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## ROAD MAP FOR PROMOTING PARTICIPATION IN DEVELOPING SUSTAINABLE ENERGY POLICIES IN THE ARAB COUNTRIES

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# **A Road Map for Promoting Participation in Developing Sustainable Energy Policies in the Arab Countries**

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## **I. ABSTRACT**

Energy is a critical element for the fulfillment of all human needs and it has an important role in supporting the social, economic and environmental aspects of sustainable development (SD). In recognition of such importance, energy was identified by the World Summit on Sustainable Development "WSSD" as one of the top five key thematic areas of Water, Energy, Health, Agriculture and Biodiversity "WEHAB" that are crucial for SD and require actions for achieving it. Moreover energy services are crucial for achieving actions required for the other four WEHAB areas.

Countries as well as the international community are required to direct sustained efforts to meet the issues/challenges for making the energy production, distribution and use patterns compatible with the requirements of SD, as identified by WSSD and the Millennium Declaration goals "MDG". The core key issues in this respect are: increasing access to energy services, improving energy efficiency, promoting the use of renewable energy resources and the cleaner fossil fuel technologies. The achievement of such objectives will require reorientation of the current energy policies to support changes in the way energy is produced, distributed and consumed as well as promoting public participation in the energy decision making process and encouraging multi-stakeholder approach at the local, national, regional and international levels. Within this context, this paper presents:

1. A brief overview of the energy policies required for achieving energy sector sustainability in the Arab countries
2. The need to encourage participation of multi-stakeholders in developing and implementing sustainable energy policies, the critical elements for building and implementing it and the shortcomings that face the current practice.
3. Overview of the types of partnerships and ways for realizing effective participation in developing energy policies at national, regional and global levels.
4. A set of proposed actions for developing partnerships and promoting participation in formulating and implementing sustainable energy policies. Three proposed initiatives for partnerships on sustainable energy systems are given for the consideration of concerned organizations in the Arab countries.

## **I. Policies for achieving energy sector sustainability**

### **I.1- Background and progress achieved**

The Arab energy sector plays a vital role in achieving social and economic development through satisfying the energy needs of the different economic sector in addition to the effective contribution of the Oil and Gas sector to the GDP of the Arab countries. However, the sector is still suffering from unsustainable energy production and consumption patterns, particularly in the end use sectors. It also generates adverse environmental impacts that affect its contribution to the achievement of sustainable development.

During the last decade Arab countries in general, and ESCWA members in particular, have devoted concerted efforts to improve their energy sector sustainability. Such efforts covered most of the key energy issues identified by Agenda 21 and re-endorsed by the WSSD/WEHAB initiative and framework for action on energy. Reasonable progress was achieved, however, the Arab energy sector still has several unsustainable features that requires urgent actions to adopt sustainable energy policies and measures that can support the sector's contribution in achieving sustainable economic and social development. An assessment of the progress achieved and the main features of the current situation are summarized below in reference with the key energy issues endorsed by WSSD:

1- Access to energy and modern energy services – since 1992, energy services in most of the Arab countries have been increasingly extended to new groups of consumers. However, a high percentage of the rural and remote population as well as some of the urban poor still lack access to sufficient energy resources and services.

2- Energy Efficiency – several Arab countries have adopted policies and programs for encouraging energy conservation and efficiency in various economic sectors, particularly the residential, industrial, transport and electric power sectors. This has resulted in:

(1) Slight reduction in the growth rates of primary energy consumption to reach about 4.4 percent in year 2000 compared to 2.0 percent of world average;

(2) Energy intensities were reduced and to about 505 kg.o.e/US\$ in 2001 compared to 320 kg.o.e/US\$ world average;

(3) The efficiency of electric power plants was improved leading to reduction in the specific fuel consumption from about 340gm/kwh in 1992 to around (200-230) gm/kwh in year 2001.

