Economic Sector
Energy Department
Secretariat of the Arab Ministerial
Council for Electricity

The Arab Guideline for Improving Electricity Efficiency and Rationalizing its Consumption at The End User

Translation and Printing supported by

MED-ENEC
Energy Efficiency in the Construction Sector in the Mediterranean

MED-EMIP
Euro-Mediterranean Energy Market Integration Project

Economic Sector
Energy Department
Secretariat of the Arab Ministerial
Council for Electricity

The Arab Guideline for Improving Electricity Efficiency and Rationalizing its Consumption at The End User

Contents

** The Arab Guideline for Improving Electricity Efficiency and Rationalize its Consumption at the End User has been approved during the twenty sixth meeting of the executive bureau of the Arab Ministerial Council for Electricity on 23/11/2010 according to resolution number 195.*

The Arab Guideline for Improving Electricity Efficiency and Rationalize its Consumption at the End User

Based on the paragraph pertaining to energy in the Kuwait Declaration on "raising the standard of living of the Arab citizen" of the Arab Economic and Social Development Summit (Kuwait - January 20, 2009), which provides for "promoting Arab cooperation in the field of energy, particularly in improving its efficiency, and rationalizing its use as a mean of achieving sustainable development. ....", and based on the paragraph on energy in the Action Program which states:

> **"In order to achieve better standards of living for citizens of Arab countries, and to meet the growing demand for energy in its various forms, the following should be adopted:**
>
> - **Completing Arab electricity interconnections projects.**
> - **Expansion of natural gas networks.**
> - **Development of available energy sources, including: renewable energy and nuclear energy for peaceful purposes.**
> - **Energy efficiency in the field of generation and consumption.**
> - **Developing solar energy use and supporting necessary research for its development.**
> - **Developing a legislative framework for the establishment of an Arab electric power market."**

To achieve the objectives of the Arab Ministerial Council for Electricity which aims at promoting cooperation and coordinating the efforts in the areas of power generation, transmission and distribution through a series of measures such as encouraging more efficient use of electricity in the Arab countries;

Taking into account the recommendations of the seminars and workshops held under the auspices of the Council, for example: “Loads Demand Management”, related to improving energy efficiency (Tripoli/ Libya: February 2009), “Energy Efficiency Improvement in the Industrial and Construction Sectors” (Algeria: 14-15 June 2010) and the workshop on “National Plans for Regional Challenges in the field of Energy” (Tunisia: 26-27 July 2010).

And based on the following facts:

1. Improving energy efficiency significantly saves energy, thereby reducing investments needed to secure the energy required for economic and social development.

2. The importance of controlling and rationalizing the use of energy at all levels to safeguard the right of future generations, take into account environmental safety and consider energy efficiency and rationalization as an indirect source of available energy resources that contributes to its sustainable development.

3. There is an urgent need to improve end-use energy efficiency, manage the demand-side (DSM) and to promote renewable energy production, since the scope of the impact of any other factor (such as building new capacities, improving transport or distribution) on the conditions of supply and distribution of energy in the short and medium terms is relatively limited. Hence, the implementation of this guideline will contribute to improving the security of supply.

4. Energy demand management and end-use efficiency can constitute an indirect source of energy that contributes to the reduction of climate change. Besides, they will contribute to the reduction of primary energy consumption, and the reduction of emissions of carbon dioxide and other greenhouse gas emissions.

5. The measures designed to improve energy efficiency are expected to lead to savings in the local use of energy and in the building of power stations and new transmission and distribution networks, thereby helping Arab countries reduce their dependence on energy imports regarding the energy importing countries - or increase exports for the exporting countries. Moreover, it is possible that this approach would enhance the ability of the member states› to innovate and compete in developing energy efficiency technology.

6. This guideline does not contradict the measures which recommend member states to ensure that all small users, whether families or small enterprises, are enjoying electricity services at reasonable and transparent prices, (where appropriate).

7. The goal of this guideline is not only to continue to strengthen the supply side of energy services, but also to create stronger incentives for its rationalization on the demand side. The public sector in each member state should set a good example in investments, maintenance, and other expenditures on energy-using equipment, energy services, and other measures to improve energy efficiency. Therefore, the public sector institutions should be encouraged to integrate considerations of improving energy efficiency in investment, consumption reserves, and operating budgets. Furthermore, the public sector should try to use the energy efficiency criteria in all practices, taking into account the variations in the administrative

structures of member states.

