

**Roundtable on Opportunities and
Challenges in the
Water, Sanitation and Power Sectors in the
Middle East and North Africa Region**



Summary of Proceedings

**May 26-28, 2003
Beit Mary, Lebanon**



THE WORLD BANK



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Challenges in the
Water, Sanitation and Power Sectors in the
Middle East and North Africa Region**

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Beit Mary, Lebanon

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This report prepared by Anna Bjerde, Fanny Missfeldt-Ringius and Lizmara Kirchner (World Bank) and Elisabetta Capannelli and Manuela Chiapparino (PPMI) and summarizes the discussions held during the Roundtable on Opportunities and Challenges in the Water, Sanitation and Power Sectors in the Middle East and North Africa Region (MENA), which took place in Beit Mary, Lebanon May 26-28, 2003. It also includes electronic copies of the presentations made at the Roundtable and the list of attendees.

The event was organized by the World Bank Middle East and North Africa Region's Energy and Water Unit in collaboration with the Joint European Commission/World Bank Program on Private Participation in Mediterranean Infrastructure (PPMI). Sponsors included the Public-Private Infrastructure Advisory Facility (PPIAF), the Energy Sector Management Assistance Program (ESMAP), and the Water and Energy Department of the World Bank.

The task team wishes to thank the participants of the roundtable for making the discussions rich and interesting. A special thanks is extended to the Ministry of Energy and Water in Lebanon for hosting the event. The team also wishes to thank Omar Razzaz, Country Manager and the staff at the World Bank's office in Beirut for their support, as well as Ms. Sylvie Brebion for her assistance with the event logistics. Finally, we would like to thank the management team at the World Bank for their guidance and support to the event, notably Françoise Clottes, Sector Manager, Middle East and North Africa Region and Jamal Saghir, Director of the Energy and Water Department.

Roundtable on Opportunities and Challenges in the
Water, Sanitation and Power Sectors in the
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TABLE OF CONTENTS

1.	Background.....	1
2.	How can the region catch up in attracting capital and improving sectors’ operational and financial performance?	3
3.	How can tensions in objectives between public and private interests be managed?	5
4.	What is the best subsidy mechanism to ensure that the poor have access to services?.....	7
5.	What assistance should the international community, including the World Bank focus on?	9
6.	Conclusions	11
	Appendix 1: Roundtable Program	13
	Appendix 2: List of Speakers and CV Synopsis	16
	Appendix 3: Water and Power Brochures	23
	Appendix 4: List of Registered Participants.....	27

Abbreviations and Acronyms

AFD	French Development Agency
CCGT	Combined Cycle Gas Turbine
DFID	UK Department for International Development
ESMAP	Energy Sector Management Assistance Program
FDI	Foreign Direct Investment
GCCIA	Gulf Cooperation Council Interconnection Authority
GDP	Gross Domestic Product
GTZ	German Technical Cooperation
IEA	International Energy Agency
IPP	Independent Power Producer
JBIC	Japan Bank for International Cooperation
JICA	Japan International Cooperation Agency
KfW	German Financial Cooperation
MEDRC	Middle East Desalination Research Center
MIGA	Multilateral Investment Guarantee Agency
MENA	Middle East and North Africa
NGO	Non-governmental Organization
NORAD	Norwegian Agency for Development
O&M	Operation and Maintenance
PPA	Power Purchase Agreement
PPI	Private Participation in Infrastructure
PPIAF	Public-Private Infrastructure Advisory Facility
PPMI	Private Participation in Mediterranean Infrastructure
PPP	Public-Private Partnership
SWCC	Saline Water Conversion Corporation
USAID	United States Agency for International Development

Roundtable on Opportunities and Challenges in the Water, Sanitation and Power Sectors in the Middle East and North Africa Region

Summary of Proceedings

1. Background

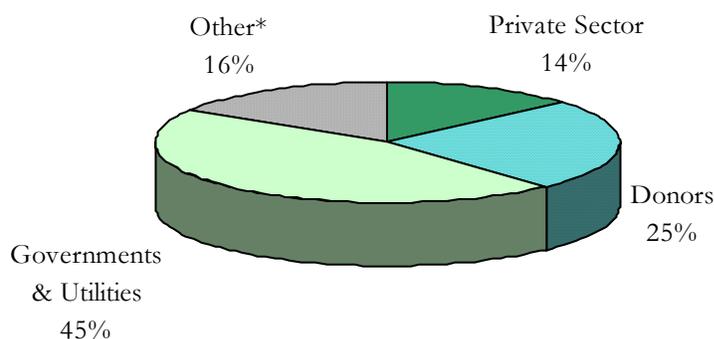
Over the past few years, there have been significant activities in the infrastructure sectors in the Middle East and North Africa (MENA) region. Infrastructure growth has provided services to the population and facilitated economic growth. Providing infrastructure services in parts of the region, including the efficient provision of safe water and sanitation and electricity, continues to be a challenge. Constraints to the provision of these services place significant burdens on public health, economic development and growth.

Private participation in infrastructure brings the promise of better, faster and cheaper ways in providing services, helps develop economies and improves lives. However, foreign direct investment in infrastructure, which has traditionally been low in the region, has further declined in recent years. Partnership between the public and private sectors is required for this process to be efficiently managed. Key reforms in the existing utilities, sector restructuring, increased competition, regulation and protection of the poor, are all elements that can ensure the success of this partnership.

In response to the opportunities and challenges in water supply, sanitation and power in the MENA region, a Roundtable on [Opportunities and Challenges in the Water, Sanitation and Power Sectors in the Middle East and North Africa Region](#) was organized on May 26-28, 2003 in Beit Mary, Lebanon. The aim of the Roundtable was to discuss how to move from the identification of reform needs in the water and power sectors into actions.

The two-day Roundtable gathered around 150 participants from governments, power and water utilities, operators, investors, NGOs and the donor community. Regional participants came from Algeria, Djibouti, Iran, Jordan, Lebanon, Morocco, Oman, Saudi Arabia, Tunisia, West Bank and Gaza, and Yemen. Private sector representatives came from ONDEO, Siemens, ABB, Lyonnaise des Eaux, Tractebel, Veolia Water and Electricité de France (EDF). The donor community included the African Development Bank, the European Commission, French Development Agency (AFD), German Technical Cooperation (GTZ), Japan International Cooperation Agency (JICA), Japan Bank for International Cooperation (JBIC), UK Department for International Development (DFID), German Financial Cooperation (KfW), Norwegian Agency for Development (NORAD), United States Agency for International Development (USAID), and the World Bank.

Participants - Breakdown (Total - 150)



* Private financing institutions, academics.

The Roundtable was held in two days. The first day focused on (i) the linkages between sector reform and economic growth and competitiveness; and (ii) the role of reform in improving service and attracting investment and expertise. The second day focused on the role of the private sector in improving sector performance and how to mitigate risks. Break out groups on key topics around these focus areas allowed for more in-depth discussion. The Roundtable concluded with two panels, the first one attended by donors and the second one by the private sector.

This report is structured around four key themes identified as important early on and discussed in more detail in break-out groups. These themes are: (i) how the region can catch up in attracting capital and improving the sectors' operational and financial performance; (ii) how tensions in objectives between public and private interests can be managed; (iii) how to set subsidies keeping the interests of the poor in mind; and (iv) how the international community can respond to the needs of the countries in the region in the power and water and sanitation sectors.

The workshop program can be found in Appendix 1. A list of participants is enclosed in Appendix 2. A synopsis of main speakers' CVs is attached under Appendix 3. A brochure on the status of the energy and water sector in the region is in Appendix 4. Copies of all presentations made are included in a CD ROM attached to this report. All seminar materials can also be downloaded by accessing the World Bank MENA Region Website at <http://www.worldbank.org/mena> or the PPMI web site at <http://www.ppmi.org/Roundtable-Beirut.htm>.

2. How can the region catch up in attracting capital and improving sectors' operational and financial performance?

Foreign Direct Investment (FDI) in the Middle East and North Africa Region has been low when compared to other regions. Private sector investment in water amounted to a mere US\$60 million from 1990 to 2001 (or 1 percent of private funds invested in water worldwide), while investment in the electricity sector was slightly higher at 4 percent of private funds invested worldwide.

The Roundtable participants identified a number of reasons that can explain the lack of private sector funding in the region, such as:

- Lack of government commitment
- Lack of cooperation on regional integration of power and water markets
- Unclear regulatory frameworks
- Low public awareness on the benefits of reform and private sector participation
- Decline in private sector interest

Many participants stressed that often *governments in the region fail to act*, and have taken limited actions to build an environment conducive to private sector participation and investment. If governments were willing to commit to reform and develop a favorable investment climate, foreign capital could be attracted more readily. In terms of investment needs, projects have to be material in scope and able to generate reasonable profits to attract private operators. This often requires that government commit to invest in infrastructure before the private sector comes in or in cooperation with the private sector. Such partnerships can help keep financing needs to a reasonable level and makes it attractive for the private sector to invest.

