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List of abbreviations

ACER	Agency for the Cooperation of Energy Regulators
CEER	Council of European Energy Regulators
CEF	Connecting Europe Facility
CERA	Cyprus Energy Regulatory Authority
CRA	Core Regulated Activity
DEFA	Natural Gas Public Company Ltd (CYGAS)
DSO	Distribution System Operator
EAC	Electricity Authority of Cyprus
EastMed	Eastern Mediterranean
ETYFA	Natural Gas Infrastructure Company Ltd
FtM	Front-of-the-Meter
HDVC	High Voltage Direct Current
ICE	Internal Combustion Engines
LNG	Liquefied Natural Gas
LNG Operator	Liquefied Natural Gas System Operator
LNG Owner	Liquified Natural Gas System Owner
MDMS	Meter Data Management System
MECI	Ministry of Energy, Commerce and Industry
MRTC	Meter Repair & Testing Centre
ODS	Owner of the Distribution System
OTS	Owner of the Transmission System
PCI	Project of Common Interest
PSO	Public Service Obligations
PV	Photovoltaic
RAVB	Regulated Asset Value Base
RES	Renewable Energy Sources
RES-E	Electricity Generation Systems from RES
SGC	Southern Gas Corridor
SRA	Separated Regulatory Accounts
TDR	Transmission and Distribution Rules
TSO	Transmission System Operator
TSOC	Transmission System Operator of Cyprus
TSR	Trading and Settlement Rules
TYNDP	Ten Year National Development Plan

1. Foreword

Climate change is one of the biggest challenges that the world faces today, making the need for coordinated and decisive action a matter of urgency. The energy sector, which is unquestionably one of the drivers behind the global economy, is at the epicenter of this task.

Following the negative impact of the pandemic, Europe is battling a record-breaking surge in energy prices that threatens to derail the post-pandemic economic recovery, strain household incomes and even tarnish the nascent green transition. A series of market, geographic and political factors have merged into a perfect storm that shows no signs of abetting. Nevertheless, the biggest challenges in the energy sector started with the pandemic-induced recession reminding us that the world's energy map needs to be reshaped starting from energy production, distribution and use.

The energy market is ever-changing, ever-evolving and fast-moving at the moment and the year 2021 was undoubtedly a year of drastic changes for national energy activity. The national electricity market was given a taste of the future, with a higher penetration of renewable energy sources and concerns about security of supply. At the same time, after bouncing back from the pandemic and the returning to normalcy, emission allowances have seen an unprecedented rapid increase due to the European policies on Green Energy. While the energy landscape became even more challenging, the energy crisis gave rise to strengthening market integration and paving the way to decarbonization. At the same time, the energy transition continues to unfold in the union, showing positive trends with regard to boosting renewables, investing into energy efficiency and reducing emissions.

The lack of natural gas, a major long-term disadvantage of the Cypriot economy, has now been converted into a stroke of luck, given that the natural gas prices in the rest of Europe have multiplied over recent months and, in combination with constantly record-high emission allowances, have led to an unprecedented energy crisis. The introduction of natural gas to the island is not expected to suffice in lowering the electricity prices for Cypriot consumers and industry on its own. This could be feasible with the large-scale implementation of renewable energy sources in combination with storage and/or in combination with Cyprus being interconnected to the Continental European Network. With the EU determined to increase the cost of emissions, Cyprus will ultimately need to follow suit. The switch to renewable energy sources and higher energy efficiency levels is now a matter of urgency. Renewable energy sources hold the key for the switch to low-carbon energy forms and the creation of a sustainable energy system.

Cyprus is going through an era of unprecedented changes and challenges that stem from the opening of the competitive electricity market, as well as the relentless efforts that are being made for the island to cease being “electrically isolated” from the rest of Europe. At the forefront of the developments, CERA took action and will continue to do so driven by the creation of new sustainable and people-centered regulations that will always focus on the consumer, the environment, but also national economy.



Dr. Andreas Poulikkas
Chairman

2. Main developments in the gas and electricity markets

This Report covers the annual reporting obligation, required by the Article 59(1)(i) of the Directive (EU) 2019/944 on common rules for the internal market in electricity and Article 41(1)(e) of the Directive 2009/73/EC concerning common rules for the internal market in gas.

The Report concerns the calendar year 2021 and follows the reporting structure recommended by the Council of European Energy Regulators (CEER).

Due to the fact that there is no natural gas market in Cyprus, the report focuses mainly on the internal electricity market and covers this sector for the year 2021.

During the year under review, CERA, taking into account the trends followed at European level and bearing in mind the needs of the energy system in Cyprus, had to take a series of important decisions in order to complete the regulatory framework in the energy sector, focusing on the security of supply, the consumer protection and ensuring fair competition through the development of an economically viable and efficient electricity market and the possibility of increasing the share of RES in the competitive market.

The energy sector in Cyprus is undergoing fundamental transformations concerning its structure and organisation, its institutional framework and the diversification of its energy mix. 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. 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 will be organized. The proposed design includes also a real time balancing mechanism that provides the Transmission System Operator (TSO) with the ability to purchase the required operational reserves, activate balancing services and settle imbalances.

Due to the delays in the implementation of the competitive electricity market in Cyprus, which mainly concern the installation of two software programs, prerequisites for the operation and monitoring of the electricity market, CERA decided on a transitory regulation of the electricity market in Cyprus, prior the full implementation of the new electricity market model. The transitional arrangement permits bilateral contracts between producers and suppliers (above a threshold set by CERA – (i) for producers with a production license above 4.5 MW and (ii) for suppliers with contract for supply of energy to consumers with total agreed power above 10 MW) where clearing will be done on a monthly basis. The contracts involve only the provision of energy, and a simple arrangement would require no extra software for its implementation by the TSO and DSO. CERA, with a new Decision, to enable larger number of producers to participate in the transitional arrangement, decided to reduce the threshold for producers to 1 MW. This threshold has been further reduced (April 2019) to 50 kW to allow for the participation of more producers in the transitional market. The transitory regulation will be based on bilateral contracts between producers and suppliers for the supply of a standard quantity of electricity (kWh) on a monthly basis. The transitory regulation of the electricity market in Cyprus started on 1 September 2017 and will be in force until the full implementation of the new electricity market model.

During the year under review, CERA issued 2 Regulatory Decisions:

- Regulatory Decision 01/2021 (KDP 359/2021), regarding the Statement of Regulatory Practice and Electricity Tariffs Methodology.

- Regulatory Decision 02/2021 (KDP 523/2021) regarding the Regulatory Framework for the Granting of General License.

At the same time, CERA issued a series of Decisions; the most important of these being:

- Decision 12/2021 - Approval of Calculation Methodology and Prices of Monthly Capacity Factors (CFg) of the Transitory Regulation of the Electricity Market for 2021
- Decision 15/2021 - Allowed Revenues and Regulated Electricity Tariffs for 2021
- Decision 26/2021 - Electricity Tariff Plans for 2021
- Decision 33/2021 - Parameters set by the DSO for the Transitory Regulations of the Electricity Market Rules for 2021
- Decision 42/2021 - Draft Regulatory Decision on the “Statement of Regulatory Practice and Electricity Tariffs Methodology”
- Decision 43/2021 - Changes to the Transitory Regulations of the Electricity Market - Version 1.6
- Decision 48/2021 - Calculation Methodology of the Preventive Increase of Security Covers of Producers and RES Producers
- Decision 73/2021 - Guidelines on conducting an estimate of natural gas demand in the Natural Gas Transmission System by the Natural Gas Transmission System Operator and the conclusion of interconnection agreements
- Decision 74/2021 - Guidelines on preparing the Natural Gas Transmission System development plan
- Decision 82/2021 - Draft regarding the Regulations Regulating the Natural Gas Market (Natural Gas Quality Requirements)
- Decision 87/2021 – CERA Code of Public Governance
- Decision 88/2021 - CERA Risk Report
- Decision 93/2021 – Electronic Registry for Guarantees of Origin Fees
- Decision 103/2021 - Approval of Ten-Year Transmission System Development Plan 2021 – 2030
- Decision 115/2021 - Draft regarding the Regulations Regulating the Natural Gas Market (Natural Gas Quality Requirements)
- Decision No 136/2021 - Update of the Cross-Border Cost Allocation of the PCI No 3.10.2 Interconnection Between Kofinou (CY) and Korakia, Crete (EL)
- Decision 163/2021 - Long-Term Annual Forecast of Maximum Total Electricity Capacity and Total Generated Electricity for the Decade 2021 – 2030
- Decision 165/2021 - Regulation 2019/941 - Establishment of a Risk-Preparedness Plan in the Electricity Sector
- Decision 166/2021 - Call for Expression of Interest for the selection of a Supplier of Last Resort in the Cypriot Electricity Market for a two-year period
- Decision 178/2021 – Submission of Allowed Revenue and Regulated Electricity Tariffs for 2022
- Decision 232/2021 – Fuel Clause Coefficients for the Adjustment of the Wholesale Tariff (T-W), Fuel Clause Coefficients and Basic Prices for the purchase of RES-generated energy for the period July - December 2021
- Decision 250/2021 - Regulatory Decision No. 01/2021 Statement of Regulatory Practice and Electricity Tariffs Methodology
- Decision 278/2021 - Changes to the Transitory Regulations of the Electricity Market - Version 1.7
- Decision 294/2021 – Discount to Regulated Use of Transmission System and Electricity Distribution Tariffs for 2021

- Decision 295/2021 - Appointment of members of a licensing agency comprising of authorized independent producers and consumers
- Decision 301/2021 - Approval of amending version of the Ten-Year Transmission System Development Plan 2021 – 2030
- Decision 325/2021 - Approval of amending version of the Ten-Year Transmission System Development Plan 2021 – 2030
- Decision 326/2021 – Request by Paramount Energy Corporation Ltd for exemption from the provisions of the transmission and distribution rules
- Decision 334/2021 - Approval of proposed amendments to the trading and settlement rules by the Transmission System Operator - Cyprus - Version 2.0.3
- Decision 365/2021 – Fuel Clause Coefficients for the Adjustment of the Wholesale Tariff (T-W), Fuel Clause Coefficients and Basic Tariffs for the purchase of RES-generated energy for the period January - June 2022
- Decision 373/2021 – Forms and Standard Terms of Exemption to holding a license
- Decision 374/2021 - Approval of Transitory Regulation parameters for the Security Covers of the Electricity Market, Version 1.7 for 2022
- Decision 375/2021 - Approval of Transitory Regulation Parameters of the Electricity Market Version 1.7 for 2022
- Decision 376/2021 - Parameters set by the DSO for the Transitory Regulation of the Electricity Market for 2022
- Decision 383/2021 - CERA Reserve Fund Policy
- Decision 386/2021 - Approval of Amendments proposed to the Transmission and Distribution Rules by the Transmission System Operator - Cyprus - Version 5.3.0

Figure 1 presents the licensing of activities of the electricity and natural gas markets.

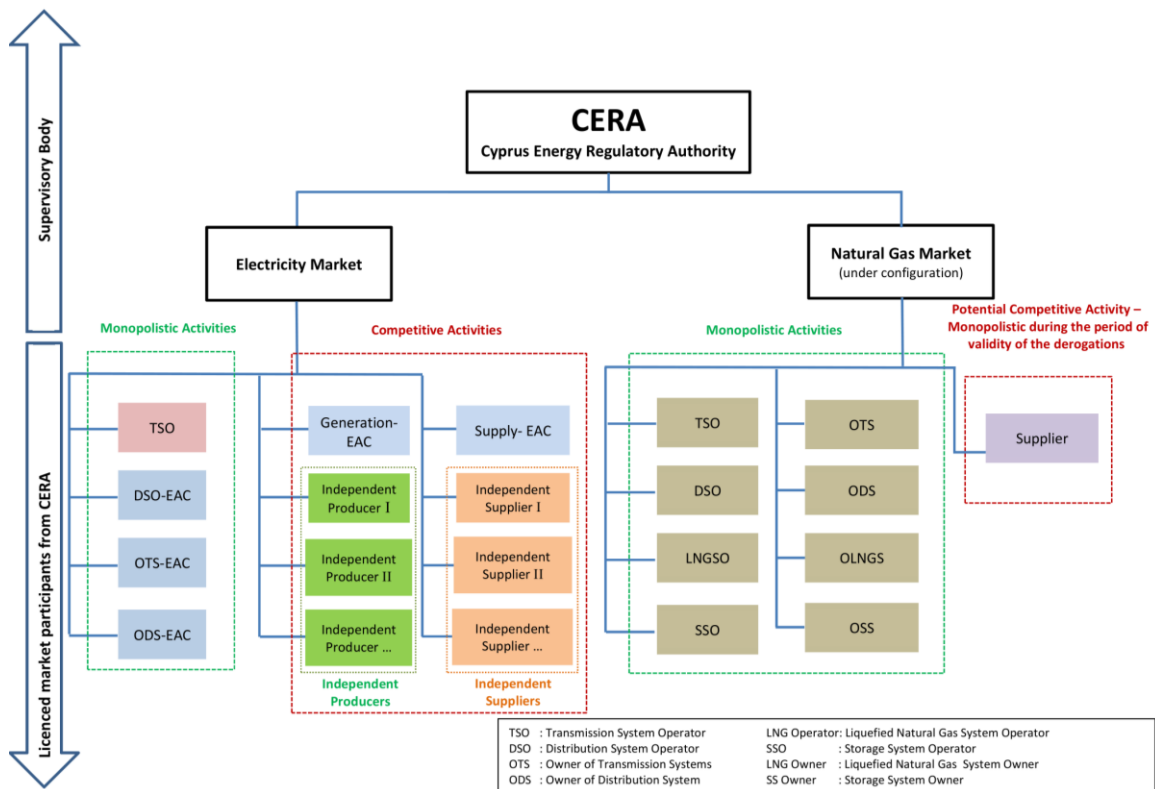


Figure 1. Licencing of activities

2.1. Evaluation of the market development and regulation

In light of the long-term nature of policy goals on energy security, mitigation of climate change, and environmental protection, the applied range of regulatory measures may provide a transparent environment for the long-term development of new technologies.

The national electricity market was given a taste of the future, with a higher penetration of renewable energy sources and concerns about security of supply. At the same time, after bouncing back from the pandemic and the returning to normalcy, the greenhouse gas emission allowances price has seen a rapid increase due to the European policies on Green Energy.

For storage systems and other technologies offering flexibilities the previous legislative framework and the market design in Cyprus seem to create barriers for upcoming investments related to energy storage technologies and flexibility services. In 2021 several Regulatory Decisions were taken and necessary amendments in the TSR were identified in order to mitigate this situation and enhance the deployment of such technologies and allow further integration of intermittent resources. CERA's decisions are based on the fact that storage technologies - and also other measures as demand-side and generation management - will need a flexible market and a sophisticated regulatory design in order to significantly add value to the future energy system.

In this respect it is considered that CERA's Regulatory Decisions and Decisions that were taken in 2021 open the way towards a functional and reliable energy market.

Actions to address the repercussions of the COVID-19 virus in the energy sector

The COVID-19 pandemic triggered the change to the global medium-and long-term economies, given that it affects an ever-growing number of sectors. The way in which organizations and people use energy has already changed significantly due to the socio-economic impacts of the pandemic.

The decommissioning of the economy resulted from the restrictive lockdowns that were implemented to stop the spread of the pandemic. Many European countries imposed lockdowns throughout 2021, while most countries implemented restrictive measures rather than total lockdowns. Restrictive measures usually resulted in the closing of stores, businesses, workplaces and schools and in many cases national restrictions of freedom of movement during the day. The government in the Republic of Cyprus imposed a partial lockdown in 2021 which ran from 26 April to 9 May 2021.

The pandemic-induced reduction in social and economic activity has affected all aspects of life, including the electricity sector. As expected, the gradual shift to remote working and learning resulted in lower electricity consumption in the commercial and public sector and an increase in the electricity consumption of households. The sudden and major decline in demand affected all the energy markets resulting in a drop in prices. Global data have drastically changed in 2021. The rapid increase that was observed is attributed to the easing of the pandemic restrictions, but mainly to the increase in the prices of natural gas and greenhouse gas emissions allowances (mainly CO₂). The last two factors are also the main drivers of the continuous and unprecedented price surges that Europe faced until the end of 2021.

In an effort to prevent the surge in electricity prices due to the increase in the prices of greenhouse gas emission allowances, Cyprus took a number of measures which positioned

the electricity price for household consumers among the lowest prices in major European countries.

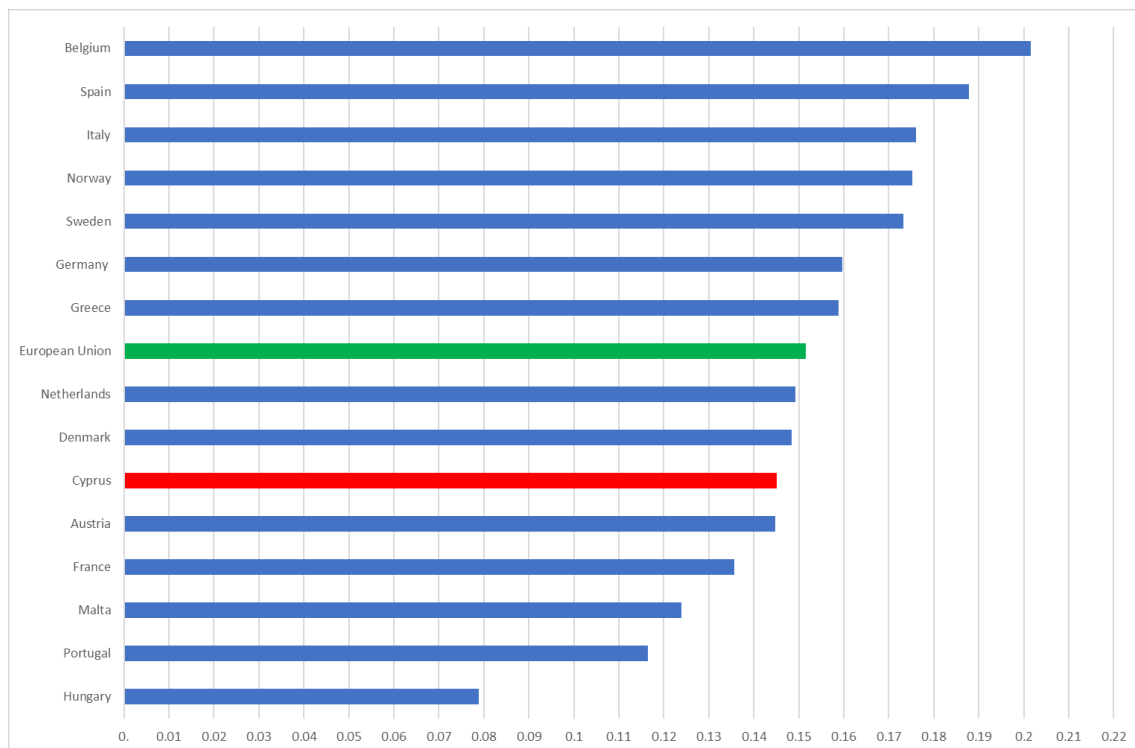


Figure 2. Indicative electricity prices for household consumers in Europe in 2021¹

In addition to the above, CERA, following the emergency measures implemented by the competent bodies to deal with the COVID-19 virus and to limit its spread by any means necessary, adapted its operation in order to protect public health, employees and consumers or representatives of undertakings that come into contact with its services, while serving its mission. Given the need to continue to operate in order to ensure the public purposes that it pursues and serves, CERA adopted measures for the provision of electronic services to the public, shiftwork and remote work of the staff, during the period that emergency measures and restrictions in view of the COVID-19 virus pandemic were in force. During that period, no meetings of employees/executives of CERA with executives of companies or other bodies or consumers or any third party not belonging to the workforce of CERA were held inside or outside the building of CERA, apart from exceptional and urgent cases and after the Members of CERA evaluated and approved the necessity thereunder.

Members of CERA as well as the staff of CERA held meetings, taking appropriate security measures to prevent the spread of the COVID-19 virus, using a video conferencing platform.

Furthermore, on 17 September 2021, a series of compensatory measures were announced by the Minister of Energy, Commerce and Industry (MECI) of Cyprus, which emerged from a consultation between the Ministries of Energy and Finance, CERA and the Electricity Authority of Cyprus (EAC). These measures include:

- Absorption of part of the basic tariffs of electricity network charges by the EAC and a 10% reduction in consumer bills, for the bi-monthly periods of November - December 2021 and

¹ Source: https://ec.europa.eu/eurostat/databrowser/view/nrg_pc_204/default/bar?lang=en

January - February 2022.

