Final Report

Training Workshop on Environment and Energy Statistics for Arab Countries

8-12 September 2013, Amman, Jordan

Introduction

The United Nations Statistics Division (UNSD) together with the Arab Institute for Training and Research in Statistics (AITRS) and the United Nations Economic and Social Commission for Western Asia (UN ESCWA) organized a Training Workshop on Environment and Energy Statistics for Arab Countries from 8-12 September 2013 in Amman, Jordan. The workshop gathered 28 participants from National Statistical Offices and/or Ministries of Environment and Energy of 16 Arab countries. The list of participants is provided in Annex 1 of this report.

Substantive support in the form of presentations during the Workshop was provided by UN ESCWA, represented by Ms. Therese El Gemayel and Mr. Mohamed Al-Badrawy, and by UNSD, represented by Ms. Ilaria Di Matteo, Ms. Rayen Quiroga and the consultants Mr. Michael Nagy (Ministry of Development Planning and Statistics, Qatar) and Mr. Thomas Olsen (Statistics Denmark). AITRS was represented by Dr. Amin O. Shammout, Mr. Hayder Ali Al Janabi, Ms Mayada Liath and Mr. Suhail Salah. The Department of Statistics (DOS) of Jordan also contributed to the organization of the Workshop.

The Agenda of the Workshop was organized into 6 thematic sessions: Session 1: Importance of environment and energy statistics; Session 2: Environment statistics; Session 3: Energy Statistics; Session 4: Statistics to inform about the link between Environment and Energy; Session 5: Environment-energy indicators; and Session 6: Building technical capacities and discussing the way forward. The thematic sessions were accompanied by country presentations to share country experiences and by group exercises. The agenda is provided in Annex II of the report.

Throughout the workshop participants gave presentations on their country's statistical programmes on energy and environment statistics covering data availability, institutional set up, main challenges and future work on environment and energy statistics. These presentations were well received by all participants and were important for understanding the priorities, difficulties and challenges at the regional and national level.

All the material of the Training Workshop, including country's presentations, is available online at: http://unstats.un.org/unsd/environment/unsd_ArabCountries_workshop.htm

Opening of the Workshop

The Workshop was opened by Mr. Abdelaziz Maalmi, Director of AITRS, Mr. Fathi Al-Nsour, Director General of DOS Jordan, Ms. Therese El Gemayel on behalf of UNESCWA, and Ms. Rayén Quiroga, UNSD.

The speakers welcomed the participants and thanked the organizers for making the event possible. They reiterated the importance of high quality and timely environment and energy

statistics to inform decision makers and track progress. Energy and environment have for too long been seen and analyzed in isolation but in the past few decades there has been an increasing awareness of the impact of energy production and consumption on the environment and of the contributions of the environment to energy supply in the form of fossil fuels (coal, crude oil, etc) and renewable energy sources such as e.g. solar and geothermal energy or biofuels. It was said that climate change is a clear example that shows the strong interconnection between energy and the environment. We cannot talk about climate change without talking about energy, and most importantly, we cannot curtail CO2 emissions without changing the energy base of most countries. The impact of energy production activities, however, is not limited to climate change. The mining of coal, the extraction of crude petroleum, the processing of tar sand modify the environment and have a great impact on it. Recent disasters had shown the great devastation from oil spills.

The main objectives of the Workshop, presented by Ms. Ilaria DiMatteo of UNSD, were to review the available statistical concepts, definitions, classifications and methods for the collection of environment and energy statistics and look into the statistical requirements to describe the interactions between energy and the environment.

Session 1: Importance of environment and energy statistics

Session 1 covered the importance of environment and energy statistics. It discussed the fundamental concepts, the situation and main challenges about environment and energy, reviewed the policy context at global and regional levels and presented the implication of these dynamics for the statistical production and dissemination of both energy and environment statistics.

The first presentation was made jointly by Ms. Quiroga and Ms. DiMatteo of UNSD and covered the global perspective on energy and environment. The presentation gave a general overview of the main issues at global level that are linked to the interactions between environment and energy and provided some examples of the related global policy initiatives The importance of high quality and timely statistics was emphasized and the main challenges from the statistical perspective were identified.