3- Renewable Energy – 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, Morocco, Tunis and Jordan. For example, large scale wind farms are currently in operation (85.0 Mw in Egypt and over 100 Mw in Morocco). As well, the two countries 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.

4- Advanced Fossil-Fuel technologies – the last decade witnessed an increase in the share of natural gas in the energy mix of ESCWA Member States, which reached up to 42 percent of the total energy consumption in the region in 2001. Moreover, the installed capacity of the combined-cycle electricity generation plants using natural gas has increased to reach, about 7800 Mw in 2001 and advances have been realized in the use of liquefied fuels and unleaded gasoline

5- Energy and Transport – ESCWA Member States have developed national greenhouse gases inventories for different sectors, including the transport sector. The use of unleaded gasoline has increased in the region. In Egypt, a national policy was developed with a pilot program for supporting the switch to natural gas vehicles in Cairo; More than 30,000 of such vehicles are already in use. Pilot projects to use fuel cells for buses are also under consideration in some parts of the region.

6- Regional cooperation on Energy issues – the 1990s witnessed noticeable progress in regional cooperation in the energy sector. This is manifest by the realization of a regional electricity grid interconnection between some northern ESCWA countries. Countries in the Gulf sub-region are also considering a project to connect their electricity grids. In addition, natural gas networking projects between ESCWA Member States are being studied, with feasibility studies including the preparation of environmental impact assessments.

In addition the activities and projects that lead to the above-described achievements have also resulted on several other achievements on Institutional and capacity-building as well as raising awareness in the field. These include but not limited to: a) Building specialized national bodies of expertise in the sustainable energy area; b) Developing a database of information on potentials and performance of the field experiences gained; and c) Raising public awareness on the importance of appropriate energy consumption and production for sustainable development.

## **1.2- The Challenges for achieving energy sector sustainability**

For energy to be a means to support sustainable development, it is preferable to concentrate on delivering energy services that can meet the needs of the people, using a variety of technologies and fuels tailored to local conditions, rather than simply working towards increasing energy supplies. However, shifting the existing supply model to a focus on energy services will require fundamental readjustments of energy sectors policies to support the changes required in the way energy is produced, distributed and consumed, to make it more sustainable. This policy reform must take place not only within the energy sector, but also in other sectors, particularly the major energy consuming sectors. It should also take into account the concerns of the financial institutions, technology developers and the private sector that service the sectors objectives and programmes.

Several challenges are facing the Arab energy sector in realizing the required shift to energy services and should be considered while formulating a sustainable energy policies, particularly due to:

- 1- Lack of integrated energy planning: energy planning process and objectives are not sufficiently integrated with the national energy policies and plans, particularly regarding ways to achieve its sustainability. The sector and the institutional objectives are not specifically or appropriately directed towards sustainable energy.
- 2- Lack of economic management of the energy sector: The Arab energy sector is mostly publicly owned. This has lead to economic losses, decrease in revenues and limited the development opportunities.
- 3- Limited investments are made available for making sustainable energy systems affordable to end-users, while significant investments are needed to meet increasing energy demand.
- 4- The need for increased energy accessibility and security of supplies, with particular emphasis on rural and remote areas, where energy accessibility is a pre-requisite for social and economic development.
- 5- The need for a transition to more sustainable production and use of energy to reduce the rapidly increasing demand on natural resources, as well as improving energy use efficiency with the goal of minimizing resources depletion and reducing pollution.
- 6- The limited level of awareness on existing possible and feasible options for sustainable energy systems,
- 7- The limited existing industrial capabilities and extension services for serving and promoting programmes on renewable energy and energy efficiency.
- 8- The need for strengthening links and promoting regional and international cooperation: The regional cooperation on sustainable energy is currently very limited, however, it is due to the diversification of the existing available national expertise and resources in member countries that regional coordination and cooperation can contribute effectively for integrating efforts towards achieving the goals of sustainable development

