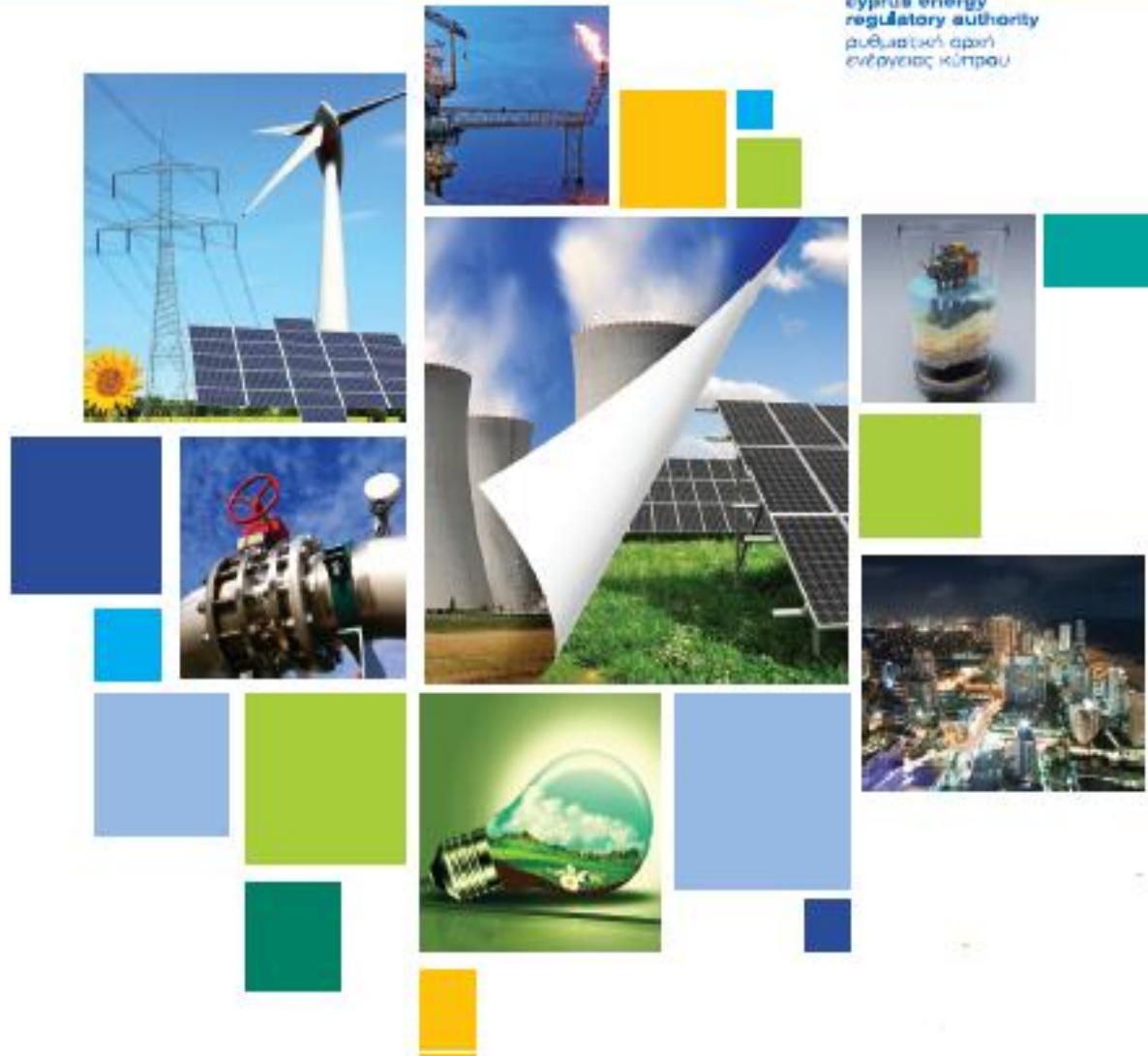




cyprus energy  
regulatory authority  
κυπριακή αρχή  
ενέργειας κύπρου



# 2015 NATIONAL REPORT TO THE EUROPEAN COMMISSION

July 2014 to July 2015

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## 1. FOREWORD

The Cyprus Energy Regulatory Authority was established by Law in 2003 in line with European Union Directives and it is Cyprus's independent energy regulator with a wide range of functions in efficient and non-discriminatory regulation and customer protection. The basic objective of CERA is regulating and monitoring the Electricity and Natural Gas Market, ensuring that the Energy Market operates on the basis of sound competition, that the various participants are acting with transparency, that adequate and good quality services are provided and that the interests of consumers are protected, taking into account the environmental impact of projects.

The European Union is currently facing various challenges. EU Member States are called upon to proceed with coordinated actions to increase the Union's energy security, to enhance competitiveness, to move forward towards a transition to a low carbon economy by 2030 and to take measures to improve energy efficiency. That is why the Cyprus Energy Regulatory Authority has set at the core of its regulatory objectives the security of supply, the competitiveness and sustainability of the energy field and the economy in general, the protection of the energy customers and the protection of the environment.

Security of electricity supply is becoming an increasing challenge. Ensuring energy supplies, transforming the European energy system to a more sustainable system that emits less CO<sub>2</sub>, while keeping the cost of energy competitive for industry and affordable for citizens, can only be done in an internal market.

In electricity, maintaining the same level of grid stability becomes a bigger challenge as increasing shares of variable renewable enter the energy mix, and local energy storage becomes a possibility.

Clearly the changes to our energy system should be seen as opportunities rather than threats. We are moving to a more flexible energy system which needs to be more responsive and better adapt to the needs of our consumers, our climate and our economies.

CERA will continue to perform its duties having as its top priority the development of an anthropocentric and smart energy strategy focusing on the consumer. The proper functioning of the energy market is of critical importance to the economy and stability of the country as well as the welfare of its citizens.



*George Shammass*

*Chairman*

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

The period under review was an important period for Cyprus which was marked by a number of significant milestones at the level of both the European and the national policy, which influenced and is expected to reshape the energy landscape of our country and of Europe in general. A key feature of CERA's activities in the period under review was a series of important Decisions taken by the Authority that will create the foundation and conditions for the operation of the energy market with a focus on security of supply, protection of consumers and ensuring fair competition through the development of an economically viable and efficient energy market.

At present, the energy sector in Cyprus is undergoing fundamental transformations concerning its structure and organization, its institutional framework and the diversification of its energy mix. The Cypriot electricity sector is today 100% covered on the supply side and more than 90% on the generation side, by the state-owned Electricity Authority of Cyprus. In an effort to open up the market to new participants, CERA has proposed the Net-Pool model as being the most appropriate trading arrangement approach for the Cyprus electricity market, setting mid 2016 as the milestone for its commercial operation. The formulation of a net-pool incorporates both, a bilateral contracts market and a central Day Ahead Market. In the near future, an Intra-Day Market would be organized. The proposed design includes also a real time Balancing Mechanism that provides the TSO with the ability to purchase the required operational reserves, activate balancing services, and settle imbalances.

It is of paramount importance to put in place the soonest the new Market Rules in order to facilitate the entrance of new players in the generation and supply of electricity. Most importantly the new rules would allow for Renewable Energy Sources, especially photovoltaics to be integrated into the market, by competing equal terms with conventional electricity generation. Photovoltaic systems, whose capital cost has declined significantly in the last years, are considered to be in a position to compete successfully with conventional fuel generators, without any governmental support. Obviously this ambitious target is fully in line with EU energy policy.

A technical major challenge that the electricity sector in Cyprus faces is the isolation of the electricity system (no interconnection with neighbouring countries) while at the same time the system is very small and lacks any energy storage infrastructure. This fact imposes serious technical limitations on the amount of energy that can be absorbed in the network from intermittent Renewable Energy Sources (RES), as the intermittency can have an impact on the reliability, security and stability of the system. The potential for base-load renewable energy sources (i.e. hydro and biomass) is limited, due to resource constraints.

CERA has produced significant work in the planning and implementation of important Decisions during the period under review. In particular, CERA issued the Accounting and Functional Unbundling Regulatory Decisions for EAC, as well as the Regulatory Accounting Guidelines for the preparation of the Separated Regulatory Accounts of EAC. These decisions set the basis for the unbundling of the four regulated activities of Generation, Transmission, Distribution and Supply and the non-regulated activities of the organization. Furthermore, CERA published on 15<sup>th</sup> of May 2015 as Regulatory Decision the "high level" design of the electricity market, named as "The New Electricity Market Arrangements in Cyprus" and in June 2015 published a Decision on the new Methodology of Tariffs.

### 3. THE ELECTRICITY MARKET

#### 3.1. Network regulation

##### 3.1.1 Unbundling

##### 3.1.1.a. Development in TSO unbundling and Report on TSO Certification

The third energy package provides for **three basic models for unbundling: Ownership Unbundling (OU), the Independent System Operator (ISO) and the Independent Transmission Operator (ITO)**. When implementing the unbundling rules of the third energy package Member States have to decide whether to implement exclusively the Ownership Unbundling model, or leave to the TSO a choice between the different models. However, Cyprus according to article 44 (derogations) of the 2009/72/EC directive has obtained an exemption from article 9 on Unbundling of Transmission Systems, therefore Cyprus has maintained its present regime on TSO unbundling.

As from previous directive, a Transmission System Operator (TSO) has been appointed and functions independently in terms of organisation and decision making from the transmission system owner and the distribution system owner and operator which is namely the Electricity Authority of Cyprus (EAC). Under current legislation, the TSO which is legally unbundled, acts independently from production, distribution and supply activities in order to safeguard third party access onto the transmission network and equal treatment of all users of the network.

Furthermore, the TSOs' Certification procedure does not apply for Cyprus due to the exemption from Article 9 of the said directive.

Currently the 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 (TSO's & DSO's) 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 is provided with all of its employees by the single vertically integrated utility, namely the EAC.

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

##### 3.1.1.b Development in DSO unbundling

The Owner of the distribution system has also been nominated as the Distribution System Operator (DSO) and although it is not independent in the sense that the Transmission System Operator is, it has the same duty of safeguarding third party access to the distribution network and the equal treatment of all users of the said network.

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 and the approval of the Government of Cyprus.

Cyprus as a small and isolated system has decided, according to article 26 on the unbundling of distribution system operators of the 2009/72/EC directive, not to apply the proposed unbundling regime of the DSO.

However, according to current legislation the Cyprus' DSO must establish a compliance programme, which sets out measures taken to

ensure that discriminatory conduct is excluded, and ensure that observance of it is adequately monitored. The compliance programme sets out the specific obligations of employees to meet that objective. An annual report, setting out the measures taken, shall be submitted to CERA for approval by the body responsible for monitoring the compliance programme.

DSO is provided with all of its employees by the single vertically integrated utility, namely the EAC.

### 3.1.1.c Accounting and Functional Unbundling

After a detailed study undertaken by an International Consulting firm appointed by CERA in July 2014, and adopting the recommendations of the Study, CERA issued the Accounting and Functional Unbundling Regulatory Decisions for EAC, as well as the Regulatory Accounting Guidelines (RAG) for the preparation of the Separated Regulatory Accounts (SRA) of EAC. These decisions, set the basis for the unbundling of the four regulated activities of Generation, Transmission, Distribution and Supply and the non-regulated activities of the organisation.

Regarding the Accounts Unbundling of EAC, Article 108 (4) of the Law provides that EAC should maintain separate regulatory accounts (SRAs) for each of its activities that were licensed by CERA according to Article 34. The same applies for the provision of PSOs and EAC's activities not related to electricity. On 21/7/2014 CERA has issued the Regulatory Decision 02/2014 which contains "Regulatory Accounting Guidelines" (RAGs) to EAC<sup>1</sup> for the preparation of SRAs. These RAGs detail the process of preparing, auditing and

submitting as well as the information that need to be included in the SRAs.