- Differentiation of the Grant Scheme for the installation of photovoltaic systems by household consumers, including the virtual net-metering category, for consumers that are unable, due to technical constraints and/or limited space, to install photovoltaic systems on the rooftops of their buildings. This will allow both household consumers and agricultural holdings/activities to install photovoltaic systems on rooftops of other buildings or on the ground, whose electricity production will be offset against the consumption of that particular household.
- The existing Scheme to encourage the use of renewable energy sources and energy savings in residences (for ceiling insulations, installation of photovoltaics or a combination of both), which expired on 20 December 2021, will be re-announced immediately following the approval of the budget of the RES and Energy Conservation Fund and will have a retroactive effect.
- Immediate preparation of a Grant Scheme which will provide vulnerable consumers with a subsidy for the replacement of energy-intensive appliances with new, energy efficient products, in particular, air conditioners and refrigerators. In addition, vulnerable household consumers will be subsidized for replacing old type bulbs with LED bulbs.
- Announcement of a special Support Scheme, in collaboration with the Ministries of Energy and Agriculture, Rural Development and Environment, for the use of RES in the agricultural sector. The main objective of the Scheme is to reduce the cost of pumping irrigation water. The Scheme will be announced in 2022.
- Announcement of Grant Scheme and tender for new commercial RES systems and for energy storage, which can help reduce the price of electricity due to the lower operating cost of electricity generation than the corresponding production with conventional fuels. The Scheme is scheduled to be launched in 2022, subject to approval by the European Union.
- Conduct an energy efficiency awareness campaign.

2.2. Report on the implementation of the Clean Energy Package

It should be noted that Articles 3, 5 and 6, Article 7(1), points (c) and (g) of Article 7(2)) Articles 8 to 17, Article 18(5) and (6), Articles 19 and 20, Article 21(1), (2) and (4) to (8), point (c) of Article 22(1), points (b) and (c) of Article 22(2), the last subparagraph of Article 22 (2), Articles 23 to 27, Article 34(1), (2) and (3), Articles 35 to 47, Article 48(2) and Articles 49 and 51 of Regulation (EU) 2019/943 do not apply to Cyprus until its transmission system is connected to other Member States' transmission systems via interconnections.

In accordance with the Regulation (EU) 2019/943, in the event the transmission system of Cyprus is not connected to other Member States' transmission systems by means of interconnections by 1 January 2026, Cyprus shall assess the need for derogation from those provisions and may submit a request to prolong the derogation to the Commission. The Commission shall assess whether the application of the provisions risks causing substantial problems to the operation of the electricity system in Cyprus or whether their application in Cyprus is expected to provide benefits to the functioning of the market. Based on that assessment, the Commission shall issue a reasoned decision to prolong the derogation in full or in part.

On 7 October 2021, the House of Representatives passed the Law Regulating the Electricity Market of 2021 L.130(I)/2021 which repeals the Laws Regulating the Electricity Market of 2003 to 2018.

The Law Regulating the Electricity Market of 2021 was passed for the purpose of:

- Harmonization with the Directive (EU) 2019/944 of the European Parliament and of the Council of 5 June 2019 on common rules for the internal market in electricity and amending Directive 2012/27/EU, excluding paragraphs 1, 4, 5 and 6 of Article 57 thereof,
- Partial harmonization with Articles 2, 15, 17, 21, 22 and 24 of the Directive (EU) 2018/2001 of the European Parliament and of the Council of 11 December 2018, on the promotion of the use of energy from renewable sources,
- Partial harmonization with Articles 11, 14 and 15 of the Directive (EU) of 25 October 2012 on energy efficiency, amending Directives 2009/125/EC and 2010/30/EU and repealing Directives 2004/8/EC and 2006/32/EC,
- Effective implementation of the Regulation (EU) 1227/2011 of the European Parliament and of the Council of 25 October 2011 on wholesale energy market integrity and transparency,
- Effective implementation of the Regulation (EU) 347/2013 of 17 April 2013 on guidelines for trans-European energy infrastructure and repealing Decision No 1364/2006/EC and amending Regulations (EC) No 713/2009, (EC) No 714/2009 and (EC) No 715/2009,
- Effective implementation of the Regulation (EU) 2019/943 of 5 June 2019 on the internal market for electricity,
- Effective implementation of the Regulation (EU) 2017/1485 of 2 August 2017 establishing a guideline on electricity transmission system operation and
- Independence of the existing legal person governed by public law, known as “Transmission System Operator - Cyprus” from the Electricity Authority of Cyprus (EAC).

The Law Regulating the Electricity Market of 2021 provides for the regulation of the electricity market in the Republic of Cyprus, by establishing common rules concerning the generation, transmission, distribution, storage and supply of electricity, as well as the protection of consumers, with a view to creating truly integrated, competitive, consumer-focused, flexible, fair and transparent electricity markets in the EU.

By taking advantage of the benefits of an integrated market, among other things, it aims to ensure affordable, transparent prices and energy costs for consumers, a high degree of security of supply and a smooth transition to a lower-carbon energy emission system.

It lays down basic rules for the organization and operation of the electricity sector, in particular position strengthening and consumer protection rules, for open access to the integrated market and for third party access to transmission and distribution infrastructure.

Lastly, it ensures that electricity companies operate aimed at achieving a competitive, secure, and environmentally sustainable electricity market, without being discriminated in terms of their rights or obligations.

Moreover, on 7 October 2021, the House of Representatives passed the Law Regarding the Establishment and Operation of the Cyprus Energy Regulatory Authority of 2021, L129(I)2021, for harmonization with Article 57 of Directive (EU) 2019/944 on common rules for the internal market for electricity and Article 39 of Directive 2009/73/EC concerning common rules for the internal market in natural gas.

The Law Regarding the Establishment and Operation of the Cyprus Energy Regulatory Authority of 2021, provides for the establishment and operation of the regulatory authority at national level, with the ability to decide on any relevant regulatory issue in order for the internal

electricity and natural gas markets to operate properly in accordance with the above Directives and to be fully independent from any other public or private interest.

With respect to the harmonisation procedure of the Directive (EU) 2018/2001 of the European Parliament and of the Council of 11th December 2018 on the promotion of the use of energy from renewable sources, a preliminary draft bill was prepared for the partial harmonization of national legislation with the Directive. The proposed Law will replace the “Laws on the Promotion and Encouragement of the Use of Renewable Energy Sources of 2013 to 2018”.

From 10 February 2021 until 10 March 2021, the MECI conducted a public consultation on the draft bill entitled “Law on the Promotion and Encouragement of the Use of Renewable Energy Sources of 2021” and its results have been announced.

Risk-Preparedness Plan

Regulation 2019/941 on risk-preparedness in the electricity sector lays down rules for cooperation between Member States with a view to preventing, preparing for and managing electricity crises in a spirit of solidarity and transparency and in full regard for the requirements of a competitive internal market for electricity. Further to Council of Ministers Decision No. 88,943, CERA was appointed the competent authority for the implementation of the provisions of Regulation 2019/941.

Although Cyprus has received a derogation from specific provisions of Regulation 2019/941, until is directly connected with another Member State, it has decided to move forward with the determination of national electricity crisis scenarios and its risk-preparedness plan.

On 26 May 2021, further to Decision 165/2021, having regard to the consultations that were carried out with TSOC, DSO, the relevant producers or their trade bodies, the relevant organizations that represent the interests of industrial and non-industrial electricity customers as well as the National Electricity Crisis Scenarios that had been developed with CERA Decision 432/2020, CERA decided to approve the Draft Risk-Preparedness Plan for Cyprus and to communicate this to the Electricity Coordination Group (ECG) for consultation.

The Risk-Preparedness Plan for Cyprus implements procedures and measures to reduce the possibility of electricity crises, where possible, and to mitigate the impact of crisis scenarios should they occur. These procedures and measures can be summarized into the following categories:

- Prevention/minimization of the probability of total or partial system downtime.
- Minimization of the probability of deficient generation adequacy. Preparing the system for high demand periods, when the system operates close to its stability limits, i.e., in the hot summer months
- Arrangements for the emergency operation of the Cyprus National Energy Control Center (NECC)
- Physical security and cyberspace measures.

3. The electricity market

3.1. Network regulation and technical functioning

3.1.1. Unbundling

Article 43 of the Directive 2019/944 provides for the ownership unbundling of transmission systems and transmission system operators. However, Cyprus, according to Article 66 (Derogations) of the Directive 2019/944, has obtained an exemption from Article 43 and therefore Cyprus has maintained its present regime on TSO unbundling.

The Cyprus TSO (TSOC) is legally unbundled and functions independently in terms of organisation and decision making from the Owner of the Transmission System (OTS), the Owner of the Distribution System (ODS) and the Distribution System Operator (DSO) which is the Electricity Authority of Cyprus (EAC).

TSOC is located separately from EAC. TSOC presents himself to customers as a separate entity with his own name, logo and website. However, TSOC is provided with all of its employees by EAC.

As mentioned in paragraph 2.2, on 7 October 2021, the House of Representatives passed the Law Regulating the Electricity Market of 2021 which provides, among others, for the independence of the Transmission System Operator - Cyprus from the Electricity Authority of Cyprus (EAC).

According to the Law Regulating the Electricity Market of 2021, in order to ensure the independence of the TSOC, the following minimum criteria apply, the TSOC:

- does not participate in corporate structures of the integrated electricity undertaking, which is responsible, directly or indirectly, for the day-to-day operation of the generation, distribution and supply of electricity,
- shall apply appropriate measures to ensure that its persons act independently,
- has effective decision-making powers, independent of the integrated electricity undertaking, regarding the resources necessary for the operation, maintenance, and development of the network, and
- establishes a compliance program, which is submitted to CERA for approval, which sets the measures taken and defines the obligations of its employees, in order to ensure the impartial behavior of its staff and submits to CERA and publishes an annual report in which the measures taken and the level of satisfaction with the program are described.

The ODS has also been nominated as the DSO and although it is not independent in the sense that the TSOC 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. DSO is also provided with all of its employees by EAC.

Accounting Unbundling

According to the Article 10 of the Law Regulating the Electricity Market of 2021, the electricity undertakings keep in their internal accounting separate accounts for each of the transmission and distribution activities, just as they would be required to do if those activities were carried out by separate undertakings, to avoid discrimination, cross-subsidies and distortion of

competition. The accounts may be consolidated for other electricity-related activities unrelated to transmission and distribution.

Electricity undertakings, which have enforced Public Service Obligations, keep separate accounts for the activities related to these services.

The EAC in its internal accounting system, keeps separate accounts for each licensed activity, and has a copy of its above accounts available for public inspection at its registered office in the Republic of Cyprus.

Functional Unbundling

Based on the provisions of Regulatory Decision 04/2014 “Functional unbundling of the activities of EAC”, CERA hired under an open tender procedure, external consultants. The terms of mandate were to check the degree of compliance of the EAC operation mode based on the functional unbundling of its activities in accordance with the regulatory framework, by carrying out specialized controls in three different time periods.

All three (3) audits were carried out and completed based on the provisions of the tender procedure. The external consultants submitted to CERA a relevant comprehensive and detailed report, in which the findings of this audit were recorded. Based on the above, the first phase of the evaluation of the functional unbundling was completed in accordance with the legal and regulatory framework, and it was found that the compliance of EAC was achieved.

In 2021, due to the Covid-19 pandemic procedures were postponed for the transition to a second phase where the implementation of functional unbundling of EAC is examined by an external consultant of CERA. This phase is expected to be completed by mid-2022. The aim of this project is to establish and confirm that the functional unbundling is still valid and in accordance with the legal and regulatory framework.

Furthermore, the conservation and the deepening of the functional unbundling of EAC requires, inter alia, an ongoing assessment of compliance of its proper implementation. Hence, CERA by its Decision 231/2021 decided to hire under a tender procedure, external consultants as to establish a methodology for the purpose of drawing reports by the EAC’s compliance officers, the establishment of a communication model with CERA and the training of these EAC’s compliance officers. The objectives of this Decision are expected to be completed by 2022.

3.1.2. Network extension and optimization

According to the Law Regulating the Electricity Market of 2021, CERA, by a Regulatory Decision, gives instructions to the TSOC and the DSO 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.

In general, the Transmission and Distribution Rules (TDR) are designed to achieve the development, the maintenance and the operation of an efficient, coordinated and economically viable transmission and distribution system whilst facilitating competition in generation and supply of electricity.

The Rules:

- govern the technical requirements and constraints that will apply wherever licence 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 licence 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 provisions of TDR shall be complied by all licensees or by persons to whom exemptions have been granted, to the extent required by their licenses or exemptions respectively.

During the year in question, with CERA Decision 386/2021, dated 30 December 2021, version 5.3.0 of the TDRs as proposed by the TSOC, which concern the introduction of provisions regarding the Energy Storage Facilities, were approved.

Given the time required by the TSOC for the supply of the relevant software for the implementation of the new revised approved TSRs, CERA will decide at a later stage the date on which it will publish the new revised approved TDRs in the Official Gazette of the Republic of Cyprus.

Table 1 shows the basic features of the transmission and distribution networks for the last 5 years.

Table 1. Basic features of the transmission and distribution networks

Indicator	2017	2018	2019	2020	2021
Number of TSOs	1	1	1	1	1
Extension of TSO grid (Km)	1,320	1,320	1,359	1,362	1,382
Sum of all TSO investments and expenditures in networks (Mill EUR)	32.4	38.3	42.6	14.0	13.0
Number of DSOs	1	1	1	1	1
Extension of DSO grid (Km)	24,875	26,363	26,708	27,130	27,623
Sum of all DSO investments and expenditures in networks (Mill EUR)	16.0	115.0	88.0	40.0	45.0

Draft Regulatory Decision “on the Establishment of Basic Principles for the Formulation of the Ten-Year Distribution System Development Plan”

On 23 December 2021, CERA published the Draft Regulatory Decision entitled “on the Establishment of Basic Principles for the Formulation of the Ten-Year Distribution System Development Plan” in the Official Gazette of the Republic of Cyprus and notified licensees, license applicants or other interested parties that they can submit their written comments.

Pursuant to the draft Regulatory Decision, CERA decided to set basic principles for the formulation of the Ten-Year Distribution System Development Plan.

For the continuous updating of all licensees, license applicants, and any other interested

parties, in the context of complete transparency in view of the imminent operation of the competitive electricity market in Cyprus, the draft Regulatory Decisions provides for the inclusion of the following criteria in addition to the provisions of the Law:

- The distinction of projects that are included in the Ten-Year Distribution System Development Plan into support and expansion projects aimed at separating the projects that are deemed necessary for improving the operation of the distribution system (support projects) and projects that are required for the connection of users to the system (Producers, Medium and Low Voltage Customers).
- The inclusion of distribution system modernization projects.
- The inclusion of projects that aim at improving energy quality and reducing Distribution System energy losses.
- The inclusion of projects that aim at better serving distribution system Users.
- The total estimated cash flows of all distribution projects.
- Detailed time schedule for the implementation of the distribution projects

The draft Regulatory Decision also determines that within six months prior to the end of each two-year period (starting by December 2022 at the latest), the DSO shall submit the proposed Ten-Year Distribution System Development Plan for the decade starting in January of the coming year to CERA for approval. The validity of the Ten-Year Distribution System Development Plan starts from the date it receives approval from CERA.

Draft Regulatory Decision “on the Establishment of Basic Principles for the Formulation of the Ten-Year Transmission System Development Plan”

On 23 December 2021, CERA published the Draft Regulatory Decision entitled “on the Establishment of Basic Principles for the Formulation of the Ten-Year Transmission System Development Plan” in the Official Gazette of the Republic of Cyprus and notified licensees, license applicants or other interested parties that they can submit their written comments.

Pursuant to the draft Regulatory Decision, CERA decided to repeal Regulatory Decision No. 03/2020 (KDP 165/2020) “on the Establishment of the Basic Principles for the Formulation of the Ten-Year Transmission System Development Plan”.

For the continuous updating of all licensees, license applicants, and any other interested parties, in the context of complete transparency in view of the imminent operation of the competitive electricity market in Cyprus, the draft Regulatory Decisions provides for the inclusion of the following criteria in addition to the provisions of the Law:

- The distinction of projects that are included in the Ten-Year Transmission System Development Plan into support and expansion projects aimed at separating the projects that are deemed necessary for improving the operation of the Transmission System (support projects) and projects that are required for the connection of users to the system (Producers, High Voltage Customers).
- The preparation of a techno-economic feasibility analysis for every new transmission project that may be included in the Ten-Year Transmission System Development Plan.
- The total estimated cash flows of all transmission projects.
- Detailed time schedule for the implementation of the transmission projects.
- Any environmental and/or other restrictions during the load flow simulations

3.1.3. Network tariffs

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

Via Decision 294/2021 (“Discount to Regulated Use of Transmission System and Electricity Distribution Tariffs for 2021”), CERA, having regard to, among other things:

- the fact that EAC had consolidated cash reserves of approximately € 444mil., according to the audited financial statements for ended 31 December 2019, and cash on hand amounting to € 404mil., according to the unofficial financial statements for ended 31 December 2020, which have been recovered from electricity consumers,
- the recommendation of EAC that was sent to CERA under File No. M/M.1, dated 16 September 2021, entitled “Reduction in final electricity price”, for a 65% discount on the usage charges of the High, Medium and Low Voltage network, which concerns all electricity consumers, for the bill that will be issued based on the readings that will be recorded for the months November - December 2021 and January - February 2022,

and estimates that a decrease in the following Regulated Tariffs for the use of transmission and distribution systems:

- Regulated Tariff for Use of Transmission System (T-NH)
- Regulated Tariff for Use of Medium Voltage Distribution System (T-NM), and
- Regulated Tariff for Use of Low Voltage Distribution System (T-NL),

does not affect competition in the Electricity Market, since the Owner of the Transmission System and Owner and Operator of the Distribution System monopolize these activities, decided:

- To reduce the Regulated Tariff for use of transmission and distribution systems (T-NH, T-NM, T-NL), which was approved with CERA Decision No. 15/2021, by 65% for a total period of four (4) months.
- The loss of revenue that the Owner of the Transmission System and the Owner and Operator of the Distribution System will incur due to the reduction of Regulated Tariff for use of transmission and distribution systems will not be recovered during the rest of the current Regulatory Audit Period or during the next Regulatory Audit Period, but will be covered by cash reserves of EAC.
- The discount that will be given shall clearly appear on the electricity bills that are issued by all electricity Suppliers, including the Regulated Supplier.
- The reduction to the Regulated Tariffs for use of transmission and distribution systems (T-NH, T-NM, T-NL) to apply:
 - to monthly consumers, for electricity bills whose consumption was measured at the end of November 2021, and
 - to bi-monthly consumers, for electricity bills whose consumption was measured from 1st November 2021.
- In the context of full transparency and information of all stakeholders, this Decision shall

be communicated to EAC and will be posted on CERA's website.

As a result of the above, a decrease of about 10% was applied on the final electricity bill of an average household consumer.

Furthermore, the charges for the use of network for the year 2016 - 2021, as approved by CERA are shown in Table 2.

Table 2. Charges for the use of networks and other operational expenses

CHARGES FOR THE USE OF NETWORKS AND OTHER OPERATIONAL EXPENSES		2017 €cents/ kWh	2018 €cents/ kWh	2019 €cents/ kWh	2020 €cents/ kWh	2021 €cents/ kWh
Use of Transmission System Tariff (T-NH) for consumers connected to:	High Voltage	0.54	0.51	0.51	0.50	0.48
	Medium Voltage	0.86	0.81	0.81	0.79	0.76
	Low Voltage	0.88	0.82	0.82	0.80	0.77
Use of Distribution System Tariff (T-NM) for consumers connected to:	High Voltage	-	-	-	-	-
	Medium Voltage	1.00	0.93	0.93	0.90	0.89
	Low Voltage	1.02	0.95	0.95	0.92	0.91
Use of Distribution System Tariff (Low Voltage) (T-NL) for consumers connected to:	High Voltage	-	-	-	-	-
	Medium Voltage	-	-	-	-	-
	Low Voltage	1.14	1.08	1.08	1.05	1.03
Tariff for the recovery of expenses of the Cyprus TSO (T-TSO)		0.09	0.15	0.15	0.11	0.09
Tariff for the provision of Ancillary Services and long-term reserve (T-AS) for consumers connected to:	High Voltage	0.65	0.61	0.61	0.63	0.64
	Medium Voltage	0.67	0.62	0.62	0.64	0.65
	Low Voltage	0.67	0.64	0.64	0.65	0.66

Figure 3 presents the network usage fees for consumers connected to low voltage (includes T-NH, T-NM, T-NL, T-TSO and T-AS). It is noted from the figure, that the network usage fees decreased by 21.5% since 2016.