### **I.3- The required policy framework**

In view of the above, there is a need in the Arab countries to develop a policy framework for the energy sector that takes into account the challenges facing the sector and respond to the key energy issues endorsed through the WSSD processes. The priority areas for developing such policy framework would include policies to support:

1. Increasing the energy sector economic efficiency and revenue generation opportunities through technologies that improve process efficiency including when undertaking public sector investments in buildings and equipment;
2. Expanding energy accessibility to all citizens, based on both centralized and decentralized energy systems as appropriate to specific communities;

3. Promoting energy efficiency projects in all production and end-use sector and developing standards on both the demand and supply side;
4. Expanding the use of cleaner technologies and fuels especially regarding electricity generation, distribution and consumption as well as for the transport sector;
5. Introducing and applying renewable energy technologies, as appropriate with the resources availability and the energy sector situation in each country;
6. Enhancing the development and application of environmentally sound technologies and measures as well as policies needed for the enforcement of environmental requirement and legislation and ensuring their compliances;
7. Enhancing regional cooperation, integrating markets, and expanding cross border energy trade and facilitate investment, particularly through electric grid interconnections and natural gas networking;
8. Promoting capacity-building at the local and national levels on relevant issues to sustainable energy system, particularly to support job creation and poverty alleviation;
9. Expanding information exchange on technology options, their costs and availability for application as well as financial resources and technology transfer modalities.

## **II. Enhancing participation in formulating and implementing sustainable energy policies**

### **II.1- The Rational**

Achieving a sustainable development requires energy producers and consumers to consider a variety of measures for enhancing the contribution and reducing the impact of the energy sector on sustainable development. It is the responsibility of national and local government and public institutions to set priorities within national and regional strategies on the need for increased energy services and programmes.

However, in view of the challenges described earlier and the requirement for the sustainable energy policy framework described earlier, it can be clearly recognized that the sustainable energy policy, formulation, implementation and monitoring, will need leadership collaboration, and coordination that strengthen commitments and participation at all levels, including partnerships, both among governments as well as between governments, major groups, different stakeholders, including NGO's, bilateral and multi-lateral donors, and international financial institutions. Participation generates shared values, mutually reinforced commitments, joint ownership and partnership, which are crucial for achieving sustainable development. However ensuring effective participation would require:

1. The empowerment of women, indigenous people and other vulnerable groups to take part in policy dialogues, and in decision-making is essential in this regard; as well as appropriate partnership arrangement between public and private sectors to facilitate investment opportunities;

2. To develop appropriate partnership arrangement between public and private sectors to facilitate investment, as well as technology transfer opportunities, since the investment required for increasing the provision of energy services are immense and need to be undertaken by both sectors;

3. Creating an enabling environment for investments to take place in the most appropriate energy paths for each country in support for sustainable development require action now, as well as capacity development in credit institutions to refine assessment of the real risk of energy investment projects;

4. Consumer groups particularly women can plan an important role in promoting sustainable consumption, and powerful associate in promoting compliance with issued energy related environmental requirement;

5. Governance mechanisms are needed to support policy framework, market mechanisms and energy goals setting linked to national development frameworks. The role of the public sector is essential in all these regards and is a pre-requisite to attract private sector financing for energy;

6. Developing regional cooperation in support to capacity building and the need to restructure markets in order to promote, support and accommodate transitions to sustainable energy path;

7. Establishing mechanisms at different levels to document information on successful models; Partnerships at the global and regional levels can be effective means to support and enhance implementation of national and local initiatives.