On 21 July 2014, CERA has issued two additional Regulatory Decisions<sup>2</sup> regarding the Accounting and Operational (or Functional) unbundling of EAC. According to the Regulatory Decision regarding accounting unbundling, EAC is obliged to prepare and submit on a yearly basis to CERA, certified accounts for the activities of **Generation, Transmission, Distribution (Owner), Distribution (Operator) and Supply.**

According to the Regulatory Decision regarding the operational unbundling of EAC, the latter is obliged to proceed with the organization of five distinct Business Units (BUs); **Generation, Supply, Transmission and Distribution** and another distinct Unit for "**Other Activities**". It calls for the discrete separation of the competencies between Distribution and Supply as well as the creation within the Distribution BU, of a Section for the Operation of the Distribution System. Within the Distribution BU, it also calls for the creation of a ring-fenced "Metering" Section.

The "Other Activities" Unit will include all the non-regulated EAC Activities such as Inspection of Electrical Installations, Desalination Unit, Street Lighting Maintenance, MRTC, third party supply and installation of PV Systems, third party telecommunications, contracting activities etc. CERA called the EAC Board of Directors to evaluate whether the abovementioned "other activities" should be executed by **separate legal entities.**

Each Business Unit may use the services provided by another Business Unit, based on appropriate Service Level Agreements (abbr. SLAs).

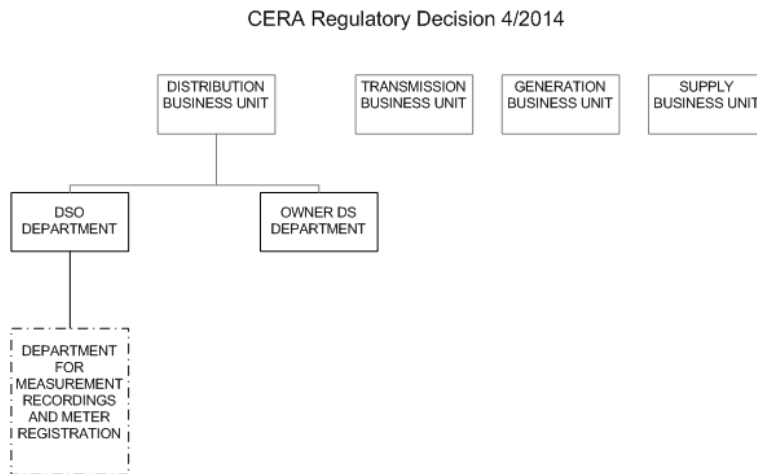
<sup>1</sup> The Regulatory Decision 02/2014 applies to all "Responsible Organizations" i.e. all vertically integrated organizations according to the provisions of Article 2 of the Law.

<sup>2</sup> CERA Regulatory Decisions; 03/2014 on the Accounting Unbundling of EAC and 04/2014 on the Operational (or Functional) Unbundling of EAC.

EAC has submitted the compliance statements for the Accounting Unbundling and the Regulatory Accounting Guidelines as required by the above Regulatory Decisions, and these have been approved by CERA. The basic principles of the Functional Unbundling programme have also been approved by CERA in November 2014 and June 2015 respectively. CERA did not consider it appropriate to interfere with issues of EAC's organisational structure, as the Board of Directors of EAC is responsible to review and amend its organisational structure, as it sees fit, in order to ensure the correct

implementation of the Accounting and Functional Unbundling between the four regulated activities of the organisation with clear distinction between regulated and the non-regulated activities, and submit audited Separated Regulatory Accounts. The Accounting and Functional unbundling process is underway following the agreed programme, the compliance statements and the set milestones, with most of the steps to be undertaken according to the compliance statements, completed. In August 2015, EAC will submit its first audited Separated Regulatory Accounts, for the year ended 31 December 2014.

The figure 1 below illustrates the proposed EAC functional unbundling as instructed in CERA Regulatory Decision 04/2014:



### 3.1.2 Technical functioning

#### 3.1.2.a Balancing Services

The “Trading and Settlement Rules” (Market Rules) were officially published and placed into force on 30 January 2009. In general, the Trading and Settlement Rules enable the TSO to fulfil 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 specify the way in which settlement and billing shall be carried out. The Trading and Settlement Rules provide all necessary information concerning the operation of the

electricity market in the country. The balancing arrangements are also described in these.

Currently 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 Trading and Settlement 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:

- 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.
- Generators will nominate their intended running position to the Transmission System Operator representing their intentions to deliver the physical Energy for which they have made Energy Contracts.
- When the Transmission System Operator during the settlement period 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 according to the offers and bids received in the declarations.

Participants acknowledge the following principles governing System Balance:

- 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.
- In addition to achieving Energy Balance, the Transmission System Operator will contract for other services to manage system constraints, voltage control and frequency control.

However, the market is not yet operating in practise since there is only one

Supplier/Power Producer, namely the EAC.

In the meantime CERA has finalised the procedure for the preparation of the “high level” design regarding the new electricity market arrangements in Cyprus based on the decision for implementing a Net-Pool Model as suggested by the External Consultants as being the most appropriate trading arrangement approach for the Cyprus electricity market.

The proposed design allows bilateral, over the counter, contracting on a forward basis while at the day-ahead stage a central market is organized. CERA should regulate the minimum participation of the Dominant Participant in the DAM with a view to enforcing adequate liquidity. Specifically, under the proposed net pool design, bilateral physical forward contracts are notified and corresponding schedules are nominated to the Market Operator (MO) by OTC market gate closure on the day ahead. Suppliers and generators provide bid curves to a Day Ahead Market (DAM) on a half hourly basis. Orders in the DAM are unit based in the case of generators<sup>1</sup>. Suppliers submit orders based on individually forecast demand. Orders in the DAM should correspond to quantities not already covered by bilateral contracts and take into account any Replacement Reserve of type 2 commitments. The DAM is centrally managed by a Market Operator (MO).

The MO runs a process of matching bid curves to optimise dispatch of residual volumes at the day ahead. Contracts resulting from the DAM are between market participants and the MO at the DAM clearing price. An Integrated Scheduling Process with a real time Balancing Mechanism and later a continuous intra-day trading platform will be organized to further support market operations.



### 3.1.2.b Security and Reliability Standards, Quality of Service and Supply

CERA monitors the compliance with and reviewing the past performance of network security and reliability rules and sets or approves standards and requirements for quality of service and supply.

Under the Laws on Regulating the Electricity Market of 2003 to 2012, CERA takes a Regulatory Decision with which it issues instructions to the Transmission System Operator and the Distribution System Operator to prepare and issue technical rules, which are subject to CERA's approval, on the operation of the Transmission System and the Distribution System, respectively.

The provisions of the Transmission and Distribution Rules are observed by all licensees or by persons to whom exemptions were granted, to the extent that the licences or exemptions require this, respectively.

In 2013 there was an additional revision to the Transmission and Distribution Rules. More specifically on July 2013, following CERA's approval, the revised Version 4.0.0 was published.

In general, the Transmission and Distribution Rules are designed to achieve the development, the maintenance and the operation of an efficient, coordinated and economically viable Transmission & Distribution System whilst facilitating competition in generation and supply of electricity.

The Rules:

- govern the technical requirements and constraints that will apply wherever license holders wish to connect to the transmission system and/or distribution system or use the transmission system or distribution system for the transportation of electricity

- ensure that the technical conditions that apply to license holders who wish to connect to or use the transmission system or distribution system do not result in them being subject to undue discrimination
- foster efficiency, reliability, and economy in the use and development of the transmission system and the distribution system

The continuity of supply data are provided by the EAC to CERA on an annual basis and are based on supply interruption data available at substation level. Based on the supply interruption data for 2012, the overall minutes lost per voltage level per year are estimated at 41 minutes for H/V, 157 minutes for M/V and 8 minutes for L/V. This represents an increase over the years that data were available. It should be noted that there are no data available for planned interruptions.

### 3.1.2.c Monitoring time taken to connect and repair

CERA monitors the time taken by the TSO and EAC, to make connections and repairs. Each year the TSO has to report to CERA through its annual report regarding this issue. In general CERA monitors the number of disconnections due to repair and the duration of these disconnections.

Furthermore, CERA on 2005 enacted regulations "on regulating the electricity market-performance indicators-Reg.571/2005" whereby, performance indicators are defined as the indicators for the supply of electricity and include the obligations of the Supplier and Distribution System Owner, consumer rights, performance standards and minimum levels of performance as well as the fine automatically imposed in cases of the Supplier's and/or the Owner's of the Distribution System failure to comply.

### **3.1.2.d Monitoring Safeguard Measures**

In accordance with the recent Electricity Act, when the Minister of Energy, Commerce, Industry and Tourism or CERA decides that a sudden crisis in the energy market is presented, the Minister, after consultation with CERA issues a Decree under which declares the energy market under sudden crisis and determines the beginning of the energy crisis.

Where in the opinion of the Minister or CERA decides that the reasons for which the energy market was declared under sudden crisis, have ceased, the Minister, after consultation with CERA issues a Decree under which declares the end of the sudden crisis in the energy market and determine how to restore the normal situation.

Furthermore, CERA has to issue a Regulatory Decision in order to establish the following:

- Preventive/ pro-active Action Plan of the measures required to eliminate or mitigate risks and
- Emergency Plan of the measures to be taken to eliminate or mitigate the impact of a sudden crisis in the energy market.

The above plans must cause the least possible disturbance in the functioning of the internal market and must not be wider in scope than is strictly necessary to remedy the sudden difficulties which have arisen.

Throughout 2012, safeguard measures had to be taken due to the energy crisis created by the tragic incident of 11 July 2011. Responding to the energy crisis, CERA took in 2012 immediate and specific Decisions.

On the 27<sup>th</sup> of August 2013 CERA has sent a letter to the Minister of Energy in order to inform him that the reasons, on which the 11 July 2011 was declared the starting point of the sudden crisis period in the energy market, have ceased to exist. Specifically, the restoration project of EAC's Power Production Plant

damages at Vasilliko area has been completed and the plant is fully repaired and reopened. Also it was noted that the total installed capacity of the EAC's last resort supplier is 1477,5 MW and the available production capacity is 1370MW. Considering this, CERA has concluded that the safety of the system is not threatened by any means, satisfying all the justified demands and needs related with electricity and the provisions of the law on security of supply related with the production capacity and reserve capacity, securing as well the safety, continuation, quality and reliability of the supply of electricity and finally securing the protection of the consumers.

Therefore following consultations with CERA, the Minister issued a new Decree in order to declare the end of the sudden crisis period in the energy market.

### **3.1.2.e RES regulatory framework**

Provided security and quality of supply requirements are met, RES-E producers have priority dispatch over conventional ones. According to the Trading and Settlement Rules generators are self-dispatched. Existing RES generators (currently only RES energy sold to EAC by the feed-in tariff regime, is injected to the system) provide their forecast to the TSO on the day-ahead on a half hour basis, and are not liable for any imbalances.

