



Direção-Geral
de Energia e Geologia

Reporting on Gas Demand Reduction (August – September 2022)

pursuant to article 8 (1) of Council Regulation (EU) 2022/1369

Portugal, October 2022



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1. INTRODUCTION

Following COVID-19 pandemic, a period of economic recovery began on the first half of 2021. One of the effects of this economic recovery was an increase in energy demand and consumption, starting a generalised upward movement in energy prices, reversing the trend during the pandemic period.

On February 2022, Russia's military aggression against Ukraine led to a reduction of gas flows through various pipelines serving Europe and put the security of supply in EU at risk. Consequently, gas prices increased significantly (increase started in the last quarter of 2021, as a result of economy recovery from the impact of Covid pandemic). To increase the security of energy supply in the EU, the European Commission has presented a set of instruments and measures to mitigate the weight that Russia presented as a supplier of fossil fuels to Member States, in particular the EC communications “REPowerEU” and “Save Gas for a Safe Winter”.

Among the adopted measures is the Regulation (EU) 2022/1032 of 29 June 2022, on gas storage, which introduces targets and trajectories for underground gas storage facilities, seeking to ensure that European Union increases its level of preparedness to face the winter period. Subsequently, and to strengthen the mechanisms for action at Union level, Council Regulation (EU) 2022/1369, of 5 August 2022, on coordinated demand-reduction measures for gas, was adopted, establishing rules to address a situation of severe difficulties in the supply of gas, with a view to safeguarding Union security of gas supply, in a spirit of solidarity.

This Council Regulation defines a set of rules, namely a voluntary demand reduction of gas consumption, in the period from 1 August 2022 to 31 March 2023, of at least by 15% compared to the average gas consumption during the five consecutive preceding years in the same period. In accordance with Article 8 (1) of the Council Regulation (EU) 2022/1369, this is the first report on the gas demand reduction achieved (for the period August - September 2022) and includes measures that have already been taken and those that will be taken to reduce demand. Also, on this report there is a chapter where measures to improve preparedness are described.

The Directorate General for Energy and Geology is the National Competent Authority on security of supply issues, and as such is the national entity responsible for monitoring and reporting the implementation of Council Regulation (EU) 2022/1369.

2. ASSUMPTIONS

Reference gas consumption

As stated in Council Regulation (EU) 2022/1369 of 5 August 2022, the “*reference gas consumption*” means the volume of a Member State’s average gas consumption during the periods from 1 August to 31 March during the five consecutive preceding years, starting with the period from 1 August 2017 to 31 March 2018.

The data for Portugal is presented in table 1. Considering the available data, disaggregation is made of overall consumption, considering the consumption of “dedicated power plants (CCGT)” and “other uses”. “Other uses” include the consumption of industry, households and services (including public administration) sectors.



This division is justified by the periodicity of the report, as defined in Council Regulation (EU) 2022/1369, since a greater disaggregation is only possible with annual data, and in the context of the provision of statistical information to the competent authorities.

Furthermore, this disaggregation is important to understand the weight of power sector gas demand on overall demand, considering the well-known specificities of PT weather/climate conditions (drought conditions, seasonality, among others), National Electricity System functioning and the electricity mix.

TABLE 1 – REFERENCE GAS CONSUMPTION

**Monitoring on the implementation of the demand-reduction measures
Council Regulation (EU) 2022/1369 of 5 August 2022
Period From August to March**

Natural Gas consumption mcm	Aug/17- Mar/18	Aug/18- Mar/19	Aug/19- Mar/20	Aug/20- Mar/21	Aug/21- Mar/22	reference gas consumption Aug-Mar
Overall consumption	4 037	3 775	4 198	4 057	3 850	3 983
Dedicated power plants (CCGT)	1 511	1 166	1 585	1 389	1 661	1 462
Other uses	2 526	2 609	2 614	2 668	2 189	2 521

