Utopia MUN '15

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ESCWA

Background Guide

Economic and Social Commission for Western Asia

Agenda A : Social and Economic Implications of Refugees and IDP Crisis in the Western Asian Region.

Agenda B : Conventional Sources of Energy: Trade & Meeting Energy Demands.

ECONOMIC AND SOCIAL COMMISSION FOR WESTERN ASIA

AGENDA II: MEETING ENERGY DEMANDS

Energy issues are at the top of global and local agendas BECAUSE, the energy sector is critical to the growth of economies especially in the ESCWA region where it contributes effectively, up to 60 percent to the “GDP” of many of its countries. The world depends largely on the oil and gas supply provided by this region. In 2010, the ESCWA region represented about 45 percent of the world total oil resources, 26 percent of the world total oil production, six percent of world total oil consumption.

It also represented 26 percent of the world natural gas resources, 12 percent of the world total of natural gas production, and four percent of total gas consumption. The average energy consumption per capita was about two tonnes of oil equivalent in 2010 which is comparable to world average but it varied highly among countries from a maximum of 16.7 tonnes of oil equivalent in Qatar to a minimum of 0.3 in Yemen.

Energy production, policy, consumption and trade shapes modern-day development in the Middle East, more so than almost any other region in the world. The wave of oil industry-nationalization that swept across the region in the 1970s marked a seminal point in the area's history, ushering in unprecedented wealth and challenges. This was closely followed by the discovery of natural gas deposits and their similar exploitation. This situation has led to the emergence of the Middle East, the area of focus for the Economic and Social Commission for Western Asia (ESCWA), as the world’s foremost supplier of energy.

Latest data estimates that the Middle East has more than 43% of the world’s proven oil reserves and nearly a quarter of the natural gas wealth. Energy production becomes crucial when placed within the context of both global and regional growing energy demand. For the past 30 years, energy consumption growth rates in the ESCWA region had been one of the highest in the world, until 2005, when consumption outpaced all other regions.

Energy consumption growth is faster than population or Gross Domestic Product (GDP) growth. The region’s population is only 4% of the globe’s, but accounts for 6.4% of residential energy consumption. The Middle East is projected to become a major energy market by 2025; the region’s domestic oil demand is projected to increase significantly, due to urbanization, subsidization, and weak energy regulation mechanisms.

Recent Developments

Implementing Renewable Energy Masdar City in Abu Dhabi is the location of a regular sustainable development summit; the location was chosen because in 2009 it was the site for the first large-scale solar project in the ESCWA region. Yet, with the prices of natural gas low and the prices of solar panels high, several governments and private sectors have not in the past seen solar power as an affordable investment, and therefore since 2009, there have not been many more large-scale solar projects.

As a result, countries such as Egypt, Jordan, and the United Arab Emirates relied on low-cost natural gas resources to fuel their domestic electricity grids. However, in recent years, the cost of solar panels and construction materials for solar plants has decreased considerably, and the cost of using natural gas for electricity has increased. As a result, the Egyptian government has announced its plans for a 2,000 megawatts (MW) large scale solar photovoltaic (PV) power plant and 300MW rooftop solar power projects. This movement towards solar power was made possible by the 176 companies helping fund the solar project with the Feed-in-Tariff program, which is a system in which citizens are paid for switching to solar energy. The governments of Jordan, Morocco, and Qatar are expected to make similar announcements later in 2015.

Growth in solar power industry is important because it provides another source of energy for the region, especially for non-oil or non-natural gas rich countries. Solar energy will also bring in more business and more jobs, which will contribute to socio-economic growth and alleviate energy needs and economic struggles with the oil market price and quantity fluctuations in the ESCWA region.

Global Energy Prices and Impact on Economies

Oil prices on the international market have fallen dramatically in the past seven months, from $110 per barrel of crude oil in mid-2014 to below $50 per barrel of crude oil. Prices have fallen because of increase in oil shale production for the United States, the low demand of oil due to minimal global economic growth, and OPEC's unwillingness to cut production. In the short-term, OPEC cutting oil production would not significantly increase the price in oil and it may not harm the economies of big oil producing countries, such as Saudi Arabia, because of the built-up financial revenues to withstand the drop in oil prices.

