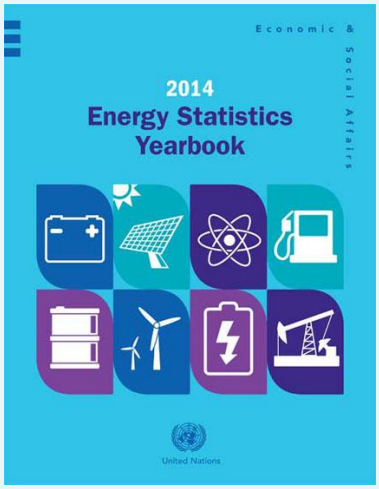
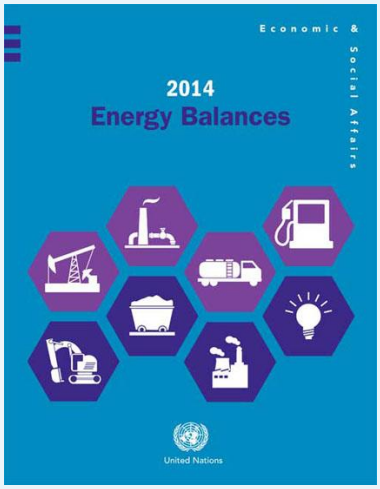
UNITED NATIONS STATISTICS DIVISION

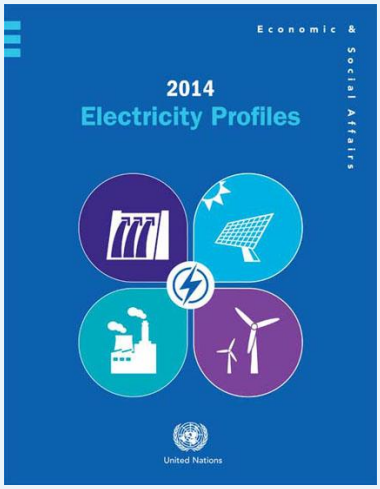
Energy Statistics *Newsletter*

What's inside

LATEST UNSD PUBLICATIONS







The 2014 Energy Statistics Yearbook, the 2014 Energy Balances and the 2014 Electricity Profiles are now available online at the UNSD website! To access the online publications, please visit: http://unstats.un.org/unsd/energy/.

This is the third set of publications to incorporate changes due to the adoption of the International Recommendations for Energy Statistics. Print copies can be ordered from the United Nations Publications website (http://unp.un.org), as well as the full 2014 edition of the Energy Statistics Database containing data from 1950 to 2014. Energy Statistics data for the period 1990 – 2014 are available online free of charge at the UNdata portal http://data.un.org/.

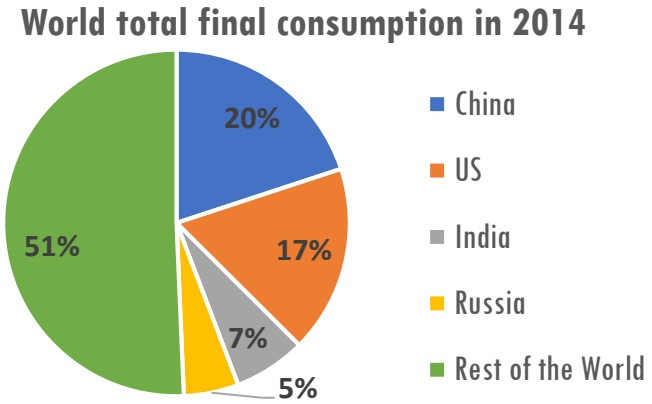
Selected highlights

World Total primary energy production increased 1.2% in 2014 to 567.4 exajoules. The bulk of this increase (almost 80%) came from growth in the United States, which saw its primary energy production jump

7.1% in comparison with 2013, mainly due to increased crude oil and natural gas outputs.

China, the United States, India and the Russian Federation combined made up almost half (49.6%) of global total final consumption (see graph on the right) in 2014. This represents an additional percentage point as compared to 2013 (48.6%).