## **II.2- The current practices**

Almost in all Arab countries energy policies and planning are formulated and implemented by the government concerned ministers and organizations, with limited participation of the other concerned sectors and/or stakeholders particularly the private and local communities. However some Arab countries have practiced one or more way for facilitating other sectors and public participation to the development of the energy sector's policies and plans and implementation, mainly through:

a) Some Arab countries have established participatory institutional forums, such as: national councils for coordination on energy planning issues, this trend has supported consensus building in the formulation of national energy strategies and plans.

b) In many Arab countries, including Egypt, Morocco, Oman, the energy sector, particularly the electric power, has undergone reforms resulting in public-private partnerships that bring urgently needed capital, allowing expansion of services to previously unnerved people.

c) On regional level, The Arab Council for Ministers of Electricity and Energy is also coordinating efforts and plans among the Arab countries concerning the development of the electric power sector.

It is to be noted that, in the Arab countries, although the civil society is growing more alert and has served to better respond to local needs, the level of public participation on energy issues is limited to very few NGO's with environmental interests and concerns.



### III- Types of partnership for participation on Energy Issues

Institutional and legal arrangements at national, regional and international levels provide the overall structure for achieving sustainable development. A goal of Agenda 21 is greater cooperation and policy integration among international and national institutions, in order to rationalize the legal regimes at various levels and to ensure better, more participatory and more informed decision-making.

#### III.1- Level and types of partnerships

1- Partnerships at the national and local levels can be effective means to support actions and initiatives to expand energy services. To be effective, partnerships must involve the beneficiaries at all stages of dialogue, design and delivery and include intersectoral coordination.

- a) at local level, is the most successful umbrella for participation, the strength of it is that it has been their multi-stakeholder approach to local decision-making, identification of priorities, finding solutions and implementation.
- b) at national level,: national councils of sustainable development have been established in many countries. These councils are often multi-stakeholder consultative or advisory bodies that promote participatory problem solving, consensus building and implementation. Their impact is not easily measured since their role is largely advisory rather than directly decision-making. In countries where such councils exist, more action on sustainable development has been seen.

2- Partnerships among major groups have become more common since UNCED, including productive relationships between NGOs and business at the world scale. Such partnerships now involve dozens of multi-national companies and NGOs, however there is non-active partnership of such type for sustainable energy in the Arab countries.

3- An open, participatory and transparent inter-governmental process followed by CSD-9. Among other things, it initiated the multi-stakeholder dialogues. The dialogues have shown that consultation between governments and a broad range of stakeholder groups on sustainable development issues are not only feasible but also highly useful and productive.

4- Public/private partnerships, to activate the participation of the private sector in the implementation of sustainable development objectives through its investment and technology transfer.

5- Regional and interregional partnership: There is also a role for inter-regional cooperation, assistance provided United Nations organizations, and services provided by international financing agencies. Through co-operation and partnerships, efforts should be made to support:

- a) Innovative financing schemes- to increase access to loans and grants and to encourage private sector investment in energy projects, as well as proposing appropriate incentives and flexible loans arrangements;
- b) Capacity building and technology transfer- international organizations and donor agencies are called upon to (i) develop capacity building and technology transfer programs, especially in the fields of renewable energy and energy efficiency; (ii) support and encourage research and development in collaboration with industrialized nations; (iii) provide support to developing countries to enable them to comply with relevant international treaties and protocols; (iv) increase the quality and quantity of financing offers; and (v) introduce policies to engage the private sector on common or complementary energy initiatives;
- c) Regional and international cooperation- more attention should be focused on promoting regional integration among Arab countries, particularly on issues related to sustainable development.

### **III.2- Experiences and shortcoming**

Several countries worldwide have practiced different types of partnerships on sustainable energy issues and participatory mechanisms in the decision making and implementation of energy programmes. The practice has resulted in the following main experiences and/ or lessons that can be useful for countries coming into the processes.