However, according to the New Market Model to be implemented in the coming years, Contracts of RES generators under the Support Scheme are transferred from EAC to the TSO, acting as the RES Agent; while respective contracts of the RES generators with the RES Fund remain otherwise unaffected. The RES Agent bids the forecasted RES capacity into the DAM, where it is handled as must run. As currently practiced, curtailments of RES generation under the Support Scheme either at the day-ahead stage or later are not compensated. Existing arrangements imposing forecasting

penalties are applied. The RES Agent is liable for imbalances of RES generators in the Support Scheme. The imbalance cost or benefit from the operation of the RES under the Support Scheme is fed to a special account and then through the TSO allocated to all customers as a system cost or as a PSO. To minimise the imbalance exposure of the RES

Agent, it may bid the RES output on a national portfolio basis rather than a per unit basis. Other RES generators (along with conventional generators and suppliers) may enter into bilateral contracts and/or participate to the DAM. Such RES operators are subject to imbalance settlement

### 3.1.3 Network tariffs for connection and access

#### 3.1.3.a Report on New tariff regulation provisions

CERA, as the regulator, has the duty and the authority to approve the methodologies used to calculate or establish the terms and conditions for connection and access to the transmission and distribution system. The regulator may also require the TSO and DSO to change the tariffs or methodologies used for determining the distribution tariffs to ensure that these are proportional and non discriminatory.

The methodology developed and followed concerning network tariffs is based on the following principles:

- Unbundling of EAC accounts under the following broad categories:
  - Generation
  - Transmission Network
  - Transmission System Operator
  - 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.

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.

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 abuse of the dominant position.

In addition the goal of CERA is to encourage, via the tariff 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 up rapid changes which may cause uncertainty to investors and consumers.

The Electricity Market Law of 2003 adequately covers 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.

CERA has approved the following charges for the use of networks (decisions 02/2013, 03/2012 and 04/2010):

CHARGES FOR THE USE OF NETWORKS AND OTHER OPERATIONAL EXPENSES	2010 €cents/kWh	2011 €cents/kWh	2012 €cents/kWh	2013 €cents/kWh	2014 €cents/kWh
High Voltage (HV)	0,81	0,83	0,86	0,86	0,86
Medium Voltage (MV)	1,24	1,28	1,33	1,33	1,33
Low Voltage (XT)	1,43	1,45	1,47	1,47	1,47
TSO	0,07	0,08	0,08	0,11	0,11
Ancillary Services	0,18	0,20	0,21	0,21	0,21
Long Term Reserve/Stand by	0,46	0,46	0,46	0,46	0,46
<b>TOTAL HV</b>	<b>1,52</b>	<b>1,57</b>	<b>1,61</b>	<b>1,61</b>	<b>1,61</b>
<b>TOTAL MV</b>	<b>2,76</b>	<b>2,85</b>	<b>2,94</b>	<b>2,94</b>	<b>2,94</b>
<b>TOTAL LV</b>	<b>4,19</b>	<b>4,30</b>	<b>4,41</b>	<b>4,41</b>	<b>4,41</b>

Table 1- Charges for the use of networks and other operational expenses

According to the Law on Regulating the Electricity Market of 2003-2012, the Cyprus Energy Regulatory Authority (CERA ) acting within the framework conferred by Articles 26 (1), 31 and 32 , DECIDED and APPROVED on the 26th of September, 2013 with its Regulatory Decision 03/2013, the New Charging Policy of the EAC for connection to the Distribution System. CERA notes that the competent department of EAC for Publishing, Managing and Implementing the Charging Policy is the Distribution System Operator.

### 3.1.3.b Prevention of cross-subsidies

By its decision 688/2011, CERA approved the rebalancing of the EAC's tariffs which involves increases and reductions in various customer categories. The purpose of these is the gradual removal of cross-subsidies among consumer categories which do

not provide any financial benefit to the EAC. In accordance with CERA's decision, the EAC revised its existing tariffs and introduced new charges based on a basic fuel cost of €300 per metric tone in compliance with the above decision. The new tariffs were approved by CERA and published in the official Gazette of the Republic.

CERA with its Regulatory Decision 02/2015 which was published in June 2015 has approved the new tariff methodology. The overarching objectives of tariff regulation are to maximise the long term competitiveness of the Cypriot economy, protect the interests of consumers in the short and long term against prices established on a monopoly basis, meet public service obligations, safeguard the security of electricity supply and promote energy efficient and quality of the services provided by the licencees.

More specific objectives of regulated tariffs are that they:

- a. reflect the cost of service so as to enhance economic efficiency;
- b. allow the reasonable prospect of recovery of efficient costs;
- c. be fair and non-discriminatory unless justified on the grounds of other tariff objectives such as enhancing economic efficiency;
- d. avoid cross subsidies between different electricity sector activities (i.e. generation, transmission system ownership, transmission system operation, distribution system ownership, distribution system operation and supply and other non-regulated activities);
- e. be simple, transparent and predictable;
- f. encourage efficient consumption decisions by consumers;
- g. encourage protection of the environment;
- h. allow the recovery of efficiently incurred costs related to public service obligations and the promotion of generation of electricity from renewable energy sources and cogeneration;
- i. encourage security of electricity supply;
- j. provide incentives to regulated firms to operate efficiently; and
- k. promote efficiency and quality of the service provided by licencees.

#### 3.1.4 Cross-border issues

At present, the electricity system of Cyprus operates without cross-border links. An interconnection project through an underwater cable with Greece and Israel is currently under study the so called “Euroasia Interconnector Project”

which is promoted as a Project of Common Interest.

The EuroAsia Interconnector was proposed for the electricity interconnection between Israel, Cyprus and Greece. It was approved by the European Commission and was included in EU list as a Cluster consisting of three distinct projects: Israel-Cyprus, Cyprus- Crete and Crete-Attica. The project consists of a DC submarine cable (HVDC) 600 kV with a total capacity of 2000 MW, and the required electrical equipment, i.e. power plants to convert the electrical current from DC to alternating current (AC) and vice versa, and for its to transmission from and to the countries concerned. The total length of the submarine cable is estimated at around 820 nautical miles/ about 1518 km (329 miles between Cyprus and Israel, 879 km between Cyprus and Crete, and 310 km between Crete and Attica). It is estimated that the laying of the cable on the seabed in some places between Cyprus and Israel will exceed the 2000 meters and 2500 meters between Cyprus and Greece. Pursuant to the provisions of Regulation, implementing bodies for the Projects of Common Interest are being determined. The Implementing Body of this project is set to be ΔEH- Quantum Energy.

With the implementation of this project, Cyprus will cease to be a system isolated from the European network, which is one of the main pillars set by the EU. It is also expected to contribute positively to the achievement of EU goals for the integration of the internal electricity market, security of supply, energy efficiency and better backup supply in emergencies.

CERA is monitoring closely this issue in line with the EU directives and regulations.

### 3.1.5 Compliance

#### **Ensuring compliance with binding decisions of the Agency and the Commission, and with the Guidelines**

Under the Third Package NRAs are required to ensure compliance with and implement binding decisions of ACER and of the European Commission. In order to enable CERA to do this, the Electricity Act has been amended so as to provide the Authority with the necessary powers to carry out its functions in the manner that it considers is best calculated to implement or ensure compliance with any binding decision of ACER or of the European Commission.

#### **Compliance of transmission and distribution companies, system owners and electricity undertakings with relevant Community legislation, including cross-border issues**

CERA has the power to investigate compliance of transmission and distribution, electricity undertakings with relevant Community legislation. If a breach is found, CERA has the power to impose penalties.

Furthermore, Cyprus has obtained an exemption from article 9 of the new Directive on the unbundling of transmission systems, therefore TSOs' certification compliance does not apply.

## 3.2 Promoting Competition

### 3.2.1 Wholesale markets

The Electricity Market was liberalised by 35% with effect from 1st May 2004 and was further liberalised by approximately 65% in total with effect from January 2009, to include all "non domestic" consumers which are able to select their Supplier according to what is in their best interest. From 1<sup>st</sup> of January 2014 the market is fully liberalized and all consumers of electrical energy are able to choose their Supplier. However, currently there is no other Supplier in Cyprus apart from the Electricity Authority of Cyprus (EAC).

The market model up to now has been based on bilateral contracts between the producers and the suppliers, however a New Market Model is being proposed, and is expected to be implemented in the coming years.

As regards the degree of integration of the market with neighbouring Member States, it was previously mentioned that Cyprus constitutes a small isolated system.

It should be noted that the latest developments concerning the advent of natural gas to Cyprus, which significantly influence any investment decisions concerning generation potential, but also the need to facilitate the entry of new participants in the electricity market and the most effective integration and participation of Renewable Energy Sources (RES) in the electricity market, the preparation of a revised National Plan for RES penetration and the review of existing grants' schemes, lead CERA to re-examine the design of the Electricity Market, in order to comply with the overall requirements of the 3rd Energy Package.

For this reason tenders were invited for the employment of Consultants to evaluate and restructure the electricity market in Cyprus. The study will:

- assess the existing market model and its suitability to support the electricity system of Cyprus to operate according to basic principles, such as security of supply, consumer protection, increased penetration of renewable energy sources, ensuring the safety and reliability of the Transmission and Distribution Systems etc.;
- compare the existing market model with other electricity market models;
- suggest improvements to the existing market model or the adoption of an entirely new market model; and

- for the transitional period recommend the implementation of amendments to the existing model or the implementation of a new model and related provisions.

Following the results of the above study CERA has decided that there is need to amend the legislative framework and change the design of the market and has instructed the Transmission System Operator to develop new detailed Market Rules in accordance with the provisions of the law or to amend the existing Rules.

In particular, CERA has finalised the procedure for the preparation of the “high level” design regarding the new electricity market arrangements in Cyprus based on the decision for implementing a Net-Pool Model as suggested by the External Consultants as being the most appropriate trading arrangement approach for the Cyprus electricity market.

After public consultation, CERA published in the Cyprus Government Gazette on 15<sup>th</sup> of May 2015 as Regulatory Decision the “high level” design of the electricity market, named as “The New Electricity Market Arrangements in Cyprus” [http://www.cera.org.cy/main/data/articles/electricitymarketarrangements17\\_06\\_2015.pdf](http://www.cera.org.cy/main/data/articles/electricitymarketarrangements17_06_2015.pdf)

In brief, the above market design, is aiming at creating the appropriate market environment to enable market participants to operate in the electricity sector of Cyprus. Special arrangements and mechanisms have been included in the design in order to allow RES generators (not operating under government support schemes) to benefit

by their direct participation in the competitive electricity market either through a day ahead pool or through bilateral contracts with suppliers.

Specifically, under the proposed net pool design (which extends and improves the existing bilateral contracts model), bilateral physical forward contracts are notified and corresponding schedules are nominated on a half hourly basis to the Market Operator on the day ahead of real time. Orders in the DAM are unit based in the case of generators (or per RES plant or per aggregators of smaller size RES plant). Suppliers submit demand orders based on individually forecast half-hourly demand. Orders in the DAM correspond to residual quantities not already covered by the nominated bilateral contracts. The DAM is centrally managed by the Market Operator by processing matching bid curves in order to optimise dispatch. Contracts resulting from the DAM are between market participants and the Market Operator at the DAM clearing price. Through a centralised approach, the crucial ancillary services are allocated using a co-optimising Integrated Scheduling Process prior to gate closure on the day ahead of real time. A real time Balancing Mechanism is used for optimised real time dispatch actions.

Subsequently CERA, instructed the Cyprus TSO, as the competent and responsible organisation, to prepare, according to the detailed description of the high level design, the new Trading and Settlement Rules (known as the Market Rules) and take all necessary steps leading to the implementation of the market according to the agreed plan and timetable.

### 3.2.1.1 Monitoring the level of prices, the level of transparency, the level and effectiveness of market opening and competition

Currently, there is no wholesale electricity market operating in Cyprus therefore monitoring the level of



transparency and price monitoring are not applicable yet.

### 3.2.2 Retail market

Cyprus, being a small isolated system, has opted through the Law of 2003 on Regulating the Electricity 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, on 1<sup>st</sup> January 2009 extended up to 67% and finally on 1<sup>st</sup> of

January 2014 the market is fully liberalised and each customer can choose his own supplier. Currently EAC is the only supplier of electricity, as no new players already being licensed have been put into operation. It is expected that with the establishment of the New Market Model the competition will start developing.