Ms. Therese El Gemayel, UNESCWA Consultant, focused her presentation on the important aspects of energy and the environment for the Arab countries emphasizing the importance of related statistics, and described different initiatives in the region lead by UN ESCWA in cooperation with countries to advance in energy and environment statistics.

Ms. El Gemayel also gave a presentation on behalf of UNEP ROWA on “Environment and Energy, conceptual and policy issues” covering the overall situation of the Arab Countries in terms of the most important environment and energy challenges and the initiatives at the policy levels, identifying main concerns from the user side of environment and energy statistics.

Session 2: Environment statistics

Session 2 covered the domain of environment statistics, reviewed existing methodological tools and international recommendations in this field and presented in detail the components, subcomponents and statistical topics of the Framework for the Development of Environment

Statistics (FDES 2013) as well as the Basic Set of Environment Statistics. The FDES 2013 was endorsed by the Statistical Commission in 2013.

Ms. Quiroga from UNSD presented the fundamentals of the environment statistics domain as described by Chapter 1 of the FDES 2013, as a way to introduce the field to the audience. This presentation was followed by questions and comments from participants, who recognized the importance of the FDES 2013 for the organization and development of environment statistics in their own countries and appreciated having this and related tools for guiding their work.

Mr. Nagy, UNSD Consultant introduced the FDES 2013. He described the preparation process, the objectives and target audience of the document. He also described how the FDES 2013 works as a flexible, multi-purpose and adaptable tool, and described its structure comprising six major components which are further disaggregated into sub-components and environment statistical topics; showing examples of the Basic and Core Sets of Environment Statistics for selected topics. He also showed the cross-cutting applications of FDES, namely for water, energy, agriculture and climate change statistics.

Ms. Quiroga delivered the presentation showing a detailed description of the 6 components of the FDES 2013. She illustrated the sequence from components to sub-components, statistical topics and individual statistics contained in the Basic Set of Environment Statistics. The presentation of each component was followed by discussion. This allowed for active participation of the audience and helped deepen the understanding of the detailed contents presented and discuss examples of inclusions, exclusions and statistical variables that were of importance to Arab countries.

Mr. Nagy presented the contents and uses of the Basic and Core Sets of Environment Statistics, showing examples of the individual variables contained in them, and explaining the three-tier structure of the Basic Set, of which the recommended set is contained in the Core Set corresponding to tier 1. After responding the questions and steering an active discussion with the participants, Mr. Nagy also introduced the group exercise based on the Basic and Core sets of Environment Statistics.

Exercise 1 of the workshop, facilitated by Mr. Nagy, consisted of the use of the Environment Statistics Self Assessment Tool (ESSAT) developed by UNSD from the Basic Set of Environment Statistics embedded in the FDES 2013. The ESSAT tool aims at facilitating a self assessment in countries on their current state of production of environment statistics, identifying priorities and potential data gaps related to the 60 environment statistics topics corresponding to the 6 components of the FDES 2013. The exercise organized participants into groups, in order to complete Part I of the ESSAT (covering the priorities, production and main challenges of environment statistics at the topic level of the FDES). The participants were invited to select two or three environment statistics topics of the FDES of high relevance to their countries and respond only those topics in the Part II of the ESSAT (which requires information on environment statistics production at the individual environment statistics level). The ESSAT tool was provided both in English and in unofficial translation to Arabic prepared by the AITRS.

Session 3: Energy Statistics

This session of the workshop aimed at providing an overview of the concepts, definitions, classifications, data collection and data compilation methods in basic energy statistics. It

provided an overview of the existing international recommendation and standards for energy statistics, balances and accounts and of the energy statistics situation in the region.