Six countries (India, United States, Nigeria, China, Brazil and Indonesia) made up more than half (52.5%) of the global production of biofuels and wastes in energy terms in 2014. By far, the product that most contribute to this energy production is fuelwood (53.6% of the global total). This highlights the need to assess sustainability of fuelwood production.



UN-ESCWA PROJECT - ENERGY CONSUMPTION IN THE TRANSPORT SECTOR

The United Nations Economic and Social Commission for Western Asia (ESCWA) carried out a project on strengthening statistical capacity for producing energy statistics and energy consumption surveys, continuing similar efforts that started in 2012.

The overall objective of the project was to strengthen statistical capacity for conducting surveys on energy consumption in the transport sector by supporting national statistical offices of the three pilot countries (Egypt, Jordan and Palestine). The project, funded by the Islamic Development Bank (IDB) and the UK Department for International Development (DFID), consisted of four main phases: the preparation, data collection, data processing and data release stages. The project allowed UN-ESCWA to support its Member States in collecting more reliable data through well planned field surveys, combined with administrative data to help decision makers in developing more effective energy subsidy policies and mitigating the environmental impacts of utilizing fossil fuel.

During the implementation of the first phase of the project, countries were advised to contact and coordinate with national stakeholders related to energy and transport. The national statistical offices of the pilot countries created their national teams (survey management committees) and included representatives from the ministries of transport and ministries of energy, which were then actively involved in the implementation of the entire project. This positive approach of coordination between the various national stakeholders was encouraging and promising for the future implementation of similar surveys.

Key components of the project were to design and implement surveys on energy consumption in the transport sector. All participating countries have completed the implementation of the surveys, including selecting the sample methodology, selecting and training researchers, developing software to be used for data entry and data dissemination, and have validated, edited, tabulated and disseminated the results of the surveys. The selection of the survey design and questionnaire questions was based on the International Recommendations for Energy Statistics (IRES) of the United Nations. The quota sampling technique has been used for the surveys in this project.

The collaboration and coordination during the methodology and questionnaire preparation phase proved to be very efficient. The ministries of energy and ministries of transport requested the addition of new questions to the questionnaire, and the generation of several new indicators. In addition, beneficiary countries showed interest in sharing the results with other relevant ministries to increase the benefits of the survey.

The results obtained from the survey help countries in improving the statistics disseminated on energy

consumption in the transport sector, since survey data are more accurate and comparable than estimated data. Some beneficiary countries have shown interest in holding workshops with relevant national stakeholders to discuss how the results could be used in the most efficient way.

A discussion on comparing the obtained finalized results with the energy balances and other available national data and administrative records took place during the final meeting that published the results of the project. Countries showed interest in such a comparison to understand the differences between the actual values obtained in the survey and the values used in the energy balance, and to fill the gap existing in administrative records regarding some of the detailed information. In addition, countries showed interest in considering the finalized results as benchmark data to be used in the future.

Sustainability

The impact of this project will be more visible in the future, since all beneficiary countries have shown interest and are well prepared to independently carry out such tasks in the future. Countries have shown high interest in implementing the survey due to its importance, showing the positive and sustainable impact of this project on future surveys on energy consumption. The project assisted beneficiary countries to overcome the main impediments faced during the implementation of the survey, which is considered as lessons learned for future implementation.

The knowledge products developed as part of the project activities play a vital role in the sustainability of the project, since the knowledge products document technically the preferred method to conduct similar surveys and are distributed and widely available to the general public.

In addition to the acquired knowledge, the need to have accurate, comparable and timely statistics on energy consumption in various sectors is becoming a priority not only in the Arab region. Representatives of beneficiary countries conveyed the need of policy makers to have such accurate and comparable data to utilize in formulating national energy policies. The project will encourage countries to implement future energy consumption surveys with confidence.

International agencies will use the experience gained in this project to support other countries and regions in advancing this important topic, thereby providing substantive inputs to the improvement of national energy balances.

