Direção-Geral
de Energia e Geologia

COUNCIL REGULATION (EU) 2022/1854 of 6 October 2022 on an emergency intervention to address high energy prices

Monitoring obligations

(using European Commission template)

Portugal, 31st of January 2023

Direção-Geral
de Energia e Geologia

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I. Demand reduction

1. Please specify which measures have been put in place to reduce the total monthly gross electricity consumption (Article 3.1).

The Council of Ministers Resolution no. 82/2022, of 27 September, approved the Energy Saving Plan 2022-2023, which defines a set of measures for the reduction of energy consumption in the sectors of public administration (central and local), industry, commerce, services and residential, being these mandatory for the central public administration. The Plan aims to reduce electricity consumption and, consequently, due to the dependence of the Portuguese electricity system on natural gas thermal power plants, the consumption of gas used for its production. It is, therefore, a plan that simultaneously seeks to achieve the objectives inscribed in Council Regulation (EU) 2022/1369 and Council Regulation (EU) 2022/1854.

The main measures adopted by the Portuguese State, through the Energy Saving Plan 2022-2023, to reduce consumption are summarized below (more detailed information about measures/action could be found in the Annex of this report):

Energy measures

Central public administration
Reduce energy consumption related to indoor and outdoor lighting
Reduce energy consumption in space air-conditioning
Promote, as far as possible, human resource management practices that enable energy consumption reduction (for example, evaluating energy savings through teleworking)
Training public administration technicians in the implementation, dynamisation and monitoring of resource efficiency measures
Local promotion of electricity from renewable energy sources

Local public administration
Reduce energy consumption associated with public lighting
Reduce energy consumption related to indoor and outdoor lighting
Reduce energy consumption for air-conditioning of spaces
Reduce energy consumption in swimming pools and sports complexes
Promote, as far as possible, human resource management practices that enable energy consumption reduction (for example, evaluating energy savings through teleworking)
Training public administration technicians in the implementation, dynamisation and monitoring of resource efficiency measures
Local production of electricity from renewable energy sources

Private sector
Reduce energy consumption related to indoor and outdoor lighting
Reduce energy consumption in indoor and outdoor lighting in shopping centres
Reduce energy consumption for space heating and cooling
Reduce energy consumption in shopping centre air-conditioning
Reduce energy consumption for heating and cooling production (other than acclimatization)
Reduce energy consumption in swimming pools and sports complexes
Promote, as far as possible, human resource management practices that enable energy consumption reduction (for example, evaluating energy savings through teleworking)
Local production of electricity from renewable energy sources
Training and/or capacity building to enhance energy efficiency

Water efficiency measures (some of which imply a reduction in energy consumption)

Central public administration
Increase water efficiency
Reduce water wastage in the irrigation of outdoor spaces

Local public administration
Increase water efficiency
Reduce water waste from irrigation of outdoor spaces

Private sector
Increase water efficiency
Increase water efficiency in industrial processes
Reduce water waste from irrigation of outdoor areas
Training and/or capacity-building to enhance water efficiency

Additionally, a communication and awareness campaign will be carried out in the private sector for different target audiences as key agents for the reduction of energy consumption.

Several actions, mainly in the context of training and capacity building, began prior to the approval of the plan. By the end of January 2023, a total of 118 actions had been carried out, reaching approximately 29 400 people.

Training and capacity building and communication and awareness raising actions

	Number of actions		Pax involved	
Month	**Training and capacity building**	**Communication and awareness raising**	**Training and capacity building**	**Communication and awareness raising**
Sep/22	8	16	219	1 749
Oct/22	3	18	38	839

Nov/22	8	24	670	8 639
Dec/22	2	26	89	11 683
Jan/23	4	9	92	5 382
TOTAL	**25**	**93**	**1 108**	**28 292**

Source: ADENE

Although the savings associated with the implementation of the communication and awareness raising measures have not yet been quantified, it is expected that they will have a relevant impact on the pursuing of the objectives set out in the Energy Saving Plan 2022-2023.

The website dedicated to the Energy Saving Plan 2022-2023 is already available and can be consulted in https://planopoupancaenergia.adene.pt/ and will be updated regularly in the coming months.