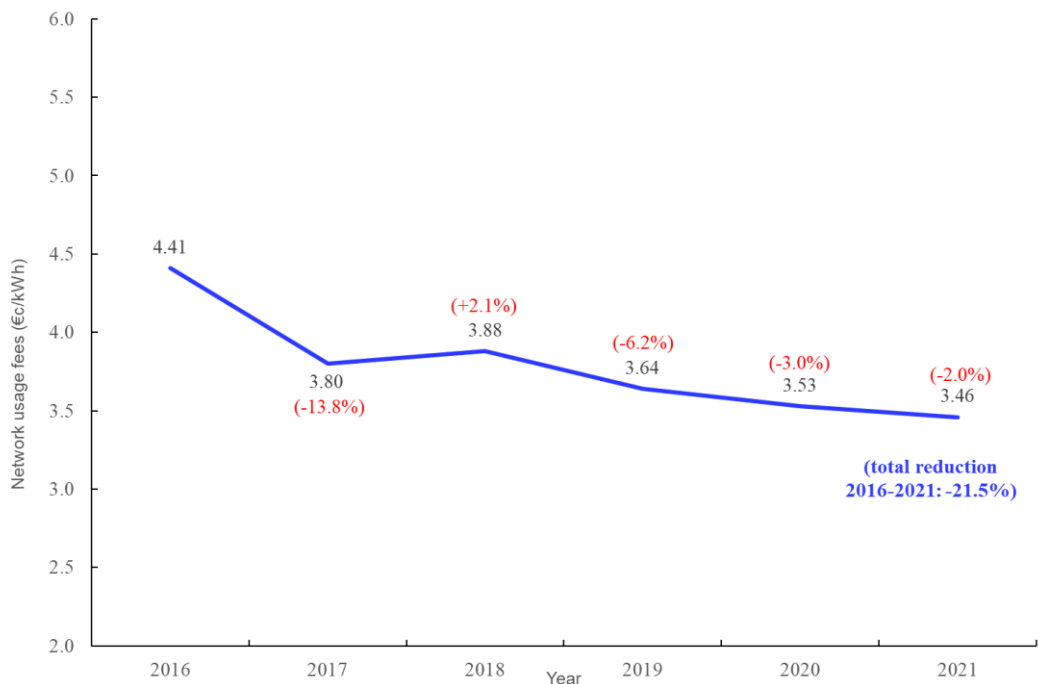


Figure 3. Network usage fees for consumers connected to low voltage

3.1.4. Monitoring balance of supply and demand

Adequacy of electricity supply

Pursuant to the Law Regulating the Electricity Market of 2021, CERA is responsible for the adequacy of electricity in Cyprus, the reliability and security of the generation, transmission and distribution systems, as well as the quality of electricity supply. CERA systematically monitors the adequacy, quality and reliability of the electricity supply and, whenever it detects any shortfalls, it informs the Minister of Energy, Commerce and Industry, who, after consulting with CERA and TSOC, takes all indicated corrective measures.

As shown in Figure 4, during the year under review, the adequacy is at sufficiently high levels and within the reserve margin of installed capacity, between 20% - 40%, as provided by the Decision 144/2017 of CERA, dated 17 July 2017, regarding the methodology for the calculation of the installed capacity reserve margin.

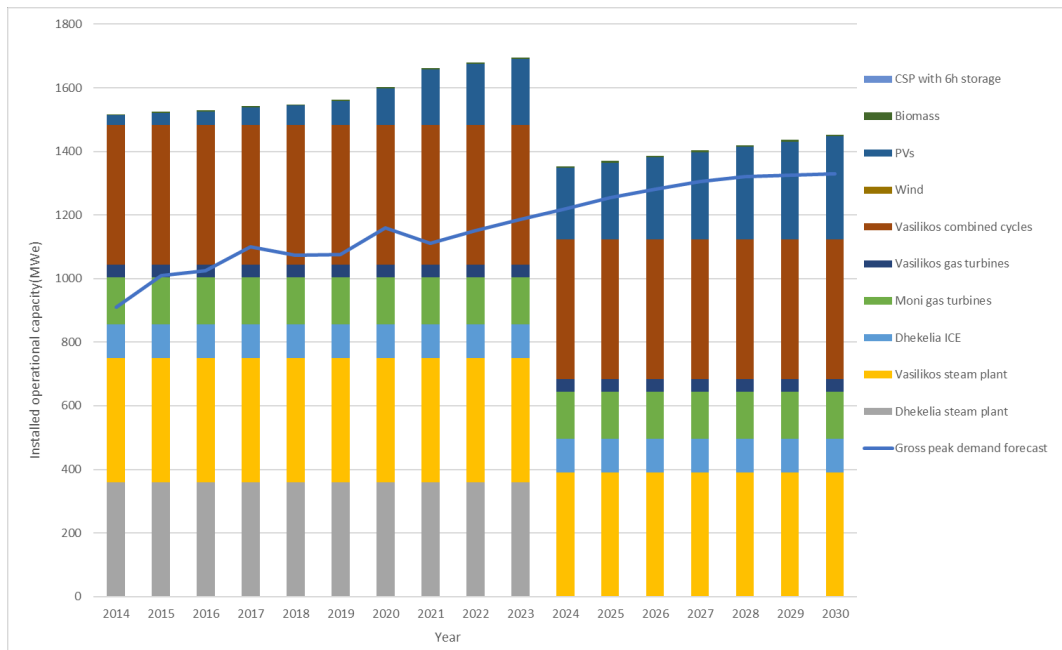


Figure 4. Installed Operational Capacity (MWe) for the period 2014 - 2030

The following important records concern the recorded total electrical energy generated during 2021:

- The total gross electricity generated reached 5,095,910 MWh.
- EAC-Generation contributed with 4,337,147 MWh.
- Producers using RES generated 758,786 MWh.
- EAC power plants generated 238,581 MWh for their local needs.
- Energy which was injected to the transmission system from the EAC-Generation conventional plants reached 4,098,566 MWh.
- Energy that was exported from the transmission system to the EAC substations and the large producers reached 4,396,090 MWh.
- Reported losses during the transmission amounted to 63,306 MWh, or 1.46%, of the energy that was injected into the transmission system.
- Reported losses during distribution amounted to 151,500 MWh, or 3.3%, of the energy that was injected into the distribution system.

The Load Factor of the conventional power generation plants stood at 46.95% in 2021 compared to 47.4% in 2020.

Figure 5 shows the total electricity generation in 2021.

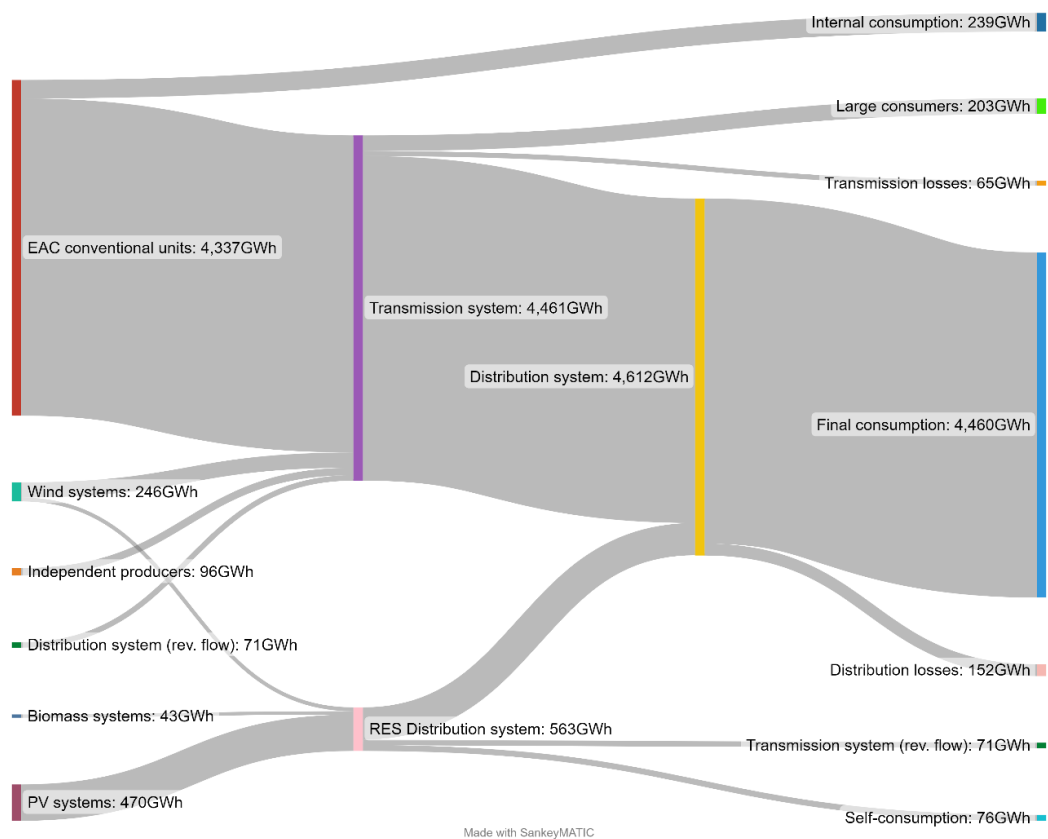


Figure 5. Sankey diagram for the total electricity generation in 2021

Monitoring investments in generation

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 and natural gas availability, 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 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 a licensing procedure, implemented through licenses 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 licensing 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 TSOC 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 TSOC, which the market cannot address in a timely manner, i.e. it should specify characteristics of new generation corresponding to the requirements of the TSOC.

Figures 6 and 7 present historical generation data from RES which are connected to the network.

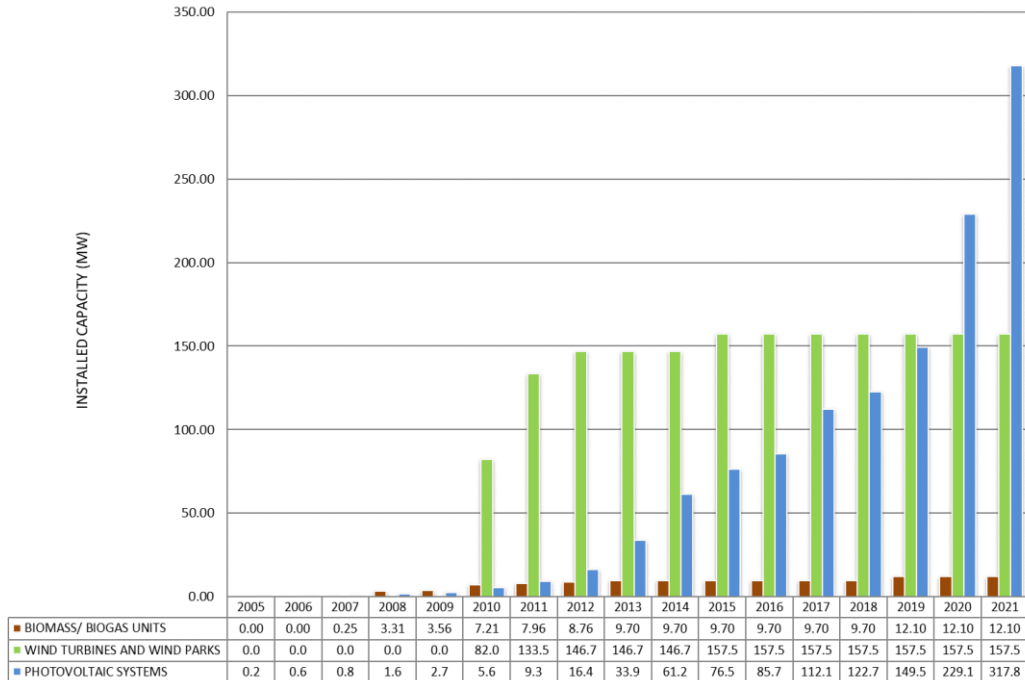


Figure 6. Annual RES generation (GWh) 2005-2021

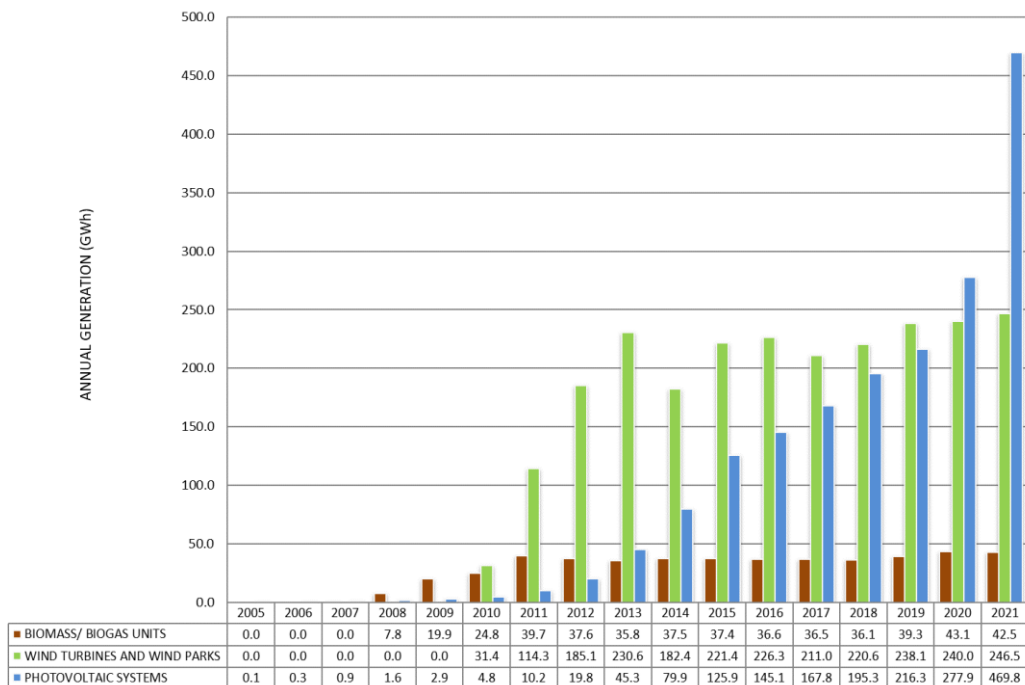


Figure 7. Annual Installed Capacity (kW) RES 2005-2021

Operational Network Security

The activities of electricity generation and supply concern competitive activities, meaning that the interested persons are given the opportunity, after obtaining the relevant licences from CERA, to participate on a competitive basis in the electricity market according to the Regulations set by CERA, as independent producers and / or as independent electricity suppliers.

Although the generation and supply activities belong to the competitive part of the electricity market, EAC as a producer and supplier, occupies at this stage a dominant position in the market and thus is regulated by CERA. More specifically, CERA exercises control over EAC and regulates its economic parameters, so as to achieve a healthy environment allowing the entry in the market of new independent producers and suppliers who can compete on an equal footing.

The activities of electricity transmission and distribution are by nature monopolistic activities. These activities concern the operation and ownership of the transmission and the distribution systems.

The licensing of activities related to electricity is regulated by the Law Regulating the Electricity Market of 2021, the Rules on the Regulations Regulating the Electricity Market (Licensing) and Regulatory Decision 02/2021 entitled "Regulatory Framework for the Granting of the General License (KDP 523/2021).

The licenses issued by CERA, in accordance with Article 26 of Law Regulating the Electricity Market of 2021, concern the following activities:

- Construction and operation of a power plant with conventional fuels for commercial purposes.
- Construction and operation of a power plant with conventional fuels for self-consumption and reserve purposes with a generating capacity greater than 1MW.
- Construction and operation of a power plant using RES with a generating capacity of more than 8MW.
- Supply of electricity to final customers
- Supply of electricity to wholesale customers.
- Execution of the duties of the Balance Responsible Party.
- Execution of the duties of the Aggregator.
- Installation and/or operation of an electricity storage facility, with the exception of self-consumption electricity storage facilities
- Execution of responsibilities of TSOC.
- Execution of responsibilities of DSO.
- Execution of responsibilities of the Owner of Transmission System (OTS).
- Execution of responsibilities of the Owner of Distribution System (ODS).
- Execution of responsibilities of the Market Operator.
- Execution of duties of the Owner of Interconnector Owner.
- Execution of duties of the Owner of Interconnector Operator.
- Construction of direct line.

The License exemptions that are issued by CERA, in accordance with subparagraph (4) of Article 27 of Law Regulating the Electricity Market of 2021 concern the following activities:

- Construction and operation of a power plant using RES with a generating capacity of more than 50kW to 8MW.
- Construction and operation of a power plant with conventional fuels for self-consumption and reserve purposes with a generating capacity of 30kW up to 1MW.

The General licenses issued by CERA, in accordance with subparagraph (1) of Article 27 of Law Regulating the Electricity Market of 2021, concern the following activities:

- Generation of electricity from power plants that are not connected to the transmission system or distribution system.
- Generation of electricity from power plants with a maximum capacity of up to and including 20kW.
- Generation of electricity for own use from systems with a capacity of up to and including 30kW.
- Generation of electricity from renewable energy source power plants with a capacity of up to and including 50kW.
- Generation of electricity from small-scale high-efficiency cogeneration plants in accordance with the provisions of the Laws on the Promotion of Energy Efficiency in Heating and Cooling and Heat and Power Cogeneration.

License for the construction and operation of power production plants for commercial use

Conventional Units

In 2021, 1 application was submitted for the granting of a license to construct a power production plant with conventional fuel for commercial purposes with a total capacity of 284,004MWe.

The installed electrical capacity of conventional units for commercial use has not been differentiated during the year 2021, it remains at 1478MWe, as it was in the previous year 2020. Table 3 below shows the total installed capacity of EAC's conventional units for 2020 and the geographical distribution of the power plants is presented in Figure 8.

Table 3. Total Installed Capacity of EAC's Conventional Units (MW)

Total Installed Capacity of EACs' Conventional Units (MW)					
Power Station	CCGT units (MW)	Steam units (MW)	Gas Turbines (MW)	Internal Combustion Engines (ICE) (MW)	Installed Capacity per Station (MW)
Moni	-	-	4x37.5=150	-	150
Dhekelia	-	6x60=360	-	2x50=100	460
Vassilikos	2x220=440	3x130=390	1x38=38	-	868
Installed Capacity per type of unit	440	750	188	100	1478

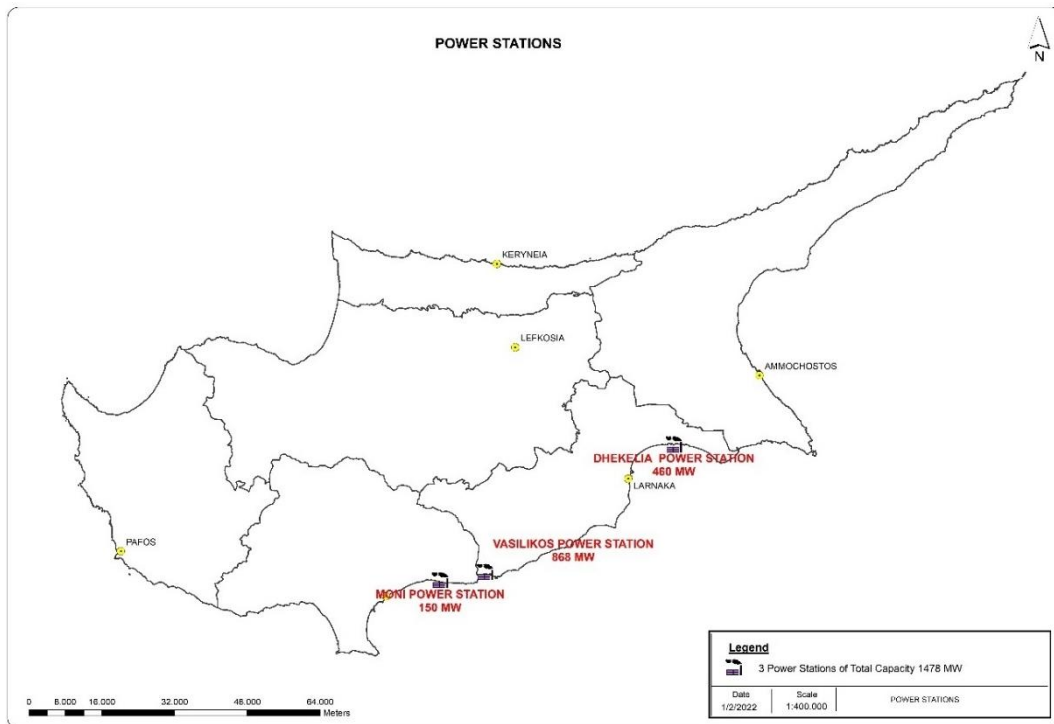


Figure 8. Geographical distribution of installed conventional units for commercial use until 2021

Renewable Energy Sources (RES)

Wind Farms:

In 2021, no Licenses have been granted for the construction and operation of wind farms. The installed capacity of wind farms did not change in the year 2021, it remains at 157.5MWe, as it was in the previous year 2020.