Increased cooperation and integration on power and water issues in the region were perceived as another avenue to make investment projects more attractive. Participants at the Roundtable discussed an example of successful regional collaboration on power, the Nordic Power Pool (Nordpool). The Nordpool enables the trade of electricity on a spot market and includes companies from Denmark, Norway, Sweden and Finland. The development of this spot market evolved over a period of forty years, driven and closely followed by governments in this region. The Nordpool itself was launched in 1991, and since then, the trading volume has reached close to 900TWh per year. The key elements that contributed to the establishment of the power trade were the sustained political will in the region, the technical and management support provided from the power industry, and the support of other stakeholders (e.g., customers).

In the Middle East and North Africa Region, many options for interconnection exist, including the establishment of a Mediterranean Ring. Efforts for the full interconnection of the Gulf States are underway. If completed, the Gulf Cooperation Council Interconnection Authority (GCCIA) could become a key player in a regional power market. A first study to connect the six Gulf countries was carried out in 1986 and updated in 1990-92. The study is set to be updated again by mid-2003, and at this time, interconnection between the Gulf States is scheduled to be implemented between 2004-2010.

Another issue raised by participants was the *lack of clarity in the regulatory framework* across the region. In many countries regulatory bodies do not exist, or if they do, they are not truly

independent and lack the necessary authority and/or capacity to carry out their mandate, especially the recently established regulators. Sound legal and regulatory frameworks are essential in ensuring the long-term sustainability of the water and power sectors. Regulators should be independent and the application of rules needs to be sufficiently transparent, with parties held accountable for their actions and responsibilities.

A number of comments raised by participants related to the nature of the regulatory body itself, its independence was raised several times as a very important concept. Participants agreed that all stakeholders, including consumers, should be represented on the board of regulatory bodies. One participant suggested that the board of regulators should represent the interests of the nation, where board members are appointed in their individual capacity, as opposed to becoming a platform for constituencies to fight one another. In addition, specific country circumstances should be considered when setting up a regulatory body.

Finally, **public awareness of the benefits** of private investments in water and power are limited. A commonly held view among the general public is that the involving the private sector in the financing and provision of infrastructure will result in the sale of publicly owned assets at a discounted price to foreign companies. This contributes to perception that there would be a “loss of sovereignty” from privatization. While some of these concerns may be justified under specific circumstances, the public needs to be made aware that private sector involvement, when properly implemented, can bring better services, lower prices and improved economic performance.

When it comes to direct private investments, there has been a significant **decline in private sector interest**. As a result of the global economic downturn, major private sector players, in particular operators, have reduced their presence in the region due to financial difficulties, followed by a series of restructuring. Normally, during these hard pressing times, the private sector becomes increasingly risk-averse. This situation, coupled with the perceived high-level security and political risks currently associated with the region, are not conducive to encouraging investment.

At the same time, a new breed of domestic, regional and smaller foreign operators/investors have emerged, such as medium sized municipal operators and partnerships between consulting firms and financial institution. These new players present opportunities for innovative partnerships that should be explored by sector stakeholders.

Conditions for Private Sector Participation Discussed at the Roundtable	
<p>Governments to ensure:</p> <ul style="list-style-type: none"> • Political commitment; • Adequate regulatory framework; • Clear and transparent procurement; • Government guarantees; • Mitigate perception of country risk; • Develop domestic and capital markets. 	<p>Government to be:</p> <ul style="list-style-type: none"> • Capable of negotiating fair contract conditions; • Sufficiently equipped to measure and enforce contract compliance by private parties. <p>Private Sector to be:</p> <ul style="list-style-type: none"> • Willing to take some degree of risk; • Geared towards the long-term; • Engaged in local partnerships, that can facilitate local financing of investments.
Source: Contribution from Marina Meuss, GTZ (2003)	

3. How can tensions in objectives between public and private interests be managed?

Tensions between public and private sector interests in the area of water and power are not limited to the Middle East and North Africa region. These tensions stem from the fact that the water and power sectors need to respond to a wide range of political and social demands, while at the same time having to be concerned with the economics of producing water and power. Among the issues that need to be addressed is the appropriate management of water and energy resources at the country and regional levels, as a way to ensure that a sustainable level of these resources will be available for future generations.

The Roundtable raised the issue that often times public utilities are inefficiently operated, a situation that leads to significant budget deficits. Many public companies in the region are overstaffed, since in many instances public utilities have to live up to an implicit social contract whereby they should offer employment. As a result, governments are under strong pressure to maintain the employment numbers and are unable to sustain sector and utility reform.

It is generally recognized that the private sector has a better track record at enhancing the efficiency in operations than the public sector. This coupled with investment requirements present a strong case for private sector involvement. However, some highly publicized private sector experiences have failed worldwide, and engendered a movement against privatization of and private sector participation in public enterprises. The increased investment risk in developing countries has also led to the private sector withdrawing from the developing markets.

In order to reduce tensions between the public and private sectors, there is a need for a clear identification of: (i) goals of the public sector reform, (ii) respective roles of the private and public sectors, and (iii) potential issues such as tariff increases, regulatory accountability, etc. that may or may not add risk to the project. These identified goals, roles and issues should be realistic and commonly directed towards achieving sustainable cost recovery and affordable access, and should not be overly ambitious, as failure to meet them will lead to disappointment, which may in turn have a backlash on future privatizations to come.

An issue at the heart of the debate of private sector involvement is *to what extent the private sector should take responsibility for the production of water and electricity*. Concessions in the water sector and Independent Power Producers (IPPs)¹ in the power sector have become the most common modes of private sector involvement in the region. The responsibilities and duties of the public and private partners have to be clear and transparently enforced. Good and enforceable contracts are essential to the success of good public-private partnerships.

Another important issue is the *appropriate timing of private sector involvement*. Participants stressed that it is advisable for governments that are willing to increase public-private partnerships (PPP) in a particular infrastructure sector to first restructure and reform the sector and its operators/utility. In particular, this would include, among other actions, developing a clear strategy/vision for the sector and for PPP, unbundling and liberalizing the sector, creating a transparent regulatory environment, restructuring the utility/utilities, building capacity with the public sector to deal with the private

¹ Combined with Power Purchase Agreements (PPA).

sector partners. Unless this is done, private sector involvement has the potential of being detrimental. As the aim of reform in the water and power sectors is to reduce costs and provide better services to costumers, restructuring and PPI should lead to the establishment of a more competitive market.

Reform and restructuring entail the need for capacity building in the public sector, since public sector civil servants need to be prepared for negotiations with the private sector. *Raising public awareness* for the needs of private sector involvement and the potential benefits of such a partnership is equally important.

Participation of *local private investors* can lead to a real long-term partnership between the public and the private sector by bringing together local and foreign owners. A good example for local private financing in the power sector is the co-financing of 75 percent of a US\$285 million investment for a 385 MW(e) combined cycle gas turbine (CCGT) plant in northern Morocco through local banks (ONE, 2002).

Any process of reform and restructuring needs to take into account those that are bound to loose, at least in the short term, from such reform. *Transition costs need to be actively identified and addressed*, these costs can emerge, for example, as a result of a temporary increase in unemployment. As the water and power sectors in the process of reform are commonly giving up some of their previously assumed social responsibilities, these need to be catered for in other ways. An example is the need to continue to provide basic services to those who cannot afford them. While tariffs may be raised during restructuring, subsidies and lifeline rates could be maintained. Table 2 below summarizes a few pillars for successful collaboration between the public and the private sector, and how they can be reached.

Critical Success Factors for Public-Private Partnerships	
<p>Pillars for success:</p> <ul style="list-style-type: none"> • Clear, realistic goals of public sector reform • Clear and specific roles of all stakeholders • Clear responsibilities and duties of all stakeholders • 'Losers' of reform need to be avoided 	<p>Tools to reach them:</p> <ul style="list-style-type: none"> • Adoption and commitment to a long-term strategy of sector development • Capacity building in the public sector • Appropriate timing of reform • Raising public awareness • Involve the local private sector
<p>Source: World Bank (2003)</p>	

4. What is the best subsidy mechanism to ensure that the poor have access to services?

While the economic viability of public-private services in both the water and the energy sectors often require tariff increases, the water and energy needs of the poor and their ability to pay for services need to be taken into account. Today, 20 percent of the Middle East and North Africa's population live on less than US\$2 per day. Moreover, the demand for both water and electricity is growing quickly in the region, mainly as a result of high population growth. In fact, with a regional population growth rate of 2 percent per year, MENA's growth rates are surpassed only by sub-Saharan Africa (at 2.4 percent). In 2010, the population in the region is estimated to be 20 percent larger than in 2000 (World Bank, 2002). This implies that simply maintaining existing access levels to electricity and water supply will require infrastructure to expand in both sectors to cater for the growing population.

