



## **CYPRUS ENERGY REGULATORY AUTHORITY (CERA)**

### **Report to the European Commission in line with the Electricity and Gas Directives for the period July 2008 to July 2009**

July 2009

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## **REPORT TO THE EUROPEAN COMMISSION IN LINE WITH ELECTRICITY AND GAS DIRECTIVES FOR THE PERIOD JULY 2008 TO JULY 2009**

### **1 FOREWORD**

The Cyprus Energy Regulatory Authority (CERA) was established by virtue of the Law on Regulating the Electricity Market of 2003 N.122(I)/2003, which was enacted by the House of Representatives on 25 July 2003, for harmonisation purposes with the Aquis Communautaire. This Law establishes CERA also as the Authority responsible for Regulating the Natural Gas Market. The relevant EU Directive was transposed into national Law by Law 183(I)/2004. The Members of CERA were appointed on 21 January 2004 and took up their duties on 4 February 2004 after giving the prescribed affirmation for the faithful execution of their duties, to the President of the Republic of Cyprus.

The present Report covers the period from July 2008 to July 2009 and is the fifth one to be issued.

In reading this Report one should bear in mind that Cyprus operates under the provisions of the Directive, for "Small Isolated Systems".

The establishment of the Cyprus Energy Regulatory Authority (CERA) and the appointment of the Transmission System Operator (TSO) during 2004 constitute two very important events in the field of Energy, a field that prior to the entry of Cyprus into the European Union (EU), had purely a monopolistic character. It was and still is among the basic priorities of Cyprus to get fully harmonised with the Acquis Communautaire in the field of Energy. This process passes through a series of actions, the most important being the one that aims at a healthy competition with the abolition of monopolistic attitudes and conduct.

One of the urgent priorities of CERA was the opening of the Electricity Market. This was achieved and the Electricity Market was liberalised by 35% with effect from 1<sup>st</sup> May 2004. Also, with effect from 1<sup>st</sup> of January 2009 the market was further liberalised including all "non domestic" consumers which are free to select their Supplier. However there are no other Suppliers at the moment. In the next few years the market will be liberalised by 100%, as the ultimate target is for all consumers of

electrical energy to be able to select their Supplier according to what is in their best interest.

In the year under review important events took place as well as actions taken by CERA in the sectors of electrical energy, the development of a natural gas market, the materialisation of wind farms investments, and the simplification of processes for issuing licenses and other procedures.

All CERA's efforts aimed at first and foremost to secure healthy competition in the electrical energy and natural gas sectors that affect directly the economy of the country and thousands of customers.

CERA attaches special importance to the task of overseeing the correct operation of the energy market so that it operates in a really liberalized environment where there should be no monopolies.

One of the subjects that belaboured at some length all the competent authorities and dominated current affairs on a daily basis was that of natural gas and the way of its arrival into our country.

A lot has been said as well as written on the methodology that should be used. CERA's position was and it remains that the essence of the subject is for natural gas to arrive as soon as possible, at the lowest possible price for the benefit of the customers and the Cyprus economy.

The Law on Regulating the Natural Gas Market, L.199 (I)/2007, provides for the construction of a land based terminal as well as for the assignment of import and supply of natural gas to the Republic of Cyprus to only one company. It has to be noted that the intention of the Government of Cyprus to declare the Natural Gas market emergent established a monopoly model and this will eventually affect competition in electricity market as well.

Further issues related to the Natural Gas framework were pending therefore, CERA has prepared draft bills amending the Laws in order to fully transpose the Directives 2003/55/EC (Article 22- New Infrastructure) and 2004/67/EC into the national Laws, which have been forwarded to the Office of the Attorney General for their conformity to the legal, technical aspects, before they are forwarded to the Council of Ministers and the Parliament for approval. Finally, the above proposed amended Laws have been forwarded to the Council of Ministers, and due to the providences of the above Law, the draft bills had not been approved.

Furthermore, the Council of Ministers on June 2008 decided to assign the import and supply of the Natural Gas in the Republic of Cyprus in one company. This company has already been established and is a company called “DEFA” (Shareholding: 56% by Government with option to relieve 5% to 3<sup>rd</sup> parties, and the other 44% by Electricity Authority of Cyprus). In addition, the Council of Ministers has decided the creation of a land based Energy Centre as the exclusive Receiving Terminal, with storage facilities and installation for Regasification of Liquefied Natural Gas (LNG).

DEFA is a private corporation which will purchase and import the LNG pursuant to a LNG Sale and Purchase Agreement (“SPA”), preferably on a delivered ex-ship (“DES”) basis. DEFA will enter into an agreement with a second corporation, which is to be established, (the “LNG Terminal Company”), for the provision of LNG receiving, storage and re-gasification services at its terminal pursuant to a Terminal Use Agreement (the “TUA”).

As a consequence of the provisions of the above mentioned Law and the Council of Ministers decisions, CERA’s authority to provide any licenses related to Natural Gas, is suspended.

Another fundamental priority of CERA during 2008 was the encouragement by means of increased subsidies for the production of electrical energy from Renewable Energy Sources, in co-operation with the Ministry of Commerce, Industry & Tourism. In conclusion, new Support Schemes have been approved, which support investments related, inter alia, to Energy Saving, Renewable Energy Sources, Co-generation, Large Commercial RES Systems and others. The above programs are in effect from the beginning of 2009 until the end of 2013.

We have a common aim that the generation of electrical energy from RES should increase to 6% by the year 2010 and to this end we exert continuous and coordinated efforts. However, the progress of the already licenced RES-E projects leads us to the conclusion that the said target will not be achieved.

Another important subject to which CERA has paid attention is the outcome of the New Energy Policy and the discussions on the 3<sup>rd</sup> Energy Package, which sets among other things a new and difficult target to achieve. According to the provisions of the New Energy Policy, the 13% of the total energy consumption in Cyprus should be produced by RES by the year 2020, whilst the general target set by European Union for all Member States is 20% by the year 2020.

Mention should also be made to the efforts of CERA for the simplification of the procedures for obtaining the necessary licences in order that we should have as soon as possible operating the first Wind Farms, for which wide interest has been expressed. The promotion and use of RES in combination with a development of generation and sufficiency of Electrical Energy remain the primary aids of CERA, along of course with the protection of the environment. At the same time, CERA does everything possible to introduce competition in the generation of electrical energy. This targeted effort is required by the provision of the Law and its obligations and it will continue with the same intensity in the current year.

One of the basic missions of CERA as same is defined in the provisions of the existing legislation in the sectors of Electricity and Natural Gas is, among others, to protect the interests of the consumers and to take into consideration the needs of the consumers who are in a disadvantageous position. During September 2008, CERA in co-operation with the Minister of Commerce, Industry & Tourism, had prepared and placed into effect a new legislation, which foresees to assist in a very satisfactorily way the consumers that belongs in the above disadvantageous position such as multimember families, vulnerable consumers etc. Also, this legislation provides to all consumers incentives in the field of energy saving. These incentives are provided in the form of an overall of a 20% discount to the consumer's electric bill, provided that his consumption has not exceeded a predefined level of kilowatt – hours.

Another important itemized and very complicated issue that CERA had to carry out was the finalization of the document of the “Trading and Settlement Rules” (Market Rules). The above document was proposed by the Transmission System Operator (TSO) to CERA on 15 October 2008. CERA approved it and submit it to the Minister on 23 December 2008. Afterwards, the Minister gave his approval on 22 January 2009 where the Trading and Settlement Rules were officially published and placed into force on 30 January 2009.

In addition during 2008, in depth discussions, meetings and deliberations are constantly in process with all parties involved in the Energy Sector on other various important itemised issues among which were:

- The unbundling of the EAC accounts in order to establish the actual cost of the services rendered by EAC, the vertically integrated electricity undertaking, minimise the possibility of cross subsidies between its activities resulting in eventual lowering of the prices of electricity,

- The Transmission and Distribution System Rules, already revised once, being further revised,
- The use charges of the Transmission and Distribution System.

Equally important for CERA is the price at which electrical energy reaches the different categories of consumer. During the year under review, CERA examined thoroughly the subject of methodology for the tariffs of electricity and their structure regarding the electrical energy tariffs of EAC. After several discussions and studies, CERA had finally approved new EAC' s tariffs, where from 1<sup>st</sup> of June 2009 new tariffs regarding the “Commercial” and “Industrial” consumers have been applied.

The average selling price of electricity per kWh in all categories increased from 12,719 € cent in 2007 to 16,178 € cent in 2008, an increase of 27,19% as a result of the remarkable increased fuel costs which had been monitored during 2008 around the world and the automatic fuel cost adjustment applied to the market price.

It would be an omission not to thank all those who helped CERA in its first years by offering their cooperation and assistance. These definitely include ERGEG and CEER. The bridges of communication built and the cooperation and common understanding between everybody involved help greatly the work of CERA.

COSTAS IOANNOU  
Chairman  
Cyprus Energy Regulatory Authority

## 2. MAIN DEVELOPMENTS IN THE GAS AND ELECTRICITY MARKETS

### 2.1 Wholesale Electricity Market

#### 2.1.1 Development of Electricity Market

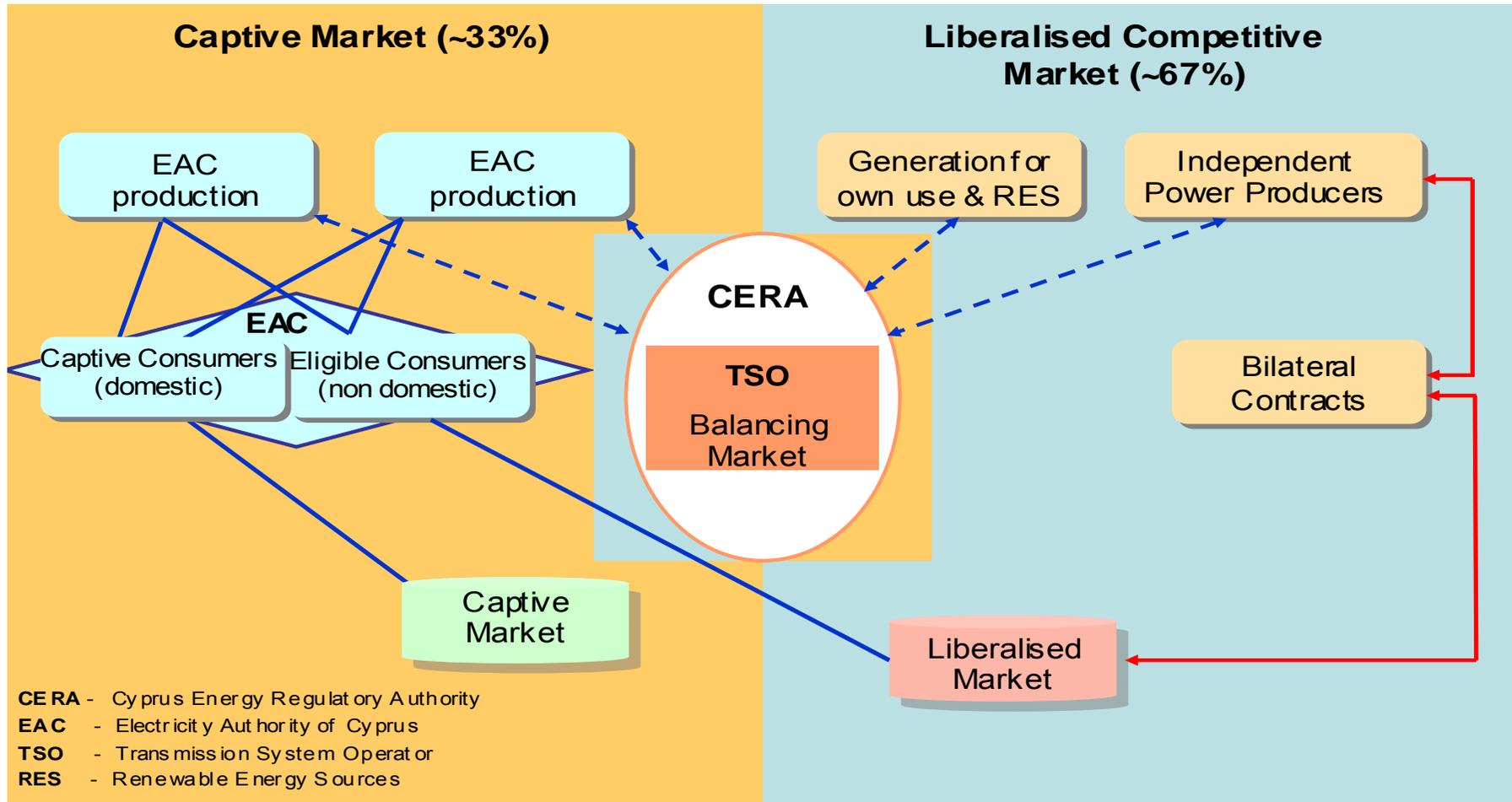
One of the most important event for the Cyprus Electricity Market is that with effect from 1<sup>st</sup> of January 2009 the market has been further liberalised for all “non domestic” consumers, which now are able to select their Supplier according to what is in their best interest. However, there is no other Supplier in Cyprus apart from the Electricity Authority of Cyprus (EAC).

In more detail any enterprise which is interested in generating and supplying electricity may submit an application to Cyprus Energy Regulatory Authority and obtain the relevant Licence if it fulfils the criteria set. The companies that will obtain such a Licence have the right to use the existing electricity transmission and distribution network. Although these networks remain the property of the EAC, a Transmission System Operator has been appointed and functions independently in terms of organisation and decision making from the EAC, and its activities of production, distribution and supply, in order to safeguard access onto the Transmission network and the equal treatment of all users of the said network. The Owner of the Distribution System has also been nominated as the Distribution System Operator and although he is not independent in the sense that the Transmission System Operator is, he has the same duty of safeguarding access to the Distribution network and the equal treatment of all users of the said network.