- 1- Partnerships seem to work best when they are based on a common and specific goal, shared risks and benefits, sound information, mutual accountability, transparency in the eyes of the public, and respect between partners for each other's differences.
- 2- In many countries, the infrastructure including the energy sector has undergone reforms resulting in public-private partnerships that bring urgently needed capital, allowing expansion of services to previously unserved people.
- 3- The establishment in some countries of participatory institutional structures or forums, such as national councils of energy or inter-ministerial commissions, has had a positive impact on consensus building in the formulation of national sustainable development strategies.
- 4- Owing to the increased consumer awareness and concern for sustainable development consumer organizations and other NGOs have played an important role in increasing consumer awareness of the impacts of consumption choices. A particular example is the campaign on the transport mode and fuel.
- 5- A strengthened sense of ownership of the decisions taken among participating stakeholders would help in implementing many decisions to sustainable energy systems.
- 6- While there were successes achieved, there are several shortcomings including:

- (a) Stakeholder participation is rarely allowed in actual decision-making and is often based on temporary and ad-hoc rather than permanent and reliable mechanisms and procedures;
- (b) The participation of women at all levels is still relatively low;
- (c) Participation at the international level is not adequately geographically balanced and not adequately financed.
- (d) At the national level, few countries provide incentives to non-governmental actors to participate, limiting their contributions to the national process.

### **III.3- The role of regional Commissions in promoting partnerships for sustainable development**

Actions taken at the regional or subregional levels provide a bridge between national realities and global priorities, while also addressing common areas of concern and shared interests associated with geographic proximity, relative homogeneity and shared history. The regional commissions and other regional institutions have strategic advantages in performing a number of functions, including:

1. Promoting regional partnerships and regional cooperation through interdisciplinary and cross-sectoral partnerships.
2. Providing forums for intersectoral and multi-stakeholder dialogues at the regional level, particularly in preparation for global negotiations and conventions.
3. Acting as think tanks and undertaking analyses of transboundary problems related to environment and sustainable development.
4. Supporting capacity-building efforts and information exchange at the regional level;
5. Monitoring and assessing progress made, including the follow-up to Summit outcomes.

### **IV- Developing participation on sustainable energy policies**

As described earlier in this paper achieving energy sector sustainability in the Arab countries is facing several challenges as well as very limited partnerships are existing, particularly for activating participation on formulation of energy policies. On the other hand, the WSSD outcome has emphasized the need for enhancing partnership and participation and generated concrete partnership initiatives between governments, citizen groups and business. These partnerships are bringing with additional resources and expertise to attain significant results where they matter – in communities – across the globe. In addition to specific government announcement over 32 partnership submissions received by UN with a cost of \$ 26 million in resources, annex 1 shows examples of different type of partnerships on energy initiatives that have been announced during the WSSD.

The WSSD also established a clear mandate to expand collaboration on energy for sustainable development through the initiation of a Global Forum on Energy for Sustainable Development. The forum should build on existing programmes and institutions and seek to improve collaboration and coordination among stakeholders at the global and regional levels.

In view of all the above and the need for a gradual process to move from the current situation in the Arab countries to more participatory approach in developing and implementing sustainable energy policies, the following actions and initiatives are proposed for consideration by the energy national and regional bodies, as well as private sector and NGO's.

#### **IV.1- Proposed actions**

- Enhancing participation of different stockholders in the formulation and implementation of sustainable energy policies, which should be integrated in the planning of socio-economic programmes, especially in policy-making of major energy consuming sectors, namely building, transport and industrial sectors.
- Strengthening participation at all levels in the activities of the existing national institutions and regional cooperation mechanisms, that develop, implement and operate programmes on energy for sustainable development, raise awareness, facilitate information dissemination and capacity building for promoting sustainable energy systems;
- Promote private sector partnership in financing arrangements aiming at reducing up-front cost of equipment and promote internalisation of externalities, with particular attention to the needs of rural and poor areas;
- To expand access to energy services and to introduce new technologies to support the generation, distribution and utilization of energy, new means of financing are required, especially mechanisms involving public private partnerships. Some priorities include:
- Recognition that increasing access to energy services will require major increases in financing, including investment in electricity generation and distribution;
- Available international financing mechanism, such as the Official Development Assistance (ODA) should be used to support the governance, institutional and market conditions required to attract private sector investment in expanded electricity and distribution, and energy services delivery in developing countries,
- Establishing information sharing mechanisms to document and exchange information on successful models of project and consumer financing that have led to expanded energy services from around the world.