Subsidies are heavily affected by chosen tariff structures. When the tariff structure is flat, the poor and rich receive the same per-unit subsidy. Moreover, with larger quantities consumed per capita, the rich may receive a larger per capita subsidy than the poor. This situation is further aggravated when access to water and/or electricity is limited. A participant from Yemen explained that in Sana'a people who are not connected to the water supply network are forced to purchase water from tanks and the price for this water is five times higher than that provided by the public utilities. The same situation can be found in Djibouti. In addition, there are quality concerns with the water from tanks, as it is generally not properly treated, nor under adherence to water quality standards.

On the other hand, progressive tariff structures, used by most countries in the region, entail the incorporation of a flat rate, such as a baseline tariff rate in addition to the connection charge, and a progressive tariff increase that varies with the quantity of electricity and/or water consumed. A participant suggested that, while per capita consumption of the rich may be higher, large poor families often rely on only one connection as well. Thus, these families and rich households may have similar consumption per connection, and the large poor families would be just as penalized through a progressive tariff structure as the richer part of the population would.

The issues above clearly highlights the need for a balanced country-specific approach to subsidies in order to appropriately *target subsidies to the poor*, including what is being subsidized, for whom, and at what level has to be clear. The question of what is being subsidized needs to be addressed by the operating utility. The answer is often times least clear when the operator is a fully vertically integrated public utility. The decisions on what is being subsidized can range from investment in infrastructure expansion or replacement (for example rural investment funds), to medium-term investment in upgrading of existing infrastructure, and/or to operation and maintenance (O&M) costs. However, in order to be sustainable, O&M costs cannot be subsidized for long periods of time. There was consensus among participants that *tariffs have to be set in a transparent manner and provide a minimum basis for cost-recovery* (at least covering O&M). In addition, consumers need to be made aware of the true cost of service. Malta is a country that has successfully made the true cost of water supply service provision clear to water users by reflecting it in their utility bills. This in turn has raised public awareness on the absolute levels of subsidies.

The question of *'who' is being subsidized* also needs to be clearly answered if the subsidy is to reach its target population. Thus, a subsidy may target an individual user, a local community, or the state at large. The response should take into account country-specific circumstances.

During the Roundtable, numerous ways on improving the way subsidies to the poor are administered were discussed. As discussed above, a flat tariff structure subsidizes all customers at the same rate, while a progressive tariff increase provides subsidies based on quantity/level of consumption. An alternative discussed was to administer the subsidy directly to those who are poor in a country, as opposed to indirectly through the electricity or water bills. Accordingly, the subsidy would be given to those who qualify through coupons or cash redeems, as it is done in the case of Chile. Some participants expressed the view that this system may not be feasible in the Middle East and North Africa Region, due to problems related to corruption, making it difficult for such lump-sum payments to reach the end-user.

Participants thought that it was important to *bear the views of the low-income users* of water and power to understand what their needs are. Surveys seem to constitute the most appropriate way to solicit such views.

The application of such schemes hinges on the specific institutional framework in place in a particular country. When the public sector is economically sound, the need for private sector intervention may not be necessary.

In the context of public-private partnerships, the question becomes *how to engage the (private) operators to take on board the concerns of the poor*. Possibilities mentioned by participants ranged from the suggestion to build *lifeline tariffs into contracts* with operators, which include a set aside subsidy, to *output-based targets*. In the case of the Casablanca water concession, a target of connecting 45,000 lower income households over a period of five years has been set. Global operating companies, who are typical candidates for public-private partnerships in developing countries, are under increasing pressure to apply the same social standards worldwide, which also applies for the subsidization of poor customers.

5. What assistance should the international community, including the World Bank focus on?

Participants expressed that *involvement of donors is desirable at all levels of sector development*. Among the most important issues is the involvement upstream during the reform process. This includes:

- Bringing in key political stakeholders to ease the decision-making process with regard to development and reform
- Setting reasonable targets
- Designing long-term solutions
- Discussing with all partners involved including private sector and NGOs
- Discussing with private operators risks associated with the current investment climate, as well as identification of other risks
- Regional integration and cooperation

Participants widely accepted the usefulness of donor involvement, but it was felt that *concessionary funds could in general be better targeted and coordinated*. One participant suggested that there are instances where donor money brings more benefits to the donors than to the beneficiary itself.

In cases where donor assistance is given directly to a government, that government defines the priorities as part of a contract. Priorities and conditions of the contract need to be well specified at the outset so the government cannot later go back and re-specify them.

Other participants thought that while upstream involvement of donors was important, emergency planning at the local level was equally significant. Moreover, it was felt that *too much planning and studies can be frustrating if they do not trigger and/or lead to action*.

As private operators are looking for a longer-term perspective on contracts, the participation of donors through *risk mitigating instruments can help* establish such a perspective. These interventions go beyond the traditional role of the donor as one who merely brings forward financing capital and technical assistance. Views were divided as to whether donors should develop more instruments to mitigate the risk or whether sufficient tools are available. Among the private operators present, some thought that the re-appraisal of existing instruments had already led to a useful portfolio, and that new instruments were not necessarily important. An appropriate appraisal of risks, in addition to the instruments is perceived as equally desirable.

A panel session, with representatives from the donor community and international finance institutions (IFIs) present at the event, provided participants with an overview of each of these entities' activities and priorities in the MENA region. Some of the themes touched upon by the majority of the panelists included:

- The importance of water in the region as a key resource and ingredient to regional stability
- The fact that governments are in the driver seat and are ultimately responsible for the programs implemented in their countries, donor financing should be viewed as a needed supplement to getting the job done

- The fact that strategy, institution and policies need to be in place and are critical to getting results on the ground and to benefit the poor

Representatives from the World Bank expressed their commitment to listening more to clients and their needs, sharing knowledge that is customized to local conditions and aligned with each country's particular strategy, and working with clients on solutions, provided there is a clear definition of the needs and/or issues and which direction each country wants to take.

6. Conclusions

The Roundtable only launched a debate on key issues in the water and energy sectors in the Region and that the debate needs to continue. There were no definite answers to all the questions that were raised, nor were there any “one-size-fits-all” solutions generated. Nevertheless, important findings emerged:

- Water is scarce, and yet this valuable resource is wasted, as evidenced by the high rates of losses, inefficient allocation and limited reuse. In addition, pollution of aquifers and excessive extraction threatens resources.
- The region is energy rich and access to power is high in most countries; however, there are important contrasts between countries, regional markets are very limited to date and cost recovery remains limited in many countries.
- The region is lagging behind on reform, which is critical to improve the efficiency and meet the investment needs of the water and power sectors. There are strong synergies between power and water policies and economic growth in the region. Countries need to adopt policies and embark on reforms that support growth rather than risk jeopardizing it. This resulting growth could assist in resolving the region's needs in the water and power sectors.
- In many countries, the poor pay the highest price for water and power and often for inadequate service. No simple solutions exist for ensuring quality access to underprivileged populations, but progressive tariff structures with lifeline rates can help alleviate the situation. It is crucial to listen to the poor in order to ensure that subsidies are brought about where they are needed the most.
- Appropriate regulation is a key element of the appropriate investment climate and can foster the participation of local and foreign investors to infrastructure financing. Regulation sets a level playing field for all actors in the water and power markets, and leads to a sustained development of these sectors in the longer term.
- Mitigating political risk is of vital importance for attracting private sector partners. This includes addressing issues ranging from the transparency of transactions and procedures to controlling corruption and proper risk allocation.
- Management issues within the power and water utilities are very problematic throughout the region with a few exceptions. Issues of cost recovery, water and power losses and overstaffing are key challenges that need to be addressed if the utilities are to become more efficient and effective. These challenges need a careful approach, since local social and economic conditions have to be taken into account in order to achieve sustainable development. In addition, the power and water sectors cannot be considered as the vehicle through which the social contract of society is enforced.
- Partnerships are important. Public-private, donors, NGOs, local businesses, academia, and donors should be involved. Participation and empowerment of users, especially the poor requires special attention to understand the most acute water and power problems and to realize sustainable water management to address their needs. All parties must be better listeners.

It was agreed that events of this kind should continue as they enrich discussions and understanding concerning the development of these two key infrastructure sectors in the MENA region. Thought is already being given to follow-up events on key themes raised such as regulation of water and power sectors, investment's contractual arrangements and subsidies.