Additional potential market measures to reduce demand are under study at the regulatory level. However, measures of this type require a careful cost-benefit evaluation process and a long process of public consultation and implementation. This information was submitted by Portugal to the European Commission, on 2nd of December 2022, in accordance with Article 19 (2) of Council Regulation no. 2022/1854.

2. By how many MWh has the total monthly gross electricity consumption been reduced between 1 December 2022 and 31 January 2023?

The reference period for which the 10% voluntary reduction is required, as defined in Article 2(3), is the period between 1 November and 31 March, therefor information is provided from November onwards.

The Regulation defines that the analysis should be carried out on the gross electricity consumption dimension. It will be sought, whenever possible, to assess this dimension and respond to what is required in the regulation.

The consumption data commonly used by TSO's, in most of the analyses and work carried out, refer to the amount of energy made available for consumption. This is the measure normally used and which can be made available in almost real time as it refers to the TSO's ability to control it. The gross energy consumption contemplates consumption (and production) parcels that do not pass through the national public grid and, consequently, can only be measured in longer periods of time or through estimates.

It is also relevant to mention that:

- the variation in the consumption in the plants tends to be proportional to the variation in net consumption, so that a 5% reduction in the latter will roughly represent a 5% reduction in own consumption;

- pumped storage consumption is carried out to optimise the management of the electricity system and should therefore not be considered when evaluating total consumption. In addition to this fact, these consumptions tend to be made in the most favourable market conditions.

Thus, the information provided on the consumption level, whenever associated with TSO data, will refer to net electricity consumption. The data related to gross electricity consumption is, if mentioned, estimated

Gross Electricity Consumption

	November	December	January	February	March
Average gross consumption (reference period) (GWh)	4 609	4 876	5 216	4 497	4 685
Gross consumption verified (GWh)	4 630	4 874	NYA	NYA	NYA
Gross consumption variation (GWh)	**+ 21**	**- 2**	NYA	NYA	NYA
Percentage variation	**+ 0,46%**	**- 0,04%**	NYA	NYA	NYA

NYA: Not yet available

Net Electricity Consumption (TSO data)

	November	December	January	February	March
Average net consumption (reference period) (GWh)	4 224	4 491	4 800	4 121	4 295
Average pumping consumption (reference period) (GWh)	180	220	199	183	191
Verified net consumption (GWh)	4 188	4 425	4 833		
Verified pumping consumption (GWh)	269	259	317		
Variation in net consumption (GWh)	**-36**	**-66**	**+33**		
Percentage variation in net consumption	**-0,85%**	**-1,47%**	**+0,69%**		

From the data provided in the last table it is possible to assess a total reduction of 69 GWh between November and January, which represents a reduction of 0,51 % compared to the same period within the reference period.

3. Which measures have been put in place to reduce the gross electricity consumption during the identified peak hours (Article 4.2)? Please provide details on the costs and impacts achieved for each measure.

The measures set out in the Energy Saving Plan are listed in question 1.

No specific measures were adopted to reduce peak hour consumption. The Energy Saving Plan, even though it foresees actions that will have an impact in the selected peak hours, was not aimed at acting specifically in that period, seeking to act in terms of general consumption and, consequently, also in peak hour consumption.

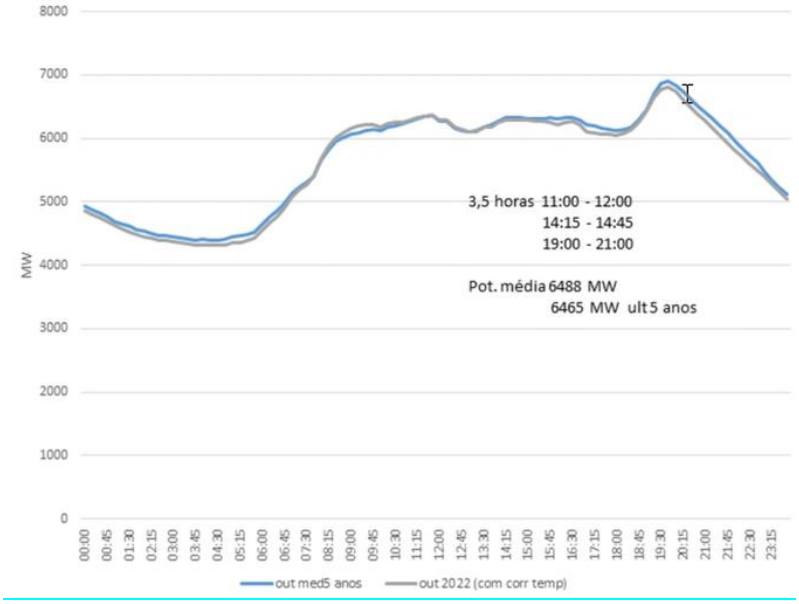
4. Please specify how the peak hours have been identified (Article 2.4, Article 4.1).