Natural Gas consumption GWh	Aug/17- Mar/18	Aug/18- Mar/19	Aug/19- Mar/20	Aug/20- Mar/21	Aug/21- Mar/22	reference gas consumption Aug-Mar
Overall consumption	45 097	42 493	46 909	45 015	42 942	44 491
Dedicated power plants (CCGT)	16 951	13 135	17 811	15 587	18 576	16 412
Other uses	28 146	29 358	29 098	29 428	24 366	28 079

Natural Gas consumption TJ	Aug/17- Mar/18	Aug/18- Mar/19	Aug/19- Mar/20	Aug/20- Mar/21	Aug/21- Mar/22	reference gas consumption Aug-Mar
Overall consumption	162 348	152 974	168 871	162 054	154 591	160 168
Dedicated power plants (CCGT)	61 024	47 284	64 119	56 113	66 874	59 083
Other uses	101 324	105 690	104 752	105 941	87 717	101 085

Note:

mcm - million cubic meter (standard)

2021 and 2022 data is provisional

It was not accounted on the reference gas consumption the rule predicted in §5 of Article 5

The difference in the percentage variation of consumption between mcm and GWh/TJ is due to oscillations in the calorific value of NG.



Derogations

In accordance with Article 5 (9) of the Council Regulation (EU) 2022/1369 of 5 August 2022, although the Union's Alert State has not been declared, Portugal notified the European Commission (letter of 12th September) of evidence pertaining to the applicability to Portugal of derogations under nr. 5 and 7 of article 5.

Limit to the reference gas consumption associated to gas storage volume (Article 5 (5)):

- In the framework of the application of Regulation (EU) 2022/1032 of the European Parliament and of the Council of 29 June 2022, Portugal communicated the filling level of gas in Carriço's underground storage facility which, on 1 August 2022, was 107% (= 3827,1 GWh) exceeding the filling target of 72% (by 1 256,7 GWh).
- In accordance with Article 5 (5) of the Council Regulation (EU) 2022/1369 of 5 August 2022, if a Union alert is declared, 1 256,7 GWh or 112,36 mcm will be deducted to the reference value, shown in Table 1 above.

Derogation associated to Interconnection capacity limitations (Article 5 (7)):

- Portugal has a firm technical export capacity of 45,7% compared to 2021 total gas consumption.
- The capacity of interconnections with Spain does not reach 90%, due to lack of demand. However, the capacity is maximized, according to article 6 of Commission Regulation (EU) 2017/459 of 16 March 2017.
- Sines LNG facilities are commercially and technically ready to re-direct gas to other Member States. To increase its capacity several infrastructure reinforcement investments have been approved (nr. 8 of the Council of Ministers Resolution No. 82/2022 of 27 September¹).

Portugal is still waiting for the assessment of the Commission on the notification submitted, but in case of Union alert declaration, understands that the mandatory demand reduction target is 7%, instead of 15%.

3. MEASURES TO SAFEGUARD SECURITY OF GAS SUPPLY

3.1. MEASURES TO REDUCE GAS DEMAND

Portuguese Energy Saving Plan 2022-2023 was approved by the Council of Ministers Resolution No. 82/2022, of 27 September. This Plan is an integral part of Portugal's broader response to the challenge of a voluntary 15% reduction in gas consumption and is a complement to the path of decarbonization already outlined.

In Portugal, a significant percentage of the gas consumption is for electricity generation and is therefore essential to the security of electricity supply. At the same time, water consumption also generates energy consumption associated with its treatment, pumping, heating and cooling. It is therefore imperative to adopt a holistic view of the energy sector as an interconnected and interdependent system in terms of the different sectors of activity and forms of energy. In this

¹ <https://dre.pt/dre/detalhe/resolucao-conselho-ministros/82-2022-201509699>



context, the Energy Saving Plan, with a transversal and rapid application, focuses on demand-side management, with the following underlying strategic vectors:

1. Promotion of energy and water efficiency in industry, reducing its energy consumption and increasing its competitiveness.
2. Promotion of energy and water efficiency in the residential, commercial and services sector, as well as in awareness campaigns promoting balanced and sustainable consumption.
3. Promotion of renewable electricity for self-consumption.

