



United Nations
Economic Commission for Africa
Office for North Africa

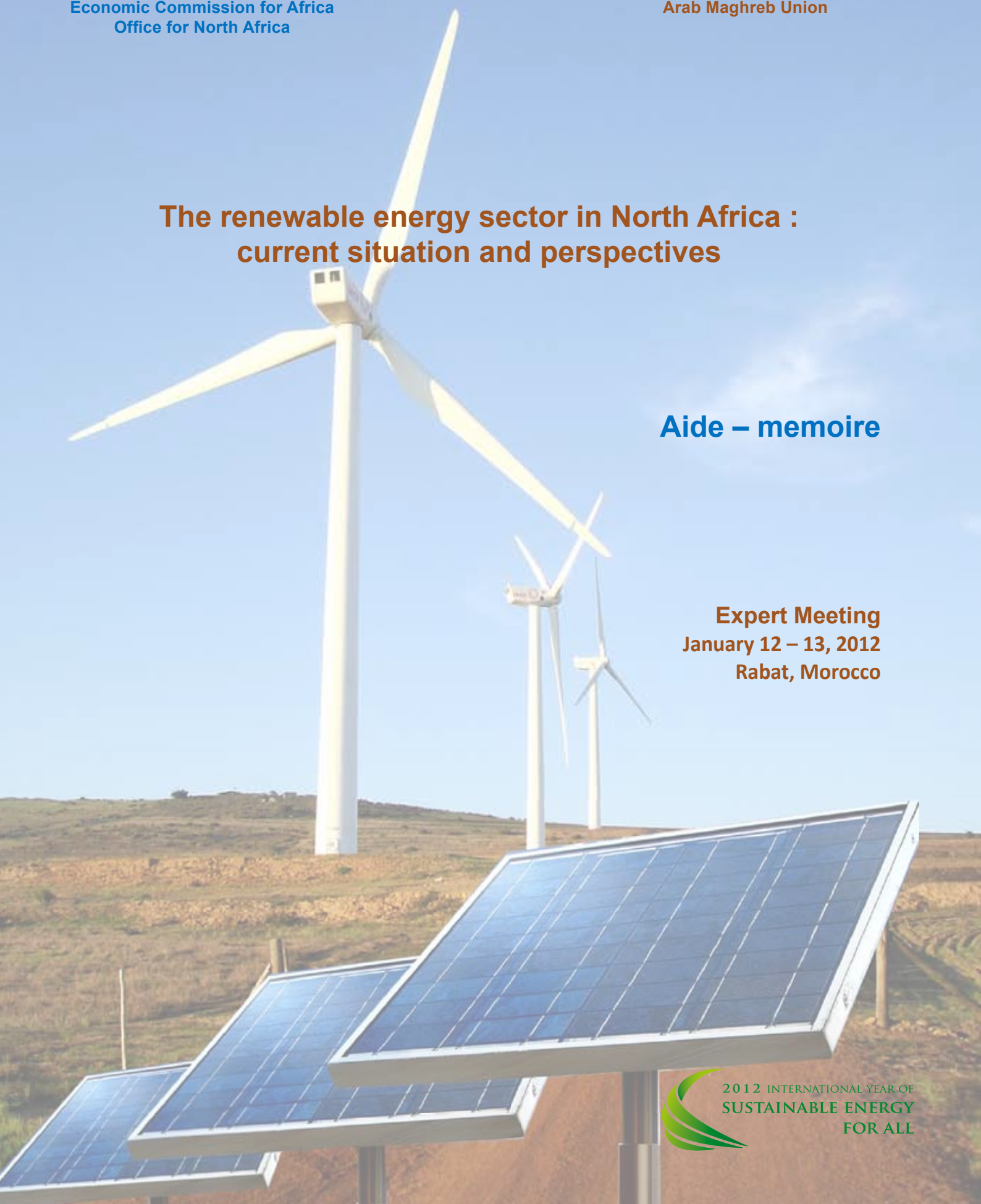


General Secretariat
Arab Maghreb Union

The renewable energy sector in North Africa : current situation and perspectives

Aide – memoire

**Expert Meeting
January 12 – 13, 2012
Rabat, Morocco**



2012 INTERNATIONAL YEAR OF
SUSTAINABLE ENERGY
FOR ALL

Context and Rationale

1. The development of renewable energy (RE) and energy efficiency are two efforts against climate change (greenhouse gas emissions control), enhancing energy security and sustainable development. The worldwide context marked by an increasing demand triggered by the development of emerging countries, volatile oil prices, climate change impacts and environmental hazards such as Fukushima incident or the oil slick caused by the British Petroleum Company in 2011 in the Gulf of Mexico, has led many countries to undertake reforms to a reallocation of their energy mix.
2. According to the new global report on RE published by REN21¹, global investment in renewable energy (RE) in 2010 reached a record of \$ 211 billion, or 1/3 more than in 2009 (160 billion) and 5 times more than in 2004. Subsequently the RE would have provided 16% of final energy consumption and almost 20% of electricity across the world. Within the EU², green energy accounted for nearly 41% of the newly installed electricity production capacity (2010). In developing countries, more than \$ 72 billion has been invested of which nearly \$ 50 billion by China. In Egypt, investments in the RE increased from 800 million to \$ 1.3 billion. In Morocco, they were \$ 180 million, \$ 150 in Libya and \$ 100 in Sudan.
3. This remarkable progress was achieved due to the creation of new institutional, laws and a new financial environment. According to REN21¹, incentive policies are still the main vehicle of the growth of renewable energy. "From the beginning of 2011 at least 119 countries had adopted, by one form or another, a political goal or a policy of support to renewable energy, ie more than the double than in early 2005 (55 countries). More than half of them are developing countries". These reforms have enabled the growth of industry and services related to the RE and the energy efficiency (EE) and the corresponding creation of several million jobs in these sectors. In Spain, for instance, 2011 was marked by a wind power production which was superior to that generated by fossil energies. International financial institutions and aid agencies have increased the funding granted to the development of the RE, more particularly in developing countries.
4. In North Africa, the growing request of energy (6-8 % per year), notably of electricity (due to population, economic growth and options of development) and the structure of the energy supply dominated by fossil fuels (more than 90 %), intensifies pressure on the energy systems. North Africa (Algeria, Libya, Egypt) holds only 4, 6 % of the worldwide reservations proved by oil and by natural gas (MOE, 2008)³. North African energy intensity is comparatively high and possibilities given by energy efficiency (EE) and the RE are under exploited. Energy represents an important part of the total trade balance and the rise in the price of oil and gas is a heavy burden for the finances of importing countries (Morocco, Mauritania, Tunisia, and Egypt).

¹ REN21: Renewable 2011 Global Status Report, July 2011.

² The European Union has set a target 20-20-20 (climate and energy package, Article 9 of the European Directive) as to improve energy efficiency by 20% and increase the proportion of the RE by 20% in 2020.