In accordance with the diagram below it can be seen that the market is characterised by the following:

- Market Regulation: CERA (with almost full authority)
- Operation of System & Market: Manager TSO (independent in legal and management terms).
- Basic Trading Arrangement: Bilateral Agreements
- Balancing Market: 2% to 3% of energy traded through TSO
- Captive Market: EAC, ~33% (domestic consumers only)
- Eligible Market: ~67% (all non domestic consumers)
- Competition in generation: EAC, IPPs, RES and Producers for own Use

## 2.1.1 Development of Electricity Market - Electricity Market Model



As far as the Market Rules are concerned they are based on the operating model of the liberalised electrical energy market.

The Electricity Market was liberalised by 35% on 1<sup>st</sup> May 2004. As mentioned above with effect from 1<sup>st</sup> of January 2009 the market has been further liberalised for all “non domestic” consumers, and with effect from 1<sup>st</sup> of January 2014 all consumers of electrical energy will be able to select their Supplier according to what is in their best interest. It is worth to note that, a public consultation was held at the end of 2008 with all market players including eligible consumers, in order to discuss the further opening of the electricity market

### **2.1.2 Market Integration**

Market integration results in decreasing electricity bill for consumers in countries enjoying large power generation capacities at low cost. Generally, the rationale for opening-up the market makes sense if enough freedom of choice exists so that considerable effects of production reallocation can be expected. When there are too many restrictions in the system, market opening leads to redistribution without any reallocation. In case of Cyprus where there is only one Supplier of electricity, the Regulator secures that the electricity prices of the “dominant” enterprise reflect the actual cost with a reasonable profit.

Eventhough, CERA provided an investment friendly framework, involving stable regulatory system and fair incentives for investments on a transparent and non-discriminatory basis, market integration has still not developed to a sufficient extent and this is due to the fact that several licenced (by conventional units) projects are delaying their materialization awaiting Natural Gas to be introduced to the island. In other words the main bottleneck in the development and integration of the electricity market is the absence of Natural Gas.

It is worth to note that natural gas was defined by a Ministerial Direction as the basic fuel for the production of electricity with regards to future installations of sizeable capacity. CERA has decided that sizeable capacity has to be over 50MW.

## 2.2 Retail Electricity Market

### 2.2.1 Development of Retail Market

#### Number of electricity suppliers to final customers

Total number of electricity suppliers to final customers	ONE
Number of electricity suppliers selling <u>at least 5%</u> of total electricity consumed by final customers	ONE

### 2.2.2 Development of Switching

With regards to final customers switching their supplier or renegotiating contracts there are , two groups of figures as given below:

- Percentage of final customers switching from one supplier to another during the year 2008 and volume of consumption represented by those customers (in GWh).
- Percentage of final customers renegotiating contracts with their supplier during the year 2008 and volume of consumption represented by those customers (in GWh).

	Non-domestic customers		Domestic customers (households)	
	Percentage (%)	Volume (GWh)	Percentage (%)	Volume (GWh)
<b>Customer switching</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>
<b>Customer renegotiating</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>

As a consequence of the absence of any other Supplier apart from the EAC, customer switching as well as customer renegotiations cannot in fact take place in the electricity market in Cyprus as yet.

### 2.2.3 Price Development

The average selling price of electricity per kWh in all categories is given below:

AVERAGE SELLING PRICE OF ELECTRICITY PER kWh (€cent)						
Year	2003	2004	2005	2006	2007	2008
Category						
Domestic	9,838	9,693	11,009	12,492	12,746	15,988
Commercial	11,003	10,388	11,748	13,009	13,328	16,982
Industrial	8,926	8,268	9,594	11,111	11,458	14,955
Agricultural	8,992	8,637	10,106	11,434	11,675	15,296
Public Lighting	8,755	8,437	9,298	10,981	11,233	14,554
<b>Average selling price of electricity per kWh in all categories</b>	<b>10,082</b>	<b>9,647</b>	<b>10,988</b>	<b>12,408</b>	<b>12,719</b>	<b>16,178</b>

### 2.2.4 Complaints

CERA issued Regulations concerning the protection of consumers of electricity requiring that suppliers and the Distribution System Owner, within a prescribed time period, propose and implement procedures for the submission of complaints by consumers that allow consumers to register complaints and prescribing how suppliers and the Distribution System Owner shall respond to complaints received by consumers.

The Regulations may impose requirements on suppliers and the Distribution System Owner relating, but not limited, to:

- (a) Procedures for the submission and, where appropriate, re-submission of proposed complaints procedures for approval;
- (b) the timetable for the implementation of the complaints procedures;

- (c) penalties for failure to comply with the consumer complaints regulations relating to the preparation or implementation or review of complaints procedures;
- (d) a requirement that suppliers and the Distribution System Owner review their complaints procedures at intervals of not more than five years; and
- (e) establishing procedures to deal with complaints from consumers that are not settled through complaint procedures to the satisfaction of consumers

More specifically, the above relevant Regulations were approved and are in force;

- (a) the Procedure for Submitting Complaints Regulations of 2005
- (b) the Performance Indicators Regulations of 2005

The first of the above mentioned Regulations determine the procedure for submission of complaints by consumers in cases where suppliers of electricity and/or the Owner of the Distribution System, or both, are in breach of their obligations or duties and/or are acting outside the scope of their prescribed by the Law jurisdiction.

Specifically, the above mentioned Regulations regulate, inter alia, the following;

1. Consumers' right to submit complaints to the Suppliers and/or the Owner of the Distribution System
2. the obligation of the Supplier and/or Owner of the Distribution System to respond to the complaints
3. the right to submit complaints to CERA and the procedure for examining complaints by CERA
4. the omission of the Supplier and Owner of the Distribution System to comply with CERAs' decisions
5. the penalties provided in the Regulations

The second of the Regulations mentioned above, sets the minimum level of performance in relation to the performance indicators of the Supplier of Electricity which must be achieved by the Supplier and the Owner of the Distribution System.

At the same time this Regulation refers to the Charter of Rights of the Consumer and sets the time limit within which the Supplier and Owner of the Distribution System must respond, the fines, the procedure for the payment and the time at which the fines are to be paid in cases where the Supplier or the Owner of the Distribution System omits to comply with the performance indicators set out.

With the implementation of these Regulations the rights of the consumers are safeguarded and their protection is secured, also the procedure for the submission of complaints by the consumer is regulated in the cases where Suppliers of Electrical Energy and the Owner of the Distribution System are in breach of their obligations, competences and duties, the end result being the improvement of services offered to consumers.

In relation to the consumer complaints who have been presented or formally submitted to CERA, it could be said that they were maintained within acceptable levels. Registered consumer complaints are shown in the table below:

2005		2006		2007		2008	
Enquiries / advice	Formal complaints						
---	7	---	5	---	7	10	3

The majority of the above complaints were based on bill issues. Some other complaints were referred to destructions (electrical appliances, etc) that occurred due to electric faults. CERA handled with care the above complaints, with the collaboration of EAC and TSO, leaving the consumers in most cases satisfied.

With regards to consumer complaints there are basically three (3) types of complaints, as given in the table below:

Type of Complaint	Number of complaints received in 2008
High Consumption	<u>1251</u>
Entangled tree brunches with overhead conductors	<u>3647</u>
Blown Street Lighting	<u>4612</u>
Blown fuses	<u>18938</u>
Total ( 4basic types) Complaints of 2008	<u>28448</u>

## 2.3 Infrastructure

### 2.3.1. Development in Tariffs

During the year under review, CERA examined thoroughly the subject of methodology for the tariffs of electricity and their structure regarding the electrical energy tariffs of EAC. After several discussions and studies, CERA had finally approved new EAC's tariffs, where from 1<sup>st</sup> of June 2009 new tariffs regarding the “Commercial” and “Industrial” tariffs have been applied.

The average selling price of electricity per kWh in all categories increased from 12,719 € cent in 2007 to 16,178 € cent in 2008, an increase of 27,19% as a result of the remarkable increased fuel costs which had been monitored during 2008 around the world and the automatic fuel cost adjustment applied to the market price.

### 2.3.2. Investment and Allocation of Capacity

#### Article 7 of Directive 2003/54/EC -Tendering Procedure for New Generating Capacity

If, at any time, CERA is satisfied, that the electricity generating capacity being built is not sufficient to ensure security of supply of electricity in the Republic, it shall notify the Minister.

The Minister of Commerce, Industry and Tourism shall, following consultation with CERA and the Transmission System Operator, issue a Decree to be published in the Official Gazette of the Republic by which he shall establish the procedure for submitting tenders, the necessary generation, as well as the manner and terms for making this new capacity available and shall require CERA to monitor and secure the carrying out of the procedure for the construction of new generating capacity.

As soon as possible, following the publication of the Decree referred to above, CERA shall prescribe by a Decision which will be published in the Official Gazette of the Republic, the terms, conditions and criteria that applicants to the tendering procedure shall have to meet.

CERA shall open the tendering procedure and invite applications for the construction of new generating capacity in the Republic in accordance with the procedures specified in the Decree.

## Article 22 of Directive 2003/54/EC – Direct Lines

As far as article 22 of the Directive 2003/54/EC is concerned according to the Law on Regulating the Electricity Market of 2003 and 2004 and as per Article 86:

- Where access to the transmission system or distribution system for holders of authorisations or permits or eligible consumers is refused by the Transmission System Operator or the Distribution System Owner respectively due to lack of capacity, CERA may authorise the electricity undertaking to whom such refusal is made to construct a direct line or an eligible consumer to connect with an existing direct line.
- An authorisation to construct a direct line granted by CERA under this subsection shall require the person to whom the permission was granted to comply with such technical and other conditions specified in the authorisation issued by CERA.
- Where there is a connection made between a direct line and the transmission or distribution systems, on the application of the Transmission System Operator and the Distribution System Owner respectively, CERA shall direct the owner of a direct line constructed under subsection (1) to transfer the ownership of the direct line to the Transmission System Owner or Distribution System Owner on such terms, including terms as to compensation, as may be agreed between the Transmission System Operator and the Distribution System Owner and the owner of the direct line.
- In default of agreement between the Transmission System Operator or the Distribution System Owner and the owner of the direct line as to compensation, such compensation shall be assessed under the provisions of the Expropriation of Property Laws of 1962 to 1999.

It should be noted that in practice such an incident whereby the TSO or the Owner of the Distribution System has refused access to the respective system due to non availability of capacity on the systems and whereby undertaking has been authorized by CERA to construct a direct line has not arisen as yet.

## Article 22 of Directive 2003/55/EC – New Infrastructure

Article 22 of the Directive 2003/55/EC is not transposed to National Law, until now. However, CERA has prepared draft bill amending the Law on Regulating the Natural Gas Market in order to fully transpose the Directive 2003/55/EC (Article 22–New Infrastructure) into the national Laws. The said draft bill had been forwarded to the Office of the Attorney General to check their conformity to the legal, technical

aspects, before they are forwarded to the Council of Ministers and the Parliament for approval.

## 2.4 Wholesale and Retail Gas Market

Unlike the electricity sector which is characterised by ownership differentiation, the gas sector according to the last amendment of the law Regulating the Natural Gas Market as well as the relevant Ministerial Decision, shall be monopolistic.

Cyprus will establish its gas industry by granting a supply permit to a single legal entity, which will be controlled by the state (Shareholding: 56% by Government with option to release 5% to 3<sup>rd</sup> parties, 44% by Electricity Authority of Cyprus), called 'DEFA'. In general 'DEFA' would have the sole right to import gas into Cyprus and to sell gas to all gas consumers. Aggregating gas demand through DEFA could also facilitate Cyprus' ability to acquire a relatively small quantity of gas on the best terms to satisfy demand. In addition the Council of Ministers has decided the creation of a land based Energy Center as the exclusive Receiving Terminal, with Storage facilities and installations for Regasification of Liquefied Natural Gas (LNG).

Natural Gas is still not available on the island. In spite of this, natural gas was defined by a Ministerial Direction as the basic fuel for the production of electricity with regards to future installations of sizeable capacity.

Nevertheless, the Natural Gas Sector has been put in line with the relevant EU Directive 2003/55/EC, relating to the common rules of the internal natural gas market.

Furthermore, the Government of Cyprus, after numerous discussions and meetings with all the competent authorities stated its intention to declare the Cyprus Natural Gas Market as emergent according to the articles 28(1)(2) of the relevant European Directive, 2003/55/EC. In relation to the above a Law was passed and published on 31/12/07 in the Government Gazette, Law 199(I) / 2007, amending the Laws of 2004 – 2006. on "Regulating the Natural Gas Market".

This Law states that in the event that the Council of Ministers decides to assign the import and supply of natural gas to the Republic of Cyprus to only one company and the creation of one land terminal as the exclusive station for the delivery, storage and regasification of liquefied natural gas to the Republic of Cyprus, the application of the following articles of the basic Law is suspended: Articles 8-14, 16(1)(2) and (3), 18,

21, 22 (5) and (6), 23, 27, 28, 31,32 and 33. In addition, it states that until such time as the Council of Ministers takes that Decision, CERA should act deviating from the above articles by not issuing licences in order not to endanger achieving that goal.

It should be noted that the Council of Ministers have already decided (Decision on 18.6.2008), to assign the import and supply of natural gas to the Republic of Cyprus to only one company, called 'DEFA'. In addition the Council of Ministers has decided the creation of a land based Energy Center as the exclusive Receiving Terminal, with Storage facilities and installations for Regasification of Liquefied Natural Gas (LNG).