## IV.2- Proposed initiatives

### 1- An Arab Regional Forum on Energy for Sustainable Development

To expand collaboration on energy for sustainable development through the initiation of a regional forum on Energy for Sustainable Development. The forum will build on existing institution programmes and seek to improve collaboration and coordination among stakeholders at the required level. It will initiate an intergovernmental process to create a forum for dialogue among international institutions, industry, governments, financial institutions, technology developers and representatives of civil society.

Furthermore in an effort to achieve greater regional cooperation, ESCWA launched the Renewable Energy Promotion Mechanism (REPM) in October 2000, with the core objective of fostering sub-regional and regional cooperation among ESCWA member countries in the field. Twelve member countries have joined the mechanism and identified their National Focal Points (NFP). In October 2002, one month after WSSD in Johannesburg, ESCWA proposal to extend the mandate of the mechanism to include the promotion of other sustainable energy systems was endorsed by the Renewable Energy Promotion Mechanism National Focal Points (REPM/NFP) and the ESCWA Intergovernmental Committee on Energy under the name of "The Regional Promotional Mechanism for Sustainable Energy Systems" (RPMSES)

### 2- Three recommended national and regional partnerships, namely:

- a) Partnership on energy efficiency development, to direct effort for promoting awareness, develop technologies and applications for energy efficiency especially on the demand or end-use side, to improve overall economic efficiency while producing environmental benefits. This is especially important in countries with basic levels of existing installed capacity and should include demand side management, appliance standards, energy service companies, construction standards and institutional collaboration to improve energy efficiency at the national and local levels. Regional organization can support such partnership through technical assistance programmes.
- b) Partnership on clean liquid fuels and renewable energy systems for rural areas, which should address the technologies, financing and capacity development efforts needed to support this options where the natural resources base can support adequate renewable generation. Such approach would address both local and global environmental concerns.
- c) Local/national partnership for collaboration to expand seed funding and/or patient capital available to energy enterprises at the local, national and international levels to increase investment in order to expand access to electricity, cleaner fuels and energy services. This requires public and private collaboration to ensure that the mechanism will be taken up by business and the private sector in order to expand energy services in developing countries.

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## **Annex 1**

### **Examples of governments announcements and partnership initiatives identified during the WSSD**

#### **A) Government Announcement**

- The nine major electricity companies of the E7 signed a range of agreements with the UN to facilitate technical cooperation for sustainable energy projects in developing countries.
- The European Union announced a \$700 million partnership initiative on energy and the United States announced that it would invest up to \$43 million in 2003.
- The UN has received 32 partnership submissions for energy project with at least \$26 million in resources, examples of which are:

#### **B) Partnerships in cleaner fuels and technologies**

- Global partnership to encourage the use of natural gas;
- Global initiative for lead-free fuels through technical, technological and financial assistance to developing countries;
- Global initiative for the provision of financial and technical assistance for the phasing out of lead in gasoline and the reduction of sulphur and benzene in fuels and particulates in vehicle exhaust to reduce health impacts;
- Partnerships to develop cleaner production technologies and accelerate the commercialization and diffusion of these technologies;
- Regional partnerships to provide assistance to replace traditional biomass fuels and coal with affordable clean fuels.

#### **C) Partnerships on energy for sustainable development**

- Global partnership for financing energy for sustainable development;
- Global alliance on renewable energy and efficient clean conventional energy technologies to provide by 2015 energy services to half of the two billion people, mostly in rural and remote areas in developing countries, who currently have no access to modern energy services;
- Global net-work of related institutional support structures, including information systems, technology centers, and research and development institutions to promote greater transfer of environmentally sound technologies to developing countries.