³ Mediterranean Observatory for Energy - Mediterranean Energy Assessment - 2008.

5. Today, many studies have revealed that energy efficiency (EE) and renewable energy (RE) can significantly alleviate these constraints by diversifying the energy mix, by reducing greenhouse gas emissions (GHGs) and by bringing real socio-economic and financial gains, on the medium and long term. Diverse experiments exist, but the limited size of the projects and their lack of integration into a comprehensive and cross-generating economic and social benefit has so far limited the impact.
6. Aware of such opportunity, the countries of the region adopted, to a certain extent, policies and ambitious programs in improvement of the EE and in the development of renewable energy sources. Important institutional reforms of framework, regulations and the financial sector are in-process. Notable progress is in progress in certain countries like, for instance, the large scale development of wind power in Egypt and Morocco, along with the strengthening of the EE and the expansion of thermal solar panels in Tunisia.
7. However, the development of an actual market of renewable energy sources requires important investments which will not be able to be accomplished without private sector an involvement and a synergy of actions at national, regional and continental level. Countries put the emphasis on reforms aiming at the progressive opening of the national markets to the private sector (eg: Tunisia, Morocco, Egypt) but the participation of private firms in this field remains weak. The contribution of the banking sector in the financing of EE and RE also remains restricted. The access to international resources is improving, given the interest of more and stronger financial institutions (eg: WB, ADB, FDA, EIB, KFW, Spanish cooperation). The market of the Clean Development Mechanism (CDM) although in light progress in the region, (Egypt, Morocco and Tunisia), still remains not much used with regard to existent opportunities.
8. Reforms adopted by countries in these recent years, in order to reinforce energy security should be consistent. Inter-country cooperation could play a key role to supplement efforts decided at a national level. Achievements recorded so far in energy cooperation remain restricted with regard to potential and needs of the region but not register within the framework of a comprehensive approach to the complementarities between countries. The sharing of energy between the countries of the region is in practice missing, in spite of the existence of electrical interconnection networks between Algeria, Tunisia and Morocco, between Libya and Tunisia and between Libya and Egypt. The majority of interconnection projects nowadays in study concern South-North exchanges (with Europe in particular). The near absence of regional collaboration constitutes a major obstacle to the development of a market on a large scale of EE and RE and therefore, to be able to achieve the ambitious targets that countries have settled on.
9. Initiatives such as Mediterranean Solar Plan (MSP14); the Euro-Mediterranean Partnership; current agreements between the EU and certain countries of North Africa; initiatives led as part of AMU (COMELEC, Maghreb scientific and academic research platform in the field of the RE); and the Arab League, constitute so many frames of cooperation and common actions, likely to ameliorate technical and financial collaboration for a real development of renewable energy sources. At the first Ministerial Council of Energy AMU-EU project devoted to the integration of

