy statistics systematization

To optimize the application of human resources in the development of energy statistics and to improve the quality and timeliness of energy balances, OLADE developed the National Energy Information System (SIEN), a software tool that systematizes the collection, processing and dissemination of information in the energy sector of a country. In addition to managing data related to supply and demand, energy prices, features of facilities, reserves, potentials and socioeconomic information, the system's main characteristic is that it is adjustable, so it can be configured according to the characteristics of each country's energy sector. In addition, data entry can be performed in a distributed way, so that companies can enter the information directly, via the web. The system is equipped with automatic processes that calculate the national energy balance, greenhouse gas inventories, energy and economic indicators and various numerical and graphical reports.

To countries requesting the system, OLADE provides technical assistance for implementation, maintenance and updating of SIEN, beginning with a one week workshop. At the end of a workshop several outputs are produced, which include the national energy balance and last year's greenhouse gas inventory. The tool is delivered fully installed and in operation. OLADE provides ongoing technical assistance to each country that has implemented the system.

Regional Energy Information System (SIER): a new tool for energy information management

OLADE is currently testing a new platform to improve the technology and content of its information services and in turn provide a modern tool for the countries according to their requirements. This new tool, SIER, integrates the functions of the Economic-Energy Information System (SIEE), the SIEN and the Legal Energy Information System (SIEL). The new system has been implemented by five countries: Ecuador, Guatemala, Nicaragua, Panama and Dominican Republic. The new tool has all the features and contents of its predecessors and includes additional breakdown of information (particularly for final consumption), dynamic generation of indicators and reporting of graphics such as "dashboards". This new tool will incorporate the new structure of energy balances and definitions, concepts and methodologies based on those of IRES.

Revision of statistical information

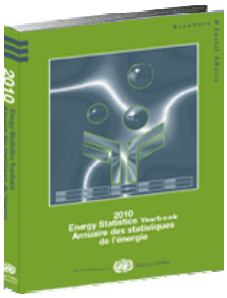
OLADE updates and disseminates on its website information on the energy sector of its 27 member countries, through the SIEE and SIEL systems and soon through SIER. It also conducts studies to verify the consistency of data or to incorporate new indicators. It recently conducted a study of electricity coverage, which led to revisions of domestic electricity figures from 1970 to 2012 for all countries. Similarly, data analysis is made through quality control processes which determine the need to review the information, or for studies of greater scope. An analysis of demand studies in different economic sectors to establish a more detailed breakdown of final energy consumption is planned, allowing more detailed energy balances and calculation of energy efficiency indicators.

With reference to the collection and dissemination of statistics, OLADE has set several goals to improve the quality and usefulness of data. One of the most important goals is to ensure that statistics of supply and demand of energy, currently produced annually, are also prepared and submitted monthly. Not all data may be collected monthly, especially the final consumption breakdown, but it is expected that the momentum gained through the Joint Organisations Data Initiative (JODI), which involves seven international organizations collecting oil and gas data on a monthly basis, will help to achieve this.

A second objective is to strengthen the capacity to develop energy statistics in member countries, giving priority to those that have seen staff turnover or have had institutional changes, and are reviewing or updating their processes and the organization of their statistical offices. In these countries, two technical visits will be made for training and advice on the organization and logistics for the supply of data. In parallel, OLADE is currently preparing a publication for each country that will present the diagnosis of the energy sector based on statistics and legal information registered in SIEE and SIEL. It will also include policies and prospects for the energy sector based on consultations with each country and official development plans.

UNSD Publications

The 2010 Energy Statistics Yearbook and the 2010 Energy Balances and Electricity Profiles are now available online at the UNSD website!



To access the online publications for free, please visit: http://unstats.un.org/unsd/energy/

They are also available for purchase at the United Nations Publications website (http://unp.un.org).

The 2010 edition of the Energy Statistics Database containing data from 1950 to 2010 is also available at http://unp.un.org.

Energy Statistics data for the period 1990-2010 are available for free online through the Statistics Division's UNdata portal at http://data.un.org/Explorer.aspx?d=EDATA

Recent Meetings

A *Training Workshop on Environment and Energy Statistics for Arab Countries* (8-12 September 2013, Amman, Jordan) was organized by UNSD in cooperation with the Arab Institute for Training and Research in Statistics (AITRS) and the United Nations Economic and Social Commission for Western Asia (UN ESCWA). The Workshop gathered 28 international participants from 16 countries in the Arab region.

The workshop reviewed the basic concepts, methods and international recommendations on environment and energy statistics as well as the main interrelationships between the two areas. The Workshop covered a number of topics for environment and energy statistics based on the Framework for the Development of Environment Statistics (FDES) and the International Recommendations on Energy Statistics (IRES) which were prepared by UNSD and endorsed by the UN Statistical Commission.

The Workshop also provided a forum for sharing country experience and it identified priority areas for the region for the subsequent training workshops. More information is available at: http://unstats.un.org/unsd/energy/meetings/Jordan2013.htm

Editorial Notes

The Energy Statistics newsletter is a bi-annual publication, prepared by the Industrial and Energy Statistics Section of the United Nations Statistics Division, Department of Economic and Social Affairs.

For further information and/or feedback, please contact:

United Nations Statistics Division
Attn: Industrial and Energy Statistics Section
United Nations
New York, NY 10017, USA
E-mail address: energy_stat@un.org

or visit our website: http://unstats.un.org/unsd/energy/.