Ms. Ilaria Di Matteo provided an overview of the International Recommendations for Energy Statistics (IRES) which were adopted by the United Nations Statistical Commission in 2011. IRES provides data compilers with a complete set of recommendations covering all aspects of the statistical production process from basic concepts, definitions and classifications, measurement units to data sources, data compilation strategies, energy balances, data quality and statistical dissemination. A major milestone that was achieved during the preparation of IRES was the development of the Standard International Energy Product Classification (SIEC) which is based on a set of internationally agreed definitions of energy products.

Ms. Di Matteo also presented the activities carried out by UNSD in energy statistics. In particular, she described the ongoing work on the preparation of the Energy Statistics Compilers Manual (ESCM) which is indented to provide practical guidance in the implementation of the recommendations provided in IRES complemented with country examples. UNSD also has created a website containing country practices in energy statistics. The template for the country practices was developed by the Oslo Group on Energy Statistics and provides a common format for countries to report and share their practices in energy statistics. More than 80 country practices are available on the website and countries are encouraged to submit their practices. Finally, Ms. Di Matteo introduced the activities carried out as part of the Joint Organizations Data Initiative (JODI) in cooperation with seven international organizations consisting of APEC, Eurostat, IEA, IEF, OLADE, OPEC and UNSD. JODI activities consist in the collection of monthly data on oil statistics and more recently in natural gas statistics.

Mr. Thomas Olsen introduced the System of Integrated Environmental and Economic Accounting for Energy (SEEA-E) which is being prepared by UNSD. The SEEA-Energy elaborates the framework presented in the System of Environmental-Economic Accounting - Central Framework (SEEA-CF) to cover in more detail all aspects related to energy. The SEEA-CF was adopted by the UN Statistical Commission in 2012. Both the SEEA and the SEEA-E are satellite systems of the System of National Accounts 2008, SNA 2008. As such, they have a similar structure to the updated SNA 2008 and share common definitions and classifications.

The presentation provided an overview of the different types of accounts in the SEEA-Energy: flow accounts in physical and monetary units and asset accounts in physical and monetary units. The main differences between energy balances and physical flow accounts were described.

Mr. Olsen also described air emission accounts which are part of the SEEA-CF; examples of application of the energy and air emission accounts and finally described the SEEA-CF implementation strategy which was adopted by the UN Statistical Commission in 2013.

Ms. Therese El Gemayel provided an overview of the energy statistics situation in the region and the activities carried out by UN ESCWA on energy statistics. She described the regional project for strengthening statistical capacity in the Arab region - launched in September 2011 - on compiling statistics on energy supply and use for all sectors and all energy sources, as well as to harmonize definitions and classifications and to compile 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: UNSD, the International Energy Agency (IEA), the International Energy Forum (IEF) and the Euro-Mediterranean statistical cooperation program (Medstat III).

She also described the work done by ESCWA on the training manual on the data collection on energy use by the transport sector and case studies in the Arab region. The Manual covers various data sources including administrative records, informal sector, and country case studies from the Arab region.

Ms. Di Matteo provided an overview of the UNSD's activities in the annual collection and dissemination of energy statistics. She also described the work that has been carried out to revise the UNSD annual energy statistics questionnaire to align it with the definitions of IRES and harmonize it with the IEA/Eurostat/ECE questionnaire.

Mr. Mohamed Al-Badrawy, UNESCWA Consultant provided a detailed overview of the data collection for Oil and oil products, Natural Gas, Electricity and Renewable energy sources of the IEA/Eurostat/ECE questionnaire. He described the main sources of data at international and regional level and stressed the importance of using internationally agreed concepts and definitions for the compilation of energy statistics. For each questionnaire, Mr. Al-Badrawy provided: a general description of the energy products; an overview of data to be collected; a description of the measurement units and conversion factors; an introduction to the structure of the questionnaire; some basic instructions on how to fill in the questionnaire; and he concluded with an overview of data validation and consistency checks.

Ms. Di Matteo provided an overview of energy balances. In particular, she described the principles behind the compilation of energy balances and the recommendations contained in IRES for balances. She also provided the IRES template of an energy balance and she showed the main checks that can be done to validate the data.