Results

UN-ESCWA produced three outputs from the project: (1) methodological guidelines for energy use surveys in transport, (2) a document on policies for energy and transport based on the energy surveys, and (3) a brief flyer showing graphics and maps of the results of the survey. Each country produced questionnaires relevant to their national transport modes and a country methodology based on the methodology developed and the advice given by UN-ESCWA.

The Guidelines on Energy Consumption Surveys in the Transport Sector: Experiences in Selected Arab Countries has been finalized and published online in July 2015 (see below for the link). The Guidelines include information on administrative registers, basic concepts in survey sampling, planning a survey, available sampling methods, and the selection of sampling frame and size. The publication also targets the preferred survey design to implement energy consumption surveys and methodology adopted by each beneficiary country.

The three pilot energy consumption surveys are published as part of a Report on Transport Sector Energy Consumption Surveys Outcomes and National Energy Policies. The report includes, at the country level, a summary of the survey methodology adopted, the main results of the survey, analysis and evidence-based proposed energy policies.

The survey results revealed new information on energy use in transport, the efficiency of cars, the distances travelled, the demographics and geographical distribution of vehicles and drivers. The survey results confirmed the presence of high levels of fuel consumption in transport: approximately 40% of final use of fuels compared to a global level that does not exceed 30%. Countries should address the low efficiency of fuel use and high cost of the energy bill for the region, as well as the high levels of air pollution resulting from the high levels of energy consumption in transport.

The outputs of this project, including the Guidelines on Energy Consumption Surveys in the Transport Sector, were shared on the project website at

https://www.unescwa.org/events/final-meeting-energy-consumption-transport-sector-survey-project-and-result-launching, as well as in the "Resources" section of the website of the previous project on Energy Statistics and Energy Balance at

https://www.unescwa.org/sub-site/energy-statistics-balances-project.

2016 meeting of InterEnerStat

The 2016 meeting of InterEnerStat was organized on 13–14 December 2016 in Paris, France. Following the recommendation of the 2015 meeting, the focus on energy efficiency and the required end-use data dominated a large part of the meeting, drawing in experts from additional institutions. The InterEnerStat meeting was attended by representatives from 12 international and regional organizations, while representatives from 11 additional entities involved in energy statistics or policy attended an extended session focused on energy efficiency and energy end-use data.

In the special session on energy efficiency and end-use data, a number of future common work areas were identified, such as: how to better communicate energy efficiency data and the importance of policy monitoring to policy makers as well as to the public and the business sector; joint work on capacity building for energy statisticians and those responsible for activity data (e.g. ministries of transport or industry associations); increased sharing of information on countries' and organizations' methodologies and current work in order to avoid duplication of work and unify approaches to the common difficulties; and the importance to build links at national level between agencies producing end-use data and those producing energy balance information to improve consistency of data.

The need for more timely data for policy makers often

contrasts with the long process of end-use data collection. It was recognized that appropriate funding is necessary to establish timely and sufficiently detailed end-use data collections.

A key conclusion was the need to work with entities active outside the energy statistics domain, such as work with academia to raise awareness of data collection difficulties and to include institutions such as ministries of transport or industry associations as potential participants of capacity building events, as activity data are often coming from different institutions.

Some methodological issues, such as the potential

use of big data and estimations of missing data points were also discussed from countries' perspectives during the special session of the meeting.

In the general part of the meeting, during discussions of the implementation of the International Recommendations for Energy Statistics (IRES), it was noted that its absence as a printed document may mean it holds less authority for many countries, despite the fact that it had been agreed and endorsed by the UN Statistical Commission in 2011. As a result, countries may not be able to implement necessary changes yet. As a follow up, it was agreed to explore the impact it was having with countries via a short survey.

It was also agreed that it was sensible to start the process of assessing the need to review IRES. It was noted that there had been developments in the energy world that might support a change of IRES, an update of the Energy Statistics Compilers Manual (ESCM) or the provision of supporting documents.

The organizations agreed to discuss this with their member states and then produce a note on what changes to IRES might be needed, including the respective benefit. This information would then be discussed at the next InterEnerStat meeting, where a decision on a formal update or other action would be taken.