However, other oil producing countries in the ESCWA region, such as Iraq, do not have the financial fortitude to withstand a large decrease in prices. In the long-term, oil-importing countries will be hurt due to low energy costs causing inflation in the least developed regions and in regions directly affected by the Syrian war. Additionally, oil accounts for 65% of electricity production in Saudi Arabia, 71% in Kuwait, 94% in Lebanon, and 100% in Yemen, which means that as the cost of oil goes up, so does the cost of electricity. Regional and domestic long-term oil-driven policies and oil-dependent infrastructure are unsupportable, and will have a drastic negative impact domestically and regionally unless steps are taken to find other sources of energy that can meet the overall growing demands.

International and Regional Framework

The World Summit on Sustainable Development, held in Johannesburg, South Africa, in 2002, resulted in an outcome which, building on past key policy frameworks on this issue, affirmed that the three pillars of sustainable development are economic development, social development, and environmental protection. It recognized that improving access to reliable, affordable, environmentally friendly energy services is crucial for eradicating poverty. The plan recommended doing so through the following: rural electrification, decentralized energy systems, more use of RE and improved energy efficiency, and cleaner fossil fuel mixes.220 Innovative financing mechanisms, technological and technical assistance, via international and regional cooperation are required for the above.

In 2003 Arab Ministers gathered at a regional energy conference where they attempted to create a unified stance on the issues, and address their right to sustainably benefit from their natural resources.231 They adopted the *Abu Dhabi Declaration*, which called upon industrialized, energy-consuming nations to refrain from policies harmful to Arab countries; such as discriminatory policies against oil, gas, and their products. It also emphasized the need to lay plans to mitigate the effects of climate change. The ministers recommended changing production and consumption patterns, catalyzing scientific research and encouraging the use of clean energy to achieve these goals. Finally, the declaration called for additional investment and greater integration in the Arab energy sector as a whole.

The Arab Economic Summit, held in 2009, released an outcome document titled the *Kuwait Declaration*. It highlighted the challenges facing the Arab region, among which were climate change, energy, and non-optimal use of resources. It affirmed the importance of supporting infrastructure projects, such as electricity link and gas networks, in addition to creating an Arab electricity market.238 It emphasized that this was only possible through increased regional cooperation, and also called for additional investment and ownership by the private sector.

Role of the International System

ECOSOC

Economic and Social Council (ECOSOC) resolution 2005/50 of 27 July 2005 mandated that ESCWA must support its members in their realization of the Millennium Development Goals (MDGs). Reflecting this mandate, ESCWA's Proposed Strategic Framework for 2014-2015 focuses on Member States' capacity-building across a wide range of development issues, including sustainable management of natural resources and promotion of regional cooperation on natural resources.

ESCWA focuses specifically on energy policy in the region in a subcommittee established in 1995. Its establishment reflects the significance of developing sources of renewable energy (RE), the multifaceted and interdisciplinary nature of energy, the importance of involvement by ESCWA's Member States in the Secretariat's deliberations on energy, and finally the trend among sister regional commissions (RCs) to have a specialized committee on energy. The energy subcommittee is comprised of representatives of ESCWA Member States and is tasked with monitoring developments in the field generally, and advancing concrete progress in implementing key policy frameworks.

OPEC

The Organization of Petroleum Exporting Countries (OPEC) has plays a crucial role in the ESCWA region. OPEC was founded in 1960 by Iran, Iraq, Kuwait, Saudi Arabia and Venezuela. Its current roster of members has been expanded to include Qatar, Libya, the United Arab Emirates (UAE), Algeria, Nigeria, Ecuador, and Angola. In 1968, it issued a "Declaratory Statement of Petroleum Policy in Member Countries" – emphasizing all countries' inalienable right to exercise permanent sovereignty, over their different natural resources, in the interest of their national development. OPEC's mission is to align petroleum policies among its member countries – securing equitable and stable prices for producing countries and economical and reliable prices for consumer countries.

The organization has a group production ceiling divided among its members, and a Reference Basket for a weighted average price for its Member's petroleum blends. Recently, OPEC's second and third heads of state summits, in 2000 and 2007 established and then affirmed three main guiding themes; stable energy markets, sustainable development and the environment.