REN (TSO), ERSE (NRA) and DGEG (NCA) participated in the process of defining peak hours, and it was monitored and validated by the supervising Ministry. The data used to define peak hours was provided by the TSO.

An analysis was carried out for all the hourly periods of the reference period, analysing the relevant information to define the most relevant metrics for the definition of peak hours: consumption; price; percentage of renewables in generation.

The average hourly consumption profile for the month of October was analysed, comparing it with the average October of the last 5 years, as shown in the following figure:

October average hourly consumption - 2022 compared with 5 previous years

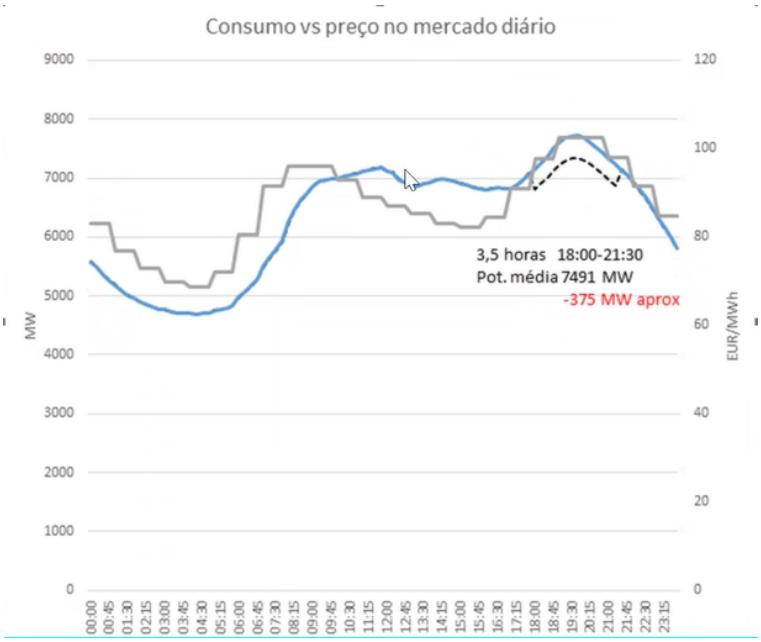


Source: REN

From this data, despite the difference between the evening peak and the other, it was set the possibility of acting on different periods of the day.

Analysing the consumption and the price curves (daily average for 5 years) it is possible to verify that they present the same trend. Thus, there being a coincidence in two of the possible conditions provided in Article 2(4) for the selection of peak hours, those that take place during the period from 18h00 to 22h00 were selected as peak hours.

Evaluation of price and consumption curves - 5 years average



Source: REN

Finally, the working days up to 31 March 2023 were considered, removing weekends and holidays from the analysis, since the analysis of the historical curves shows that consumption is significantly lower on those days. Thus, between 1 December 2022 and 31 March 2023, out of a total of 2904 hours, 84 days will be considered and, consequently, 3.5 hours per day in order to make up the total defined in § 1 of Article 4.

The period set to be considered is between 18h00 and 21h30 of each working day during the four months to be evaluated.

5. How is the reduction of gross electricity consumption during the identified peak hours computed? Which baseline do you use (historical data, historical data corrected with temperature, TSO expertise)?

As mentioned in question 2, the peak hour consumption data identified is provided by the TSO. The TSO does not have access to data on generation not embedded in the public grid.