Roundtable on Opportunities and Challenges in the Water, Sanitation and Power Sectors in the MENA Region

May 26, 2003

5:00 p.m.	Registration	
7:00 p.m.	Cocktail reception	Hosted by Mr. Omar Razzaz, Country Manager, World Bank Office in Beirut

May 27, 2003

Time		
8:30 a.m.	Registration	<i>(continued)</i>

SESSION 1: LINKING ENERGY AND WATER SECTOR REFORM IN THE MIDDLE EAST AND NORTH AFRICA TO ECONOMIC GROWTH AND COMPETITIVENESS

Chairperson: Mr. Jamal Saghir, Director of Energy and Water, World Bank

9:30 a.m.	Plenary Session	Welcome and Keynote Speech on Opportunities and Challenges in Water and Power Sector Reform	- Mr. Jamal Saghir, Director of Energy and Water, World Bank
10:15 a.m.	Plenary Session	Opening Remarks	- H.E. Partrick Renauld, Head of Delegation, European Commission in Lebanon
10:30 a.m.	Plenary Session	Opening Remarks	- H.E. Ayoub F. Hmayed, Minister of Water and Energy, Lebanon
10:45 a.m.		<i>Coffee Break</i>	
11:15 a.m.	Plenary Session	A Summary of Questions Identified and a Review of the Program	- Ms. Françoise Clottes, Energy and Water Sector Manager, MENA Region, World Bank
12:00 p.m.		<i>Press Conference Lunch</i>	

SESSION 2: HOW CAN SECTOR REFORM HELP IMPROVE SERVICE AND ATTRACT INVESTMENT AND KNOW-HOW?

2:00 p.m.	Plenary Session	A review of reform programs in water and power - introduction to the session	- Mr. Jamal Saghir, Director of Energy and Water, World Bank
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Water Supply and Sanitation

2:10 p.m.	Parallel Session	Improving access to the poor	Chairperson: Mr. Jamal Saghir, Director of Energy and Water, World Bank - Dr. Khairy Al-Jamal, Director, Palestinian Water Authority, West Bank and Gaza - Mr. Anwer Sahoooly, Chairman, Technical Secretariat for Water Supply and Sanitation Sector Reform, Yemen
3:15 p.m.	Parallel Session	Tariffs and cost recovery in water supply and sanitation	- Mr. Fotovat, Director, Tehran Sewerage Company, Iran

Roundtable on Opportunities and Challenges in the Water, Sanitation and Power Sectors in the MENA Region

Power			
2:10 p.m.	Parallel Session	Financing fast growing demand through reforms	Chairperson: Mr. Tjaarda Storm Van Leeuwen, Lead Energy Specialist, World Bank - Mr. Ali Yousef Ensour, Chairman, CEGCO, Jordan - Mr. Tariq Al-Betairi, Executive Vice President, Saudi Electricity Company, Saudi Arabia
3:15 p.m.	Parallel Session	The benefits of regional electricity trade and its implications for the reform agenda – a case study of the Nordic Power Pool Discussion on the potential for regional trade	- Mr. Jan Moen, Director of Regulation and DSM, Norwegian Water Resources and Energy Directorate, Norway - Mr. Tjaarda Storm van Leeuwen, Lead Energy Specialist, World Bank
4:15 p.m.		<i>Coffee Break</i>	
4:45 p.m.	Plenary Session	Experiences in desalination as a means to enhance water availability in the region	Chairperson: Koussai Quteishat, Middle East Desalination Research Center (MEDRC), Oman - Mr. Abduluzuz Albahely, Corporate Legal Advisor, Saline Water Conversion Corporation (SWCC), Saudi Arabia - Mr. Richard Morris, World Bank Consultant
6:00 p.m.	Plenary Session	Close	- Mr. Jamal Saghir, Director of Energy and Water, World Bank
7:00 p.m.		<i>Cocktail reception, followed by dinner</i>	Hosted by Mr. Jamal Saghir, Director of Energy and Water, World Bank

May 28, 2003

SESSION 3: THE ROLE OF THE PRIVATE SECTOR IN IMPROVING SECTOR PERFORMANCE

8:30 a.m.	Plenary Session	Experiences with public-private partnerships in the water and powers sectors - introduction to the session	- Mr. Jamal Saghir, Director of Energy and Water, World Bank
Water Supply and Sanitation			
8:40 a.m.	Parallel Session	The Casablanca multi utility concession – a case study	Chairperson: Mr. Suhail, Jme'an, Senior Financial Analyst, World Bank - Mr. Fouad Djerrari, Director, LYDEC, Morocco
9:40 a.m.	Parallel Session	Breakout Groups	Facilitators: - Mr. Alex Bakalian, Senior Water Supply Specialist, World Bank - Ms. Hiba Tahboub, Senior Sanitary Engineer, World Bank

Roundtable on Opportunities and Challenges in the Water, Sanitation and Power Sectors in the MENA Region

Power			
8:40 a.m.	Parallel Session	Privatization, linkages to the EU Directive and interconnection	Chairperson: Ms. Elisabetta Capannelli, Manager, Joint European Commission/World Bank Programme on Private Participation in Mediterranean Infrastructure (PPMI), Belgium - Mr. Bruno Cova, Manager, Middle East and Gulf Countries, CESI spa, Italy - Mr. Assad Saab, Deputy Head of Industrial Strategy, EDF Generation and Trading, France
9:40 a.m.	Parallel Session	Breakout Groups	Facilitators: - Ms. Elisabetta Capannelli, Program Manager, PPMI - Ms. Anna Bjerde, Senior Infrastructure Specialist, World Bank
11:00 a.m.		<i>Coffee Break</i>	
11:30 a.m.	Plenary Session	Report from break-out groups	Break-out group spokespersons
12:30 p.m.		<i>Lunch</i>	
SESSION 4: MITIGATING RISK, OTHER ENABLING TOOLS: Countries, Private Sector and Donor views			
			Chairperson: Mr. Jamal Saghir, Director of Energy and Water, World Bank
2:00 p.m.	Plenary Session	Risk measures and enabling tools to increase market attractiveness – introduction to the session	- Mr. Jamal Saghir, Director of Energy and Water, World Bank
2:10 p.m.	Plenary Session	Mitigation Instruments offered by the World Bank Group	- Mr. Tjaarda Storm van Leeuwen, Lead Energy Specialist, World Bank - Mr. Christophe Bellinger, Multilateral Investment Guarantee Agency (MIGA), World Bank
3:00 p.m.	Plenary Session	Views from Donors and International Finance Institutions (IFIs), EC and Banks	- Representatives from Donor organizations, IFIs, EC and Banks
4:00 p.m.		<i>Coffee Break</i>	
4:30 p.m.	Plenary Session	Feedback from the Private Sector	- Representatives from the private sector
5:30 p.m.	Plenary Session	Conclusions and Closing Remarks	- Mr. Jamal Saghir, Director of Energy and Water, World Bank

Appendix 2: List of Speakers and CV Synopsis

H.E. Mr. Ayoub F. Hemayed

Minister of Water and Energy, Lebanon

Mr. Hemayed is the Minister of Water and Energy in Lebanon. He has also been a Member of Parliament for the Bin Jbeil District, a position he has occupied since 1992. He held the post of the Minister of Social Affairs between 1996 and 1998. Previously, he was the General Director of the Ministry of Information (1984-1992). Minister Hemayed has a Doctorate in Arabic Literature and a Bachelor of Arts degree in Political Science and Arabic Literature from the Lebanese University.

Mr. Jamal Saghir

Director Water and Energy, The World Bank

Mr. Jamal Saghir is the Director for Energy and Water in the Private Sector Development and Infrastructure Vice Presidency (PSIVP) at the World Bank. Since joining the Bank in 1990, Mr. Saghir, a citizen of Canada and Lebanon, has held several positions including a Senior Private Sector Development Specialist in the Industry and Energy Operations Division in the Middle East Country Department and Sector Manager in the Infrastructure Development Group in MENA. Prior to joining the World Bank, he served as resident advisor to the Prime Ministry in Tunisia (1988-1990) and was responsible for managing a major USAID-funded program in Tunisia to privatize and restructure state-owned enterprises. From 1985-1988, Mr. Saghir held the positions of Economic Adviser and Chief of Staff to the Associate Minister of Finance and Privatization in the Government of Quebec in Canada. He has spoken at numerous events about privatization, Private Participation in Infrastructure (PPI), energy development and water and wastewater development across the globe and has contributed to several publications.

Ms. Françoise Clottes

Sector Manager, Water and Energy, North Africa and Middle East Region, The World Bank.

