

**Pan-Arab Regional Energy Trade  
Workshop training in Algiers (January 2019)  
Program**

**DAY 1 | [Monday, January 28, 2019]**

TIME	EVENT	VENUE
<b>TRADE BENEFITS AND INVESTMENT MODELING (FULL DAY OF TECHNICAL DEEP DIVES IN THE MODELS)</b>		
08:15	<b>REGISTRATION AND BREAKFAST</b>	TBD
09:30	<b>INTRODUCTION</b> <b>Workshop Opening</b> (5 min): Ms. Kaci Ghania (tbc), Algerian Ministry of Energy (5 min): Eng. Emad Abou ElNeaag, League of Arab States (5 min): Eng. Yousuf Janahi, Steering Committee Member and Head of the Study Team (5 min): Mr. Emmanuel Py, Senior Energy Specialist, World Bank	
09:45	<b>SESSION 1: ELECTRICITY POWER PLANNING</b> Session led by Ms. Ilka DeLuque, PhD, Energy Specialist, Consultant to the World Bank  <b>PART (1): EXPANSION PLANNING FOR ELECTRIC POWER SYSTEMS</b> <ul style="list-style-type: none"> <li>• Objective</li> <li>• Overview Power System Planning</li> <li>• Load Forecasting</li> </ul> <b>PART (2): POWER PLANNING TOOLS</b> <ul style="list-style-type: none"> <li>• Elements of a Modern Planning Tool</li> <li>• Commercial Power Planning Models</li> <li>• Dealing with Planning Challenges</li> </ul>	
11:15	<b>BREAK</b>	
11:30	<b>PART (3): EPM OVERVIEW</b> <ul style="list-style-type: none"> <li>• The Beginnings of EPM</li> <li>• Key Features: Core EPM</li> <li>• Long-term capacity plan cast as a linear program</li> <li>• Under the Hood</li> <li>• EPM User Interface</li> </ul>	

TIME	EVENT	VENUE
12:40	LUNCH & NETWORKING BREAK	TBD
<b>WORLD BANK'S ELECTRICITY PLANNING MODEL (EPM) TUTORIAL</b>		
2:00 pm	<p><b>SESSION 2: SELECTED COUNTRY EXPERIENCE IN POWER INVESTMENT PLANNING</b></p> <p>Session chaired by Ms. Ilka DeLuque, PhD, Energy Specialist, Consultant to the World Bank</p> <p><b>ROUND TABLE DISCUSSION</b></p> <p>Ms Boumaza Samia, representative of the Algerian regulator  Eng. Mohamed Ibrahim Mohamed, Sr. Engineer, EEHC<sup>1</sup>, MERE<sup>2</sup>, Egypt  Mr Karim El-Assefry, Head of Electrical Production Department,, Ministry of Energy, Minerals and Sustainable Development, Morocco  Mr. Hashim Ali Al-Zahrani (Head of ICC, GCCIA<sup>3</sup>)</p>	TBD
3:45 pm	BREAK	
4 pm	<p><b>SESSION 4: ENERGY POWER PLANNING MODEL TUTORIAL</b></p> <p>The objective of this tutorial is to familiarize technical staff of the member states to operate the modelling tool and interpret the results.</p> <ul style="list-style-type: none"> <li>• <u>Inputs preparation</u>: this component covers the creation of the model's input files. It includes explanations of each input parameter and the organization of available data.</li> <li>• <u>Operation of the modelling tool</u>: this component shows how to run the model, how to read errors, and how to troubleshoot.</li> <li>• <u>Interpretation of the results</u>: this component describes each of the outputs that can be obtained from each model run and how can they be used to answer the questions of a study.</li> </ul>	
5:30 pm	END OF DAY 1	
5.30 PM	<p><b>DAY 1 WRAP UP</b></p> <p><b>PART (1): Highlights and Takeaways</b></p> <p>A representative of each subregion provides their takeaways</p> <p>(5 mn): Mr Amriche Kamel representative of the Algerian regulator  (5 mn): Ms Boumaza Samia representative of the Algerian regulator  (5 mn): Mr Hamada Badr Haggag, Financial and Economic Analyst, EEHC<sup>4</sup>, MERE<sup>5</sup>, Egypt</p>	TBD

<sup>1</sup> Egyptian Electricity Holding Company

<sup>2</sup> Ministry of Electricity and Renewable Energy

<sup>3</sup> Gulf Cooperation Council Interconnection Authority

TIME	EVENT	VENUE
5:55	<p>(5 mn): Mr Karim El-Assefry, Head of Electrical Production Department - Ministry of Energy, Minerals and Sustainable Development, Morocco</p> <p><b>PART (2): Preparatory meeting for Day 2</b></p> <p>A brief meeting with Dr Peter Meier in preparation for Day 2</p>	