After the publication of the Regulation, the TSO was requested to make a peak forecast until 31 March, seeking with this to avoid an effect of implemented measures. The forecast made by the TSO was based on historical data and extensive experience in making these forecasts, although there are several factors that may influence their accuracy, namely those associated with meteorology, or exceptional events that cannot, by their own definition, be predicted.

The calculation of consumption variations at the selected peak hours is based on information provided daily by the TSO (REN data hub - https://datahub.ren.pt/).

6. By how much MWh the gross electricity consumption during the identified peak hours has been reduced between 1 December 2022 and 31 January 2023? Please specify a range: 1-4%; 4-7%; 7-10%; above 10%.

As mentioned in question 2, the peak hour consumption data identified is provided by the TSO. The TSO does not have access to data on generation not embedded in the public grid, therefore the variations verified relate to variations in consumption made available by the transmission system.

From the analysis of the available information, in terms of peak hours and their value, during the month of December, on the days considered, there was an average reduction, per hourly period, of:

December	18h00-19h00	19h00-20h00	20h00-21h00	21h00-21h30
Forecasted average consumption during peak hours (MWh)	7 747	8 121	7 991	7 603
Verified average consumption during peak hours (MWh)	7 389	7 507	7 307	7 020
Percentage variation	-4,62%	-7,56%	-8,56%	-7,67%

For January, the data is:

January	18h00-19h00	19h00-20h00	20h00-21h00	21h00-21h30
Forecasted average consumption during peak hours (MWh)	8260	8659	8520	8107
Verified average consumption during peak hours (MWh)	8159	8473	8351	8030
Percentage variation	-1,23%	-2,15%	-1,99%	-0,95%

Regarding variation in consumption at the selected peak hours the data is:

	December	January	Total period
Forecasted consumption during peak hours (MWh)	553 195	648 852	**1 202 047**
Verified consumption during peak hours (MWh)	513 151	636 352	**1 149 503**
Variation (MWh)	-40 044	-12 500	**-52 544**
Percentage variation	-7,24%	-1,93%	**-4,37%**

For the period under analysis the reduction during the identified peak hours was 4,37 % (range 4 to 7%).

7. Pease explain how the measures taken to achieve demand reduction in application of Articles 3 and 4 fulfil the conditions set out in Article 5.

The measures implemented are clearly defined, transparent and proportionate. They are not targeted at any specific group of consumers and therefore do not induce any form of discrimination or limitation to either suppliers or consumers. They do not involve any market mechanisms and do not present any associated financial compensation.

II. Cap on market revenues and distribution of surplus revenues and surplus congestion income revenues to final electricity customers

Questions regarding how the inframarginal revenue cap has been implemented:

8. What is the actual level of the cap (per technology if applicable)?

Due to specific circumstances, namely the limitation on interconnection capacity with the rest of the European network, Portugal and Spain, implemented, for the Iberian Electricity Market (MIBEL), a mechanism to reduce generation costs of marginal units, namely through a cap on gas price for electricity generation, in order to lower the electricity wholesale price and thus the price to electricity consumers. This mechanism was considered to be necessary to mitigate the impact of the natural gas price on the electricity sector/market. This mechanism was defined in national legislation (Decree-Law no. 33/2022, 14th of May, for Portugal; Real Decreto Ley no. 10/2022, of 13th of May, for Spain) in both countries after approval by the EC.

Under the Decree-Law no. 33/2022, 14th of May, thermoelectric power plants corresponding to natural gas combined cycle plants and specific cogeneration facilities (also coal fired power plants in Spain) are entitled to receive a compensation based on the difference of natural gas market price (MIBGAS reference) and the caped price per each MWh generated The underlying cost of this compensation is borne by suppliers or final customers exposed to day ahead market price, who also benefit from price reduction. The interconnection with neighbouring countries (namely France) is not affected.

This mechanism is expected to remain in force until 31st of May 2023 and establishes that during the period in force the average gas price used in electricity generation is around 50 €/MWh, starting on 40 €/MWh and increasing regularly. Directorate-General for Energy and Geology (DGEG) publishes, since early August 2022, on a daily basis, information regarding this Iberian mechanism, namely the prices with and without the adjustment mechanism, based on data provided by OMIE and MIBGAS.