In general, participants welcomed the work that had been done on IRES as it provided firm guidance on the various stages of the statistical production process for energy. It was mentioned that countries often face problems with the measurement units and the conversions to be used to bring them to the same unit. It was also mentioned that often when collecting data from different sources, data are in different units and it is not always easy to validate the data and convert into a specific unit. Specific guidance on the measurement unit was considered very important for data collection and compilation.

Session 4: Statistics to inform about the link between Environment and Energy

This session was intended to bring energy and environment statistics together by looking at ways to measure the interaction between energy and the environment.

Mr. Michael Nagy provided an overview of the inter-linkages between energy and the environment as presented in chapter 5 of the FDES. The FDES covers 4 cross cutting issues: water and the environment; energy and the environment; climate change; agriculture and the environment. Each cross-cutting issue is further described by tables identifying the corresponding set of environment statistics organized according to the corresponding FDES components, sub-components and topics. He described how energy production may affect the

environment in different ways (by for example, depleting fossil fuel resources in the environment or by disturbing/altering the ecosystem by mining and extracting activities). Energy production and consumption have additional impact on the environment because of the waste generated and the greenhouse gas and other emissions released to air. Some of the challenge facing policy makers remains balancing the demand and need for energy with the impacts from its production and consumption. There is great need for harmonization and coordination of statistics production at all levels including energy and environment statistics.

As energy related greenhouse gas emissions were covered by presentations made by Mr, Olsen and Ms. El Gemayel, Mr. Nagy focused his presentation on the topics of wastewater, air pollution and waste which, besides GHG emissions, are important environmental effects of energy production and consumption. In particular he described the concepts behind particulate matter, heavy metals and their emissions as well as wastewater generation and the types of water pollution related to energy. Examples of possible data sources for these data were also provided.

Environment protection and resource management expenditure are an example of sub-component 6.1 in the FDES. Mr. Nagy described the different types of protection and resource management activities and expenditure that are to be considered with regard to energy, and the relevant international classifications. In addition for classifying these activities by environmental purpose, distinction is often made between Government and Private sector environment protection and resource management expenditure. Typical energy-sector environment protection activities include: treatment of exhaust gases and ventilation air; protection against radiation, etc. Typical energy-sector resource management activities include: the reduction of the intake of energy resources; the research and development for energy resource management, etc.

Overall countries welcomed the guidance provided in the presentations. During the discussion it was mentioned that often it is difficult to classify the different types of waste as different institutions within the country uses different definitions. The existence of clear definitions at international level facilitates the collection of data. Some participants also mentioned that the collection of detailed data on government expenditures on the environment is difficult as data are available only at aggregate level. Methods for disaggregating the information were considered very useful.

Ms. Therese El Gemayel concluded the session with a presentation on greenhouse gases. She started with the description of what the carbon dioxide emissions are and their relationship to greenhouse gases emissions; she then gave an overview of the methods for the calculation of emission (the simplified and reference approach of IPCC) and concluded with the detailed overview of the method to calculate CO2 emission from the perspective of energy balances.

An exercise was carried out in the Workshop to follow a step by step procedure to calculate the emissions of CO2 from an energy balance.

Session 5: Environment-energy indicators

This session reviewed commonly used environment-energy indicators and discussed the relevance and priority of selected indicators for the region and the countries, and the availability of data and methodology for their production.

Ms. El Gemayel started the session with a presentation on Sustainable Development indicators for the Arab region. She described the process behind the establishment of these indicators. Work has been carried on the identification of the indicators and the preparation of methodological guidelines for their compilation. The 44 indicators- organized in three areas (i.e. social, environmental and economic areas) are recommended to be compiled and reported on an annual basis.

The exercise session on indicators – lead by UNSD – consisted in the review and discussion within national teams of examples of energy-environment related indicators that are available in different indicator lists at international/regional level. Participants were asked to indicate for each indicator whether it was already regularly compiled or in the process of being compiled in the near future.