Ms. Clottes is currently the Sector Manager in charge of the energy and water sectors in the Middle East and North Africa region. She joined the World Bank in 1994 through the Young Professionals program. Prior to her current position, she was the manager in charge of strategy in the office of the Vice-President for Private Sector Development and Infrastructure, after holding a number of positions in the infrastructure sectors within the organization. She is an alumna from the Ecole Normale Supérieure d' Ulm-Sèvres, holds an M.A. in Public Policy from Harvard University's Kennedy School of Government, an M.A. in Political Science from the Institut d'Etudes Politiques de Paris and an M.A. (DEA) in International Economics from the University of Paris I – Panthéon-Sorbonne.

H.E. Mr. Patrick Renaud

Head of Delegation, European Commission in Lebanon

Mr. Renaud is the Head of the Delegation of the European Commission in Lebanon since September 2001. An official of the European Commission since 1980, he participated in the negotiations of the Association Agreements with the Mediterranean partner countries following the

joining of Spain and Portugal as well as in the Uruguay Round negotiations. In 1988, he was the Economic Advisor at the European Commission Delegation in Rabat and later was appointed Political and Economic Advisor in the Algiers' Delegation. Upon his return to Brussels in 1995, he was made responsible for Romania within the External Relations Directorate. In 1996, he was nominated Deputy Special Envoy in Sarajevo, and in 1998 he became the Head of the 'Horizontal Matters and Regional Co-operation' Unit within the Western Balkans Directorate of the External Relations Directorate General. Mr. Renault holds degrees in Law and Economics, and prior to joining the European Commission, he worked for the French Ministry of Finance.

Dr. Omar Razzaz

Lebanon Country Manager, The World Bank

Dr. Razzaz is the Manager of the World Bank's Lebanon Country Office. He joined the Bank in 1993 through the Yong Professionals Program and then moved to the Private Sector Development Department, where he worked with the private participation in infrastructure group, focusing on Eastern Europe and the Former Soviet Union. In 2000, Dr. Razzaz joined the Middle East and North Africa Region, where he became the Lead Urban Specialist in the Finance, Private Sector, and Infrastructure Department. He led the preparation of the Yemen Port Cities Development Program; Iran Low Income Housing Program; and the Jordan Municipal Finance Study. His country experience includes Russia, Uzbekistan, Turkmenistan, Estonia, Belarus, Macedonia, South Africa, Cote d'Ivoire, Central African Republic, Saudi Arabia, Yemen, Iran, Lebanon, and Jordan. Prior to joining the Bank, Dr. Razzaz was an Assistant Professor at MIT in the International Development Program and Regional Planning Program at the Department of Urban Studies and Planning. He holds a Ph.D. from Harvard University in Urban Studies, and a post-Doctorate from the Harvard Law School. He has a number of publications in refereed journals.

Mr. Anwar Sahooly

Chairman, Technical Secretariat for Water Supply and Sanitation Sector Reform, Yemen

Mr. Sahooly is the Chairman of the Technical Secretariat for Water Supply and Sanitation Sector Reform in Yemen. Previously held positions include: Deputy Director General for the Public Electricity Corporation, Director of investment and special advisor to the Minister of Electricity and Water, and Acting Vice Minister for the Ministry of Electricity and Water in Yemen. Mr. Sahooly is a member of the Ministerial Steering Committee for the Water Sector Reform. He has a degree in Engineering from the United Kingdom, and makes frequent presentations both in Yemen and internationally on topics such as water sector reform, institutional strengthening, capacity building, decentralization, tariff setting, and private sector participation.

Mr. Sepeher Fotovat

Director, Tehran Sewerage Company, Iran

Mr. Fotovat is the Director of the Tehran Sewerage Company. He is also Deputy of Planning and Management Improvement of Tehran Sewerage Company (TSC) and TSC/PMU Director (World Bank Loan for Tehran Sewerage Project). He has a M.Sc. from Wayne State University, Michigan, and a B.Sc. from Lawrence Institute of Technology, Michigan, both in Mechanical Engineering.

Mr. Tjaarda P. Storm van Leeuwen

Lead Energy Specialist, The World Bank

Mr. Storm van Leeuwen is a Lead Energy Specialist at the World Bank. He has been at the World Bank since 1986, leading project and economic sector work in the energy, infrastructure and mining sectors, including regulatory, power sector restructuring and market design, IPPs and privatization issues. His country experience includes South Asia (India, Pakistan, Nepal, Afghanistan), Africa (Mali, Niger, Mauritania, Uganda) and Middle East and North Africa (Algeria, Tunisia, Jordan, Lebanon, Yemen, Bahrain, Saudi Arabia). Prior to joining the World Bank, he was with the European Investment Bank in Luxembourg, the Asian Development Bank in Manila, the Economic Commission for Africa in Addis Ababa and worked as a management consultant in the Netherlands. He holds a masters degree from the Netherlands School of Economics/Erasmus University in Rotterdam, Netherlands

Mr. Ali Yousef Ensour

Chairman, CEGCO, Jordan

Mr. Ensour is the chairman of the Central Electricity Generating Company (CEGCO). Prior to that, he was the Chairman of the Arab Potash Company. Previously held posts include: Managing Director of Jordan Phosphate Mining Company, Minister of Industry and Trade, and General Director of Jordan Electricity Authority. He holds a B.Sc. in Electrical Engineering from the University of London.

Mr. Koussai Quteishat

Director, Middle East Desalination Research Center, Oman

Mr. Quteishat is the Director of the Middle East Desalination Research Center in Oman. Before joining the public sector, he worked for several years in the engineering field in consultancy, contracting and construction management in the United States, Saudi Arabia, and Jordan with international firms and with companies that he himself established. Other posts held by Mr. Quteishat include: Secretary General of the Water Authority of Jordan, Secretary General of the Ministry of Water & Irrigation, and Chairman and Managing Director of the newly established Electricity Distribution Company. He serves on many international committees and has given presentations worldwide on the topics of water, water management, desalination, as well as water issues related to the Peace Process. Mr. Quteishat holds a BS and MS degrees in Civil Engineering from the University of Massachusetts and a BA degree in Engineering Sciences from Dartmouth College.

Mr. Fouad Djerrari

Director, LYDEC, Morocco

Mr. Djerrari is the Director of Lyonnaise des Eaux in Casablanca. Prior to that, he was the director of the Water Utility Partnership Program (Africa) a capacity building program mainly founded by The World Bank, DFID and SIDA, headquartered in Abidjan and working in urban water and sanitation. Mr. Djerrari held several positions throughout the years, including: the Chief Executive Officer of the Rabat Water, Sanitation & Electricity Board (RED), the President of Union of African Water Suppliers (UAWS), Consultant for multiple international organizations and private

sector companies such as: The World Bank, the World Bank Institute, and the Global Environmental Facility in Washington D.C., Ernst and Young, La Défense, Paris.

Ms. Elisabetta Capannelli

Manager of the Programme on Private Participation in Mediterranean Infrastructure (PPMI) – World Bank and European Commission

Ms. Capannelli is a World Bank staff assigned to manage the Brussels-based Programme on Private Participation in Mediterranean Infrastructure (PPMI). She has been with the World Bank since 1998 and moved to the Brussels office in 2001. Prior to joining the World Bank, she was in Manila for about seven years with the Asian Development Bank. Ms. Capannelli also worked as an economist in Italy, her country of origin. She has extensive regional knowledge of the MENA countries and has worked in over fifteen countries in Asia and the Pacific, including among others China, Mongolia and South East Asia. Her expertise covers microeconomics, private sector participation and regulation. She has project experience in infrastructure sectors (water, sanitation, solid waste, and transport). She holds a Master Degree (MA) in Development Economics from Sussex University in the UK and a MA in Political Science/Economics from Bologna University, in Italy.

Dr. Alex Bakalian

Senior Water Supply Specialist, The World Bank

Dr. Bakalian is a Senior Water Supply Engineer in the Water and Energy Unit of the MENA Region in the World Bank. He has extensive experience on institutional and financial aspects of the water supply and sanitation sector, utilities reform and rural water supply and sanitation in Latin America and the Middle East. Dr. Bakalian holds a PhD in Environment Health Engineering from Johns Hopkins University, a BS in civil engineering from the American University of Beirut, and a MBA from George Washington University.

Dr. Bruno Cova

Manager, Middle East and Gulf countries, CESI spa, Italy

Dr. Cova is Scientific Manager within B.U. T&D Networks at the Italian Electrical Experimental Centre (CESI), which he joined in 1985 and has been deeply involved in power system modeling, studies and simulations. Presently, he is acting as Project Manager of the Mediterranean Electrical Ring (MEDRING) project, aimed at investigating the expected behavior in static and dynamic conditions of the synchronously interconnected Mediterranean system. The main issues of this project, now in its final stage, are: definition of the economically optimum energy exchanges between the countries, proposal of solutions for improving the reliability of the system, training of experts and operating personnel in operation of interconnected systems and on the mechanism of energy markets. Dr. Cova graduated in Electrical Engineering in 1985 at the University of Pavia (Italy).

