Egypt Energy Road Map presented by the Centre for renewable Energy at the British University in Egypt

Iman El-Mahallawi; PhD CEng CSci MIMMM

Problem definition:

A shift in power sources in Egypt should take place during the coming decades. The Egyptian renewable energy sector aims at producing 20% of the total power generation by 2020. Priority sectors have been seen by them as wind farms (the most cost-effective renewable energy source), followed by bio-diesel production, both of which are supported by the country’s abundance of land, stable climate conditions and competitive labor force, followed by solar energy based on expected decrease in cost of generation during the coming years. Currently Egypt produces 12% of its energy from RE sources, the target is 20% by 2020. Experts put a target of 7200 MW from wind energy and 140 MW from solar energy (100MW CSP and 40 MW PV).

To fulfill this and meet its requirements, Egypt needs a challenging Energy Road Map that should be agreed upon by all effective contributors. Wide activities related to renewable energy are going currently in the Egyptian society; but unfortunately sporadic, not integrated and lacking a strategic vision. Though, it should be seen as expressing the great will of different parties to invade the future with renewable energy concepts, technologies and opportunities disseminated.

Reviewing Egypt’s current capacity to provide the needed infra structure in terms of human power- technology status - legislations and investment, it can be seen that this includes engineers – technical staff – universities and research centres – internationally wide recognized experts – industrial state and private facilities – as well as limited investment opportunities. However, it should be recognized that the majority of these sections work individually not seeing each other with disintegrated efforts and not covered by one strategic national umbrella.

Immediate measures need to be taken including: Set vision, Legislations; Capacity building; Social awareness; Educational aims; Training programmes, Research strategies; Investment programmes, and the most important Local manufacturing plans.

The aim of this white paper is to provide a focus upon which all efforts may integrate and collide to grow efficiently and homogeneously. This may be done by suggesting a road map which includes all efforts and places each one in its right position with all roles synchronized together.

The following proposal is written as a result of a one day workshop organized at the British University in Egypt which integrated experts, scientists, researchers, graduate engineers, manufacturers and beneficiaries. The workshop has highlighted issues related to challenges and obstacles facing the Egyptian research and industrial sector to integrate the efforts aiming at bringing the Egyptian society to upgrade its efforts to increase the generation and utilization of renewable energy. The attendees raised the importance of starting with a BUE –experts - business sector integrated group that works on combining efforts to achieve aims.
Proposal:

The current proposal is based on building a consortium driven by a professional engineering body and consisting of members representing 1) experts, 2) educational bodies, 3) training and development institutes, 4) research bodies, 5) manufacturing planners, and 6) investors and/ or stake holders. The group must include experts with wide vision side by side with devoted members ready to brain storm, document, analyse and conclude recommendations.

This consortium may be built under the umbrella of the Egyptian Syndicate for Engineers by initiating a renewable energy professional engineering society which will act as a focal point. The members will include engineers, university and research interested staff in addition to well recognized stake holders and policy makers. As a professional engineering society, this society will be able to optimize volunteer and staff resources to parten with other organizations. Thus this consortium will have a greater impact on policy makers and society to implement the needed changes and actions.

The mission of this society should be to set an action plan for achieving the following:

- Egyptian policy makers should set a plan highlighting that integrating renewable energy as an effective and gradually increasing source of energy for Egyptian activities is a first priority and challenge for any governmental programme.
- Egyptian quality and standardization organizations should set a plan to include renewable energy codes in daily activities including buildings, residential consumption, industrial consumption, production, etc..
- Egyptian business sector should call for local and foreign investors to start business in RE manufacturing related activities.
- Egyptian investment sector should prepare feasibility studies for various activities.
- Egyptian educational sector should launch a nation- wide campaign where renewable energy education is implemented in all related topics.
- Egyptian research sector should adopt research topics focusing on reducing prices and utilizing local materials.
- Egyptian labour sector should design training and development programmes to provide trained staff for the expected industries.
- International community should understand that energy coming out of Egypt will feed the whole world but Egyptians have to be the main partners and the providers.

Action Plan:

The proposed action plan is as follows:

1. Launch a renewable Energy professional Society.
2. Build and develop a data base including all parties: experts, scientists, interested researchers, engineers, code makers, legislators, business sector, volunteer students, and media people.
3. Developing a database by making use of available information with Prof Galal Osman to allocate who is doing what in Egypt in the renewable energy business and research activities.
4. Holding a number of documented meetings and workshops to formulate proposals for future plans and proposals covering projects, legislations, research, capacity building and manufacturing topics.