Session 6: Building technical capacities and discussing the way forward

Session 6 focused on the discussion about technical capacity building needs and about the way forward in environment and energy statistical development for the Arab region. The discussion with the participants assessed the specific needs of the different Arab countries that are at different stages of general statistical developments and face different challenges with regard to both institutional set up and resource allocated to the energy and environment statistics fields. The session concentrated on discussing the way forward in terms of future training and technical assistance activities which are important elements for future planning of statistical work in the two fields in this region.

Conclusions of the Workshop

The participants welcomed the Workshop as an overview of the concepts and methods in environment and energy statistics. They expressed the need of further technical trainings/capacity building, particularly through regional training workshops, separately for energy statistics and environment statistics to review and discuss in further detail methods for data collection and compilation in these areas. Improving and strengthening environment and energy statistics would also allow for better information on the links between energy and the environment.

Participants also expressed the interest in receiving additional training on the calculation of indicators and suggested to include this topic in future training workshops.

They welcomed the efforts by regional and international organizations to develop international recommendations and guidance documents such as the FDES 2013, IRES, SEEA-Energy and the forthcoming manual on energy use in transport by UNESCWA. The importance of translating these documents and relevant material to Arabic was stressed by all participants.

Participants identified some of the main challenges in the collection and compilation of energy and environment statistics which include: the lack of effective institutional arrangements; the lack of common definitions and methods among national institutions; and the lack of human and financial resources.

Annex I: List of participants

Name	Institution	Country
Mr. Rabah HAMMAN	National Statistical Office	Algeria
Mr. Abdel Rahmane AMGHAR	National Statistical Office	Algeria
Ms. Hanan Mohammed Mubarak BAHAR	Central Informatics Organisation	Bahrain
Mr. Moktar Awaleh Wais	Direction de la Statistique et des Etudes Démographiques	Djibouti
Ms. Amal Ahmed Hassan Elshaieb	Central Agency for Public Mobilisation and Statistics	Egypt
Ms. Samah Mohammed Ahmed Hammad	Central Agency for Public Mobilisation and Statistics	Egypt
Mr. Mohamed Abdallah Awad Ali SAID	Ministry of State for Environmental Affairs	Egypt
Ms. Attarid Khaleel Ibrahim	Central Organization for Statistics and Information Technology	Iraq
Ms. Shaymaa Fareed Lazim Al-Asadi	Central Organization for Statistics and Information Technology	Iraq
Mr. Mazen Mohamad Gasab KHALIFA	Department of Statistics of Jordan	Jordan
Mr. Sudki Samir Fowzi HAMDAN	Department of Statistics of Jordan	Jordan
Ms. Enas Mohamad Ahmad ARBYAT	Department of Statistics of Jordan	Jordan
Mr. Mohsen A. Ibrahim El Kateb	General Information Authority	Libya
Mr. Moufth Abdulhamid Ajahj	General Information Authority	Libya
Mr. Mohamed BABA	Office National de la Statistique	Mauritania
Ms. Sakina KADA	Direction de la Statistique Haut Commissariat au Plan	Morocco
Ms. Zail LATIFA	Direction de la Statistique Haut Commissariat au Plan	Morocco
Mr. Mohmoud Daoud Abed Souf	Palestinian Central Bureau of Statistics	State of Palestine
Mr. Mohammed I.A Shaheen	Palestinian Central Bureau of Statistics	State of Palestine
Ms. Maha Mohamed ALMOTAWAA	Ministry of Development Panning and Statistics	Qatar
Mr. Fawaz Fahad ALJASSER	Central Department of Statistics & Information	Saudi Arabia
Mr. Mohamad Ali IBAR	Ministry of National Planning	Somalia
Ms. Nada Khider Mohamed ELAMIN	Central Bureau of Statistics	Sudan
Ms. Hanady Omar Mohamed AHMED	Central Bureau of Statistics	Sudan
Ms. Olfat Abu AZIZI	National Institute of Statistics	Tunisia
Mr. Hamed Abdo Ahmed AL-HAMMADI	Central Statistical Organization	Yemen
Ms. Amat Al Al rahem Al-mohammed AL-ERYANI	Central Statistical Organization	Yemen