Dr. Assaad Saab

Deputy Head of Industrial Strategy, EDF Generation and Trading, France

Dr. Saab has worked in the Executive Office of Electricité de France since 1988 and has held his role as Head of Corporate Planning, Strategy Division. He joined EDF – Energy Branch in 2003 as

deputy head of “Industrial Strategy” and he is a member of EDF Environment and Sustainable Development Agency. He is also a member of several international expert networks in Business Environment. He has postgraduate and doctorate degrees in physics from the Paris University. Dr Saab is the co-author of “La prospective stratégique d’entreprise” – Dunod and the author of numerous reports, monographs and papers on environmental research and policy issues, long range and strategic planning issues related to electric utilities and energy systems.

Ms. Anna Bjerde

Senior Infrastructure Specialist, The World Bank

Ms. Bjerde is a Senior Infrastructure Specialist in the Water and Energy Unit of the Middle East and North Africa Region (MENA) in the World Bank. She joined the World Bank through the Young Professionals Program in 1997. She has extensive experience in the preparation and implementation of energy, water and telecommunications projects throughout the World Bank’s client countries, notably in the Europe and Central Asia Region and more recently MENA. Prior to joining the World Bank, Ms. Bjerde was a Senior Consultant with Gemini Consulting, a leading management-consulting firm, working on various infrastructure sectors. She holds an MBA degree from Stockholm University, Sweden.

Mr. Christophe Bellinger

Director, Multilateral Investment Guarantee Agency (MIGA)

Mr. Bellinger joined the Multilateral Investment Guarantee Agency (MIGA), a member of the World Bank Group, in 1988, soon after the Agency was created. He spent most of his career at MIGA as its Chief Underwriter and head of operations. On January 2, 2001, he was assigned to Paris, France to establish MIGA’s first permanent office outside of Washington, D.C.

Prior to joining MIGA, Mr. Bellinger was Vice President of Political Risk at AIG (the American International Group), one of the largest providers of private political risk insurance. Mr. Bellinger began his career in political risk insurance at the Overseas Private Investment Corporation (OPIC), a U.S. Government agency where he was the Regional Manager for Asia. Before entering the field of political risk insurance, Mr. Bellinger worked for American Hospital Supply Corporation in France.

Mr. Bellinger holds graduate degrees in political science and business from the University of Kansas and the American Graduate School of International Management. He has studied international law at the Fletcher School of Law and Diplomacy and the Woods Hole Oceanographic Institute and recently completed an executive development program at Harvard Business School. During Mr. Bellinger’s career in political risk insurance, he has been involved in over 500 start-up projects around the world. He represents MIGA at the Berne Union, the Association of Export Credit and Investment Insurers.

Dr. Khairy Al-Jamal

Manager, Palestinian Water Authority, West Bank and Gaza

Mr. Al-Jamal is currently a Manager in the Gaza Office of the Palestinian Water Authority, managing a multi-disciplinary team involved in the field of Water Resources and the World Bank-financed Water and Wastewater Service Improvement Project. He also lectures on Water Distribution

Systems Design at the Islamic University for the MSc. Course in Infrastructure Engineering. Mr. Al-Jamal is an associate member of the Institution of Mechanical Engineering (UK), and a member of the: Research Advisory Committee, Middle East Desalination Research Centre (Oman), Engineering Syndicate (Palestine), Advisory Board CDG (Germany) and the International Steering Committee of World Renewable Energy Congress (UK).

Mr. Al-Jamal has extensive experience in the field of water supply and management. He also worked as a consultant to the Palestinian Energy Center and the UNDP-funded projects to supervise the design and construction of Solar Crop Dryer and Solar PV Pumping in Gaza. He holds a B. Eng. in Mechanical Engineering from Birzeit University (Distinction), a MSc. on Renewable Energy Resources (Distinction) and a Ph.D. on Solar Process Heat Generation from the Reading University in the UK. He has also completed post Doctoral studies on Water Distribution Systems Optimization at the University of Cambridge (UK). He has carried out post doctoral research in Hydraulic Network Analysis and Simplification for Thames Water to conduct the analysis to minimize the pumping cost through a proper pump scheduling at the Cambridge University and on compound parabolic solar concentrators at Reading University. Mr. Al-Jamal has published more than 14 papers and reports in various journals and for various conferences.

Mr. Tariq Al-Betari

Executive Vice President, Saudi Electricity Company, Saudi Arabia

Mr. Al-Betari has a bachelor in Engineering and an MBA. He has 26 years of experience working for the Saudi Electricity Company, including 15 years in executive capacities. Assignments included customer services (retail and corporate), systems operations, and planning and project management. In 2001, he was Director of the GCC Interconnection Authority Board, and in 2003 he is Vice-Chairman of the Water and Electricity Company Board.

Mr. Jan Moen

Director of Regulation and DSM, Norwegian Water Resources and Energy Directorate, Norway

Mr. Moen has a Masters degree in economy from the University of Oslo. In 1990 he was appointed the first Electricity Regulator of Norway. Before becoming a Regulator Jan Moen had been in electric power industry during most of his professional career. He spent nearly 17 years at Oslo City Light and Power (the Utility of the city of Oslo), and in his last 5 years with the company, he was the manager of the most comprehensive DSM program in Norway. His experience covers: energy planning, forecasts, tariffs, statistics and international cooperation.

He was one of the founders of ECEEE (European Council of an Energy Efficient Economy) and served as president until recently. He now serves as a member of the advisory group. Jan Moen was also one of the founders of the IEA Executive Committee of DSM and New Technology and served as the chairman until last year.

The World Bank has used Mr. Jan Moen as a short-term consultant on several projects, mostly related to poverty and restructuring of the power industry. Jan Moen is also a TAG member of the Energy Focused Trust Funds at the World Bank. He is one of the founders of CEER (Council of European Energy Regulators) and has been a board member since its establishment. Jan Moen spent much of his time focusing on the development of a common electricity market in the European

Union and he is the chairman of a committee on Security of Supply at CEER and works close to the European Commission.

Mr. Richard Morris

Desalination Expert

Mr. Morris studied Chemical Engineering at the University of Strathclyde, Glasgow, where he graduated in 1964. Since then, he has held numerous important posts in the chemical process and desalination industry. He has been involved in the design and commissioning of major desalination plants in many countries in the Middle East.

In 1993, he formed Richard Morris & Associates (RMA) an international consultancy firm specializing in business development in energy, environment and desalination. RMA is retained as an advisor to the EC at the Middle East Peace Process. RMA has carried out numerous assignments for Scottish companies, the EC, the World Bank, DFID and for other governmental organizations in the Maghreb, the Middle East and in South Africa.

Mr. Morris is the author of numerous papers dealing with water, energy, the environment and business development.

Mr. Abdulaziz Albahely

Corporate Legal Advisor, Saline Conversion Corporation, Saudi Arabia

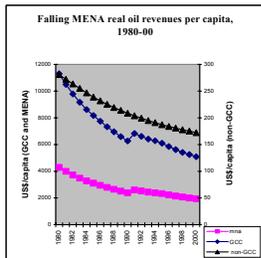
Energy in the Middle East and North Africa



A fact sheet compiled by the World Bank

As a result of high population growth, the region's total investment needs in the energy sector are high

The regional population growth rate of 2% per year is among the highest in the world, surpassed only by sub-Saharan Africa at 2.4%. In 2010, the population in the region is estimated to be 20% larger than in 2000 (World Bank, 2002). In addition, annual economic growth in the Middle East and North Africa is expected to be in the order of 1.4% through 2010, somewhat higher than when compared to the pre-2002 period, when it was 1% (World Bank, 2002); although large interregional differences exist: In 2000, economic activity in West Bank and Gaza declined by 6%, while it increased by 6% in Iran, for example. Thus, investment needs to the energy sector are estimated at about US\$300 billion (in 1990 prices) between 2000 and 2010. Of this amount, US\$160 billion are estimated to be required for the oil and gas sector (World Bank, 2000).



Oil and gas reserves are large, but per capita revenues are falling

40.7% (58.5 tcm) of the world's proven gas reserves and 57% of the world's proven oil reserves are in the region (Iranian Economic Information Center, 2003 and IEA, 2001). With 221 billion barrels and 23% of the world's remaining reserves, Saudi Arabia has the largest oil resources world-wide; the second largest reserves are in Iraq, estimated at 112 billion barrels. Iran has the world's second largest gas resources at 15% of global reserves. However, per capita income from oil exports have fallen during the past 20 years (see graph on previous page). Countries relying on the net-import of fossil fuel resources include Djibouti, Egypt, Jordan, Lebanon, Morocco, Tunisia, Yemen, and West Bank and Gaza.