The IEA and Eurostat gave an introduction to the SDMX work in energy statistic, which was extremely useful, given mixed understanding of it and generally limited or no knowledge shown by countries to date. Members saw the benefit in trying to achieve a global DSD standard, but recognized the different challenges organizations face with their members. IEA and Eurostat are working on a draft DSD that will be circulated once initial testing has been completed.

The next InterEnerStat meeting is expected to take place in the fall of 2018.

14TH REGIONAL JODI TRAINING WORKSHOP IN MOSCOW

The 14th Regional JODI Training Workshop was held from 9 to 11 November 2016 in Moscow, Russian Federation. The Workshop was hosted by the Institute for Energy and Finance, an independent think-tank with interests in issues of development and modernization of Russian economy, and organized by the International Energy Forum (IEF), together with the Asia Pacific Energy Research Centre (APERC), the International Energy Agency (IEA), the Gas Exporting Countries Forum (GECF), the Organization of the Petroleum Exporting Countries (OPEC) and UNSD.

More than 35 delegates from countries in the East European, Caucasus, Central Asian and MENA regions took part in the workshop, which was designed to raise awareness and build better understanding of JODI, and to improve submissions from the regions. Host country delegates included representatives from the Ministry of Energy, Russian Energy Agency, and Federal State Statistics Service, ROSSTAT. Further details can be found at: *https://www.jodidata.org/events/14th-regional-jodi-training-workshop-for-east-european-central-asian-and-mena-countries*.

The 15th JODI training workshop, targeting African countries, is scheduled for 11–13 April 2017 in Tunis, Tunisia.

Meeting on tracking energy-related SDGs in the Arab region

The United Nations Economic and Social Commission for Western Asia (ESCWA), within the context of its work on sustainable energy, organized an expert group meeting on tracking progress towards the implementation of energy-related Sustainable Development Goals (SDGs) in the Arab region in Beirut, on 24 and 25 January 2017. The meeting provided input on energy data discussions to support the review of the Arab regional profile as an integrated part of the Global Tracking Framework (GTF) 2017 report.

The GTF measures the Sustainable Energy for All (SE4all) objectives to ensure universal energy access, double the rate of improvement in energy efficiency, and double the share of renewable energy in the global energy mix by 2030. The regional customization of the GTF2017 will take place through two parallel tracks between the five United Nations Regional Commissions, to standardize the analysis of the report.

The meeting also aimed to support the preparation of the ESCWA publication entitled "Arab Sustainable Energy Horizon 2030", by exploring how Governments take action to achieve a sustainable energy future.

The purpose of the meeting was to strengthen the capacity of ESCWA member States to achieve integrated and sustainable management of their energy resources, by reviewing national statistical capabilities in energy data collection and harmonizing methodologies for measuring energy-related SDGs and other indicators. The presentation of country examples proved to be very useful in this regard.

The meeting included presentations and discussions on a number of topics related to indicators addressed by the GTF, such as Energy access, energy efficiency and renewable energy, but also considered areas that make use of energy statistics, such as climate change and sustainable energy policies. Throughout the meeting, data collection challenges formed a recurrent topic that received widespread attention.

Energy access

The electrification levels of various regions were

presented, to compare the performance of the Arab region. The data related to energy access over the tracking period 1990–2014 was discussed in terms of access to electricity and clean cooking fuel and technology.

A main issue was the lack of energy access in rural areas, compared with the urban share. The data presented identified a significant rural-urban division in countries facing electrification access. Therefore, the area where persons live in the least developed countries (LDCs) determines whether they have access to electricity. An example is Mauritania's challenge to connect a small population living in a vast land to the main grid – a key element targeted by the country's 2030 strategy goals.

It was noted that the definition of indicators still needs improvement or clarification, since 'having access to electricity' has different meanings depending on location. It is therefore recommended to identify the fundamentals of energy access calculations. The electrification rate (number of hours of electricity supply per day) is a key factor in energy access calculation.

Participants highlighted the need to increase collaboration between international organizations and local authorities by exchanging data, and stimulate bilateral and multilateral debates and methodologies rather than relying on modelling and estimates.