At the same time investors that have submitted applications to CERA in order to proceed to the construction and operation of off-shore Floating Storage Station and Regasification of Liquefied Natural Gas, have been informed by CERA for the intention of the Government to declare Cyprus market as emergent market and the last amendment of the Law Regulating Natural Market has been forwarded to them. In accordance with the last amendment of the Law Regulating Natural Gas Market CERA cannot grant any licenses in natural gas field.

## **2.5. Regulation / Unbundling**

### **2.5.1 Competences of NRAs**

The main statutory objectives of CERA are set out below:

- To encourage, promote and safeguard the healthy and essential competition in the Electricity and Natural Gas Markets.
- To protect Consumers' interests.
- To promote the development of economically viable and efficient Electricity and Natural Gas Markets.
- To ensure the Security, Continuation, Quality and Reliability of Electricity and Natural Gas Supply.
- To ensure the security of supply.
- To take into consideration the Protection of the Environment.
- To encourage the efficient generation and use of Electricity.
- To promote the use of Renewable Energy Sources (RES).

The Cyprus Energy Regulatory Authority is an independent authority of the Republic of Cyprus and has executive powers and competences in the Energy Field.

Among others, CERA has the following powers and competences:

## Electricity Market

- Issues, controls, enforces, amends and revokes Licences to Generate and Supply of Electricity.
- Advises the Minister of Commerce, Industry and Tourism in all subjects relating to electricity.
- Ensures that the Rules for the Transmission and Distribution and the Rules for the Electricity Market are prepared and approved in accordance with the Law.
- Safeguards the adequacy in electrical energy for the satisfaction of all reasonable needs and demands for electricity.
- Regulates tariffs, charges and other conditions and presuppositions which are imposed on the Licence Holders for any services offered in accordance with the conditions of their Licences.
- Determines, publicises and enforces quality standards with which the Licence Holders must comply.
- Determines the rules and the procedures according to which complaints are examined which relate to services offered by the Licence Holders including, when it considers it appropriate, the carrying out of investigations and the taking of decisions for such complaints.
- Encourages and facilitates competition with the ultimate target of lowering of prices.
- Protects the interests of the consumers.
- Ensures the Continuation, Quality, Reliability and Security of Electricity Supply.
- Protects the Environment.
- Encourages the use of Renewable Energy Sources (RES)
- Encourages Research and Development in the field.
- Ensures that the Licence Holders operate efficiently and have the ability to finance the business activities for which they are licenced.
- Promotes the development of an economically viable and efficient electricity market.
- Takes into consideration the needs of the consumers of rural areas, the consumers who are in a disadvantageous position and the elderly.

## Natural Gas Market

- Protects the interests of natural gas consumers.
- Safeguards the satisfaction of the demand for natural gas.

- Promotes the development of an economically strong and effective natural gas market.
- Safeguards the Safety, Continuity, Quality and Effectiveness in the supply of natural gas.
- Protects the environment.
- Encourages the research and development regarding the transmission, distribution, storage, supply and use of natural gas.

It is also the duty of CERA to:

- Safeguard and publicise measures which may be taken in case of unforeseeable crisis in the energy field, or when there is a danger to the safety of people, works, installations or the integrity of the networks, and
- Follow up the issues of security of the supply, and especially the balance of supply and demand in the market, the level of the expected future demand and the available plant.

During the execution of its duties, CERA takes the necessary measures to comply with the Public Service Obligations. The ultimate aim of CERA is to protect in the best possible way the interests of Energy Consumers, but at the same time to protect the public interest.

### **2.5.2 Sanctions imposed by NRAs**

CERA may on its own initiative or after receiving a complaint, to investigate whether a licence holder is infringing or omitting to comply with any condition of the licence or any Regulatory Decision or Decision.

After carrying out an investigation, CERA shall notify a notice to the aforementioned persons by which it shall determine:

- (a) The term of the license or exemption or the regulatory decision or decision which, in CERA's opinion may be infringed at first sight or which is likely to be infringed by the licensee.
- (b) The acts or omissions which in CERA's opinion may or are likely to constitute an infringement of the relevant term, decision or regulatory decision of CERA.
- (c) The deadline within the licensee may submit objections in writing, which deadline shall not exceed the 30 day time limit from the date that the notice is notified.

CERA shall examine any objections submitted.

In examining any objection, CERA may issue a decision by which it shall order the licensee to take such measures as may be necessary for remedying the infringement or preventing future infringements.

In the event that the licensee fails to remedy the infringement within one month from being notified of the decision of CERA, or within a reasonable period of time as CERA may prescribe by its decision, CERA may:

- (a) impose an administrative fine on the licensee depending on the nature, seriousness and duration of the infringement or omission as may be prescribed by Regulations issued under the relevant Law; and/or
- (b) decide that an administrative fine depending on the seriousness of the case, shall be owed for each day on which the infringement or omission is continuing as referred to above; and/or
- (c) revoke an authorisation, exemption, Order or prior permit in accordance with the procedure prescribed by Regulations issued by CERA

CERA's decision to impose an administrative fine or to revoke a license, must be in writing and duly reasoned.

CERA's reasoned decision to impose an administrative fine shall be notified to the person who has been considered to be responsible for the infringement or omission. Such person may, after being notified of the decision, make written representations to CERA which must be lodged within 30 days of the notification of the decision. CERA shall collect the administrative fine if the 75 day time limit for filing a recourse before the Supreme Court of Justice has passed without any action being taken from the date of notification of the decision to impose such administrative fine, or, in the event that the recourse has been filed, following the issuing of a court decision which does not annul the fine.

If a fine imposed by CERA in accordance with the Law and the Regulations issued under it is not paid, CERA shall initiate court proceedings and shall collect the sum as a civil debt due to the Fund of the Office of CERA.

### **2.5.3. Role of TSO in the Electricity Market**

Cyprus has established a single TSO, independent in legal terms (the Manager of TSO's Office being appointed by the Council of Ministers), in management terms (organization and decision making) as per Law L.122 (I)/2003.

The main functions and responsibilities of the TSO are to secure the operation of the Electricity Transmission System and to manage the electricity market on an objective, non-discriminatory basis in a competitive environment, while at the same time supporting and promoting electricity generation from renewable energy sources. The TSO ensures access to the Transmission System of all producers and suppliers of electricity. The TSO also coordinates the actions taken for the repair and clearing of faults occurring in the Generation or Transmission Systems, in order for them to operate in an efficient co-ordinated, secure, reliable, and economical way, ensuring unhindered and uninterrupted supply of electricity to all consumers.

The two principal documents that the Transmission System Operator manages within the legal framework are the Transmission and Distribution Rules that primarily govern the technical aspects of planning and operating the transmission and distribution systems and the Trading and Settlement Rules that primarily govern the commercial interactions of all parties using the transmission and distribution systems.

### **2.5.4. Development of TSO and DSO unbundling**

The function of the single DSO has remained within the Network Business Unit of EAC in agreement with the relevant clauses of the Electricity Directive (see Article 15) and the approval of the Government of Cyprus.

Neither the TSO nor DSO is ownership unbundled, and according to the 3<sup>rd</sup> Energy Package (amendments on the Directives for gas and electricity) Cyprus is exempted from this provision due to the small and isolated characteristics.

Although the DSO has no legal independence, the accounts of this activity are unbundled and all medium and low voltage installations of the Distribution System are among the assets allocated as own.

## 2.6. Security of Supply

For the purpose of harmonisation with the directive of the European Union entitled as “Directive 2005/89/EC of the European Parliament and of the Council of 18 January 2006, concerning measures to safeguard security of electricity supply and infrastructure investments”, all necessary amendments were effected to our National Laws on Regulating the Electricity Market.

## 2.7. General Conclusions

### 2.7.1. Conclusions Related to 3<sup>rd</sup> Package

The energy package proposed by the EU emphasizes the objective of a single competitive energy market. It is indeed, a proper functioning and competitive market with adequate infrastructure, including storage, gas pipelines and a developed electricity grid, that is required.

In general we support the Commission’s proposal concerning the measures proposed for strengthening the powers and independence of National Regulators which are substantial in harmonising and leveling up the powers of National Regulators.

However, it is believed that since the NRAs are particularly and specifically vested with the powers of regulating the energy market in competition issues as well, it is believed that it is not advisable to introduce a new provision in which monitoring of competition issues should be done in cooperation with the national competition authorities. Therefore it is believed that it should be left to NRAs alone to monitor the competition issues in the energy market as is the Authority having the expertise in this field. This way the NRAs shall be the one and only responsible authority monitoring the level of market opening and competition at wholesale and retail levels, including on electricity exchanges, household prices, switching rates, disconnection rates and household complaints in an agreed format, as well as any distortion or restriction of competition as well as the only authority responsible to carry out investigations of the functioning of the electricity markets, and to decide, in the absence of violations of competition rules, of any appropriate measures necessary and proportionate to promote effective competition and ensure the proper functioning of the market, including virtual power plants.

Furthermore, we support in general the spirit of the proposal for the establishment of an Agency for the Cooperation of Energy Regulators (ACER). We support however

that ACER should not intervene with or substitute the NRAs in the execution of their powers and competences already established by Law.

It is recognized that the unbundling of ownership could be more effective towards free competition in an open market. However, the prevailing conditions in an isolated state could drive towards increased administrative costs which eventually will be borne by the end customer and without any tangible benefit. In this respect, Cyprus has been granted derogation from Article 9 of the relevant proposed Directive (amending directive 2003/54/EC).

CERA strongly supports the focus that the package gives to the development of investments, the diversification of sources and routes as well as the determination and implementation of measures towards safeguarding security of supply. But as the Green Paper entitled 'A European Strategy for Sustainable, Competitive and Secure Energy' quite rightly states, there can be no truly competitive and single European energy market, when islands such as Cyprus, which are totally dependent remain 'energy islands' isolated from the rest of the Community. This poses a challenge for Cyprus whose isolated energy network and small market make it difficult to achieve the objective of a secure and competitive energy supply. This is even more so given that our limited market is not conducive to economies of scale or scope.

Having said that, we do not want to detract from the importance of a sustainable energy policy which not only aims to ensure a secure, competitively priced and environmentally sound energy supply, but also seeks to reduce dependence on imported energy and to replace it by indigenous renewable energy sources.

Initiatives to reduce energy demand coupled with investment in clean and more eco-efficient technology also contribute to this objective, as well as, to reduce greenhouse gas emissions.

### 3. REGULATION AND PERFORMANCE OF THE ELECTRICITY MARKET

#### 3.1 Regulatory Issues [Article 23(1) except “h”]

##### 3.1.1 Management and Allocation of interconnection capacity and mechanisms to deal with congestion

As already mentioned, one of the urgent priorities of CERA was the opening of the Electricity Market. This was achieved at the beginning when the Electricity Market was liberalised by 35% on 1<sup>st</sup> May 2004. Furthermore, with effect from 1<sup>st</sup> of January 2009 the electricity market has been further liberalised for all “non domestic” consumers (approximately ~67% of the market). Cyprus has obtained a derogation with effect from 1<sup>st</sup> of January 2014 all consumers of electrical energy will be able to select their Supplier according to what is in their best interest.

YEAR	% MARKET OPEN
1995	0
1997	0
2003	0
2004	35
2005	35
2006	35
2007	35
2008	35
2009	~67

**Table 3.1.1 Electricity Market Opening Table**

At present, Cyprus, as an island, operates without cross-border links. Thus, cross-border congestion management rules are not applicable. In the primary legislation, there is a clear definition of the role of the TSO to observe and record on an annual basis an assessment regarding expected flows and other conditions related to transmission capacity and ensuring that measures are taken to avoid breaching security of supply standards. According to the primary legislation, the TSO is obliged to publish a ten-year development plan which is approved by CERA and is available to all market participants. The above mentioned development plan is revised at least once a year.

### 3.1.2 The regulation of the tasks of transmission and distribution companies

Cyprus, being a small isolated system, has opted through the Law of 2003 on Regulating the Electricity Market, L.122(I)/2003, (further down referred to as the Law) for,

- (a) A single TSO unbundled in legal and management terms from the System Owner.
- (b) A common, bundled distribution network, Owner & DSO, as part of the Electricity Authority of Cyprus (EAC) which is the vertically integrated utility of Cyprus involved in all the functions of the electricity market.

#### Network Tariffs

For network tariffs, in close cooperation with the TSO and EAC, reports have been prepared using outside consultants (from Greece, UK, Ireland, and Netherlands) and these are currently under consideration for approval. The methodology developed in the reports is based on the following principles:

- Unbundling of EAC accounts under the following broad categories:
  - Generation
  - Transmission Network
  - Transmission System Operator (EAC related costs)
  - Distribution
  - Supply
  - Other business
- Re-evaluation of generation and network assets
- Identification of ancillary services and cost valuation of each one separately
- Identification of Public Service Obligations
- Benchmarking of various activities with reference to published performance indices of European Utilities.

The above referred reports are currently under review for final approval. These will facilitate the formulation of network tariffs that will guarantee the following pre-requisites:

- Economic Efficiency/cost reflectivity
- Cost recovery

- Efficient Regulation
- Simplicity, transparency and stability
- Non-discrimination
- Facilitation of competition

The Cyprus Energy Regulatory Authority (CERA) has been vested through the Law with the responsibility of approving tariff methodologies and actual tariffs and charges of the Monopoly Sectors of the industry and all activities of EAC who is the dominant participant in the Electricity Market.

What is important to mention is that the philosophy behind the structuring of the tariffs for which CERA has the final word, is to protect the consumers against monopolistic prices.

The goal of CERA is also to encourage, via the tariffs structure, the efficiency and the quality of services which need to be provided to the consumers by the licence holders for generation and supply of electrical energy.

The regulation of the Electricity Tariffs is applied with the aim of maximising the long term benefit of competitiveness in the Cyprus economy, the protection of the consumers, the performance of the Obligations of Public Service and the securing of continuous and normal energy supply.