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

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

As at 31 December	2009	2010	2011	2012	2013	2014
<b>NUMBER OF CONSUMERS</b>						
Domestic	402 671	415 150	422 655	427184	428616	433072
Commercial	83 160	84 800	85 325	85198	84695	85188
Industrial	11 618	11 391	11 255	10805	10222	9836
Agricultural	13 546	14 209	14 692	14978	15280	15536
Public Lighting	9 035	9 500	9 983	10333	10635	10942
<b>TOTAL</b>	<b>520 030</b>	<b>535 050</b>	<b>543 910</b>	<b>548 498</b>	<b>549448</b>	<b>554574</b>
<b>SALES TO CONSUMERS (thousands kWh)</b>						
Domestic	1 720 777	1 737 474	1 721 663	1671095	1435231	1407656
Commercial	1 918 932	1 990 994	1 854 782	1836756	1655761	1630789
Industrial	791 640	816 074	796 187	631829	581860	656097
Agricultural	143 971	152 642	136 747	128590	129129	135680
Public Lighting	80 426	84 788	85 502	87330	87807	85257
<b>TOTAL</b>	<b>4 655 746</b>	<b>4 781 972</b>	<b>4 594 881</b>	<b>4 355 600</b>	<b>3889788</b>	<b>3915479</b>
<b>AVERAGE SALES PER END YEAR CONSUMER (kWh)</b>						
Domestic	4 273	4 185	4 073	3912	3349	3250
Commercial	23 075	23 479	21 738	21559	19550	19143
Industrial	68 139	71 642	70 741	58476	56922	66703
Agricultural	10 628	10 743	9 308	8585	8451	8733
Public Lighting	8 902	8 925	8 565	8452	8256	7792
<b>AVERAGE REVENUE PER UNIT BILLED kWh (€cent)</b>						
Domestic	13,321	16,192	18,644	22,271	20,743	18,663
Commercial	14,196	16,905	19,352	22,645	20,840	18,923
Industrial	12,325	14,982	17,123	20,868	19,127	16,824
Agricultural	12,697	15,440	18,268	21,929	20,013	18,168
Public Lighting	12,129	14,711	17,416	20,909	19,393	17,353
<b>ALL CONSUMERS</b>	<b>13,473</b>	<b>16,232</b>	<b>18,632</b>	<b>22,188</b>	<b>20,488</b>	<b>18,418</b>

Table 2 – Consumers, total and average sales and prices

As there is one supplier operating at present, switching procedures for customers to change suppliers are not possible. Regarding the average (typical) contract duration for households, this for the time being is not applicable in Cyprus. As a general assessment to whether the market is seen to be active, 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 situation can be justified.

Year	Market share of three largest companies (Producers)						Cumulative % customers having changed supplier (by volume)		
	Total consumption (TWh)	No. of companies with >5% retail market	Number of fully independent suppliers (1)	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
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
2009	4,66	1	0	n/a	n/a	n/a	0	0	0
2010	4,78	1	0	n/a	n/a	n/a	0	0	0
2011	4,59	1	0	n/a	n/a	n/a	0	0	0
2012	4,35	1	0	n/a	n/a	n/a	0	0	0
2013	4,26	1	0	n/a	n/a	n/a	0	0	0
2014	4,32	1	0	n/a	n/a	n/a	0	0	0

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

Table 3- Market share of 3 largest companies & supplier switching

### 3.2.2.1 Monitoring the level of prices, the level of transparency, the level and effectiveness of market opening and competition

CERA taking into account, inter alia, its previous related decision, in February 2014 has decided with its decision 1034/2014 an 8% permanent decrease on all basic tariffs.

In June 2015 CERA exercising the powers provided by Articles 24, 25, 26(1), 31, 32, 34 and 108 of the Law on Regulating the Electricity Market of 2003 to 2012 and Regulations 2 and 4 of the Regulating the Electricity Market (Procedures for Charging Electricity Tariffs) Regulations of 2004, REG.472/2004, with its Decision has adopted and a Statement/Declaration on Regulatory Practice and Methodology of Electricity Tariffs.

The purpose of this Decision on Electricity Tariff Methodology was to set out:

- a. how CERA shall determine allowed revenues for each regulated activity; and
- b. how regulated tariffs shall be set.

### 3.2.2.2. Recommendations on supply prices, investigations and measures to promote effective competition

The average selling price of electricity in €cent / kWh for all categories is given below:

AVERAGE SELLING PRICE OF ELECTRICITY (€cent / kWh)								
Year	2007	2008	2009	2010	2011	2012	2013	2014
Domestic	12,746	15,988	13,321	16,192	18,695	22,271	20,743	18,663
Commercial	13,328	16,982	14,196	16,905	19,377	22,645	20,840	18,923
Industrial	11,458	14,955	12,325	14,982	17,148	20,868	19,127	16,824
Agricultural	11,675	15,296	12,697	15,440	18,293	21,929	20,013	18,168
Public Lighting	11,233	14,554	12,129	14,711	17,481	20,909	19,393	17,353
Average Selling Price (€cent / kWh)	12,719	16,178	13,473	16,232	18,668	22,188	20,488	18,418

Table 4- Average Selling Price of Electricity

With regards to investigations and measures to promote effective competition 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 such an investigation, CERA shall notify a notice to the aforementioned persons by which it shall determine:

- 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.
- 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.

- The deadline within which 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:

- 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,
- 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,
- 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.

### **3.3 Security of supply (if and insofar as NRA is competent authority)**

#### **3.3.1 Monitoring balance of supply and demand**

CERA in accordance with the Law on Regulating the Electricity Market has the responsibility, for the adequacy of electricity supply in Cyprus, the reliability and security of the Generation, Transmission and Distribution system and the quality of electricity supply.

CERA systematically monitors the adequacy, quality and reliability of supply and whenever it ascertains possible shortfalls informs the Minister of Commerce, Industry and Tourism,

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.

who after consulting with CERA, takes the indicated corrective measures.

After the sharp drop in electricity demand and capacity during the year under review, the generation availability is very high. This is expected to continue over the coming years.

The Table below shows that all the consequences of the energy crisis after the tragic event at Mari in July 2011, ended in 2013, earlier than originally estimated, due to both the adequacy and the swift repair period achieved in restoring Vassilikos Power Station, and due to the demand reduction.

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
EAC Development Plan							+50MW (ICEII)	-30MW Decommissioning of 1 unit Moni PS-390 (Vas PS) -220 (Vas PS) +166,6 (ICE)***	+145MW (CCGT(A)5) +120 (ICE) +145 (Vas PS)***	+150MW (CCGT 485) +390 (Vas PS) -286,6 (ICE) -150 (Moni)****			
Installed Capacity in MW	988	988	988	1,118	1,318	1,388	1,437	964	1,374	1,478	1,478	1,478	1,478
Maximum Generation Demand in MW	821	856	907	1,056	1,010	1,103	1,437	922	997	920	910	925	950
Available Reserve	20%	15%	9%	6%	30%	26%	0%	964-1.100*****	38%	61%	62%	60%	56%

ICE Internal Combustion Engines

CCGT (O) Combined Cycle Gas-Turbine Plant

CCGT (O) Open-Cycle CCGT

(\*) Units in Cold Reserve are taken into account in calculating availability

(\*\*) Inclusion of the new 220MW CCGT unit in 2016 will depend on the rate of increase of demand

(\*\*\*) Summ.2012-Availability Reduction as compared to 2010: 1 unit at Moni PS, 3x130+1x220MW at Vass. PS. Increase renting ICE 50 MW:166,6+120MW and repair of the CCGT5 Gas Turbines 145MW

(\*\*\*\*) Summ.2013-Availability Reduction as compared to 2010: 1 unit at Moni PS, 1x130 at Vass. PS. Increased by completing repairs of CCGT5 MW, 2011 summer production estimate without considering the 11/7/2011 incident

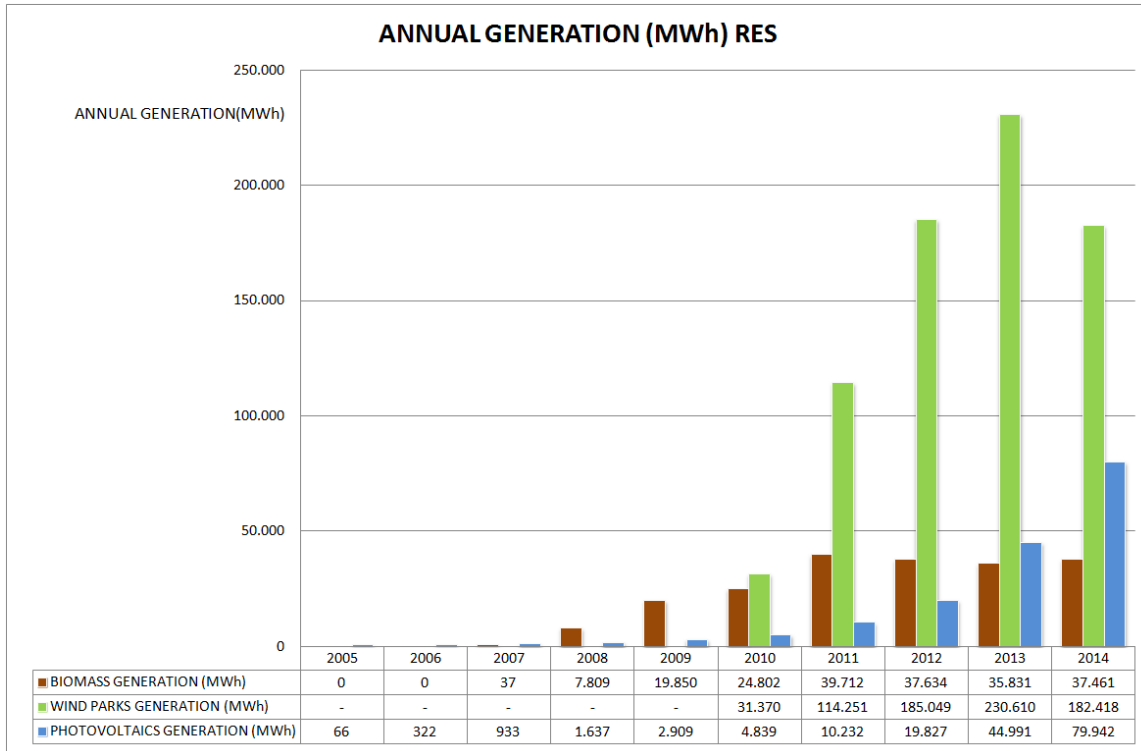
Table 5- EAC Development Plan

The Maximum Demand for 2014 was recorded on Thursday 25/8/2014 at 14:30 hours, when the Total Power Generation rose to **910 MW**. The energy crisis has adversely affected both maximum power generation of the year, as well as the annual energy generation.