Photovoltaic Systems:

In 2021, 4 applications were submitted for the granting of a license to construct photovoltaic power plants for commercial purposes with a total capacity of 28MWe and 10 construction licenses were granted for the construction of photovoltaic power plants for commercial purposes with a total capacity of 76MWe.

The installed capacity of photovoltaic systems for commercial purposes did not change in the year 2021, it remains at 8MWe, as in 2020.

The following Figure 9 shows statistical data on Licenses for the construction and operation granted by CERA for the generation of electricity from conventional units and RES units for the period starting from the establishment of CERA until the end of 2021.

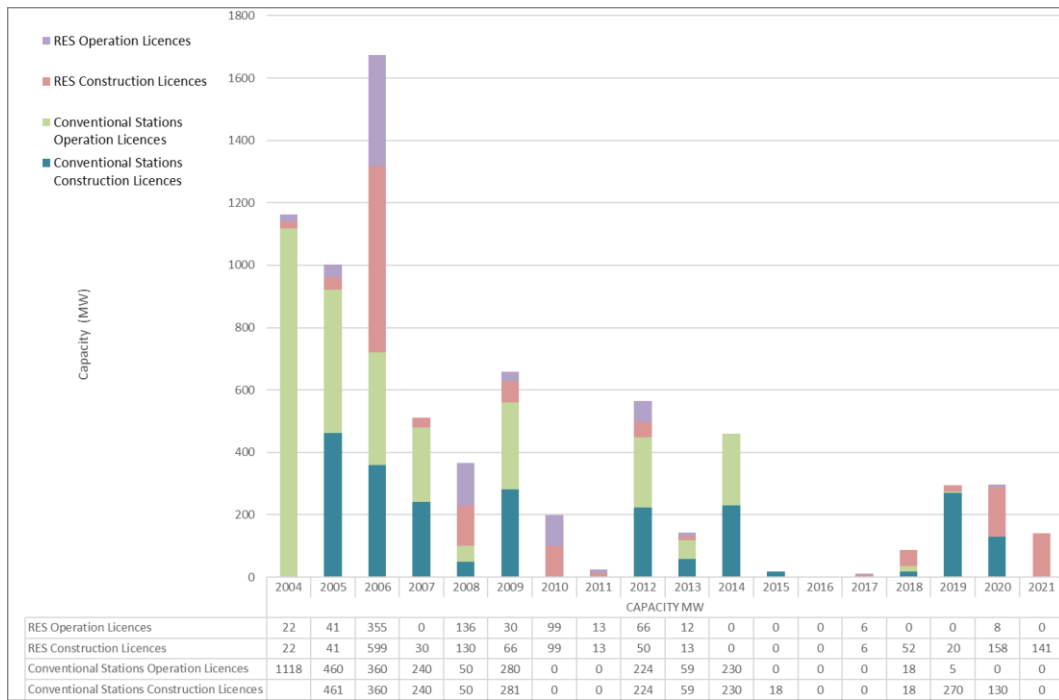


Figure 9. Construction and Operation licences for conventional power plants issued from 2005 to 2021

License for the construction and operation of power plants for self-consumption

Conventional units for self-consumption

In 2021 1 License for the Construction and Operation of a self-generation, conventional fuels, Power Production Plant with a total installed capacity of 1.6416MWe.

The installed capacity of the self-consumption conventional plants has been reduced in 2021, and it stands at 29.1416MWe.

Exemption from a power production plant construction and operation license for commercial use

Renewable Energy Sources

Photovoltaic Systems

In 2021, 81 Exemptions were granted for the construction of photovoltaic power plants with an installed capacity of 136.5MWe and 35 Exemptions were granted for the operation of photovoltaic power plants with an installed capacity of 50,2MWe. The total installed capacity of photovoltaic systems for commercial use, which are included in the Support Schemes of MECI has been increased in 2021 and stands at 187.74MWe.

Biomass/Biogas Systems

The installed capacity of biomass/biogas plants for commercial purposes did not change in the year 2021, it still stands at 9.7MWe, as in 2020.

Exemption from Licenses for the construction and operation of self-consumption power production plants

Conventional units for self-consumption, autonomous self-generating systems or reserve purposes

In 2021, 105 Exemptions were granted for the construction and operation of power plants using conventional fuels for self-consumption and reserve purposes and autonomous self-generation power systems, with a total installed capacity of 22.33MWe.

The total installed capacity of conventional plants for self-consumption and reserve purposes and autonomous self-generation power systems stands at 245.87MWe.

Renewable Energy Sources (RES)

Photovoltaic systems under the self-generation/net-billing scheme in commercial and industrial premises:

In 2021, 114 Exemptions were granted for the construction of photovoltaic power plants with an installed capacity of 10.6MWe and 59 Exemptions were granted for the operation of photovoltaic power plants with an installed capacity of 7,43MWe.

The total cumulative installed capacity of photovoltaic systems under the self-generation/net-billing scheme has increased in the year 2021 and has reached 22.6MWe.

Biomass/biogas systems under the self-generation/net-billing scheme:

In 2021, 1 License Exemption was granted for the construction of biomass/biogas energy generation systems with an installed capacity of 0.2MWe.

The installed capacity of biomass/biogas plants under the self-generation/net-billing scheme did not change in the 2021; it stands at 3.1MWe, as in 2020.

Figures 10 and 11, present the capacity of the exceptions from RES construction licence and from RES operation licence respectively, which were issued in the period 2005 - 2021.

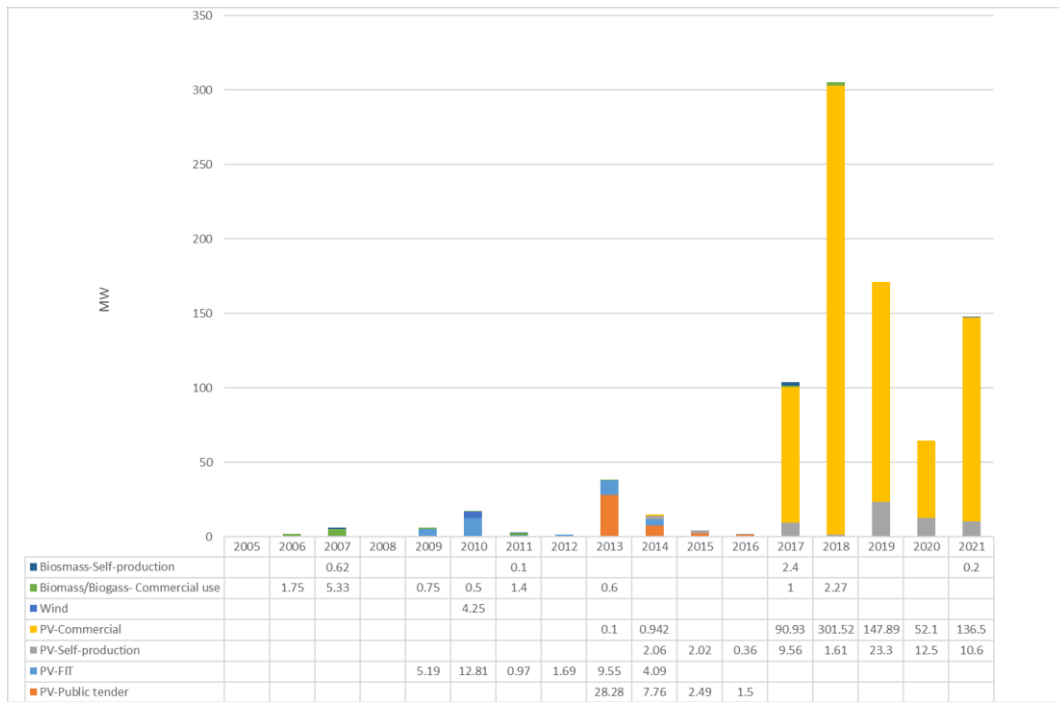


Figure 10. Capacity (MW) of exceptions from RES construction licence issued for the period 2005 – 2021

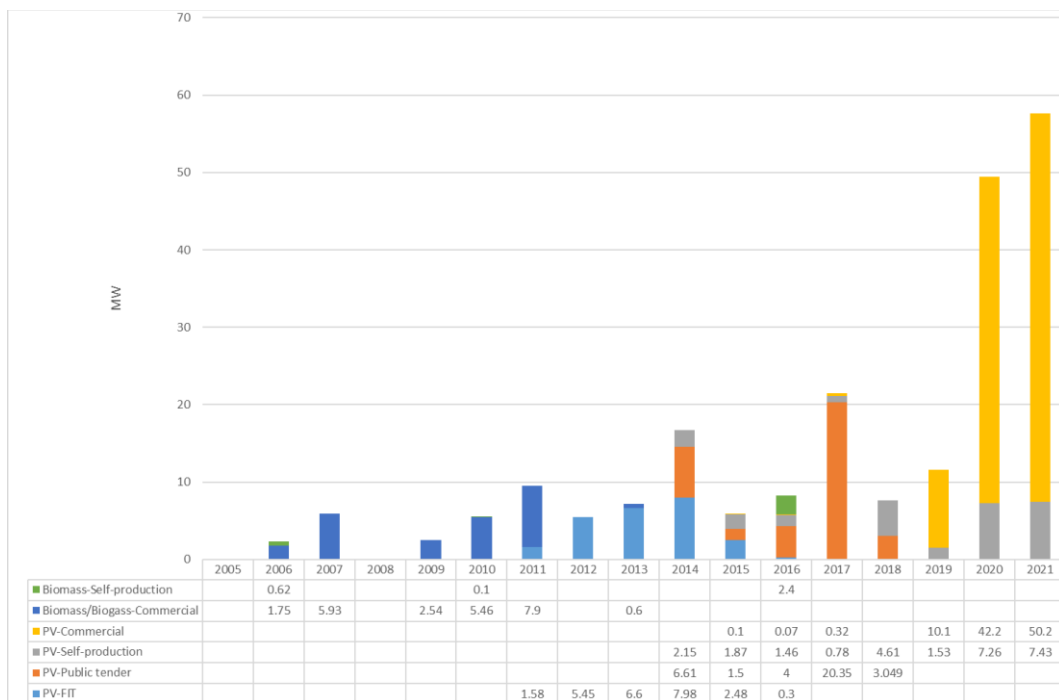


Figure 11. Capacity (MW) of exceptions from RES operation licence issued in the period 2005 – 2021

Photovoltaic systems with the method of net-metering

In 2021, 4,989 photovoltaic systems with a total installed capacity of 23.41MWe have been installed. In 2021, the total installed capacity of the photovoltaic systems under the net-metering category is 77.40MWe.

Figure 12 shows the number and capacity of installed PV systems with the method of net-

metering for the period 2013 - 2021.

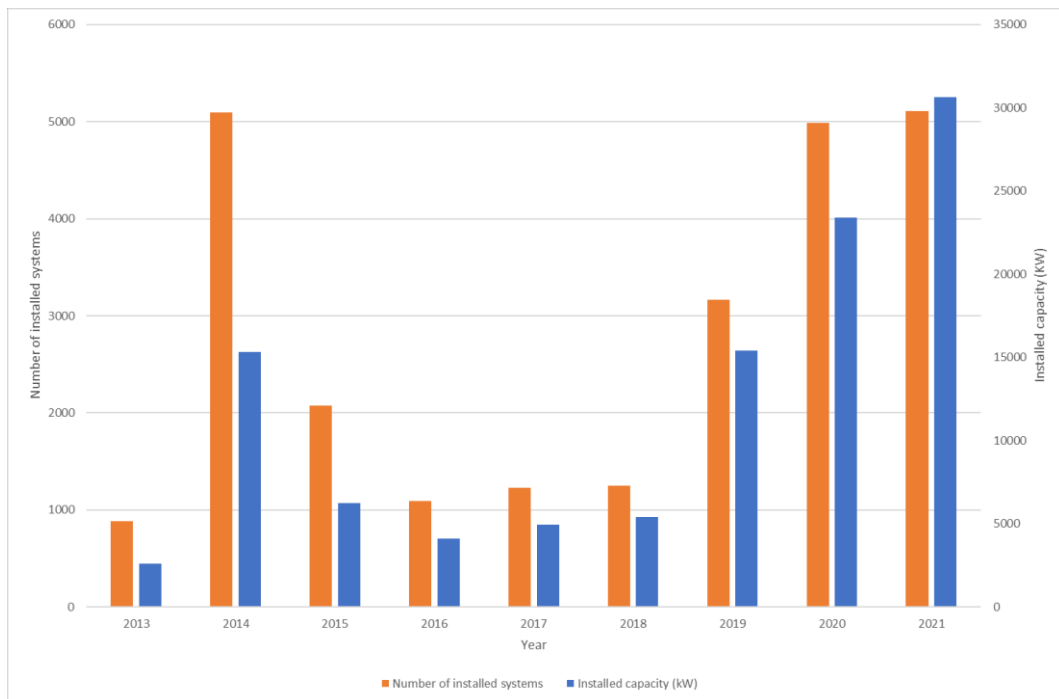


Figure 12. Number of installed systems per year and installed capacity (kW) of net-metering systems for the years 2013 – 2021

Figure 13 presents the geographical distribution of installed RES units with a capacity of more than 20kWp, until 2021. The Figure shows the equable distribution of RES units in the territory of the Republic of Cyprus.

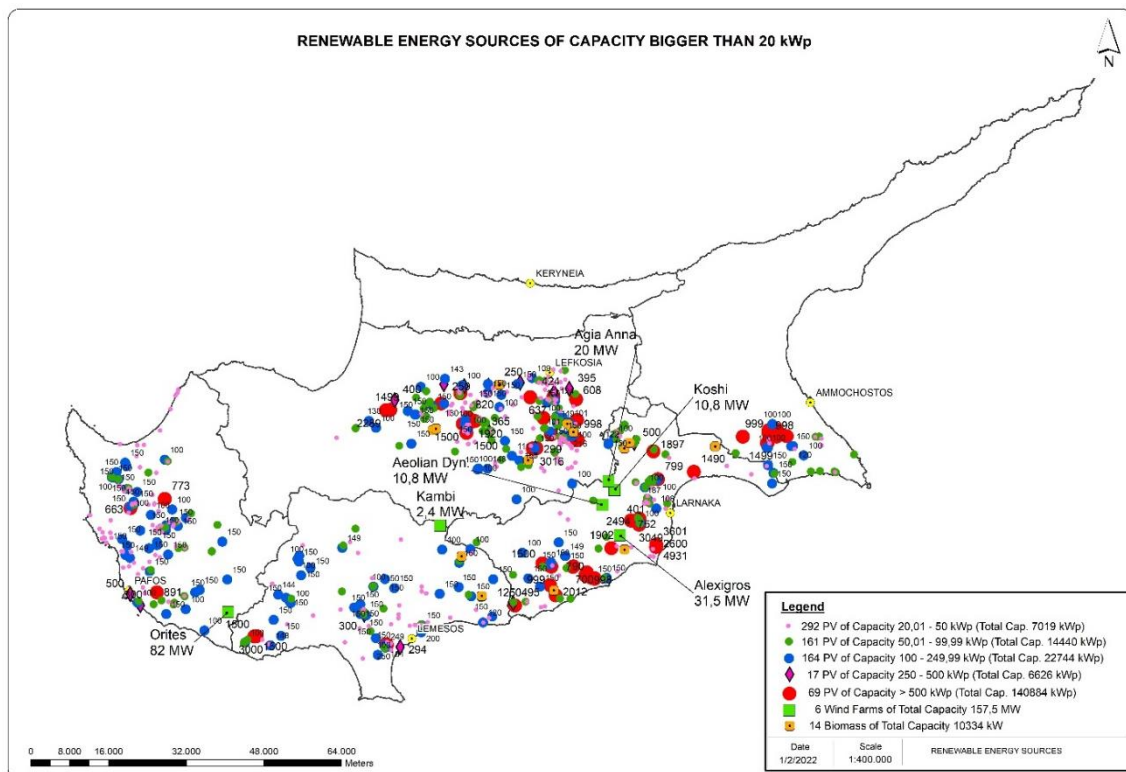


Figure 13. Geographical Distribution of installed RES Units with a capacity of more than 20kWp by 2021

Forecast of total maximum capacity (MW) and total generated energy (GWh) for the decade 2021 – 2030

On 4 June 2019, CERA approved the methodology submitted by the TSOC, concerning the long-term forecasting of electricity generation and capacity.

This methodology concerning the long-term forecasting of electricity generation and capacity, aims at the long-term forecasting of electricity generation as a function of the projected change in Gross National Product (GDP) and the change in the selling price of electricity to the consumer. The method of multiple linear regression is followed, with the dependent variable the normalized electricity generations and as independent variables the change in GDP, the change in the selling price of electricity to the consumer and the degree-days of heating and cooling. The changes in these prices are calculated in relation to the previous corresponding period.

Then, based on the calculated coefficients, the energy consumed by the final consumer in the distribution system (low voltage), is initially provided and then the total generation of the system (conventional generation and RES) is estimated, taking into account the losses at each voltage level and the self-consumption of the generating stations. In this way, the decreasing percentage of conventional generation in the energy mix is taken into account, due to the increasing penetration of generation by RES

Figures 14 and 15 illustrate the total energy generation (GWh) and maximum total capacity (MW) forecast for the period 2021 - 2030. These forecasts were submitted to CERA by TSOC on 21 May 2021. CERA approved this recommendation with Decision 163/2021.

The upper limit represents the expected demand in extreme conditions, that is conditions of prolonged heat wave in summer and low temperature in winter. The lower limit represents the expected demand in mild temperatures.