8. There are a variety of ways in which the public sector can serve as a role model. In addition to the measures included in Annex b, the public sector can, for example, launch pilot projects for energy efficiency and encourage energy efficiency behavior among its staff. In order to achieve the desired multi-effect, a number of these measures must be passed on to citizens and/ or companies in an effective manner.

9. The implementation of this guideline requires certain actions to be taken by the adopting member states in order to achieve its objective. These actions depend on the hypothetical impact of the implementation of any of these measures on the end-user of energy. The final outcome of any measure depends on many external factors that might affect users› behavior with respect to their use of energy and their desire to respond to the different ways to rationalize energy consumption or the use of energy-saving devices. Despite the fact that member states are committed to exerting efforts to achieve the desired target (which will be determined upon the adoption of this guideline), the national targets of energy saving is only an indicative target that does not include any legal obligation that member states are obliged to achieve.

10. The exchange of information, experiences and best practices at all levels, including the public sector, will improve energy efficiency. Therefore, member states should include the measures taken within this guideline in their national energy efficiency action programs (NEEAP). They should also estimate -as much as possible- the impact of these measures in their national programs (NEEAPs). (The programs will be prepared when this guideline is adopted).

11. The improvement of energy efficiency requires the development of measure/ operational plans through the Arab Ministerial Council for Electricity.

12. For the purpose of supporting the implementation of energy services and measures to improve energy efficiency presented in this guideline, member states should have the option to make such guideline obligatory for those working in the field of power distribution, taking into account the local regulations.

13. It is possible to support the energy services market through a variety of mechanisms, including non-financial means.

14. It is possible to support and/ or implement programs to improve the efficiency of energy services and other energy efficiency measures through voluntary agreements between stakeholders and public sector bodies designated by member states.

Accordingly, this guideline reflects the contribution of the League of Arab States through the Arab Ministerial Council for Electricity in efficiency improvement at the end user.

Chapter I

Purpose and scope of work

Article I: Purpose

The purpose of this guideline is to foster and improve electricity efficiency and consumption rationalization at the end user in member states of the Arab League, while taking into consideration the economic viability of the used measures, through:

a. The provision of indicative targets, as well as mechanisms, incentives and institutional frameworks and financial and legal measures required to remove the barriers and flaws existing in the market which impede the efficient end-use of energy.

b. Creating the appropriate conditions for the development and promotion of a market for energy services in addition to the delivery of other necessary measures to improve energy efficiency to end-users.

Article II: Scope of work

This guideline shall be applied to energy efficiency improvement providers, energy suppliers, energy distribution systems operators, energy distribution companies, and energy end-users, while maintaining the rights of member states to exclude from or add to the scope of the work of this framework what they deem appropriate.

Chapter II

General Targets

Article III: The general target

1. Member states aim to achieve comprehensive national energy savings (to be determined upon the adoption of this guideline) by 2020. The national indicative target is to be reached through energy services and other measures to improve energy efficiency. The member states shall take reasonable and practical cost-effective measures which will lead to and contribute to the achievement of this target.

The national indicative targets for energy savings shall be identified in accordance with the provisions and methodology in Annex “A”. There are some examples of eligible energy efficiency measures in Annex “B”. The general framework for measuring and verifying energy savings will be developed later.

2. Each of the member states shall develop a National Energy Efficiency Action Plan (NEEAP) and shall take the necessary measures to improve energy efficiency by assigning the responsibility for overall control and overseeing of its NEEAP regarding the target stated in paragraph 1 above to one or more of existing or new bodies which will later verify the energy savings that have been reached by energy services and other measures to improve energy efficiency, including the existing national measures to improve energy efficiency, and subsequently submit a report on the results.

3. The National Energy Efficiency Action Plan (NEEAP) shall be prepared for a period of three years with an interim indicative target from the date of adoption of this guideline. It will be reviewed annually to ensure the achievement of its objectives. A new plan shall be developed before the completion of the previous one.

Chapter III

The exemplary role of the public sector

Article IV: End-Use Energy Efficiency in the Public Sector

1. Member states shall ensure that the public sector have an exemplary role in the context of this guideline. To achieve this end, the leading role of the public sector institutions shall be conveyed and explained effectively to citizens and/ or companies, as appropriate.

2. Member states shall ensure the public sector application of measures for improving energy efficiency, with a focus on cost-effective actions that produce the greatest energy savings in the shortest period of time. Also, the member states have to apply those measures at the national and regional levels. Such measures may include legislative initiatives and/ or voluntary agreements, or other programs of equivalent effect (Annex “B”). The member states shall evaluate the results at a later stage.