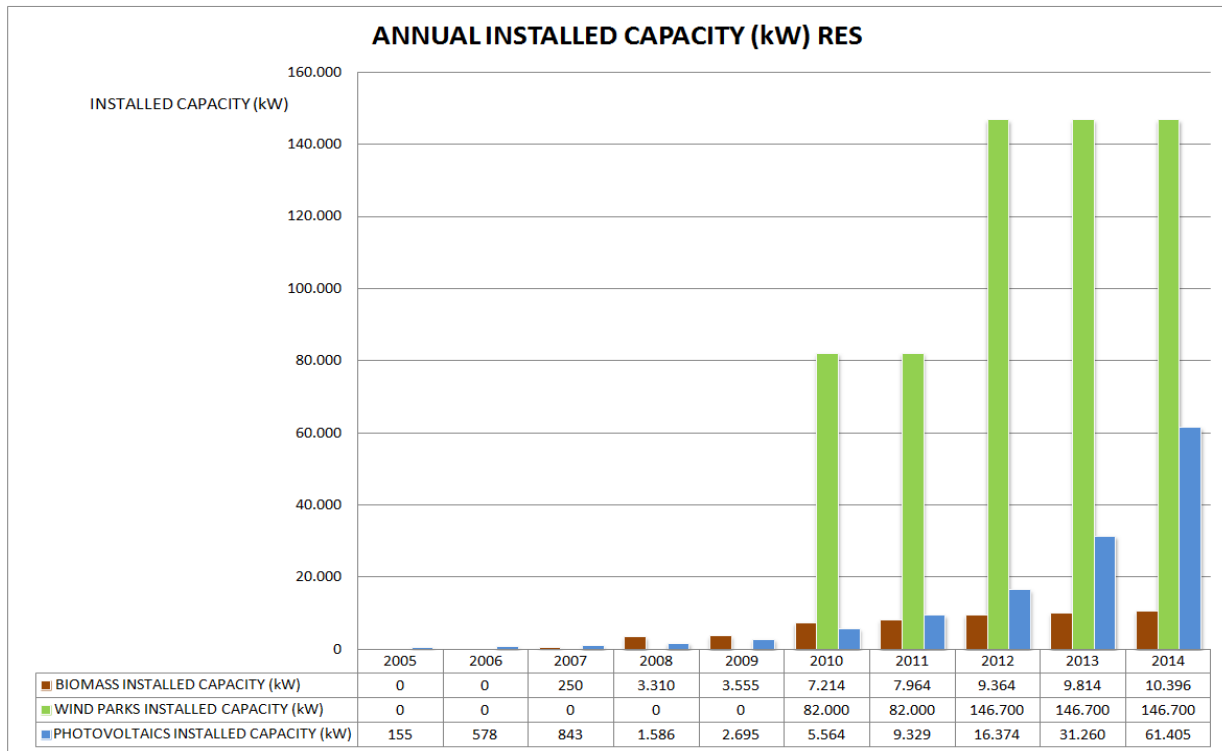
The following important records concern the recorded Total Electrical Energy Generated during 2014. The total gross electrical energy generated reached **4 313 GWh**. EAC contributed with **4 013 400 MWh**, while generation by self-producers was **2 950 MWh**. RES

producers generated **300 100 MWh** in 2014. The EAC Generating Stations produced **205 000 MWh** for their local needs. Total units sent out to the Transmission System from the EAC Power Stations, reached **3 808 400 MWh**. Recorded energy losses in the Transmission System amounted to **72 670 MWh** of the energy flowing into the transmission network. It should be noted that the mean value of the Annual Load Factor rose to 54,2 % compared with 55,2% in 2013.

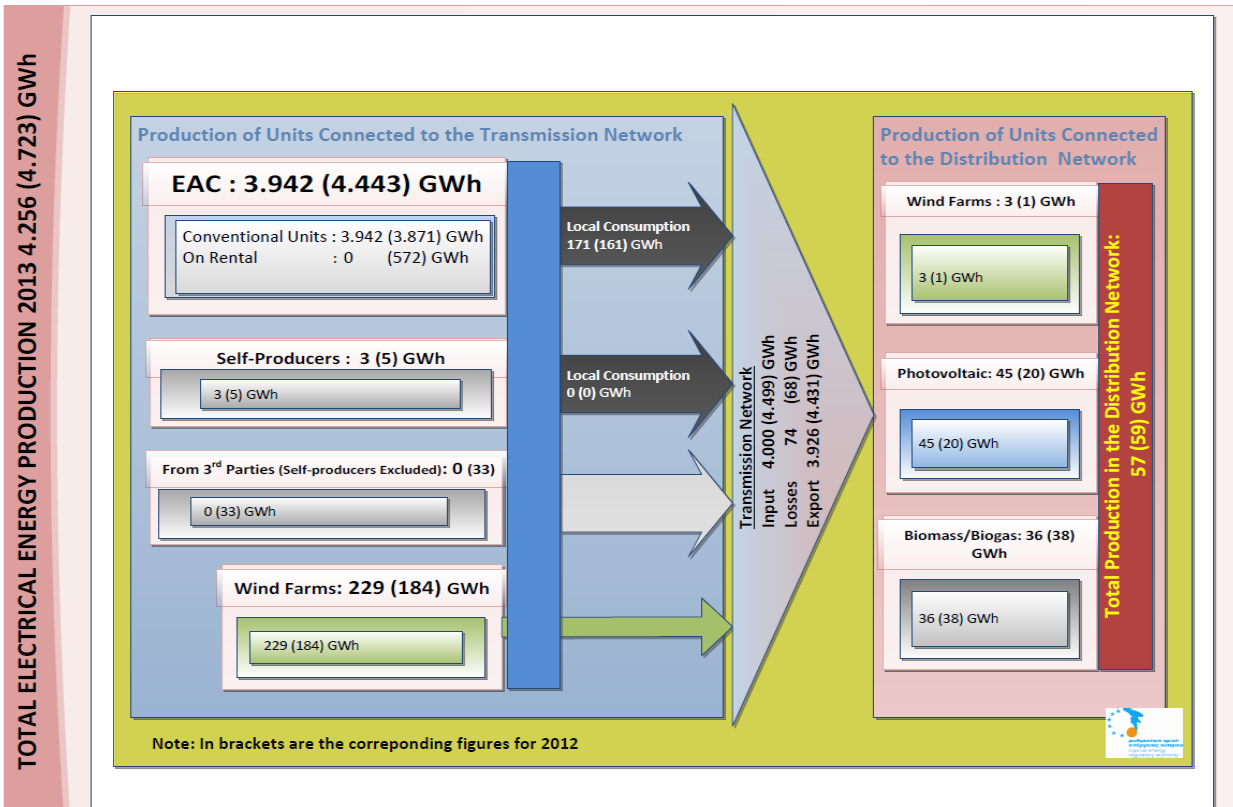
The figure 2 below shows the annual generation produced from each type of RES for the period 2005-2014



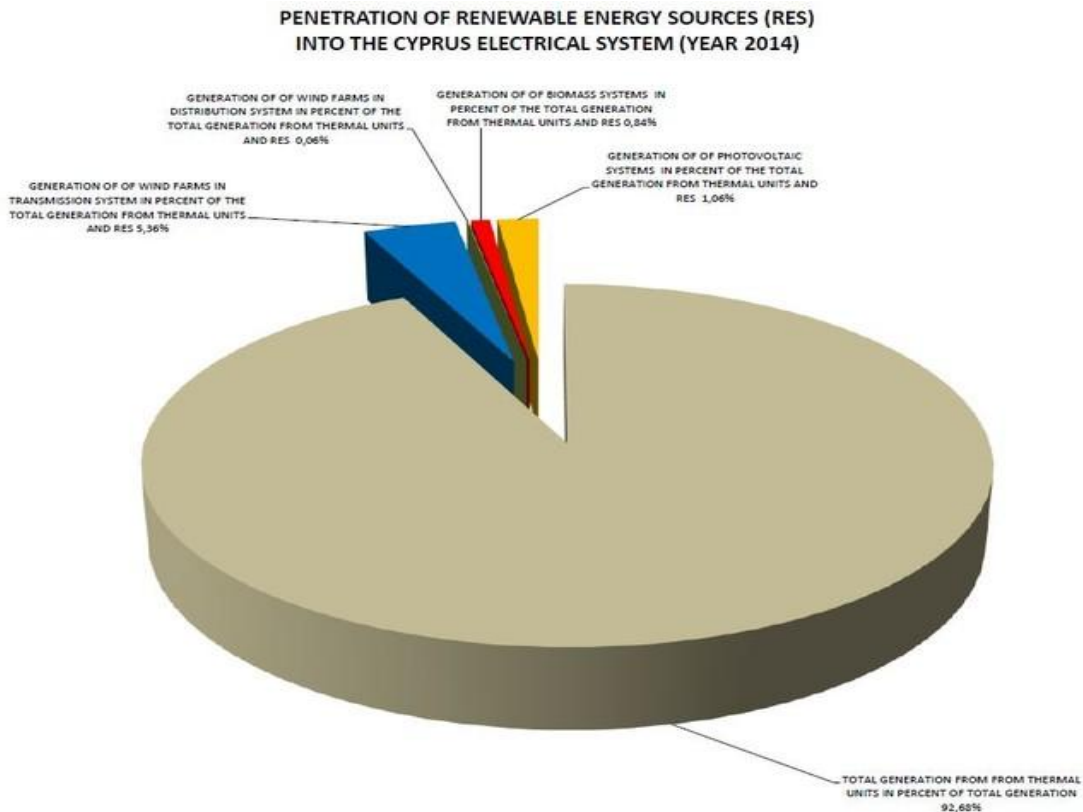
The figure 3 below shows the total installed capacity of each type of RES-E for the period 2005-2014



The figure 4 below shows the total electrical energy production in 2014.



The figure 5 below gives the RES penetration levels for the year 2014. The average RES penetration reached 7 % of the Total Generation in Cyprus for 2014.



Cost reflective market prices and transparent market mechanisms operated by independent operators under rules and regulations of an independent regulator should provide relevant signals for investors to timely respond to such needs. However, the combination of a small system size, without interconnections, as in the case of Cyprus reduces the margins for the effective response to such market signals to critical levels.

In line with the spirit of the Directive, the Law assigns priority to the market in offering the appropriate signals to investors so as to construct the most appropriate type and size of generation capacity, in order to meet the various needs of the market. To that effect, the Law adopts and prescribes an authorisation procedure, implemented through licences issued by CERA to interested prospective investors, subject to various criteria which are only supposed to safeguard participants rather than prescribe specific solutions.

Moreover, recognising the specificities of electricity and its importance for the

economy, the Law introduces a safety valve, in the form of a tendering process, by which CERA may justifiably intervene when the authorisation process appears to be unable to timely bring about the needed generation capacity. For the specification of the need based on which the tendering process may be initiated the Law refers to the mandate of CERA to act so as to ensure security, continuity, quality and reliability of electricity supply. CERA is thus enabled to require from the TSO timely information on the expected needs of the system, and may provide the appropriate regulatory signals, where necessary; or, CERA may commence the tendering process described by the Law where CERA considers that despite such signals, or due to unforeseen circumstances, the market is unable or unwilling to bring about the needed investment. Clearly, the process should be directed to resolve the specific problem identified by the TSO, which the market cannot address in a timely manner, i.e. it should specify characteristics of new generation corresponding to the requirements of the TSO.

### 3.3.2 Monitoring investment in generation capacities in relation to SoS

#### 3.3.2.a Operational Network Security

The table 6 below shows the total installed capacity of EACs' conventional units for 2014.

Total Installed Capacity of EACs' Conventional Units (MW)					
Power Station	CCGT units	Steam units	Gas Turbines	Internal Combustion Units (ICE)	Installed Capacity per Station
Moni	-	-	4x37,5=150	-	150
Dhekelia	-	6x60=360	-	6MEK=100	460
Vassilikos	2x220=440	3x130=390	38	-	
<b>Installed Capacity per type of unit</b>	<b>440</b>	<b>750</b>	<b>188</b>	<b>100</b>	<b>1478</b>



✓ **Self-Producer Installations exceeding 1MW (27,07MW)**

Self-producers using Internal Combustion Engines

✓ **Installed Capacity of Wind Farm Projects and Construction Works**

During 2014 the total installed capacity of Wind Farms in commercial operation amounted to 146,7MW. Another Wind Farm with a capacity of 10,8MW was under construction during 2014.