4 The Mediterranean Solar Plan (MSP) provides for the production in North Africa 20 GW of solar energy by 2020 as well as the development of the Mediterranean network interconnection which should, to longer term, provide the basis for the establishment of a Euro-Mediterranean network.

electricity markets of Algeria, Tunisia and Morocco in the EU, the ministers pledged to continue actions for the harmonization of legislative and regulatory frameworks for the creation of a viable market for electricity (Algiers Declaration, June 2010). The ninth session of the Ministers of Energy and Mines of the UMA (Rabat, November 2010) also stressed the need for countries to focus on a common vision and to increase cooperation, in particular regarding a Maghreb electricity market creation.

10. Finally, efforts to upgrade policy (strengthening the role of the RE and the EE in all sectors) and regulatory frameworks should be continued to build strategic partnerships between all stakeholders, particularly between the public and private sectors but also between regional actors, notably in the context of the initiatives in the Mediterranean and international levels. Regional cooperation could bring about sustainable solutions, economic and social benefits (economies of scale, increased trade flows, job creation) through a synchronized approach to energy policy, a convergence of legal frameworks between countries in the region, the massive generalization of success stories and the creation of a regional RE and EE market.
11. As part of its working program (2010-2011), the Office for North Africa of the United Nations Economic Commission for Africa (ECA-NA), whose mandate is to support Member States in their efforts to promote sustainable development and regional cooperation, has launched a project for a period of 2 years on innovative financing mechanisms of the RE in North Africa. The project's overall objective is to support development efforts for the existing potential for renewable energy in the region to strengthen energy security, to improve socio-economic conditions and to struggle against climate change.
12. The specific objectives of the project aim to offer solutions in order to remove the financial barriers and promote the creation of an integrated regional market of renewable energy sources; to strengthen knowledge on options and innovative financial mechanisms; to establish a shared regional vision; to develop incentives; to create clear policies as well as real partnerships.
13. The project started by establishing a baseline study for the development of the RE in North Africa. This study analyzes the potential opportunities in the medium and long term, the lessons learned from past and ongoing initiatives, as well as existing barriers and opportunities. Particular attention is granted to the promotion of expertise and education learned from programs and initiatives led by the development partners, international and regional networks working on questions linked to the development of renewable energy, and to the promotion of an integrated market.
14. In order to inform the energy industry participants about the project and share the results of the reference study, the Office for North Africa of ECA is organizing a first expert meeting in Rabat (Morocco) on January, 12 and 13, 2012.

Objectives of the experts' meeting

15. The main objective of the expert meeting is to review and enhance the main results of the study to assess progress and to better understand the needs of the region of North Africa in terms of instrumental policies, regulatory frameworks and financial mechanisms, innovation and partnerships to support sustainable development of renewable energy and regional cooperation. The meeting's purpose is also to strengthen the awareness and the commitment of political decision-makers, private operators, researchers and other key actors, to the benefit of the renewable energy sources.
16. More specifically, the workshop will allow:
 - An analysis of accomplished progress, challenges and national and regional perspectives;
 - A sharing of experiences and good practices related to the RE development;
 - A broader consultation with the actors and implicated key partners, a strengthening of synergies between the project and similar initiatives;
 - A dialogue to explore the potential opportunities for strategic partnerships.