OAPEC

The Organization of Arab Petroleum Exporting Countries (OAPEC) is a regional intergovernmental organization founded by Kuwait, Saudi Arabia, and Libya. Its founding mission is to promote an integrated Arab petroleum industry, as a springboard for future economic integration – and as such, it sponsors joint ventures between Member States. These joint ventures include the Arab Petroleum Investments Corporation (APICORP), with an authorized capital of $1.2 billion, which is responsible for large-scale financing of petroleum projects. Another example is the Arab Maritime Petroleum Transport Company (AMPTC), which covers the marine transport of hydrocarbons. All OAPEC members are shareholders in such businesses.

Renewable Energy

The Arab region enjoys tremendous renewable energy resources with 8967 MW of installed hydro-electric capacity and solar resources varying between 1700 and 2800 kWh/m2 /year. Wind resources are available in several Arab countries mainly at the Gulf of Suez in Egypt at average speed of (8-11) m/sec, Jordan (5-7 m/sec), and in sufficient speeds in Syria, Morocco and Mauritania. In addition, large potentials of oil shale are proven in Jordan, Syria, Morocco and Palestine.

Biomass contribution as an energy resource is limited to around 5%. Apart from solar water heaters applications in the domestic sector limited progress has been achieved in promoting the use of renewable energy technologies in the Arab countries. However, some countries, have achieved reasonable success and built capacities in the field such as Egypt (145MW), Tunis (160 MW), Morocco (100 MW), and Jordan.

In addition, Egypt and Morocco have taken serious steps for building, combined cycle solar thermal power plants, (of about 150 MW each). However, to promote renewable energy applications, there is a need to raise awareness on the application potentials of its different technologies and to include it as an integral part of the national energy planning.

Adopted Measures

1. Increasing the installed generation capacity of hydropower (Egypt, Jordan, Lebanon, Syria)
2. New wind farms installed, and wind atlases being developed or updated (Egypt, Jordan, Morocco, Saudi Arabia, Syria, Tunisia, UAE).

3. Solar power deployment in desalination plants (Saudi Arabia).
4. Research and development and pilot projects (Jordan, Saudi Arabia, Syria).
5. Further consolidation and continuation of the Renewable Energy Promotion Mechanism (REPM) initiated in 1999 in the ESCWA region.
6. Solar water heating projects (Egypt, Jordan, Lebanon, Morocco, Palestine, Saudi Arabia, Tunisia, Yemen).
7. Solar thermal power plants (31MW in Egypt).
8. PV cells deployment, mainly in rural areas (Egypt, Jordan, Oman, Morocco, Saudi Arabia, Sudan, Syria).
9. Limited biomass applications (Egypt, Jordan, Lebanon, Palestine, Syria, Yemen).

The renewable energy applications in the region in 2001 were saving about 1.0 million toe/year of fossil fuels (20,000 barrel/day). In Egypt alone, the saving is estimated to reach 490000 toe/year in 2007, and 2.4 million toe/year in 2017.

Energy and the Arab Initiative for Sustainable Development

The Arab Initiative for Sustainable Development was a key outcome of the preparatory process for WSSD in the region, which was developed by regional experts through coordination by CAMRE, ESCWA and UNEP. The initiative aims at addressing the challenges faced by Arab countries in achieving sustainable development.

The initiative emphasizes the importance of the transfer and adaptation of appropriate technologies in the region and the development of capacities to meet the challenges faced. It supports the promotion of mechanisms for cleaner and safer production and technologies for the cleaner and more efficient utilization of oil and natural gas, as well as the development of carbon sinks through reforestation.
Other energy-related issues emphasized in the Initiative include:

- Support the efforts of Arab countries to cope with the deterioration of the quality of the air in many Arab cities, including urban planning strategies, the specification of land use areas, programs of control of air emissions and the establishment of regional and sub regional systems and networks for sustainable transport.
- Support the efforts of Arab countries to achieve sound management of chemicals, with special emphasis on hazardous chemicals and waste
- Support Arab capabilities to implement the Multilateral Environmental Agreements and their mechanisms, including technical and financial assistance from the international community.
- Call upon industrial countries to implement their obligations under international environmental agreements through the abolition of all forms of subsidies to the energy sector in their countries, particularly those directed to nuclear energy and coal and the tax bias against petroleum products.
- Promote the concept of sustainable production and consumption in the Arab region and encouraging the use of products that contribute to the protection of the natural resources.