The mechanism, in its current design, obliges market participants to adapt their market bids to the gas caped price level, and since MIBEL – as well as all other EC wholesale markets under the Euphemia algorithm - runs on a single marginal price rule, the resulting day ahead market price for Portugal and Spain is lower to the extent of gas price cap corresponding marginal costs, which in turn produces a reduction also in inframarginal units market revenues. Thus, by limiting the final market price, the Iberian mechanism acts as an implicit (and *de facto*) dynamic cap for inframarginal units.

9. When the cap has been set at a higher level than 180 eur/MWh, please provide justification for the cap level.

On average, the Iberian mechanism resulted in wholesale spot price of around 131 EUR/MWh in the period from 15th of June until 31st of December 2022, thus bellow the reference level of 180 EUR/MWh.

10. What is the period of application?

The Iberian mechanism – under the present legal terms - is in force since 15th of June 2022 until 31st of May 2023.

11. Does the cap apply to all market timeframes (i.e.: forward, day-ahead, intraday and balancing)?

The Iberian mechanism, acting as de facto revenue cap is applicable to all short term timeframes, i.e., day ahead, intraday and balancing. Forward trades at fixed price concluded before 26th of April 2022 are exempted from the costs of the mechanism.

12. Does the cap apply to 100% of revenues?

Yes, to all the volume traded in the mentioned market timeframes not included in the exemption referred before (trades concluded before 26th of April 2022 at a fixed price.

13. Does the cap apply also to traders?

The Iberian mechanism, acting as *de facto* revenue cap affects all supply-side market participants exposed to wholesale market price, including traders.

14. Which methodology do you use to apply the cap on future transactions? (proxy, at settlement/after settlement, based on declaration, others)? Based on hourly prices, daily or monthly averages, others?

The Iberian mechanism is based on hourly prices for the electricity. Once the reference gas price used is lower than 65 EUR/MWh, the expected hourly electricity wholesale price is expected to be lower than the predefined 180 EUR/MWh level for the revenue cap.

15. Which methodology do you use to apply the cap on existing hedges in place? (proxy, at settlement/after settlement, based on declaration, others)? Based on hourly prices, daily or monthly averages, others?

As stated before, forward trades at fixed price concluded before 26th of April 2022 are exempted from the costs of the mechanism and thus not affected. Once new hedging contracts are in place they will refer to the day ahead price for clearing and therefore included under the caped price (and revenues).

16. How does the implemented measure deal with existing power purchase agreements?

PPAs are a specific type of forward trades, and therefore exempted if at fixed price and concluded before 26th of April 2022 until its maturity or renewal.

17. Please specify which measures have been adopted to use the surplus revenues in application of Article 10.

Under the Iberian mechanism approved, the surplus revenues are directly and automatically used in benefit of final consumers in the form of a price reduction.

18. Have you encountered any challenges regarding the implementation of the cap on market revenues? If so, could you explain what those challenges are and what measures have you taken to address them?

N.a.

Questions regarding the effect and results of the inframarginal revenue cap:

19. What amount of surplus revenues was initially expected to be collected?

Since 15th of June 2022 until 31st December 2022, net benefit for exposed consumers (market revenues reduction minus the compensation costs) from Iberian mechanism for Portugal was expected to amount to 422.9 MEUR.

20. What amount of surplus revenues has been collected up to date? (total EUR and EUR/MWh)

Since 15th of June 2022 until 31st December 2022, net benefit for exposed consumers (market revenues reduction minus the compensation costs) from Iberian mechanism for Portugal is of around 489.4 MEUR, which means a wholesale price cut of around 49.30 EUR/MWh.

21. Has the measure had any impact on the cross-border flows?

No impact in the Portuguese-Spanish cross-border flows, since this interconnection refers to national markets which apply the same mechanism. Nevertheless, the French-Spanish cross-border flows were affected in the sense that higher exports to France and lower imports from France occurred due to lower wholesale price in the Iberian system.

22. Have you detected any potential change of bidding behaviour of market participants, or of the liquidity on organised markets?

