

First International Conference on Energy and Climate Change
Tripoli, Libya, 20-22 May 2008
Chairman's conclusions¹

1. Scope and content of the conference

The scope of the conference was to present and discuss problems, best practices and appropriate technology led solutions in developing efficient energy systems in the MENA region with an emphasis on environmental protection, ecosystems, clean energy production, energy efficiency and practical cost-effective solutions. An objective was to highlight problems related to climate change, environment and energy, energy supply and financing of energy systems, particularly in remote and rural areas and in developing countries including the use of the clean development mechanism (CDM).

Presentations have ranged from the development and applications of basic renewable energy technologies adapted for use in the region to the illumination of the relationships between climate change and national and regional energy policies. Renewable energy became a main theme of the conference.

Two panel discussions provided opportunities for all participants to communicate experiences and express opinions about the topics of the conference. These panel discussions and the presentations form the basis for the conclusions and recommendations found below.

2. General conclusions

- The conference participants identified as a starting point for energy development strategies in the MENA region the Millennium Development Goals (MDG) of the United Nations and the need to ensure long term sustainable development of the region. This goes hand in hand with economic growth. Climate Change and its implications for energy policies and adaptation strategies are crucial in this respect.
- Climate Change will be the greatest threat to achieving sustainable development and the MDG. Climate Change will determine energy policies for a long time into the future. The IPCC Fourth Assessment Report (AR4) states that a major part of the observed increase in global average temperature is of anthropogenic origin. Carbon dioxide emissions have increased by 70 % between 1990 and 2006 primarily due to burning of fossil fuels. Other greenhouse gases have also increased significantly.
- IPCC projects a further increase in temperature between 2 degrees and 7 degrees if current emission trends are not changed. Already observed adverse effects on water supply, increased number of droughts and floods, sea level rise and ecosystem productivity would be further exacerbated with severe effects on societies and political stability.

¹ These conclusions have been drafted by the chairman of the conference and have been circulated to participants for their comments. The final product, however, has been edited by the chairman.

- In order to limit the increase in global temperature to 2 degrees as compared to preindustrial times global emissions of greenhouse gases have to be reduced by more than 50% until 2050. Developed countries would have to decrease their emissions by 25-40 % until 2020.
- It is important that decision makers in the region are well informed about available scientific findings about climate change, how climate change affect the possibilities for sustainable development and economic growth as well as mitigation and adaptation needs and opportunities.
- There should be a continuous dialogue and exchange between scientists and decision makers in the region.
- The MENA region has a great potential for renewable energy (RE) that not only can provide sustainable energy to the region but also, if using modern transmission technologies, could provide opportunities to export electricity to e.g. Europe based on solar energy resources on a large scale.

3. Climate change, energy and development needs of the region

- Climate change and energy system development are closely linked to each other. However, there is in general a low level of awareness of climate change and the relationships between climate change and energy in the region.
- Climate Change is not the only factor that should affect the development of energy strategies for the region. Other important factors are energy security, health and protection of the environment as well as the need to serve as a basic infrastructure resource for economic development.
- Oil producing countries are generally lagging behind non-oil producing countries in developing long term sustainable energy strategies including the deployment of renewable energy. All countries, but in particular the oil producing countries, must take steps to diversify their economies.
- Some oil revenues should be used to make investments in basic renewable energy technologies that can provide the basis for long term sustainable energy systems.
- However, for a foreseeable time into the future, a mix of different energy sources is needed. The exact shape of the mix depends very much on national conditions and potentials.
- In general renewable and low carbon energy equipment and systems should be manufactured in the region leading to better know-how and trade balance and decrease the dependence on imports of foreign equipment and products.
- Decisions on energy development and investments should be based on economic evaluations including environmental impacts and other external costs as well as life cycle analysis of different energy source alternatives to achieve economic efficiency in the short and the long term.

4. Renewable energy as energy sources for sustainable development - technology development and deployment – priorities for the region

- Solar and wind energy have the greatest potentials in the region. Already solar energy is well suited to supply electricity and other energy services to remote

and rural areas where there is or is not expected any connection to a national power grid.

- A general strategy for oil producing countries should be to use part of the oil revenues to invest in the long term future and in particular for the time when there is no oil. This should include diversification of their economies. There should be a focus on renewable energy. Renewable energy sources are not depending on fuel supply and they increase energy security and stability by not being exposed to variations in oil and gas prices.
- Collaboration between countries in the MENA region could give faster progress in introducing renewable energy sources
- Much knowledge exists already and international organizations and funding agencies are ready to assist and contribute to financing sustainable energy initiatives.
- The use of the Clean Development Mechanism can play an important role to facilitate further investments in renewable energy in the region but CDM projects also contribute to capacity building, institutional strengthening and sustainable development. So far however, very few CDM projects have been carried out outside Egypt. Egypt has on the other hand useful experiences that can be shared with other MENA countries.
- Governments must be aware of their responsibility for future actions. They control the legislative instruments and can put proper incentives and legislation into place to stimulate a positive development.

5. Barriers to deployment of and investments in renewable energy and low carbon technologies

- Important target groups are not informed about the benefits of renewable energy. It is important to stress the renewability – there are no further fuel costs and no dependence on volatile fuel markets. This contributes to energy security.
- Financing is one of the most important barrier to renewable energy. Life cycle analysis should be applied to show the real potential. Distortive subsidies that favor fossil fuels should be removed. There is a risk that renewable energy will be regarded as excessively expensive even if prices continuously go down as more and more effective technologies enter the market.
- In oil producing countries another barrier is the existence of too much cheap oil and gas.
- A general lack of government long term energy strategies impede the use of and investments in renewable energy. Renewable energy must be part of integrated national strategies.
- There is also a lack of expertise that can advise on, develop and manage deployment and implementation of renewable energy.

6. Requirements for data for decision making on sustainable energy system development

- There is general recognition that there are shortcomings in basic meteorological and some other data. Data coverage is very low in many areas, they are sporadic and many important parameters are missing, e.g. direct solar radiation and

global radiation. Station networks have to be improved but this is basically a funding problem.

- There is enough information for decision making about which directions to take even if technical data for design and optimization might be missing in many places. As an example solar energy has a larger potential in the region than in most other parts of the world. The lack of technical data should not stop or prevent decisions on investments in e.g. solar energy.
- Existing data are not readily available and many stakeholders have difficulties finding out what data there are and how to access them.
- It is recommended that data coverage be improved and national and regional information systems be created to facilitate access to data by stakeholders and decision makers at all levels. Data should be processed, compiled, stored and presented in a way that facilitates use by non-specialists. Data should be able to be accessed through intranets and the internet. Data should be described and captions written in both Arabic and English.
- National responsible agencies or institutions should be identified to store and make available energy data and related data for broad access. Data should be quality checked before release.

7. Requirements for capacity building, training and public awareness raising

- Capacity building is a long term investment and a prerequisite for all developments of renewable energy.
- Research and development is marginal on relevant energy topics in the MENA region. Much more resources must be spent on research in the region. That also benefits general capacity building by increasing the number of persons having completed higher degrees.
- It is important to see the links between poverty, energy and climate change. The general public knows very little about this. People basically see the impacts of climate change but have less knowledge about the relationships between climate change and energy.
- Teachers generally know little about climate change. It is important to raising the level of understanding of teachers and educators who have to become more professional in this respect. NGOs, universities and others have special roles to play to disseminate information in these areas. A strategy for training and education for climate change, energy and renewable energy for sustainable growth must be elaborated and adopted
- Public awareness campaigns must be launched and involve all stakeholders and civil society.