3. Member states shall facilitate this process through the publication of guidelines on energy efficiency and energy savings as a possible criterion in the evaluation of competitive bidding for public procurement. Examples are provided in Annex “C”.

4. Member states shall assign an existing or new bodies/ institutions or group of agencies/ institutions to assume administrative and operational responsibility in the application of requirements for improved energy efficiency in the public sector, as set out in Article 4 (2).

5. Member states can impose the obligations pertaining to the public sector mentioned above on the entities in the power sector (generation, transmission and distribution).

Chapter IV

Promoting End-Use Energy Efficiency and Energy Services

Article V: Energy distributors, distribution systems operators, and retail energy sale companies(*)

1. Member states shall ensure that energy distributors, distribution systems operators, and retail energy sale companies shall carry out the following tasks:

   A. To provide statistical information regarding their end-user customers to the authorities/ institutions referred to in Article 4 (4). Such information should be sufficient for accurate designing and implementation of programs to improve energy efficiency. In addition to promoting and following-up energy services and other measures to improve energy efficiency.

   B. To refrain from any activities that would undermine the demand for energy efficiency services or supplying energy services and other measures to improve energy efficiency. They shall also refrain from any activities that may hinder the development of markets for energy efficiency services and other measures designed to improve energy efficiency. In this case, the Member State concerned shall take necessary measures to put an end to such activities when they occur.

** If such regulations exist in Arab countries.*

2. Member states shall ensure that the energy distributors implement one or more of the following measures directly or through an independent party:

    A. The provision of energy audits services and/ or energy-saving measures at competitive prices for energy users, in an independent manner.

    B. The provision of services and tools to improve electricity efficiency

    C. The contribution to a fund or a financing mechanism.

3. To provide the end-users with adequate information to make appropriate decisions regarding their use of energy, such as guidelines to improve energy efficiency, comparative consumption and technical data necessary to clarify the consumption of energy by various devices. To achieve this, it is possible to disseminate relevant information through all means of communication, including the use of the periodic electricity bills.

Article VI: Availability of information

1. Member states shall ensure that all information regarding the mechanisms for energy efficiency and information related to the adopted financial and legal frameworks conducive to achieving national targets reach the actors in the relevant market.

2. Member states shall ensure a greater level of efforts in order to enhance energy efficiency for end-use - through the development of appropriate conditions and incentives for the market players -

and in order to provide more information and advice on efficient energy to end customers.

3. The League of Arab States shall ensure the exchange of information on best practices for energy savings and enhancing energy efficiency in the member states on a large scale, as well as to benefit from similar national energy efficiency action programs globally.

Article VII: Availability of qualification, accreditation and certificates schemes

In order to achieve a high level of technical competence, objectivity and trust, member states should, when necessary, ensure the availability of appropriate qualifications and certification schemes suitable to the accreditation of the providers of energy services and energy audit studies as well as measures to improve energy efficiency.

Article VIII: Financial instruments for energy conservation

Member states need to consider the repeal or amendment of national legislation and regulations that would lead, disproportionately and unnecessarily, to impeding or restricting the use of financial instruments for the purpose of energy savings in the energy services market or other measures to improve energy efficiency.

Article IX: Tariff structure of electric power

Member states need to consider restructuring the electric power tariff in such a way to encourage improving energy efficiency and its conservation, taking into account social aspects.

Article X: Financial resources and funding mechanisms

The State shall provide the necessary financial resources to support and implement energy efficiency improvement programs and measures by promoting the development of private market for energy efficiency services. The states shall administer such financial resources in the manner it deems appropriate. Member states can also establish energy efficiency fund/ funds to promote the implementation of electricity efficiency improvement programs and other measures. Such funds are to complement rather than compete with similar commercial financing facilities.

Article XI: Energy audit studies

Member states shall ensure the availability of effective high quality programs for energy audit services to be carried out by an independent body (such as energy service companies or electric power distribution companies) with the aim of identifying potential measures for improving energy efficiency and conservation measures.

Chapter V

Final Provisions

Article XII: The Committee

The Renewable Energy and Energy Efficiency Expert Committee, which was set up in accordance with the decision of the Arab Ministerial Council for Electricity No. 127 during their extraordinary session, in addition to the committee›s work groups shall be responsible for monitoring the implementation of this guideline in coordination with regional and international institutions and specialized research centers.