No bidding behaviour changes were identified in the wholesale spot market or balancing market. Giving the fact that the Iberian mechanism acts as a spot substitute of forward trading (for hedging) it caused some liquidity reduction in the organised forward market trading venues.

23. Have you been reported any relevant impact on power purchase agreements or as regards the conclusion of forward hedges?

Please refer to previous answer in regard to lower liquidity in forward trading.

III. Retail measures

24. Are there any public interventions in the price setting for the supply of electricity to small and medium sized enterprises pursuant to Article 12?

No. No public interventions were implemented in the price setting at retail level for SMEs, as retail suppliers continue to set freely their end user prices.

However, significant reductions of the network access tariff took place at the beginning of the years 2022 and 2023. In addition, an extraordinary revision resulted in a further reduction of those tariffs as of 1 July 2022. The network access tariff is paid by all network users and includes the regulated tariffs for the use of the transmission and distribution network, as well as some energy policy costs. These reductions benefitted all network users, from households to large industrial consumers, and provided some relief to the rising energy bills, which were increasing due to the energy component (reflecting higher wholesale prices).

The reduction of the network access tariff is mostly related to higher wholesale power prices resulted in the Portuguese case in benefits for the national power system, as the PPAs and renewable support schemes are established in the form of contracts for differences: when the wholesale price is lower than the strike price, the producer is compensated for the missing revenue, and the difference is reflected through a higher network access tariff; when the wholesale price is higher than the strike price, the difference reverts in the favour of the power system, and is reflected through a lower network access tariff.

In 2023, from microenterprises/SMEs to large industrial consumers, these network users also benefitted from additional revenues transferred from the Environmental Fund, which allowed for a further reduction of the network access tariff.

Regulated end-user prices for SMEs connected to the low voltage level, with a contracted power above 41.4 kVA, were still applicable until end of 2022. For SMEs connected to the low voltage level, with a contracted power up until 41.4 kVA, regulated end-user prices will be in place until the end of 2025 (although these regulated prices are only available to SMEs already subject to them, but not for new contracts).

If that is the case, how does the measure take into account the beneficiary's annual consumption over the last five years? Are these public interventions set below cost as allowed under Article 13?

Not applicable.

25. Are there any public interventions in the price setting for the supply of electricity to households and microenterprises that are set below cost as allowed under Article 13?

No. For a description of the SMEs still subject to end-user prices, please see the answer to question 24.

26. If there are public interventions that are set below cost as allowed under Article 13:
    a. What amount of consumption does the measure cover?

b. How does the public intervention retain an incentive for demand reduction?

c. How does the measure ensure non-discrimination between suppliers?

d. How are suppliers compensated for supplying below costs?

e. Are there any restrictions on the eligibility of suppliers to provide offers based on the public intervention?

Not applicable.

ANNEX - Measures/Actions included in the national Energy Saving Plan 2022/2023

The following table identifies the main measures and respective actions included in the national Energy Saving Plan 2022/2023, published in the Annex II of the Council of Ministers Resolution No. 82/2022

NOTE: LA = Local Administration; CPA = Central Public Administration; P = Private

Code	Measure	Actions	Sector / Character	Duration
CR1	Reduce energy consumption with public lightning	Adjustment of the working hours of public lighting, as well as lighting levels, avoiding that they remain on during daytime periods. Citizen's safety, road safety and property integrity must be guaranteed; Replacement of indoor public lighting with high-energy performance LED technology lighting; Implementation of more efficient lighting systems throughout the public lighting systems, including presence sensors.	LA / Recommended	Permanent
CR2	Reduce energy consumption with indoor and outdoor lightning	Switch off decorative interior lighting in buildings after 22h00 in winter and after 23h00 in summer; Switch off decorative outdoor lighting in buildings after midnight, to ensure safety; From 6 December 2022 to 6 January 2023 adjust the period of Christmas lighting use to the hours between 18h00 and 24h00; Switch off interior lighting whenever the space is not in us and after working hours; Promoting greater use of natural light, through glazed openings, skylights or light tubes, reducing the amount of light on, while safeguarding the legal values required for workplaces; Adequacy of the lighting intensity to the needs of the users of the spaces and adaptation of the lighting schedules according to the rate of use and occupancy, with the exception of emergency lighting; Implementation of management systems to rationalise consumption; Replacement of interior/exterior lighting with high performance LED technology lighting and/or the installation of dimmers for luminotechnical systems.	CPA / Mandatory LA / Recommended P / Recommended	Temporary
		Switch off lighting on banners, canvas and advertising banners and posters on public roads and buildings from 22h00 in winter and from 23h00 in summer period;	LA / Recommended P / Recommended	Temporary