There has been a downward trend in natural gas consumption in Portugal over the last 5 years as a result of policies such as those promoting the development of renewable energy and more recently due to the rising costs of natural gas. Support programmes to improve the energy and environmental performance of buildings, such as the More Sustainable Buildings Support Programme or the support for investment in Energy Efficiency in Central Government Buildings and in Commercial and Services Buildings (under the Recovery and Resilience Plan (RRP)) also allow for a reduction in natural gas consumption. On the other hand, Portugal is decarbonizing the supply of electricity, with the photovoltaic sector increasing its installed capacity by about 10 times in the last 10 years. It is estimated that by the end of 2023 about 2 additional GW will be installed on the national transmission grid, doubling the current capacity, not counting the connection to the national distribution grid. Hydroelectric generation may also contribute to meeting the voluntary target set, if there are periods of high rainfall in the coming autumn and winter.

Considering the mentioned strategic vectors, the Energy Saving Plan includes a set of measures that complement each other and contribute to the reduction of energy consumption. They focus on the areas of energy, water efficiency and mobility, covering the central and local public sectors, and private (including industry, commerce and services, and citizens), with particular emphasis on energy-related² measures, which account for 75% of the proposals and 95% of energy savings.

It comprises recommended and mandatory measures, the latter applying exclusively to the central public administration. All measures are classified by implementation deadline (up to 3 months and between 3 and 12 months), including those to be implemented immediately (the latter related to behavioral and operational recommendations which do not require investment). The temporary or permanent nature of the measures is also assessed. In case of a declared Union alert, the Plan becomes mandatory for all sectors and may include additional measures.

The energy savings foreseen in the Plan influence the direct consumption of natural gas and the primary energy consumption associated with electricity production in thermoelectric power plants. All electricity consumption avoided through the measures is assumed to come from natural gas-fired thermoelectric power plants with an average efficiency of 55 % and losses in the transmission and distribution networks of 8 %.

² The operationalization of the measures excludes hospitals, social facilities for the elderly, people with disabilities and children and young people, laboratories, and professional kitchens.

In total, the measures presented aim to save 188 mcm of natural gas, which represents 5% of consumption compared to the reference period. The communication and awareness-raising measures will have an impact on the achievement of the voluntary target, so better results may be expected.

It is worth noting that the 2nd phase of the More Sustainable Buildings Support Program - PAEMSII (RRP call), which promotes the energy and environmental performance of buildings, is currently underway. By the end of 2022, more than 73,000 applications are expected to be approved, which will allow for a 38 mcm reduction in natural gas consumption. By the end of 2023, more than 97,000 additional applications are expected to be approved, representing additional savings of 90 mcm. Also, the 1st Energy Efficiency Call for Central Government Buildings (under RRP), which promotes energy renovation in central government buildings, has more than 200 applications and a potential reduction of 16 mcm.

Furthermore, there is a set of other measures that will reduce gas consumption, although it is not yet possible to estimate the respective impact, such as the RRP support for decarbonization of the industrial sector and paradigm shift in the use of resources (715 million euros), for the Renovation and Increase of the Energy Performance of Service Buildings (70 million euros), or the support for the implementation of Renewable Energy Communities and Collective Self-Consumption (105 million euros).

By December 2022, 1,140 MW of new solar capacity is expected to come into operation. This new capacity will reduce natural gas consumption by 50 mcm. In 2023, it is estimated that another 1,433 MW of new capacity will come into operation. If this forecast is confirmed, Portugal will have 2 573 MW of new solar capacity between August 2022 and the end of 2023, thus allowing for a 90 mcm reduction in natural gas consumption (estimates for the connection of self-consumption projects and renewable energy communities have not been considered).

By the end of 2022, with the pre-existing measures mentioned above and the new measures in the Plan, a 5% reduction in consumption is foreseen.