Within this framework the regulation of Electricity Tariffs seeks to achieve the following main goals:

- Tariffs to reflect the real cost plus reasonable profit for every sector of the electrical energy.
- Unnecessary consumption not to be encouraged, but, on the contrary, energy savings should be encouraged.
- Sufficient incentives to exist for the participants in the Electrical Energy Market, so that they improve the cost of the services they provide.
- The competitiveness of the services provided to be secured.
- Not to create discrimination between consumers.
- Not to distort competition.
- Electricity bills to show in a transparent and clear way the consequences that application of other Policy decisions (e.g. Renewable Sources of Energy) may have on electricity tariffs.
- The structure of the bills and the items comprising them to be as clear and understandable as possible.

- Changes in prices to be anticipated so as to avoid abrupt changes which may cause uncertainty to investors and consumers.

The Electricity Market Law of 2003 covers adequately the requirements of the Electricity Directive under Article 3 for consumer protection and performance standards that affect the quality of supply to all consumers with particular emphasis to vulnerable consumers. Regulations were enacted pursuant to Article 88 of the Law laying down demanding obligations on the network owner and on suppliers to meet such quality standards that will safeguard the quality and continuity of electricity supply to all consumers.

The TSO in close cooperation with EAC has drafted proposals for the Use of System Charges and Connection Charges. The proposal for the Use of System Charges is under consideration by CERA for final approval. Once these are approved they shall be made public and accessible to all interested parties. Furthermore, the proposal for Connection Charges is finalized, approved by CERA and published.

What is important to mention is that ongoing discussions are being carried out in order to assess the optimum charges for the use of the Transmission and Distribution System. The procedure is expected to be finalized at the mid of 2010 and before new entrance of Independent Power Producers (IPPs).

### **Balancing**

As mentioned in the beginning in this report, an important itemized and very complicated issue that CERA had to carry out was the finalization of the document of the “Trading and Settlement Rules” (Market Rules). The above document was proposed by the Transmission System Operator (TSO) to CERA on 15 October 2008. CERA approved it and submit it to the Minister on 23 December 2008. Afterwards, the Minister gave his approval on 22 January 2009 where the Trading and Settlement Rules were officially published and placed into force on 30 January 2009.

Furthermore, the Trading and Settlement Rules:

- enable the TSO to fulfill its obligations under the Law,
- regulate the means by which Participants may trade Energy,
- allow the calculation and settlement of payments in respect of Energy and Ancillary Services
- specify the way in which settlement and billing shall be carried out, and
- deliver the Electricity Trading Rules as envisaged in the Law.

The Market Rules provide all necessary information concerning operation of the electricity market in the country. The balancing arrangements are also described in the Transmission and Distribution Rules.

The system applied in Cyprus is based on Bilateral Agreements between producers and their customers, who must nominate their productions to the TSO 24hrs ahead of their planned production. Their production must balance within  $\pm 10\%$  of their customers demand. The difference between total supply and total demand is settled through the balancing market. Gate closure is applied at midnight – as provided by Market Rules. Settlement of imbalances will be arranged on a monthly basis. It should be noted that the balancing interval is 30min.

Participants acknowledge the following principles governing Energy Balance:

- a) As a bilaterally contracted market, primary Energy Balance is achieved by Participants contracting for delivery of Energy for expected Customer offtakes. Energy Contracts are for delivery of defined amounts of Energy in a Settlement Period.
- b) Generators will nominate physical positions to the Transmission System Operator representing their intentions to deliver the physical Energy for which they have made Energy Contracts.
- c) When the Transmission System Operator believes that the net generation does not equate to net demand (adjusted for losses), then it will contract to buy or sell residual Energy to bring the two into balance.

Participants acknowledge the following principles governing System Balance:

- a) Energy Contracts are for delivery of total Energy over a Settlement Period. However, for particular minutes within a Settlement Period, the system may be long or short of Energy even when, in aggregate for the Settlement Period, the system is in balance. The Transmission System Operator will need to contract to buy and sell Energy to achieve minute-by-minute Energy Balance within the Settlement Period.
- b) In addition to achieving Energy Balance, the Transmission System Operator will contract for other services to manage system constraints, voltage control and frequency control.

The market is not yet operating in practise since there is only one Power Producer and Supplier, namely the EAC.

### 3.1.3 Effective unbundling

- Cyprus has established a single TSO, independent in legal terms (the Manager of TSO's Office being appointed by the Council of Ministers), in management terms (organization and decision making) as per Law L.122 (I)/2003.
- The function of the single DSO has remained within the Network Business Unit of EAC in agreement with the relevant clauses of the Electricity Directive (see Article 15) and the approval of the Government of Cyprus.
- Neither the TSO nor DSO is ownership unbundled, and according to the 3<sup>rd</sup> Energy Package (amendments on the Directives for gas and electricity) Cyprus is exempted from this provision due to the small and isolated characteristics.
- Although the DSO has no legal independence, the accounts of this activity are unbundled and all medium and low voltage installations of the Distribution System are among the assets allocated as own.

**Table 3.1.3**

#### Summary Information on TSO & DSO Unbundling (Electricity)

GENERATION SUPPLY AND TRANSMISSION ACTIVITIES	TSO	DSO
Separate Headquarters (Y/N)	Yes	No
Separate corporate presentation (Y/N)	Yes	No
Unbundled regulatory accounts as per guidelines (Y/N)	Yes	Yes
Audit of unbundled accounts (Y/N)	No	No
Publication of unbundled accounts (Y/N)	No	No
Separate board of Directors without Directors from other group companies? (Y/N)	No	No

On the basis of the above the following are adhered to:

- Unbundled corporate accounts of EAC will include separate accounts for Transmission as Owner, Transmission as Operator and Distribution as Owner and Operator.
- The unbundling methodology of EAC has been prepared by reputable consultants (ESBI Ireland) and the Board of EAC has given its preliminary approval. The methodology has been submitted to CERA together with historic accounts and these are currently in the final stages of clarifications and approval.
- It was agreed with EAC that unified accounts should be acceptable for the time being. In the future however, its intended that unbundled accounts will be issued and separately audited by external auditors.
- In accordance with article 27 of Law 122(I)/2003, sanctions available to the Regulator for Companies failing to comply with management or accounts unbundling vary in accordance with the seriousness of the breach, from fines of a minimum of €1,710 up to 10% of the gross annual income of the enterprise.

In the event that the breach continues, in spite of the fine imposed, CERA may additionally impose an administrative fine of €85.50 to €8,550 for each day that the breach continues taking into consideration the seriousness of the breach.

In the event that the person/legal entity responsible for the breach has obtained illegal gain due to the breach, CERA has the power to impose a fine which may reach a sum double that of the proven sum illegally gained.

CERA may also revoke the License.

TSO is located separately from EAC. The TSO presents himself to customers as a separate entity with his own name, logo and website.

Employees directly employed by network operators (TSOs & DSOs) as share of employees of the total electricity sector approximates to 39,6%.

Employees also providing services to other parts of the group as percentage of the total employees in the network business (the denominator includes the shared employees & the exclusive network employees) approximates to 96,8%.

TSO and DSO are provided with all of their employees by the single vertically integrated utility, namely the EAC.

Share of shared services adds up to 100% and shared employees likewise.

## **3.2 Competition Issues [Article 23(8) and 23(1)(h)]**

### **3.2.1 Description of the wholesale market**

Cyprus has opened the electricity market by 35% of the annual consumption as from 1<sup>st</sup> May 2004 and for all “non domestic” consumers (approximately by 67%) as from 1<sup>st</sup> January 2009. Up to now only one generator (EAC) is operating in Cyprus covering all the needs of the country. Furthermore and as mentioned before, the Trading and Settlement Rules (Market Rules) have been officially published and placed into force on 30 January 2009. The Law allows a retail market to operate for participants that own and operate enough generation for the needs of their customers.

In this respect no wholesale market is envisaged to function in Cyprus in the near future.

A brief description of the generation structure of Cyprus is as given below:

The installed generating capacity is 1170 MW (July 2009) by the generating plants of EAC plus 21,59 MW by the independent auto-producer with a recorded maximum demand of 907 MW in July 2006, 1056 MW in July 2007 and 1010 MW in August 2008 and 1051MW in July 2009. It is expected that this years’ maximum demand will reach 1095MW. The annual consumption was 4.650 GWh for 2006, 4.850 GWh for 2007 and 5.049 GWh for 2008.

Cyprus is currently operating a national electricity market that is totally (100%) dominated by EAC who is the provider of ancillary services as well. In the future, market participants, with generating capacity exceeding 50MW can participate in the market for ancillary services.

Although demand side management is covered in the approved Transmission and Distribution Rules there is not yet any active participation in demand side management.

Since there is no wholesale market in Cyprus the Table 3.2.1 is not applicable. Furthermore, there is only one supplier the Electricity Authority of Cyprus (EAC) and trading is carried out only through bilateral agreements (by choice of available tariffs). Hence Table 3.2.1(a) is not applicable.

**Table 3.2.1**

**Development of wholesale market – NOT APPLICABLE**

	Demand		Installed capacity (GW)	No. of companies with >5% generation	Share of largest three generation companies	HHI (where available)	
	Total (TWh)	Peak (GW)				All plant, by capacity	All plant, by volume
	2002	N/A	N/A	N/A	N/A	N/A	N/A
2003	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2004	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2005	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2006	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2007	N/A	N/A	N/A	N/A	N/A	N/A	N/A

**Table 3.2.1a**

**Volume of electricity traded (TWh) – NOT APPLICABLE**

	Total consumption	traded in spot PX market	traded in forward PX market	bilateral OTC trading
2003	N/A	N/A	N/A	N/A
2004	N/A	N/A	N/A	N/A
2005	N/A	N/A	N/A	N/A
2006	N/A	N/A	N/A	N/A
2007	N/A	N/A	N/A	N/A

Concerning the degree of integration of the market with neighbouring Member States, it is repeated that Cyprus constitutes a small isolated system.

### 3.2.2 Description of the retail market

As already pointed out, Cyprus has opened the Electricity Market on the 1<sup>st</sup> May 2004 for the 35% of the annual consumption and on 1<sup>st</sup> January 2009 extended up to 67%. Before May 2004, EAC was the sole licensee to produce and sell electricity in Cyprus and the situation remains the same up until today, as no new players already being licensed have been put into operation. EAC is currently supplying the following groups of consumers:

- Households and small commercial sector: 492.880 consumers (less 50 kW) - 100% share.
- Medium sized industrial and commercial sector: 2.797 consumers (above 50 kW, LV metering) – 100% share.
- Large and very large industrial customers: 512 consumers (MV and HV metering) – 100% share.

The total consumption of customers and consumption by sector is given below:

### CONSUMERS, TOTAL & AVERAGE SALES & AVERAGE PRICES

As at 31 December	2005	2006	2007	2008
<b>NUMBER OF CONSUMERS</b>				
Domestic	332 338	348 394	366 799	386 489
Commercial	74 916	76 272	78 294	80 913
Industrial	10 956	11 198	11 299	11 792
Agricultural	10 931	11 597	12 117	12 796
Public Lighting	7 138	7 581	7 991	8 499
<b>TOTAL</b>	<b>436 279</b>	<b>455 042</b>	<b>476 500</b>	<b>500 489</b>
<b>SALES TO CONSUMERS (thousands kWh)</b>				
Domestic	1 431 792	1 500 511	1 607 048	1 682 327
Commercial	1 587 196	1 713 921	1 783 885	1 881 173
Industrial	726 059	723 038	699 746	757 803
Agricultural	120 062	128 701	137 339	156 930
Public Lighting	67 793	68 851	70 301	77 596
<b>TOTAL</b>	<b>3 932 902</b>	<b>4 135 022</b>	<b>4 298 319</b>	<b>4 555 829</b>
<b>AVERAGE SALES PER END YEAR CONSUMER(kWh)</b>				
Domestic	4 308	4 307	4 381	4 353
Commercial	21 186	22 471	22 784	23 249
Industrial	66 270	64 568	61 930	64 264
Agricultural	10 984	11 098	11 334	12 264
Public Lighting	9 497	9 082	8 798	9 130
<b>AVERAGE REVENUE PER UNIT BILLED kWh (€cent)</b>				
Domestic	11,009	12,492	12,746	15,988
Commercial	11,748	13,009	13,328	16,982
Industrial	9,594	11,111	11,458	14,955
Agricultural	10,106	11,434	11,675	15,296
Public Lighting	9,298	10,981	11,233	14,554
<b>ALL CONSUMERS</b>	<b>10,988</b>	<b>12,408</b>	<b>12,719</b>	<b>16,178</b>

All tariffs and charges are regulated and they are currently under a process of re-adjustment to gradually overcome any remaining cross subsidies.

During the year under review, CERA examined thoroughly the subject of methodology for the tariffs of electricity and their structure regarding the electrical energy tariffs of EAC. After several discussions and studies, CERA had finally approved new EAC' s tariffs, where from 1<sup>st</sup> of June 2009 new tariffs regarding “Commercial” and “Industrial” consumers have been applied.

As it has been mentioned before, EAC constitutes the main dominant participant in Cyprus electricity market. For the time being no other producer-supplier presents.

It should be noted that according to the Law, suppliers should own at least adequate generating capacity to satisfy the needs of their consumers' aggregate demand, thus integrating producers with supply activities.

No switching procedures are as yet into force for customers to change suppliers, since there are no other suppliers.

Regarding the average (typical) contract duration for households, this for the time being is not applicable in Cyprus. Domestic consumers constitute non-eligible electricity customers. However, domestic customers will continue to be supplied only by EAC until the 1<sup>st</sup> of January 2014 where the 100% opening of the market is expected and all consumers will be able to choose their producer-supplier according to their interest.