		Switch off shop window lighting and similar after the establishment is closed.		
		Recommendation on maximum illuminance values power density for lighting in commercial areas (Order no. 138-I/2021, of 1 July)	P / Recommended	Temporary
CR3	Reduce energy consumption with indoor and outdoor lightning in shopping centres	Without prejudice to the actions identified in the measure code CR2: Switch off billboard lighting after 23h00 and façade lighting after midnight, except for security reasons and to ensure CCTV viewing; Adjustment of lighting levels inside shops, including shop windows and shop front advertising; Reduction of interior lighting to minimum safety levels, maintaining CCTV vision, after normal opening hours and during low traffic periods in the morning; Reduction of lighting in interior car park areas by switching off one third of lighting, maintaining CCTV visibility and visitor and vehicle comfort, including adjustment of opening times and car park management according to traffic; Installation of motion sensors for lighting in non-commercial areas, including low-traffic/use/permanence areas; Installation, where possible and appropriate, of photoelectric/crepuscular sensors to adjust lighting in exterior and interior areas.	P / Recommended	Temporary
CR4	Reduce energy consumption in heating & cooling (air conditioning)	Adjustment of temperature of the interior air conditioning equipment to a maximum of 18ºC in Winter and a minimum of 25ºC in Summer; Gas or air-conditioning/heat-pump heating systems in outdoor and indoor terrace type spaces should be switched off; During periods of non-occupancy, the air-conditioning systems should remain off.	CPA / Mandatory LA / Recommended P / Recommended	Temporary
		Spaces with direct entrance to the street with air-conditioning system on should keep doors and windows closed.	CPA / Mandatory LA / Recommended	Temporary
		Keep doors and windows closed whenever the air-conditioning system is on, including for commercial and service buildings whenever they have entrance spaces straight to the street.	P / Recommended	Temporary

CR5	Reduce energy consumption in shopping centre air-conditioning	Without prejudice to the actions identified in the measure code CR4: Regulate shopping centre car park temperatures to a maximum of 26ºC; Adjustment of ventilation parameters and interior temperature of shops; Adjustments of chiller parameters, including start&stop, considering outdoor and indoor temperatures; Adjustment of water pumping differential pressure parameters, including optimised control of critical areas; Adjustment of parameters and operating mode for pumping water from cooling towers, as well as fan speed modulation; Modulation of the speed of the fans of air treatment units, as well as including start/stop, depending on the indoor air quality/thermal comfort.	P/ Recommended	Temporary
CR6	Reduce energy consumption in heating & cooling (other than air-conditioning)	Adoption of energy efficient measures with short payback period; Regulation of industrial refrigeration and cold temperatures in accordance with food safety levels and uses; Placing doors and curtains in cold storage cabinets to avoid excessive energy consumption.	P /Recommended	Temporary
CR7	Reduce energy consumption in swimming pools and sports facilities	Without prejudice to the actions identified in the measure code CR2 and CR4: Adjustment of water temperature in indoor pools to 26ºC and a 2ºC reduction in the ambient heating where the pools are located (to 28ºC); Regulating temperature of Domestic Hot Water (DHW) systems to those recommended in Energy Building Certification System (*Sistema de Certificação Energética de Edifícios (SCE)*), without compromising the maintenance of the systems or the measures necessary to prevent *legionella*; Adjusting the taps and showers flow rate to ensure that water needs are met without wasting water: Reinforcement of the periodic preventive maintenance of the systems, including insulation of heat networks; Installation of thermal covers to reduce heat losses when pools are in use;	LA / Recommended P / Recommended	Permanent Temporary