Ms. Gamalat Hasan ABDO	Environment Protection Authority	Yemen

Dr. Amin O. Shammout	AITRS	
Mr. Hayder Ali AL JANABI	AITRS	
Ms. Mayada Liath Shaikhqdr	AITRS	
Mr. Suhail SALAH	AITRS	
Mr. Mohamed AL-BADRAWY	UNESCWA	
Ms. Therese EL GEMAYEL	UNESCWA	
Mr. Thomas OLSEN	UNSD (consultant)	
Mr. Michael NAGY	UNSD (consultant)	
Ms. Rayen QUIROGA	UNSD	
Ms. Ilaria DI MATTEO	UNSD	

Annex II: Agenda of the Training Workshop on Environment and Energy Statistics for Arab Countries Workshop

Sunday 8 September 2013

09:00 Registration of participants

09:30-9:45 Opening of the Workshop

- AITRS
- UNSD
- ESCWA
- DOS Jordan

09:45-10:00 Objectives and organization of the workshop

- Presentation and discussion of agenda and method of work
- Adoption of Agenda

10:00-10:30 Introduction of participants

10:30-11:00 Session 1: Importance of environment and energy statistics

This session would discuss the fundamental concepts, the situation and main challenges about environment and energy, review the policy context at global and regional level and discuss main implications from the statistical perspective

- Environment and Energy, a global perspective (Ms.Rayén Quiroga-Martínez and Ms. Ilaria DiMatteo, UNSD)

11:00-11:20 Coffee break

11:20-13:00 Session 1: Importance of environment and energy statistics, continued

- Energy and environment in the region: main challenges (Ms.Therese El Gemayel UNESCWA Consultant)
- Environment and energy: conceptual and policy issues (Ms. Therese El Gemayel, on behalf of UNEP ROWA)

General discussion

13:00-14:00Lunch

14:00-15:20 Session 2: Environment statistics

This session will review existing methodological tools and international recommendations in the field of environment statistics and will present the components of the FDES and the Basic and Core Set of Environment Statistics

- Fundamentals of Environment Statistics (Ms.Rayén Quiroga-Martínez, UNSD)
- The Framework for the Development of Environment Statistics (FDES) 2013 (Mr. Michael Nagy, UNSD Consultant, Ministry of Development Planning and Statistics Qatar)
- The Use of the FDES and the Basic Set of Environment Statistics in Bhutan (Mr. Thomas Olsen, UNSD Consultant, Statistics Denmark)

General discussion

15:20-15:40 Coffee break

15:40- 17:00 National presentations session

- National team Qatar
- National team Tunisia

General discussion

Monday, 9 September 2013

09:00-11:00 Session 2: Environment statistics (continued)

- Components, sub-components and statistical topics of the FDES 2013 and the Basic and Core Set of Environment Statistics (Ms.Rayén Quiroga-Martínez, UNSD)
  1. Environmental conditions and quality
  2. Environmental resources and their use
  3. Residuals

11:00-11:20 Coffee break

11:20-13:00 Session 2: Environment statistics (continued)

- Components, sub-components and statistical topics of the FDES 2013 and the Basic and Core Set of Environment Statistics (Ms.Rayén Quiroga-Martínez, UNSD)
  4. Disasters and extreme events
  5. Human settlements and environmental health
  6. Environment protection, management and engagement

- The Basic and Core Sets of Environment Statistics (Mr. Michael Nagy, UNSD Consultant, Ministry of Development Planning and Statistics Qatar)

13:00-14:00 Lunch

14:00- 15:20 Session 2, Exercise 1 – Environment Statistics Self Assessment Tool

- National team work, plenary presentations and discussion – (Facilitated by Michael Nagy, with cooperation of team of trainers)

15:20-15:40 Coffee break

15:40- 17:00 National presentations session

- National team Palestine
- National team Yemen

General discussion

Tuesday, 10 September 2013

09:00-11:00 Session 3: Energy Statistics

The session will review concepts, definitions, classifications, data collection and compilation methods in basic energy statistics. It will provide an overview of the existing international recommendation and standards for energy statistics and will share country experiences on data availability, data sources, and data collection methods and discuss the main challenges that are faced by countries.