As a general assessment to whether the market is seen to be active or dormant, it could be said that the market seems to become active. By considering the above conditions under which Cyprus has to act, i.e. small isolated system, the progressively opening of the electricity market where it constitutes a contemporary activity for the island, the above position can be justified.

**Table 3.2.2**

**Development of retail market**

	Total consumption (TWh)	No. of companies with >5% retail market	Number of <u>fully</u> independent suppliers (1)	Market share of three largest companies (Producers)			Cumulative % customers having changed supplier (by volume)		
				large and very large industrial	small-medium industrial and business	very small business and household	large and very large industrial	small-medium industrial and business	very small business and household
2001	3,13	1	0	N/A	N/A	N/A	0	0	0
2002	3,40	1	0	N/A	N/A	N/A	0	0	0
2003	3,66	1	0	N/A	N/A	N/A	0	0	0
2004	3,74	1	0	N/A	N/A	N/A	0	0	0
2005	3,93	1	0	N/A	N/A	N/A	0	0	0
2006	4,14	1	0	N/A	N/A	N/A	0	0	0
2007	4,30	1	0	N/A	N/A	N/A	0	0	0
2008	4,56	1	0	N/A	N/A	N/A	0	0	0

(1) i.e. fully independent from Production companies

In relation to the consumer complaints who have been presented or formally submitted to CERA, it could be said that they were maintained within acceptable levels. Registered consumer complaints are shown in the table below:

2005		2006		2007		2008	
Enquiries / advice	Formal complaints						
---	7	---	5	---	7	10	3

The majority of the above complaints were based on bill issues. Some other complaints were referred to destructions (electrical appliances, etc) that occurred due to electric faults. CERA handled with care the above complaints, with the collaboration of EAC and TSO, leaving the consumers in most cases satisfied.

With regards to consumer complaints there are basically three (3) types of complaints, as given in the table below:

Type of Complaint	Number of complaints received in 2008
High Consumption	<u>1251</u>
Entangled tree brunches with overhead conductors	<u>3647</u>
Blown Street Lighting	<u>4612</u>
Blown fuses	<u>18938</u>
Total ( 4basic types) Complaints of 2008	<u>28448</u>

### 3.2.3 Measures to avoid abuses of dominance

All information regarding generation, planned and actual, together with all the necessary transmission system developments is published on CERA' s and TSO' s websites. Furthermore, the current vertically integrated utility (EAC) is going to be totally regulated both for the network activities, but also for generation and supply with fully unbundled accounts to the requirements of the Directive and its tariffs and other charges will be approved by CERA. This situation will continue until competitive conditions are established after new entrance come into operation. In addition, as already pointed out in other sections of the report:

- The TSO is independent from the vertically integrated Utility (EAC) in management (organisation and decision making) terms and is totally responsible for the operation of the electricity transmission system and the market as far as generation, supply, the balancing market and the provision of ancillary services.

- Performance quality indices are already in effect for all critical factors of the electricity network with penalties on the provider so that actual service to electricity consumers is closely monitored.
- All applications for connection to the Transmission network shall be totally the responsibility of the TSO as far as the issuing of terms for connection to the network and furthermore to oversee that the system owner (EAC) shall take all the necessary steps to construct the necessary network without delay.
- The TSO is vested with the responsibility of submitting the Transmission Use of System Charge to CERA for approval.
- CERA is the responsible Authority to regulate and monitor conditions of the market, so that abuses of dominance as well as other breaches of the Rules of the free Market are avoided. To this effect CERA takes appropriate and effective measures through the approvals of the above itemised issues for control and transparency, so as to avoid possible misuse of dominant positions and in particular of those misuses to the detriment of consumers.

## **4. REGULATION AND PERFORMANCE OF THE NATURAL GAS MARKET [Article 25(1)]**

### **4.1 Regulatory Issues [Article 25 (1)]**

Natural Gas is still not available on the island, nevertheless, the Natural Gas Sector has been put in line with the relevant EU Directive 2003/55/EC, relating to the common rules of the internal natural gas market. The provisions of the Directive have been incorporated into the Laws on Regulating the Natural Gas Market of 2004-2007.

Unlike the electricity sector which is characterised by ownership differentiation, the gas sector according to the last amendment of the law Regulating the Natural Gas Market as well as the relevant Ministerial Decision, will be fully monopolistic.

Furthermore, having taken into consideration the Decisions of the Council of Ministers regarding the importation and transportation of Natural Gas for the needs of Cyprus for generation of electricity and the construction of an LNG Terminal at the Vasilikos area, the Minister of Commerce, Industry and Tourism determined

(Ministerial Direction dated 17/3/2006) natural gas as the primary source of energy for all sizeable capacity electricity generating Power Plants which will be licenced by CERA. The Directive is in effect from the date of its publication on 17<sup>th</sup> of March 2006. In accordance with the said Directive, CERA decided that any Power Producing Unit over 50MW should be fuelled with Natural Gas.

Furthermore, on the 18<sup>th</sup> of June 2008 the Government of Cyprus has decided to establish a new Public Gas Company that will undertake exclusively the import of LNG, and the supply of natural gas to the market, with the Government holding 100% of the issued shares and with the option for Electricity Authority of Cyprus (EAC) to participate in its share capital with 44%. EAC is in the process of exercising its option to acquire the 44% of the share capital.

Additionally, the corporate structure of the entity responsible for the establishment (ownership, financing, operation and management) of the Vasilikos Energy Centre onshore LNG terminal will be in the form of a Joint Venture with the significant participation of EAC and other interested strategic investors.

The onshore LNG terminal shall be the exclusive terminal for the importation, storage and regasification of LNG in Cyprus. Based upon current projections, the natural gas consumption for Power Generation will range from 0,68mtpa in 2014 and will gradually increase to 1,47mtpa by 2035. It is expected, according to estimations, that the LNG Terminal will be commissioned by the end of 2014.

DEFA is a private corporation which will purchase and import the LNG pursuant to a LNG Sale and Purchase Agreement ("SPA"), preferably on a delivered ex-ship ("DES") basis. DEFA will enter into an agreement with a second corporation, which is to be established, (the "LNG Terminal Company"), for the provision of LNG receiving, storage and re-gasification services at its terminal pursuant to a Terminal Use Agreement (the "TUA").

The LNG Terminal Company will be responsible for the development, construction and operation of the LNG Terminal and will provide LNG regasification services to DEFA pursuant to a "TUA").

The LNG Terminal Company will not take ownership of the LNG, which will remain the property of DEFA throughout the supply chain, but will own, finance, manage and operate the assets of the LNG Terminal through a Joint Venture to be established, with the significant participation of EAC and other interested strategic investors.

It is evident that the authority and competence of CERA as well as the model of the natural gas market in Cyprus are drastically transformed setting in real terms a monopoly model in gas market which will eventually affect competition in electricity market as well.

In case all the necessary procedures and steps are materialised in the planned timeschedule, it is expected that Natural Gas will be available in the island by 2014. Based on current projections, the natural gas consumption for Power Generation will range from 0,68mtpa in 2014, 1,054mtpa in 2015 and will gradually increase to 1,47mtpa by 2035 with an annual increase of approximately 2%. It is expected, according to GoC estimations, that the LNG Terminal will be commissioned by mid 2014.

The natural gas requirement for power generation in April of 2015 is estimated at 0,068mtpa, which is approximately 64 % of the peak requirement in July and August of 2015, estimated at 0,108 mtpa. Respectively the natural gas requirement in April of 2025 is estimated at 0,083 mtpa, approximately 68% of the peak requirement in July and August of 2025, estimated at 0,122 mtpa.

The above forecasts are indicative, it is expected that the numbers (total LNG demand) will change due to the fact that Natural Gas will be used mainly for electricity generation. In this respect if the electricity demand increases so as the LNG demand.

The table below gives the type of gas usage, distinguishing among industrial, residential, power generation and commercial. For each kind of usage also provides the level and percentages of total levels of consumption for the next 8 years.

Natural gas consumption by sector (MSmc)											
Year	Industry		Residential		Commercial		Power Generation		Others		Total
		%		%		%		%		%	
2008		0		0		0		0		0	0
2009		0		0		0		0		0	0
2010		0		0		0		0		0	0
2011		0		0		0		0		0	
2014		0		0		0		100		0	100
2015		0		0		0		100		0	100
2017		0		0		0		100		0	100

Furthermore, the seasonality of natural gas demand it is expected to be affected by the seasonality of electricity demand (maximum demand in summer time- usually July).

It is worth to note that CERA in order to ensure security and continuity of supply as well as to assess the market demand for market capacity in the island has decided to proceed with an Open Season procedure.

An Open Season procedure involving consultations between the National Regulatory Authority (NRA) and End-Users would help decision makers estimate the exact volume and kind of any new capacity required, while ensuring that this capacity is allocated on a transparent and nondiscriminatory basis.

It is a two-phase process which allows an Investor (in case of Cyprus the LNG Terminal and DEFA) to efficiently consult the market about the infrastructure required, and the terms it would like this infrastructure to be marketed and allocates the resulting new capacity on a transparent and non-discriminatory basis.

This Request for Expressions of Interest is to solicit non-binding interest of End-Users to buy regasified LNG from DEFA. The objective is to identify potential End-Users and their demand for regasified LNG, which will facilitate DEFA in contacting the interested End-User for further negotiations and to plan its LNG procurement.

This Request for Expressions of Interest which is the 1<sup>st</sup> Step of the Open Season Procedure will be set in motion by CERA by the end of 2009.

#### 4.1.1 Management and allocation of interconnection capacity and mechanism to deal with congestion & The Regulations of the tasks of transmission and distribution companies

Cyprus, as an island, will operate without any cross-border links. Thus, cross-border congestion management rules are not applicable.

In view of the fact that the gas market is still non-existent in Cyprus Tables 4.1.1, 4.1.3, 4.1.4, are not applicable.

**Table 4.1.1**  
**Gas Market Opening Table – NOT APPLICABLE**

YEAR	THRESHOLD GWH/YEAR	% MARKET OPEN
1999	N/A	N/A
2001	N/A	N/A
2003	N/A	N/A
2005	N/A	N/A
2006	N/A	N/A
2007	N/A	N/A
2008	N/A	N/A
2009	N/A	N/A

**Table 4.1.3**  
**Regulation of network companies – NOT APPLICABLE**

	Number of regulated companies	Approx network access charge Euro/cubic metre			Interruptions minutes lost per customer per year
		I4	I1	D3	
Transmission	N/A	N/A	N/A	N/A	N/A
Distribution	N/A	N/A	N/A	N/A	N/A

**Table 4.1.4**

**Summary Information on Unbundling (Gas) – NOT APPLICABLE**

	Transmission	Distribution
Separate Headquarters (Y/N)	N/A	N/A
Separate corporate presentation (Y/N)	N/A	N/A
Unbundled regulatory accounts with guidelines (Y/N)	N/A	N/A
Audit of unbundled accounts (Y/N)	N/A	N/A
Publication of unbundled accounts (Y/N)	N/A	N/A
Separate board of Directors without Directors from other group companies? (Y/N)	N/A	N/A

## 4.2. Competition Issues [Article 25(1)(h)]

### 4.2.1. Description of the Wholesale and Retail Market

Unlike the electricity sector which is characterised by ownership differentiation, the gas sector according to the last amendment of the law Regulating the Natural Gas Market as well as the relevant Ministerial Decision, shall be monopolistic.

As mentioned in previous paragraphs, Cyprus has established its gas industry by granting a supply permit to a single legal entity, which will be controlled by the state (Shareholding: 56% by Government with option to release 5% to 3<sup>rd</sup> parties, 44% by Electricity Authority of Cyprus), called 'DEFA'.

The Council of Ministers have already decided (Decision on 18.6.2008), to assign the import and supply of natural gas to the Republic of Cyprus to only one company, called 'DEFA'. In addition the Council of Ministers has decided the creation of a land based Energy Center as the exclusive Receiving Terminal, with Storage facilities and installations for Regasification of Liquefied Natural Gas (LNG).

In general 'DEFA' would have the sole right to import gas into Cyprus and to sell gas to all gas consumers. Aggregating gas demand through DEFA could also facilitate Cyprus' ability to acquire a relatively small quantity of gas on the best terms to satisfy demand. In addition the Council of Ministers has decided the creation of a land based Energy Center as the exclusive Receiving Terminal, with Storage facilities and installations for Regasification of Liquefied Natural Gas (LNG).

In accordance with the last amendment of the Law on Regulating the Natural Gas Market as well as the above Ministerial Decision (18.6.2008), CERA cannot grant any licenses in natural gas field.

The tables below are prescribing the development of the wholesale and retail market as well as specific parameters regarding the volume of gas traded (bcm) till 2009 and the breakdown of currently prevailing price levels (which is not applicable).

**Table 4.2.1**

**Development of wholesale market – NOT APPLICABLE**

	Demand		Production (bcm)	Import capacity (bcm/year)				No. of companies with >5% production and import capacity	No. of companies with >5% available gas	Share of largest three gas wholesalers
	Total (bcm)	Peak (bcm/year)		total	reserved	reserved	unreserved			
					transit	other LT				
2002	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2003	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2004	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2005	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2006	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2009	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

**Table 4.2.1a**

**Volume of gas traded (bcm) – NOT APPLICABLE**

	Total consumption	traded in spot hub market	traded in forward hub market	bilateral OTC trading
2003	N/A	N/A	N/A	N/A
2004	N/A	N/A	N/A	N/A
2005	N/A	N/A	N/A	N/A
2006	N/A	N/A	N/A	N/A
2009	N/A	N/A	N/A	N/A

**Table 4.2.2**

**Development of retail market – NOT APPLICABLE**

	Total consumption (bcm)	No. of companies with >5% retail market	Number of fully independent suppliers (1)	Market share of three largest companies				Cumulative % customers having changed supplier (by volume)			
				power plants	very large industrial	small-medium industrial and business	very small business and household	power plants	very large industrial	small-medium industrial and business	very small business and household
2002	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2003	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2004	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2005	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2006	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2009	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

(1) i.e. fully independent from network companies

**Table 4.2.2a**

**Breakdown of currently prevailing price levels – NOT APPLICABLE**

	I4	I1	D3
Network charges (excl. levies)	N/A	N/A	N/A
Levies included in network charges	N/A	N/A	N/A
Energy costs and supply margin	N/A	N/A	N/A
Taxes	N/A	N/A	N/A
Total (including all taxes)	N/A	N/A	N/A

## 5 SECURITY OF SUPPLY

### 5.1 Electricity [Article 4 and 2005/89/EC Article 7]

For the purpose of harmonisation with the directive of the European Union entitled as “Directive 2005/89/EC of the European Parliament and of the Council of 18 January 2006, concerning measures to safeguard security of electricity supply and infrastructure investments”, all necessary amendments were effected to our National Law on Regulating the Electricity Market. On 29 October 2008 the new amending Law 92(I)/2008 has been published and placed into force.