		Favour the use of renewable energy for heating water (pools, baths and air conditioning); Improved the efficiency of pumping systems; Use of bath water for toilets.		
CR8	Promote, as far as possible, human resources management practices that enable the reduction of energy consumption	Adoption, whenever feasible, for example, assessing the energy savings from teleworking; Information actions on energy consumption savings and home-work-home commuting.	CPA / Mandatory LA / Recommended P / Recommended	Temporary
CR9	Increasing water efficiency	Reducing running water time and adapting water temperature of the heating system to the season; Reduction in the amount of water used for washing pavements and floors; Reduce the number of vehicles washes; Implementation of strategies to reduce water consumption in toilets by adopting dual flush mechanisms and reducing the available volume of tanks.	CPA / Mandatory LA / Recommended P / Recommended	Permanent
		Control of pressure in the public distribution system, keeping it balance at the optimum point; Reduction in the volume of water lost in building network; Reuse of water from building systems for appropriate non-potable purposes; Replacement of water from public network by wastewater properly treated at wastewater treatment plant for washing pavements, washing vehicles, gardens and similar areas, sports fields, golf courses and other recreational green spaces.	LA / Recommended	Permanent
		Use of strategies for using water from baths and showers until the ideal temperature is reached; Minimising the number of times the washing and dishwasher machines are used, using maximum capacity; Reuse of water from building systems for appropriate non-potable purposes;	P / Recommended	Permanent

		Replacement of water from public network by wastewater properly treated at wastewater treatment plant for washing pavements, washing vehicles, gardens and similar areas, sports fields, golf courses and other recreational green spaces.		
CR10	Increasing water efficiency in industrial processes	Efficient use of equipment and devices; Reuse of wastewater from the plant itself, after appropriate treatment, including in cooling system; Recovery of cooling water for compatible purposes; Recovery of water vapour generated in the industrial process; Use of water from other sources for washing.	P / Recommended	Permanent
CR14	Promotion of production of electricity from renewable sources locally	Encourage production of electricity through systems that use renewable sources	CPA / Mandatory LA / Recommended P / Recommended	Permanent
FC1	Build the capacity of public servants for the implementation, promotion and monitoring of resource efficiency measures	Promotion of training actions for public servants appointed under Programme for Resource Efficiency in Public Administration (ECO.AP 2030), aiming at greater involvement and sensitivity to topics as resource efficiency, including self-consumption if electricity through renewable energy sources.	CPA / Mandatory LA / Recommended	Permanent
FC2	Train and/or build capacity to energy efficiency	Adding to the existing offer: Supplementary training and accreditation for Technical Systems Inspection Technicians in the scope of inspections of solar thermal systems with collectors' area ≥ 15 m^2 and PV systems, carrying out the evaluation of the efficiency of the installation and proposing energy efficiency measures; Complementary training for Energy Management Technicians in the development of energy optimisation plans, including transversal approach methodologies.	P / Recommended	Permanent
FC3	Train and/or build capacity to water efficiency	Water efficiency training for installers of sanitary products and equipment	P/ Recommended	Permanent
CS1	Carry out a communication and awareness raising	Communication and awareness raising campaigns for the general public aimed to the adoption of more efficient behaviours that reduces energy and water consumption. Actions		Temporary

	campaign for different target audiences, as key players to the energy consumption reduction	can be done through media, social networks, "*Rota da Energia"* (Energy Route) initiative, among others, involving municipalities and civil parishes, including activities such as: Television content in free-to-air channels (Energy minute); Broadcasting periods from institutional representatives in free-to-air channels. Broadcasting of videos in free-to-air channels; Publications in newspapers (paper and online) Sending messages through Civil Protection; Publications with highly recognisable persons; Presential and online sessions; Topics to be addressed: lighting, air conditioning, equipment use, resource efficiency, mobility, among other, with a view to: Good practices in energy management; Behavioural changes and good practices in energy and water consumption; Adoption of efficiency criteria's in the choice of equipment and services; Reduction of energy consumption through sustainable mobility actions, including promotion of: - alternative options to the business air travel; - walking and soft mobility options; - the use of public transport and active transport modes; - electric freight mobility; - adoption of sustainable mobility plans for entities with more than 100 employees at the same location; - reduction of the maximum speed on highways to 100 km/h.		