Tables 2 and 3 below show a summary of the main objectives defined in the national Energy Saving Plan 2022/2023:

TABLE 2 – EXPECTED ENERGY SAVINGS FOR 2022

Energy Saving Plan (impact in 2022)			
	GWh	mcm	Reduction
Energy Saving Plan: new measures	1 307	116	3%
Solar PV – production to the grid: until December 2022	559	50	1%
RRP: measures implemented until October 2022	432	38	1%
Total	2 298	205	5%



TABLE 3 – EXPECTED ENERGY SAVINGS ACHIEVED BY THE END OF 2023

Overall Energy Saving Plan (cumulative impact in 2023)			
	GWh	mcm	Reduction
Energy Saving Plan: new measures	2 110	188	5%
Solar PV – production to the grid: until December 2023	4 239	378	9%
RRP: measures implemented until October 2023	1 009	90	2%
RRP Public Administration: measures implemented until October 2023	182	16	0,4%
Total	7 539	672	17%

In the Annex of this Report are 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.

3.2. MEASURES TO IMPROVE PREPAREDNESS

Portugal has been closely monitoring the developments in the energy price situation and has sought to implement measures to mitigate its effects, taking into consideration the specific functioning and characteristics of its gas system, as well as its electricity system.

In January 2022 it was approved, by Ordinance No. 59/2022, 28 January, a mechanism for building up additional reserves during the winter period (1 October to 31 March). It complements and reinforces other mechanisms that were already in force and require the constitution of security reserves by the various operators. With this mechanism, the gas reserves increase to 45 days of gas consumption for protected costumers and 16 days of consumption for non-interruptible power plants (two CCGT). For winter season is defined an additional reserve of 700 GWh.

More recently, the abovementioned Council of Ministers Resolution No. 82/2022, of 27 September, that approves the Portuguese Energy Saving Plan 2022-2023, also sets several measures to reinforce the security of gas supply. Among those measure it must be highlighted:

- Order the liquefied natural gas terminal operator to promote, immediately and urgently, the installation of the necessary infrastructure and equipment for the transfer of this fuel between ships, in Sines, in order to ensure availability for reshipment of liquefied natural gas up to about 8 billion cubic metres per year.
- Determine that the underground gas storage operator of the infrastructures in operation promotes the necessary steps to ensure the reinforcement of the storage capacity installed in Portugal in at least two additional cavities, in order to obtain a complementary amount of underground storage capacity in the Carriço underground facilities above 1.2 TWh.

Finally, the Decree-Law No. 70/2022, of 14 October, creates a strategic natural gas reserve, belonging to the Portuguese State and more additional reserves.



The security reserves, provided for in Decree-Law No. 62/2020, of 28 August, are currently calculated based on the forecast consumption of the protected costumers. Differently, the additional security reserves provided for in Decree-Law No. 70/2022, are based, besides these costumers, on the entire customer base of each supplier, considering the public interest of guaranteeing the security of supply. Furthermore, also in the field of security of gas supply, in order to strengthen the Gas National System's reserves, it is added to the existing security reserves a strategic reserve, owned by the State.

As it was referred in point 2 of this document, in the framework of the application of Regulation (EU) 2022/1031 of the European Parliament and of the Council of 29 June 2022, Portugal communicated the filling level of gas in Carriço's underground storage facility, as well as in Sines LNG Terminal.

TABLE 4 – FILLING LEVEL OF CARRIÇO UGS

Date	UGS Physical Quantity (1) (GWh)	UGS Commercial Capacity (GWh)	UGS Filling Level (%)
1 August	3 827,1	3 570,0	107
1 September	3 853,5	3 570,0	108
1 October	3 864,9	3 570,0	108

(1) UGS filling level including balancing stock

TABLE 5 – FILLING LEVEL OF SINES LNG TERMINAL

Date	LNGT Physical Quantity (2) (GWh)	LNGT Commercial Capacity (GWh)	LNGT Filling Level (%)
1 August	882,0	2 666,0	33
1 September	1 855,5	2 666,0	70
1 October	1 484,5	2 666,0	56