The Abu Dhabi Declaration on Environment and Energy 2001

The Abu Dhabi Declaration on Environment and Energy "2001" issued by CAMRE recognised the rapid development of the Arab region in terms of human health, education, socio-economic standards and the environment. It also recognised the importance of ensuring that this development is sustained through a number of measures such as achieving optimum linkage between development imperatives, eradicating poverty and protecting the environment.

It emphasised the importance of the rational use of resources and the adoption of Cleaner Production strategies. The Declaration called on the Arab countries to become active partners in the efforts to develop advanced technologies related to improving the state of the environment. This includes use of natural resources, use of renewable resources and reduction in pollution during production, use and disposal.

Current Energy Production and Consumption in the ESCWA Region

Natural resource wealth is primarily concentrated in only seven of the 17 ESCWA members: Algeria, Iraq, Kuwait, Libya, Qatar and Saudi Arabia. The energy trade has evolved in recent years, including a shift for five countries from being exporting to importing hydrocarbons. However, natural gas is shared among more countries than oil, lessening its geostrategic significance. The Arab world produces 32% of the world's oil, and less than a sixth of the world's natural gas; the latter considered quite below its output potential. Rapid growth in domestic demand also accounts for low export-production ratios.

Motorized road transport, particularly by private cards, accounts for 51% of total oil consumption in the region. This is driven by low energy tariffs and lack of effective public transportation. Coupled by high traffic congestion and a predominantly aging vehicle fleet, this leads to the aforementioned high fuel consumption and low efficiency, and excess pollution problems; only 12% of useful energy is transmitted to a vehicle's wheels, and more than 70% of cars in the region are 15 years or older. Another key domestic demand-driven industry is the refining of petroleum.

Refining capacity in the Arab world stood at 7.83 million barrels/day (b/d), which is 8.5% of global refining efforts. This has also provided feedstock for the energy-intensive petrochemical industry, which is seen by Arab governments as a way to diversify investment and add to the value chain. Petrochemicals production takes advantage of natural gas that could have been otherwise wasted. Finally, an altogether more essential energy-intensive sector is the production, distribution and consumption of water resources. The ESCWA region is home to the world's largest desalination capacity.

Barriers to energy systems

- Conventional Supply Infrastructure:

  The total global value of energy supply infrastructure– from power plants and transmission networks to steel plants and buildings – is very long-lived (multiple decades). Changing the way energy is supplied and used affects the value of existing infrastructure and may lead to "stranded" assets, with implications for both the energy sector, and those invested in it. Thus, there can be great political resistance to actions that affect energy-sector assets.

- State Ownership:

Governments also have a direct stake in how energy systems work. Many states own substantial stakes in energy companies, and governments derive substantial revenues from energy activities, through taxes and fees. Large numbers of jobs may be on the line.

- Slow Legislation Process:

Changing energy supplies requires changing laws and regulations, which can be slow and politically fraught. Energy is a heavily regulated sector, not only in terms of energy network monopolies, but also price controls, licenses for new energy activities, standards for energy-using devices, and parameters for how different types of energy supplies are used for power and other purposes.

- Subsidies:

Another major obstacle to change, already mentioned, is artificially low energy pricing. Prices around the world are set through highly political processes, and often include direct subsidies, lower rates of taxation, or price controls to keep energy affordable. The influence of low prices goes deep: often they have realigned economic priorities, favouring energy-intensive sectors when their overall costs would not justify it; they have rewarded energy inefficiency and waste; and they have even reshaped the physical landscape, encouraging sprawling cities. They have also depressed energy investment in many countries, magnifying energy access and supply problems.

Note: Delegates please note that it is important to be thorough with your respective country profiles in the matter of trading of energy both conventional and renewable. Prior knowledge of energy systems and different forms of usable energy would be suggested as well as appreciable!

Happy Researching!

UN ESCWA