✓ **Installed Capacity of Biomass/ Biogas Units and Construction Works**

The total installed capacity of units for the cogeneration of heat and power, autonomous or interconnected to the electricity system, for 2014 amounted to 10396 kW<sub>e</sub>.

✓ **Installed Capacity of Solar Energy Projects and Construction Works**

Total Installed Capacity of Photovoltaic Systems in 2014 amounted to 61MW.

**3.3.2.b Investment in Interconnection capacity for the next 5 years or more**

Existing interconnection projects: There are no interconnection projects at the moment  
 Future interconnection projects: **‘Euroasia Interconnector’** The project consists of a 600 kV DC underwater electric cable and any essential equipment and/or installation for interconnecting the Cypriot, Israeli and the Greek transmission networks (offshore). The project will have a capacity of 2000 MW and a total length

of around 820 nautical miles/around 1518 km (329 km between Cyprus and Israel, 879 km between Cyprus and Crete and 310 km between Crete and Athens) and allow for reverse transmission of electricity. The dumping depth of the cable will exceed the 2000 m under the sea in some areas between Israel and Cyprus. The dumping depth of the cable will exceed the 2000 m under the sea in some areas between Israel and Cyprus and will exceed the 2500 m under the sea in some areas between Cyprus and Greece.

Year	Project type	Project Status	From country	To country	Voltage level	Line capacity
	new	feasibility phase (the feasibility study is not as yet completed – a prefeasibility study is under consideration)	Israel	Greece	600kV	2000MW

Table 7 – Project details

According to the Project Promoter the date of commissioning of the Euro Asia Interconnection Project is the following:

- Interconnection between Hadera (IL) and Vasilikos (CY)- 2017
- Interconnection between Vasilikos (CY) and Korakia, Crete (EL)- 2020
- Internal Line between Korakia, Crete and Attica region (EL) - 2018

CERA, among other things, believes that with the completion of this project, Cyprus will cease to be isolated from the European network system, which is one of the most important pillars set by the Proposal for a Regulation. It will also

contribute positively to the achievement of the objectives set by the EU concerning, amongst others, the completion of the internal electricity market, security of supply, improved energy efficiency and the reserve provision in emergency situations. This project fully satisfies the general criterion for trans-boundary impact and, therefore, CERA has given a positive opinion on this project, mentioning that some studies are still in progress, so there is a lack of information about certain issues, such as the results of a cost/ benefit analysis.

### 3.3.2.c Expected future demand and envisaged capacity for the next 5 years and 5-15 years

According to the Law regulating the Electricity market 2003-2012 the Long Term Forecast of Annual Total Generated Energy (GWh) and the Long Term Forecast of Annual Maximum Generation (MW) for the Years 2015 – 2024 is approved by CERA.

The results of the Long Term Forecast of Annual Total Generated Energy (GWh) and Long Term Forecast of Annual Maximum Generation (MW) for the Years 2015 – 2024, along with the recorded generation from 1996 until today, are shown below:

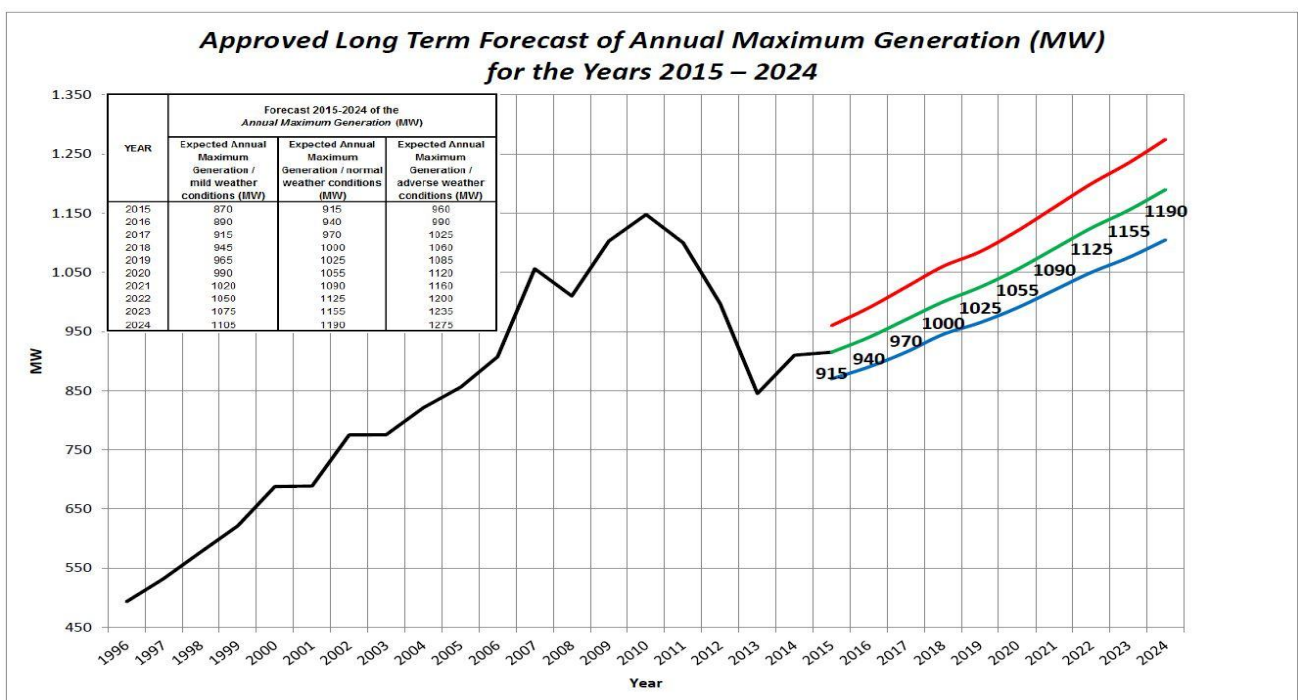


Figure 6 – Expected future maximum generation

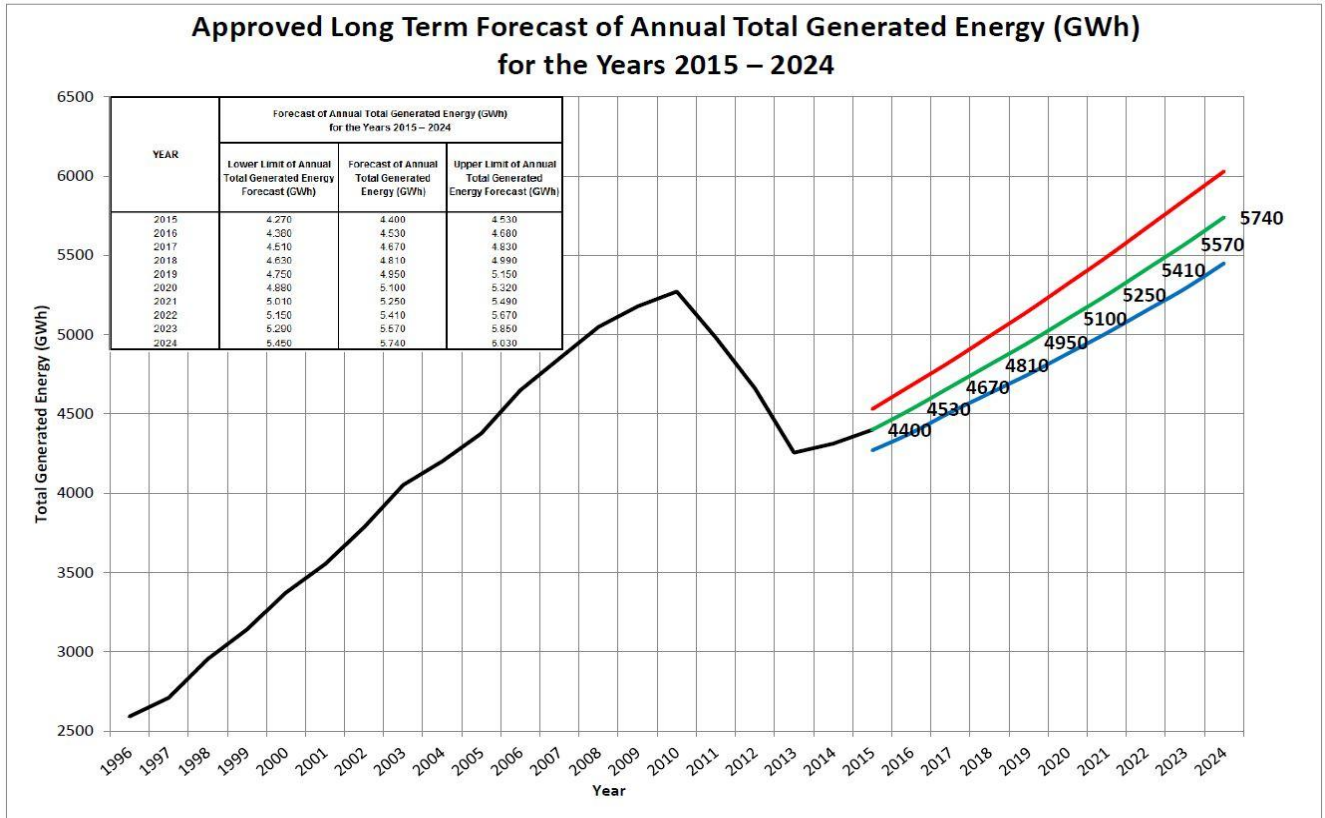


Figure 7 – Expected future total generated energy

Cyprus has an obligation to reach 16% share of renewable energy in the gross energy consumption by 2020. The National Renewable Energy Action Plan submitted by the Government projected that by 2018 the electricity generation capacity from renewable energy sources would reach 400MW. This capacity is expected to reach 20% share of renewable energy in the gross energy consumption.

RES Technology	National plan provision	Installed Capacity (MW)						
		2018	2011	2012	2013	2014	2015	2016
<b>Aeolian</b>	<b>210</b>	82	147	165	165	175	175	175
<b>Photovoltaic</b>	<b>100</b>	9	16	84	131	176	191	201
<b>Concentrated Solar Power Parabolic Mirror with 6-hour production storage facility</b>	<b>75</b>	0	0	0	0	25	25	25
<b>Biomass</b>	<b>15</b>	8	9	10	10	15	15	15
<b>Total Installed Capacity (MW)</b>	<b>400</b>	99	172	259	306	391	406	416
<b>Recosted and Forecast Total System Electrical Energy Production (MW)</b>	<b>995</b>	922	977	920	910	925	950	970

Table 8 – National RES Plan provisions

### 3.3.3 Measures to cover peak demand or shortfalls of suppliers

CERA, during the energy crisis in 2011 and 2012 has taken immediate and effective steps to alleviate interruption of

suppliers and to terminate shortfalls at the shortest possible time and at the same time at the lowest possible cost. Details are given in paragraph 3.1.2.d-“Monitoring Safeguard Measures” above.

## 4 THE GAS MARKET

### 4.1 Network regulation

#### 4.1.1 Unbundling

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.

Today, the natural gas market in Cyprus is non-existent due to factors such as geographical isolation, small size of the market and lack of interconnections with other gas networks. This has adverse effects on the cost of electricity generation, as well as lack of energy source diversity for the industry in general. Moreover, the environmental cost associated with the extensive use of heavy fuel oil for power generation is significant, as it affects emission targets required by EU legislation.

A political decision has been taken to investigate the introduction of natural gas in Cyprus’ energy market, as an interim solution and until Cyprus gets its own gas, for the following principal reasons:

- The reduction of electricity generation cost and as a result the decrease of electricity prices to the end consumer; and
- The introduction of competition in the electricity generation market.