(2) LNGT commercial capacity, excluding dead-stock

4. GAS DEMAND REDUCTION

The present report seeks to evaluate the available data for the first reporting period associated to August and September 2022. Table 4 shows the calculation of gas demand reduction for the referred period (August/September 2022):

TABLE 6 – NATIONAL GAS CONSUMPTION IN AUGUST AND SEPTEMBER 2022 AND RATES OF CHANGE

**Monitoring on the implementation of the demand-reduction measures
Article 8 of Council Regulation (EU) 2022/1369 of 5 August 2022
Period from August to September**

Natural Gas consumption mcm	Aug-Sep/17	Aug-Sep/18	Aug-Sep/19	Aug-Sep/20	Aug-Sep/21	reference gas consumption Aug-Sep	Aug-Sep/22	Δ%
Overall consumption	1 147	1 063	1 069	1 167	985	1 086	940	-13,5%
Dedicated power plants (CCGT)	557	466	489	548	408	494	476	-3,6%
Other uses	589	597	580	619	577	592	464	-21,7%

Natural Gas consumption GWh	Aug-Sep/17	Aug-Sep/18	Aug-Sep/19	Aug-Sep/20	Aug-Sep/21	reference gas consumption Aug-Sep	Aug-Sep/22	Δ%
Overall consumption	12 712	11 981	12 130	12 832	10 891	12 109	10 511	-13,2%
Dedicated power plants (CCGT)	6 240	5 250	5 495	6 156	4 567	5 542	5 325	-3,9%
Other uses	6 472	6 731	6 635	6 675	6 324	6 568	5 186	-21,0%

Natural Gas consumption TJ	Aug-Sep/17	Aug-Sep/18	Aug-Sep/19	Aug-Sep/20	Aug-Sep/21	reference gas consumption Aug-Sep	Aug-Sep/22	Δ%
Overall consumption	45 762	43 132	43 668	46 193	39 207	43 593	37 839	-13,2%
Dedicated power plants (CCGT)	22 463	18 901	19 781	22 163	16 440	19 949	19 169	-3,9%
Other uses	23 299	24 231	23 887	24 031	22 768	23 643	18 670	-21,0%

Note:

mcm - million cubic meter (standard)

2021 and 2022 data is provisional

The difference in the percentage variation of consumption between mcm and GWh/TJ is due to oscillations in the calorific value of NG.

From the analysis of the available data, it is possible to verify that in the period of two months being assessed, in comparison with the historical average of the last five homologous periods, a reduction in the global consumption of gas of over 13% was attained.

5. CONCLUSIONS

Portugal it's on the way to achieving the target of a voluntary 15% gas demand reduction, defined in the Council Regulation 2022/1369. This reduction is not so expressive in the electricity sector due to the fact that, since the end of the year 2021, Portugal is suffering a severe drought, which induces an



increased need for operation of gas power plants due to reduced hydropower production. In “other uses” the decrease is higher, where a reduction of 21% was achieved.

This value can be explained by the implementation of previous measures (voluntary basis) for energy savings and the increased awareness of the consumers before the publication of the national plan, since it was subject to consultation with several sectoral entities, representing industry, services, academia and others. This reduction is also an effect of the increase of gas prices since the 4th quarter of 2021 that forced some sectors, in particular industry, with a high gas consumption, to adopt measures for the optimization of processes and consequently reduce gas consumption.

So, given the reduction on natural gas consumption already obtained and the levels of storage on Carriço UGS and Sines LNG Terminal (shown in tables 4 and 5) Portugal is well positioned to face winter.

Although the current international market context does not allow to rule out the hypothesis that the National Gas System and, consequently, the National Electric System, are affected as a result of the high prices of LNG in the global market and/or due to possible failures in the delivery of LNG by tankers, but the measures that have been adopted, which are or will be in place, allows us to face next winter period with confidence.