Overall access to electricity in the region is good

The average electrification rate in the region is around 90%, with many countries performing close to the 100% mark. However, 28 million people in the region still lack access to electricity and 8 million people rely on biomass for all of their energy needs (IEA, 2002).

Countries	Electrification rate %
Algeria	98.0
Bahrain	99.4
Djibouti	30.0
Egypt	93.8
Iran	97.9
Iraq	95.0 ¹
Jordan	95.0
Kuwait	100.0
Lebanon	95.0
Libya	99.8
Morocco	71.1
Oman	94.0
Qatar	95.0
Saudi Arabia	97.7
Syria	85.9
Tunisia	97.0
UAE	96.0
WBG	95.0
Yemen	42.0
OECD	100.0

Source: IEA (2002).

The region has a large potential to render the use of energy more efficient

Energy intensity² is high in the region and ranges from 10,626 Btu/US\$ in Yemen to 372,894 Btu/US\$ in Bahrain. Most countries are in the range of 20,000 - 30,000 Btu/US\$. This is relatively high compared with an oil producing country such as Norway (10,619 Btu/US\$), but relatively low compared with oil producing countries

¹ Pre-war level

² Energy intensity is the ratio of energy input required per generated unit of GDP. The stated values are expressed in British thermal units (Btu) per 1995 USD. Figures are from 2000.

such as Venezuela (34,113 Btu/US\$) and Russia (80,316 Btu/US\$). It is high compared with non-oil producing countries. Spain's energy intensity is 7,684 Btu/US\$, and Germany's energy intensity is 5,217 Btu/US\$ (EIA, 2003). Demand management programs – including increased tariffs - can help increase energy efficiency, and thus reduce energy intensity.

Most countries in the world have adopted the September 2000 Millennium Development Goals, which set out 8 development goals. One of the goals, environmental sustainability, requires progress on the integration of principles of sustainable development into country policies. Indicators for environmental sustainability are energy and carbon intensity.

The composition of energy consumption in the region varies significantly, reflecting the diversity of economies. For example, in Yemen 69.5% of energy is consumed in the transport sector, while in most other countries the share of the transport sector in energy consumption is between 10-30%. The industrial sector is most important in Bahrain (67.6%), Egypt (53.3%), Lebanon (58.4%), Qatar (81.8%), and in the United Arab Emirates (58.4%). Lowest sector shares of industry are found in Djibouti (5.3%) and Yemen (11.2%) (EIA, 2003). Energy consumption for residential and commercial purposes is lower at about 2% to 30% of energy consumption.

The level of carbon emissions vary throughout the region...

In 2000, per capita carbon emissions in Yemen were 0.2 tons, in Egypt and Morocco 0.5 tons, and in Algeria 0.7 tons. Other countries have high per capita emissions with Qatar at 14.1 tons, Lebanon and the United Arab Emirates at 9.7 tons, and Bahrain at 8.4 tons. This compares with 2.1 tons of carbon in Spain and 1.5 tons of carbon in Venezuela (EIA, 2003).

Morocco - host to the global climate negotiations in 2001 - is pioneering renewable energy sources in the region with several wind projects underway or planned, and one solar thermal plant planned. (World Bank, 2003)

...but carbon intensity is on the whole relatively high

Carbon intensity¹ of GDP in the region in the year 2000 is somewhat higher than compared to OECD countries. It ranges from 0.2 tons of carbon/US\$1,000 for Tunisia and Morocco to 5.72 tons of carbon/US\$1,000U for Bahrain. For comparison, the carbon intensity of Spain is at 0.12 tons of carbon/US\$1,000, and of Venezuela is at 0.44 tons of carbon /US\$1,000. The high figures suggest a potential for carbon financing in the region.

Tariffs are still too low to ensure cost recovery

Selected electricity prices in the table below show that gradually prices have moved to levels comparable to European countries, but for a number of countries prices are still too low to ensure cost recovery.

Tariffs in US cents/kWh		
Countries	Large Industry	Households
Algeria	3.84	1.72
Egypt	2.80	2.50
Iran	1.80	0.7
Jordan	6.0	5.9
Lebanon	12.0	7.2
Morocco	6.92	9.53
Oman	4.9	5.2
Saudi Arabia	3.1	1.3 ²
Syria	2.0	2.0
Tunisia	4.61	6.47
WBG	15.0	15.0
Yemen	8.9	6.0
Spain	5.13	13.17

Source: IEA (2002) and World Bank (2003)

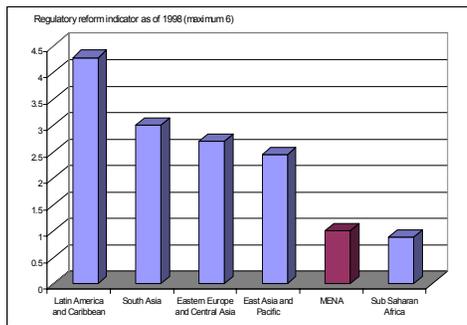
Relative prices in the Middle East and North Africa remain skewed in favor of households, which continue to pay less than industry (World Bank, 2003).

By early 2003, most countries in the region had initiated reform in electricity, but the region is still lagging in the international context

Policy needs vary in the energy sector's sub-sectors: electricity, upstream oil and gas, and downstream oil- and gas. In the electricity sector, comprehensive analysis of restructuring possibilities are at various stages of completion or are beginning to be implemented in countries such as Morocco, Lebanon, Yemen, and

¹ Carbon intensity is the amount of carbon emitted per unit of GDP produced.
² Up to 2000 kWh.

Tunisia. Many countries have adopted new electricity laws, which includes corporatization and the setting up of a regulatory body. Egypt has created a holding company with corporate subsidiaries and has established a regulatory agency. The UAE is another example of a country which has undergone full restructuring, including the establishment of an



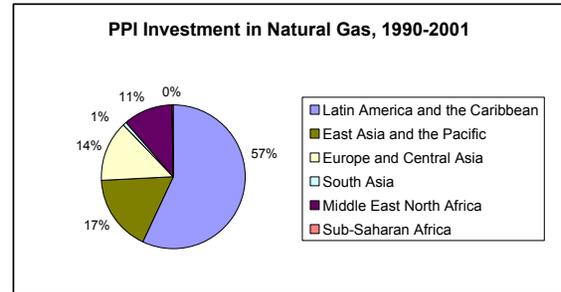
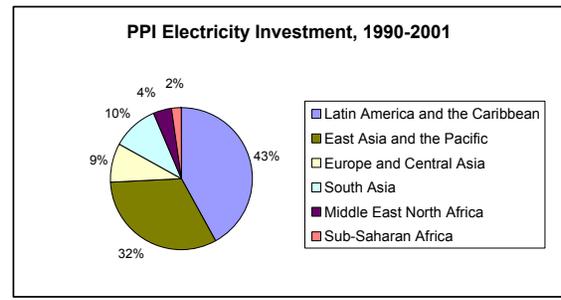
(World Bank, 2003) independent regulator. Five countries have private independent power producers (IPPs) in operation (Egypt, Morocco, Oman, West Bank and Gaza and Tunisia). Jordan, which has had a locally privately owned distribution company for many years, has fully unbundled and is preparing to privatize the other entities as well. In Morocco, about 50% of distribution is operated through private concessions. However, in the international context, regulatory reform as measured by the World Bank's regulatory reform indicator has been slower in the Middle East and North Africa than in other regions (see graph above).

Private sector participation in the region's power sector has been low

While global private investment flows in electricity had sharply fallen to 1992 levels in 2001, private investment flows in the Middle East and North Africa have remained at 2000 levels. However, in the electricity sector, only 4% of the world's

Local private financing in the sector in the region is becoming more common. 75% of a 285 million USD investment for a 385 MW(e) CCGT in northern Morocco comes from local private banks (ONE, 2002)

FDI was invested in the region (World Bank/PPI Database, 2003). In the area of natural gas, a fair share of FDI has been attracted to the region, 11% of funds spent world-wide. With the current global recession, domestic and regional private sources of financing are becoming increasingly more important as international finances are even more difficult to obtain (see graphs below; source of graphs: PPI database, 2003).



Looking ahead...

- Both population and economic growth are putting pressure on existing infrastructure and investments to meet future demand
- Reform has lagged when compared to other regions, making the region less attractive for private investors
- Cost recovery of both O&M and investment costs remain weak which will impede development in the sectors
- Given the substantial need for capital, local private financing and international public-private partnerships are likely to have a prominent role in the years to come

Urban Water in the Middle East and North Africa



A fact sheet compiled by the World Bank

Water is very scarce in the region ...