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<sup>5</sup> Ministry of Electricity and Renewable Energy

## DAY 2 | [Tuesday, January 29, 2019]

TIME	EVENT	VENUE
<b>ECONOMIC AND FINANCIAL ANALYSIS: FULL DAY ON PRINCIPLES AND PRACTICE</b>		
08:00	<b>BREAKFAST</b>	
08:30	<p><b>SESSION 1: ECONOMIC AND FINANCIAL ANALYSIS: DEVELOPING A PRE-FEASIBILITY LEVEL ASSESSMENT</b>            Session led by Dr Peter Meier, Consultant to the World Bank</p> <p><b>Part (1): THE CONTENT OF A PRE-FEASIBILITY STUDY</b></p> <ul style="list-style-type: none"> <li>• Pre-feasibility assessment: what are the main questions to be answered?</li> <li>• Multiple objectives: what can be quantified and monetized? How do deal with conflicting objectives?</li> <li>• What do we mean by “least cost”? What are externalities and how to deal with them?</li> <li>• The scope of a pFS – different technical and route options; different implementation options; different financing options</li> <li>• What is the difference between economic and financial analysis?</li> <li>• Basic concepts in economic analysis: opportunity costs, transfer payments and the discount rate; Decision-criteria in economic analysis. The distorting impact of subsidies.</li> <li>• Introduction to the Guidebook.</li> </ul> <p><b>PART (2): DEFINING AND ASSESSING ALTERNATIVES</b></p> <ul style="list-style-type: none"> <li>• Implementation options (inter-connectors built by participating utilities, by an SPV, options for private investment?)</li> <li>• Technical and route alternatives</li> <li>• Financing options</li> <li>• Q&amp;A</li> </ul>	TBD
10:15-10:30	<b>BREAK</b>	
10:30	<p><b>Part (3): RISK ASSESSMENT</b></p> <ul style="list-style-type: none"> <li>• Basic concepts of decision analysis: types of risk, risk aversion and decision criteria. Decision trees. Value of perfect information.</li> <li>• The risk matrix: what are the risks, can they be mitigated, and what is the cost of mitigation.</li> <li>• Stress tests in financial analysis</li> </ul> <p><b>PART (4) DEVELOPING INFORMATION FOR DECISION-MAKERS</b></p> <ul style="list-style-type: none"> <li>• Distributional analysis (who bears the costs, and who captures the benefits).</li> <li>• The trade-off between risk and return in electricity trade projects</li> <li>• How to decide to whether and when a detailed FS is warranted. Using decision trees to help. How much to spend on special studies before committing to a detailed FS?</li> <li>• Q&amp;A</li> </ul>	TBD

TIME	EVENT	VENUE
11:45	<p><b>Session on Excel Spreadsheet Design for Financial Analysis</b></p> <ul style="list-style-type: none"> <li>Voluntary session (which could help for afternoon sessions)</li> </ul>	TBD
12:45	LUNCH & NETWORKING BREAK	TBD
2:00 pm	<p><b>SESSION 2: SELECTED COUNTRY EXPERIENCE IN EVALUATING THE FEASIBILITY OF ELECTRICITY TRADE INVESTMENT PROJECTS</b></p> <p>Session chaired by Dr Peter Meier, Consultant to the World Bank</p> <p><b>ROUND TABLE DISCUSSION</b></p> <ul style="list-style-type: none"> <li>Mr Maziz Sid Ali, representative of Algerian OS</li> <li>Mr Hamada Badr Haggag, Financial and Economic Analyst, EEHC<sup>6</sup>, MERE<sup>7</sup>, Egypt</li> <li>Mr Karim El-Assefry, Head of Electrical Production Department - Ministry of Energy, Minerals and Sustainable Development, Morocco</li> <li>Mr Yousuf Al-Marwan, Market Operator, GCCIA<sup>8</sup></li> </ul>	TBD
3:15-3:30 pm	BREAK	
3:30 - 5 pm	<p><b>SESSION 3: THE TEMPLATE FOR ECONOMIC AND FINANCIAL ANALYSIS</b></p> <ul style="list-style-type: none"> <li>Overview of the User Manual</li> <li>Using the template in support of a pre-feasibility assessment</li> <li>Issue 1: Assessing the impact of subsidies: illustrating distributional analysis</li> <li>Issue 2: Financing options: illustrating the impact of alternative capital structures</li> </ul>	
5:00 pm	END OF DAY 2	
5 PM	<p><b>Day 2 WRAP UP</b></p> <p><b>Highlights and Takeaways</b></p> <p>(5 min): Eng. Yousuf Janahi, Steering Committee Member and Head of the Study Team</p>	TBD