Article XIII: Entry into Force

1. Member states are to implement laws, regulations and administrative provisions associated with this guideline. Each state should further decide according to their plans and needs the suitable date for implementing this framework.

2. Member states shall inform the General Secretariat of the League of Arab States of the document of the legislation/ decision by which the guideline was adopted on the national level.

Definitions

In order to meet the purpose of this guideline, the following definitions should be applied.

A. "Energy":
All forms of energy that is commercially available including: electricity, natural gas (including liquefied natural gas), liquefied petroleum gas, any fuel used for heating and cooling, coal and lignite, peat, fuel pertaining to means of transport (excluding aviation and fuel used in shipping) and biomass.

B. "Energy efficiency":
the ratio between a product of one of the performance products, service, commodities or energy, and an input of energy.

C. "Energy efficiency Improvement":
Increasing the efficiency of energy end use as a result of technological, behavioral and/ or economic changes.

D. "Energy savings":
It is the quantity that is saved in electrical energy. It is to be determined by measuring and/ or estimating consumption before and after the implementation of one or more of the actions needed to improve energy efficiency, while ensuring the normalization of the external conditions that affect energy consumption.

E. "Energy services":
It is the financial and other benefits derived from the combination of both energy and energy efficiency technologies besides/ or the

effectiveness and influence in the areas of operation, maintenance and control necessary to provide the service to the consumers. The delivery of all these services shall be conducted in accordance with a contract that proved to lead to better and measurable levels of energy efficiency and/ or primary energy savings under normal circumstances.

F. "Energy efficiency mechanisms":

These are generic tools used by governments or government agencies to create some incentives in addition to any framework that would support the actors in the market for the purchase and provision of energy services and other measures related to improving energy efficiency.

G. "Energy efficiency improvement programs":

These are activities that focus on groups of end customers. It usually leads to improving the efficiency of energy end use in a concrete, measurable or estimative manner.

H. "Energy efficiency improvement measures":

All actions that usually lead to improving the efficiency of energy use in a concrete and measurable or estimative manner.

I. "Energy service company (ESCO)":

Any ordinary or legal person that provides energy services and/ or other measures to improve the efficiency of energy use for facilities or special buildings belonging to the end user such that he bears a degree of financial risk in the event of so doing. The financial return for those services (either in whole or in part) is based on achieving energy use efficiency in addition to meeting any other criteria agreed upon.

J. "Energy performance contracting":

It is a contractual arrangement between the beneficiary of the measures to improve energy efficiency and the concerned authority to provide such service (which is usually the ESCO); whereby, payment for the investments made in such measures is made according to the level of improvement of energy use efficiency contractually agreed.

K. "Energy audit study":

It is a systematic procedure to obtain sufficient information on the current level of energy consumption in a building or group of buildings in one of the industrial and/ or construction operations, or the services provided by private or public sector. Such audit will also identify and assess opportunities of cost effectiveness of energy savings as well as reporting the results.

L. "Financial tools to achieve energy savings":

These are all financial instruments available in the market through public or private bodies to provide partial or total coverage of the initial costs of projects implementing the measures to improve energy efficiency, for example: providing financial resources, subsidization, tax breaks, loans, financing through a third party, performance-based contracting on energy, ensuring contracts for energy savings, outsourcing and other related contracts.

M. "End user/ end customer":

Any ordinary or legal person that purchases energy for work purposes.

N. "Energy distributor":

Any ordinary or legal person that undertakes responsibility for the transfer of energy for delivery to end customers and power distribution stations that sell energy to end customers. Excluded from

the definition are electricity distribution systems operators.

O. "Distribution system operator":

Any ordinary or legal person that undertakes responsibility for operating, maintaining (if necessary) and development of electricity distribution system in a certain area. He will also follow-up the operation of power distribution system with other systems (whenever necessary), to ensure the system›s ability to meet moderate demand for electricity distribution in the long term.

P. "Energy retail sale companies":

Any ordinary or legal person selling energy to end consumers/ customers.

Q. "Junior energy distributor, junior distribution system operator, small company for energy sale":

Any ordinary or legal person distributing or selling energy to consumers/ end customers in addition to selling or distributing less than (....)(*) GW/ h of energy annually, or employing less than 10 persons, or with an annual turnover not exceeding (....)(*)

R. "Energy conservation":

A set of behavioral, preventive and technical measures that lead to the reduction of waste among the various types of energy consumption.