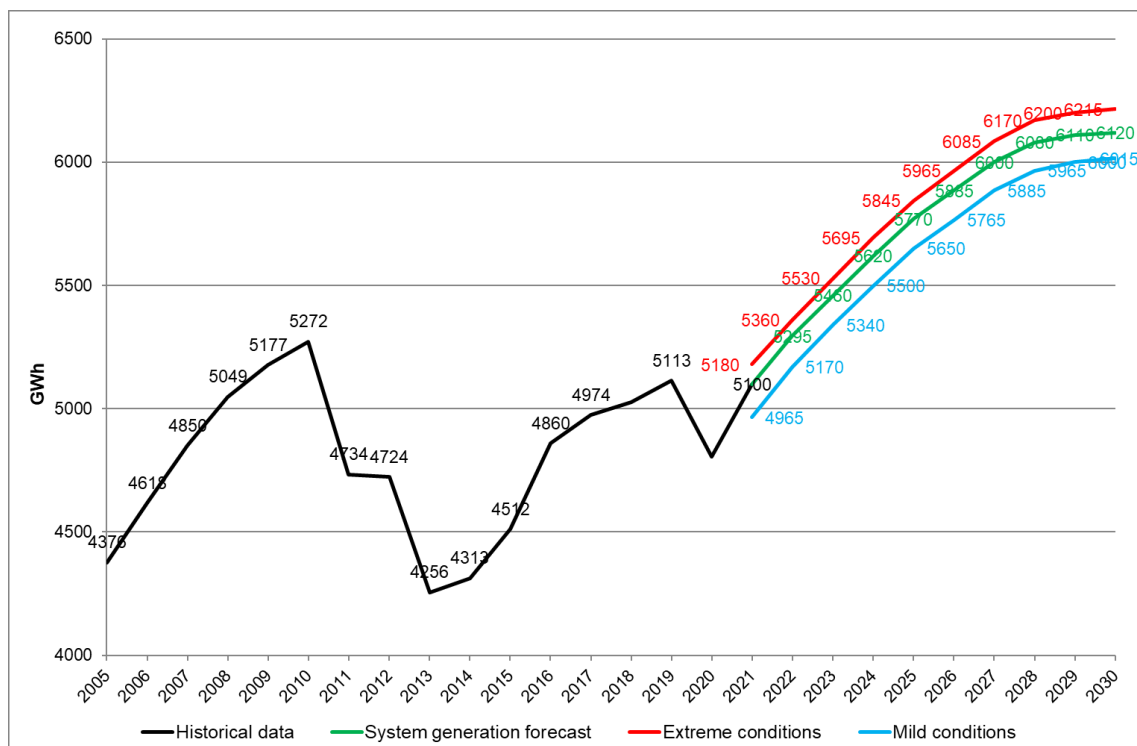


Figure 14. Forecast of total generated energy (GWh) 2021 – 2030

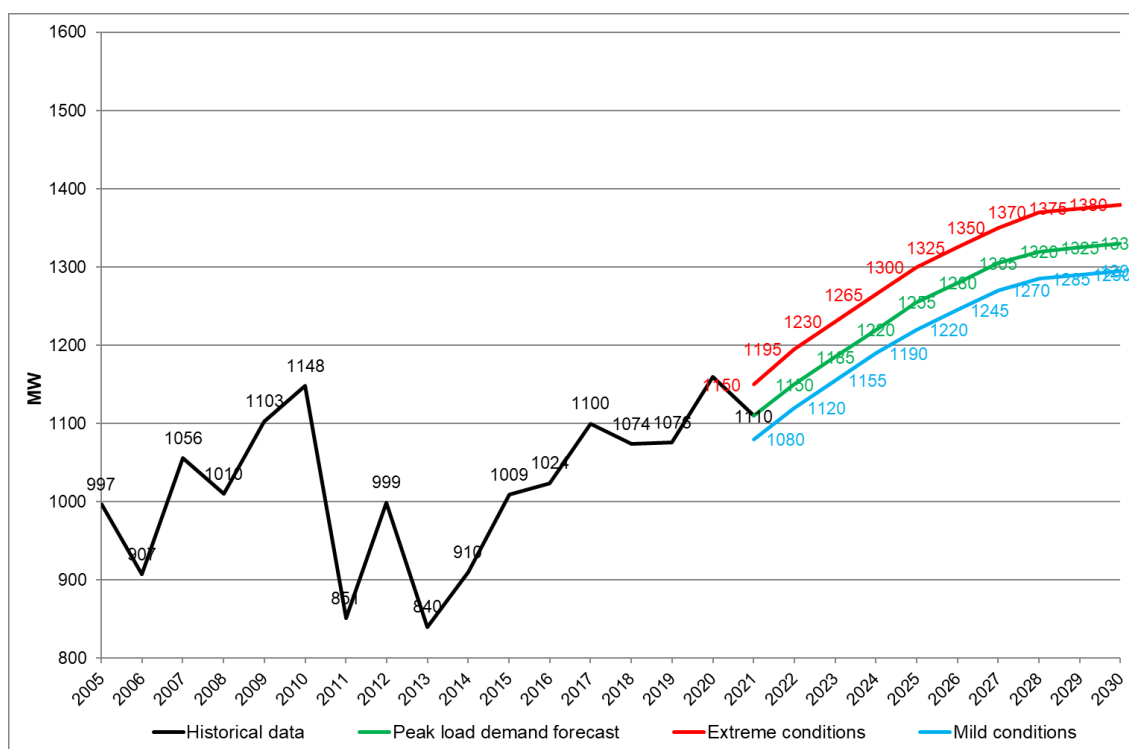


Figure 15. Forecast of maximum total capacity (MW) 2021 – 2030

3.1.5. Cross-border issues

On 19 November 2021, the European Commission approved the 5th PCI list in the energy sector which includes 98 projects: 67 electricity transmission and storage projects, 20 gas projects, 6 CO₂ network projects, and 5 smart grid projects. The projects that concern Cyprus and have been included in the 5th PCI list are the following:

- Israel - Cyprus - Greece cluster (currently referred to as the “EuroAsia Interconnector”). The cluster includes the following PCIs:
 - Electrical Interconnection between Hadera (Israel) and Kofinou (Cyprus) and
 - Electrical Interconnection between Kofinou (Cyprus) and Crete (Greece).
- Cluster of natural gas infrastructure and related equipment for the transmission of new gas resources from the offshore deposits of the Eastern Mediterranean, which includes the following PCI:
 - EastMed Pipeline - Natural gas pipeline outside Cyprus (offshore) to the mainland Greece via Crete and
 - Development of gas infrastructure in Cyprus, the so-called “Cyprus Gas2EU”.

By Decision 136/2021, dated 23 April 2021, having regard, among other things, to the request by the Implementation Body “Euroasia Interconnector Ltd” for the revision of the cross-border cost allocation agreement after the withdrawal of the former Project of Common Interest (PCI) “3.10.3 Internal line between Korakia, Crete (EL) and Attica region (EL)” from the updated EU PCI list, CERA decided to approve the agreement between the two regulatory authorities entitled “Joint Decision of the Hellenic Regulatory Authority for Energy (RAE) and the Cyprus Energy Regulatory Authority (CERA) with regards to clarifications and updates related to the Cross-Border Cost Allocation Agreement, of 10 October 2017, following the Commission Delegated Regulation (EU) 2020/389” Annex I, which concerns updated issues pertaining to:

- The rewording of the definitions of the words “Project” or “PCI” of the CBCA Agreement of 10th October 2017,
- The implementation time schedule for PCI 3.10.2,
- Ensuring the interoperability of PCI 3.10.2 and the Hellenic Electricity Transmission System (HETS), and
- Confirmation of the already agreed cross-border cost allocation, namely that 37% of the agreed implementation cost (according to the CBCA Agreement of 10 October 2017) is allocated to Greece and 63% to Cyprus, provided that 50% of the project will be funded by third parties.

It was also decided that this decision will be communicated to the Agency for the Cooperation of Energy Regulators (ACER) along with all the relevant information and to the Implementation of the Project and to be published in the Official Gazette of the Republic of Cyprus and on the CERA website.

In addition to the PCIs, which are included in the 5th list of key energy infrastructure projects, the implementation of the 2000MW electricity interconnection between Egypt and Cyprus is in progress. The project provides the implementation of the Egypt-Cyprus electricity interconnection, using high voltage continuous flow submarine cables (HVDV) with a transmission capacity of 2000MW. In addition, the project provides that the interconnection will be completed in two phases, with the first phase providing the capacity of 1000MW. In 2021 CERA was in close contact with the Egyptian Energy Regulatory Authority “EGYPTERA” in order to track all the required actions and define the necessary procedures at the level of regulatory supervision, so that the implementation of this project will be promoted.

3.2. Competition and market functioning

3.2.1. Wholesale markets

The Electricity Market was liberalised by 35% with effect from 1 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 January 2014 the market is fully liberalised and all consumers of electrical energy are able to choose their supplier.

During the period of this report, Cyprus is in a transitory regulation of the electricity market during which certain transactions are permitted. In particular, in the context of the market opening transitory period, RES producers and electricity suppliers are active. In the first quarter of 2021, in addition to the “EAC Supply”, another two suppliers entered the electricity supply sector. These two private suppliers buy green energy which is produced by RES producers and primarily supply commercial and industrial electricity customers under bilateral contracts.

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

In 2015, CERA published the Regulatory Decision 01/2015 by which CERA decided to adopt a study titled “The new electricity market arrangements in Cyprus”. The study proposes a design regarding the new electricity market arrangements in Cyprus, based on the decision for implementing a net-pool model as being the most appropriate trading arrangement approach for the Cyprus electricity market, which is fully compliant with the EU target model.

Following the above decision, in 2017, by Regulatory Decision 04/2017, CERA decided on the implementation of transitory regulation of the electricity market in Cyprus prior the full implementation of the new electricity market model. The transitional period is based on bilateral contracts between producers and suppliers for the supply of a standard quantity of electricity (kWh) on a monthly basis. The implementation and operation of transitory regulation does not require a market software, due to the fact that the related tasks are relatively simple and can be implemented with simple spreadsheets.

The transitory regulation of the electricity market in Cyprus started on 1 September 2017 and will be in force until the full implementation of the new electricity market model where the activities of all market participants, EAC-Generation and EAC-Supply will be transferred to the new electricity market.

As a measure of supplier concentration in the competitive Cyprus electricity market, the Herfindahl-Hirschman Index (HHI) was used, which is calculated by taking the sum of the squared market shares of all the firms in the market. Market shares can be calculated based on final consumption and the number of customers or the metering points. For a result of:

- HHI = 0 – 1500, is considered a competitive marketplace,
- HHI = 1500 – 2500, is considered moderately competitive (a partially concentrated market),
- HHI > 2500, cannot be considered competitive (highly concentrated marketplace)
- HHI = 10000, is considered a monopoly, i.e., with only one participant in the marketplace.

EAC is currently, in effect, the largest and only vertically integrated electricity corporation, a fact which:

- Classifies the EAC-Generation activity in a position of strength in the wholesale electricity market which is substantiated by historical data of the HHI Index (Figure 16). It is concluded that the wholesale electricity market of Cyprus is classified as a highly concentrated marketplace and in particular without competition and this is due to the position of strength of EAC's generation activity.
- Classifies the EAC-Supply activity in a position of strength in the retail electricity market which is substantiated by historical data of the HHI Index (Figure 17). It is concluded that the retail electricity market of Cyprus is classified as a highly concentrated marketplace and in particular without competition and this is due to the position of strength of EAC's Supply activity.

Based on the above, it is ascertained that due to the size and position of the EAC, there is no effective competition in the wholesale and retail markets.

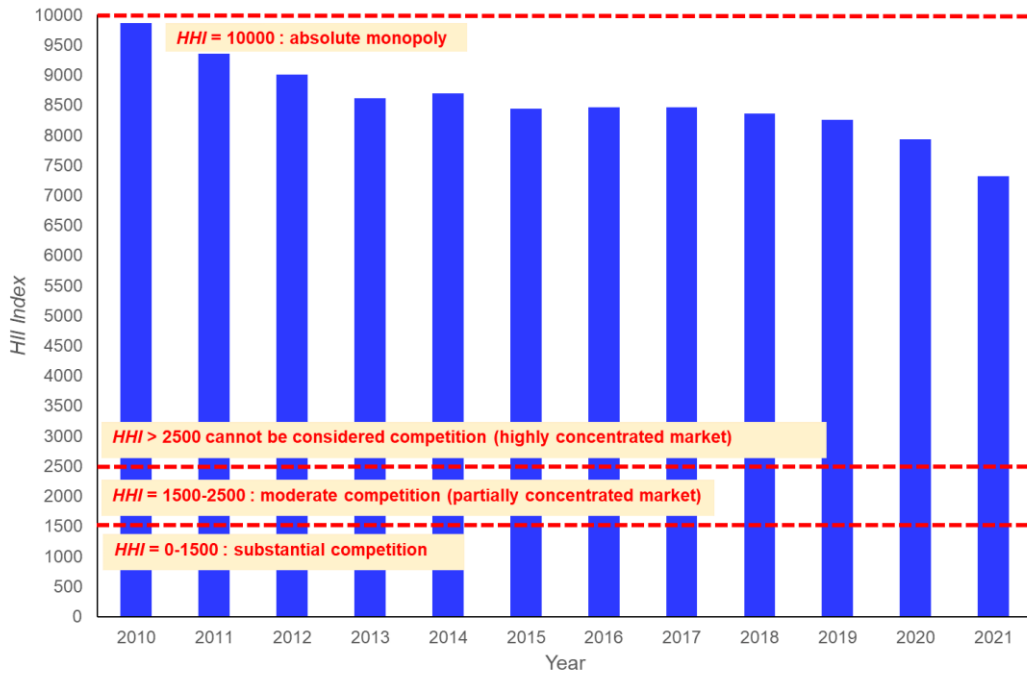


Figure 16. Concentration of electricity market (wholesale market) for the year 2021



Figure 17. Concentration of electricity market (retail market) for the year 2021

Monitoring the level of prices

By Decision 15/2021, CERA approved the Allowed revenue and Regulated Basic Electricity Tariffs for 2021. The Allowed Revenues for 2021, include cost-plus adjustments for 2019, based on the Methodology of Allowed Revenue Adjustments issued by CERA pursuant to which there was a decrease of 3.2%, on average, in the total of Regulated Electricity Tariffs, for 2021. A breakdown of the Allowed revenue and Regulated Basic Electricity Tariffs for 2021 is presented in Table 6 (next section 3.2.2.).

The following Table 4 presents the Wholesale Tariff (T-W) for Year 2021 which concerns wholesale electricity selling prices of EAC-Generation at the basic fuel price (€300/Metric Ton).

Table 4. Wholesale Tariff (T-W)

Period	Summer (1 June – 30 September)	
	Weekday	Weekend/Holidays
Peak Hours (09:00 - 23:00)	12.94	8.10
Off Peak Hours – All Days (23:00 – 09:00)	7.86	7.67
Period	Other Seasons (1 January – 31 May / 1 October – 31 December)	
	Weekday	Weekend/Holidays
Peak Hours (16:00 - 23:00)	8.19	7.87
Off Peak Hours – All Days (23:00 – 16:00)	7.34	6.98

The Wholesale Tariff (T-W) is adjusted based on the Weighted Average Fuel Price, which is announced by EAC every month, and the Fuel Clause Coefficient for customers at high voltage, which is approved by CERA every 6 months adjusted with the loss adjustment factor at high voltage for each month. The approved Fuel Clause Coefficients and Basic Prices for the adjustment of the wholesale tariff T-W and for the purchase of energy from RES as well as the Basic Purchase Price of RES-generated energy for the period July - December 2021, as set by CERA's Decision 232/2021 are shown at the Table 7 (next section 3.2.2.).

Figure 18 presents the average price of the basic Wholesale Tariff (T-W) per unit exported in the transmission system for the years 2016 to 2021 (in €c / kWh).

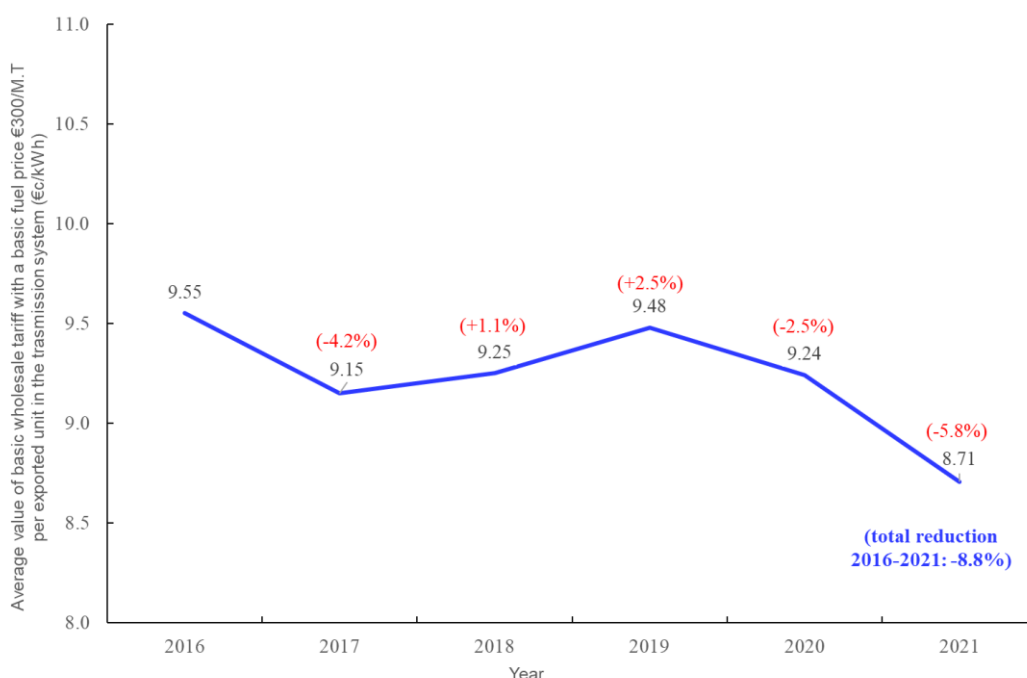


Figure 18. Average value of the basic wholesale tariff

3.2.2. Retail market

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

Market opening and competition

During 2021, EAC-Supply (the dominant supplier) along with 2 other suppliers were active in transitional electricity market.

In 2021, 3 applications were submitted, and 3 licenses have been granted for supply licence of electricity to end consumers for the period of validity of the transitory regulation of the electricity market.

For the period of validity of the transitory regulation of the electricity market, CERA has granted a total of 19 licenses for supply of electricity and has rejected 1 application.

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 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 situation can be justified. Statistics regarding the retail market concentration are presented in the above Figure 17.

Trading and Settlement Rules

According to the Law Regulating the Electricity Market of 2021 L.130(I)/2021, the TSRs:

- Govern the mechanisms, prices and other terms and conditions that apply in cases where licensees buy or sell electricity based on arrangements made by the TSOC.
- Ensure that licensees, who are required to participate in the purchase and sell of electricity, under these arrangements, will not be subject to discrimination.
- Promote efficiency and economy and facilitate competition regarding the purchase and sale of electricity under these arrangements.
- They provide non-compliance charges which the TSOC, in its capacity as the Electricity Market Operator, imposes on any of the participants in the electricity market in case of failure to comply with any obligation provided in the Trading and Settlement Rules.
- They are fully harmonized with the provisions of Regulation (EU) 2019/943, where applicable.

The TSRs are adhered to be all final customers that directly or cumulatively participate in the electricity market, licensees or persons that have been granted exemptions, based on the provisions of Article 27 to the extent that is required by their licenses or exemptions.

On 3 November 2021, CERA approved the amendments to the TSRs that were proposed by the TSOC – Version 2.0.3 (Decision No. 334/2021). The amendments related to changes in order to facilitate the process of outsourcing the actions required to fulfil the obligations arising from the participation in the wholesale electricity market to a Clearing House and the outsourcing of credit risk management to a Coverage Body in the event of a deficit arising from the failure Participant to meet his financial obligations, arising from his participation in the market. Given the time required by the TSOC for the supply of the relevant software and

hardware for their implementation, the relevant TSRs will be published in the Official Gazette of the Republic of Cyprus at a later date that, based on the provisions of the Law, they will enter into force, by CERA's Decision.

Also, during the year in question, TSOC proceeded to the legalized procedures for the revision of the TSRs in the context of complying with the provisions of CERA's Regulatory Decision No. 03/2019 (KDP 224/2019) "regarding the Establishment of the Basic Principles of the Regulatory Framework for In-Front-Of-The-Meter Electricity Storage Facilities in the Wholesale Electricity Market". This task was finalized around the end of 2021 and expected to be approved in early 2022.

Based on the provisions of the Electricity Law, until the publication of the revised TSRs in the Official Gazette of the Republic, the provisions of Regulatory Decision No. 04/2017 - KDP 223/2017 "Regarding the implementation of the transitional arrangements of the electricity market in Cyprus prior the full implementation of the new Electricity Market Model" and the Transitory Regulations of the Electricity Market which entered into force based on CERA Decision No. 118/2017, shall apply. The last revised version of the Transitory Regulations the year under review, is version 1.7 (Decision No. 278/2021, dated 03 September 2021).

Consumption and average sales

The total consumption of customers and the average consumption by type of consumer is given in Table 5.

Table 5. Consumers, total and average sales

CONSUMERS, TOTAL & AVERAGE SALES						
As of 31 December	2016	2017	2018	2019	2020	2021
NUMBER OF CONSUMERS						
Domestic	442,293	444,895	450,318	454,490	459,482	467,936
Commercial	86,494	87,065	88,152	88,999	89,294	90,251
Industrial	9,596	9,760	9,975	10,209	10,422	10,351
Agricultural	15,886	15,902	16,194	16,239	16,337	16,485
Public Lighting	11,287	10,878	11,584	11,771	11,935	12,169
TOTAL	565,556	568,500	576,223	581,708	587,470	597,192
SALES TO CONSUMERS (MWh)						
Domestic	1,567,312	1,641,033	1,622,544	1,686,934	1,723,002	1,749,897
Commercial	1,728,200	1,755,094	1,816,143	1,854,824	1,572,008	1,686,441
Industrial	819,693	856,422	883,962	848,901	761,327	790,034
Agricultural	155,638	156,453	154,878	138,786	147,670	168,184
Public Lighting	87,648	86,578	91,137	85,937	68,511	56,924
TOTAL	4,358,491	4,495,580	4,568,664	4,615,382	4,272,518	4,451,480
AVERAGE SALES PER CONSUMER (kWh)						
Domestic	3,544	3,689	3,603	3,712	3,750	3,740
Commercial	19,981	20,158	20,602	20,841	17,605	18,686
Industrial	85,240	87,748	88,618	83,152	73,050	76,324
Agricultural	9,797	9,839	9,564	8,546	9,039	10,202
Public Lighting	7,765	7,959	7,867	7,301	5,740	4,678

Supplier of Last Resort

By Decision 166/2021, dated 26 May 2021, having in regard Decision 24/2021, dated 15 January 2021, concerning the detailed terms and procedures for call for expression of interest for the selection of a supplier of last resort in the Cypriot electricity market for a two-year period and the consultations that were conducted with the CERA licensees, electricity suppliers to final customers, and license applicants for the supply of electricity to final customers, CERA decided to approve the draft of the Call for Expression of Interest for the selection of a Supplier of Last Resort in the Cypriot Electricity Market for a two-year period. In addition, CERA decided for the Call for Expression of Interest for the selection of a Supplier of Last Resort in the Cypriot Electricity Market for a two-year period to be published in two daily newspapers, to be posted to the CERA website, to be published in the Official Gazette of the Republic of Cyprus, and to be notified to the competent agencies of the European Commission.