In 2008 the Power Maximum Demand recorded was on the 21<sup>st</sup> of August 2008 and reached a level of 1010 MW, (vis -à-vis a Demand Forecast of 1065MW), 6MW of which were derived from “OWN USE” installations. The total Energy generated for the whole of the year was of the order of 4.996GWh (vis-à-vis a forecast of 5.150GWh). The load factor for the year was of the order of 0.585.

Until July 2009 the Power Maximum Demand recorded was on the 22<sup>nd</sup> of July 2009 and reached a level of 1051MW (1046MW produced from EAC and 5MW from a generator for own-use).

In recent years the average annual rate of increase in Power Maximum Demand was of the order of 5.85% and the average annual rate of increase in generated energy was of the order of 5.65%.

The levels of annual maximum demand as well as the annual energy generated are expected to continue a similar increasing trend.

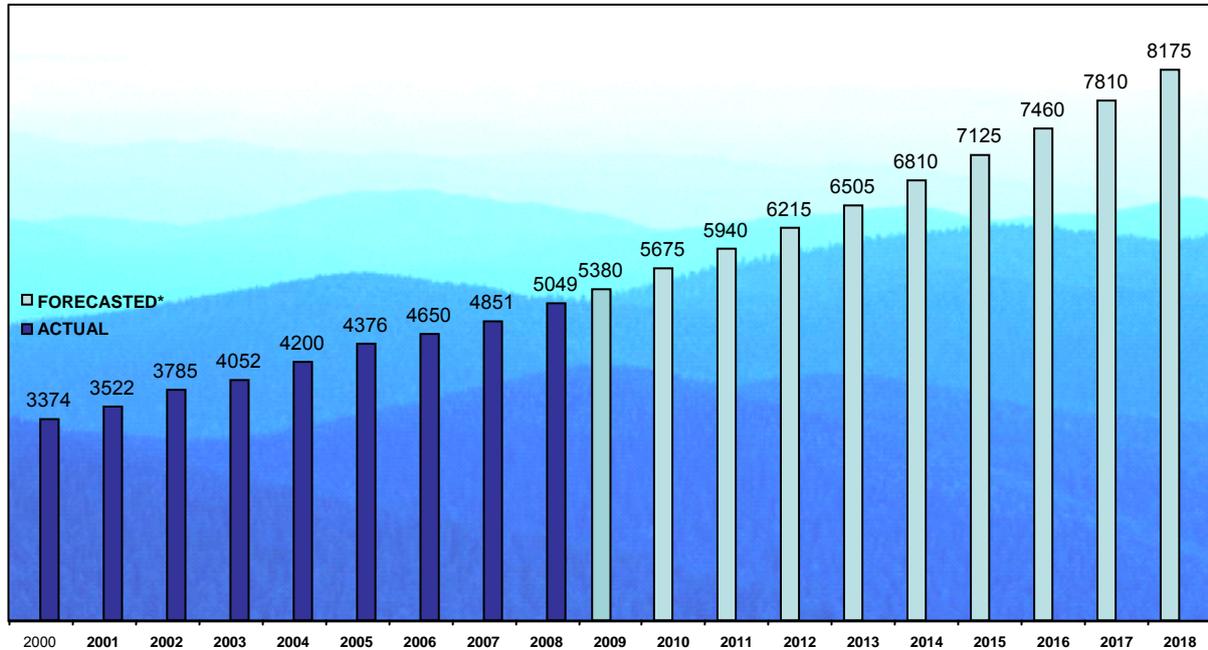
The forecasted maximum demand for electricity is as follows:

⇒ 2009 (forecasted)	1095 MW
⇒ 2010 (forecasted)	1155 MW
⇒ 2011 (forecasted)	1210 MW
⇒ 2012 (forecasted)	1265 MW
⇒ 2013 (forecasted)	1325 MW
⇒ 2014 (forecasted)	1390 MW
⇒ 2015 (forecasted)	1450 MW
⇒ 2016 (forecasted)	1515 MW
⇒ 2017 (forecasted)	1590 MW
⇒ 2018 (forecasted)	1665 MW

The installed generating capacity is 1170 MW (July 2009) by the generating plants of EAC plus 21,59 MW by the independent auto-producer. However, in real terms due to a number of reasons among with high temperatures the said figure is de-rated at levels of 1072,5 MW. It is worth to be noted that the installation of a new CCGT unit has been completed by EAC, with a total capacity of 220MW however currently it is undergoing a trial period.

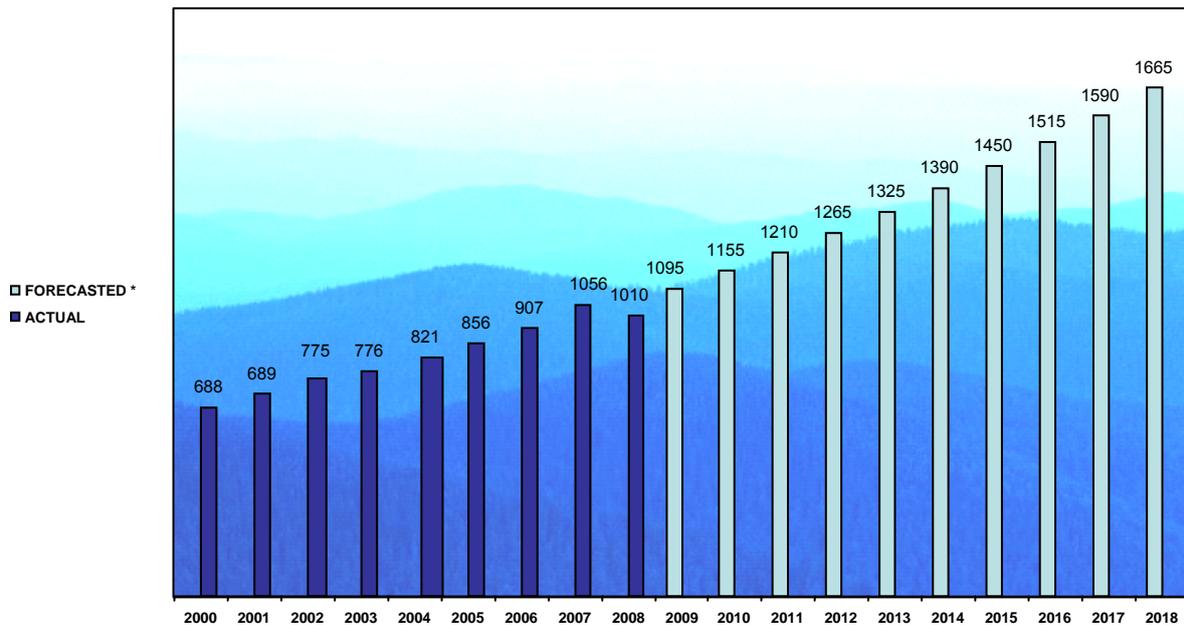
The graphs below present historical data for the period 2000 - 2008 and the forecasted quantities for the period 2009 – 2018

**(A) TOTAL ANNUAL GENERATION OF ELECTRICAL ENERGY IN GWh UNTIL THE YEAR 2018**



- With a Variation of  $\pm 1,5\%$  for the year 2009 up to  $\pm 2,5\%$  for the year 2018

**(B) ANNUAL MAXIMUM DEMAND IN MW UNTIL THE YEAR 2018**



With a Variation of  $\pm 3,0\%$  for the year 2009 up to  $\pm 5\%$  for the year 201

## **GENERATION LICENCES ISSUED**

### **Conventional Units**

Until July 2009, CERA issued Licences for existing and new Electrical Energy Generating Stations (Conventional Units of Generation) as follows:

<b>S/N</b>	<b>COMPANY NAME</b>	<b>TYPE OF LICENCE</b>	<b>MW</b>
1	EAC (Heavy Fuel Oil & Diesel)	Operation of Power Plant at Vasilikos (Existing Units)	298
2	EAC (Heavy Fuel Oil)	Construction and Operation of Power Plant at Vasilikos (Unit No.3)	130
3	EAC (Heavy Fuel Oil)	Operation of Power Plant at Dhekelia (Existing Units)	360
4	EAC (Heavy Fuel Oil & Diesel)	Operation of Power Plant at Moni (Existing Units)	330
	EAC (HFO& DIESEL)	Construction & Operation of Power Plant at Vasilikos, Unit 3	130
5	Vasilikos Cement Works Ltd	Operation of Power Plant (Existing Unit – own use generation)	6
6	Vouros Power Industries Ltd (Heavy Fuel Oil)	Construction and Operation of Power Plant (ICE)	49,9
7	EAC	Construction and Operation of Power Plant at Vasilikos – Unit No.4 (CCGT)	220
8	EAC	Construction and Operation – Unit No.5 at Vasilikos (CCGT)	220
9	EAC	Construction and Operation – Unit No.6 at Vasilikos (CCGT)	220
10	Vasilikos Cement Works Ltd	Construction and Operation (ICE – own use generation)	5
11	Elmeni Quarries Ltd	Construction and Operation (ICE – own use generation)	1,6
12	Golar Energy Ltd	Construction and Operation of a Floating Power Plant- Vassilikos (CCGT)-Natural Gas	240
13	Latomia Farmakas Ltd	Operation & Generation of Electrical Energy (Existing Unit-own use generation)	2
14	Hellenic Copper Mines Ltd	Operation & Generation of Electrical Energy (ICE-for own use generation)	3,8
15	Sewerage Board of Limassol-Amathus	Operation & Generation of Electrical Energy – for own use generation	1,2
16	Sewerage Board of	Operation & Generation of Electrical	1,2

	Limassol-Amathus	Energy – for own use generation	
17	EAC (Diesel)	Construction & Operation of Electrical Energy - Dekhelia	50
18	M.S.Scyra Vasas Ltd	Operation and Generation of Electrical Energy (ICE – for own use generation)	3,192
19	CYTA	Construction and Operation of Electrical Energy (ICE – for own use generation)	1,36
20	JCC Payment System Ltd	Construction and Operation of Electrical Energy (ICE – for own use generation)	1,28
TOTAL LICENCED CAPACITY (100%)			2144,5
EAC (85,24%)			1828,0
OTHERS (14,76%)			316,5

- EAC - Electricity Authority of Cyprus  
 RES - Renewable Energy Sources  
 IPPs - Independent Power Producers  
 CCGT - Combined Cycle Gas Turbine  
 ICE - Internal Combustion Engine

## RES Systems

Until July 2009, CERA issued Licences for new Electrical Energy Generating Stations (Electricity Production from RES) as follows:

### **By Renewable Energy Sources 480,587MW which include:**

- ✓ Wind Parks: 472,72 MW (98,36%)
- ✓ Biomass: 7,867 MW (1.64%)

In this report, we are very proud to announce that after a lot of efforts, on 19 July 2009 a contract for the connection to the system of the first Wind Park (82 MW) has been signed. All the necessary licenses have been successfully arranged and the construction work of the Wind Park is ready to start, which it is expected to be completed by the end of 2010.

Having in mind the already licensed electricity generation installations from RES and the prospective investments as well as the submitted timetables of the investors, it is believed that more projects will materialise and operate in the following years, if of course the time consuming other bureaucratic procedures with respect to obtaining all the necessary approvals for the operation of the said installations are limited or abolished.

Please note that, a small number of investments (biomass and small PV systems) have been materialized. The relevant details are given below:

### **Installed RES Units of a total capacity of 6,24 MW**

- ✓ Wind Parks: 0MW (0%)
- ✓ Biomass: 3,55MW (56,9%)
- ✓ PV Systems (grid connected): 2,1MW (33,64%)
- ✓ PV Systems (autonomous): 0,591MW (9,46%)

### **APPLICATIONS UNDER CONSIDERATION**

CERA is examining the following applications for the purpose of authorising new generation investments (conventional units of generation).

S/N	COMPANY NAME	TYPE OF APPLICATION	MW
1	P.E.C. Powerenergy Cyprus Ltd	Construction & Operation of Power Station (CCGT)	230
2	EAC	Construction & Operation of ICE – Dekhelia	51,23
TOTAL (100%)			281,23

CERA is examining the following applications for the purpose of authorising new generation investments (electricity generation from RES).

### **RES Applications under review of a total capacity of 208,10 MW**

- ✓ Wind Parks: 77,75MW (37,36%)
- ✓ Biomass: 5,998MW (2,88%)
- ✓ PV Systems (grid connected): 14,0238MW (6,74%)
- ✓ Hydroelectric Systems: 0,33MW (0,16%)
- ✓ Solar thermal Systems: 110MW (52,86%)

Currently Cyprus is totally dependent on Heavy Fuel Oil and Diesel, which are 100% imported. As mentioned above, by the end of 2010 the first Wind Park (82 MW) is expected to be completed and there will be a better generation mix that will include renewable generation sources (wind, solar, animal waste etc) and natural gas.