** To be determined later*

Annexes

A. The methodology for calculating the national indicative target for energy savings.

B. An indicative list of some examples for measures to improve energy efficiency.

C. A list of actions to improve energy efficiency appropriate to procurement and public supplies.

D. A template for the national energy efficiency action plan (NEEAP).

Annex A - The methodology for calculating the national indicative target for energy savings.

The methodology used to calculate the national indicative target of energy savings set out in Article (3) will be as follows:

1. The national indicative target of energy savings is calculated as a percentage of the average consumption of electric power at the national level for the last five years from the date of target setting. This goal must be achieved in the tenth year after the target setting.

   The national indicative target for energy savings must:

   A. Contain x% of the average annual consumption referred to above;

   B. Be measured after the tenth year of the application of this guideline;

   C. Be the result of cumulative annual energy savings achieved over the past ten years which is the time period for applying this guideline;

   D. Can be reached by energy services and other measures for improving energy efficiency.

   This methodology for measuring energy savings ensures that the total energy savings provided for in this guideline is a fixed amount; thus, it is independent of future GDP growth or any future increases in energy consumption.

2. The indicative national energy savings target can be envisaged by using the absolute value of GW/h, or its equivalent.

3. The Arab League will work to provide the methodologies on how to measure or estimate the impact of all these measures for improving energy efficiency according to existing legislation, whenever possible.

   In all cases, the resulting energy savings must be verifiable and subject to measurement or estimation, in accordance with the general framework which will be prepared.

Appendix B - An indicative list of some examples of measures to improve energy efficiency

Appendix B provides examples of some of the areas where programs and other measures to improve energy efficiency can be developed and implemented.

It should be taken into account that the measures to improve energy efficiency should lead to savings in energy which can be measured and verified clearly or discretionally. In addition, the impact of those measures on energy savings should not be invoked in advance when other specific measures are undertaken. The following lists are not considered exhaustive, but rather guiding and indicative.

Examples of measures conducive to improving energy efficiency:

The housing and buildings sectors

A. Cooling and heating (for example, heat pumps, new efficient boilers, installation/efficient update of district heating/ cooling systems);

B. Insulation and ventilation (for example, wall cavity and roof insulation, double/triple glazing of windows, passive heating and cooling);

C. Hot water (for example installation of new devices, direct and efficient use in space heating, washing machines);

D. Lighting (for example, new efficient bulbs and ballasts, digital control systems, use of motion detectors for lighting systems in commercial buildings);

E. Cooking and refrigeration (for example, new efficient devices, heat recovery systems);

F. Equipment and other devices (for example, combined heat and power appliances, new efficient devices, time control for optimized energy use, stand-by loss reduction, installation of capacitors to reduce reactive power, transformers with low losses);

G. Domestic generation of renewable energy sources, whereby the amount of purchased energy is reduced (for example, solar thermal applications, domestic hot water, solar-assisted space heating and cooling);

The Industrial sector

H. Product manufacturing processes (for example, more efficient use of compressed air, condensate and switches and valves,use of automatic and integrated systems, efficient stand-by modes);

I. Motors and drives (for example, increase in the use of electronic controls, variable speed drives, integrated application programming, frequency conversion, electrical motor with high efficiency);

J. Fans, variable speed drives and ventilation (for example, new devices/systems, use of natural ventilation);

K. Demand response management (for example, load management, peak shaving control systems);

L. High-efficiency co-generation (for example, combined heat and power appliances);

Appendix C - List of procedures to improve energy efficiency appropriate to procurement and public supplies

Without prejudice to national legislation on public procurement, member states must ensure that the public sector shall implement at least two of the requirements contained in the following list in the context of the exemplary role which the public sector should do:

A. Requirements concerning the use of financial instruments to reach energy savings, including private contract to energy performance, which stipulates the provision and delivery of pre-defined and measurable energy savings (including the public administrations› resorting to outsourcing);

B. Requirements concerning the purchase of needed equipment and vehicles which is based on lists of products specifications that are energy efficient for different categories of equipment and vehicles. Such lists shall be drawn up by the authorities or bodies referred to in Article 5 (4) by using cost analysis related to reducing to a minimum the age cycle or similar methods in order to ensure cost-effectiveness;

C. Requirements concerning the purchase of energy efficient equipments in all conditions, including those in the standby mode,

using the cost analysis for reducing the age cycle or similar methods in order to ensure economic feasibility;

D. Requirements concerning the replacement or modernization of equipment and vehicles already existing with equipment mentioned in points (B) and (C);

E. Requirements concerning the use of energy audit studies, and the implementation of recommendations based on these studies, particularly those that are economically viable among them;

F. Requirements concerning the purchase or rental of energy-efficient buildings or parts of buildings, or the need to replace or repair the purchased or leased buildings, or parts of them, to make them more efficient in energy use.