Energy efficiency

The session was opened with an overview of energy efficiency and energy intensity indicators, portraying the situation in the Arab region and comparing it to global rates, showing little improvement in energy efficiency rates in the region.

Participants agreed that a disaggregation of energy intensity by sector was very important, and led to more accurate analysis and estimation of sectoral energy consumption. The energy intensity decomposition analysis actually identified a shift to the service sector in some countries.

In the discussion, participants questioned the use of total energy intensity as a proxy for energy efficiency. Many argued that it could only relate a small part of the energy efficiency story in a country. The total GDP and total primary energy supply parts of the total energy intensity equation depend on many factors not related to energy efficiency, such as changes in international oil prices, prices for other goods and raw materials and changes in climatic conditions affecting energy consumption (heating, cooling, etc.).

The experiences of various countries emphasized the importance of adopting energy efficiency programmes and policies, standardizing the energy efficiency calculation, setting ambitious targets, enacting energy efficiency legislation, focusing efforts on all sectors, and giving a bigger role to energy service companies. Energy efficiency is also related to pricing, demand management, regulations and awareness. Egypt, Iraq, Jordan, Palestine and Tunisia undertake regular industry surveys.

It was underlined that energy efficiency is not an instantaneous or short-term effect; it should be tracked over at least a five-year period to accurately measure the impact of energy efficiency programmes and policies.

Renewable energy

The session opened with an assessment of renewable energy in the Arab region. A global comparison shows that the Arab region has the lowest share of renewable energy globally, despite abundant solar and wind resources, and the availability of financial resources. Biomass is the dominant renewable energy source in the Arab region.

Participants considered the increase in demand for energy in the Arab region, causing a downward trend in renewable energy consumption as a share of total energy consumption, although renewable energy capacity was increasing in nominal terms (supported by increased affordability and reliability).

Participants shared some of the challenges related to deploying renewable energy in their respective countries. A lack of legislation and political will, financing issues and upfront capital costs, bureaucracy, lengthy procedures, grid capacity limitations and weak infrastructure were key issues weakening the renewable energy trend. The ensuing discussion highlighted counties' concerns. Representatives of energy and statistics agencies were requested to share their statistics for comparison and discussion. Gaps and discrepancies were often caused by estimations and projection models, owing to a lack of accurate data.

Climate change

The meeting also discussed the compilation of statistics and indicators in the Arab region, addressing the emissions, adaptation, mitigation, drivers and impact of climate change. An indicator set proposal was discussed and linked to the SDGs, especially SDG13.

The discussion focused on encouraging national efforts to develop climate change statistics and cooperation amongst national statistics offices in the region. Energy and non-energy related indicators were deemed practical and standardized, but required careful modification to not crowd the statistical system.

Experiences in advancing climate change mitigation were shared by Arab oil-producing countries, highlighting the importance of fossil fuels for their economy and sustainability. Fossil fuel-dependent nations considered the help needed to identify climate change indicators, and develop local expertise to measure climate change effects on countries and the region.

Participants discussed ways to standardize climate change indicators, since they currently differ between countries, and tackled the importance of climate change spending, which should be divided equally on mitigation and adaptation, especially since the rise of the Mediterranean Sea level would lead to the disappearance of many Mediterranean cities.

The way forward

Throughout the meeting, country examples illustrated different approaches and obstacles in the region. These served as good examples to highlight areas that need further attention, in terms of more explicit international guidance or technical assistance at the national level.

The meeting encouraged participants from the energy and statistics fields to cooperate to enhance data precision, and identify discrepancies in data availability and collection in their respective countries. This would assist ESCWA and international organizations in developing access indicators, reflecting the quality of energy access and energy efficiency levels. Participants acknowledged that international organizations were always ready to assist, especially since success at the local level would lead to mutually beneficial achievements.

Documents presented and discussed at the meeting are available at *https://www.unescwa.org/events/tracking-progress-energy-sdgs-arab-region*.

Editorial Notes

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

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