The TSO, in close cooperation with EAC, (the Transmission network owner) has the legal responsibility of preparing a ten year plan for the network requirements to satisfy the secure flow of energy from the generators to the distribution network and customers connected to the transmission network.

The ten-year plan has already been submitted to CERA and has been approved. Same will be under annual review.

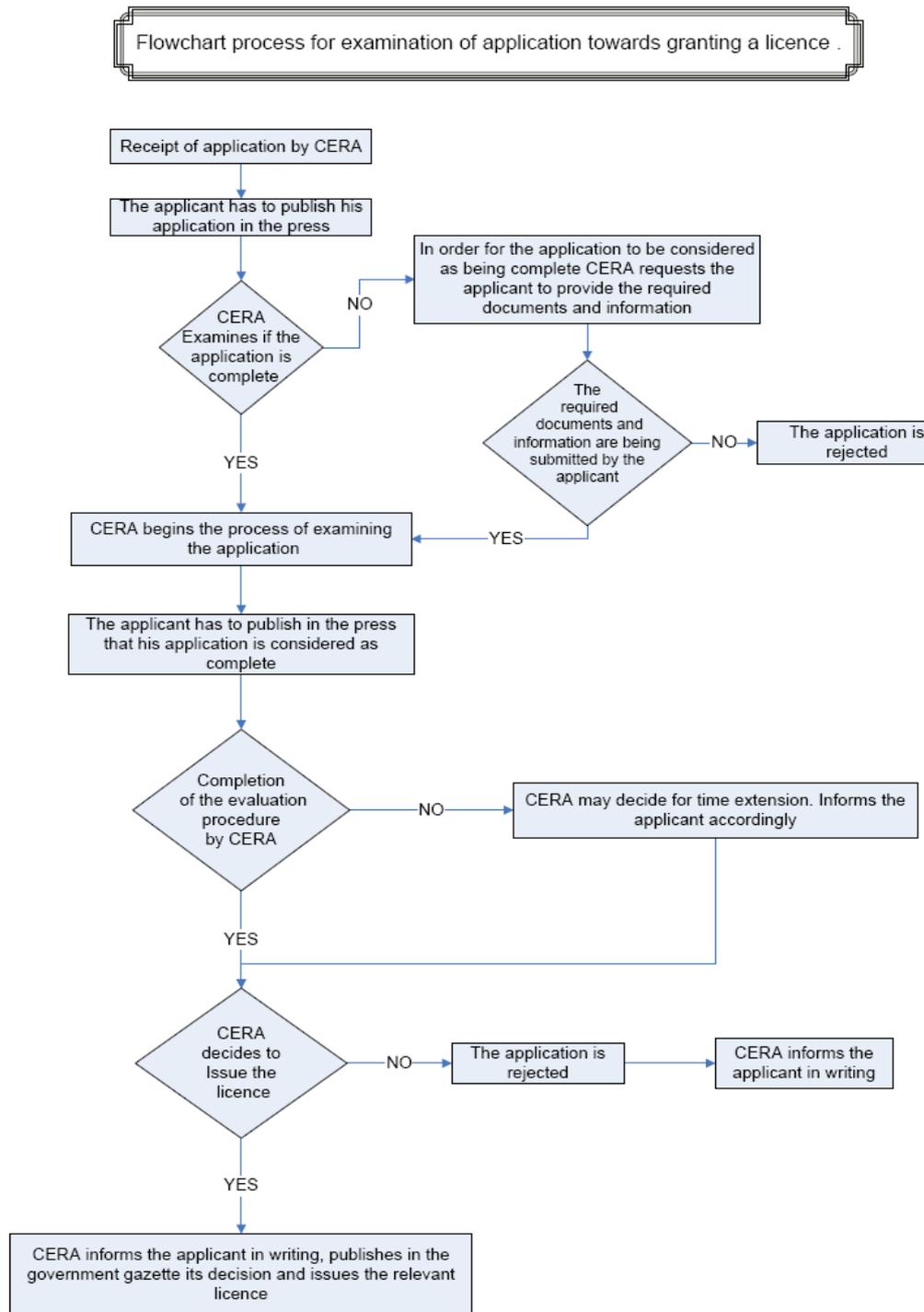
The **authorisation procedure and criteria for new generation investments** are as follows:

1. For the purpose of acquiring a License for the Construction and Operation of Electricity Generating Units for the purpose of Supplying Electricity to Eligible Consumers, or for generation for Own Use, a specific Application should be submitted, in accordance with Law No. 112(I)/2003 and the Relevant Regulations. The Application must be accompanied by the prescribed Fees and all necessary supporting documents that would allow CERA to complete a detailed examination of the Application and reach a decision.
2. The original “Form of Application of Licence” Part I of the relevant Regulation in accordance to Article 97(2)(d) of the Law of 2003 on Regulating the Electricity Market accompanied with all documents as required by Part II of the same Regulation must be filled in and submitted.
3. The Application Fee covers the registration, examination, evaluation and decision taking process regarding the Application and is not refundable.
4. In addition to other issues, the following are considered important and integral parts of the application:
  - ☞ Designation of the specific proposed erection location (plot of land) which must be accompanied with the written and binding consent of the owner, referring to memos on the title deed, if it is the case.

- ☞ General site planning drawings for the installation of the Units.
  - ☞ Environmental Study, carried out by an independent specialist, in which it should be clearly concluded that all criteria for the protection of the Environment will be met and an explicit written undertaking, by the Applicant, of fulfilling these criteria during the Construction and Operation of the Units if the requested licence is granted.
  - ☞ Comprehensive and binding time schedule indicating monthly progress of the Project.
  - ☞ Financial and/or other Guarantees for the Completion of the Project.
5. Applications are examined according to the order of receipt once they are considered as being COMPLETE (i.e. all required documents and information have been submitted).
6. In its decision regarding the issue of Licences and the size of the new Units that will be licensed, CERA seriously takes into consideration, among other criteria, the following:
- ☑ The Adequacy, Reliability and Security of Supply for the following years
  - ☑ The Safety of the electricity system, installations and associated equipment
  - ☑ The Protection of the Environment
  - ☑ The Protection of public Health and Safety
  - ☑ Energy Efficiency
  - ☑ The introduction and continuation of a healthy Competition for the best interest of the Consumers
  - ☑ The Viability of the Project
  - ☑ The Fuel to be used
  - ☑ The repercussions in the Price of the kilowatt-hour (kWh)
  - ☑ The Time Schedule for the completion of the Project
  - ☑ Guarantees for the Completion of the Project
7. CERA has the right to cancel the issued Licence in case the agreed timetable, for the completion of the Project, is unduly delayed at any stage beyond three (3) months.
8. In accordance to Law N.122(I)/2003, Article 34(3), the issue of a Licence for the Construction and Operation of a Power Station does not exempt the holder of such licence from the obligation of obtaining other approvals and authorizations (e.g. a Building Permit and a Planning Permit) as required by any other Law.

9. The relevant Law provides, that the Applicant, in the case of an Individual, must be a citizen of the European Union and be resident in a Member State, and in the case of a Legal Entity must be based and have a Registered Company in a Member State of the European Union.

The flowchart below shows the process for the examination of application towards granting a licence.



**Table 5.1**

**Security of supply evolution**

	Peak electricity demand (GW)	Available capacity (GW)	For next three (3) years Forthcoming new plant (GW)		Plant completed minus plant closed in the year (GW)				
			authorised	under construction	coal and oil	gas	RES	CHP	nuclear
2000	0,688	0,988			0,988	0	0	0	0
2001	0,689	0,988			0,988	0	0	0	0
2002	0,775	0,988			0,988	0	0	0	0
2003	0,776	0,988		0,130	0,988	0	0	0	0
2004	0,821	0,988	0,310	0,130	0,988	0	0	0	0
2005	0,856	1,118	0,246*	0,180	1,118	0	0	0	0
2006	0,910	1,118	-	-	1,118	0	0.0008	0	0
2008	1,010	1,187.68 <sup>1</sup>	2,610.6	1,207.647	1,182.2 <sup>2</sup>	0	0.00548	0	0
2009 est.	1,095	1,197.83 <sup>3</sup>	2,625.1 <sup>4</sup>	1,206.932 <sup>5</sup>	1,408.8	0	0.00624	0	0

<sup>1</sup> Includes 5,48MW from RES & 14,2MW from own use generation units

<sup>2</sup> Includes 1168MW from EAC & 14,2MW existing units of IPPs

<sup>3</sup> Includes 6,24MW from RES & 21,59MW from IPPs (own use generation) & 1170MW from EAC

<sup>4</sup> Includes 480,567MW from RES and 2144,53MW from conventional

<sup>5</sup> includes 729,9MW from EAC and 477,032MW from RES

## **MAJOR INFRASTRUCTURE PROJECTS- TRANSMISSION NETWORK**

With regards to major Infrastructure projects in the Transmission Network as we have already mentioned there are no interconnection projects, however the construction work in national transmission network projects during the last twelve (12) months (June 2007-June 2008) is described below:

### **NETWORKS BUSINESS UNIT**

#### **TRANSMISSION NETWORK**

##### **INTRODUCTION**

The transmission network is the backbone of the Authority's system, connecting the power stations with the load centres.

Transmission system development works that were completed in 2008 increased the reliability of the system and raised the installed capacity of the transmission substations by 163MVA.

##### **CONSTRUCTION WORK**

###### **New substations**

###### **Completed substations**

###### **Tseri 220/132 kV substation**

During the year under review, commissioning work was completed on the Tseri 220/132 kV substation in Nicosia. It is a branch substation in which GIS switchgear, protection panels and a fully automatic monitoring system have been installed but there are no transformers. It has been connected to the 132kV Orounda-Peristeronari substation and operates at 132kV.

###### **Ayios Athanasios 132/22-11kV substation**

In Limassol, the 80MVA (2x40MVA) capacity Ayios Athanasios 132/22-11kV substation was commissioned. To supply the substation and connect it to the Yermasoyia and Old Power Station substations, a 132kV 630 sq. mm. XLPE double circuit underground cable, approximately 1,250 metres long, was installed.

## **New substations under development**

### **Amathus 132/22-11kV substation**

Installation of the electrical equipment began in September 2008 and was expected to last eight months. The substation, which is due to operate in autumn 2010, will be powered via underground cables that will be laid during the undergrounding of the 132kV Moni-Polemida overhead power line.

### **Lakatamia 132/22-11kV substation**

Building work on the substation began in September 2008. The tender for the supply of electrical equipment has been awarded and the substation is due to operate in April 2010.

### **Trimiklini 132/22-11kV substation**

Commissioning procedures for the substation are ongoing. The contract for building work was awarded in February 2009 with a completion time of 14 months. Electrical equipment installation work will be undertaken by EAC personnel.

### **Vasilikos South 132kV substation**

In June 2008 the equipment at Vasilikos South was powered up to connect to Unit No. 4 at Vasilikos Power Station. Procedures are ongoing for the further upgrading of the substation with the installation of an 18-bay 132kV GIS switchboard to interconnect the new combined cycle units. The switchboard will monitor three generation units (3 generators per unit), four links to the existing Vasilikos substation, the Ripple Control system, two transformer circuits for the supply of power to the desalination plant, a busbar circuit, a divider circuit and a future circuit.

## **Upgrades to substations**

### **Completed upgrades**

#### **Alambra 132/11kV substation**

On July 14, 2008 the 3<sup>rd</sup> 16MVA transformer circuit was activated, thereby completing the substation upgrade.

### **Ongoing upgrades**

#### **Dhekelia 132/11kV substation**

In December 2008 building work began on the substation in which two 40MVA, 132/23-11.5kV transformers will be installed. Completion is due in June 2010.

#### **Episkopi, Pissouri and Xeropotamos substations**

The present Episkopi, Pissouri and Xeropotamos 66/11kV substations are being totally renovated and upgraded to open type 132/22-11kV. At the same time, the Xeropotamos substation is being relocated to new premises. The upgrade includes the construction of 132kV busbars, the replacement of transformers, the construction of a control room and the installation of automatic 132kV and 11kV circuit breakers. The substations are due to operate fully in autumn 2009.

#### **Kolossi 132/11kV substation**

The equipment for upgrading the substation has been delivered and building work is due to start at the beginning of February 2009.

Electrical equipment installation work will be undertaken by EAC personnel with the aim of bringing the substation into operation in autumn 2009.

#### **Hadjipaschalis 132/11kV substation**

The substation upgrade includes the installation of new closed-type switchgear, an improved control system and replacement of the medium voltage circuit breaker panel. The installed capacity of the substation is being increased from 80MVA to 120MVA. Work is due to be completed in summer 2009.

### **Akoursou Road 66/11kV substation**

Work to increase the capacity of the 3<sup>rd</sup> transformer circuit from 10MVA to 16MVA was completed.

### **Desalination Plant at Moni Power Station**

To supply the desalination plant at Moni Power Station, a 15MVA, 66/11kV transformer circuit was installed and activated.

### **Overhead power lines**

#### **New construction**

#### **Vasilikos-Tseri 220/132kV overhead power line**

The Vasilikos-Tseri 220/132kV overhead double circuit power line with two RUBUS conductors per phase was activated. The 44km line provides a direct link from the Tseri substation to Vasilikos Power Station and operates at 132kV.

#### **Upgrades/Relocations of overhead power lines**

#### **Ypsonas-Trimiklini 132kV overhead power line**

Construction work on the new Ypsonas-Trimiklini 132kV overhead transmission line is due to start in summer 2009 and should be completed in spring 2010. The double circuit line, which is approximately 15km in length, will replace the now obsolete single circuit 66kV line.