The Gas Directive (2009/73/EC) allows derogations for a limited duration from certain provisions, in the case of isolated

and emergent natural gas markets, which are provided for assisting such markets in their transition in becoming functional and competitive. Since natural gas will be introduced in the Cyprus market for the first time, it is at the Governments’ discretion to decide whether to invoke these derogations, fully or partially.

The long term goal is the establishment of a functioning, competitive gas market in Cyprus with a level playing field and absence of conflicts of interest. This strategy is heavily fuelled by the strong interrelation between the gas and electricity markets and the decisive effects that a mature gas market will have on the introduction of competition in the electricity sector. Therefore, all necessary measures will be taken in order to ensure equal access to gas for potential IPPs, as well as other gas consumers.

Such strategy also necessitates the development of any network infrastructure, storage facilities and ancillary systems necessary for a fully functional and open market, able to utilize natural gas as part of the country’s energy mix. Evidently, a backbone network for the supply of natural gas to the main industrial areas of the island, either via pipelines or through a system of transport and storage, would not only provide a geographical spread of electricity generation units (a strategic advantage against acts of terrorism, grand scale accidents or force majeure), but would also encourage, at a later stage, the use of natural gas by the transport sector, or

by the heat intensive industries. In due course, large hotel, hospital, or even domestic and office units will also be in position to utilise natural gas to cover their energy needs in heating, cooling and electricity through cogeneration and trigeneration technology.

In case the interim solution pursued by Natural Gas Public Company (namely DEFA- a private company which is not licenced by CERA in any way and is not appointed by the Government as TSO) with the bidders and EAC is successful, the Minister of Energy is planning to propose to the Council of Ministers to declare the Cyprus Natural Gas Market as an emergent market for the duration of this solution. That means, DEFA will be granted monopoly status in buying (importing), selling, transmitting, distributing and storing natural gas. This will be instated by selective use of certain derogation provisions of Directive 2009/73/EC. This will ensure stable introduction of natural gas in the market and gradual transition to an open competitive market. CERA has prepared a study which describes the evolution and functioning of the emergent market and also suggests the specific derogations to be invoked.

#### 4.1.2 Technical functioning

Currently, natural gas is not available in the island, therefore is not applicable as yet.

#### 4.1.3 Network and LNG tariffs for connection and access

Currently, natural gas is not available in the island, therefore is not applicable as yet.

#### 4.1.4 Cross-border issues

At present there are no cross-border gas links in Cyprus; however specific interconnection projects are promoted as Projects of Common Interest. The European Commission has declared

several energy projects, which are of strategic importance for Cyprus and Greece, as potential 'projects of common interest'.

#### a. Eastern Mediterranean Pipeline

The **Eastern Mediterranean Pipeline** project concerns an undersea gas pipeline linking the offshore gas deposits in the Levantine Basin (Cyprus, Israel) with the region of Southeast Europe (Bulgaria) and/ or Italy via Greece. This project aims initially to transport natural gas from the Levantine basin to mainland Greece via Crete. The proposed pipeline will have a capacity of the order of 24.5 MCM / day. Subsequently, through the Greek gas transmission network, it will be connected with either the gas transmission network in Italy and / or the gas transmission network in Bulgaria. It is one of the two projects comprising a cluster of gas infrastructure and related equipment for the transport of new sources of gas from offshore fields in the Eastern Mediterranean. This project is considered to be complementary to the project which is known as «Mediterranean Gas Storage».

#### b. Mediterranean Gas Storage

The **Mediterranean Gas Storage** project concerns storage and LNG export installations to be created in Cyprus, to transport natural gas from the Levantine Basin to regasification terminals for liquefied natural gas located in the Mediterranean Sea (i.e. Greece, France, Italy, Spain). The gas can then be transmitted further through the respective national gas transmission systems (using existing or new / upgraded networks / pipelines) from these countries to Central and Southeast Europe. The proposed storage facilities and LNG export facilities for liquefied natural gas will initially consist of a storage tank for liquefied natural gas (a total of three LNG tanks will be constructed gradually) and the associated LNG export facilities, which will be able to export 5 MTPA of

LNG (the export capacity is estimated to be gradually expanded to 15 MTPA).

CERA is monitoring closely this issue in line with the EU directives and regulations.

#### 4.1.5 Compliance

##### **Ensuring compliance with binding decisions of the Agency and the Commission, and with the Guidelines**

Under the Third Package NRAs are required to ensure compliance with and implement binding decisions of ACER and of the European Commission. In order to enable CERA to do this, the Gas Act has been amended so as to provide the Authority with the necessary powers to carry out its functions in the manner that it considers is best calculated to implement or ensure compliance with any binding decision of ACER or of the European Commission.

##### **Compliance of transmission and distribution companies, system owners and natural gas undertakings with relevant Community legislation, including cross-border issues**

CERA has the power to investigate compliance of transmission and distribution, natural gas undertakings with relevant Community legislation. If a breach is found, CERA has the power to impose penalties.

## 4.2 Promoting Competition

### 4.2.1 Wholesale markets

Currently, natural gas is not available in the island, therefore is not applicable as yet.

#### 4.2.1.1 Monitoring the level of prices, the level of transparency, the level and effectiveness of market opening and competition

Currently, natural gas is not available in the island, therefore is not applicable as yet.

### 4.2.2 Retail market

Currently, natural gas is not available in the island, therefore is not applicable as yet.

#### 4.2.2.1 Monitoring the level of prices, the level of transparency, the level and effectiveness of market opening and competition

Currently, natural gas is not available in the island, therefore is not applicable as yet.

### 4.2.3 Recommendations on supply prices, investigations and measures to promote effective competition

Currently, natural gas is not available in the island, therefore is not applicable as yet.

## 4.3 Security of supply

Regarding the security of Natural Gas Supply, the 994/2010 Regulation concerning measures to safeguard security of gas supply is automatically applicable in the event a gas market exists and therefore any implementing measures are not required. Furthermore, CERA according to the recent Gas Act is appointed as the Competent Authority to ensure implementation of the measures laid down in Regulation (EU) No 994/2010.

In respect to the said Law, CERA shall prepare and implement a long-term plan, taking into account the possibility of third parties seeking access to the system, in relation to security of supply, energy efficiency/demand-side management and for the fulfilment of environmental goals and goals for energy from renewable sources. The long-term plan shall be prepared on a 10-year rolling basis and shall take into account any instructions which the

Minister may publish from time to time relating to government policy.

It should be noted that CERA has prepared strategic guidelines for the development of the natural gas sector which deal inter alia with security of gas supply.

#### 4.3.1. Monitoring balance of supply and demand

Currently, natural gas is not available in the island, therefore is not applicable as yet.

#### 4.3.2 Expected future demand and available supplies as well as envisaged additional capacity

Currently, natural gas is not available in the island, therefore is not applicable as yet.

#### 4.3.3 Measures to cover peak demand or shortfalls of suppliers

Currently, natural gas is not available in the island, therefore is not applicable as yet.

## 5 Consumer protection and dispute settlement in electricity and gas

### 5.1. Consumer protection

The **consumer protection measures**, including those set out in Annex I of the directives 2009/72/EC and 2009/73/EC, are **effective and enforced** through the Law N.211(I)/2012 on Regulating the Electricity Market and N.219(I)/2013 on Regulating the Gas Market respectively, which transposed the provisions of the said directives.

CERA has also been granted the power to contribute to ensuring high standards

CERA has prepared and issued in electronic and hard copy format all the information needed regarding consumers rights. This information is available at CERAs. Premises, at Citizens Service Centre and at the local district offices of the Ministry of Energy, Commerce, Industry and Tourism. The Office of CERA, the Citizens Service Centre and the Ministry of Energy, Commerce, Industry and Tourism shall constitute the **single points of contact** for consumer information purposes.

In summary, the energy consumers' rights that are covered by national legislation and comply with relevant EU

of universal and public service in compliance with market opening, to the protection of vulnerable customers, and to the full effectiveness of consumer protection measures.

CERA ensures that consumers are provided with all necessary information concerning their rights, current legislation and the means of dispute settlement available to them in the event of a dispute.



Consumers' rights and complaints handling procedure

2014 EDITION



directive can be classified in six categories:

- ✓ Universal service (i.e. your right to be supplied with electricity/gas of certain quality and price)
- ✓ Customer Information Requirements
- ✓ Change of supplier without imposing any charges
- ✓ Complaints handling and out-of-court settlement of disputes
- ✓ Protection of vulnerable consumers
- ✓ Fair commercial practices and general consumer rights

Furthermore, CERA is designated as the body (energy ombudsman or consumer body) which acts as an **independent mechanism** in order to ensure efficient treatment of complaints and out-of-court dispute settlements.

According to the law CERA shall ensure that electricity or natural gas suppliers or distribution system operators, in cooperation with CERA, take the necessary steps to provide all consumers with a copy of the **Energy Consumer Checklist** which contains practical information relating to energy consumer rights, which the Commission shall prepare in consultation with relevant stakeholders, including Member States, the national regulatory authorities, consumer organisations and undertakings, and shall ensure that the said Checklist is available to the public.

The Minister of Energy, Commerce, Industry and Tourism following consultation with CERA has issued a Decree K.D.P.218/2013 on 26/6/2013 whereby energy poverty is defined. According to the said decree energy poverty is related to the condition of consumers who may be in a difficult position because of low income, as evidenced by tax declarations in conjunction with their professional status, marital status and special health

The measures that have been enforced through the Decree for the protection of vulnerable customers are the following:

- Reduced prices on electricity tariffs

conditions, and therefore they are unable to meet the costs of the reasonable need of electricity supply, as these costs represent a significant proportion of their income.

Furthermore, this Decree has defined vulnerable customers as follows:

“Vulnerable customers are the following categories of electricity customers:

- ✓ The recipients of public assistance provided by the Social Welfare Services of the Ministry of Labour and Social Insurance
- ✓ The Recipients of Severe motor disability allowance provided by the Department for Social Inclusion of Persons with Disabilities, Ministry of Labour and Social Insurance
- ✓ The recipients of the allowance to pensioners with low incomes provided by the Grants and Benefits Service, Ministry of Finance
- ✓ The recipients of care allowance in paraplegic individuals granted by the Department for Social Inclusion of Persons with Disabilities, Ministry of Labour and Social Insurance
- ✓ The recipients of care allowance in tetraplegic individuals granted by the Department for Social Inclusion of Persons with Disabilities, Ministry of Labour and Social Insurance
- ✓ The Recipients of the grant to blind granted by the Department for Social Inclusion of Persons with Disabilities, Ministry of Labour and Social Insurance.
- ✓ Families with more than 3 dependent children with an annual gross family income up to € 51.258.”.

- Financial incentives for participating in a Plan for setting up a Photovoltaic system at their house, with a capacity up to 3kW with the net-metering method



The Minister has also issued a Decision K.D.P.223/2013 on 27/6/2013 whereby he gives instructions to CERA to impose Public Service Obligations to Electricity Suppliers in order to enforce the measure on providing reduced electricity tariff to vulnerable customers. To this effect, CERA has issued a Regulatory Decision in August 2013.

Furthermore, on 22/12/14 CERA has issued a Decision whereby temporary measures are taken in order to ensure that rights and obligations linked to vulnerable customers are applied. In particular, CERA has decided to give instructions to suppliers in order to prohibit the disconnection of electricity to vulnerable customers in critical times. According to CERAs' Decision the critical time was set between 23/12/14 till 31/3/15. CERA has decided to take such decision since the consultation between the Minister of Energy, Minister of Health, Minister of Labor and CERA concerning the definition of critical time, was not completed.