- International Recommendations for Energy Statistics (Ms. Ilaria DiMatteo, UNSD)
- The System of Integrated Environmental and Economic accounting for Energy and the emissions accounts (Mr. Thomas Olsen, UNSD Consultant, Statistics Denmark)

11:00-11:20 Coffee break

11:20-13:00 Session 3: Energy Statistics, continued

- Energy Statistics in the region (Ms. Therese El Gemayel UNESCWA Consultant)
- The UNSD Energy Statistics Questionnaire (Ms. Ilaria DiMatteo,UNSD)

13:00-14:00Lunch

14:00- 15:20 Session 3: Energy Statistics (Continued)

- Oil and natural gas data collection (Mr. Mohamed Al-Badrawy, UNESCWA Consultant)
- Electricity and renewable energy (Mr. Mohamed Al-Badrawy, UNESCWA Consultant)
- Energy Balances (Ms. Ilaria DiMatteo,UNSD)

15:20-15:40 Coffee break

15:40 - 17:00 National presentations session

- National team Jordan
- National team Egypt

General discussion

Wednesday, 11 September 2013

09:00-10:00 National presentations session

- National team Morocco
- National Team Sudan

10:00-11:00 Session 4: Statistics to inform about the link between Environment and Energy

The session will focus on the links between energy and the environment statistics and will share country experiences in their compilation.

- Energy and the Environment: inter-linkages from the FDES perspective (Mr. Michael Nagy, UNSD Consultant, Ministry of Development Planning and Statistics Qatar)

Statistics on the environmental impacts of energy production and consumption

- Environment and Energy: Wastewater, air pollution and waste (Mr. Michael Nagy, UNSD Consultant, Ministry of Development Planning and Statistics Qatar)

11:00-11:20 Coffee break

11:20-13:00 Session 4: Statistics to inform about the link between Environment and Energy, continued

Statistics on the environmental impacts of energy production and consumption

- Statistics on environment protection and resource management activities and expenditure (Mr. Michael Nagy, UNSD Consultant, Ministry of Development Planning and Statistics Qatar)

- From energy balances to Greenhouse gas emissions (Ms. Therese El Gemayel, UNESCWA Consultant)

Session 4, Exercise 2 - From energy statistics to CO2 emissions (Facilitated by UN ESCWA with cooperation of team of trainers)

13:00-14:00 Lunch

14:00- 15:30 Session 5: Environment-energy indicators

This session will review the commonly used environment-energy indicators. The discussion will be organized in working groups and will cover the relevance and priority of the indicators for the region and the countries, and the availability of data and methodology for the production of the most relevant indicators within the region.

- Sustainable Development indicators for the Arab region (Ms.Therese El Gemayel, UNESCWA Consultant)
- Environment-energy indicators – introduction to the Exercise (Ms.Rayén Quiroga-Martínez, UNSD)
- **Exercise 3 – Environment and energy indicators** – national teams

Coffee break

15:40- 17:00 National presentations session

- National team Mauritania
- National team Algeria

General discussion

Thursday, 12 September 2013

09:00-10:30 National presentations session

- National team Djibouti
- National team Saudi Arabia
- National team Somalia

10:30-10:45 Coffee break

10:45-11:30 National presentations session

- National team Iraq
- National team Libya

General discussion

11:30-13:00 Session 5 Environment and Energy Indicators, continued

- Exercise 1 – ESSAT: Short report of national teams to plenary (facilitated by UNESCWA)
- Report about energy environment indicators-Exercise 3 (facilitated by UNSD)

13:00 -14:00 Lunch

14:00- 15:00 Session 6: Building technical capacities and discussing the way forward

This session will discuss main policy issues related to energy and environment that are relevant for the region; assess specific needs for capacity building and training in the priority areas

identified by the countries; and discuss the way forward to shape future training and capacity building activities.

- Conclusions and recommendations

15:00- 15:20 Closing of the Workshop

- AITRS
- UNSD
- ESCWA