ANNEX: Measures/Actions included in the national Energy Saving Plan

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	<p>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;</p> <p>Replacement of indoor public lighting with high-energy performance LED technology lighting;</p> <p>Implementation of more efficient lighting systems throughout the public lighting systems, including presence sensors.</p>	LA / Recommended	Permanent
CR2	Reduce energy consumption with indoor and outdoor lightning	<p>Switch off decorative interior lighting in buildings after 22h00 in winter and after 23h00 in summer;</p> <p>Switch off decorative outdoor lighting in buildings after midnight, to ensure safety;</p> <p>From 6 December 2022 to 6 January 2023 adjust the period of Christmas lighting use to the hours between 18h00 and 24h00;</p> <p>Switch off interior lighting whenever the space is not in use and after working hours;</p> <p>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;</p> <p>Implementation of management systems to rationalise consumption;</p>	<p>CPA / Mandatory</p> <p>LA / Recommended</p> <p>P / Recommended</p>	Temporary

		Replacement of interior/exterior lighting with high performance LED technology lighting and/or the installation of dimmers for luminotechnical systems.		
		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; Switch off shop window lighting and similar after the establishment is closed.	LA / Recommended P / Recommended	Temporary
		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 18°C in Winter and a minimum of 25°C in Summer;	CPA / Mandatory LA / Recommended	Temporary

		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.	P / Recommended	
		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 26°C; 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	<p>Without prejudice to the actions identified in the measure code CR2 and CR4:</p> <p>Adjustment of water temperature in indoor pools to 26°C and a 2°C reduction in the ambient heating where the pools are located (to 28°C);</p> <p>Regulating temperature of Domestic Hot Water (DHW) systems to those recommended in Energy Building Certification System (<i>Sistema de Certificação Energética de Edifícios (SCE)</i>), without compromising the maintenance of the systems or the measures necessary to prevent <i>legionella</i>;</p> <p>Adjusting the taps and showers flow rate to ensure that water needs are met without wasting water:</p> <p>Reinforcement of the periodic preventive maintenance of the systems, including insulation of heat networks;</p> <p>Installation of thermal covers to reduce heat losses when pools are in use;</p> <p>Favour the use of renewable energy for heating water (pools, baths and air conditioning);</p> <p>Improved the efficiency of pumping systems;</p> <p>Use of bath water for toilets.</p>	<p>LA / Recommended</p> <p>P / Recommended</p>	<p>Permanent</p> <p>Temporary</p>
CR8	Promote, as far as possible, human resources management practices that enable the reduction of energy consumption	<p>Adoption, whenever feasible, for example, assessing the energy savings from teleworking;</p> <p>Information actions on energy consumption savings and home-work-home commuting.</p>	<p>CPA / Mandatory</p> <p>LA / Recommended</p> <p>P / Recommended</p>	Temporary
CR9	Increasing water efficiency	<p>Reducing running water time and adapting water temperature of the heating system to the season;</p> <p>Reduction in the amount of water used for washing pavements and floors;</p> <p>Reduce the number of vehicles washes;</p>	<p>CPA / Mandatory</p> <p>LA / Recommended</p> <p>P / Recommended</p>	Permanent

		Implementation of strategies to reduce water consumption in toilets by adopting dual flush mechanisms and reducing the available volume of tanks.		
		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; 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.	P / Recommended	Permanent
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 $\geq 15 \text{ m}^2$ 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 campaign for different target audiences, as key players to the energy consumption reduction	Communication and awareness raising campaigns for the general public aimed to the adoption of more efficient behaviours that reduces energy and water consumption. Actions can be done through media, social networks, " <i>Rota da Energia</i> " (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;		Temporary

		<p>Publications in newspapers (paper and online)</p> <p>Sending messages through Civil Protection;</p> <p>Publications with highly recognisable persons;</p> <p>Presential and online sessions;</p> <p>Topics to be addressed: lighting, air conditioning, equipment use, resource efficiency, mobility, among other, with a view to:</p> <p>Good practices in energy management;</p> <p>Behavioural changes and good practices in energy and water consumption;</p> <p>Adoption of efficiency criteria's in the choice of equipment and services;</p> <p>Reduction of energy consumption through sustainable mobility actions, including promotion of:</p> <ul style="list-style-type: none"> - 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. 		
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