Appendix D - A Template for national energy efficiency action plan

National Energy Efficiency Action Plans Template

2011-2013

Preface

The Arab EE Guideline has been developed jointly between the League of Arab States (LAS), MED-EMIP and RCREEE based on the Directive EC/32/2006 of the European commission (EC) on energy end-use efficiency and energy services.

Through the Arab EE Guideline, the Arab countries who are interested in its implantation will set an energy efficiency target and mandate an existing or a new public entity to draw a 3 year National Energy Efficiency Action Plan (NEEAP). The public sector should lead by example (exemplary role) and power utilities should provide services or contributing to a fund to implement EE measures. An annual progress report will be submitted to the League of Arab states showing the achieved savings.

This document developed by RCREEE in cooperation with MED-EMIP proposes a template and structure to report the measures of the first NEEAP. The template is not mandatory but a tool to assist the stakeholders to communicate essential measures and impact of their NEEAPs and will also assist RCREEE to summarize and analyze the results to be published on an annual basis by the League of Arab States.

The objective of this template is to report already ongoing or planned measures to generate, transmit, distribute and use electricity more efficiently in order to meet any indicative national energy efficiency target that may be, or has been already stated for the 1st NEEAP period of three years 2011-2013.

RCREEE, as a regional platform promoting the development and harmonization of energy efficiency policies in the MENA region, with the

support of the League of Arab States, will play an important role in providing technical assistance on the subject area to the Arab member states.

RCREEE will assist the Arab states in drafting their NEEAPs, discussing and assisting them in assessing the impact of national EE targets and supporting them in jointly identifying cost effective EE measures. Moreover, RCREEE will contribute in developing methodologies to measure and quantify the energy saving impact of the NEEAPs. RCREEE will furthermore explore various strategies to monitor progress of implementation of NEEAPs, formulating recommendations for effective delivery mechanisms, participating in and providing input to various technical committees.

RCREEE will jointly explore with LAS and involved entities possibilities to apply and register the NEEAPs as Nationally Appropriate Mitigation Actions (NAMA) on the basis for international recognition of many meaningful measures under NEEAP, that can be built under the existing Clean Development Mechanism (CDM) and may even fit into a regional program of activity type CDM measure.

Table of content

4. Horizontal and cross-sectorial measures

- 4.1. Overview table of all EE measures
- 4.2. Detailed information of individual measures
- 4.3. Supportive measures that difficult to quantify savings

5. Energy efficiency policy progress assessment

1. Overview: Overall national indicative target

1.1. Key indicators

No	Indicator	Unit	2010	2020[1]
1	Electric power intensity	GWh/GDP (US$)[2]		
2	Gross annual electricity Generation[3]	GWh		
3	Imported electric power	GWh		
4	Exported electric power	GWh		
5	Projected growth rate for demand for electric power[4]	%		
6	Primary energy consumption at the national level	Toe		
7	Share of electric power of primary energy consumption	%		
8	Share of electricity consumption by sector[5] • Sector 1 • Sector 2 • Sector 3	 % % %		
9	The marginal cost of producing one KWh[6]	$/kWh		
10	Electrification Rate (the rate of beneficiaries of the electric grid)	%		

1. *Official projection by the power industry or national bureau of statistics or any other entity.*
2. *Please indicate the reference or the methodology for calculating the gross domestic product.*
3. *The amount of gross electricity generated in GWh by public or private power plants to feed the national transmission and distribution grid, or for power plants own consumption.*
4. *The average growth rate for the next 10 years 2011 to 2020 as reported officially by authorities*
5. *The sectors will be classified according to their consumption of electric energy and as published in the reports published by electric energy production and distribution institutions or those related to this framework.*
6. *The marginal cost of production is the cost of generating electricity calculated for the next plant to be built according to the plan set for expanding generation capacity, based on a given type of the used fuel and its projected price, and after analyzing costs of operation and considering the rate of return on investment and capital costs.*

1.2. The indicative target

The national indicative target for energy efficiency that reflects the quantity of savings in electric energy for the year 2020 which resulted due to the application of energy efficiency measures and rationalization of energy consumption is set according to what have been officially announced on the national level. It is possible in the event of lack of information to be guided by the manner described in paragraph (1.3) for calculating or estimating the indicative target.