<sup>6</sup> Egyptian Electricity Holding Company

<sup>7</sup> Ministry of Electricity and Renewable Energy

<sup>8</sup> Gulf Cooperation Council Interconnection Authority

## Day 3 | [Wednesday, January 30, 2019]

TIME	EVENT	VENUE
<b>REGIONAL PRICING MECHANISM (RPM) - FULL DAY ON COUNTRY EXPERIENCES AND THE RPM CONCEPT</b>		
08:15	<b>BREAKFAST</b>	TBD
09:00	<b>TESTING OF IT/ VC EQUIPMENT / INTRODUCTION BY WB</b>	
09:15-10:15	<b>REGIONAL PRICING MECHANISM: NEGOTIATING AND ENGAGING IN TRADE</b> Session led by Mr. Doug Bowman, Consultant to the World Bank  The concept of economic dispatch and marginal pricing and the evolution of electricity pricing and markets	
10:15-11:15	<b>REGIONAL PRICING MECHANISM LAUNCH SESSIONS</b> Session led by Mr. Doug Bowman, Consultant to the World Bank  Overview of World Bank's proposed pricing mechanism for PAEM including examples of trades using pricing mechanism and standard bilateral contracts	
11:15-11:30	<b>BREAK</b>	TBD
11:30-12:45	<b>REGIONAL PRICING MECHANISM LAUNCH SESSIONS</b> Session moderated by Mr. Doug Bowman, Consultant to the World Bank  Discussion/Questions on World Bank's proposed Regional Pricing Pilot Program	
12:45	<b>LUNCH &amp; NETWORKING BREAK</b>	TBD
2:00-3:30 PM	<b>SELECTED COUNTRY EXPERIENCE IN PRICING REGIONAL TRADE AND CALCULATING MARGINAL COST</b>  Session moderated by Mr. Doug Bowman, Consultant to the World Bank (joining from Washington DC, by VC) <ul style="list-style-type: none"> <li>• Morocco (15mn): Mr Karim El-Assefry, Head of Electrical Production Department - Ministry of Energy, Minerals and Sustainable Development</li> <li>• Algeria (15 mn): Mrs Boutouis Fatiha representative strategy and foresight department of Sonelgaz, Algeria</li> <li>• Egypt(15mn): Mr Sherif Zoheir, Senior Tariff Specialist, Egyptian Electric Utility and Consumer Protection Regulatory Agency (EgyptERA)</li> <li>• UAE (15mn): Speaker TBD</li> <li>• Saudi Arabia (15mn): Speaker TBD</li> </ul> How is international trade currently conducted in your country; i.e., how do you price and contract for international trade, who is responsible, what incentives are provided to promote trade, how is trade incorporated in the operating and planning regime, how are financial transactions relating to trade handled and accounted for in the regulatory system, and how are benefits of trade conveyed to electricity consumers?	TBD

TIME	EVENT	VENUE
3:30-4:00	BREAK	TBD
4:00-5:00 PM	<p><b>SELECTED COUNTRY EXPERIENCE IN PRICING REGIONAL TRADE AND CALCULATING MARGINAL COST</b></p> <p>Session moderated by Mr. Doug Bowman, Consultant to the World Bank</p> <ul style="list-style-type: none"> <li>• Morocco: Mr Karim El-Assefry, Head of Electrical Production Department - Ministry of Energy, Minerals and Sustainable Development</li> <li>• Algeria: Mrs Boutouis Fatiha representative strategy and foresight department of Sonelgaz, Algeria</li> <li>• Egypt: Mr Sherif Zoheir, Senior Tariff Specialist, Egyptian Electric Utility and Consumer Protection Regulatory Agency (EgyptERA)</li> <li>• UAE: TBD</li> <li>• Saudi Arabia: TBD</li> <li>• GCCIA<sup>9</sup>: Dr Mohamed Al-Hamad, Manager of Market Operations</li> </ul> <p>Roundtable discussion and questions relating to selected country experience; i.e., is the current trading mechanism successful, how could it be improved, what are the major constraints to trade, etc?</p> <p>How can international trade be expanded to optimize benefits to electricity consumers in the Arab countries; i.e., how can the PAEM be used to expand trade and realize the huge benefits of trade identified in the numerous studies that have been undertaken in recent years?</p>	TBD
5:00 PM	END OF DAY 3	TBD
5:00 PM	<p><b>DAY 3WRAP UP</b></p> <p><b>Highlights and Takeaways</b></p> <p>(5 mn): Ms. Sally Alazzani, League of Arab States</p> <p>(5 mn): Mr. Emmanuel Py, Senior Energy Specialist, World Bank</p>	TBD

<sup>9</sup> Gulf Cooperation Council Interconnection Authority