Due to the lack of interest, CERA re-designated EAC-Supply as the Supplier of Last Resort in the electricity market for 2021, according to the Regulatory Decision 02/2020 where in case of no interest in up taking the position of the Supplier of Last Resort then the supplier with the largest electricity market share per consumer class is designated by CERA on that position.

Tariffs at which consumers will enjoy the right of a universal service under the status of the Supplier of Last Resort are defined as the respective tariff categories of EAC-Supply and will be invoiced on the basis of the approved adjustable tariffs according to Regulatory Decision 02/2015 "Declaration of Regulatory Practice and Methodology of Electricity Tariffs" and its respective amendments or revisions that apply to the other customers of EAC-Supply, who belong to the same category of consumers.

Switching procedure

According to the Law Regulating the Electricity Market in Cyprus of 2021, when customers wish, while respecting contractual conditions, to switch supplier or market participant engaged in aggregation, the switch will be made by the interested supplier within a maximum of three weeks from the date of the request. These rights are granted to all customers without discrimination in relation to cost, effort or time. In addition, customers are not charged for the change of supplier.

By January 2026, the technical process of switching supplier shall take no longer than 24 hours and shall be possible on any working day.

The right to switch supplier or market participants engaged in aggregation is granted to customers in a non-discriminatory manner as regards cost, effort and time.

Household customers shall be entitled to participate in collective switching schemes. To achieve this purpose, CERA is in the process of defining, by Regulatory Decision, the framework according to which suppliers may provide the possibility of collective switching of suppliers, which will ensure the elimination of any regulatory or administrative barriers and the greatest possible protection of consumers against abusive practices.

Until 2021, there was only one active supplier for the household market, therefore switching was not available yet for the household market.

Monitoring the level of prices

By Decision 15/2021, CERA approved the Allowed revenue and Regulated Basic Electricity Tariffs for 2021 as presented in Table 6. The Allowed Revenues for 2021, include cost-plus adjustments for 2019, based on the Methodology of Allowed Revenue Adjustments issued by CERA pursuant to which there was a decrease of 3.2%, on average, in the total of Regulated Electricity Tariffs, for 2021.

Table 6. Approved Permitted Revenue of Regulated Activities for the Year 2021

Recovery from Tariff	Initially Allowed Revenues 2021	Ex-cost adjustments	Allowed revenues 2021 approved by CERA
Wholesale electricity tariff (T-W) at basic price	358,674,499	1,515,305	360,189,804
Purchase of RES energy at basic price	41,898,403	-5,259,922	36,638,481
Use of Transmission System Tariff (36kV and above) (T-NH)	87,190,792	-10,722,739	76,468,053
Use of Distribution System Tariff (medium and low voltage), which includes a charge component related to the DSO (T-NM, T-NL)	17,075,978	-49,738	17,026,240
Tariff for Business Management Services provided to customers (invoicing, etc) (T-BM)	32,111,211	-629,800	31,481,411
Tariff for the provision of Ancillary Services and long-term reserve (T-AS)	6,244,000	-1,921,300	4,322,700
Tariff for the recovery of expenses of the TSO (T-TSO)	3,718,994	0	3,718,994
Tariff for the recovery of expenses of metering incurred by the DSO (T-MET)	51,547,413	-7,819,150	43,728,263
Supply tariffs and electricity market charges to the end consumer (T-RET)	598,838,036	-4,593,904	594,244,132

The determination of the allowed revenues of each regulated activity and the new, cost-oriented tariffs contribute to greater transparency and set the benchmark on which stakeholders interested in participating in the electricity market will be based.

Figure 19 presents historical data for each of the years 2016 to 2021 (in €c / kWh) for the EAC permitted revenues per unit sold.

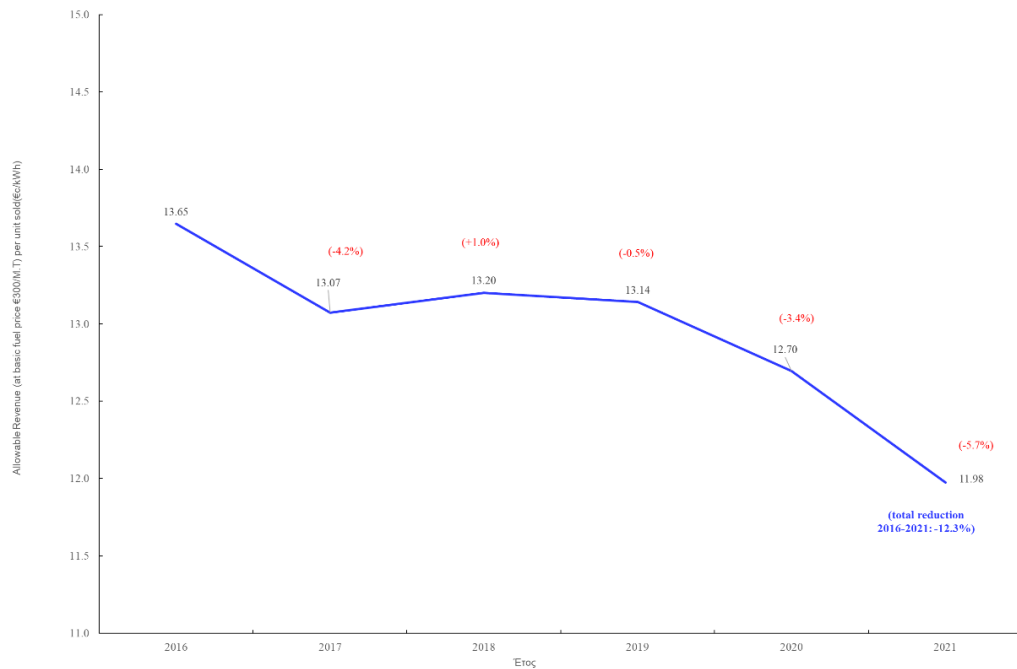


Figure 19. Allowed EAC Revenue per unit sold, for the years 2016 to 2021

By Decision 26/2021, CERA approved the Electricity Tariff Plans for 2021, as submitted by EAC-Supply and instructed EAC-Supply to publish the approved Electricity Tariff Plans to properly inform electricity consumers and other participants in the electricity market.

The following Figures present data pertaining to the final electricity price for various tariffs (includes the cost of fuel and CO₂ emission allowances over €300/MT), as well as data that affect the tariff amounts.

Figure 20 presents the analysis of the fuel price adjustment (€/kWh) that was charged per kilowatt-hour to Low-Voltage consumer bills from January 2017 to December 2021, regarding fuel, cost of purchasing CO₂ emissions allowances and the cost of the Cyprus Organization for Storage and Management of Oil Stock (COSMOS). From June 2020 to January 2021, there was a negative impact on the fuel adjustment cost since the cost of fuel fell below € 300/MT.

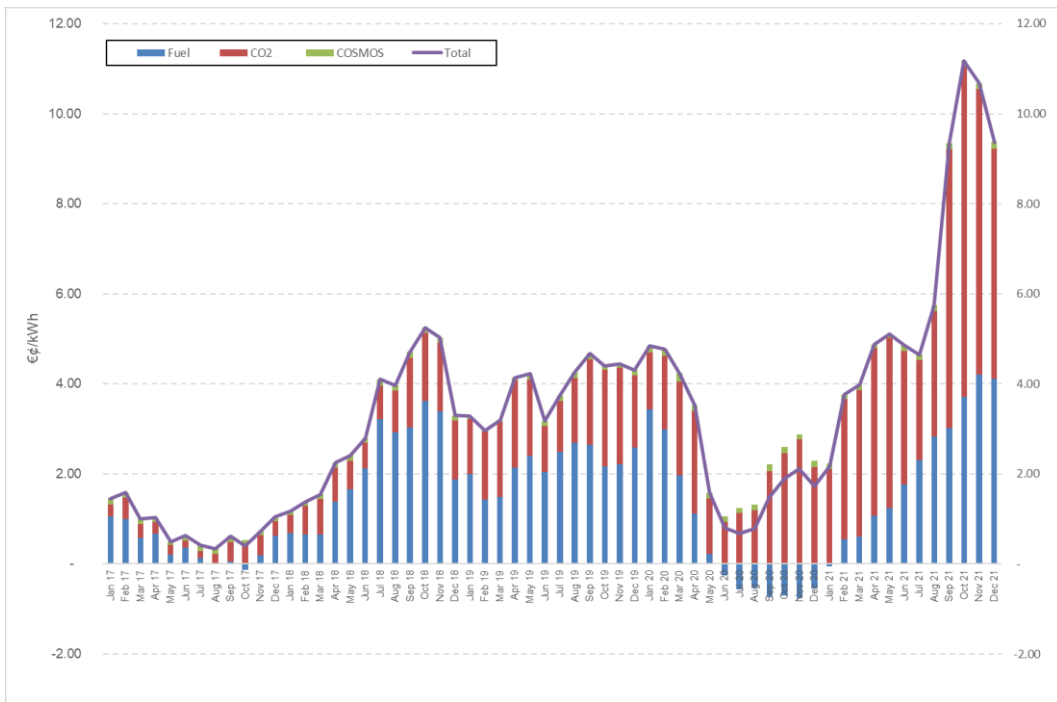


Figure 20. Analysis of the cost of fuel adjustment, Low Voltage (€/kWh)

Figure 21 shows the movement of the Weighted Average Cost of Fuel (WACF) (including the cost of purchasing greenhouse gas emissions allowances) and the WACF that only includes the cost of fuel portion, from December 2012 to December 2021.

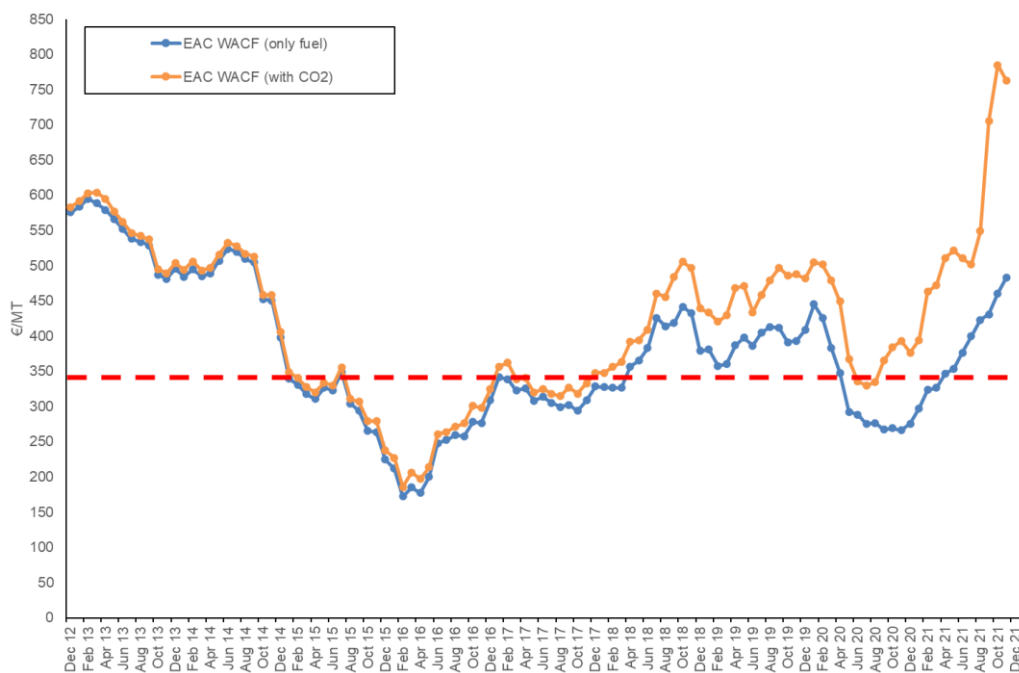


Figure 21: WACF of EAC Generation (only fuel, including CO2 cost)

Figure 22 shows the fuel mix from January 2015 to December 2021 that has been consumed for electricity generation. As it appears in the Figure, from March to May 2021, there was an increase in Heavy Fuel Oil consumption for electricity generation, which remains high (86%-87%). In the second half of 2021, the correlation was differentiated on average for HFO: 63%, GasOil: 37%.

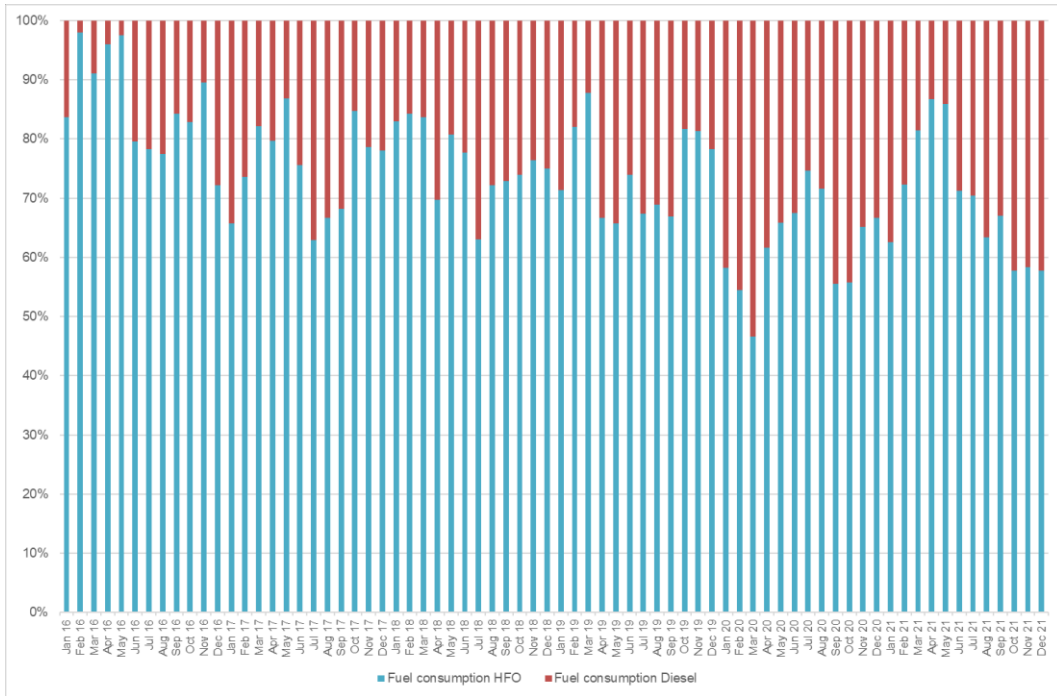


Figure 22: Fuel mix for EAC electricity generation (consumption %)

Figure 23 shows the total and average unit cost for the purchase of greenhouse gas emission allowances from January 2017 to December 2021.

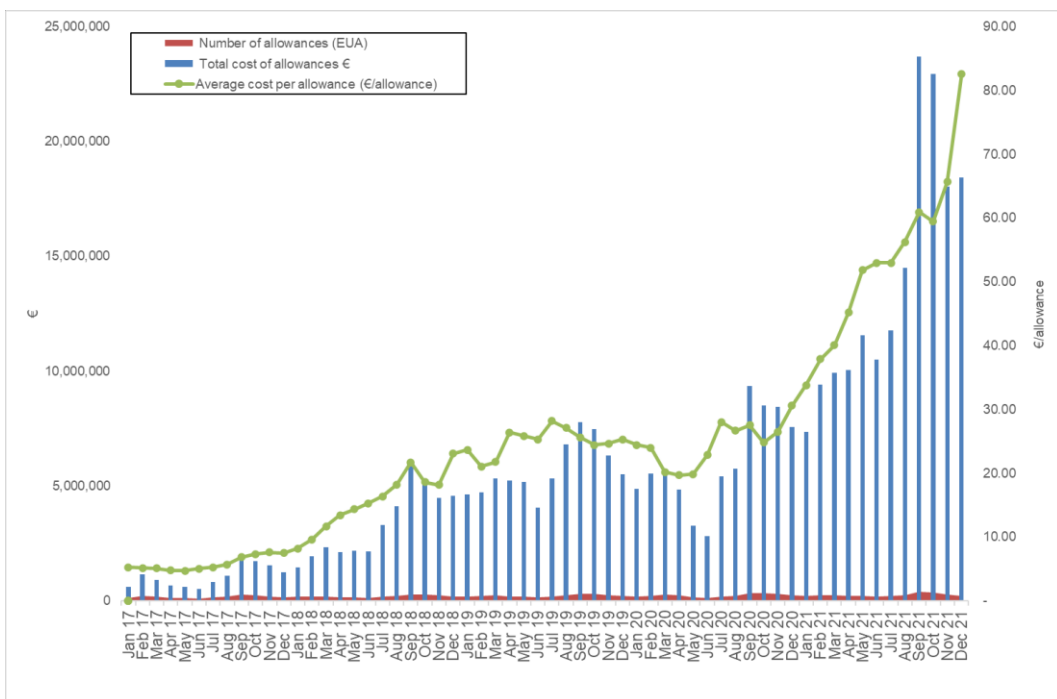


Figure 23: Total cost of CO2 emission allowances by EAC Generation, average cost per allowance

Figure 24 shows the number of greenhouse gas emission allowances that have been purchased by EAC Generation for the same period.

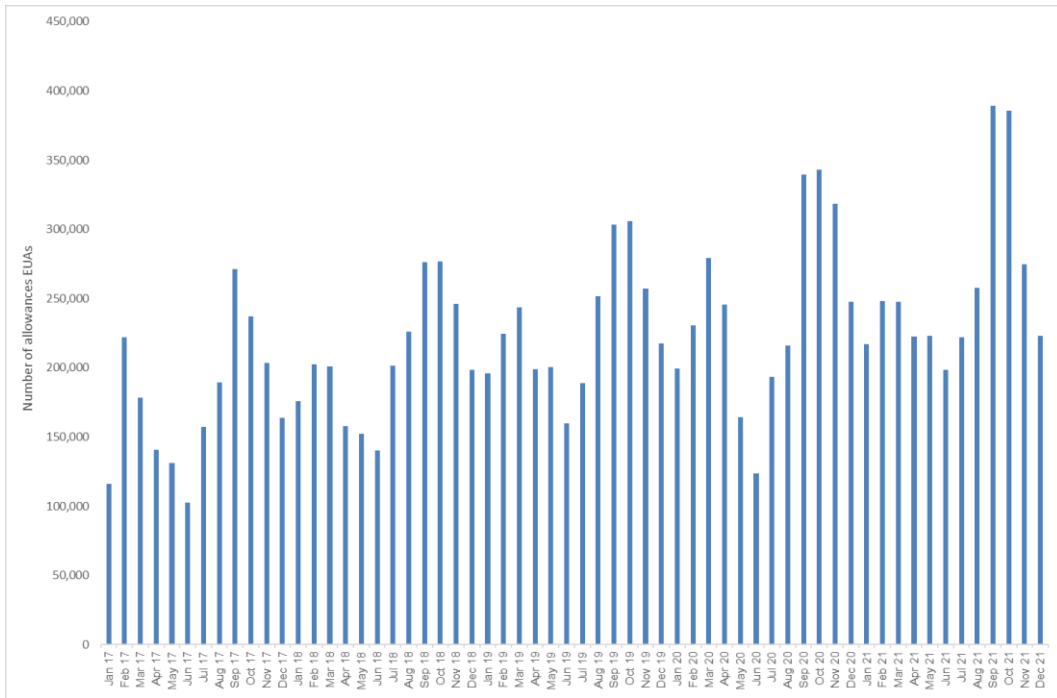


Figure 24: Number of CO2 allowances that were purchased by EAC Generation

Figure 25 shows the average tariff for household use (code 01) with a bi-monthly consumption of 600kWh from December 2012 to December 2021, inclusive of VAT and RES fee.