Participants

17. The meeting will gather experts from North African countries and representatives of national institutions, regional organizations, research centers, representatives of the United Nations System and development partners. Representatives from the private sector and civil society will also be invited.

Workshop Format

18. The proceedings of the workshop will be held over two days and will be structured around four topics. For every topic, the main results of the study will be introduced by the consultant and communications related to the topic will contribute to enrich debates.

Topic 1 : Situation of RE and EE development in NA: challenges, progress, constraints and perspectives

The countries of the region are facing a sharp increase in energy demand and a quasi dependence on fossil fuels (> 90%) with negative consequences on the economy, society and environment. The supply of RE and the recognition of the EE are up but some obstacles are still limiting the development of a large-scale market, including: the pricing and the introduction of an incentive framework, access to funding, training, research and development.

Current experiments and export prospects are promising and provide opportunities for industrial development in certain sectors, innovation and the creation of new firms subject to the removal of obstacles aforementioned.

This first session will review the strategies and major reforms implemented in the countries of the region, investment options, the perspectives as well as a better understanding of existing barriers.

Topic 2 : Financing mechanisms: overview and perspectives

The development of RE requires huge investments which will not be able to be achieved without the contribution of the private sector and the financial institutions. Effectively, despite the progress made, the production cost of renewable energy, particularly the solar thermodynamics, remains high. Unlike fossil fuels, renewable energy has a cost structure where the initial investment is very high, while operating costs are very low. The combination of several factors: technology still under development, limited markets, extremely expensive capital costs involves the development of innovative financing mechanisms to support both the cost differential compared to conventional energy, as well as the funding for the initial investment.

In a context marked by the continuing financial and economic crisis and the uncertainty about the evolution of oil costs, the search for sustainable solutions to increase public and private funding in the field of RE and EE constitutes a critical stake. More specifically it will:

- Reform the pricing of energy progressively reducing fossil fuel subsidies that represent a significant fiscal burden, promotes consumerism and hinder investment in clean energy by weakening their competitiveness. Targeted subsidies for vulnerable groups could be maintained.
- Undertake legislative and regulatory reforms to facilitate the participation of domestic and foreign private investors and develop instruments to support the production of RE, such as feed-in tariffs implemented in the Northern countries, tax incentives , mechanisms for financial risk-sharing and easier access to credit (loan funds, guarantee funds);
- Exploit and reinforce strategic partnerships with international financial institutions which implement new ways of financing the RE development in North Africa (WB, ADB, KFW, EIB, Spanish cooperation ...).

This session will particularly allow:

- Review the actual financial mechanisms (national funds, lines of credit) including the private public partnerships and identify good practice;
- Analyze the contribution of the banking and financial institutions and offer solutions for the lifting of the existing barriers and the strengthening of their involvement

- Examine the pressures of financing met by private sector operators and/or solutions, and/or options to overcome them;
- Discuss new financing mechanisms and partnerships on a benchmarking basis;
- Submit an outline of the study on financing mechanisms and tools adapted to the context of North Africa.

Presentations on country experiences covering different fields (solar water heating, wind, solar, energy efficiency) will give substance to the topic dedicated to financing mechanisms.

Topic 3 : Knowledge sharing and capacity building

To support the new dynamism of the region in favor of increased RE supply, the promotion of the EE and the development of a new industry of capital goods and services, the actors of the private and public sector's skills must be strengthened and special attention given to research and development which is the basis of innovation.

Some countries have made progress in the development and dissemination of technologies related to the RE. Effective mechanisms for knowledge sharing and cooperation should be established between research institutions, training centers and networks related to the RE and EE at the national and regional levels. (eg: Borj-Cédria science park-Tunisia, Oujda science park -Morocco. Institutions such as the regional center for renewable energy and energy efficiency (RCREEE) or the Mediterranean Renewable Energy Center (MEDREC) could benefit from the support of sharing knowledge and experiences at regional level.

In this spirit, the establishment of a Community of Practice (COP) is an essential element of the project. It aims to contribute to the discussion of policies, facilitate dialogue and exchange of information and experience and deepens knowledge and national and regional actors involved in the development of the RE and the EE. The community of practice will help share experiences, lessons learned and promote best practices, strengthen synergies and build strategic relationships.