As for the sectoral indicative energy efficiency targets, they can be estimated according to the different measures that will be listed under paragraph (2.1) in order to serve the achievement of the overall energy efficiency indicative target in addition to the size of electricity consumption by that specific sector in the base year.

The following table provides the required information

	Baseline Consumption GWh/ Average consumption in the last 5 years	**The national indicative energy efficiency target**			
		In the year 2020		In the year 2013 (after implementing the first national plan for energy efficiency)	
		%	GWh	%	GWh
Total					
Sector 1					
Sector 2					
Sector 3					

1.3. Calculation methodology of the baseline electricity consumption and the national indicative electricity savings target for 2020

- Member States shall use the end use electricity consumption for the most recent five year period previous to the implementation of this Directive for which official data are available, to calculate an average amount of annual electricity consumption as per footnote 3.
- This electricity shall constitute the average amount consumed during the five-year period, not adjusted for degree days, structural changes or production changes.
- On the basis of this average amount of electricity consumption, called the baseline consumption, the national indicative electricity savings target shall be calculated for the total duration of this Directive.

Example: If the five year averaged national end use electricity consumption has been 10,000,000 MWh and the indicative target for 2020 has been set at 20% than 10,000,000 x 0.20 = 2,000,000 MWh of electricity need to be saved through projects listed in the NEEAP until the end of 2020.

The indicative electricity savings target in MWh for 2020 should be supported by measures listed and described in the national NEEAP. The calculation to reach this target is based on accumulated accounting of annual electricity savings.

This methodology does not require by definition to select only measures producing sustainable electricity savings for all years up 2020; nor does it require “infinite” sustainability. However a realistic sustainability of each measure should be given to calculate the accumulated electricity savings up to and including 2020.

1.4. Name of mandated national entity

This is the named entity by the relevant ministry for the preparation of the national energy efficiency action plan and the follow up on the implementation of the requirements of this guideline on the national level. Also the name of the contact person relating to these issues is to be stated in the table below:

Name: .....

Title: .....

Organization: .....

Postal address: .....

Telephone: .....

Fax: .....

Email: .....

Website: .....

2. Sectorial Planned and ongoing EE measures

These measures include energy efficiency improvement programs, energy services and all national energy efficiency and conservation measures that is related to one sector such as the industrial, residential and housing sectors. Such sectors are to be identified according the classification in each country.

2.1. Sector 1

2.1.1. Overview table of all EE measures

No	Title and description of the EE measure	Implementation period	Electricity savings for the first 3 years 2011-2013
1	Measure 1		
2	Measure 2		
3	Measure 3		

Please identify and add relevant measures to the sector under investigation. Annex b includes a sample of relevant measures in different sectors.

2.1.2. Detailed information of individual measures(*)

No	Title of the measure	The required information
1	Objective	The purpose and motivation behind this measure. Why do you do it?
2	Description of the measure	What do we do? Which technologies are applied? How is it done?
3	Implementing agency	Agency in charge of implementation and appraisal of the resulting electricity savings

** One separate information table for each measure listed in the table 3.1.1*

4	Stakeholders involved	Other Partners involved in implementing of the EE measures in a supportive role or negatively or positively affected by the measure.
5	Target group	Group(s) which benefits from the EE measure
6	Program cost	The total amount to implement the program, except financial contributions and investments by the target group (beneficiaries)
7	Total resource cost	Program costs plus, if applicable, contributions by beneficiaries
8	Reduction of subsidies	State your own assessment of how and by which amount State subsidies or consumer cross subsidies for electricity supply are reduced by the measure
9	Source of funding	List all entities and parties that contribute to the total resource costs
10	Financial instruments	List all fiscal and financial instruments such as investment grants, tax incentives, preferential interest rates, rebates, gifts contributing to the total resource costs
11	Awareness	Describe how the measure is marketed and list public awareness campaigns associated with the measures
12	Monitoring and quantification of impact	Describe the algorithm how to calculate the impact and the strategy how to collect the data necessary to apply the algorithm

2.2. Sector 2

Please add a number of sectors according to country sector classification

3. Additional measures

3.1. Measures for exemplary role of public sector

According to chapter three of the Arab Guideline, the measures as an exemplary role of energy efficiency in the public sector (public industries buildings and institutions) is to be listed.