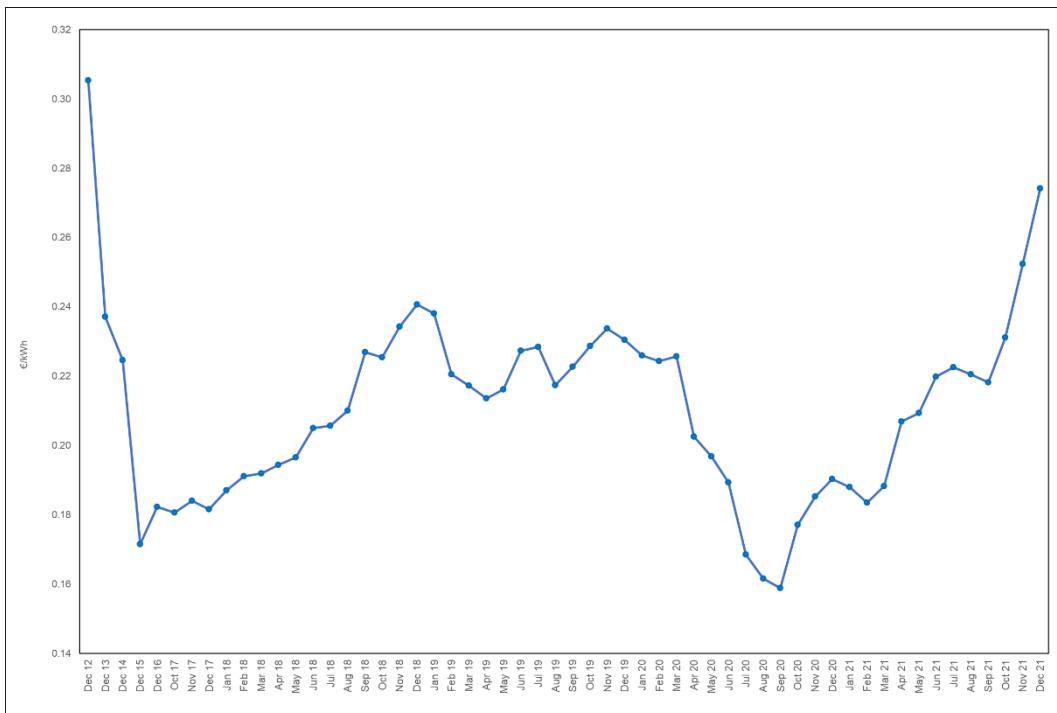


Figure 25: Average tariff for household use (code 01)

Figure 26 shows the percentage of the Public Service Obligations (PSO), VAT and RES fee on the total bill amount for an average household consumer (bi-monthly consumption 600kWh) from October 2017 to December 2021.

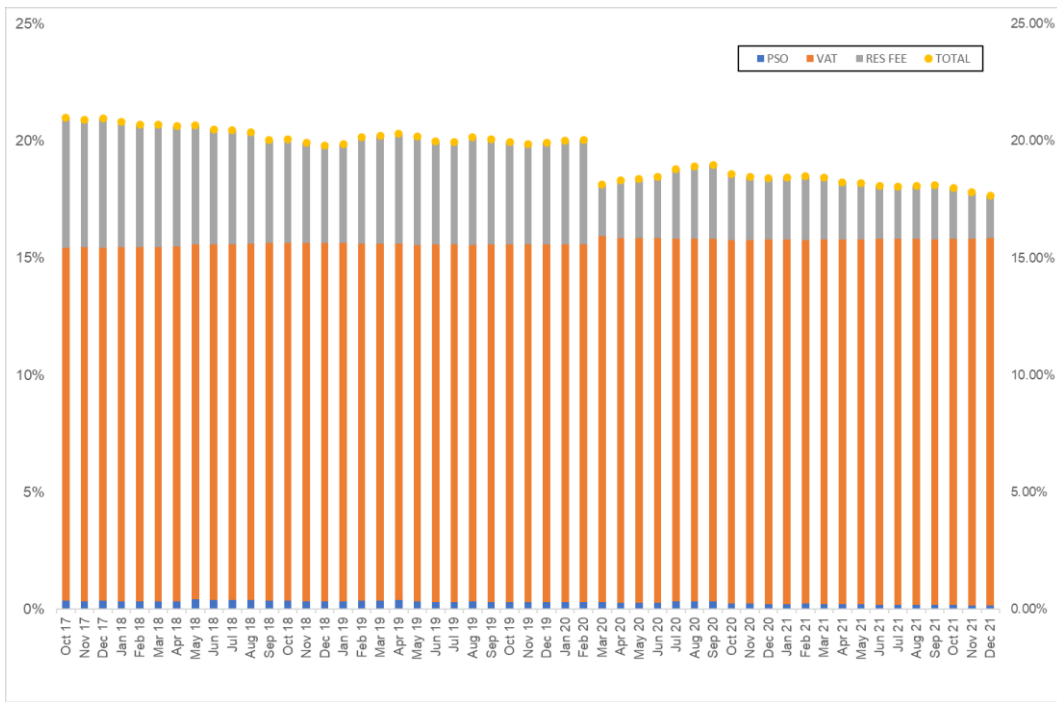


Figure 26: PSO, VAT and RES analysis for Tariff 01

Figure 27 shows the average Tariff 10 - Bi-monthly Low Voltage Single Rate Commercial Use Tariff - from October 2017 to December 2021, inclusive of VAT and RES fee.

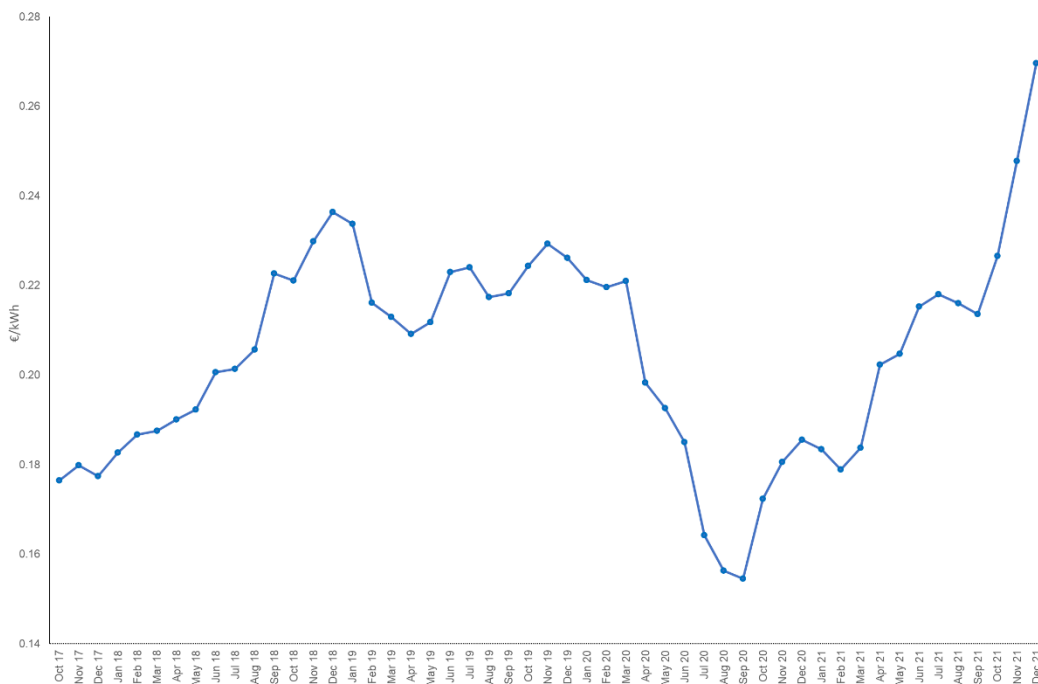


Figure 27: Average Commercial and Industrial Use Tariff (code 10)

Figure 28 shows the average Tariff 30 - Monthly Low Voltage Seasonal Two-Rate Commercial and Industrial Use Tariff - from October 2017 to December 2021, inclusive of VAT and RES fee.

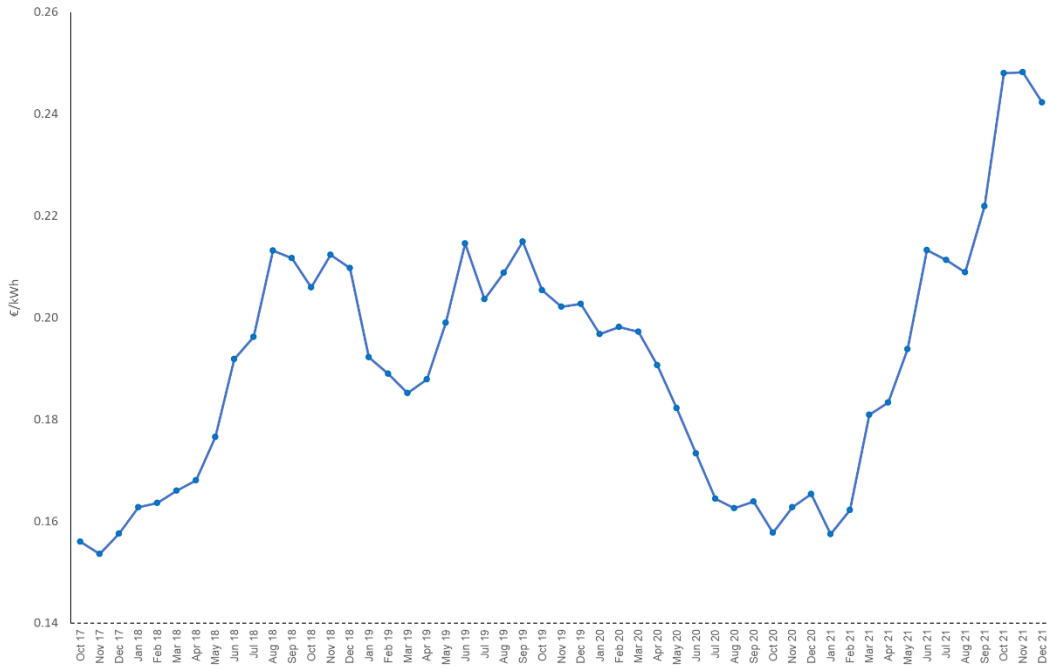


Figure 28: Average Monthly Low Voltage Seasonal Two-Rate Commercial and Industrial Use Tariff (code 30)

Figure 29 shows the average Tariff 40 - Monthly Medium Voltage Seasonal Two-Rate Commercial and Industrial Use Tariff - from October 2017 to December 2021, inclusive of VAT and RES fee.

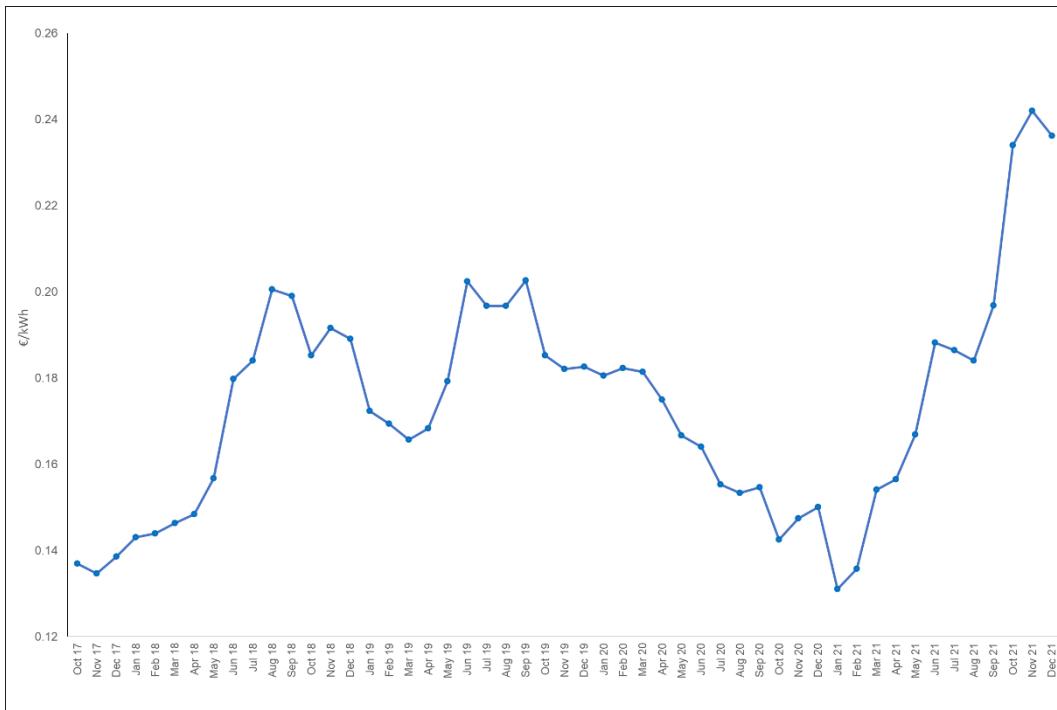


Figure 29: Monthly Medium Voltage Seasonal Two-Rate Commercial and Industrial Use Tariff (Code 40)

Figure 30 shows the average Tariff 50 - Monthly High Voltage Seasonal Two-Rate Commercial and Industrial Use Tariff - from October 2017 to December 2021, inclusive of VAT and RES

fee.

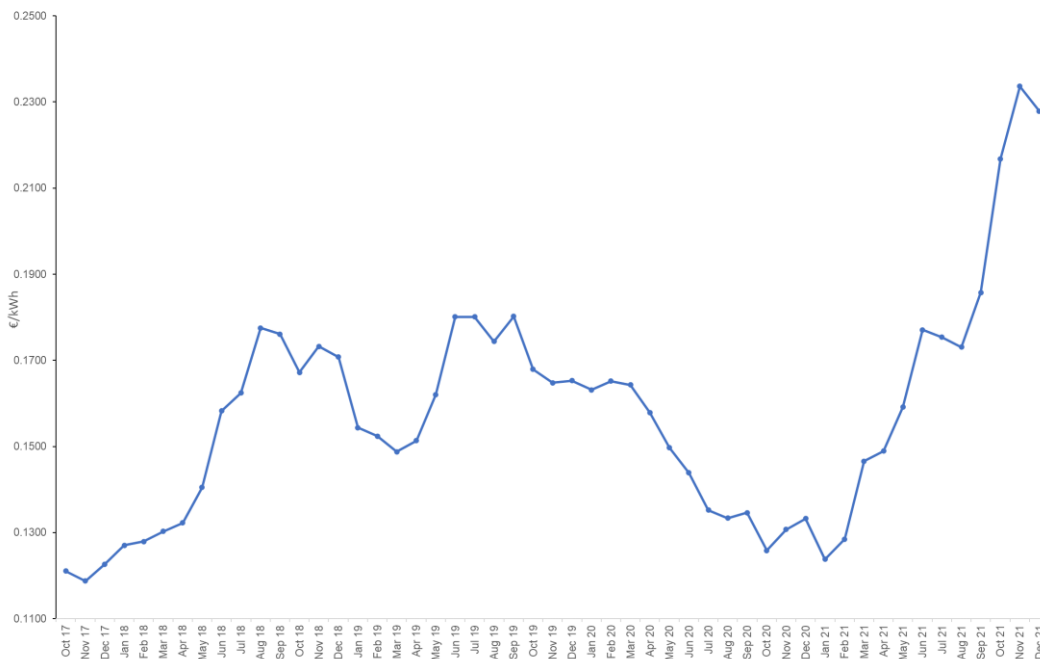


Figure 30: Monthly High Voltage Seasonal Two-Rate Commercial and Industrial Use Tariff (code 50)

We observe in the above Figures that in 2021, the electricity tariffs of all categories had an upward trend compared to the previous years of the regulatory period 2017 - 2021.

The increase in the average tariffs in 2021 is due to the increase in the cost of fuel in electricity generation, due to the global increase in the cost of fuel, but also due to the increase in the cost of purchasing greenhouse gas emission allowances.

EAC Supply Invoice Analysis

Figure 31 shows the analysis of the electricity supply invoice per charge category, for a typical household consumer with bi-monthly consumption of 600 kWh in December 2021, at the basic price (i.e. excluding fuel adjustment).

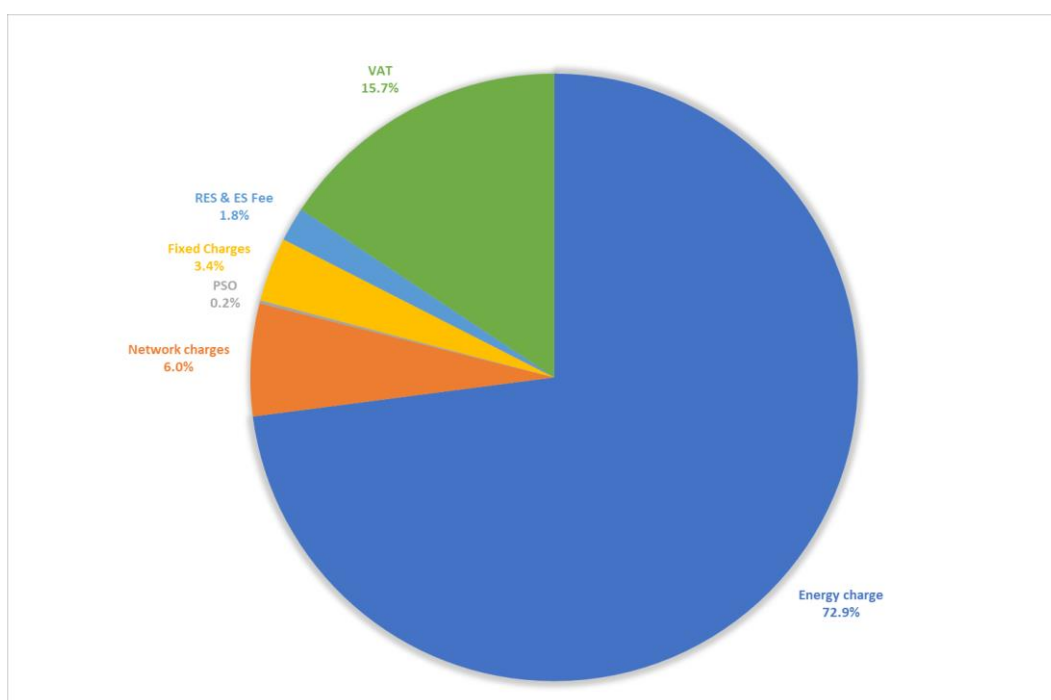


Figure 31. Electricity supply invoice analysis for a typical household consumer with bi-monthly consumption of 600 kWh (% on the final invoice), December 2021

Fuel clause coefficients

By Decisions 190/2022 and 232/2021, CERA approved the Fuel Clause Coefficients and Basic Prices for the adjustment of the wholesale tariff T-W and for the purchase of energy from RES as well as the Basic Purchase Price of RES-generated energy for 2021, as listed in Table 7.

Table 7. Fuel clause coefficients and base prices, for 2021

Coefficients for fuel adjustment clause for consumers		
	January – June 2021	July – December 2021
	€/kWh/ 1€	€/kWh/ 1€
Low voltage	0.00022690	0.00023064
Medium voltage	0.00022351	0.00022779
High voltage	0.00022058	0.00022532
Coefficients for fuel adjustment clause for electricity from RES		
	€/kWh/ 1€	€/kWh/ 1€
Low voltage	0.00022351	0.00022779
Medium voltage	0.00022058	0.00022532
High voltage	0.00021712	0.00022214
Basic purchase prices of RES energy		
	€/kWh	€/kWh
Low voltage	7.016	7,065
Medium voltage	6.928	6,991
High voltage	6.824	6,896

Smart Metering

According to the Law Regulating the Electricity Market in Cyprus of 2021, CERA by Regulatory Decision determines the appropriate framework to ensure the deployment of smart metering systems throughout the territory of the Republic of Cyprus, with the aim of assisting the active participation of consumers in the electricity market.

The Regulatory Decision includes the minimum functional and technical requirements of the smart metering systems to be installed, which are in line with European standards and the provisions of the Law.

The deployment of these systems may be subject to cost-benefit assessment of all the long-term cost and benefit elements of the market and the individual consumers.

If the deployment of smart systems is assessed positively CERA, sets a timeframe for the installation of at least eighty percent (80%) of smart metering systems to the end consumers within 7 years from the date of their positive assessment.

In 2018, By Regulatory Decision 02/2018, CERA instructed the DSO to proceed with the full roll out of smart metering systems. It is expected that the 400,000 smart meters shall be installed by 2025 as per DSO's schedule. The installation of the meters is expected to start in 2022.

3.3. Consumer protection and dispute settlement

The consumer protection measures, are effective and enforced through the Law Regulating the Electricity Market of 2021.

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

CERA has prepared and issued in electronic and hard copy format all the information needed regarding consumer's rights. This information is available at CERA's premises, at Citizens Service Centre and at the local district offices of the MECI. The Office of CERA, the Citizens Service Centre and the MECI 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 directive can be classified in six categories:

- Universal service (i.e. the 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, and
- Fair commercial practices and general consumer rights

Moreover, CERA, based on the Decision of the Minister of Energy, Commerce and Industry, issued a Regulatory Decision (03/2016), by which CERA imposed on all electricity supply licensees, PSOs with respect to specific vulnerable groups of consumers, by including them in the special tariff (code 08) of EAC, which compared to the normal domestic tariffs (codes 01 and 02) has reduced charges and their supply of electricity cannot be cut off due to no payment.