This session shall indeed help:

- (i) Evaluate the situation of existing initiatives in the areas of training and research & development;
- (ii) Discuss the establishment of a Community of Practice designed by a network of experts and of other stakeholders.

Topic 4 : Regional energy cooperation and integration

The energy sector can be an important leverage of regional integration. Today, the countries of North Africa still have very nationalistic logic. Energy trade intra-Maghreb barely exceeds 1.5% of the trade with the rest of the world. Cooperation is limited to bilateral trade of electricity but the level of use of the interconnected electricity networks remains far below potential. This situation increases the foreign dependence of these countries therefore, loosing growing points in the Maghreb economies.

The current interconnection capacities of Maghreb networks and production projects to-be and in progress are an opportunity for the beginning of a Maghreb electricity market as envisaged by the AMU. The regional approach could encourage private investment through a wider market, reduce costs, increase energy supply options and encourage the development of a regional industry of capital goods and services while improving industry competitiveness (countries import full price technologies without being able to replicate or develop the products). The strengthening of the Euro-Mediterranean cooperation in the Mediterranean Solar Plan (provides funding for solar projects) or initiative Desertec (a first ongoing pilot project in Morocco) could finance energy projects, the development of interconnection infrastructure as well as the transfer of technologies.

This session will review:

- the current status of regional cooperation, partnership opportunities and possible cooperation (training and technology transfer, knowledge sharing and research results, energy trade, studies and projects, funding ...);
- the leverages of integration: Strengthening and optimized use of electrical interconnections (internal links and cross-country), coordination of energy policy, harmonization of laws and regulations, use of common standards, building industrial structures ...;
- constraints related to energetic cooperation;
- the content and prospects of current regional plans such as MSP or Desertec;
- the potential role of existing regional institutions to reinforce regional incorporation, trade of goods and services and knowledge in the region.

Final session : Main Recommendations and Follow-up

The last session will be dedicated to a review of the workshop's main recommendations and inform the participants on the next steps.

- Discussion and synthesis of major recommendations
- Next steps of the project

Expected Results

19. At the end of the workshop, the expected results are as follow:

- An increased knowledge of the key players on the evolution of the RE and the EE industry, opportunities and challenges;
- Sharing information and experiences on strategies, programs, technical solutions, cooperation and best practices;
- The identification of the main actors, forms of current and potential partnerships;
- The definition of relevant and measurable indicators which will evaluate the project performance for which the baseline study will be established;
- Guidelines and concrete recommendations to orientate the subsequent stages of the project, particularly regarding strategies and financing mechanisms, as well as regional incorporation .

Deliverables

20. Once the workshop is over, the following deliverables will be set up and distributed.
- The workshop report which will include main conclusions and recommendations;
 - Press releases;
 - The reference study final report.

Documentation and Working Languages

21. The working document (synthesis of the study) and the workshop program will be transmitted to the participants in due course. The workshop proceedings will be held in French and in English, with simultaneous interpretation in both languages.

Date and Venue of the meeting

22. The meeting will take place on January 12 and 13, 2012 at the Golden Tulip Farah Hotel in Rabat, Morocco.

Contact information

Coordination :

Ms. Marieme Bekaye
In charge of Sustainable Development, ECA – North Africa
Tel : 00-212-537-71 56 13 or 00-212-537-71 78 29
mbekaye@uneca.org

Organization and logistics:

Ms. Safia Morane
Project Assistant, ECA – North Africa
Tel : 00-212-537-71 56 13 or 00-212-537-71 78 29
smorane@uneca.org

Documentation :

M. Mohammed Mosseddek
Research Assistant, ECA – North Africa
Tel: 00-212-537-71 56 13 or 00-212-537-71 78 29
mmosseddd@uneca.org

Communication:

Ms. Faouzia Draoui
In charge of Communication
Tel: 00-212-537-71 56 13 or 00-212-537-71 78 29
fdraoui@uneca.org



Avenue Attine- Secteur 3 -A5, Hay Ryad, Rabat (Maroc)
B.P.2062 Rabat Ryad
Tél: (212) 537 71 78 29 / 71 56 13 / Fax: (212) 537 71 27 02
E-mail: srdc-na@uneca.org
Site Web: www.uneca.org