3.1.1. Overview table for Exemplary measures in the public sector

No	Title and description of the EE measure	Implementation period	Electricity savings for the first 3 years 2011-2013
1	Measure 1		
2	Measure 2		
3	Measure 3		

Please identify and add relevant measures to the sector under investigation. Annex b includes a sample of relevant measures in different sectors.

3.1.2. Detailed information of individual measures

Please provide information on EE measures using the same table structure of the section above 2.1.2.

3.2. Measures under utility responsibilities

According to article 5 of Arab EE Guideline, in this section measures in support of the NEEAP that are to be implemented by electricity distribution companies to be listed

3.2.1. Overview table of measures under utilities responsibilities

No	Responsibility	Qualitative progress
1	Provision of data and information	
2	Providing services	
3	Contributing to an EE fund	
4	Awareness campaigns	

Please identify and add relevant measures

3.2.2. Detailed information of individual measures

Please provide information on EE measures using the same table structure of the section above 2.1.2

3.3. Measures for power sector

According to article 4 of Arab EE Guidline, in this section the EE measures to be implemented by electricity generation, transmission and distribution sectors to be presented.

3.3.1. Overview table of measures for the power sector

No	Title and description of the EE measure	Implementation period	Unit
1	Reduction of net heat rate in power plant operation(1)		(in MJ, kCal, or kWh per kWh, or %)
2	Reduction of technical losses, the national grid,(2)		%
3	Reduction of commercial losses,		Millions LC
4	Upgrade of metering and smart grid strategies		
5	Peak load shifting or reduction measures,		MW

Please identify and add relevant measures

3.3.2. Detailed information of individual measures

Please provide information on EE measures using the same table structure of the section above 2.1.2

1. *Use the most accepted definition of net heat rate by subtracting first from the annual MWh gross generation at the busbar the GWh power station use. Next divide the annual energy input to the power plant based on a Gross Calorific Value also called Higher Heating Value (HHV) by this number. Convenient units are MJ/kWh or kCal/kWh or kWh/kWh.*
2. *Reduction of technical losses in the transmission and distribution grid as percentage of gross or net generation*

4. Horizontal and Cross-sectorial measures

In this section, the measures relating to more than one sector and cannot be included under specific sector are to be presented. As an example general lighting efficiency improvement measure is related to residential, service and industrial sectors.

4.1. Overview table for horizontal and cross-sectorial measures

No	Title and description of the EE measure	Implementation period	Electricity savings for the first 3 years 2011-2013
1	Measure 1		
2	Measure 2		
3	Measure 3		

Please identify and add relevant measures to the sector under investigation. Annex b includes a sample of relevant measures in different sectors.

4.2. Detailed information of individual measures

Please provide information on each measure for horizontal cross sectorial using the same table structure of the section above 2.1.2

4.3. Supportive measures with difficult to quantify electricity savings impact

These include the measures that can be qualitatively determined such as awareness campaign that can be quantified only in number of posters or adds that are distributed or placed that serves specific sectors or programs to promote energy efficiency.

No	Title and description of the EE measure	Qualitative progress
1	General sector specific standalone awareness program	
2	Research & Development of EE technologies	
3	University curriculum development in EE	
4	Public awareness campaigns	

Please identify and add relevant measures

5. Criteria to assess energy efficiency policy implementation progress

In this section the overall progress of the national programs and measures are assessed relating to policies, legislation, laws, codes issued in relation to this guideline such as the examples in the table.

No	Action/Activity	Qualitative progress
1	Energy efficiency policy announcement	When and by whom was it announced
2	Technical committee to write a first draft of the EE known and announced	Members of the technical committee
3	EE policy draft was prepared and had been circulated	When was the draft document circulated and to whom?
4	EE policy paper released to the public	When and by whom was it announced
5	EE policy paper is also a directive or tabled in parliament as a bill to become a law and contains rules and regulations	Explain whether the policy is only a distributed paper or a legislative act, or a directive by highest authorities
6	EE policy paper contains a target or benchmark to be achieved at a specific year	State the targets and their meaning if defined
7	The EE policy or law is backed up by an action plan (business plan). This is the equivalent of a NEEAP	
8	The action or business plan contains an estimate of the total resources necessary to implement the policy	State the announced or calculated budget
9	The Government is providing a full or partial public or PPP budget to finance the action plan	State the confirmed public budget or private public partnership budget to implement the plan

10	The Government has decided to treat energy efficiency as a source of energy and publicly tenders the EE business plan as they would tender a new power plant	State measures to tender specific measures in the NEEAP

Please add other action/ activity, if not mentioned