On the 25<sup>th</sup> of May, 2015 CERA has decided to renew its Decision on the prohibition of connection since the consultations between the involved parties was not finalized. According to CERAs' new Decision the critical time started on the 28<sup>th</sup> of May and lasts until the entry into force of the Decree of the Minister of Energy, whereby the critical time is set individually for each vulnerable customer.

On the 11<sup>th</sup> of June, 2015 the Minister of Energy has given instructions to CERA in order to include in vulnerable customers' category the beneficiaries of the guaranteed minimum income scheme. These new category will enjoy the right to have reduced prices on electricity tariffs. The Minister has also given instructions to CERA to impose Public Service Obligations to Electricity Suppliers in order to enforce the said measure on providing reduced electricity tariff to the new type of vulnerable customers. To this effect, CERA has

issued a Regulatory Decision on 31/7/2013.

## 5.2. Dispute settlement

### 5.2.1 Electricity Market

CERA has the power to issue Regulations concerning the protection of the interests of the consumers of electricity requiring that any Supplier of electricity and the Distribution System Owner (DSO), within a prescribed time period, propose and implement procedures for the submission of complaints by consumers, which procedures allow consumers to register complaints and prescribing how any Supplier and the DSO shall respond to complaints received by consumers.

The Regulations may impose requirements on suppliers and the DSO relating but not limited to:

- ✓ Procedures for the submission and, where appropriate, re-submission of proposed complaints procedures for approval.
- ✓ The timetable for the implementation of the complaints procedures.
- ✓ Penalties for failure to comply with the consumer complaints Regulations relating to the preparation or implementation or review of complaint procedures.
- ✓ A requirement that suppliers and the DSO review their complaints procedures at intervals of not more than five years.
- ✓ Establishing procedures to deal with complaints from consumers that are not settled through complaint procedures to the satisfaction of consumers.
- ✓ Specifically, the following Regulations relevant to the above mentioned were enacted:

- ✓ Regulations on Regulating the Electricity Market (Procedure for Submitting Complaints) of 2005.
- ✓ Regulations on Regulating the Electricity Market (Performance Indicators) 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 provide for the following, inter alia;

- ✓ Consumers' right to submit complaints to the Suppliers and/or the Owner of the Distribution System.
- ✓ The obligation of the Supplier and/or Owner of the Distribution System to respond to the complaints.
- ✓ The right to submit complaints to CERA and the procedure for examining complaints by CERA.
- ✓ The omission of the Supplier and Owner of the Distribution System to comply with CERA's decisions.
- ✓ The penalties provided for 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.

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

By the implementation of these Regulations the rights of the consumers are safeguarded, their protection is secured, the procedure for the submission of consumer complaints is regulated in the event that Suppliers of Electrical Energy and/or the Owner of the Distribution System or both are in breach of their obligations, competences and duties, the end result being the improvement of the services offered to consumers.

The following tables show the results for the years 2007, 2008, 2009, 2010, 2011, 2012 2013 and 2014 of the penalties (€) imposed to EAC as DSO and as a Supplier for failure to comply with the customer complaints regulation relating to the preparation or implementation or review of complaints procedures.

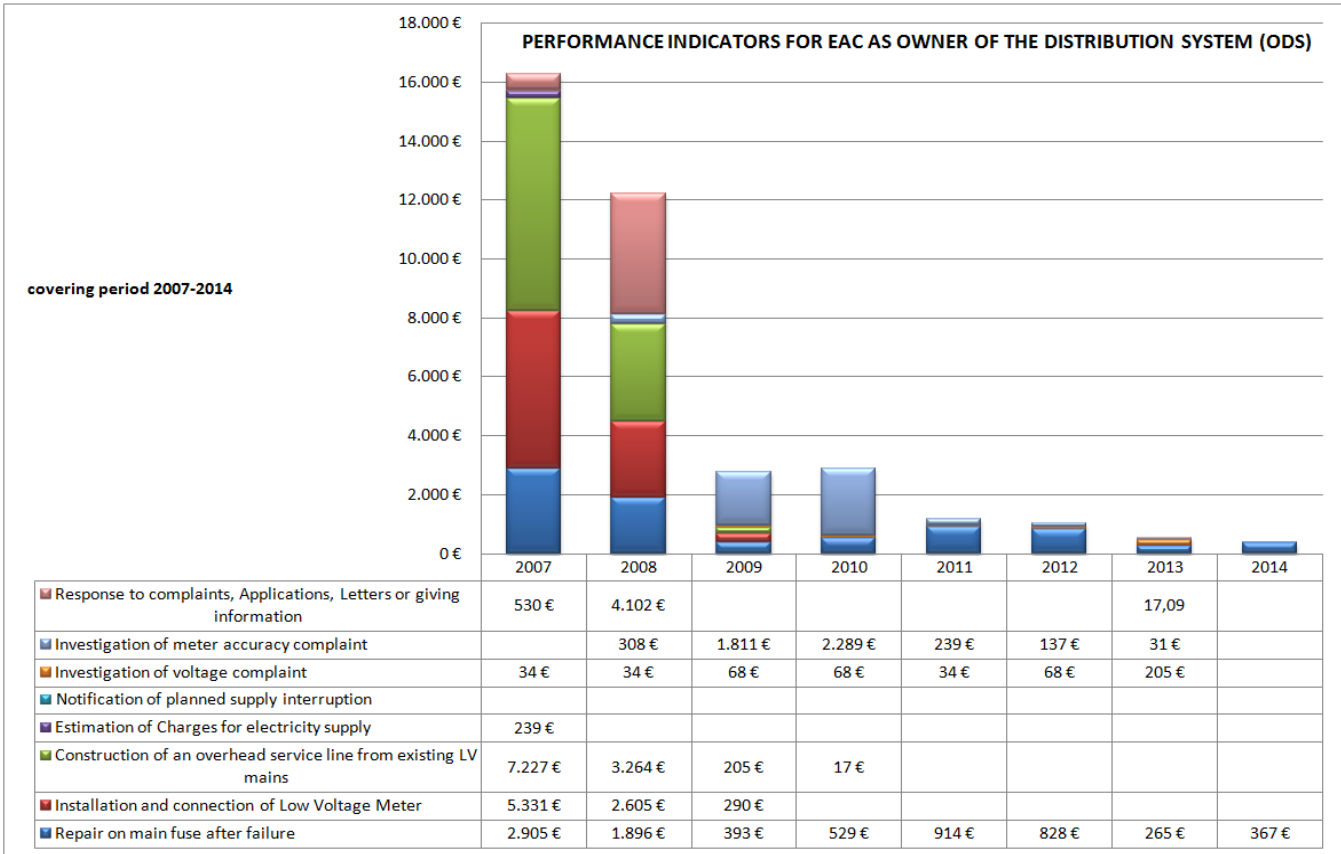


Figure 8 - Performance Indicators Regulations of EAC as Owner of the Distribution System (the ODS is acting as DSO)

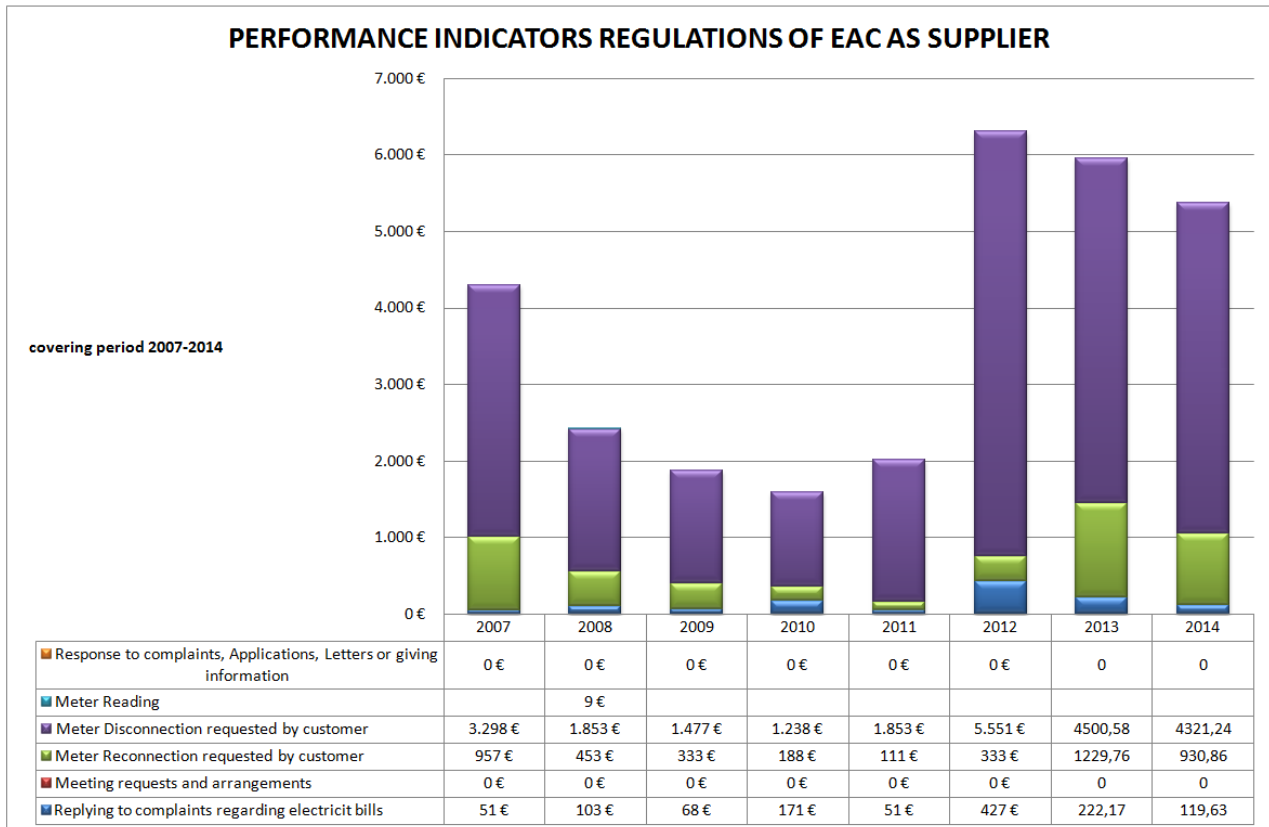


Figure 9 - Performance Indicators Regulations of EAC as a Supplier

It should be noted that table 9 shows a decrease in the total amount paid by the EAC as Owner of the Distribution System in 2014 compared with 2013, this may be considered quite satisfactory.

Regarding consumer complaints, which 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:

Consumer Enquires/Complaints									
2010		2011		2012		2013		2014	
Enquiries /advice	Formal complaints	Enquiries/ advice	Formal complaints	Enquiries/ advice	Formal complaints	Enquiries/ advice	Formal complaints	Enquiries/ advice	Formal complaints
4	8	11	34	4	31	2	34	4	27

Table 9 – Customer enquiries / advice or complaints presented or submitted to CERA

The majority of the above complaints were based on bill issues, prices and tariffs. CERA handled with care the above complaints, with the collaboration of EAC and TSO, leaving the consumers in most cases satisfied.

### 5.3.2 Gas Market

Even though, there is no gas market in Cyprus the provisions of the directive 2009/73/EC regarding dispute settlement are in place. Therefore, any party having a complaint against a transmission, storage, LNG or

distribution system operator in relation to that operator's obligations under this Directive may refer the complaint to CERA which, acts as dispute settlement authority, and issues decisions within a specific period after receipt of the complaint. CERAs' decision shall have binding effect unless and until overruled on appeal.

As mentioned above CERA is designated as the body (energy ombudsman or consumer body) which acts as an **independent mechanism** in order to ensure efficient treatment of complaints and out-of-court dispute settlements.