The categories of vulnerable consumers defined in the Regulatory Decision are:

- The recipients of public assistance provided by the Social Welfare Services of the Ministry of Labour, Welfare and Social Insurance,
- The beneficiaries of guaranteed minimum income provided by the Welfare Benefits Administration Service of the Ministry of Labour, Welfare and Social Insurance,
- Families with more than 3 dependent children with an annual gross family income up to € 51,258. The income criterion of €51,258 for annual combined gross family income is increased by €5,126 for each additional child over the number of fourth,
- The recipients of severe motor disability allowance provided by the Department for Social Inclusion of Persons with Disabilities, Ministry of Labour, Welfare and Social Insurance,
- The recipients of care allowance in paraplegic individuals granted by the Department for Social Inclusion of Persons with Disabilities, Ministry of Labour, Welfare and Social Insurance,
- The recipients of care allowance in quadriplegic individuals granted by the Department for Social Inclusion of Persons with Disabilities, Ministry of Labour, Welfare and Social Insurance,
- The recipients of the grant to blind granted by the Department for Social Inclusion of Persons with Disabilities, Ministry of Labour, Welfare and Social Insurance,
- Hemodialysis renal patients who receive a mobility allowance from the Department of Social Inclusion of Persons with Disabilities of the Ministry of Labour, Welfare and Social Insurance, and
- Individuals suffering from multiple sclerosis who are registered members of the Cyprus Multiple Sclerosis Association.

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 ODS, within a prescribed time period, propose and implement procedures for the submission of complaints by consumers, which allow consumers to register complaints and prescribing how any supplier and the ODS shall respond to complaints received by consumers.

The Regulations may impose requirements on suppliers and the ODS 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 complaint's procedures.
- Fines 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 ODS 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:

- Law Regulating the Electricity Market (Complaint Submission Procedure) Regulations of 2005 which are currently under internal legal review.
- Law Regulating the Electricity Market (Performance Indicators) Regulations of 2005 which are currently under the procedure of legislative amendment.

The first of the above-mentioned Regulations, determines the procedure for the submission of complaints by consumers in cases where suppliers of electricity and/or the ODS, 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 ODS.
- The obligation of the supplier and/or ODS 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 ODS to comply with CERA's' Decisions.
- The fines.

The Law Regulating the Electricity Market (Performance Indicators) Regulations of 2005, set the minimum level of performance in relation to the performance indicators of the supply of electricity, which must be achieved by the supplier and the ODS. The Regulation sets the time limit within which a supplier and the ODS must respond, determines the fines, the procedure of payment and the time at which the fines are to be paid in cases where the supplier or the DSO fail 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 ODS are in breach of their obligations, competences and duties, the end result being the improvement of the services offered to consumers.

Performance Indicators

In the context of applying and complying with the above provisions, provided below for each Performance Indicator are the fine amounts paid to the electricity consumers by EAC as Owner of the Distribution System and Licensed Supplier. These amounts have been recorded for the period from 1 January 2021 to 31 December 2021. Also presented, for comparison purposes, are the corresponding results in previous years.

PERFORMANCE INDICATORS FOR THE OWNER OF THE DISTRIBUTION SYSTEM (EAC)

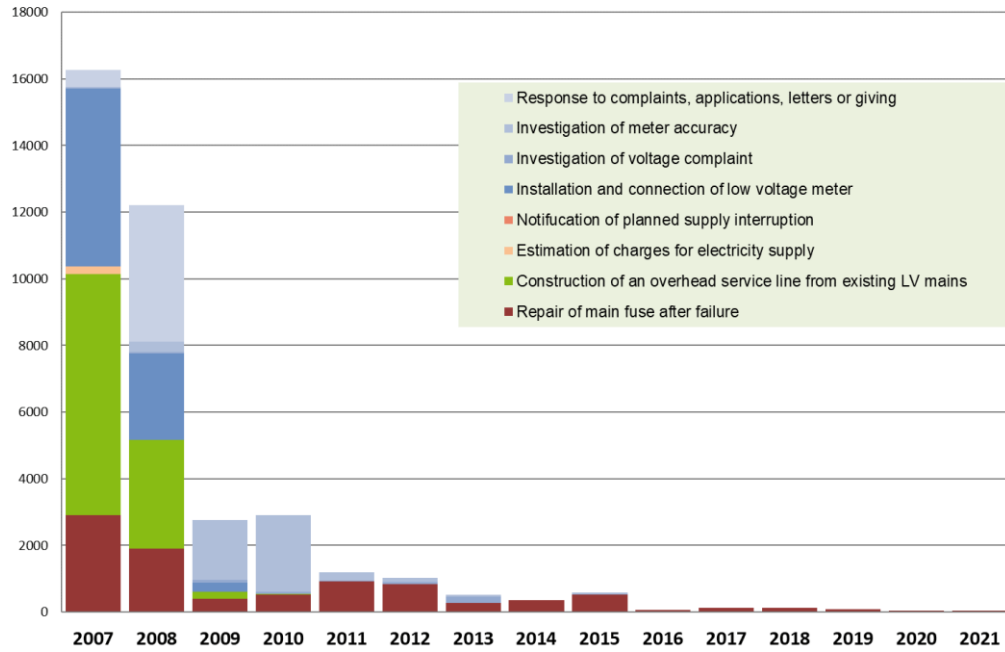


Figure 32. Performance Indicators of EAC as ODS

PERFORMANCE INDICATORS FOR THE SUPPLIER (EAC)

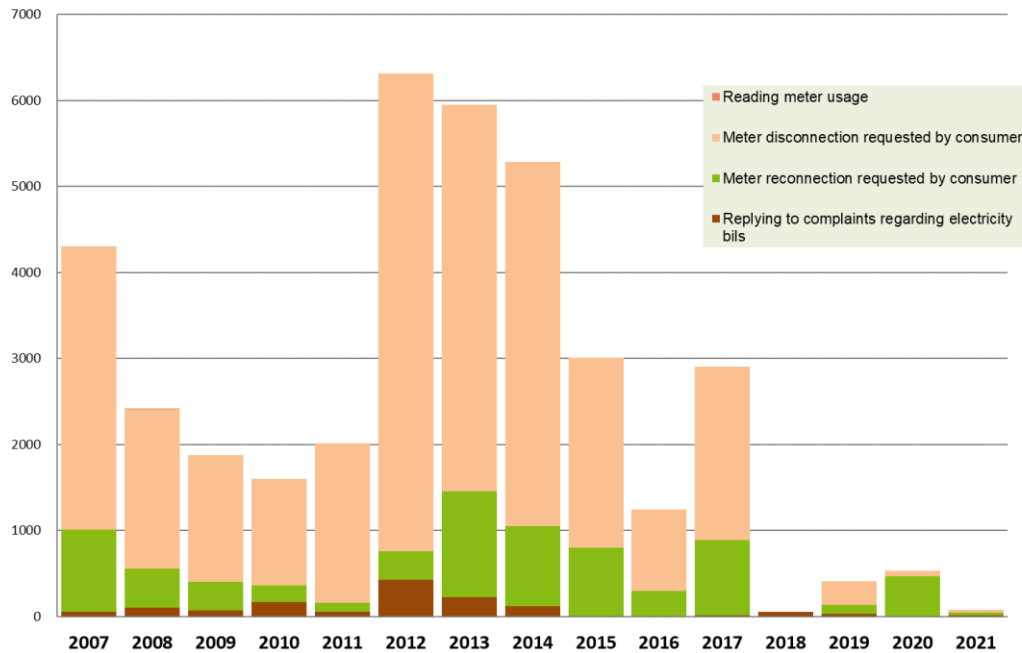


Figure 33. Performance Indicators of EAC as the supplier

The recorded numbers hinder that during the year under review, the performances of EAC both as an ODS and Supplier showed improvement compared to previous years and are therefore considered satisfactory.

Consumer complaints

Regarding consumer’s 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 Figure 34. Most of the complaints concerned invoicing/billing issues

and connection to the grid. CERA handled with care the complaints, with the collaboration of EAC and TSOC, leaving the consumers in most cases satisfied.

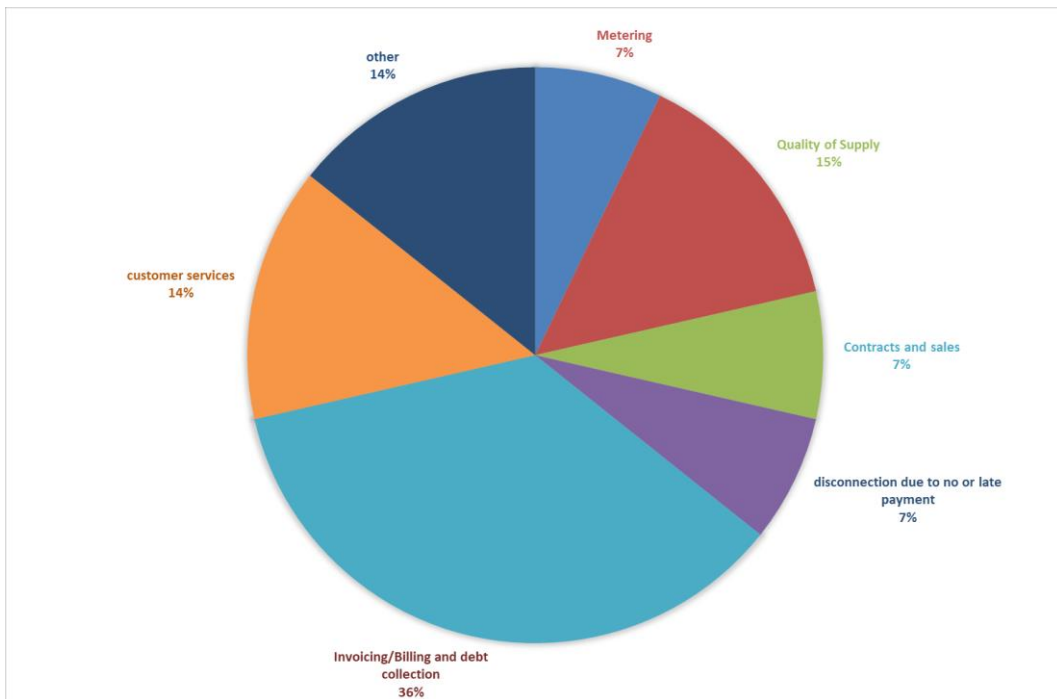


Figure 34. Complaints submitted to CERA in 2021

4. The natural gas market

Currently, the natural gas market in Cyprus is non-existent, since natural gas is not yet available in the country's energy mix. This has adverse effects on the cost of electricity generation, causing also a lack of energy source diversity for the country in general. Moreover, the environmental cost associated with the extensive use of heavy fuel oil for power generation is significant, as the country's ability to meet emission targets and limits laid down by EU legislation is affected.

4.1. Legislative Framework

The current Laws Regulating the Natural Gas Market of 2004 to 2021, which embrace the important features of the Third Energy Package, provide for the regulation of the natural gas market in the Republic of Cyprus and, among others, establish rules for the transmission, distribution, supply and storage of natural gas. In addition, they specify the rules for the organization and operation of the natural gas sector, the access to the market, the exploitation of the networks and the criteria and procedures required to issue licenses for the transmission, distribution, supply and storage of natural gas. The Laws Regulating the Natural Gas Market of 2004 to 2021 describe also the duties and responsibilities of CERA and specify the range of activities and its role.

It is noted that the Laws Regulating Natural Gas Market of 2004 to 2021 contain the key provisions for the imminent introduction of natural gas in the energy balance of the country. However, they do not specify the model of the market and the organizational framework that will be used for the development of the market, providing, therefore, reasonable flexibility to decision-makers to make the right choices. Furthermore, they provide the possibility of derogations, in accordance with the provisions of Directive 2009/73/EC of the European Parliament and of the Council of 13 July 2009 concerning common rules for the internal market in natural gas. However, they do not establish such derogations and leave to the discretion of the Council of Ministers the full definition of these derogations.

A key element of the new operating framework of natural gas and electricity markets, as it is described in the European legislative framework, is the separation of activities of generation and trade of natural gas. These activities should take place within a competitive environment, like the activities of transmission and distribution, for which the regulated access of third parties is allowed under the supervision of national regulatory authorities, ACER and the European Commission.

The Laws Regulating the Natural Gas of 2004 to 2021 provide for Cyprus the possibility of derogation from certain articles, because it can be considered either an isolated or an emerging market. In the case of Cyprus, it is possible, on one hand, to derogate from applying the competition in the supply of natural gas to end consumers, especially as long as the natural gas market of Cyprus is considered emerging. On the other hand, it is possible not to separate the activities of the operators of natural gas (transmission, distribution, storage, LNG, etc.) from those of trade and supply, in the manner described in the Directive 2009/73/EC, for example, as regards ownership unbundled transmission facilities.

By Decision 87.649 of 5 June 2019, the Council of Ministers, in accordance with the provisions of the Laws Regulating Natural Gas Market of 2004 to 2021, specified the operating framework of the natural gas market for the period of validity of the emerging market or until the Council decides to terminate the derogations, and appointed Operators. More specifically, according

to the Decision, the competition is not applied in the supply of natural gas to the end consumers for the period that the market is considered as an emerging market. The supplier is, therefore, responsible for concluding all the relevant contracts of natural gas import, including the LNG, as well as all contracts of supply of natural gas to consumers of all categories. In addition, by this Decision, the Natural Gas Public Company (DEFA LTD) was appointed as a TSO, a DSO and an LNG Operator for thirty years, starting from the date of issuance of the corresponding licenses by CERA.

Furthermore, with Decision no. 91.503, dated 7 July 2020 and based on the provision of the Law, the Council of Ministers appointed the Natural Gas Public Company (DEFA/CYGAS) as the Storage System Operator for thirty years, starting from the date of issuance of the relevant licenses by CERA. In addition, it decided on the partial derogation of implementation until 2025:

- of Article 18 of the Law on the Independence of the Transmission System Operator, which provides that the Operator must be independent in terms of its organization and decision-making from monopolistic activities not related to transmission, namely the Distribution, Storage and Operation of the LNG System. As a result, the Transmission System Operator is not required to be independent in terms of its organization and decision-making from the Distribution, Storage and Operation of the LNG System. However, the Transmission System Operator shall be independent in terms of organization and not decision-making regarding the supply of natural gas, and
- Article 24 of the Law on the Independence of the Distribution System Operator, which provides that the Distribution System Operator must be independent in terms of its organization and decision-making from monopolistic activities not related to distribution, namely the Transmission, Storage and Operation of the LNG System. As a result, the Distribution System Operator is not required to be independent in terms of its organization and decision-making from the Transmission, Storage and Operation of the LNG System. However, the Distribution System Operator shall be independent in terms of organization and not decision-making regarding the supply of natural gas.

By Decision 115/2021, dated 06 April 2021, CERA decided to revoke CERA Decision no. 82/2021, dated 05 March 2021 entitled “Draft regarding the Regulations Regulating the Natural Gas Market (Natural Gas Quality Requirements)” and the notification to the MECI of the Draft regarding the Regulations Regulating the Natural Gas Market (Natural Gas Quality Requirements) as prepared by CERA.

4.2. Competition and market functioning

In June 2016, following the report submitted by CERA regarding the options for the development of the natural gas market in Cyprus, the Council of Ministers decided on the arrival of LNG in Cyprus as soon as possible and before 2020. LNG will initially be the exclusive option of supplying the internal market with natural gas. In the case that the internal market will be supplied at a later stage with gas from indigenous deposits, the LNG will remain as an alternative option ensuring the security of the energy supply.

Following the study conducted by DEFA LTD regarding the development of natural gas market in Cyprus, in order to make good use of the most suitable solution to import liquified natural gas by 2020 at the latest, the Council of Ministers decided, in June 2017, to assign to DEFA LTD the announcement of two invitations to tender for long-term supply of LNG and for a strategic investor for the required infrastructure.

Following a decision of the Council of Ministers of April 2018, a Special Purpose Vehicle - SPV

under the name Natural Gas Infrastructure Company (ETYFA LTD) was established. This company will implement the required infrastructure for the arrival of LNG.

DEFA LTD, acting on behalf of ETYFA LTD, published in October 2018, an invitation to tender for the design, construction and operation of the terminal station of import of LNG in the bay of Vasilikos. The tender was awarded to an international consortium in December 2019.

The entry of natural gas in the country's energy mix, in the context of the objectives of the energy policy for the diversification of the energy sources of the country and the protection of the environment, is an important decision in the energy sector.

Considering that the natural gas market in Cyprus is developing, the main goal is to create an organized market, according to the standards of the advanced global markets, and the best practices of the European natural gas market.

CERA gives high priority to the fast and effective penetration of natural gas on competitive terms in the market of Cyprus.

In the period leading up to the arrival of natural gas, CERA is working towards setting up the regulatory framework of the market, knowing that it will guarantee the operation of the market and the protection of the consumers during the derogations, as well as the smooth transition to a healthy open market.

In this context, by Decision 73/2021, dated 26 February 2021, CERA issued the Guidelines on conducting an estimate of natural gas demand in the natural gas transmission system by the Natural Gas Transmission System Operator and the Conclusion of Interconnection Agreements. In addition, by Decision 74/2021, dated 26 February 2021, CERA issued the Guidelines on preparing the natural gas transmission system development plan, which is prepared by the Transmission System Operator and concerns the coming ten (10) years.

Applications submitted to CERA

Application of Hoegh LNG Ltd for a license for the construction, ownership and exploitation of a LNG facility

On 31 March 2020, Hoegh LNG Ltd submitted an application to CERA for a license for the construction, ownership and exploitation of a LNG facility. CERA evaluated the application as to its completeness under Regulation 4 of the Licensing Regulations and requested from the applicant to submit additional information in order to complete the application. Following the extensions that were requested by the applicant which have been granted by CERA, the deadline for the submission of the supplementary information has been set for 30 June 2022.

Application by DEFA Ltd for the granting of a License for the construction, ownership, exploitation and operation of a natural gas transmission system

After evaluating the application by DEFA Ltd for a License for the construction, ownership, exploitation and operation of a natural gas transmission system, CERA issued Decision no. 55/2021 dated 23 February 2021, which grants the License to the applicant.

Application by DEFA Ltd for the granting of an LNG Facility Operation License

After evaluating the application by DEFA Ltd for an LNG Facility Operation License, CERA issued Decision no. 288/2021 of 14 September 2021, which grants the License to the applicant.

Amendment to the terms of the Natural Gas Transmission System Operator License

With Decision no. 384/2021 dated 21 December 2021, CERA decided to amend the terms of the Natural Gas Transmission System Operator License to fall in line with the Council of Ministers Decision (Decision No. 91,503) which was taken at the Session held on 7 July 2021 and to add the term concerning the requirement for proving metering data to the LNG Installation Operator (DEYFA).

Cross-border issues

Currently, there are no cross - border gas interconnections in Cyprus, however specific interconnection projects are promoted as PCIs. The European Commission has declared several energy projects, which are of strategic importance for Cyprus and Greece, as potential PCIs.

The projects which concern Cyprus and have been included in the Union list in the cluster of natural gas and related equipment for the transmission of gas are the following:

- “EastMed Pipeline” - A pipeline from indigenous resources offshore Cyprus to the island and then to Greece mainland via Crete
- “CyprusGas2EU” - Ending the isolation of Cyprus.

The CyprusGas2EU project, is a PCI project that ends the energy isolation of an EU Member State and it is essential for the Southern Gas Corridor (SGC). The project is included in the latest Ten-Year National Development Plan (TYNDP) of ENTSOG (TRA-N-1146) and in the 4th PCI list (No. 7.5). The project is promoted by MECI.

The project promoter submitted a request for investment to the Energy Regulators of Cyprus (CERA) and Greece (RAE) on 28 August 2017. Following consultations between CERA and RAE, an agreement on the cross-border cost-allocation was reached on 9 October 2017.

The EastMed pipeline project relates to an offshore/onshore natural gas pipeline. This PCI's importance is especially focused on creating a direct and permanent connection of newly discovered gas reserves in the Levantine basin (Cyprus and Israel) with European markets, through other diversified routes (such as Poseidon Pipeline and IGI). The project is included in the latest TYNDP of ENTSOG (TRA-N-330) and in the 4th PCI list (No. 7.3.1). The project is promoted and operated by the Natural Gas Submarine Interconnector Greece-Italy Poseidon S.A.