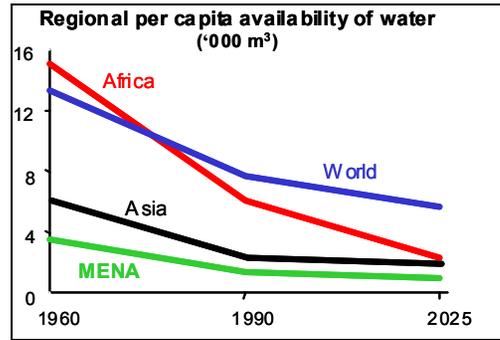
The Middle East and North Africa region is host to 5% of the world's population. Yet, the people in the region dispose of only 1% of the world's accessible fresh water. Current available water resources per capita in the Middle East and North Africa Region are one sixth of the world average. 45 million people in the region lack access to safe drinking water and more than 80 million lack access to safe sanitation (WHO, 2002). Aquifers all over the region suffer from over-exploitation.

Even where piped access exists, supply is likely to be intermittent. For example, in Algeria, Jordan, Lebanon, Syria, West Bank and Gaza and Yemen, most urban areas experience intermittent supply (World Bank, 2003). This situation is particularly problematic as cities, host to 60% of the population in the region, are growing at more than 4% per year (World Bank, 2003). The situation is also acute in rural areas, where access to clean drinking water and sanitation is a considerable problem.

...and the situation is worsening due to high population growth

At the same time water availability is falling due to population growth. Annual per-capita availability, which

was about 3,300 cubic meters in 1960, has fallen by 60% to about 1,200 cubic meters in 2003. For example, in Yemen, per capita availability today is less than 150 cubic meters, already far below the projected regional average 30 years from 2003 (World Bank, 2003).



(World Bank, 2003; annual availability of water)

Water allocation should be better geared to uses with higher economic returns

On average, 7% of the water used in the region goes to domestic consumption while 4% goes to industry. Meanwhile agriculture consumes 89% of the region's water, even though agriculture's contribution to GDP only ranges between 2 - 20%, depending on the country (World Bank, 2003).

The potential to increase water use efficiency by reducing losses and improving wastewater management is high

Water use efficiency: urban water systems lose on average 50% of available water as "unaccounted-for-water". The latter breaks down in physical and commercial losses. In surface irrigation, only about 40% of the water reaches the crops in the region (World Bank, 2000 and World Bank, 2003).

Water pollution: in general, wastewater in the region is not being treated. The cost of environmental degradation due to water pollution has been estimated at 1% of GDP in Egypt, and between 0.7% and 1% for Algeria, Lebanon

and Tunisia. Morocco's most important river, the Sebou, has become a waste dump for the cities along its banks.

Algeria's Mitidja and Saida aquifers are threatened by pollution from cities, industrial effluents and agricultural runoffs.

Institutional support to address these types of issues in a consistent manner still needs to be developed in most countries.

Desalination can provide additional drinking water, but is still very costly

Although desalination, at on average US\$20-40/cubic meter for brackish water and US\$50-90/cubic meter for seawater (for large plant), is still very expensive, a number of countries in the region have begun using desalination to generate drinking water. The amount of desalinated water ranges from 0.02 BCM/year for Yemen to 0.71 BCM/year for Saudi Arabia.

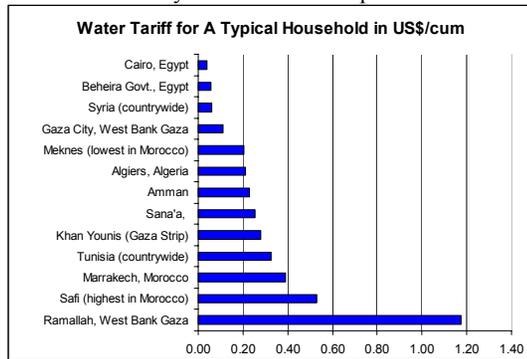
Countries with higher electricity prices find it harder to make desalination economically viable, as the desalination process is very energy intensive. However, as tariffs generally don't cover cost, reducing both commercial and technical losses of water should be the first avenue to enhancing water supply.

Tariffs generally do not allow for cost recovery, although efforts are being made to increase tariffs

In Yemen, water tariffs were increased from 1995 to 2002 resulting in an average increase in the monthly household bill by over 350%, while industrial tariffs increased by over 150% per m³. (World Bank, 2003)

In most countries of the region, tariffs for urban water supply are subsidized, and the average share of the water bill in terms of household income is less

operation and maintenance (O&M) costs of water supply, but not necessarily for sanitation. Capital cost recovery is



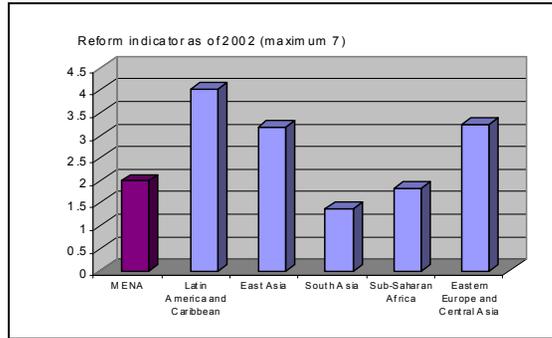
yet another challenge. Although, in many cases the O&M costs are under-estimated due to subsidies on energy and insufficient spending on maintenance.

The current average level of water tariffs for a typical household in the region varies between US\$0.04 per cubic meter in Cairo, and US\$1.11 per cubic meter in Ramallah. Wasteful use of water in the industrial and agricultural sectors could potentially be reduced by increasing tariffs.

Water sector reform is at an early stage but underway in most of the region

Responding to a new understanding of the importance of water resources for the national economy, a number of countries have established separate ministries to deal with water issues. In Algeria, a Ministry of Water Resources was established in 2000, in Oman the Ministry of Water Resources was established in 1989, and in Jordan, the Ministry of Water and Irrigation was established in 1992.

New water laws have been adopted by Algeria (1996), Iran (1991), Jordan (1988), Lebanon (2000 and 2001), Morocco (1995), Tunisia (1975), West Bank and Gaza (2002), and Yemen (2002). New strategies - such as the 1998 Yemen water strategy - are identifying the need for a change in the role of the government when it comes to management of water. The need for water use sector strategies are also emerging in many countries in the region.



(World Bank, 2002)

Egypt, Iran, Morocco, Saudi Arabia and West Bank and Gaza have decentralized service provision in urban areas from the national/state level to municipal levels (World Bank, 2002). Thus far, no independent water regulator has been established in the region¹. When benchmarking progress of water reform, the region falls into the mid-range of performance in the developing world (see figure above).

Private sector participation is low when compared to other regions, but growing

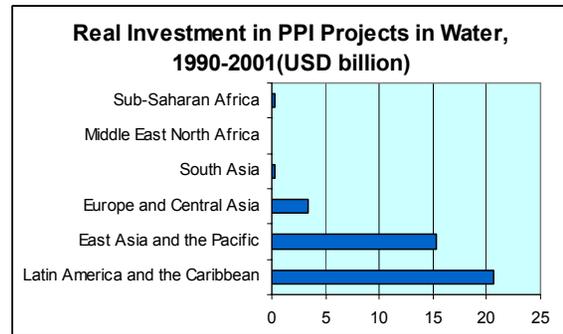
Compared with other regions in the world, the overall level of private sector investment is low, at less than 1% of all private sector investments world-wide which corresponds to a mere US\$60 million. But countries are increasingly engaging the private sector, especially for the management of water supply.

Modes of private participation range from service contracts (Algeria, Tunisia), management contracts (West Bank and Gaza, Lebanon, Jordan), BOTs (Kuwait, Oman), to concessions (Morocco).

In Morocco, an ambitious private sector participation program has led to the conclusion of 3 multi-service concessions by 2002 in the major cities of the country, and others are planned. In Tunisia, water and sewerage public sector utilities are delegating some operation and

¹ Due to lacking data this does not include Iraq, Libya or the GCCs (except Saudi Arabia).

management responsibilities to the private sector through sub-contracting and service contracts. Pilot BOTs are also under preparation.



(World Bank, 2002)

Looking ahead...

- Per capita water availability will remain a major priority in the region as it continues to decrease
- Sector reforms are at an early stage; meanwhile operational and cost recovery challenges continue to pose a significant threat to the viability and sustainability of water supply in the region
- The sanitation agenda is critical as the environment in the region is showing clear degradation from waste disposal and given the opportunity of wastewater reuse
- Private investors are primarily interested in management contracts. As a result, financing gaps remain huge
- Meeting the Millennium Development Goals will require further investment and sector reforms



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Appendix 4: List of Registered Participants

Roundtable on Opportunities and Challenges in the Water, Sanitation and Power Sectors in the Middle East and North Africa Region

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