#### **Stroumbi-Polis 132kV overhead power line**

The project is at the stage of awarding the tender and work is due to begin in autumn 2009. A new double circuit 132kV line, some 22 km in length, will replace the existing 66kV single circuit Stroumbi-Polis line.

#### **Undergrounding of existing transmission lines**

#### **Athalassa-Strovolos and Athalassa-Dasoupolis overhead lines**

Undergrounding work is proceeding according to plan and is due for completion in June 2009.

## **Undergrounding of transmission lines in the Limassol Area**

Undergrounding of the Moni-Yermasoyia-Ayia Phyla-Polemidia 132kV transmission line, which traverses greater Limassol from Moni Power Station to Polemidia, is due to begin in 2009. Approximately 18 km of underground cables will be laid.

## **Other transmission network projects at a preliminary stage**

The following transmission network projects are at a preliminary stage:

- Commissioning of the Paphos substation.
- Commissioning of the Athienou substation and the routing of an overhead power line to the substation.

## **TRANSMISSION SYSTEM DEVELOPMENT STUDIES**

In 2008 the following studies were undertaken:

### **Nicosia Area**

The following studies were prepared and approved for Nicosia and the surrounding area:

- Interconnection of the Dasoupolis and District Office transmission substations.
- The need for a Tseri-Strovolos double circuit underground transmission cable.
- Relocation of the Dhekelia-Athalassa overhead power line which traverses the residential area of the Dhali Municipality.
- Preliminary study on the undergrounding of a section of the Athalassa-Tseri overhead power line and of the Athalassa-Kokkinotrimithia overhead line in the Latsia area.
- Commissioning and power supply of the new Dhali Industria Estate 2x40 MVA 132/22-11KV transmission substation.

The following studies are planned:

- Upgrading of the Latsia transmission substation.
- Undergrounding of the section of the Athalassa-Orounta overhead power line which traverses the residential area of Lakatamia.

### **Limassol Area**

The following study was prepared and approved for Limassol and the surrounding area:

- Supply of power to the desalination plant in the grounds of Moni Power Station.

The following studies are planned:

- West Limassol 132 kV nodal transmission substation.
- Trimiklini-Karvounas-Tembria 132/66kV double circuit overhead power line.
- Upgrading of the Vasilikos-Moni 132kV overhead transmission line.
- Upgrading of the Moni transmission substation from a 66kV open type to a 132kV GIS open type.
- Limassol Marina 22/11kV primary substation.

### **Famagusta-Larnaca Area:**

The following studies were prepared and approved for Famagusta-Larnaca and the surrounding area:

- Upgrading of the Larnaca Industrial Free Zone 132kV/11kV transmission substation.
- Preliminary study on the conversion of the existing Larnaca 132kV/11kV transmission substation from an open type to a GIS closed type.

The following studies are planned:

- Development of the Transmission System at Vasilikos Power Station.
- Interconnection of the Pyla and Commercial Centre 132kV/11kV transmission substations via a double circuit underground transmission cable.
- Revised study on the new Pyla 66kV/11kV substation.
- Alternative temporary power supply of the Famagusta substation by the Ayios Nikolaos 66kV/11kV substation.
- Undergrounding of the section of the Dhekelia-Larnaca-Industrial Free Zone overhead power line that traverses the residential areas of Pyla and Voroklini.

## Paphos Area

The following studies are being prepared for Paphos and the surrounding area:

- Supply of power to the desalination plant at Kouklia village.
- Undergrounding of part of the Anatoliko-Hadjipaschalis overhead power line.

### 5.2 Gas [Article 5] and 2004/67/EC [Article 5]

Natural Gas is still not available in Cyprus. In spite of this, Natural Gas was defined by a Ministerial Decision as the basic fuel for the production of electricity by future installations of sizeable capacity.

CERA has already proceeded with harmonisation of the Cyprus legislation with EU Directive 2003/55/EC, relating to the common rules of the internal Natural Gas market. The provisions of the Directive have been incorporated into the Law on Regulating the Natural Gas Market of 2004 as amended in 2007.

After a review of security of supply measures adopted by other EU member states CERA has identified a number of themes to address the security of supply issue:

- The production of some form of National Emergency Plan to address roles, responsibilities and actions to be taken by participants in the gas market;
- Interruption / curtailment of gas supplies to specific customer groups to protect more vulnerable end-users;
- Requirement, typically on suppliers, to keep a number of days of typical gas demand in gas storage facilities;
- Requirement, typically on large end-users or suppliers to large end-users, to have, or make, available quantities of an alternative fuel to gas, usually gas oil or fuel oil, in the event that gas supply is curtailed;
- Requirement, typically on gas suppliers or a policy for the country as a whole to ensure, through gas contracts, a diversity of supply sources.

The measures adopted by some EU member states will not be applicable to Cyprus, since Cyprus is not connected to the EU gas transmission network. The situation Cyprus is in, therefore, is similar only to some of the outlying EU member states

where there is effectively only one source of gas supply. These would include member states such as Finland, the Baltic states of Estonia, Latvia and Lithuania and Ireland.

CERA is currently under an ongoing process of adopting measures to safeguard Natural Gas security of supply and determine corresponding emergency plans and actions. CERA has already prepared and submitted a draft bill amending the basic Law on Regulating the Natural Gas Market in order to incorporate the provisions of the Directive 2004/67/EC into National Law. The said draft bill is under consideration and deliberation is being conducted with other interested bodies taking into account the New Energy Policy and the 3<sup>rd</sup> Package.

In this respect, it must be noted that the primary parameter to be taken into consideration when assessing security of Natural Gas supply in Cyprus is the fact that Cyprus is an island, isolated from the Natural Gas networks of any other EU or non-EU country.

This unique parameter implies that in Cyprus, both in the long-term and in the short-term, Natural Gas supply issues should always be considered in relation to any other primary energy source utilised in the country (i.e. oil and LPG).

In Cyprus natural gas is envisaged to be used exclusively for power production, at least for the first 10 years from the date it is delivered for the first time to the island. Later, and upon development of the corresponding networks, Natural Gas will become available for use, first by the industrial sector, then the commercial sector, and finally households in case this option is economically feasible.

In view of the above, a condition should be adopted to protect security of electricity supply by providing alternative arrangements for electricity generation in the event of Natural Gas supply interruption in the island. Generators should have the capability and relevant infrastructure on-site, in order to be able to utilise an alternative fuel for power generation, as well as store the required quantities of secondary fuel for that purpose. In the event of a disruption or shortage of supply of the primary fuel, i.e. Natural Gas, the Cyprus TSO can then call on generators to run on the secondary fuel, at short notice, for a specified period of time.

Furthermore, in view of the gas market development in Cyprus for the next decade (2011-2020) a specific number of measures is under consideration taking into account the following important parameters:

- No indigenous gas resources.
- No interconnections with other gas systems.
- No underground or undersea gas storage.
- Supply only by LNG because of Cyprus being an isolated island.
- Brand new and small market which will be based on the power generation (90% of total gas consumption).
- The gas demand growth is expected to reach “the plateau” within 10 years because of the political decision to convert almost all existing oil fired power plants to gas fired.
- The other gas consumption sectors (industrial and residential/commercial) are very small compared to the power generation sector (0,23 bcm/y to 2,0 bcm/y at “the plateau”) and these will probably be developed much later.
- No big linepack because the main city-capital (Nicosia) is in the center of the island and the Power Generation is in the south.
- Significant diesel oil storage quantities in existing reservoirs which will not be dismantled.
- Gas Market model: A Gas Company is the sole importer and supplier of all natural gas quantities in Cyprus, also undertaking the transmission system operation. A different company will invest for an LNG terminal, possibly undertaking as well the terminal’s operation.

The following measures have been identified but not finalised, in view of enhancing security of supply:

- Interruptible contracts;
- Interruption under a priority list;
- Temporary storage kept by the Network Operator;
- Supply sources diversification;
- Long term supply contracts;
- Reserve fuel arrangements for gas fired power plants;
- Elaboration of an Emergency Plan;

- Security of supply being responsibility of the Regulator;
- SoS monitoring performed by the Regulator;
- Monetary penalties (e.g. for cases of non-delivery by the producer or in cases of non-delivery by the shipper or in cases of LNG terminal operator failure).

It was also noted that the measures adopted by some EU member states would not be applicable to Cyprus, since Cyprus is not connected to the EU gas transmission network. The situation Cyprus is, therefore, similar only to some of the outlying EU member states (e.g. Finland, the Baltic states of Estonia, Latvia, Lithuania and Ireland) where there is effectively only one source of gas supply.

In order to ensure an adequate level of security of supply, the measures would fall into the following broad categories:

- the strategy for purchasing LNG for delivery to the Cyprus terminal, including supply sources diversification and long term supply contracts;
- the policy on sales contracts to end users, including the use of interruptible contracts and the requirement for alternative fuel arrangements at key customers such as gas-fired power plants; and
- the implementation of a National Emergency Plan incorporating the relevant roles, responsibilities and procedures.

As far as infrastructure development is concerned the Government of the Republic of Cyprus is proposing an Energy Centre at Vasilikos that will include facilities for the importation, storage, pumping and vaporisation of liquefied natural gas (LNG), and the export of that natural gas to power plant users. It's really import to mention that both storage facilities and LNG terminal project are in a preliminary stage, however details are given below in order to provide some indicative information.

#### Storage Facilities- Loading –Uploading - Regasification

The LNG Storage Facility will be based around the sizing of commonly available LNG Carriers in order to ensure that Government of Cyprus has flexibility of supply and can cope with future demand growth. It is hence envisaged that initially LNG carriers around 75,000m<sup>3</sup> P would supply the facility with carriers increasing to around 135,000m<sup>3</sup> P in future years. The vessels would be unloaded through three unloading

arms with a vapor return, through a cryogenically insulated unloading line. This is maintained at -160°C by recirculation of product through a smaller recirculation line, except during unloading when it provides additional unloading capacity. The vessel would typically be unloaded in no more than 14 hours to allow a 24 hour turnaround time commonly used in LNG shipping.

**Table 5.2**  
**Security of supply evolution (gas)**

	Total gas demand (bcm)	Production capacity * (bcm)	Pipeline import capacity (bcm)	LNG import capacity (bcm)	Forthcoming new capacity (bcm)	
					authorised	under construction
2007	N/A	N/A	N/A	N/A	N/A	N/A
2008	N/A	N/A	N/A	N/A	N/A	N/A
2009	N/A	N/A	N/A	N/A	N/A	N/A
2010	N/A	N/A	N/A	N/A	N/A	N/A
2011	N/A	N/A	N/A	N/A	N/A	N/A
2012	N/A	N/A	N/A	N/A	N/A	N/A
2013 est	N/A	N/A	N/A	N/A	N/A	N/A

\* *Annual Capability of Supply Gasified and Depressurised Natural Gas under Usual Conditions ISO m<sup>3</sup> x 10<sup>6</sup>*

In order to estimate the needs in natural gas, which at least at first will only be used for the generation of electricity, the Electricity Authority's Development Plan was taken into consideration as well as the assumptions that the Independent Producers of Electricity will contribute by 10% at least to the needs of the Electricity Market and that the natural gas will be available by the year 2014.

## **6 PUBLIC SERVICE ISSUES [Article 3(9) for electricity and 3(6) for gas]**

As already pointed out, legislation both primary and secondary has been enacted covering all the requirements of the Electricity Directive regarding consumer protection complaints procedure, treatment of vulnerable consumers and performance indices that are intended to safeguard quality of service and supply to all consumers.

All Public Service Obligations (PSO's) that EAC had before liberalization are still in force such as universal electricity service provider, and the supplier of last resort, by virtue of the Law 122(I)/2003, and EAC, the Ministry and CERA are currently discussing the PSO regime that will be applicable in the future. Already a Public Service Obligation regarding energy produced by RES has been imposed by the Law, L.33(I)/2003 on EAC whereby EAC or any other supplier shall buy from RES Producers all energy produced at a price defined by CERA.

A decree regarding relief from the price of electricity for multimember families over six (6) members and for disadvantaged families has been issued in April 2006.

Further to the above, during September 2008, CERA in co-operation with the Minister of Commerce, Industry & Tourism, had prepared and placed into effect a new legislation, which foresees to assist in a very satisfactorily way the consumers that belongs in the above disadvantageous position like multimember families, vulnerable consumers etc. Also, this legislation provides to all consumers incentives in the field of energy saving. These incentives are provided in the form of an overall of a 20% discount to the consumer's electric bill, provided that his consumption has not exceeded a predefined level of kilowatt – hours.

Preparatory work is being carried out for the treatment of vulnerable consumers which is expected to be finalized in 2008.

Regarding labeling, at present Electricity bills, apart from basic information, only identify the “extra” amount billed for funding an ongoing “RES Incentive Plan”. Future bills will give details for primary energy sources, etc.

EAC is the only licensed supplier in Cyprus supplying the following categories of consumers (April 2009):

• Domestic	390.912
• Commercial	81.557
• Industrial	11.874
• Agricultural	12.973
• Public lighting	8.641

TOTAL 505.957

**Table 6**

**Regulation of end user prices**

	Electricity			Gas			
	large and very large	medium industrial and commercial	small commercial and household	power plants	large and very large	medium industrial and commercial	small commercial and household
Existence of regulated tariff (Y/N)	Y	Y	Y				
% customers still on tariff	100	100	100	NOT APPLICABLE			
possibility to switch back to regulated tariff (Y/N)							
Number of suppliers covered by the obligation to supply at tariff (could be all suppliers)	1	1	1				

Due to non-payment 14.219 consumers were disconnected in 2008. Approximately 80,5% (11.448 consumers) of those disconnected were re-connected after settling their accounts. Performance indicator refers to 24 hours as the time of response.

EAC as the dominant supplier in the electricity market of Cyprus has been nominated as the Supplier of Last Resort in line with the requirements of the Electricity Directive.